## Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES<br>DEPARTMENT OF AGRICULTURE<br>HENRY C. WALLACE<br>SECRETARY

## AGRICULTURE YEARBOOK

## 1923



GUVERNMENT PRINTING OFFICE
WASHINGTON

## Organization of the U. S. Department of Agriculture.

Corrected to March 1. 1924.

Secretary of Agriculture, Meniv C. Wadrace.
Assistant Secretary of Agriculture, Hownmi M. Gore.
Director of Scientific Work, E. D. Balt.
Director of Extension Work, C. W. Warblerton.
Director of Regulatory Work, W. G. Campbell.
Solicitor, Robert W. Williams.
Administrative Assistant and Budget Officer. W. A. Jump.
Chief Clerk, R. M. Reese.
Oflice of Experiment Stations. E. W. Allen. ('hief.
Publications, L. J. Haynes, In Charge.
Press Service, F. M. Russeld., In Charge.
Office of Farmers' Cooperative Extension Work. (… S. Smith. Chief.
Office of Exhibits, J. W. Hiscox, ('hiej.
Office of Motion Pictures, F. W. Perkins, C'hief.
Weather Bureau, Chamies F. Marvin, Chief.
Bureau of Animal Industry. John R. Mohler. Chief.
Bureau of Plant Industry, Whllam A. Taytor, Chief.
Forest Service, William B. Greelfy, Forester and Chief.
Bureau of Chemistry, Charies A. Browne, Chief.
Bureau of Soils, Milton Whitney. C'hief.
Bureau of Entomology, L. O. Howard, Chief.
Bureau of Biological Survey, Edward W. Nelson, C'hief.
Bureau of Public Roath. Tmomas H. MacDonald. Chief.
Bureau of Agrieultural Economies. Hexry (. Tarlor. Chief.
Bureau of Home Economics, loyise Stanlex, ('hief.
Packers and Stockrards Administration Chester Morbill. Assistant to the
Grain Futures Administration_-_---- Secretary of Agriculture.
Insecticide and Fungicide Board, J. K. Haywood, ('hairman.
Federal Horticultural Board. C. I. Marlatt. ('hairman.
Fixed Nitrogen Research Laboratory, F. G. Cottrell. Director.
Division of Accounts and Disbursements, A. Zappone, ('hief.
Librarian, Claribel. R. B.arnett.

## 1923 Yearbook Committee.

The Yearbook has been prepared under the general supervision of a committee consisting of Dr. O. E. Baker, Dr. F. A. Pearson, and Dr. L. C. Gray, of the Bureau of Agricultural Economics, in collaboration with other persons whose names appear in connection with the articles included in the book. Dr. O. L. Baker served as editorial secretary.

## FOREWORD.

When the present administration came into office in the spring of 1921 the agriculture of the United States was experiencing a severe economic depression. In riew of this it was determined to devote the available space in the Yearbooks to a consideration of the economic situation as it affected the farmer, and to present careful studies of the principal crops, both as to production and profitable marketing.

The first of this series of Yearbooks was that of 1921, which dealt with wheat, corn, beef, and cotton. and prorided a graphic summary of agricultural production as shown by the 1920 Census. The Yearbook for 1922, following the same plan, contained comprehensive studies of conditions iffecting hogs, dairy products, tobacco, small grains other than wheat, and forestry.

This volume contains similar studies as to sugar, the sheep industry, our forage resources, the utilization of land for crops, pasture, and forests, and the economic aspects of land tenure, prefaced by the annual report of the Secretary dealing with the agricultural situation in a general way and with some of the regular work of the department. Included in the present volume is the special report on the wheat situation made to the President November 30. 1923. These articles are followed by the statistical portion which has again been enlarged to include important additional material, particularly on livestock production, fertilizer production and consumption, forestry, and domestic and foreign prices of farm products.

It is evident that the agriculture of the country is undergoing important changes. The lower returns to agricultural workers as compared with workers in other fields of endeavor are compelling important readjustments. It is hoped that these systematic studies of the economic aspects of some of the more important lines of agricultural industry will be helpful in the formulation of an adequate agricultural policy to the end that the farmer may once more get his fair share of the national income and continue to feed our people at reasonable prices.

Studies such as are presented in this and the two preceding volumes are to be continued in the Yearbook of 1924.

Henry C. Wallace, Secretary of Agrioulture.

## CONTENTS.

Page.
1
The Year in Agriculture
Henry C. Waltace.
The Wheat Situation ..... 95
W. A. Schofnfeld, Nils A. Olsen, Erecutive Secretary, O. C. Stine. H. R. Tolley, V. N. Valgren. O. F. Baker, W. F. Callander, and R. H. Wilcox.
Sugar. ..... 151
E. W. Brandes, C. O. Townsend, P. A. Yoder, S. F. Sherwood. R. S. Washburn, G. B. I. Arner, O. E. Bakrr, F. (. Stevens, F. H. Chittenden, and C. F. Langworithy.
The Sheep Industry ..... 229
D. A. Spencer, M. C. Hall, C. D. Marsh, J. S. Cotton, C. E. Gibbons, O. C. Stine, O. E. Baker, V. N. Valgren, R. D. Jen nings, G. K. Holmes, W. B. Befl, and W. C. Barnes.
Our Forage Resources ..... 311
C. V. Piper, H. N. Vinatif, R. A. Oakley, Lyman Carkier, O. E. Baker, J. S. Cotton, O. A. Juve, Nettie P. Bradshaw, E. W. Sheets, C. D. Marsif, W. C. Barnes, and W. B. Beld.
The Utilization of Our Lands for Crops, Pasture, and Forests ..... 415
I. C. Gray, O. E. Baker, F. J. Marschner, B. O. Wettz, W. R. Chip- line, Ward Shepard, and Raphael Zon.
Farm Ownership and Tenancy ..... 507
L. C. Gray, Giarles I. Stewar't, Howard A. Turner, J. T. Sanders, and W. J. Spilliman.
Agricultural Statistics ..... 601
J. A. Becker, L. B. Flohr, G. B. L. Arner, W. F. Callander, and O. A. Juve.
Bread Grains ..... 602
Grains Other than Bread Grains ..... 662
Fruits and Vegetables ..... 731
Crops Other than Grains, Fruits, and Vegetables ..... 790
Farm Animals and their Products-Part I. Cattle and Hogs ..... 879
Farm Animals and their Products-Part II. General, Horses, Sheep, and Poultry ..... 981
Forestry and Forest Products ..... 1050
Imports and Exports of Agricultural Products ..... 1094
Miscellaneous Agricultural Statistics ..... 1137
Index ..... 1223


Washington, D. C., November 15, 1923.

To the President :
It is a satisfaction to be able to record marked improvement in agriculture during the past year. Prices of many agricultural crops are higher. Cost of production has been lower, and there has been some reduction in prices of the things farmers buy.

In 1923 farmers planted $341,000,000$ acres of the 14 principal crops. This was an increase of more than $2,000,000$ acres over 1922. The production of these 14 crops is estimated to aggregate $265,000,000$ tons, which is about the same as in 1922 and $11,000,000$ tons greater than the 10 -year average.

Taking the value of the 11 crops-corns, wheat, oats, barley, rye, buckwheat, flaxseed, potatoes, sweet potatoes, hay, and cotton-as of October 1, except in the case of corn (which is taken at the December future prices as recorded for the first 15 days of October), we find that this value was $\$ 5,289,000,000$ for $1921, \$ 5,711,000,000$ for 1922 , and $\$ 6,947,000,000$ for 1923. In neither year does the sum indicated include the total value of farm crops grown, but for comparative purposes the values of these 11 crops for the years mentioned indicate the substantial increase in the money received by farmers in 1923 as compared with 1922 and 1921.

Not only will the total general farm income be considerably greater for the year 1923, but this income will buy relatively more of the things farmers need than for some years past. The purchasing power is greater. Hence farmers generally are better off both actually and relatively, and this is reflected in their increased purchases, which in turn has helped general business. The farm productive plant has seriously depreciated during the past six years, first because of war conditions and later because of forced economies. As the farm income increases, therefore, farmers will buy more and more freely of the things they need.

The Crops of the Year.
The wheat crop for 1923 is estimated at $782,000,000$ bushels, compared with $815,000,000$ bushels in 1921 and $862,000,000$ bushels in
1922. The quality of wheat this year is somewhat below the average, owing to weather conditions and the ravages of plant diseases.

The corn crop is estimated at $3,021,000,000$ bushels, as compared with $3,069,000,000$ bushels in 1921 and $2,891,000,000$ in 1922. The quality of corn in some regions has been materially injured by early frosts.

The cotton crop gives promise of being a half million bales greater than that of last year, the October 25 estimate being $10,248,000$ bales, compared with $7,954,000$ bales in 1921 and $9,672,000$ bales in 1922. The cotton acreage was larger this year than last, and the cotton production would have been appreciably above the October estimate had it not been for unfavorable weather and heavy rains, exceptional damage to grown bolls by the weevil, and the heaviest abandonment on record.

An estimate based upon the first nine months of the present year indicates a slight increase in the number of cattle and calves slaughtered, and that a total of perhaps $78,000,000$ hogs will be slaughtered in 1923, compared with $62,000.000$ in 1921 and $67,000,000$ in 1922.


Fig. 1.-Heavy production combined with war prices raised the value of all crops produced in the United States to over $\$ 16,000,000,000$. Low prices, with an average crop, reduced the total value of all crops in 1921 to less than six and a half billion dollars. Prices of some crops have shown a gradual increase since 1921 , with a consequent increase in total value of all crops.

In some lines of production prices have been fairly satisfactory, while in other lines low prices have added to the accumulating financial difficulties of the farmers.

The farm price of wool is more than twice the pre-war level. The farm price of wool in August, 1921, was but 15.4 cents per pound and in September, 1923, was 37.1 cents. The reduction in the number of sheep, the diminution of stocks of wool and woolen goods during the post-war adustment, and last, but not the least, the resumption of a protective tariff have stimulated prices of wool.

Cotton prices continue at a relatively high level. The farm price is now two and a quarter times the pre-war level. The huge surplus of cotton which was carried over at the end of the crop year, July 31,1921 , has been reduced to a point verging upon an actual shortage and the quantity carried into the new season was the smallest in a number of years. The world consumption of American cotton during the year (1922-23) was over $12,500,000$ bales and American production was less than $10,000,000$ bales. The present status of the cotton farmer is not always fully understood. The planter is interested in the price and purchasing power of cotton per pound,
but he is more interested in the returns per acre. The rarages of the boll weevil have reduced the production of cotton per acre sufficiently to discount to some extent the high prices paid for cotton. Elsewhere in this report reference is made to control measures of this pest. The purchasing power of cotton per acre, which is above the pre-war average, is a better index of the southern planter's economic condition than the present high price of cotton. Districts in the south with a fair yield are in a splendid condition. On the other hand, districts like southern Georgia, suffering severely from the boll weevil, are in dire straits.

The prices of dairy products did not suffer so much from the drastic deflation following the post-war period as did other farm products. Butter, cheese, and milk have sold at prices remunerative to farmers. Butter is now higher than the general price level. Cheap feed in western butter districts, and high prices and some curtailment of production in milk districts have enabled the dairy farmer to weather the storm with less adversity than those farmers

FARM PRICES OF WOOL AND COTTON COMPARED WITH THE GENERAL LEVEL OF FARM PRICES.


Fig. 2.-During the World War cotton and wool sold for relatively more than most other farm products. Dlthough cotton and wool prices experienced an unprecedented decline in 1920 , they recorered in 1922 and 1923 , and are now well above the general level of farm prices.
producing commodities a part of which must be exported. Poultry and eggs have also continued on a fairly profitable basis.

Besides wool, cotton, chickens, and butter previously mentioned, beans, apples, broomcorn, cabbage, onions, cottonseed, and lambs are higher than the general price level.

Horses rye, barley, timothy seed, oats, hogs, wheat, hay, veal calves, beef cattle, milk cows, corn, clover seed, buckwheat, sweet potatoes, flaxseed, and potatoes are still below the general price level, but many of these products have experienced appreciable advances in price this past year. Flax rose from $\$ 1.88$ in 1922 to $\$ 2.12$ in 1923. Oats rose from 34.5 cents to 38.6 cents. Hay from $\$ 10.58$ to $\$ 12.42$. Milk cows, $\$ 51.62$ to $\$ 56.13$. During no month of 1922 did veal calves sell for as much as in September, 1923.

Corn prices have had a very appreciable advance during the past year. The low receipts at primary markets and the low visible sup-
ply of corn have resulted in rising prices despite the large farm stocks and heavy production during the three years 1920-1922. Corn prices advanced from 61.6 cents for October, 1922, to 85.7 cents in 1923. If all corn could be sold at this price the corn farmer would find himself in a relatively fortunate position, but since it is the demand for corn to finish the large numbers of hogs in preparation for the market that creates the relative shortage of corn and makes this price possible, and since not over 20 per cent of the crop will be sold as corn, prices of hogs must always be considered in connection with prices of corn. The past year was characterized by enormous increases in hog production, marketing, and slaughter, and by large increases in domestic consumption and foreign trade in lard and pork.

FARM PRICES OF BEEF, HOGS, AND HORSES COMPARED WITH THE GENERAL LEVEL OF FARM PRICES.


The liquidation in the industry that followed the decline in the price of hogs reduced our hog population to a very low point, and this reduction was immediately followed by three bumper corn crops in succession. This resulted in a surplus of corn and a deficiency in hogs and the hog-corn ratio was the highest in many years. As usually occurs after a period of large corn crops, hog production was given a great impetus, and the marketing of hogs for the year ending June 30, 1923, exceeded that for the preceding year by more than $9,000,000$ head. As a consequence, hog prices receded sharply and corn fed to hogs is now bringing lower prices than corn sold on the market.

## Bad Wheat Situation.

The discouraging wheat situation is due in part to in reased acreage in response to patriotic appeals and the extraordinary demands for wheat by the war administration. By similar appeals the war administration reduced bread consumption in the homes and took it
off the restaurant table. This has definitely reduced the per capita consumption. The evil results of these policies continue. The world wheat production is too great in proportion to the restricted consumption. The great wheat producing areas in the United States, Canada, Argentina, and Australia increased their annual exports $336.000,000$ bushels. At the present time the exports of wheat from these countries are more than twice their pre-war exports and more than compensate the former exports from Russia and the Danube Basin and the decreased Indian exports.

War has had a marked effect upon the bread grain consumption of some European countries as well as of the United States. The standard of living in some countries has been lowered and cheaper foods substituted for wheat. Wheat has been conserved by "long milling," mixing, and by feeding less to livestock. The per capita consuraption of wheat in the United Kingdom has remained remarkably constant during the last 14 years, but declined slightly during the war. In France per capita wheat consumption, including seed, was reduced from an average of 9.3 bushels during the period 1909-1913 to an average of 7.4 bushels during the war period of 1914-1918. Since then the average has increased to 7.7 bushels. Milling restrictions requiring the mixing of from 8 to 10 per cent of substitutes with wheat flour are still in force. The per capita supply of bread grains has also been considerably below normal in Germany and Austria. Thus in selling their surplus wheat the farmers of the United States have to meet increasingly keen competition in a foreign market where the demand has declined.

## Cattle and Sheep.

The 640 -acres-grazing homestead act and tariff reduction on wool some years ago depleted the number of sheep on the ranges and stimulated cattle production. The pre-war price of range cattle was $\$ 6.74$. In 1922 the price was $\$ 6.60$. The war stimulation of the range-cattle industry and the consequent advance in cattle values led many producers of range cattle to overextend themselves and make large use of their credit, which was easy at that time. The shrink in values since, combined with unfavorable weather conditions in some sections, have resulted in severe financial losses. As a result throughout the range country liquidation has been and still is being forced, and large numbers of cattle, cows as well as steers, have been thrown on the market at ruinous prices. Loans on cows are being called and new loans on cows very generally refused. This forces too many cows on the market now and tends toward a shortage later.
On the other hand, cattle feeders who finish on grain for market have fared very well during the past year. Prior to the war cattle ranging in weight from 1,200 to 1,350 pounds were about 17 per cent above the price of range cattle. In 1922 cattle of this weight sold about 36 per cent above the price of range cattle. In 1922 good to prime cattle were about 50 per cent above the price of feeder steers, while in September, 1923, they ranged to about 70 per cent above. The high industrial activity has given a good market for good beef and has stimulated a demand for the higher grades of cattle which come finished from the feed lots of the Corn Belt.

## State of Agriculture in General.

The general agricultural improvement noted is most gratifying to everybody and gives renewed hope to millions of farmers who have struggled against most distressing conditions. This does not warrant the assumption, however, that the state of agriculture in all sections is now satisfactory, viewed either from the standpoint of the farmer or from the standpoint of national interest. In many regions agriculture still is at a disadvantage. The adverse influences of which mention was made in my report of a year ago still exist, though less powerful than at that time. The ratio between prices of most farm products and prices of other commodities is still far out of line. Industrial wages continue at war-time levels and thus help to maintain high prices for most of the things the farmer buys.

COMPARISON OF FARM AND CITY WAGES.


Fig. 4.-During 1920 farm wages with board were $\$ 46.89$, or 223 per cent of the 1914 level, while New York factory wages were 226 per cent. During the agricultural depression farm wages dropped to 139 per cent of the 1914 wages, while city wages fell to only 201 per cent. I uring 1921,1922 , and 1923 the disparity between farm and city wages was remarkably uniform.

High freight rates still prevail, and, while not the cause of low farm prices, place one more additional burden upon the farmer which he can ill afford to pay in view of the prices he must take for his products; also they place him at a disadvantage with his foreign competitors in world markets in the case of those farm products which we export. Unfavorable exchange rates with European countries, together with financial difficulties in those countries which need our surplus, make it more difficult for them to buy, and our export outlet for farm commodities is narrowing. Aside from this difficulty, it is to be expected that as the countries of Europe get on their feet, they will strive to produce more of the things they need and buy less from us, and this must be considered in planning our own production. The costs of retail distribution of farm products are unreasonably large, thus enhancing the price to the consumer and depriving the farmer of the benefit of increased consumption which ought to follow lower prices which result from large production.

Studies by this department indicate that 42 per cent of the farmers feel that their financial difficulties are due to low prices of farm
products; to high taxes, 17 per cent; high costs for farm labor, 11 per cent; high freight rates, 10 per cent; high interest, 10 per cent: reckless expenditures during boom period, 6 per cent; and too much credit, 4 per cent.

Too frequently persons who have not inquired into the matter express the opinion that the farmers' difficulties are due to reckless expenditures for land, speculative securities, and other purposes during the flush years. The percentage who suffered in this way, however, does not seem to be very large. The farmers' troubles are due primarily to the low prices of their farm products and the high prices for the services and articles they must buy.

PRIMARY FACTORS AFFECTING FINANCIAL DIFFICULTIES OF THE FARMER.


Fig. 5.-It is the opinion of farmers, based on reports received directly from them, that low farm prices is the dominant factor in the present depressed state of agriculture.

## Taxes and Interest.

In addition to the handicaps just mentioned there is underlying this agricultural situation the fundamental factor of the lowered price level which has shrunk the purchasing power of the farmer's income. Economic justice would require that the price level during the years when the debtor is paying individual and public debts should be as high as when these debts were incurred, thus making it possible for him to meet his fixed payments of taxes, interest, and principal with about the quantity of labor or the products of labor required to meet them at the time the debts were incurred. This is not the case now with the farmer. It is not possible to adjust the price level with that nicety which will do justice to everyone, but in so far as it is possible it should be done. Our investigations lead us to estimate the property taxes and interest combined paid by agriculture in the year of 1920 at about $\$ 1,457,000,000$; in 1921 at $\$ 1,684,000,000$; and in 1922 at $\$ 1,749,000,000$.

In 1920 practically the entire value of the wheat and tobacco crops, or about two-thirds of the wheat and cotton crops, were required to pay property taxes and interest charges. This was during the period of high prices and lagging charges for taxes and interest.

In 1921 property taxes and interest were equal to the entire value of the wheat, oats, potato, and tobacco crops. The wheat and cotton
crops combined would pay but five-sixths of the taxes and interest. This was during the period of low prices and rising charges for taxes and interest.
In 1922 the value of the wheat, oats, and tobacco crops, and onehalf of the potato crop, were required to pay taxes and interest. In that year although cotton was very high in price, taxes and interest charges were equivalent to the entire value of the cotton crop plus two-thirds of the wheat crop. Property taxes increased from \$532,000,000 in 1920 to $\$ 797,000,000$ in 1922.

Unfortunately reliable estimates of taxes and interest charges are not available for the pre-war years. It is estimated, however, that property taxes alone in 1914 aggregated about $\$ 344,000,000$, which was equivalent to less than two-fifths of the 1914 wheat crop, while in 1922 taxes totaled $\$ 797,000.000$. which was approximately equiva-


Flis. 6.-Property taxes paid by farmers doubled from 1917 to 1923. The marked increase in taxes which occurred immediately after the war was due to the adjustment of local and State governmental costs to the new price level. as well as to a material expansion in public improvements, which had been postponed during the war, or were initiated early in the post-war period, when high prices and a spirit of optimism generally prevailed.
lent to the total value of the 1921 or the 1922 wheat crops. The wheat crop is approximately equal to the pre-war value, but taxes have more than doubled. It should be kept in mind that the increase in taxes is due to local and State governments, not Federal.

Under such a situation farmers who are out of debt can get along fairly well, but those who are heavily in debt, and especially those roung farmers who have not become thoroughly established, are having great difficulty in meeting interest and principal on public and private debts.

It would seem to be distinctly in the public interest that the price level during these years when we are working out of war difficulties be maintained at from 60 to 70 per cent above the pre-war level. Just as sound money requires a gold basis, so sound business requires an equitable and stable price level.

## Rural Population Influenced.

The result of the conditions which have prevailed during these years of agricultural deflation is reflected in the steady drift from
the farms to the towns. Our estimates indicate that the net change in population from the farm to the town in 1922 was around 1,200 ,000 . This drift is taking place not alone in those sections where agricultural depression is being felt most keenly just now but throughout the country. This is illustrated in a number of ways. For example, 4.7 per cent of the habitable farmhouses were vacant in 1920; 5.7 per cent in 1921; and 7.3 per cent in 1922. A recent study indicates that in 1922 farmers occupied 86.3 per cent of the habitable farmhouses as compared with 88.4 per cent in 1921 and 89.7 per cent in 1920. Because of the scarcity of houses available for them nearer their work, many farmhouses within reasonable distances of cities are being occupied by people who work in the cities.
In Michigan a special survey made this summer covering a large number of farms indicates that fully 10 per cent of these farms were vacant, and about 13 per cent more were only partially worked. This survey also showed that there were also 16 per cent fewer workers on the farms in Michigan than a year ago and that 91 per cent of those leaving the farms did so to better their financial condition, 6 per cent because of old age, and 3 per cent because of other causes.

During the year ending February, 1920, it is estimated that 22,000 workers net left the New York farms; in 1921, 24,000 net. For the year ending February, 1922, this number had decreased to 3,000 , the explanation being that the unemployment in the cities during 1921 caused many persons to move to the farms. For the year ending February 1, 1923 , this movement had swung back, and the net movement to the cities was 26,000 . It is reasonable to believe that a similar movement from the farms to the cities is general throughout the country, although reliable figures such as have been quoted with reference to New York are not available for other States. Perhaps the movement has not been so large in some other States as in Michigan and New York, which are so highly industrial.

## Financial Difficulties.

This year the Department of Agriculture instituted an inquiry through both bankers and farmers as to the number of farm owners and farm tenants who lost their farnis or property through foreclosure or voluntary relinquishment.

It was found that of the owner farmers in 15 corn and wheat producing States on an average almost 4 per cent had lost their farms through foreclosure or bankruptcy, while nearly 4.5 per cent had turned over their farms to creditors without legal process, making a total of about 8.5 per cent who had lost their farms with or without legal proceedings. In addition, about 14.5 per cent were in fact bankrupt, but were holding on through leniency of their creditors. Considered by groups of States, the percentage of owner farmers who lost their farms since 1920 was found to be as follows: For 5 east North Central States, nearly 6 per cent; for 7 west North Central States, nearly 9 per cent; and for 3 Rocky Mountain States, over 20 per cent. The percentage of tenants who lost their property ran materially higher.

The records of the Department of Justice indicate that in the prewar years 5 per cent of all bankruptcy cases were farmers, but in

1922 it had grown to 14 per cent. In some of these States, where in pre-war years the farmers' bankruptcy cases represented about 7 per cent of all such cases, this percentage in 1922 had risen to nearly 30 .

These losses have not been due to inefficiency on the part of the farmers. Practically all of them were incurred by men who had been doing fairly well until they entered the period of drastic deflation. Some few were caused by overexpansion in the purchase of land during the period of high prices. In general, however, the trouble has been due to the deflation in prices of farm products and the increased cost of production and of the necessaries farmers must buy.

BANKRUPTCLES AMONG FARMERS. PERCENTAGE OF ALL BANKRUPTCIES, 1910-1923.


Fig. 7.-Between 1910 and 1920 the relative number of bankruptcies among farmers remained fairly constant. Since 1920 there has been a marked increase in farm failures, especially in the spring wheat region, where the percentage of farm to total bankruptey cases rose from about 18 per cent in the fiscal year 1920 to 54 per cent in 1923. The situation is only partially reflected in these figures, since farmers as a rule do not resort to the bankruptcy courts when surrendering property to creditors.

## The Drift to the Cities.

This drift from the farms to the cities is due in part to inability to make a decent living on the farm and in part to the fact that the Nation has been willing to pay higher wages relatively for workers in the industries of various sorts than for workers who are producing food. As long as the unfavorable ratio between agriculture and urban occupations continues an abnormal movement from the farms is not only to be expected but desired. It is one of the ways by which normal balance between agriculture and industry in time may be restored.

From the national viewpoint, however, this movement is to be deplored both because of the conditions which seem to make it necessary and because it is draining from the country such a large percentage of the more intelligent and ambitious young farmers. Agriculture always produces a large surplus population, and under normal conditions feeds into the cities large numbers of the less
intelligent, who because of this are not well adapted to modern farming, which requires intelligence of a high order, but are better off in the cities which provide them supervised work. It also sends many young men of superior intelligence who seek wider opportunities than exist in the country. In the past both classes have gone to the cities without detriment to either the urban centers or the open country, but conditions which have prevailed for the past three or four years have made drafts upon the best the country produces altogether heavier than is good for either the country or the Nation.


Fig. 8. -In 1910 the Negro migrants born in Alabama moved largely to adjacent Southern States. In 1920 the direction of migration had changed and the Negroes born in Alabama migrated to northern industrial States east of the Mississippi.

## Decline in Morale.

The Nation has suffered in another way. The drastic economies which have become necessary on the farms have greatly reduced farm standards of living. They have compelled overwork by the farmers, unaccustomed farm work by farm mothers, increased work by children kept out of school-in too many cases the older children taken out for good. Continued disappointment on the part of all members of the family, worry and discouragement, added to privations, have resulted in the breaking up of many a home. Retrenchment in support of school and church and restricted recreation and public entertainment became necessary. The farm population of the Nation, although less than 30 per cent of the total, is carrying more than 35 per cent of the child population. The farm is charged with the duty of educating this excess of youth and turning it over to the cities at the producing age. During this period of depression both the children who are to remain on the farms and those who are to be turned over to the cities have been deprived to too great an extent of the spiritual and mental training which is so necessary to make them citizens of the right sort.

The Nation has suffered equally in depressed morale. There has been no satisfaction in the minds of the farmer or in the minds of
the city dwellers over this agricultural depression. The farmer has no challenge to heroism. The farm wife has no glory in her sacrifice and disappointment and long days of toil. The result has been a social and political unrest which has not contributed to national welfare. The undeserved fate and the powerlessness to pull out of difficulties has lessened hope and developed an unrest which will be felt for a long time. The farmer does not wish to complain, but he is driven to it; and at the same time he resents the condition which makes it necessary to complain.

## Improvement and Some Reasons for it.

In speaking thus briefly of some of the adverse conditions, it is not with the purpose of painting a dismal picture but solely with the thought that a bad condition can not be corrected unless it is understood. As I said in the beginning, the agricultural situation to-day is very much better than a year ago, while the advance made over the terribly discouraging conditions which were precipitated in 1920 and reached the climax in 1921 is nothing short of remarkable. In general there has been steady improvement since the low point in 1921.

No small part of this improvement must be credited to wise legislation and to helpful administration. Agriculture and the needs of the farmer have received more thoughtful and sympathetic consideration by legislative and administrative agencies during the past two and a half years than at any previous period in our history. It is not out of place here again to refer to some of this legislation.

The emergency tariff, enacted promptly in 1921, checked the dumping on our markets of surplus agricultural products which had accumulated in other countries.

The provisions for emergency credit which was made available through banks and cooperative associations saved large numbers of them and their farmer patrons from bankruptcy.

The extension of Government supervision over the livestock markets and market agencies has resulted in putting a stop to innumerable unfair practices, has given assurance of open and competitive markets, and gives opportunity to make a thorough study of the packing and distribution of meats.

The law which brings the grain future trading markets under Government supervision has afforded an opportunity for an investigation and study of these markets which in time should lead to bencficial results.

Cooperative marketing associations have been given protection from unjust prosecution and encouraged to function freely, with the view to enabling their members to reduce marketing costs and market their crops in an orderly manner.
The agricultural credits act enables the Federal reserve system to handle agricultural paper for longer time, increases the amount which may be loaned on farm mortgage to the individual farmer, and provides a system of intermediate credit especially adapted to farm needs. This act when under full operation should not only vastly improve farm credit facilities but materially reduce interest rates.

These and other laws of real but lesser importance than the ones mentioned have been very helpful in improving agricultural conditions. Those who may have hoped that the depression could be turned all at once into a period of prosperity by some sort of legislative magic have perhaps been disappointed, but those who realized that our difficulties grew out of the period of disorganization resulting from the terrible World War have been able to note beneficial results from this legislation.

All the administrative agencies of the Government have been at work with vigor and good judgment to help overcome the farm troubles, through enlarging consumption at home, extending abroad the markets for the farm surplus, promoting the readjustment of production so far as practicable, gathering and making known information concerning world consumption and production, and in innumerable other ways which it is not necessary to set forth here but which will be dealt with later in this report.

PER CENT OF FARM AND URBAN POPULATION IN SPECIFIED AGE GROUPS, 1920.


Fig. 9.-The farm has a surplus of nonproducers or partial producers of approximately $4,000,000$ under 21 years of age as compared with an equivalent urban population. This suiplus population, reared and educated in the country, is turned over to the cities as producers.

## Need of Further Improvement.

Notwithstanding the progress made toward better times, and notwithstanding all that has been done so well by both legislative and administrative agencies, it ought to be understood clearly that there is still room for much improvement in the state of agriculture and that we can not reasonably expect to attain to that condition of national prosperity for which we hope so earnestly until the farm group, which comprises about 30 per cent of our total population, gets its fair share of the national income and is able to sell the products of its labor at prices fairly relative to prices of what it buys. Industry, commerce, and industrial labor may prosper for a time at the expense of agriculture, as indeed they have during the past three years, but the longer that continues the more hurtful to the Nation will be the results. The truth of the statement that in the United States national prosperity must rest on a sound and prosperous agriculture stands unchallenged.

Producers of those crops which are practically all consumed at home are in the main finding themselves able to make such readjustments as are necessary to meet changing markets and prices and are doing so with a courage that commands admiration. In the case of some crops time will be required to make these readjustments, especially in regions remote from markets which were brought under production because of favorable freight rates covering long distances. The advance in freight rates has worked great hardship in some of these regions, and if maintained will make necessary a change of markets or of crops. By and large, however, growers of home-consumed crops will gradually adapt themselves to changed conditions, even though at considerable loss.

The case is very different, however, with producers of those crops of which we export a considerable surplus and the price of which is largely influenced by large exports from competing countries

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS IN IOWA AND INEW YORK, 1913-1923.


Fig. 10.-Prices paid to producers of farm products in New York and Iowa were very similar until 1920. During the agricultural depression prices in Iowa fell below the 1913 level. while prices in New York fell to only 125 per cent of the 1913 level. During the post-war adjustment farm prices fell greatest in sections farthest from market.
which enter the world stream as it flows to points of consumption. Under present conditions these producers find themselves producing at costs beyond their control and which make it impossible for them to compete and live decently. The condition of the wheat grower serves to illustrate the difficulty. He has been producing at practically war costs and is meeting competition which forces him to sell at prices well below the actual cost of production. The result is that those farmers who depend mainly, or evenly largely, on wheat as a source of income are going back steadily year by year. Thousands of them already have gone bankrupt, and more are well on the way.

## The Wheat Situation.

There has been prepared in this department a very complete report on the wheat situation in all of its aspects. This report is
republished in this Yearbook, but it may be well to note here some of the suggestions which have been made by various persons as to ways by which the wheat grower might be helped out of his distressing situation.

Reduction of acreage. Since the acreage was largely increased to meet war demands, and since we now have a surplus, reduced production is looked to at once as the obvious cure.

Diversification-the growing of other crops from which part of the necessary income may be derived.

The organization of the wheat growers into a powerful cooperative.

The fixing by the Government of an arbitrary price which will cover cost of production.

WHEAT PRODUCTION AND ACREAGE IN THE UNITED STATES, 1912-1923.


Fig. 11.-The wheat acreage reached the peak in 1919 under war conditions. Since that time the acreage has declined toward the pre-war level. The acreage sown for harvest in 1924 shows a decline of over 12 per cent from the acreage sown in the previous year.

Liberalizing the immigration law to bring in farm laborers and thus reduce cost of production. Also to bring in industrial workers in the hope of reducing industrial wages.
An increase in the tariff.
The purchase of the surplus by the Government and storing it against a time of short production.
The sale of fifty to one hundred million bushels to European Governments whose people can not afford to buy, but who are in urgent need of food.

The purchase of the surplus by a Government agency and selling it at a lower price in the world market.

Combination of two or more of the suggestions made.
Reduction of acreage has been taking place at a rate much greater than is generally realized. The acres of wheat harvested increased from $47,000,000$ before the war to a peak of $75,000,000$ in 1919. From that high point the acreage has shrunk to $58,000,000$ the cur-
rent year. This shrinkage has been due to the substitution of other crops for wheat where such substitution offered a possible profit, to the abandonment of wheat farms in regions where because of repeated crop failures or financial stress such abandonment was forced, and to the reduction of acreage on other farms and ranches because of shortage of labor at a price the wheat grower could afford to pay. The acreage in wheat is still larger than is necessary to meet the needs of home consumption, assuming that we have normal crop years, and reduction is going on. It must be kept in mind, however, that in large areas of the West and Northwest soil and climate are better adapted to the production of wheat than any other crop. Farmers in those sections are fixed for growing wheat, their farm equipment is adapted to it. They can not all at once change to another crop, even if some other crop gave fair assurance of profit. On the whole, the shrinkage in acreage has been as rapid as could be expected.

In many sections of the country which heretofore have specialized on wheat substantial progress has been made in diversification. A study of the tables and graphs which will be found in our special wheat report tells this story very clearly. But diversification in any large way requires that more of the land be fenced, more buildings provided, more machinery of a different kind purchased. It also requires a better knowledge of general farming methods. In short, the wheat farmer must have both time and money to shift into more general farming, even in regions where that is clearly the best thing to do. Most of them, however, probably can and should produce on their own farms more of the milk, butter, eggs, meat, and vegetables which they need for their own tables and thus cut down a substantial part of the out-of-pocket expense. Cooperation of Federal and State agencies with local committees to help worthy farmers help themselves ought to be productive of good results.

The idea that the Government can arbitrarily fix a price that will cover cost of production and by this means restore prosperity to the wheat grower is no longer entertained by any considerable number. It is clear that such a course would simply stimulate production, not alone in the wheat country proper but in the great humid sections which can produce large crops of winter wheat, and will if the price is more attractive than the prices of corn and oats. A Government fixed price would make it necessary for the Government to be prepared to buy at that price, and without some means of disposing of the surplus bought our last state would be worse than the present.
The bringing in of foreign farm laborers with the thought of reducing production costs through cheaper farm labor seems visionary. The pull of higher industrial wages would operate about as effectively on them as on our own people. If they should stay on the farms and thereby increase production, that would hurt rather than help, for we already have more farm production in important crops than can be sold at a fair price. A large increase in labor in the industrial centers might tend to reduce costs of the things the farmer buys and would add that many more mouths to be fed here.
The purchase and holding by the Government of our surplus wheat might prove of temporary help, provided an advance in price, which is the object sought, should be protected by the necessary advance in the tariff. The existence of a large surplus, however, would exert a
constant downward pressure on the price of the next crop, large or small. Unless production is controlled, an annual crop, except for a reasonable carry over, must be sold annually.

The proposal to sell a considerable part of our surplus to some country which can not buy for cash but which is in urgent need of food is worthy of consideration. This would involve selling on long time and taking evidences of indebtedness, issued by State or municipal governments, calling for payment over a term of years. Commercial exporters can not extend credit for the length of time needed nor safely take the risks involved, but the Government, through some suitable agency, might well consider it. Such plan contemplates the free distribution of the wheat, or preferably flour, by the purchasing government and the amount thus sold would be taken out of the competing market.

The existing tariff has given a substantial measure of protection to the growers of certain varieties of wheat but not sufficient to make good the difference in cost of production and marketing here and in some competing countries when all factors are considered. Any effort which has the effect of advancing wheat prices at home must be supported by an advance in the tariff on wheat. A study of the conditions which influence the cost of wheat production in the United States and Canada has already been submitted to you.

The organization of wheat growers into a successful powerful cooperative marketing association might enable them to control the flow of wheat to market more effectively and to reduce marketing costs. It ought to be possible, although admittedly difficult, to adapt to wheat marketing the methods which have proved successful in the marketing of many other farm products. But the amalgamation of the many existing associations into one powerful body and bringing into it the large number still unorganized is the work of years. Even if it were done now, the fundamental difficulties of the wheat grower right now are too deep-seated to be eliminated by such an organization.

The proposal, which has been advanced and considered from time to time for two years past, to set up a Government agency with broad powers to buy and export wheat and other agricultural commodities of which we produce a large exportable surplus, is in my judgment one of the proposals which like several others is worthy of renewed consideration at the present time. The objective to be attained is to secure for wheat and other agricultural products an exchange value approximately equal to what it was before the war. As has been said often, one of the chief causes of the agricultural depression is that farm commodities are relatively far cheaper than before the war. The price of wheat in dollars at terminal markets is not far from pre-war prices in dollars, but a bushel of wheat on the farm will buy much less of the things farmers need or desire than before the war. The end sought, therefore, is to put farm products on a price plane comparable with the price plane of other commodities.
The proposal in question contemplates the setting up of a Government export commission charged with the duty of disposing of the surplus in the form of wheat or flour in such a manner that the domestic price may rise behind an adequate tariff barrier to the point of restoring the pre-war purchasing power of wheat in the
domestic market. Such an agency would need money with which to operate, and it is proposed to start it with a working capital of, say, $\$ 50,000,000$, that being the approximate sum which the Government made in the way of profit by its war-time handling of wheat and fiour when the price of wheat was arbitrarily controlled and held below the price at which it, would have sold without such control. In case losses should be incurred because of the character of its operations, it is proposed to recover the losses through the levy of an excise tax on the crop of wheat itself. In the end the cost would be paid, not out of the Public Treasury but from assessment on the growers benefited and should not be large.

That in briefest form is the essence of the plan suggested. It is not a proposal for price fixing, as that is generally understood. It might be described as a plan to give the wheat grower the measure of protection which is given to so many other groups by making fully effective the principle of the protective tariff on a commodity of which we produce a surplus and which is suffering from destructive competition in a depressed foreign market. Or it may be described as a plan by which the Government, without material loss to itself, undertakes to do for the wheat growers what they can not now do for themselves-bring them into a general wheat pool through the operation of which they may secure a fair price.

The proponents of this plan suggest that it avoids the stimulus to overproduction which is a serious objection to arbitrary price fixing, and that the mechanism of marketing wheat now existent need not be seriously interfered with, assuming that exporters evidenced a willingness to cooperate with the export corporation. This is important, because the reason for the corporation should gradually disappear as the reestablishiment of normal conditions through natural economic forces restores normal price ratios.

While the plan proposed could be applied more easily to wheat than to some other agricultural products, obviously if favorably considered it should not be confined to dealing in wheat alone. It should include all agricultural products of which we have a considerable exportable surplus and the prices of which are substantially out of line. Especially should provision be made for handling pork products, of which we export large quantities and which also were brought under Government control during the war.

Many objections, some of' real merit, can be urged against the scheme proposed. It is conceivable that there are some obstacles which may not be easy to overcome. However, there seems to be so much merit in the proposal that it is worthy of the most painstaking analysis and the most critical scrutiny. The principles invoked are such as have been successfully applied in times past by private initiative by industries which have successfully disposed abroad of an embarrassing surplus.

If farmers could control their production as does organized industry, or if they could exact a price for their labor as does organized labor, unusual action by Government might not be demanded so urgently. It is just as well to keep in mind that both industry and labor are beneficiaries of Government action and that such action during the war and the two years following has added not a little to the farmer's difficulties.

It is well to remember also that our population is growing rapidly and that before many years there will be a home demand for even more of farm products than we are now producing. If, during this period of agricultural distress, we permit production to be shrunk to present needs by driving farmers from the land and into the cities, we shall be under the necessity of reclaiming at large expense the productive land which is now being abandoned. And if we should experience one or two years of short crops while this process is going on, the consuming population will find itself compelled to pay prices for farm products which will impose upon it a burden comparable to that under which the farmer has been groaning.

On the assumption that it is the national purpose to keep ourselves on a self-sustaining basis agriculturally, wisdom would seem to justify going to some trouble to help farmers bridge over a period of depression caused by an economic cataclysm. Precisely that thing has been done in the case of labor and of some industries. Those who urge that economic laws should now be permitted to have free play with agriculture do not give full consideration to what happened during the war and for two years afterwards.

## Helping Farmers to Help Themselves.

Whatever may or may not be done by Government, it is perfectly clear that the success of the individual farmer will depend on his own efforts. That he must work hard goes without saying, but under present conditions it must be work with the head as well as the hands. The crops to be grown and the kind of farming to be followed must be determined not alone with an understanding of the conditions which influence production but with some knowledge of the prospective demand for those crops and some study of the conditions which are likely to influence the price. The Department of Agriculture is trying to help the farmer help himself both in determining what to grow and how to grow it and in putting in his hands the kind of information concerning domestic and foreign conditions which he needs to produce and market to the best advantage.

The change in railway rates has led to the necessity of readjusting the agriculture in the regions surrounding many of our cities. Food products which were formerly produced under more favorable soil and climatic conditions and shipped great distances can, with present freight rates, be produced on the neighboring farms and delivered to these cities with profit. A start has been made in helping the farmers around certain centers of population to solve their problems of readjustment to these changed conditions. Joint market demand and farm management surveys have been made for: Altoona, Pa.; Boston and Springfield, Mass.; New York City, and Tulsa, Okla. It is believed that owing to lack of information with regard to local demands, foods are often shipped great distances when they might be sold with greater profit close at hand. The purpose of these surveys is to help farmers make the readjustments in their farming and marketing which will enable them to provide the local markets, so far as they can profitably do so, with such food products as have formerly been shipped great distances. In the larger cities the study of market demand has a broader significance than providing information for the near-by producers. The mar-
ket analysis research which has been conducted for the past two years in New York City and Boston looks toward the development of methods of measuring and forecasting the market demand in these consuming centers. Other consuming centers, particularly those located in the one-crop producing areas, should be surveyed in a similar manner. It is hoped that State agencies will take up these studies, as it is impossible for this department to pursue them in any large portion of the country.

## World Demand for Farm Products.

To compete successfully the farmers of the United States need to know the world demand for the commodities of which they produce a surplus for the world markets and the conditions under which their competitors are producing. To meet this need a world crop and market reporting service has been developed for the purpose of collecting, summarizing, and interpreting information as to demand and competition in foreign markets.

The international Institute of $\Lambda$ griculture has greatly improved its reporting service to the Department of Agriculture in the past year. The institute has promptly cabled reports of conditions and estimates of important crops and livestock from all of the countries of the world reporting to the institute. For example, an estimate of the wheat crop in Argentina is cabled to the institute within a few hours after the estimate has been released in Argentina and in turn is cabled to the United States, and the same day this report is broadcasted from the Department of Agriculture by radio, telegraph, and press release. In this way the farmer may know as soon as the trader the size or condition of the crop in other parts of the world. Greater use will be made of this and other information on agriculture in foreign countries as its value to agriculture in this country is more fully recognized.

## Survey of World Agriculture and World Markets.

To continue to adjust American agriculture to meet the needs of an ever-changing world market situation, it is necessary to know the trend of production in foreign competing countries. The war had a profound effect upon many of our competitors as well as upon our own markets. As in the United States, the conditions of production in these countries are continually changing. To meet the need for such information a world survey of agricultural production has been inaugurated.

A close study has been made of agricultural conditions in Europe with a view to a better undersanding of the rapidity with which the peoples of western Europe were reestablishing their pre-war normal in agricultural production, and particularly in order that the American farmers might be informed regarding the revival of those lines of agriculture in eastern Europe which compete with the American farmer on the western European markets. Detailed studies have been made of the agriculture of the Danube Basin, and a survey of western Europe is now in progress. Detailed reports have also been made on agricultural competition and demand in Argentina, Chile. and Peru.

Representatives of the department are stationed in England and Germany for the purpose of reporting on agricultural and other conditions affecting the demand for farm products. These representatives, through their contacts with importers of farm products, with Government officials who know agricultural conditions, and through direct study of the agriculture of the countries in which they are located, have kept the department informed by radio and by cable of the important developments in foreign crop and market conditions.

Representatives of the department are sent abroad from time to time to help our foreign buyers to a better understanding of the United States grades and standards which form the basis of commercial transactions in farm products exported from the United States. Thus the foreign work not only provides information which facilitates the better adjustment of American agriculture to world conditions but services are rendered also which facilitate the marketing of our agricultural surpluses.

## Forecasts of Crop and Livestock Production.

The value of accurate forecasts of crop and livestock production can not be questioned. The more that is known of what is likely to occur in the future, the more intelligently can plans be made. This is particularly true regarding agricultural production, for which the machinery, when once put in motion, must usually be kept going throughout the season, regardless of the fact that production may be greatly in excess of the demand at prices that will be profitable to the producer.

## Intention-to-Plant Surveys.

Producers need information to guide them in making proper adjustments between the acreage planted to the various crops. The department began last spring to furnish this information. This was done by securing from many thousands of farmers prior to spring planting statements of the number of acres of various crops which they intended to plant. A similar report relating to fallsown crops was issued in August. These reports will be issued semiannually hereafter. When the purpose and value of these reports on intentions to plant are thoroughly understood they will exert an important influence and assist materially in adjusting acreage by preventing the over or under planting of particular crops. Although this is the first year that this work has been attempted, favorable results have already been noted.
A study is under way to ascertain in a scientific manner the factors which should be considered in forecasting the price of a particular product. There are signs of price changes which appear before the changes occur and serve as advance indications of the price movements. The practical purpose of the price analysis work is to give the farmer the benefit of a scientific analysis of price movements so that he may be able to make the best estimate possible from the facts available.

Farmers of necessity make production and price forecasts. On the basis of their forecasts they plan what they will undertake for
the coming year, how much land they will use, the acreage they will put into each of the various crops, the iivestock they will keep, and when they will market their products. While forecasts have always been made by farmers, it is believed that facts can be furnished which will make their forecasting more accurate than it ever has been.

The "intentions-to-plant" reports are not in any sense forecasts of acreage or yield, although they have sometimes been taken as such. They indicate what is in the farmer's mind at the time the report is made. When the general intention is made known individual farmers can then change their intention in the light of the new information.

Following the reports on "intentions-to-plant" mentioned above, it was felt that a comprehensive estimate of the general outlook would be a special value to producers. A group of well-known economists and statisticians were invited to meet in Washington on April 20 last to consider the report on intended crop plantings and other materials relating to demand, and to prepare a statement on the general factors now underlying the agricultural situation with a view to furnishing all possible bases for intelligent adjustment of production to demand. This committee drafted a concise statement on the general economic outlook which it is believed has been of material aid to all agricultural interests.

This group met again on July 11 to consider the foreign and domestic demands for farm products, the wheat situation, and the corn-hog situation. A valuable report was prepared, consisting largely of the presentation and interpretation of data collected by the Bureau of Agricultural Economics, which set forth the salient facts governing the agricultural outlook at that time. This report has been received with much interest by farmers, bankers, traders, and many others interested in the agricultural situation.

## Comparative Estimates a Guide to Marketing.

Producers also need information to guide them in determining when to sell their crops and livestock. This need the department is striving to meet by issuing promptly after harvest, as a supplement to the regular forecasts of production, an estimate of the quantity of each crop produced, together with comparisons with previous years. In order to give a more complete picture, information concerning foreign production is also gathered and published. Thousands of farmers study these reports from month to month and are guided in their marketing operations by them.

## Pig Surveys.

The special pig report which was issued in June, a year ago, showed a marked increase in the intentions of the farmers to breed for fall pigs, the increase amounting to 49 per cent in the Corn Belt States. When the report was made in December showing the actual number of fall farrowings, it indicated that this intention had been practically cut in two. Undoubtedly the information furnished by the department as to the increase had an important effect in reducing the fall pig crop to a more reasonable basis.

The report of July 1 of this year showing intentions to breed for fall pigs again showed an increase for fall farrowings, but judging from the large number of sows which have been going to market during the summer, farmers changed their plans when they learned the general intention and the actual fall farrowings will fall much below the expressed intentions of the farmers. That is the result to be desired from these reports.

Receipts at the various markets, which permit the checking up of these estimates, indicate that it will be possible to forecast quite accurately the probable movement of hogs to market several months in advance of the actual movement.


Fig. 12.-The number of sows farrowed in 11 Corn Belt States in the spring of 1922 was 22.8 per cent above the number farrowed in the spring of 1921. The increase in the spring of 1923 over 1922 was 8 per cent. The December, 1923, survey showed a decline of 6.1 per cent from the number farrowed in the fall of 1922. This survey also showed a considerable decline in the intentions to breed for spring pigs in 1924 compared with the actual farrowings in 1923.

## Acreage Estimates Improved.

The problem of estimating acreage is one of the most difficult confronting the crop forecaster. In order to secure greater accuracy, therefore, a measuring instrument has been devised for attaching to an automobile by which the linear measurement of all fields in various crops bordering on highways can be easily and quickly made. By covering sufficient territory a very accurate ratio between the areas in different crops can be determined and by covering the same highways year after year, the change in acreages in various crops can be worked out. Successful experiments have been made with this instrument and it will be used in practically all States hereafter.

## Livestock Reporting.

This year a long step in advance has been taken in the work of livestock reporting. Practically a new service has been started for the purpose of estimating actual production for market, available supplies, and movement of cattle and sheep. Estimates were issued on December 1, January 1, and March 1 last, of the number of cattle and sheep on feed in the Corn Belt as well as in the western States. Weekly: reports were issued during the height of the season of the lamb movement in the Colorado-Nebraska district, showing the actual movement to market. The total number of lambs shipped
out of this district checked very closely with the estimates made at the beginning of the season. Reports of the available supply of feeder cattle for spring and fall shipment were made for a number of western States, and hereafter will be made for all States which ship feeders. Reports were also made monthly for 17 western States showing pasture and feed conditions, as well as the condition of livestock on the ranges. An immense amount of historical data for previous years was compiled from the records of railroads, stockyards, concentration points, local packing establishments, and other such agencies, in order to secure a background for the quantitative estimates of movement.

## Cost of Production.

Cost data form the basis of the selection and combination of livestock and crops so that the largest net return may be secured by the farmer. Through cost studies farmers learn how to reduce their costs through more efficient management. Cost of production data are being gathered in representative areas throughout the United States with this object in view. The material is being used by large numbers of producers in these areas in the organization and operation of their farms.

The department is building a structure of index numbers of costs of production, national in scope, which will give the trend of production costs for all the important farm products entering into domestic and foreign commerce. The factors of production, such as labor, equipment, machinery, and fertilizer are being obtained in quantity as well as value units, which make possible a comparison of the basic requirements in agriculture with those of manufacture and public utilities. These agricultural cost trends should be very valuable to our legislators in deciding agricultural policies, to the farmers in helping them forecast probable cost trends, and to those industries directly dependent upon the farmer in planning their production programs. Knowledge of price and production trends helps farmers decide what to produce and helps to stabilize production. Standards of production are being worked out also from which farmers can judge the efficiency of their own operations.
Cost studies are furnishing information of specific value at the present time in the boll-weevil-infested areas of the South. The gradual expansion of the boll-weevil area has led to a study of the cost of the cultural methods and practices and crop rotation systems which best combat the weevil. On the basis of these studies systems of cotton farming are being worked out with a view to securing the highest net return per unit of expenditure.

The disastrous financial condition of so many of the range cattle producers at the present time has led to the general belief by many western cattle producers that possibly some changes in their methods of meat production should be made. In an endeavor to be of assistance to the beef producers, field work in ranch costs and management was begun in the spring of 1922 . These ranch studies are being combined with similar studies on cattle using the national forest ranges. From this work the department will be in a position to make known the methods of handling and systems of beef production which will produce the best results under present conditions.

## Readjusting the Farm Program.

Hand in hand with the cost of production studies are the studies of farm management and farm practice. The work in farm management in the past has been largely the studying of normal agriculture. This year we have turned our attention to applying the results of our studies of normal agriculture to unusual conditions which exists in many sections.

For example, the northern Great Plains area has suffered severely. The Department of Agriculture during the past year was called into conference with the agricultural colleges in this region with a view to devising some measure of relief for the farmers in the Northwest. This region during the last years of the war, when the price of wheat was high, suffered an unprecedented series of dry seasons which greatly reduced agricultural production, and more recently the price of wheat has been far below the cost of production. As a consequence land values have depreciated, farmers have become discouraged, and the prosperity of the region has been in grave jeopardy. Recognizing the seriousness of the situation, a spring wheat regional council was organized in the department about a year ago.

## Spring Wheat Council.

This council appointed two committees to cooperate with similar committees representing the agricultural colleges in the spring wheat States, one committee dealing with production and the other with the marketing of agricultural commodities in that region. At a conference held in St. Paul last January a report was prepared containing recommendations of measures which it was believed would help provide immediate relief to the farmers of the region.
A comprehensive study of farm organization and land utilization in the region has been begun by the department in order to determine in just what parts of the region a permanently profitable agriculture can be established and just what types of farming are best suited to the different parts of the region.

## Agricultural Credit.

The agricultural credits act of 1923 established 12 intermediate credit banks, one to serve each of the Federal land-bank districts. It increases from six months to nine months the term of discount on agricultural and livestock paper by the Federal reserve banks. It broadens the definition of agricultural paper so as to include credit used in the preparation for market and the marketing of agricultural products by farmers' cooperative associations. It increases from $\$ 10,000$ to $\$ 25,000$ the maximum mortgage loan to individual farmers by the Federal land banks. It gives the borrowers from the land banks a measure of control of these institutions. It authorizes the organization of national agricultural credit corporations which will prove of special benefit to the parts of the country where the livestock industry is most prominent.

While the law does not authorize direct loans to individual farmers, local agricultural credit corporations may be organized by such farm-
ers in order to obtain discount privileges. In some States evidently the State laws must be amended before farmers can get the full benefit of the Federal law in this way. Bankers and business men in communities where present facilities are inadequate may also organize such corporations. Only in localities where present credit facilities are inadequate or where local banks, by reason of the limitation upon interest rates provided in the law, or for other reasons, refuse to avail themselves of the facilities for intermediate credit afforded them by the new banks, is it believed necessary or desirable that agricultural credit corporations should be established.
This agricultural credits act if vigorously administered should be most helpful in furnishing the sort of credit needed to meet the peculiar needs of the farmer.

MONTHLY AVERAGE NUMBER OF LOANS CLOSED BY FEDERAL LAND BANKS, 1917-1923.


Fig. 13.-The first charter to a national farm loan association was granted March 27, 1917. By October 31, 1923, the Federal Land Banks had closed 284,095 loans amounting to $\$ 846,030,954$. The lending operations of the banks during 1920 and 1921 were curtailed by litigation involving the constitutionality of the Federal Farm Loan Act.

## Increased Activity Under the Warehouse Act.

Changes have been taking place in methods of marketing and financing farm products due to the increased credit facilities which have been extended to farmers and the development of the federally licensed warehouse. For example, the cotton which was formerly sold abroad quickly and financed abroad is now held in this country, warehoused and financed in this country, and sold gradually.

The year 1923 marked the greatest progress in the licensing of public warehousemen under the United States warehouse act for the storage of agricultural products since its passage in 1916. This is shown in the following table.

Number of licensed warehouses.

| Kind of warehouse. | To April 1, 1921. |  | To June 30, 1922. |  | To June 30, 1923. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Capacity. | Num- ber. | Capacity. | Number. | Capacity. |
| Cotton. . | 238 | 429,975 bales....... | 270 | 1,210,000 bales. | 331 | 2,639,200 bales. |
| Grain... | 56 | 2,108,400 bushels .. | 265 | 14,450,000 bushels... | 231 | 20,297,047 bushels. |
| Wool.... | 5 | 24,375,000 pounds.. | 18 | 27,500,000 pounds.. | 15 | 32,100,000 pounds. |
| Tobacco. |  |  | 14 | 68,400,000 pounds. | 51 | 219,475,000 pounds. |

Much of the progress made is attributable to the attitude taken by growers' cooperative associations and bankers toward receipts

## INCREASE IN THE CAPACITY OF WAREHOUSES LICENSED FOR STORING COTTON, GRAIN, WOOL, AND TOBACCO UNDER THE UNITED STATES

 WAREHOUSE ACT, 1920-1923.

FIG. 14.-The license capacity for storing cotton from April 1, 1920, to December 31. 1923 , was increased 64 times. Jicensed capacity for grain during the same period increased 249 times. Although during April, 1923 , there were no waiehouses licensed for storing wool, on December 1, 1923, the licensed capacity was sufficient to store one-sixth of the wool clip. No tobacco warehouses were licensed until early in 1922. On December 31, 1923, licensed warehouses could accommodate approximately three and one-half million pounds of tobacco.
issued under the law. A number of cotton and tobacco growers' cooperative associations refuse to place cotton or tobacco in any warehouse not licensed by the department. Resolutions favoring the licensing of warehouses under the United States warehouse act
have been adopted by many banking and clearing-house associations. The Federal Farm Loan Board, in administering the intermediate farm credits act of 1923, in its perliminary rules and regulations included a rule reading as follows: "Intermediate credit banks will accept the receipt of any warehouse licensed and bonded under the Federal warehouse act."

The formation of cooperative growers' associations, the improved credit facilities made available by the Government, and the attitude of large banks are all encouraging the producer to hold his crops for a ionger period after harvesting and thus encouraging more orderly marketing. The Federal warehouse act has clearly demonstrated its value in this movement.

Until February 23, 1923, the act applied only to cotton, grain, wool, and tobacco. On that date the law was amended so as to apply to such agricultural products as might be considered properly storable under the act. The department has since received requests from many sections for licensing warehouses for the storage of beans, eggs, and other cold-storage products, apples, potatoes, and many other products. Just as fast as the necessary trained men can be found to add to the staff, warehouses for the storage of additional products will be proclaimed licensable.

## Market News Service Expansion.

This year marks the first substantial expansion in the market news service of the department since the funds were curtailed at the close of the World War. For the present fiscal year Congress increased the appropriation for this work by nearly $\$ 300,000$, this increase being granted for the purpose of extending the service to the far West and to the South. On July 1 the leased wire was opened to San Francisco, passing through Denver and Salt Lake City, and on September 1 a similar wire was opened to Atlanta, Ga., passing through Richmond, Va., and Raleigh, N. C. Offices at Los Angeles and Portland, Oreg., were opened on July 1, and are reached by radio and commercial wire service from San Francisco.

New branch offices were opened in both the West and South to collect and disseminate market information. While this expansion does not restore the nation-wide system that existed during the waremergency period, the extension to the far West and to the South are making our market reports available to a very large number of producers. This extension has imposed a heavy burden upon the working force in the larger market centers, however, and further additions to these forces will be necessary in order to maintain the scope and quality of the work.

Before the extension to the Pacific coast can be of the greatest usefulness it will be necessary to increase our program by reporting a number of crops, such as prunes, which heretofore have not been covered. Urgent demand has been made upon the department also for the reopening of branch offices in a number of important eastern markets, but until additional funds are made available it will not be possible to meet this demand.

## Radio News Service.

Radio broadcasting as a means of disseminating market information has been given a thorough trial during the past year and has
fully demonstrated its value. Through the cooperation of the Navy Department the high-powered radio stations at Arlington, Va., Great Lakes, Ill., and San Francisco, Calif., have been used in transmitting market information which has reached a large portion of the country.

The secondary broadcasting by radio telephone has been further developed, and now any farmer who has an adequate receiving set may get full market reports from the air in practically every part of the United States. An inquiry among county agents showed that the number of receiving sets on farms is rapidly approaching a quarter of a million and that through the distribution of these reports by local schools, farmers' organizations, business houses, etc., the market information is becoming available to a large proportion of our farmers.

## Increased Demand for Information on Agricultural Situation.

Conditions during the past year throughout the country have tended to increase the demands made upon the Department of Agriculture for facts and figures which help to interpret the constantly changing situation. In line therewith the department has attempted to make still more effective its machinery for disseminating timely economic information. Through its extension organization it has succeeded in maintaining excellent contact for this purpose with farmers and farm leaders. Charts and statistical summaries have been sent out at regular intervals and these have been widely used by individuals and the press. A condensed summary has been prepared each month, showing the trend of important economic factors, such as production, consumption, movement and prices. This monthly summary has been issued as a mimeographed circular under the title, "The Agricultural Situation." This circular contains a terse statement of the month's developments in production, prices, movement to market, exports, cold storage, and business factors reflecting demand for farm products.

## Shipping Point Inspection Service.

For the fiscal year 1923 Congress authorized this department to inspect fruit and vegetables at shipping points. This opened the field for a new service of supreme importance to the fruit and vegetable industry, as it makes it possible for producers and shippers wherever the service is available to secure an inspection by a Federal inspector before the produce is shipped. This service is permissive only. The certificates issued are prima facie evidence in the courts of the United States as to the grade and quality of the product inspected. In many shipping areas the demand for this service was already loud and insistent.

To meet this active and potential demand it is estimated that no less than 1,000 inspectors will ultimately be necessary, although a majority of them will be part-time men. It should be noted that over 550 inspectors have been licensed during the first three months of the current fiscal year. It is expected that this work will pay its own way through the fees collected, but these fees must be made reexpendable or there must be provided a fund of about $\$ 1,000,000$ annually upon which to draw for salaries and expenses. The act, however, carried not a dollar of increase for the inspection item,
alihough the work to be done at shipping points is fully ten times as extensive as that previously done in the terminal markets, where an a verage of 50 inspectors were employed.

The department was therefore limited to such work as could be done through cooperative agreements with certain States, especially those whose officers could operate revolving funds. Under these agreements the inspectors have been employed and paid by the State, and the fees have been assessed by, paid to, and reexpended by the State. We have licensed these inspectors, supervised their work, and charged the State a fee, which has gone to the United States Treasury as miscellaneous receipts.

Although active work has been possible in less than half the States, certificates were issued on 72,666 carloads of produce at shipping points and on 28,169 cars in terminal markets. This means that every one of these shippers held prima facie evidence of having made a good delivery if he based his sale on the Federal certificate. It


Fic. 15.-The above map shows that the greatest demand for shipping point inspection of fruits ang vegetables was from heavy producing States which are far from the principai consuming centers. The number of inspections requested is determined largely by local conditions. State legislation encouraging and in some cases requiring inspection was very influential in determining the amount of cooperative Fedcrai-State inspection work pertormed.
means also that every buyer who demanded "Government certificate attached to bill of lading" bought with assurance that a competent and impartial inspection had determined the variety and grade of the fruits or vegetables offered him.

The economic results of this innovation have been spectacular in the swiftness of their development. They promise to be well-nigh revolutionary in their ultimate effect upon fruit and vegetable marketing.

First, the true meaning of standardization has been brought home to the grower as never before.

Second, the growers' organizations have improved the quality of their offerings and have found a new and acceptable basis for pooling.

Third, potato growers especially have learned what sort of stock should not be shipped at all except in years of extremely high prices.

Fourth, the shipper has a new basis upon which to offer his prodduct and has no fear that the prospective buyer will discount his statements.

Fifth, the buyer can order in safety without seeing the goods.
Sixth, the certificate acts as a general insurance policy in case of loss or damage in transit.

The trade quickly realized that this service made possible a new system of car-lot marketing. Auction companies have been formed in both eastern and western cities which sell only cars in transit and on which certificates have been issued. The success of this system has been marked from the start. On the first 500 cars of cantaloupes thus sold the commissions were only one-third as high as those generally prevailing at the time. The final destination of the car was determined during its first day on the road, and it moved without indirection or delay to the place of consumption. Meantime the

CAR-LOT INSPECTIONS AT RECEIVING MARKETS FOR PAST FIVE YEARS.


Fig. 16.-After the year 1918-19, during which the inspection service was being organized, the number of inspections requested in receiving markets has varied according to weather and crop conditions. The severe winter of 1919-20 resuited in thousands of requests being filed for inspection covering transit freezing injury. Epidemics of field diseases of certain crops have also influenced the number of inspections requested.
shipper had his money, transmitted by telegraph, within 48 hours after loading his car. Thus has the road between producer and consumer been shortened and straightened, and a clear saving of 10 per cent of the f. o. b. price has been effected by the shipper.

Prior to last year our inspection service in terminal markets had never earned in fees more than five-sevenths of the appropriation made by Congress for this work. Last year, without curtailing the city service and without a dollar of increase for this item, we more than trebled the number of cars inspected and have returned to the Treasury six-sevenths of the amount appropriated. When considered in connection with the profound reforms and economies to which the work has given rise, this is one of the most marked accomplishments of the year in our entire field of economic service.

## Standardization of Farm Products Universally Accepted.

The benefits from well defined and generally accepted standards for farm products are no longer seriously questioned. With premiums being paid for products of uniform grade, coupled with
high costs of transporting and handling nonstandardized products, farmers have come to realize the value of this work. Standardization of fruits and vegetables received fresh impetus from the inauguration of the shipping point inspection, as uniform standards are fundamentally necessary to the successful operation of an inspection service. At the present time Federal standards are being used for a large number of the most important fruits and vegetables, and many of these standards have been made mandatory under State laws.

After several years of intensive work, Federal grades were recommended for a number of the most important types of hay. These grades have been very well received on the part of producers and the trade, and are used as the basis for the inspection service on hay which was inaugurated on July 1 of this year.

On February 23, 1923, the warehouse act was amended so as to permit of the storage of any agricultural product, considered by this department to be properly storable, in a federally licensed warehouse. As a preliminary step to the enforcement of this act, it is necessary to establish Federal standards for all products to be stored in licensed warehouses.

Tentative standards have been established covering dark-fired, flue-cured and sun-cured types of tobacco of Virginia and the Carolinas and the dark-fired tobacco of Kentucky. Other tentative standards have been recommended and investigations are being continued.

The department's market classification for livestock has been further revised and is without doubt the most complete classification for meat animals ever attempted and constitutes a long step forward in standardization. Classes and grades of dressed meats have also been prepared which are proving of great benefit to the livestock and meat trade.

In response to strong appeals from both the domestic and foreign trade, Federal grades for rye were promulgated on July 1 of this year. These grades have received hearty indorsement from all branches of the trade. The demand for these grades by buyers in Europe, as well as by the domestic trade, indicates a wholesome confidence in the value of inspection certificates issued by licenses of this department.

## Universal Standards for American Cotton.

An outstanding accomplishment of the year has been the establishment of universal standards for American cotton. With the passage of the United States cotton standards act on March 4, 1923, requiring the use of the official cotton standards of the United States in interstate and foreign commerce, the desirability of an international agreement on standards became increasingly evident. Accordingly, a conference was called at Washington on June 11, 1923, at which representatives from the leading cotton exchanges of Europe met representatives of the American cotton trade and officials of the Department of Agriculture, and reached an agreement that the official cotton standards of the United States for grade and color with some slight modifications should be adopted as universal standards for American cotton.

It was agreed that in so far as commerce in American cotton is concerned the entire world will use identical names to represent standard qualities. Contracts covering the agreements and rules under which the foreign trade in American cotton is to be conducted have been signed by the Liverpool Cotton Association, Manchester Cotton Association, the Havre Cotton Association, Bremen Cotton Association, Barcelona Cotton Association, and Rotterdam Cotton Association. By this agreement the international cotton business will be greatly simplified and the cause for disputes and reclamations largely eliminated, as the same standard will be applied to the cotton throughout its entire course from the time it leaves the farmer until it reaches the spinner in any part of the world. The path between


Frg. 17.-Every important cotton market in Europe and the United States has adopted and is now using universal standards for American cotton. Even the trade in American cotton in the Orient is based on these standards and purchases are usually consummated in the United States. Exporters representing eastern interests accept delivery here and ship the cotton under foreign ownership. It seems probable that Russia, Australia, Brazil, and Argentina may adopt these or similar standards for comparable varieties of cotton.
the farmer and the consumer will be shortened, with the result that the producer will receive a larger share of the proceeds from the sale of his cotton to the European spinner.

## Grain-Cleaning Demonstrations.

One of the most serious problems in connection with the grading of wheat has been the question of dockage. Records for the past 18 years show that the wheat arriving at terminal markets has been marketed with increasing amount of trash and foreign material. For example, with respect to hard red spring wheat produced in the central spring-wheat belt, records covering a recent crop movement show that there was marketed with the wheat over $10,000,000$ bushels of trash and foreign material. This is a burden upon the producer of wheat and represents an economic waste which this department has been working to overcome with a view to putting more dollars into the farmer's pocket for the wheat he produces. To accomplish this, the department has developed a cleaning device designed for attachment to threshing machines. Educational work is
being carried on to bring about the general use of this device and to demonstrate the value of marketing clean grain, as it will insure enormous financial benefit to the wheat grower.

## Authentic Farm Population Statistics.

A detailed study of the movement of farm population in eight rural counties of the United States from census reports of 1920 is practically completed. This study, to be published by the Bureau of the Census, will furnish authentic information as to shifts of population from farms to villages and cities and vice versa, as well as "moves" from farm to farm in various sections of the United States.

## Farmers' Standard of Living Studied.

The main purpose in connection with studies on the farmers' standard of living is to determine what farm families use and what they pay for the various materials such as food, clothing, rent, fuel, and other things. Another purpose is to learn what proportion of the expenditure goes for each of the various classes of goods consumed. Still other purposes are to obtain information concerning living conditions actually prevailing in certain selected areas, and to determine the relation of success of farming, of value of house and its furnishings, and of several of the more social factors to the family living. Such information gathered from various parts of the United States is needed by institutions attempting to direct agricultural development on a sound basis. It will help to answer some of the questions regarding the advantages of city versus country life, so far as the material well-being of the families is concerned.

## Farmers' Mutual Insurance.

The department has aided and encouraged further improvement in the methods of operating the farmers' mutual insurance companies in all parts of the country and has brought about the extension of

AMOUNT OF OUTSTANDING INSURANCE OF FARMERS' MUTUAL FIRE INSURANCE COMPANIES, 1914-1521.


Fig. 18.-In 1921 there were 1,952 farmers' mutual fire insurance companies in the United States, and the risks in force in that year show an increase of 59.8 per cent over 1914 . The average cost covering all losses and expenses was 27 cents per $\$ 100$ of insurance.
this sound and economical form of insurance protection to those of the Southern States where as yet little development of this kind has taken place. In many of the States of the South fire-insurance rates as quoted by commercial companies are so high as to make the cost of protection to a considerable percentage of the farmers well-nigh prohibitive. Experience has demonstrated that through local cooperation expenses can be materially reduced and the loss ratio can be greatly lowered by the elimination of all moral hazards, as well as the elimination of some of the physical hazards involved.

## Crop Insurance.

Special interest has been evident recently in the problem of insurance on growing crops. Several of the larger joint-stock fire-insurance companies have in recent years been experimenting with a broader form of insurance coverage for crops than that involved in so-called hail insurance, which has been extensively written for a number of years. The department has been glad to cooperate with the Senate committee appointed to investigate the subject of crop insurance in the United States and to contribute to the statistical and other data sought by this committee. The growing of crops is surrounded by a wide variety of hazards. The uncertainty of weather conditions, plant diseases, insect and animal pests give rise to a risk against which it would be highly desirable for the farmer to be in position to protect himself. In commerce and industry insurance protection against hazards over which the individual has no control is now very generally available. It seems reasonable and proper that the producer of crops should also be in position to safeguard himself against total or serious loss of his annual investment of capital and labor after doing everything possible on his own part to bring about a harvest.

## Agricultural Cooperation.

During the past three years farmers in the United States have turned to cooperation for the solution of their marketing difficulties in ever-increasing numbers. In a period of rapid expansion it is only natural that the essential principles and limits of cooperation at times should be overlooked. The department believes, therefore, that its most helpful activity in this field consists in collecting and compiling the essential facts with regard to the cooperative movement and employing these data as the basis of careful studies of the older and more successful cooperative organizations. In this way an understanding of the general movement may be gained, and the principles which have guided well-established organizations made available to newcomers in the field.

The department has undertaken, consequently, to collect and compile the vital facts regarding existing cooperative organizations. Out of an estimated 10,000 associations in the United States information regarding form of organization, financial status, kind of products sold and purchased, volume of business, marketing methods, and similar features is available for approximately 6,000 . Information regarding well-established cooperatives is even more complète than the figures given would indicate. Current material
is made available to those interested in cooperation through the publication every two weeks of a 16-page mimeographed circular containing economic, legal, and statistical information regarding cooperation in the United States and foreign countries.
Detailed studies of a cooperative sales agency for cranberries and a cooperative citrus-fruit marketing agency were completed during the year. The purpose of the studies is to point out, first of all, the general principles which have made these organizations successful; to point out also the particular problems each organization has had to meet and the way in which these problems and other special conditions have. affected its development. A study is also being made of cooperative organizations which have failed, in an effort to determine the causes for failure of cooperation.

The objective of the department's work in cooperation, in brief, has been to collect the facts regarding the cooperative movement, to


FIG. 19.-The 12,000 farmers business organizations functioning at the close of 1923 had a membership estimated at $1,500,000$. While these members were scattered orer the entire United States they were especially numerous in the dairy sections of New York, Wisconsin, and Minnesota, the tobaccoproducing regions of Kentucky, Virginia, and the Carolinas in the Cotton Belt States, and in sections of California where the fruit industry is highly developed.
ascertain by careful study the principles which will serve as guideposts for the inovements, and the factors which point toward danger and possible failure.

It is important to remember that there have been previous periods of expansion and decline in cooperative activity in the United States. Cooperative sentiment is always stimulated by agricultural depression. The first great cooperative movement in agriculture reached its apex about 1874, but lasted for only a few years thereafter. Local work went forward in the later years of the nineteenth century, but it was not until after 1900 that the present period of expansion began. It increased gradually for a number of years, gaining momentum about 1914, and is now at a maximum.

There have been many failures of cooperative associations, although there is no reason to believe that the number of failures
of such organizations during a given period varies materially from the number of failures in other enterprises under analogous conditions. It was only natural that the number of failures of cooperative associations should be especially large following the World War, during the period of falling agricultural prices, just as the number of business failures in cities should be and was very large. The causes of the failures appear to be similar to the causes of failure in other lines. The main cause was falling prices. Other causes were poor management, inadequate financing, and too small a volume of business in proportion to the overhead expenses. Some associations purchased, largely on credit, buildings and equipment at war prices, and the subsequent decline in the value of such property, coupled with the decline in the price of agricultural products, was largely responsible for their failure.

Business failures in cities are a natural economic phenomenon which we record statistically from day to day. It is a barometer

DISTRIBUTION OF COOPERATIVE SELLING ASSOCIATIONS, 1923.


Fig. 20.-Reports received by the Department of Agriculture from farmers' business organizations have been classified according to the kind of enterprises being conducted. It is estimated that there were approximately 12,000 active business organizations at the close of 1923 , and that during that year their total volume of business was in excess of $\$ 2,000,000,000$.
of business activity. It is taken as a matter of course. When a cooperative enterprise composed of farmers fails it flashes across the metropolitan press in glaring headlines. Business failure is the cut and dried method by which society has decreed that the unnecessary enterprises be eliminated.

The Capper-Volstead Act, which became a law on February 18, 1922, specifically recognizes the right of farmers to associate for the purpose of marketing their products. This act clears the way for cooperative effort.

A principle which can not be too strongly emphasized is that cooperative associations will succeed or fail in proportion as they are efficient. The measure of their success will be determined by their ability to perform the marketing functions which they undertake fairly, economically, and efficiently. Success will necessarily be governed by the skill and energy of the management. The State
agricultural colleges could render helpful service by strengthening their courses in economics and marketing and by offering special courses for the training of cooperative managers.

## Outlet for Meat Widened.

Through efforts of this department and the Department of State during the past year a wider market for domestic meats, particularly pork, has been made available. The most recent evidence of this is the opening the Netherlands to shipments of pork. This new market, together with the English market, which was opened to the same products about 18 months ago, now gives the farmers of this country a considerable additional outlet at a time when production is at a high point.

The Government of the Netherlands requires that fresh pork shipped to that country shall be handled under certain specified conditions. These conditions have been met as a result of modifications agreed upon after suggestions were made by this department. It is expected that this new arrangement will result in a great deal of new business, just as resulted from arrangements made with England which removed any doubts regarding the wholesomeness of American fresh pork.

Up until about a year and a half ago there had been no fresh-pork trade between this country and England, but during the past year this trade amounted to practically $20,000,000$ pounds, the equivalent of well over 100,000 mature hogs.

It is hoped that other importing nations may come to understand the exceptional cheapness and wholesomeness of our pork and be willing to remove the restrictions which seem to work to the disadvantage of their consumers as well as our producers.

## New Organization in Effect.

Adjustment of the work of the department to the new plan of organization which went into effect July 1, 1923, has been going forward satisfactorily. Broadly speaking, the new organization provides for the coordinating of the three main divisions of department work, each under a directing head. The offices of director of scientific work and director of regulatory work were provided for prior to the past year. The newly created office was director of extension work.

The director of scientific work is expected to coordinate and supervise all activities looking to the finding of new scientific facts. The director of extension work has charge of all branches active in the sending out of these new facts and other information to the public. This work is done largely through extension agents in cooperation with agricultural colleges. The director of regulatory work has charge of the administration of the numerous laws coming under the department. His work is very closely associated with scientific work, as research along scientific lines is necessary in the administration of many laws.
Another important feature of the plan of reorganization is the establishment of the Bureau of Home Economics. This bureau is in charge of a woman, scientifically trained and experienced, and
has a program outlined which will greatly strengthen our scientific knowledge of foods and problems affecting the women of this country.

The editorial and distribution work, formerly the division of publications, has been placed in charge of an assistant directly responsible to the Secretary. This position was provided for by the last Congress and makes it possible to materially strengthen this phase of our work.

## Home Economics Work Strengthened.

With the establishment of the new Bureau of Home Economics coordination and cooperation of the work already being carried on has been made possible. Plans have been made to begin research in new fields which must be explored scientifically if the department is to render the greatest service to the home maker. Problems will be undertaken according to their relative importance to home makers as far as the department is able to determine them.

At a conference of home-economics specialists called by the department last summer it was expressed and agreed upon that the new bureau should undertake research work in the following subjects: Food and nutrition, clothing and textiles, economics (including household management), equipment, eugenics, and art in the home. Among these recommended subjects we hope to stress particularly economic studies, experiments in the field of textiles, and clothing and equipment studies. Under the economic phase of this work standard-of-living studies appear to be greatly needed to furnish information of fundamental importance. The factors entering into clothing costs are not sufficiently established, and detailed study along this line is highly important. There is a wide field of work in the continuation and extension of the economic use of food. Studies of the cost of housing are at present acutely needed. Very little information is now available to the housewife to help her in choosing textile materials and clothing, and it appears very urgent that something should be done to furnish the housewife with reliable guidance in her purchases of household equipment.

These are only representative of the many problems confronting this new bureau, and indicate the great field of research work which this department should explore if it is to be of the utmost help to farm and city women.

## Scientific Research.

In the field of scientific research many things have been done during the year which are valuable contributions to both scientific and practical agriculture, and to various industries. Many of the new discoveries are plainly contributions which should make living easier and more comfortable. It is not possible to enumerate all of these additions to knowledge which cover a great variety of subjects, including plants and animal breeding, cultural methods, means of fighting insect, animal fungus, and bacterial enemies of crops and animals, and new methods for handling crops after they have left the farm. The reports of the various bureaus contain much detailed information and are available in limited numbers.

Results of research work on animal parasites afford striking evidence of the practical value of scientific experimentation. One of the most conspicuous examples is the discovery that carbon tetrachloride is an effective remedy for the removal of hookworms of dogs, a discovery which has led to the wholesale application of this treatment against hookworms of human beings with great success in many parts of the world. Investigations regarding roundworms of sheep and swine have made it possible to overcome, to a large extent, the enormous losses caused by these parasites.

A unique, practical method for the prevention of damage to the harvested fruit of Florida oranges and grapefruit by stem-end rot during transportation, storage, and distribution has been developed to the stage of commercial application. The economic importa ce of this reduction of distribution hazard and prevention of waste of wholesome fruit is readily apparent when it is remembered that these two crops in Florida alone now yield from $13,000,000$ to $16,000,000$ boxes each year.
Recent studies of the salts carried in irrigation water have given a somewhat different point of view for the consideration of alkali troubles in irrigated lands. In many districts the chief concern of the irrigation farmer is to prevent accumulation of alkali salts in harmful quantities in good land, rather than to reclaim salty land for use in crop production. These observations indicate the importance to the irrigation farmer of understanding the character of the soil solution and of using irrigation water in such a way as to prevent the accumulation of excessive quantities of soluble material from the soil.

Two different methods have been developed for determining the total quantity of colloidal material in soils and it has been found that colloids constitute a far larger part of the whole soil than previously had been thought, some of the heavier soils containing from 60 to 70 per cent. Progress also has been made in determining the properties of the colloids present in different soils. With these facts established it should be possible to gain a more correct insight into the chemical processes of the soil than has hitherto been possible. It is now possible to get a better insight into the nature of soil composition, and the new methods are applicable in the study of agricultural soils, of material used for building levees and foundations, of drainage and irrigation conditions, and of geologic formations.

By modifying the process ordinarily used in the preparation of ammonium phosphate so as to include the use of commercial potassium chloride, as well as phosphoric acid and ammonia, it has been found that a product containing all of the essential constituents of fertilizer, and of corresponding concentration, may easily be obtained. Chemical and physical properties of this material make the new method admirably suited for preparing fertilizer material for transportation. Manufacturing concerns have taken such an interest in this process as to express a willingness to test it out on a commercial scale.

A laboratory to develop work on the chemistry of crops was established during the year. There is need for work concerning the influence of environment on the chemical composition of crops, including certain features of fertilization, such as the relation of composition of crop to the time of fertilizer application. Past work
on the composition of agricultural crops has been directed chiefly toward what may be termed the quantity viewpoint. The new work is directed more toward the subject of quality. The chemist is now seeking to learn whether or not there is danger of producing quantity at the expense of nutritive quality. For instance, it is known that the application of a certain fertilizer, say, sodium nitrate, at a definite time, as one month after sowing, to a crop like corn will increase the yield quantitatively. However, practically nothing is known about quality relations; that is, whether the proteins, vitamins, or mineral components of the corn so fertilized are superior or inferior for animal and human nutrition. The economic value of improvements in quality resulting from this research may exert a marked influence upon future agricultural practices.

The physical investigations conducted at the Arlington Experiment Farm, Arlington, Va., and elsewhere, with and without the cooperation of other agencies are fast providing a scientific basis for highway design, reducing uncertainty to a minimum and assuring a greater degree of economy in highway construction expenditures. As a result of observations made at the Bates road in Illinois, a design for one of the types of highway surface has been formulated which will reduce the cost by $\$ 1,500$ a mile without decrease of strength. The department cooperated with the Illinois Department of Public Works and Buildings in this investigation.

## Insect Enemies.

The fight against insect enemies, which grows year by year, involves the use of various methods for eradication and control and for preventing the introduction of new kinds from other


DUSTING COTTON WITH AIRPLANE.
Fig. 21.-Experimental work with airplane has given assurance that calcium arsenate can be applied by this system more cheaply than by hand under satisfactory conditions.
countries. During the past year progress has been made in introducing insect enemies of the corn borer from Europe. During 1922 more than a million specimens of one species were liberated in the New England area. Arrangements have been perfected with
the Canadian department of agriculture to supply colonies of this parasite for possible establishment in southern Ontario, where the corn borer occupies a large part of the peninsula bordered by Lakes Ontario, Erie, and Huron. Another parasitic species which first


ADULT BOLL WEEVIL AND LARVA.
Fig. 22.-The adult weevil lays its eggs under the surface of the squares or bolls where they hatch their young larve. The larva hatches from the egg inside the boll and begins to feed on the tissues, thus destroying the form and preventing maturing of the fruit.
was liberated in Massachusetts in the fall of 1922 has been recovered from the field in several different localities in New England, and the establishment of this species there seems now assured. There were no developments of great importance in the corn borer situation during the past year.

Study of calcium arsenate dusting methods for checking cotton boll weevil infestation showed that some success has been achieved by this means. Severe weevil infestation in 1922 caused a more extensive use of calcium arsenate than ever before, and a shortage of this material developed. A special investigation was made of the results secured by approximately 1,100 farmers. who dusted altogether 125,485 acres of cotton. These farms were quite uniformly distributed over practically all of the Cotton States. Slightly more than 96 per cent of the farmers using calcium arsenate were successful in controlling the weevil to the extent of making the operation profitable. The average increase in yield upon these farms was 339 pounds of seed cotton per acre. Special studies were conducted to determine the minimum yield per acre on land where dusting with calcium arsenate would be justified by the results obtained. It was found that in general the season's dusting on any particular farm should cost not to exceed the current value of 100 pounds of seed cotton per acre in order to make a profit by the dusting method.

## Black Stem Rust of Wheat.

The barberry eradication campaign, the objective of which is the control of the black stem rust of wheat and other cereals through the eradication of the common barberry, which is the intermediate host
of this destructive fungus disease, has been systematically prosecuted during the year in 13 States of the Mississippi Valley and the Great Plains region, where it was begun in the spring of 1918. The initial survey has been completed in Wyoming, and but few counties remain to be covered in Colorado and Montana. During the entire campaign more than five and three-quarter million bushes have been located on more than 55,000 properties. These are destroyed by thorough uprooting or by the application of common salt or diluted sodium arsenite where the conditions render these materials practicable and safe.

## White-Pine Blister Rust.

Field surveys during the past season by Federal, State, and Dominion scouts have disclosed that the destructive rust of five-leaved pines, which in western North America was first observed on pines and currant bushes in southwestern British Columbia in the autumn of 1921, is widespread throughout the coast belt of British Columbia. As several large areas in that Province have been found where the disease is epidemic on pines, and the advance infections have been found on pines within 100 miles of the international boundary and on cultivated black currants within 35 miles of that boundary, the situation must be regarded as serious. The climatic and topographic conditions of the western region and the host plants involved are markedly different from those in the east, so that eastern methods will presumably require considerable modification to adapt them to the western conditions.

## War on Tuberculosis.

Rapid advances were made in the cooperative campaign to eradicate bovine tuberculosis. An increase of 76 per cent was made in the number of herds of cattle officially accredited as free from tuberculosis. At the close of the fiscal year there were 28,536 such herds, comprising 615,156 cattle, and there were under supervision more than 400,000 herds containing nearly four and a half million


Fig. 23.-Rapid strides have been made in the eradication of bovine tuberculosis. The number of accredited cattle increased from practically nothing in 1918 to over 615,156 head in 1923.
$\dagger 85813^{\circ}-\mathrm{ybz} 1923-4$
cattle. Unfilled applications for testing nearly a million additional cattle were on file.

The plan of eradicating tuberculosis from circumscribed areas, with the county as the unit, has met with marked success. Fifty additional counties were freed during the year, raising the total to 81. Arrangements have been made to accord special facilities for shipping cattle from counties known as " modified accredited areas" without the usual quarantine restrictions. In the course of the year's work the tuberculin test was applied to nearly three and a half million cattle. Those found diseased were slaughtered under inspection, as a rule, and indemnity was paid to the owners. Larger financial support is being provided by States and counties, and the work is growing in favor with cattle owners.

## Improvements in Breeding and Feeding.

The systematic effiort to improve domestic animals in the country, which began nearly four years ago under the slogan "Better SiresBetter Stock," continues to grow and is now a project of considerable size and importance. At the close of the fiscal year, 11,533 livestock owners had filed with the department written pledges to the effect that they have placed their farms on a strictly purebred-sire basis and agreed to use good purebred sires exclusively in their breeding operations for all classes of animals kept.

Results of a questionnaire study on current livestock problems and how farmers are meeting them show briefly that in the experience of nearly 500 livestock owners the general economy of rations, the cost of grains, and more specifically the cost of protein, represent more than half of all feeding difficulties. The question of balancing rations is next most important. Livestock of improved breeding were reported in the great majority of cases as making greater gains or producing more than scrubs or common stock when fed in the same way. The average superiority of improved stock in the use of feeds, as shown by financial returns, was 39.6 per cent over common stock.

## Wild Animal Pests.

From the beginning the department has maintained that eventually it would be practicable to destroy completely some of the worst animal pests, and thus forever eliminate the heavy losses they have been causing. Through the campaigns against them, prairie dogs have been exterminated on considerable areas, and the large wolves, of which 4,900 have been killed, are being so reduced in numbers that over most, if not all, of the West their end is in sight.

The best evidence of the growing appreciation of the practical value of campaigns against animal pests in the West was given by the legislatures of 13 States in the winter of 1923, which made total appropriation of about $\$ 647,000$ for cooperation in the work during the following biennium.
Improved poison combinations and their systematic distribution have been so successful that poisoning is rapidly superseding other methods of predatory-animal control. The great increase in territory that can be covered by poisoning campaigns, as now conducted, for the first time offers a possibility of eliminating coyotes over vast areas. This has hitherto appeared doubtful, owing to the numbers
and wide distribution of these pests. More than 200,000 square miles were covered by organized poisoning operations during the year, and at carefully established poison stations on this area more than $1,703,000$ specially prepared poison baits were distributed.

Clearing the ranges of coyotes is proving a boon to the cattlemen as well as to the sheepmen, for with the practical elimination of the gray or timber wolf over much of the range country of the Western States, cattlemen have discovered that heavy losses of calves, heretofore attributed to wolves, have evidently been due to coyotes.

A national drive undertaken against house rats, both through publicity and demonstrations, has developed widespread community sentiment against these destructive rodents, as evidenced by the steady growth of organized campaigns to destroy them and to eliminate their sources of food and harborage.

## Importance of Weather Work.

The department is making its weather work pay back to the Nation many hundreds of dollars for each dollar expended. The forecasts issued twice daily for all sections of the country and.


Fig. 24.-For forecasting purposes the country is divided into five districts, with forecasting centers at Washington, Chicago, New Orleans, Denver, and San Francisco. Radio is now used extensively in the distribution of these forecasts. Naval radio stations, 27 in number, are used primarily for broadcasting forecasts and warnings for ships at sea. Interior stations, 117 in number, located in 38 States, broadcast daily weather forecasts, frosts, cold waves, heavy snows, and other warnings. Storm-warning displays (flags and lanterns) are made at 167 coastal points on the Atlantic, 65 on the Gulf, 44 on the Pacific, and 109 on the Great Lakes.
warnings of frosts, cold waves, storms, heary snows, whenever conditions warrant, all of which are widely and effectively distributed through newspapers, by telephone, telegraph, radio, maps, bulletins, cards, and other means, meet general requirements, but the rapidly increasing utilization of weather information by many business industries is resulting in requests for more special forecasts and direct service.

In addition to the hundreds of thousands of receiving-set owners who receive the forecasts by radiophone, large numbers of whom can obtain them in no other way, many repeat them to their neigh-
bors by telephone. This latter form of service has become so potential that arrangements are in hand for a definite form of organization which will replace the telegraphing of forecast messages now sent to centers for distribution. It is expected that more effective service will be accomplished thereby and that considerable economy will result.

It is estimated that the value of perishable products saved as a result of cold-wave warnings issued last winter for the Chicago district alone exceeded $\$ 10,000,000$, although the winter was not an unusually severe one. Reports from Alaska, made available through the cooperation of the Signal Corps of the Army and office of communications of the Navy, were an important factor in making the warnings timely and accurate. Alaskan observations were an equal factor in the cold-wave warnings issued in other commercial dis-


Fig. 25.- There are 27 naval stations and 117 general broadcasting stations which disseminate the daily forecasts of weather, cold waves, frosts, heavy snows, and other weather warnings. Distribution from naval stations is by radiotelegraph and covers forecasts for the entire country. Broadcasts from other stations are by radiophone and include forecasts for the sections within their runge. Under favorable conditions the ranges are much greater than those indicated on the map. Radiophone broadcasts are primarily for the benefit of farmers who can not receive the forecasts promptly by any other method of distribution.
tricts. An organized unit of the Weather Bureau has been in operation in Alaska since 1916, and its activities have been of great value to the commercial and marine interests of the United States.

Flood warnings proved of great value during the year. During the Arkansas Valley flood livestock and other property to the value of $\$ 1,350,000$ was reported as having been saved by flood warnings sent out well in advance. The total reported flood losses during the year were $\$ 36,591,362$, while the value of portable property saved by flood warnings was given, in admittedly incomplete returns, as $\$ 4,240,465$.

During the year schemes for forecasting river stages and floods have been completed for the Willamette River system of Oregon, the Connecticut River, and the Brazos River of Texas. Other schemes will be undertaken as time will permit, mainly for the smaller rivers, as those for the larger rivers and their tributaries are virtually complete.

With the advent of the practical navigation of the air a whole new service is now demanded, a service of flying weather forecasts and weather advices to aviators. This compels the bureau to get above the surface and extend its observations, measurements, and


Fig. 26.-The district centers issue river forecasts and flood warnings; also, in the western mountain districts forecasts in the spring of the amount of water from the accumulated snow that will be available for irrigation and water-power purposes. River forccasts are made not only for the purpose of giving warnings of floods but also as aids to navigation all times of the year.
advices into the free air, which is being done in a very limited way at the present time by means of kites and little so-called pilot balloons.

## Headway with Highways.

Eight thousand eight hundred and twenty miles of Federal-aid roads of all types were completed during the fiscal year, which, added to the mileage completed prior to the fiscal year, brought the

FEDERAL AID TO STATES ON PROJECTS COMPLETED AND UNDER CONSTRUCTION.


Fig. 27.-The Federal-add roads are jointly financed by the Federal Government and the States. Federal-aid payments amount to about 43 per cent of the total cost of Federal-aid roads. The total payments made by the Federal Government prior to June 30, 1923, exceeded $\$ 236,000,000$.
total of completed projects up to 26,536 miles. The projects under construction at the close of the year amounted to 14,772 miles and were estimated as 53 per cent complete.

The total amount of Federal aid actually appropriated for use up to and including the fiscal year 1923 was $\$ 375,000,000$. Of this amount, $\$ 364,250,000$ was apportioned among the States.

The total mileage of highways in existence at the time of the passage of the Federal highway act, as certified by the State highway departments, was $2,859,575$ miles. Under the law the maximum mileage that can be included in the entire system is 200,170 miles. The mileage included in the 35 systems approved up to the close of the year was 111,699 miles, and the total length of the whole system, when it is finally designated and approved, will probably not exceed 179,000 miles.

Analysis of the approved systems for the 35 States shows that of the 1,111 cities of 5,000 population or more in these States 1,049 of them lie directly on the approved system. When the Federal-aid


A CONCRETE FEDERAL-AID ROAD NEAR EASTON, PA.
F'tG. 28.-More than 26,000 miles of Federal-aid roads have been completed as a part of the Federal-aid highway system of 170,000 miles to be improved by the Federal Government in cooperation with the States.
system is correlated with roads constructed by the States and counties, as it doubtless will be, the remaining cities of this class will certainly be connected with the main interstate system, and one will be able to travel from any point in the country to almost any hamlet, however remote, without leaving an improved road for more than a few miles at most.

The indications are that these roads, when they are completed, will pass within 10 miles of the homes of 90 per cent of the people of the United States, considering the country as a whole. In some States the percentage of the population thus served will be still greater, reaching close to 100 per cent in a number of instances.

## Tobacco Growers Benefited.

Field tests conducted on "tobacco-sick" soils in the Connecticut Valley have brought out marked differences in the effects of various crops on the growth of tobacco following in the rotation.

In extensive field test in the southern manufacturing and export tobacco districts it has been demonstrated that mixed fertilizers containing 2 to 3 per cent potash and applied at the usual rate of 800 to 1,000 pounds per acre frequently do not supply sufficient potash for the tobacco crop. As a result, characteristic symptoms of potash hunger are frequently observed in the field. On light soils, and especially in comparatively wet years, equally unfavorable results may be expected when a sufficient quantity of magnesia is not contained in the fertilizer or otherwise added to the soil. .The quantity of magnesia required by the crop, however, is comparatively smallperhaps not more than half that of the potash which is needed. With constantly decreasing supplies of cottonseed meal and other similar materials containing appreciable quantities of magnesium, it is apparent that there will be greater necessity for making special provision for magnesium in the fertilizer mixture.

## Possibilities of Rubber Production.

On the basis of a special appropriation for this purpose, more extensive investigations of rubber-producing plants are being undertaken to determine the possibilities of producing rubber in the United States or in adjacent tropical regions. The need of developing other sources of supply is shown by the rapidly increasing consumption in the United States and the serious danger of supplies from the East Indies being interrupted. About nine-tenths of the world's supply of crude rubber now comes from the East Indian plantations, while three-quarters of the total supply is used in the United States. These two facts are a standing challenge to both agricultural scientists and business men.

In view of the large number of plants that are known to produce rubber and of the wide range of diversity among such plants in habits and conditions of growth, adequate determinations of cultural requirements and possibilities are not to be expected until many observations and experiments have been made. Facilities for experimental work are being extended in the different regions where rubber-producing plants can be grown, and expeditions are being sent to foreign countries to study the habits of the plants under native conditions and to secure the best stocks for propagation and breeding purposes, so that vigorous, high-yielding strains may be developed as the basis of production.

Under the existing world conditions it is clearly desirable that a thorough study of the potential rubber-producing plants of the world be carried forward vigorously and without interruption, with a view to ascertaining the most promising sources of increased supplies of rubber to meet the increasing requirements of our industries and of the users of rubber, who now constitute practically the entire population of the country.

## Binder-Twine Fibers.

Some years ago cooperative work was organized by the office of fiber investigations and the Philippine Bureau of Agriculture, the
purpose of which was to encourage the increased production of sisal and maguey fiber in the Philippine Islands. In view of the rapidly increasing consumption of abaca (Manila hemp) for binder-twine purposes, this cooperative work has been expanded to include necessary work with abaca. It is entirely possible, if not probable, that the ultimate solution of our binder-twine fiber problem will be an increasing substitution of abaca for henequen in the manufacture of binder twine.
In cooperation with the Philippine Bureau of Agriculture and with the bureau of science and the college of agriculture, preliminary steps have been taken during the present year to organize this work. An increased use of abaca for binder-twine purposes will benefit both the United States and the Philippine Islands, and should be encouraged in every way possible.

Continued improvement has been made in the quality of the Philippine machine-cleaned maguey fiber. American manufacturers report that this fiber is now entirely satisfactory for binder-twine purposes.

## Important Manufacturing and Handling.

Work on production of cane sirup of uniform quality was carried forward, as a result of which farmers producing cane sirup were enabled to consolidate their output on a sufficiently large scale and into such a uniform product as directly to interest brokers and wholesale grocers in the distribution of their product in a systematic manner. A central blending and canning plant, with a daily maximum capacity of 5,000 gallons, equivalent to 500,000 gallons for a 100 days' operating season, was designed for the Texas Farm Bureau Ribbon Cane Growers' Association. This plant was erected at Lufkin, Tex., and operated during the season of 1922-23. Cane sirup from various sections of eastern Texas was shipped by members of the association to the Lufkin plant, where it was graded, mixed to insure uniformity of grade, treated by the invertase process perfected by the department to prevent crystallization, canned, labeled, crated, and marketed. Technically the operation was an unqualified success. A study was made of the manner of producing cane sirup on the farms, and directions showing how the quality of the product could be improved were distributed to farmers.
Work on methods for profitably utilizing cull and surplus oranges and lemons has been done. Investigations in previous years helped to establish industries manufacturing useful products from oranges and lemons that otherwise would go to waste. In the last (fiscal) year effort has been directed toward perfecting methods for the commercial production of pectin from waste orange and lemon peel. Pectins produced by various methods have been standardized as to their jellying power, and work has been done on the production of jellies of different consistency. Attention has been given to the preparation of marmalades and jellies from dehydrated oranges. $\Lambda \mathrm{s}$ a result of the studies on the production of pectin, new methods for the preparation of marmalade and orange butter have been evolved.
A method for determining the degree of maturity of cantaloupes, depending upon the sugar and solids content of the fruit, was developed by the Bureau of Chemistry and used with gratifying results
by growers and shippers of cantaloupes. A criterion of maturity for selecting the time to pick melons has long been sought by melon growers.

## The Extension Service.

There was noteworthy progress during the year toward the adjustment of the cooperative extension work of the department to new conditions, with a view to its functioning under the supervision of a director of extension work, as provided for by act of Congress. The effort has been to unify the work for the men, women, and boys and girls on the farms and to enlist all extension agents in the promotion of the enterprise as a whole. Probably the most marked development in the extension work during the past year was the increased emphasis given to the development of unified farm and home extension programs based upon the actual needs and interests of each community.


Fig. 29.-The above map shows the location and extent of organized extension work in agriculture and home economics carried on by the Department of Agriculture in cooperation with state agricultural colleges.

Approximately 4,670 persons are now employed in the cooperative extension service in agriculture and home economics carried on by the department in cooperation with the State agricultural colleges. About 2,100 counties have agricultural agents, 840 have home-demonstration agents, and 160 have agents working exclusively with farm boys and girls. In addition, 800 specialists in different phases of agriculture and home economics are employed to aid the county extension workers and to give advice and assistance in special and emergency situations. It is estimated that farms and farm homes adopted not less than $4,000,000$ improved practices through the efforts of the extension workers during 1922, of which at least 924,000 were brought about through home-demonstration work. The total enrollment in boys' and girls' club work during 1922 was approximately 600,000 , and 358,000 reports meeting all requirements were received. The total value of all products reported produced by club members was approximately $\$ 8,650,000$. There was an increase dur-
ing the year in the number of negro extension agents employed. There are now 294 negro field agents, and substantial progress in the work of these agents is reported.

The exhibits prepared to illustrate the department's work and the best agricultural practices have proved their value by the great increase in the demand for them from fairs, expositions, conventions, farmers' weeks at State colleges, and from various other sources. A conservative estimate places the number of persons who viewed these exhibits in 1922-23 at 8,836,000 and the number of exhibitions at.114. Specially designed exhibits have been used for calling attention to methods for controlling the white-pine blister rust, the eradication of tuberculosis in livestock, the prevention and control of forest fires, the desirability of good roads, the saving of land from erosion, maintaining the health of farm animals, and for various other purposes. The exhibits are all prepared after discussions by


BOYS' AND GIRLS' CLUB WORK.
Fig. 30 - One of the 600,000 young farm folks who took an active part in boys' and girls' club work during the past year. The combined value of their products was in excess of $\$ 8,000,000$.
men in the various bureaus, and consequently they represent the best information to be had on each subject.
The increase in the demand for exhibits over the preceding year shows the department has found in them a very desirable method for reaching the people who can make use of its information. There was a 26 per cent increase in the number of persons viewing them and an increase of 63 per cent in number of exhibitions.

The past 12 months have been a notable period in the history of the motion-picture work of the Department of Agriculture. The motion-picture office and laboratory now occupies a modern, fireproof building. An outstanding development is the striking increase in the known audience reached by the films. Every user is asked to report the number of people to whom he shows them. The audience, as actually reported for 1922 , was $1,937,570$; as actually reported
for 1923, $4,460,077$. Allowance should be made for possible exaggeration, but this consideration is balanced by the fact that many users failed to report their showings. In addition, there are no figures available in regard to the exact size of the audiences reached by the department films that have been bought by cooperating or outside institutions. As such purchased films outnumber the films owned and circulated by the department, and as many of the purchasers are known to be actively and continually circulating the films to large audiences, figures on this circulation probably would compare favorably with the figures reported to the department.

The growth of distribution would seem to be a fair indication of the value of motion pictures in the department's work, but the figures are not more impressive than the written expressions that come frequently from users of the films. These statements in general are to the effect that the films have a remarkable effect in attracting large crowds to meetings, stimulating interest in the subjects under discussion, giving clear conceptions of unfamiliar ideas, and furnishing inspirational impetus to campaigns for community betterment.

## Packers and Stockyards Act.

In accordance with the general policy of the department to administer all regulatory statutes assigned to it in a constructive and helpful manner and under the broad general authority provided in the packers and stockyards act, a study of economic conditions and problems applicable to the livestock and meat-packing industry has been made both in this country and abroad. These studies have related chiefly to methods of distribution and competitive practices and conditions, and an effort has been made to give the public assurance of the wholesomeness and desirability of meat in the diet.

Some important cases involving the activities of leading packers of the country were handled during the fiscal year. One of these was pending at the first of the year in connection with which complaints had been made alleging unfair, unjustly discriminatory, and deceptive practices. The case was considered through formal hearings and special investigations, and an appropriate order was issued to cease and desist from following certain practices and methods which appeared to be in violation of Title II of the act. Another case involves the validity of the acquisition of the assets, business, and good will of Morris \& Co. by Armour \& Co. It is the contention of the department that this action will lessen competition in the purchase of livestock and the sale of the products thereof, but the respondents contend that such acquisition was an industrial and economic necessity. This case is pending.

Arbitration of livestock commission rates at six of the principal markets was under way at the end of the fiscal year as a result of a complaint by the leading livestock producers' organizations. Representatives of the complainants and respondents agreed to submit the whole question to arbitration, and two members of the staff of the packers and stockyards administration were agreed upon as arbitrators. An exhaustive investigation was made by the department to furnish the arbitrators with the necessary information for an impartial decision, and a preliminary report was made, the final report coming after the end of the fiscal year.

Cooperative shipping of livestock is generally regarded as an established feature of livestock marketing, and while the cooperative selling of livestock is comparatively a recent development, it has become a substantial factor in the marketing process. With the establishment of these cooperative agencies at some of the principal markets there appeared to be a feeling on the part of some of the old-line agencies that they were justified in fighting this form of competition through the practice of boycotting. Whereupon the administration found it necessary to take action and bring about an understanding that open-market principles must prevail in every respect at public markets.

Other activities have been correction of reweighing charges at a number of stockyards; the valuation of stockyards property as a basis for study of rates and charges; the securing of better prices for bruised, crippled, diseased, and dead animals, and for cattle reacting to the tuberculin test; improvements in the handling of stock in loading and unloading; and audits of the records of commission men at 23 principal markets and of the records of stockyard companies at 18 large markets.

## Grain Futures Act.

The grain futures act, after a contest by the Chicago Board of Trade, on April 16, 1923, was held constitutional by the Supreme Court of the United States. The necessary action has been taken by this department and the grain future exchanges, including the Chicago Board of Trade, to continue their operations under this law without interruption. The law requires the prevention of the dissemination of false and misleading information regarding crop or market conditions and prohibits attempts to manipulate or corner the market. It forbids discrimination against cooperative associations of producers in the matter of membership. It gives the Government an opportunity to ascertain the facts of the business through reports and actual inspection of the records and transactions.

Yet when this department, following the Supreme Court's decision, issued regulations to carry into effect these provisions by requiring daily reports and access to the records, propaganda immediately developed from within the exchanges that the grain futures administration was responsible for the decline in the price of wheat. It was contended that the new regulations had decreased the volume of trading and, therefore, the price of wheat, on the ground that in effect the regulations placed a limit on trading and that speculative buyers were frightened away because their names and volume of business transactions might become known, notwithstanding that this would be at least equally discouraging to speculative sellers. As a matter of fact, no limit upon trading was specified and neither the law nor the regulations interfere with the volume of either hedging or speculation, so long as there is no attempt to manipulate or corner the market. No satisfactory explanation was given by those responsible for the propaganda as to why the price of corn rose under the same law and administration. They did not attribute a later rise in the price of wheat to the law or its administration, notwithstanding the fact that there had been no change in either.

Steps have been taken to coordinate governmental sources of information so as to combat the dissemination of false and misleading information about crop and market conditions. Supervisors
are stationed at Chicago and Minneapolis and contacts arranged with the other markets to enable the department to keep in touch with current business operations. The administration is informing itself, as rapidly as a suitable organization can be developed for the purpose, in regard to the facts of the business, so that when a reasonable time has elapsed it may be able to assure Congress and the public that it has actual facts upon the general phases of future trading that are of public concern.

## Insecticide and Fungicide Act.

The enforcement of the insecticide and fungicide act has had a marked effect upon the industry engaged in the manufacture and sale of insecticides and fungicides, and each year sees progress in the direction of more truthful labels and a higher standard of quality in the products on the market.

During the year the board has devoted a large part of its time to campaigns designed to improve the quality and labeling of Bordeaux mixture and Bordeaux-lead arsenate mixture, campaigns against disinfectants which were adulterated or the labels of which bore false or misleading claims, calcium arsenates which were deficient in active ingredients or which contained ingredients injurious to vegetation, so-called pine-oil disinfectants and coal-tar dips which were adulterated with mineral oil, insect powders adulterated with powdered daisies, and alleged boll-weevil remedies.

The industry has made tremendous strides since the inception of the regulatory work, and the board is constantly confronted with new problems. Each year sees a new crop of insecticides and fungicides. Some represent new manufactures of the recognized standard remedies, but there is always a certain percentage of new theories of treatment represented by these new articles. As a result of the widespread ravages of the cotton boll weevil, various new so-called remedies have appeared on the market. The board has attempted to collect all of these with the idea of submitting them to analysis and test. This is a tremendous undertaking, and it will probably take several years' work before this situation is cleaned up and worthless preparations driven off the market.

## The National Forests.

Receipts from the national forests exceeded those during the preceding year by $\$ 267,290.71$, although the normal revenue from grazing was materially cut down by the depressed conditions in the livestock industry. There was a surplus of $\$ 200,000$ in income over the regular expenditures for protection and administration, excluding construction and maintenance of improvements, other development work such as timber surveys and tree planting, and emergency expenditures in fire fighting. If the deferred payments of grazing fees allowed during the last three years are credited to the years in which they fell due instead of the years in which final settlement of these open accounts was made, there is shown an actual increase in revenue-producing business last year over the fiscal year 1922 of more than $\$ 1,000,000$, and over 1920 , the year in which receipts were previously at their highest, of more than $\$ 540,000$.

Not only were receipts from the sale of timber 33 per cent greater than in the best former year, with a total of $\$ 2,721,876.20$, but such
progress was made in laying out new operating units and preparing for the increased demand for national forest timber, due to the westward movement of the lumber industry and growth in western consumption, as practically to assure a steady increase in future business. At the same time, each new unit where operations are begun is being kept on a perpetual-yield basis.

Fires on the national forests, during a year of more than average hazard, were held down for the third year in succession to a point where only a little more than two-tenths of 1 per cent of the total area was burned over and the loss caused was less than one-tenth of 1 per cent of the total value of the destructible resources protected.

The grazing regulations were worked over to make the system of regulated range use one which will contribute most to the stability of the-livestock industry dependent on the forests while maintaining the full authority of the Government to control this use as the public interests may require.


Fig. 31.-The receipts from the national forests have gradually increased until 1923, when for the first time they exceeded $\$ 5,000,000$. Receipts from the sale of timber were greater than in the best previous year and the grazing receipts were almost as high as in 1919 .

The establishment of two new forest experiment stations gives. larger opportunity for the research fundamental to the development of the best forestry practice, both public and private.

Economic investigations brought into clearer relief the character and extent of the public burden imposed by devastated and idle forest lands, the relation between timber requirements and our possible timber production, and the future relative need for the agricultural use of land as against forest use.

In the field of industrial investigations an accomplishment of farreaching importance was scored in the completion of standardized lumber grades for yard lumber and structural timber of all commercial species, both softwood and hardwood. Several important lumber-trade organizations have accepted the proposed standards as practical and desirable to replace the considerable number of widely varying rules or specifications hitherto employed. This work was done in cooperation with the Central Committee on Lumber Stand-
ards, representing lumber manufacturers, distributers, consumers, and professional groups, such as architects and engineers, with the Department of Commerce and the Department of Agriculture acting in an advisory capacity.

## Grazing on the National Forests.

The use of the forage resources in the national forests during the past year has reflected the depressed conditions in the livestock industry of the Western States, which have been particularly acute among cattle growers. Enforced liquidation among livestock producers has, at various points, reduced the numbers of stock using national forest ranges and the income from this source; and a small percentage of grazing permittees, particularly in the Southwest, have been unable to pay the fees required by the Forest Service.

STOCK GRAZED UNDER PERMIT ON NATIONAL FORESTS, 1905-1922.


Fig. 32.-Grazing permits granted to local stockmen, to whom a permit is given covering the number of stock to be grazed, together with a description of the range to be occupied. The increase in the number of stock, which began in 1917 and reached a maximum in 1918, was due to efforts of the Government to increase the production of livestock during the war. During the emergency the ranges were crowded to their full carrying capacity. The downward trend since the close of the war was due to the withdrawal of the emergency livestock.

The department has handled this situation in a sympathetic way, with a view to aiding the industry to tide over its present difficulties and recover its normal status. Extensions of time for the payment of grazing fees have been allowed in many cases in connection with unbroken use of the ranges. At the same time it has been necessary to protect the Government in the ultimate payment of the amounts due and to maintain grazing permits on a business basis.
During the year special attention has been given to the revision of the policies and regulations governing grazing on the national forests. This work has been undertaken with a view primarily (1) to aid in the stabilization of the livestock industry in so far as it is dependent upon national forest ranges, and (2) to adapt the use of this pasturage to the economic needs and tendencies of the livestock industry in the Western States, particularly in relation to the most effective use of land. These two objects are, of course, closely related.

When the Department of Agriculture assumed charge of the national forests in 1905 the tide of agricultural settlement was still active in the regions adjoining many of them. In fact, one of the major problems then confronting the department was the classification of the national forests themselves and the segregation of areas which should be made available for agricultural use. The initial grazing regulations were drafted with special attention to the encouragement of the new settler in the many localities where the use of public range was essential to the successful development of farming lands. In many instances this policy necessitated a gradual but material curtailment in the herds of former users of the national ranges and a process of redistributing the grazing privileges among an increasing number of stockmen, including the small herds of new settlers.

The Department of Agriculture should always make the encouragement of rational land settlement a primary object in the administration of both the grazing and timber resources of the national forests. And it should always seek to obtain the closest possible correlation between the use of forage in the forests and the development of adjacent range and agricultural lands. The conditions affecting agricultural development in the regions where it can be aided by the forage on the national forests, however, have changed materially during the last 18 years. The main tide of new agricultural settlement has largely spent itself. At some points, indeed, homestead settlement is receding, owing to the failure of attempts at dry farming. While additional areas will, of course, be placed under cultivation as time goes on, in connection with irrigation developments or otherwise, it is evident that land settlement is not as large a factor as in 1905. It is also evident that by granting longer permits for range privileges the department will not only promote the welfare of the livestock business, and particularly its financial rehabilitation following the present crisis, but also will promote sound economic development and permanency of settlement in these regions as a whole.

The revision of the grazing regulations has consequently been directed primarily (1) toward stabilizing the use of the ranges under permits extending for a period of 10 years, and (2) toward stabilizing the livestock enterprises which the national forests support in part by conditioning the retention of grazing privileges upon the ownership of ranch property or improvements sufficient to afford a well-balanced and efficient stock-raising business. In authorizing grazing privileges under these terms, provision will be made for such redistribution of range use as may be necessary in the future to care for needs of new settlers.

Furthermore, while encouraging more stable use of the national forest ranges in connection with the stock ranches dependent upon them, the Government does not and can not, in any sense, recognize a vested right, or servitude, attaching to the use of the range. The national forests are public properties, created primarily for the production of timber and the protection of water sources. They must be administered so as to render the maximum degree of public service through wise utilization of their varied resources. If the grazing of livestock in any particular locality should clearly become harm-
ful to the regrowth of timber or the security of valuable water resources, the department must be able to reduce or adjust the grazing use or, if need be, to eliminate it altogether. If the economic development of particular regions requires reduction in the herds of old users to make room for the livestock of settlers who need range in developing their homes, the department must have full authority to make such redistribution of the grazing privileges as the circumstances require. The value of the range must be protected, even if that should at times require reduced grazing or a complete temporary withdrawal from use. Adjustments for these purposes should be made only after full consideration of their effect upon interested parties; but the department must retain a free hand to deal with problems or conflicts of this nature as the most vital interests to be served may dictate, and it can not be hampered in such adjustments by the creation of any servitudes on the land which have the nature of vested rights. Within this essential limitation, it is the purpose of the Department of Agriculture to stabilize the use of the national forest ranges in connection with established and dependent stock ranches to the fullest practicable degree.

## Grazing Fees.

The question of the fees paid for grazing privileges has an important bearing upon the policy of stabilizing range use. Most of the range areas now embraced in national forests were grazed for many years as open commons. When the first grazing fees were established in 1906 they were designedly low, representing approximately the cost of administration rather than the intrinsic value of the forage consumed. A revision of the grazing fees initiated in 1916 and ultimately completed in 1919 increased the charges materially to a point more nearly approaching the commercial value of the forage after making liberal deductions for the past uncertainty of tenure and the cost of compliance with the regulation of the Forest Service.

An extended investigation of the value of western range lands upon. which to base a readjustment of the fees charged for national forest grazing permits was initiated in 1921. One of its purposes was to get away from the flat, or blanket, fees charged and to value the individual grazing allotments or districts in accordance with their accessibility, the quality of their forage, their water resources, and other factors obviously affecting their worth to the stockgrower. This is an adjustment necessary as a matter of equity between the different grazing permittees. Another purpose of the reappraisal is to ascertain the actual value of the forage in the national forests as determined largely by comparison with the rates paid for comparable range lands in private ownership in the same localities. With the data collected as a basis, the department is now in consultation with the various groups of stockmen who use the national forests, trying to work out a new schedule of grazing fees which shall represent a fair and reasonable appraisal of the individual allotments, having always in mind the economic status of the livestock industry and the effect of the policies and restrictions enforced by the Government. Owing to the present upset conditions in the livestock industry, no change in grazing fees will be made for the present.

In stabilizing the use of the national forest ranges under the beneficial 10 -year permits, it is essential that the relations of the holders of these privileges with the Government be established upon a sound and unquestionable business footing. The forage in the national forests is a commercial resource, exactly as their timber is a commercial resource. The utilization of this resource by a well-established industry no more justifies obtaining it at something less than its actual worth than the lumber industry would be justified in obtaining the timber on the national forests at less than its actual market value.

In other words, the very stability which the livestock industry desires and should have in the use of the national-forest ranges demands that users pay the public fairly for value received. A permanent and settled program of range use which will command public confidence and go forward without interruption can not be predicated on any other basis. The Department of Agriculture is not seeking to charge for the use of national-forest ranges more than a just price. It stands for the allocation of the forage to the stockgrowing enterprises most dependent upon it and most logically situated for its efficient use. It stands for a stabilization of this use to the fullest possible degree, so that the livestock industry may prosper and establish favorable credit and banking relations. And, as an integral part of this program, it must require payment for the value of the public resurces so utilized as determined reasonably and equitably on accepted business principles.


SHEEP GRAZING ON THE NATIONAL FOREST.
Fig. 33.-Forest rangers count all livestock entering the national forests for grazing thereon. In some instances where scab is prevalent among the sheep owners must furnish the forest officer with a certificate that the sheep are free from scab, which is signed by an inspector of the Bureau of Animal Industry of the Department of Agriculture.

## A Constructive Forest Policy Needed.

The difficulties against which the farmers of the country are struggling to-day are dovetailed with the need for a constructive program to increase the production of timber. Many agricultural products
do not bring a fair return upon the capital and labor employed in their production, and cultivation is contracting on many areas of the less fertile or more poorly situated land. At the same time, the country is rapidly draining its diminished supply of timber and adding to the area of idle, cut-over lands which have no possible


NATIONAL FOREST TIMBER SALE AREA.
Fig. 34.-An example of the method of cutting in a pine forest under Forest Service regulations. The young trees have been left to grow. The brush has been piled for burning to reduce fire hazard.
agricultural utility. The disposal of logged-off land is becoming a more and more serious problem to its owners, while to the public the economic retrogression resulting from idle land and the burdens resulting from the shortage of timber supplies grows more formidable.

The relative requirements of the country for farm and forest products call for maintaining a forest area approximately equal to the present total, including second-growth, burned, and cut-over land and abandoned farms in timber-growing belts. The cost of forest products, already oppressive, is mounting. Our present supplies of merchantable timber are fast diminishing. Our stock of young timber is wholly inadequate to supply our needs when the grown timber is gone. The forest products obtainable from our entire area of $470,000,000$ acres of actual or potential forest land, were it all producing timber at maximum capacity, would only bring production into an approximate balance with present use. At best there will be a long and acute delay before new timber crops equal to our requirements can be matured. And while there is much room for economy in the use of wood and considerable room for use of substitutes, these two palliatives taken together will probably no more than offset the increased consumption which growth in population will demand. We should therefore press forward with all possible speed to bring about the full use of all suitable timber-growing land.

This is a matter of particular importance to agriculture. Farmers are our leading class of wood consumers. Because of the present high cost of lumber the construction, repair, and replacement of farm buildings is seriously in arrears, handicapping production and lowering standards of living. In addition to their consumption of lumber, farmers require very large quantities of wood for fencing, fuel, and the like. Furthermore, the migration of forest industries from many former locations, leading to decreased assessable property values, decadence of rural economics and social life, and reduced opportunities for profitable employment, are consequences of forest destruction that weigh heavily on many farmers.

It is not merely farmers, however, who are adversely affected by accumulating idle lands and rising prices of forest products. Outside of portions of the South and West, the whole country is suffering from the effects of timber depletion. Unfortunately, the average


NATURAL REGROWTH IN A DOUGLAS FIR FOREST.
Fig. 35.-If further fires are kept out many burned-over forests will restock themselves with valuable trees and thus avoid the costly process of artificial reforestation.
citizen does not see clearly these effects, because he pays for most of his share of the country's consumption of wood indirectly; it is hidden in the price of nearly everything that he eats, wears, and buys. Except when he undertakes to build a home, he does not realize how much he is paying because of national improvidence in the use of our forests. No simple remedy that will cure the idleness of land and shortage of timber can be prescribed. The problem must be attacked concertedly from all sides.

## Extension of Public Ownership of Forests Essential.

One line of attack will certainly have to be an increase of publicly owned forests. That it is entirely practicable for the public to acquire woodland on terms that make its management profitable has
been fully proved by the Federal Government, which has purchased more than $2,000,000$ acres. The average price of these lands has been $\$ 5.29$ per acre. Their market value is to-day materially greater than their cost; they are the source of a considerable revenue from the sale of timber products, and they are growing new forests at a satisfactory rate. Similar business considerations testify to the soundness of the policy of forest purchases undertaken by a number of States.

The amount of denuded forest land in the Eastern States is enormous. While much of it can and should be brought back to productiveness'on the initiative of its present owners, there are millions of acres which, either because of the relatively slow rate at which trees will grow, the cost of reclamation, or inaccessiblity to markets, will not for a long time, if ever, be reforested through private enterprises.

The public can promote timber production where private owners can not. One reason for this is that a reasonable return on public capital invested in such an enterprise falls below what private capital would expect. Another reason is that the returns in economic prosperity and varied forms of public service can be made so great that the success of the enterprise does not stand or fall solely on its treasury receipts.. Any comprehensive plan for dealing with our timber situation must include large acquisitions by the public of forest lands which in no other way can be made productive within a reasonable time.
The National Forest Reservation Commission should be empowered through appropriate legislation to extend Federal acquisition of forest land. If it seems necessary to rest this policy wholly upon the constitutional ground of protecting the flow of navigable streams, the Congress should prescribe a broad limitation to that effect, but should not handicap the judicious selection of areas by a specific form of determination in each instance. Since local as well as national welfare is at stake, every reasonable encouragement should be given to the States to cooperate with the Federal Government in buying idle forest land which can be restored to productive use only through public ownership. The vast denuded areas in the northern Lake States and in parts of the southern pineries offer particularly urgent fields for the application of this policy.

## Federally Owned Lands Should Be Included in Forests.

The extension of public forests is not wholly a matter of acquiring lands now privately owned. There are some five and one-half million acres of unreserved public lands in the continental United States chiefly valuable for timber production or watershed protection. There are 600,000 acres of similar land within military reservations adopted to administration for forest production without conflict with its present use by the Army. There are extensive forest holdings in State ownership still in process of destructive lumbering or distribution into private lands. The reversion of delinquent tax lands, stripped of their timber, is on the increase. A national policy of forestry calls for measures that will place all of these public lands under permanent Federal or State management designed to conserve their capacity for timber production.
Occasional additions to the national forests embracing public timberlands hitherto unreserved are made by specific acts of Congress. This piecemeal attack upon a problem of such general national im-
portance is tardy and inadequate. Other special measures have been before Congress from time to time with reference to the forested lands in military reservations, but thus far have failed of enactment.

Responsibility rests upon the National Government to do its full part in meeting our shortage of timber growth, particularly by placing lands which the Government already owns under the right form of administration. This should be done in a complete and comprehensive way. The President should be authorized by law to place within the national forests any unreserved public lands chiefly valuable for the production of timber or the protection of watersheds; and he should be further authorized by law to place within national forests any portions of military reservations chiefly valuable for the production of timber, subject to the unhampered use of such areas for military purposes as may be needed.

In order to provide reasonably for the extension of the national forests by purchase on areas where the public interests will be best served by this form of ownership, including denuded lands whose restoration to timber growth will otherwise be exceedingly remote if not impossible, not less than $\$ 2,000,000$ should be provided annually for forest purchases, and the Congress should authorize the National Forest Reservation Commision to make such purchases at any points within the watersheds of navigable streams where in its judgment the public interest in the protection of stream flow or the production of timber will be promoted thereby.

## The Part of Private Ownership.

By itself, however, public ownership of timberlands can not suffice to meet the national needs for wood. Nor is it necessary. Private and public forestry go hand in hand in every European country where stable timber production has come about. Both are necessary in the United States, and both are feasible. The pressure of high timber values has already brought about a substantial de-


LOGGED-OFF AND BURNED-OVER LAND IN NORTH CAROLINA.
Fig. 36.-"The country is rapidly draining its diminished supply of timber and adding to the area of idle, cut-over lands which have no possible agricultural utility."
gree of private reforestation in parts of the Northeast. The commercial use of land for growing wood is slowly but surely spreading through the Atlantic States, in the more favorable portions of the South, and even on the Pacific coast. The outstanding fact in


RECREATIONAL USE OF NATIONAL FORESTS.
Fig. 37.-More than $6,000,000$ persons seeking rest and recreation visited the national forests during 1923. The Forest Service welcomes these visitors and imposes but one obligation on them, namely, that they exercise care in the extinction of their camp fires.
our national progress in forestry during the past 10 years is the extent to which timber growing as a private commercial enterprise has come about and the much greater extent to which it will be carried if reasonable forms of public assistance are rendered.

## Stopping Forest Fires the First Thing.

The most urgent step for the encouragement of private forestry is organized protection against forest fires. Men do not care to buy timber which may be burned the next year. The risk to young growth from forest fires is formidable unless joint action by property owners can be brought about, and, further, unless the community itself takes an aggressive part in reducing it. Educational measures to lessen carelessness with fire and police measures to reduce the negligent or intentional setting of fires are perhaps the most important need of all. In spite of the progress that has been made, we still are a nation of woods burners.

The path to fire prevention on all forest lands has been blazed. Under the wise legislation already on the statute books the Federal Government is cooperating with 26 States, and is about to cooperate with one more, to maintain organized systems of protection. There was spent last year on this work nearly $\$ 400,000$ from the National Treasury and about $\$ 2,000,000$ of State and contributed private funds. Twelve States having considerable forest areas, however, do not maintain protective organizations, and of those which do a number can give protection to only a part of their forest area for lack of adequate funds. It is estimated that the annual cost of adequately protecting all our forest lands, exclusive of the national forests, would approximate $\$ 9,250,000$.

## Promotion of Forest Planting Necessary.

With fires kept out, many of our cut-over forests will restock themselves with valuable trees. But where devastation has been severe (usually through repeated fires), tree planting is essential. Various States now maintain tree nurseries and sell trees at or sometimes below the cost of growing and shipping them. Forest planting on a commercial scale is not possible without cheap plants and the present demand for small trees is far in excess of the capacity of the State nurseries to supply them. This form of public assistanite to the private timber grower should be largely extended.

## The Taxation Problem.

Present methods of taxation discourage the growing of timber. The problem of adjusting taxation to the use of land for producing a crop which matures only after many years, growing more and more valuable from an assessment standpoint yet yielding the owner no current income from which to pay carrying charges, is a rery knotty one; for the cost of local government must somehow be met each year.

The capital invested in timber production should bear a tax burden neither less nor greater than that imposed on capital invested in other productive enterprises; but the owner of forest lands can not faily be called upon to pay a yearly tax on his investment plus a steadily enhancing yearly levy-forty or fifty times-on a single crop. $\Lambda$ solution would seem to be either in taxing the land only at its full value for timber production, or in taxing the timber crop at the time of harvesting it, or possibly in some combination of these two principles.

## The Need for Better Knowledge of Forest Growing and Forest Use.

There are other investigations that must be vigorously prosecuted if we are to make our forests supply the national needs. Like agriculture, forestry must be based on a store of accumulated knowledge if full use of the soil is to be secured. Much remains to be learned about growing timber crops. There is also large room for bettering our practices in the use of forest products. In my previous reports I have mentioned the need for more research, through which alone can be obtained the technical information essential for bringing wood use and wood growth into any sort of reasonable balance. This need grows steadily.

## Practical Forestry by Small Owners.

Almost one-third of our forest lands are owned by farmers. If the practice of forestry were as well developed among them as are the cultural practices applied in growing field crops, both their own returns and the quantity and quality of timber grown would be larger. In parts of the Northeast rural prosperity is closely related to the profitable use of the poorer land, which it does not pay to cultivate and which, even when kept in woods, is seldom as productive as it should be. In consequence, the machinery created under the Smith-Lever Act should be utilized to bring about better han-
dling of farm woodlands through the method of demonstration and practical example. There is much that can be done along extension lines to increase timber production at the very point where it would most effectively aid the general agricultural situation by affording a profitable employment of inferior soils.

## An Immediate Legislative Program.

It is not possible at the present time to foresee just how far the efforts of the Federal Government to promote the growing of timber should be carried. Far-reaching changes in our national conceptions of land use can not be brought about overnight. Necessarily they come about by a process of evolution. The first great step toward a permanent timber supply was the creation of national forests from the public domain. A second step was taken by the Weeks law in the extension of the national forests in the Eastern States through purchase. A third significant step was initiated by the same measure in providing for limited cooperation between the Federal Government and the States in the protection of privately owned forest lands on the headwaters of navigable streams.

The time is opportune for another forward step in national forestry policy, whose specific aim should be to give the freest possible play to the economic forces already tending to make timber a staple crop on private land, so that the movement toward reforestation as a commercial enterprise may attain all the momentum of which it is capable.

National assistance in private timber growing can be extended most effectively in four ways, which might well form the major planks in a new Federal law. These are:
(1) Provision for nation-wide cooperation with the States and private landowners in the protection of forest lands from fire, under an equitable distribution of the financial burdens entailed. Such cooperation should not be limited to the watersheds of navigable streams, but based squarely on the national benefits of reforestation, including the conservation of water sources. The maximum Federal expenditure authorized for this purpose should be not less than $\$ 2,500,000$ per annum.
(2) Provision for Federal cooperation with the States in investigating the effects of prevailing methods of taxing forest lands, and in devising forms of taxation which will promote deforestation without inequity to other taxpayers. Tax legislation necessarily rests with the States concerned; but nation-wide study and leadership in this matter will be of the utmost benefit.
(3) Provision for Federal cooperation with the States in growing and distributing forest-planting material at cost or such other reasonable rates as will promote forest planting by private landowners on a large scale. The need for this form of public assistance is now imperative. It is possible thereby to multiply by several fold the present rate at which denuded lands are being replanted.
(4) Provision for Federal cooperation with the States in extension work to teach and demonstrate timber-growing methods, with special reference to timber growing on farms and other small holdings. Here also a tremendous opportunity exists for rapidly increasing the current rate of wood production in the United States.

With these developments in the national forestry policy, and to a large degree underlying and supporting all of them, must go more comprehensive research in timber growing and in economy in the use of timber. The research facilities with these objects in view already existing in the Department of Agriculture have made notable progress, but should be expanded to meet the growing need for sound technical data on which the whole forestry movement depends.

## The Need for Extending Regulation of Range Use.

Adjoining many national forest ranges are large areas of the public domain suited only for grazing purposes. Just as the accumulation of cut-over lands has been a force making for overdevelopment of farming on soil of inferior productiveness, so has the public policy with respect to these open-range lands of the West worked in the same direction. Settlement of these lands has been encouraged without consideration of the economic and social waste that results when the settler locates on land from which a decent living can not be made through cultivation because of adverse natural conditions. But a point has now been reached beyond which no substantial further development of agriculture is possible. There are still 175,000,000 acres of unreserved public lands which remain unentered. They are used in the main as grazing commons. The greater part of this land is arid or semiarid in character and supports no tree growth. It is land on which, by and large, 60 years' experience has demonstrated that there is no possibility of agriculture except as limited areas may now and then be embraced within irrigation developments. For the most part, it is land whose natural productivity is low and has been steadily declining by reason of excessive and unregulated grazing. On much of it at the present time the natural forage grown on 20 or 30 acres will no more than furnish yearlong pasturage for a single cow. Much of it is land which the stockman could not afford to own and carry.
This vast area is now no man's land in very truth. The Government owns it, but exercises no control over it. The sheep or cattle owned by near-by ranchmen or by itinerant herders graze it as they can. The first comer gets the best of the forage; later comers take the leavings, if there are any. Under this unregulated and destructive use most of the land has lost a large part of its original forageproducing value.

## Public Ranges Should be Used and Improved.

These open public ranges have played a conspicuous part in the picturesque history of the livestock industry of the West. Their deterioration represents, in the aggregate, an enormous loss in the natural resources on which only the industry can be maintained. Furthermore, the free and open status of these lands injects a large element of instability and uncertainty into the livestock business. The production of livestock under western conditions normally requires ranch lands where hay is grown for winter feeding and available areas of low open range for spring, or spring and fall, grazing, as well as other available areas of higher range for summer grazing. In many cases at the present time but two elements in this year-
round program are assured, the privately owned ranch with its winter forage and the summer cange in the national forest administered by the Department of Agriculture. During the intervening seasons, which may comprise one-third or more of the year, the stockman must hazard the safety of his herds and the success of his business upon the availability of open ranges on the public domain over which he has no control and for which he must compete in a general scuffle, with no administration by the Government.

In some cases national forest ranges have been of necessity overgrazed, and particularly grazed too early in the year, on account of the pressure from local ranchmen whose old spring range on open public lands is largely gone. In other words, unregulated spring range has become the neck of the bottle. Winter feed and summer pasturage are available for more stock than can be subsisted during the interval unless the spring range on the open domain can be protected from overgrazing and utilized in a coordinated way with the other and stable factors in the round of the year.
To restore and perpetuate one of the great natural resources of the West and at the same time to reduce the losses and uncertainties in western livestock production, the remaining open public ranges should be placed under a form of supervision analogous to that of the Department of Agriculture over the range lands within the national forests. The main objects of this administration should be (1) to adjust the number of livestock and the seasons of use so that the forage produced on these areas may increase in volume and quality rather than deteriorate and (2) to provide for an orderly allotment of grazing privileges to the livestock producers most entitled to them by reason of the location of their ranches and their necessary yearly rotation on spring, summer, and fall ranges. Experience offers no prospect that the orderly and intelligent use of these range lands and the conservation of their forage-producing capacity can be accomplished under any scheme of distribution into private ownership. The task is one that must be assumed by the National Government.
Placing the open public ranges under regulation will in no sense be inimical to the interests of the recent homesteader or the future settler wherever settlement is possible. On the contrary, the settlers will gain more from range regulation than any other class. A fixed point in grazing administration on the national forests is to recognize the settler whose ranch development requires outside pasturage as having a prior claim upon the use of the grazing lands adjacent to his homestead. The milk and work animals of all settlers in or near the national forests are allowed free and undisturbed grazing therein. As the settler accumulates other livestock he is given the range allotments most naturally and economically utilized in connection with his home, and is protected in the use of such allotments as against stockmen living farther away and from the nomadic herds of distant owners which move about the country picking up forage wherever it may be found.

Settlers in or near the national forests who have sought to establish themselves in the livestock business have been in a far more advantageous position to benefit from public range than newcomers in other regions where the unreserved public grazing lands were at all crowded. In fact, many settlers have been unable to establish
themselves on public lands because they could not obtain the range needed to supplement their homesteads and have been driven out of the country because the public range lands surrounding them were completely eaten out by the large herds of the established livestock producers in that vicinity.

The same principles should govern grazing administration on the unreserved domain. Any land that has or may develop agricultural value should be available for settlement exactly as similar land has been made available for settlement within the national forests. And settlers whose home building depends upon livestock should be given priority in the allotment of range accessible for their use. While the bulk of the remaining public lands are not capable of settlement and must, as far as can now be foreseen, remain primarily range lands for all time to come, a system of public range regulation would promote and foster settlement wherever it may become feasible to a far greater extent than under the present unregulated and destructive use of these areas.

No group of men understands this situation or realizes the necessity for action more clearly than the western stock growers themselves. They know that their business can not be satisfactorily organised or accorded an adequate basis for credit until stable tenure in the use of the open public ranges can be secured and the deterioration of these pastures brought to an end. There is a general demand from the livestock interests of the West that some form of grazing administration be extended over the unreserved public lands. In many cases local livestock interests have petitioned Congress to add considerable areas to the national forests, not because they had any value for timber production but because these people wanted the benefits and protection of the national-forest system of grazing administration. One or two additions of this character have been made by acts of Congress in response to local public sentiment. Many areas of open public range lands which form logical portions of grazing units now partly within the national forests could, in fact, be most economically and effectively administered by adding them to the forests. The Department of Agriculture regards this as a sound and commonsense extension of the national forest system in meeting obvious present-day needs of the West; but to the extent that such a policy is adopted it should be with a clear understanding that the bulk of the lands involved are treeless and have no prospective value for growing trees. If they are added to the national forests it will not be ordinarily for the production of timber or the protection of water sources, but primarily for the protection and regulated use of range.
There are many other areas of open public land which do not adjoin national forests, and which, if placed under public administration, should constitute separate and distinct units, which might be called national ranges. The experience and judgment of the local livestock growers themselves will ordinarily afford the best index to the necessity either for the addition of grazing lands to the national forests or for the creation of separate national ranges. The problem involves enormous areas and a considerable variety in the local conditions and circumstances to be considered. It would not be wise to attempt its solution by blanket legislation applying simultaneously to all lands of the character described. It would be the wiser course
to define a national policy, leaving its application to develop area by area and region by region and recognizing the principle of local option on the part of the livestock growers directly affected.

## Range Management an Agricultural Problem.

The administration of the western ranges for the production of livestock is essentially an agricultural activity. Its effective development requires much in the way of research to determine how depleted ranges can be restored, how the more nutritious forage plants can be brought back, to what extent artificial seeding can be profitably employed, what is the carrying capacity of many different types of pasturage and browse, and how intensive use of this forage can be so adjusted, by seasons and otherwise, as to maintain and build up the productivity of the resource. The results of such research must be applied in the actual administration of grazing as rapidly as may be possible without serious injury to the economic interests dependent upon the range. These are all problems of scientific agriculture; and they are problems upon which the various bureaus of this department have done a vast amount of work in connection with the administration of the national forests and other activities in the Western States.

During the past 18 years, furthermore, the Department of Agriculture has developed public-range administration on $100,000,000$ acres of forage-bearing land in the national forests. It has perfected an organization for this purpose, in both its technical and administrative phases, which now has many years of practical experience behind it and is recognized for leadership in open-range grazing. The work to be done on the unreserved public-grazing lands in both its scientific and administrative aspects is simply an extension of the grazing work on the national forests. The grazing on all lands in public ownership must be coordinated, since in a large proportion of cases the same livestock uses both national forest and outside lands in the course of the season's pasturage. It would obviously be in the interest of efficiency and public economy to have one organization handle both parts of the common task. The problem as a whole is part of the general agricultural development of the country.

The specific legislation which is recommended is a law which would-
(1) Authorize the President, by Executive order, upon petition from a majority of the stockmen using the area concerned and after full investigation, to add to the national forests contiguous unreserved public lands chiefly valuable for the grazing of livestock for the purpose of conserving and regulating the use of their forage.
(2) Authorize the President, by Executive order, upon a petition from a majority of the stockmen using the area concerned and after full investigation, to create and designate national ranges comprising unreserved public lands valuable chiefly for the grazing of livestock, such national ranges to be administered by the Secretary of Agriculture in so far as their use and occupancy for the grazing of livestock or purposes directly connected with the grazing of livestock may be concerned.

For many years, while the Government has gone forward constructively in the conservation and sane use of the greater part of
the timber on its public lands, and of the forage resources embraced in the national forests as an incident to the protection of timber and stream flow, we have disregarded the perpetuation and conservative use of the vast forage resource on the public domain. No small part of the insecurity and hazardous nature of the livestock industry in the West at the present time is due to inaction on this vital question. There should be no further delay in meeting this situation. The destruction of the grazing value of the public domain can not be defended.

The Forest Problem Only One Part of a General National Problem of Land Utilization.

In reality, the problems of forestry and the better regulation of the grazing resources on the public domain are merely phasesthough very important phases-of the broad problem of land utilization. As the timber is cut millions of acres are thrown out of use. Some of this land is now suitable for use as farming land, some of it will be needed for that purpose in the course of time, but most of it is permanently unsuited to use for farming purposes. Of the arid or semiarid open public grazing lands, relatively little is physically capable of growing crops except where irrigation may be possible, no matter how pressing the national need for crop land may become; and under present conditions it is steadily declining in capacity for use for the only form of use to which it can be put, while being held open for entry under the homestead laws. It is clear that a proper distribution of our reserve areas between the three uses-forests, grazing, and crops-implies some kind of policy of giving direction to the utilization of our land resources.

TREND IN PER CAPITA ACREAGE OF CROPS, PASTURE AND FOREST, AND AMOUNT OF LIVESTOCK, UNITED STATES, 1880-1920.


Fig. 38.-The acres of crops per capita of the United States increased 12 per cent between 1880 and 1900, and then decreased to an amount in 1920 1 per cent below that in 1880. The per capita acreages of both pasture and forest land, on the other hand, have declined since 1880 , and are now only 40 per cent as great as 40 years ago. The per capita amount of livestock increased till 1890, and has since decreased at almost as rapid a rate as pasture.

## Land Utilization Policy.

While many of the agricultural difficulties of the past three years have been due in part to surplus production resulting from overstimulation during the war, it is evident that before very many years our population will have grown to a point which will enable it to consume not only all we produce at the present time but considerably more. Where this increased production is to come from and how our


Fig. 39.-About five-sixths of the improved farm acreage under lease is rented by tenants, the remainder being rented by part owners. In some Western States part owners rent nearly as much land as do tenants. There are 11 States in which over half of the improved land is rented. The percentage of improved farm land is greatest in the Cotton, Wheat, and Corn Belt States. Nearly half of the improved acreage under lease in the United States is in 17 Western States. Over half of this acreage is in States between the Rocky Mountains and the Mississippi River.
national land resources may be best used is therefore a matter of major importance. Some two years since I appointed a departmental committee, consisting of representatives of various bureaus, to consider present and future needs for crop land, forests, and pastures; the extent and location of areas that can be made available for these various uses; and the governmental policies that should be adopted to adjust use to needs.

The more immediate problems of the adjustment of type of use to climate, soil, and economic conditions in the semiarid regions of the West have received the major part of the attention of the section working on land utilization problems. Particular attention has been given to the Great Plains as a whole and the spring wheat section as a part of the larger field. Frequently recurring seed loans are not a solution of the problem; this lies rather in a change in the type of agriculture and farm organization.

War prices, propaganda urging increased food production, and local desire for the development of unused resources have brought about the reclamation by irrigation and drainage of large areas of land on some of which it is being found difficult to repay the cost of reclamation. Effort has been made during the past year to coordinate the policy of the Reclamation Service with the studies of this department in directing land utilization and settlement. The Secre-
tary of the Interior has recognized the desirability of obtaining the judgment of the Department of Agriculture concerning the agronomic and economic feasibility of proposed reclamation projects and has referred such projects to this department for consideration.

Tenancy on farm lands has been increasing. Studies of the extent of tenancy and of the various forms of contract under which tenants operate have been made with a view to promoting farm ownership and the use of equitable forms of rental agreements.

Farm credits are based primarily on land values. The proper appraisal of farm lands is of great importance in order that the farmer may obtain the credit to which he is entitled and at the same time that credit agencies may have adequate security. During the year much attention has been given to a determination of the influence of the various factors affecting land values as a basis for developing scientific methods of appraisal.


Fig. 40.-From a half to two-thirds of the farms in the eight Southern States from Oklahoma and Texas to South Carolina are operated by tenants. These States contain more tenants than the other States. About a third of the tenants in these States are croppers, whose work stock is furnished by their landlords. When croppers, who usually have no legal hold upon the land, are excluded from the tenant classification, the relative number of tenants in Southern States is not strikingly larger than in the Corn Belt.

It is hoped that the report of this departmental land committee will be ready for inclusion in the Yearbook of the department for 1923, and it is expected that this Yearbook will be available for distribution early in the spring of 1924.

## Housing Situation.

In previous reports I have called attention to the unsatisfactory housing of the department and have recommended a building program to meet this situation. It has not yet been possible, however, to secure an appropriation to begin work on this program. Concentration into fewer and larger buildings of a more suitable character than the existing widely scattered structures, providing proper housing for present activities, is the most important need of the department at the present time, and I again urgently recommend that provision be made to this end.

Last year I asked the Bureau of Efficiency to study the housing problem in the department, in the hope that something could be done in the reassignment of available space. This bureau made an exhaustive investigation of the situation in cooperation with department representatives, with the result that it was found inadvisable to reassign office space, as the removal and installation of a large amount of laboratory and other heavy equipment would be involved. The recommendation of the committee regarding one building where available space was found has, however, been favorably acted upon.

The department continues to occupy more than 40 buildings in various parts of Washington. Efficient and economical administration of its affairs remains impossible while this condition exists. During the past fiscal year the Government spent \$177,726.92 for rental of buildings occupied by this department in the District of Columbia.

RENTAL FOR BUILDINGS OCCUPIED BY THE DEPARTMENT OF AGRICULTURE IN WASHINGTON, D. C.


Fig. 41.-The total rental for buildings to house the staff of the Department of Agriculture increased from about $\$ 100,000$ in 1914 to over $\$ 190,000$ in 1919. Since that time the rentals have decreased despite the increasing activities of the department. Since 1920 the department has been assigned temporary nonfireproof war buildings, upon which there is no rental and which are wholly inadequate.

A number of laboratories have had to be housed in rented or other temporary quarters of nonfireproof construction not intended or designed for laboratory installations or for permanent occupancy. The installation of essential apparatus and equipment for efficient work usually requires permanent foundations, costly plumbing and electric wiring, or special provision for the maintenance of constant temperatures. The present temporary character of the department's housing arrangements in some cases precludes the possibility of providing much-needed apparatus. With the development of the department's work its housing situation is becoming more and more acute, and it will be impossible to hold outstanding research workers or do efficient work in many lines until such intolerable conditions have been recognized and steps taken to remedy them. Another illustration in the need for additional space is found in the effort

[^0]new being made to centralize control of purchases. Progress in this work is blocked by the lack of a warehouse to serve as a central depot of supplies.

## General Administration.

Continued attention has been given by the department to the adoption of ways and means of insuring the most effective and economical methods in the expenditure of public funds. Efforts are being made continually to improve the business administration of the department and to inaugurate economies wherever consistent with effective results. In my last report specific instances of savings were cited. The same effort has been in evidence during the past year and many additional steps have been taken to better the service and reduce cost. One of the branches of the office of the Secretary has been organized in such a way as to advise and assist the administrative and accounting offices of the various bureaus in the survey of existing methods and in effecting changes in business organization where nceded. Further special attention has been given to the development and supervision of the purchase and sales work under an expert in this line who has been employed for this specific purpose. Reserves have again been set up wherever practicable against the various appropriations, and these and other unused balances of appropriations were turned back into the Treasury at the end of the fiscal year.

## Salary Classification.

The number of employees in the department June 30, 1923, was 20,261 . More than 16,000 of these were engaged in work outside of Washington.

Careful attention has been given to the activities necessitated by the provisions of the classification act of 1923. A personnel classification officer was designated to coordinate and supervise the large volume of work incident to the classification of the department personnel.

A consideration of what has been accomplished thus far indicates that the prospects which classification offers for the adjustment of present inequalities in pay and the enlargement of opportunity for advancement are acting as a strong incentive for the continuance of effort and the rendering of efficient service. The critical analysis and evaluation of the duties and responsibilities of department employees which is now being made to insure their just and equitable allocation under the classification plan should lead to more effective administrative organization and stimulate department workers to maintain a high standard of efficiency.

Respectfully,

Henry C. Wallace, Secretary of Agriculture.

## Financial Statement.

The net cost to the Federal Government of the regular activities of the department during the fiscal year 1923 was approximately $\$ 34,500,000$, as indicated by the following table:

## Federal Funds for Regular Work of the Department.

|  | Appropriations available, fiscal year 1923. | Expenditures, fiscal year 1923. | Outstanding obligations. | Unobligated balances. |
| :---: | :---: | :---: | :---: | :---: |
| Agricultural appropriation act, 1923 (exclusive of appropriations made direct to States for research work under the Hatch and Adams Acts and for extension work under the Smith-Lever Act, and appropriation for the acquisition of lands by the National Forest Reservation Commission). $\qquad$ | \$33, 584, 173.00 | \$28, 540, 386.90 | \$4, 226, 005.92 | \$817, 780.18 |
| Deficiency appropriation acts (July 1, 1922, Jan. 22, 1923, and Mar. 4, 1923). | 774, 980.00 | 651,322. 01 | 48,915. 84 | 74, 742.15 |
| Supplemental appropriation for increase of compensation (act of June 29, 1922). | 3,232,863.00 | 2,935, 862.96 | 218,943.62 | 78,056.42 |
| Permanent annual appropriation for meat inspection (act of June 30, 1906) | 3,000,000.00 | 3,000,000.00 |  |  |
| Revolving fund for classification of cotton.. | 134, 538.29 | 80,287. 63 |  | 54,250.66 |
| Allotment for fixed nitrogen research ( $\$ 500$,000 transferred from appropriation placed at disposal of the President by the national defense act of June 3, 1916, and \$275,903.46 unexpended balance of allotment previously transferred). | 775, 903. 46 | 212,976. 17 | 24,961. 13 | 537,966. 16 |
| Eradication of foot-and-mouth and other contagious diseases of animals (reappropriation of unexpended balance from 1922) $\qquad$ | 353, 824. 93 | 53,392. 49 | . . | 300,532. 44 |
| Control of white-pine blister rust (available balance of continuing appropriation made in 1922). | 124, 663. 12 | 119,812. 72 | 866.61 | 3,983. 79 |
| Control of insect infestations on national forests (available balance of continuing appropriation made in 1922). $\qquad$ | 109,184. 73 | 39,373. 78 | 25, 953.18 | 43, 857.77 |
| Other continuing appropriations for regular work. | 90, 155. 58 | 8,217. 74 | $7,004.34$ | 74, 933.50 |
| Total..................................-. - | 42, 180,386. 11 | 35, 641, 632.40 | 4,552,650.64 | 1,986, 108.07 |


| Expenditures, as shown above | \$35; 641, 632.40 |  |
| :---: | :---: | :---: |
| Outstanding obligations, as shown above. | 4,552, 650.64 | - |
| Total expenditure, fiscal year 1923, when all obligations are paid |  | \$40, 194, 283.04 |
| Less: |  |  |
| Receipts, 1923, deposited in United States Treasury to credit of miscellancous receipts fund (sce below) | \$5,576,904.55 |  |
| Reimbursement by dealers for cost of classifying cotton | 66,711. 21 |  |
|  |  | 5.643, 615.76 |
| Net cost of regular work |  | 34, 550, 667. 28 |

Of the total expenditure of $\$ 40,200,000$ for the regular work of the department, approximately $\$ 9,000,000$, or 22.5 per cent, was used for research; $\$ 2,400,000$, or 6 per cent, for extension; $\$ 20$,500,000 , or 51 per cent, for service and regulatory activities; and


Fig. 42.-Over one-hairi of the expenditures of the Department of Agriculture involves public service and regulatory work, and less than one-fourth is devoted to research work for the deveiopment of agriculture.
$\$ 8,300,000$, or 20.5 per cent, for campaigns for the control or eradication of various animal and plant diseases and pests.

Direct Income to Government in Connection with Work of Department of Agriculture, Fiscal Year 1923.

Incident to the department's work during the fiscal year 1923, direct receipts aggregating $\$ 9,986,908$ were covered into the Treasury, and fines were imposed and judgments recovered by the courts amounting to $\$ 247,895.57$ in connection with the enforcement by the department of the regulatory acts which devolve upon it for administration and execution, as follows:

```
Receipts:
    Deposited to credit of miscellaneous receipts
        fund-
            From business on the national forests_- $4, 807, 249.07
            From other sources
                                769, 655.48
    Deposited to credit of miscellaneous receipts
        fund but subsequently appropriated as spe-
        cial funds for use of Forest Service-
            Ten per cent of net receipts from busi-
                    ness on the national forests, for forest
                    road and trail construction in 1924__
            Contributions from private sources, used
                    mainly for the construction of forest
                    roads and trails
                                528, 569.06
                            1, 517, 467.46
                            2, 046, 036. 52
    Deposited to credit of appropriations for regular work of
        department
                                402, 588. 58
    Deposited to credit of appropriations admin-
        istered by but not used in prosecuting
        regular work of department-
            Reimbursement for cost of distributing
                surplus war materials to States for use
                in road construction work
                $573, 183.95
            Repayments by farmers of seed-grain
                loans
                1, 388, 194.40
                                    1,961,378. }3
            Total receipts
                                    9,986, 908.00
Fines imposed and judgments recovered by the courts in connec-
    tion with violations of statutes intrusted to Department of
    Agriculture for enforcement
                            247, 895. 57
        Total direct income to Government resulting from
        activities of Department of Agriculture
                            10,234, 803.57
```


## Federal Funds Administered by Department but not Used for its Regular Work.

In addition to the expenditures for conducting the investigative, regulatory, and other regular activities of the department, $\$ 88,514,-$ 578.60 was expended during the fiscal year 1923 from appropriations administered by the department but not used for the prosecution of its regular work as follows:

|  | Appropriation available, fiscal year 1923. | Expenditure, fiscal year 1923. | Unexpended balance, June 30, 1923. |
| :---: | :---: | :---: | :---: |
| Extension work in agriculture and home economics: |  |  |  |
| Provided by Smith-Lever Act of May 8, 1914 | \$4, 580, 000.00 |  |  |
| Supplementary fund provided by agricultural appropriation act for 1923............ | $\begin{array}{r} 1,300,000.00 \\ 154,472.77 \end{array}$ |  |  |
|  | 6, 034, 472. 77 | ${ }^{1} \$ 5,810,449.45$ | \$224, 023.32 |
| Research work of State agricultural experiment stations provided by agricultural appropriation act |  |  |  |
| for 1923)............... | 1, 440, 000. 00 |  |  |
| Balances from prior years. | 210. 10 |  | - |
|  | 1,440, 210. 10 | ${ }^{1} 1,439,999.59$ | 210.51 |

[^1]|  | Appropriation available, fiscal year 1923. | Expenditure, fiscal year 1923. | Unexpended balance, June 30, 1923 |
| :---: | :---: | :---: | :---: |
| Federai-aid road construction (pro- <br> vided by acts of July 11, 1916; <br> Feb. 28, 1919; Nov. 9, 1921; and <br> Jan. 22, 1923): |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Rural post roads- |  |  |  |
| Appropriated for fiscal |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | 203, 703, 521. 43 | \$71, 601, 752. 72 | \$132, 101, 768.71 |
| Roads and trails within or adjacent to national forests- |  |  |  |
| $\Lambda$ ppropriated for fiscal year 1923. | 11, 000, 000. 00 |  |  |
| Ten per cent of national forest receipts for 1922, available for road and trail building in 1923.. | 338, 576. 96 |  |  |
| Balances from prior years. | 6, 408, 586. 52 |  |  |
|  | 17, 747, 163. 48 | 6, 467, 630. 69 | 11, 279, 523. 79 |
| Payments to States from national forest receipts for benefit of |  |  |  |
|  |  |  |  |
| Refunds to users of national forest |  |  |  |
| resources of moneys deposited by them in excess of amounts re- |  |  |  |
| Acquisition of lands by National 101, ${ }^{\text {a }}$ |  |  |  |
| Forest Reservation Commission for protection of forested watersheds of navigable streams: |  |  |  |
| Provided by agricultural ap- |  |  |  |
| Balances from prior years..... | 1, 458, 455.35 |  |  |
|  | 1, 908, 455. 35 | 768, 391. 84 | \$1, 140, 063. 51 |
| Expenses of National Forest Reservation Commission (provided by |  |  |  |
| act of Mar. 1, 1911): |  |  |  |
| Appropriation for fiscal year$25,000.00$ |  |  |  |
| Balances from prior years..... | 48, 242.21 |  |  |
|  | 73, 242.21 | 537. 06 | 72,705. 15 |
| Cooperative work, Forest Service, consisting principally of forest road and trail construction (paid from contributions from private |  |  |  |
| sources): |  |  |  |
|  | 1, 517, 467. 46 |  |  |
| Balances from prior years..... | 381, 495.75 |  |  |
|  | 1, 898, 963. 21 | 1, 299, 782.88 | 599, 180. 33 |

[^2]Appropriation
available, fiscal year 1923.

Expenditure, Unexpended balfiscal year 1923. ance, June 30, 1922.

Farmers' seed-grain loans: Appropriations provided by deficiency acts of July 1, 1922, and Mar. 4, 1923, for collection of loans.
Collections during 1923 of loans made in 1921 and 1922.....
Previously collected. . . . . . . . .
$\$ 75,000.00$
$1,388,194.40$
693, 173. 64
$2,156,368.04$
$\$ 69,226.66$
$\$ 2,087,141.38$
3.31

Exchange of lands, State of Washington.
Work done by Department of Agriculture for other departments at their request, under authority of section 7, fortifications act of May 21, 1920:

Allotments from other departments, fiscal year 1923......
Balance of allotments made in prior years.

12, 623.00
62, 453.35

72, 687. 59
$\$ 2,388.76$
79.61
${ }^{1} 512,248.65$

Total Federal appropriations administered by department but not used for its regular work $236,533,832.71 \quad 88,514,578.60 \quad 148,019,254.11$

Summary of all appropriations available to the Department of Agriculture during flscal year 1923.

| Title of appropriation. | Amount appropriated. | $\begin{aligned} & \text { Expenditures } \\ & \text { to June 30, } \\ & 1923 . \end{aligned}$ | Unexpended balance, June 30, 1923. |
| :---: | :---: | :---: | :---: |
| Agricultural act for fiscal year 1923. | \$36, 774, 173.00 | \$31,388, 336.97 | \$5, 385, 836. 03 |
| Supplementary appropriations contained in deficiency acts of July 1, 1922, Jan. 22, 1923, and Mar. 4, 1923: |  |  |  |
| Suppressing spread of pink bollworm of cotton..... | 75,000. 00 | 75,000. 00 |  |
| Fighting forest fires. | 375,000. 00 | 375,000.00 |  |
| Protection of lands in Oregon and California Railroad forfeiture suits. | 16,480. 00 | 13,987.61 | 2,492. 39 |
| Motor boat for Alaskan forests. | 8,500.00 |  | 8,500.00 |
| Citrus canker eradication. | 100,000. 00 | 100,000.00 |  |
| White-pine blister rust cont | 30,000.00 | 30,000.00 |  |
| Nut culture. | 5,000. 00 | 5,000.00 | ................ |
| Investigating sources of crude rubber............... | 100,000.00 | 4,305. 57 | . 95, 604.43 |
| Boll weevil poisoning by airplane. | 40,000. 00 | 29,207. 54 | 10,792.46 |
| Preventing spread of Japanese beetle . ............... | 25,000.00 | 18,731.29 | 6,268.71 |
| Supplemental appropriation for increase of compensa- <br> tion (act of June 29, 1922) | 3,232, 863.00 | 2, 935, 862.96 | 297, 000.04 |
| ${ }^{1}$ Turned into surplus fund June 30, 1923. |  |  |  |

Summary of all appropriations available to the Department of Agriculture dur. ing fiscal year 1923-Continued.

| Title of appropriation. | Amount appropriated. | Expenditures to June 30, 1923. | Unexpended balance, June 30, 1923. |
| :---: | :---: | :---: | :---: |
| Permanent specific appropriations: |  |  |  |
| Meat inspection (act of June 30, 1906) | \$3,000,000.00 | \$3, 000,000.00 |  |
| Cooperative agricultural extension work (act of May |  |  |  |
| 8, 1914) | 4,580,000.00 | 4, 510, 449.45 | \$69,550.55 |
| Cooperative construction of roads and trails, national forests (act of July 11, 1916). $\qquad$ | 1, 000, 000.00 |  | 1,000,000.00 |
| National Forest Reservation Commission (act of Mar. 1, 1911) | 25,000.00 | 496.69 | 24, 503.31 |
| Continuing appropriations: |  |  |  |
| Cooperative construction of rural post roads (deficiency act of Jan. 22, 1923). | 25,000,000.00 | 152,511.28 | 24, 847, 488.72 |
| Forest highways (act of Nov. 9, 1921) | 7,000,000. 00 | 342,504. 53 | 6,657,495. 47 |
| Forest road development (act of Nov. 9, 1921) | $3,000,000.00$ | 859, 919. 22 | 2, 140, 080. 78 |
| indefinite appropriation. Refunds to depositors, national forests fund | 101, 824.19 | 101, 824.19 |  |
| Special funds: |  |  |  |
| Roads and trails for States, national forests fund.... | 338, 576. 96 |  | 338,576.96 |
| Payments to States and Territories, national forests fund | 846,442. 41 | 846,442. 41 |  |
| Payments to school funds, Arizona and New Mexico, national forests fund. | 35, 761.60 | 35,761. 60 |  |
| Cooperative work, Fores | 1, 517,467.46 | 918,287. 13 | 599, 180. 33 |
| Revolving fund for classification of co | 66, 711.21 | 12,460. 55 | 54,250. 66 |
| Fund from seed-grain loans collected during | 1,388, 194. 40 |  | 1,388, 194.40 |
| Appropriation for collection of seed-grain loan | 75,000.00 | 69, 226.66 | 5,773.34 |
| Allotment for nitrate plants. | 500,000.00 |  | 500,000.00 |
| Allotments from other departments: |  |  |  |
| Insect control, Kaibab National Forest............... | 1,000.00 | 1,000.00 |  |
| Air Service, Army, 1923. | 10,000.00 | 9,797.13 | 202.87 |
| Breeding experimental animals, Army, 1923. | 1,000.00 | 753.57 | 246.43 |
| Investigations for Federal Power Commission, 1923. | 450.00 | 230.01 | 219.99 |
| Manufacture of arms. | 173.00 | 140.63 | 32.37 |
| Total, current appropriations and funds (exclusive of balances from prior years). | 89, 269, 617.23 | 45, 837, 326.99 | 43, 432, 290.24 |
| Unexpended balances of appropriations and funds for prior fiscal years remaining available for expenditure |  |  |  |
| Appropriations in agricultural acts for fiscal years 1921 and 1922 | \$5, 683, 344.45 | \$2, 747, 852.18 | 1 \$2, 935, 492.27 |
| Reappropriation of unexpended balance for eradication of foot-and-mouth disease, etc. | 353, 924.93 | 53, 392.49 | 300, 532.44 |
| Supplemental appropriations for fiscal years 1921 and 1922- |  |  |  |
| White-pine blister rust control (1922-23) . . . . . . . | 124, 663.12 | 119, 812.72 | 4,850.40 |
| Insect infestations, national forests (1922-23) | 109, 184 '73 | 39,373.78 | 69,810.95 |
| Enforcement of packers and stockyards act..... | 47, 410.93 | 20, 497.27 | 26, 913.66 |
| Enforcement of future trading act............... | 33,616.18 | 6,304.77 | 27,311.41 |
| Operation of Center Market.......................... | 44,552.10 | 22, 219.44 | 22,332.66 |
| Salaries and expenses, wool division, War Industries Board. | 2,500.00 |  | 2,500.00 |
| Protection of lands, Oregon and California Railroad forfeiture suits. $\qquad$ | 112.40 | 112.40 |  |

1 Of these balances, $\$ 1,702,859.80$ was turned into the surplus fund of the Trassury at the end of the year.

Summary of all appropriations available to the Department of Agriculture during fiscal year 1923-Continued.


[^3]Acreage of crops in the United States.

| Crop. | Annual average, 1910-1914. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | $1922{ }^{1}$ | $1923{ }^{1}$ (preliminary estimate). |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cereals. |  |  |  |  |  |  |  |  |  |  |
| Corn | 105, 240, 000 | 105, 197,000 | 105, 296,000 | 116,730,000 | 104, 467,000 | 97,170,000 | 101,699, 000 | 103, 740, 000 | 102, 428, 000 | 103, 112, 000 |
| Wheat | 48, 953, 000 | 60, 469, 000 | 52, 316, 000 | 45,089,000 | 59,181, 000 | 75,694,000 | 61, 143, 000 | 63,696, 000 | 61,630, 000 | 58,253, 000 |
| Oats. | 38, 014,000 | 40,996,000 | 41,527,000 | 43,553, 000 | 44, 349,000 | 40, 359, 000 | 42, 491, 000 | 45, 495, 000 | 40, 313, 000 | 40,768, 000 |
| Barley | 7,593,000 | 7,148, 000 | 7,757,000 | $8,933,000$ | 9,740,000 | 6,720,000 | 7,600,000 | 7,414,000 | 7,390,000 | 7,980,000 |
| Rye... | 2,305,000 | 3,129,000 | 3,213,000 | 4, 317,000 | 6,391, 000 | 6, 307, 000 | 4, 409, 000 | 4,528, 000 | 6,210,000 | 5,234,000 |
| Buckwheat | 826,000 | 769,000 | 828,000 | 924,000 | 1,027,000 | 700,000 | 701,000 | 680, 000 | 785, 000 | 772, 000 |
| Rice. | 733, 000 | 803,000 | 869,000 | 980,900 | 1,118, 550 | 1,063, 000 | 1,336,000 | 921,000 | 1,055,000 | 883,000 |
| Grain sorghums. |  | 4,153,000 | 3,944, 000 | 5, 153,000 | 6,036,000 | 5,060,000 | 5,120,000 | 4,635,000 | 5,051, 000 | 5,516,000 |
| Totas | 203, 664,000 | 223,664,000 | 215,750,000 | 225,679,900 | 232,309,550 | 233,073, 000 | 224, 499, 000 | 231, 109,000 | 2.24, 862,000 | 222,518, 000 |
| VEGETABLES. |  |  |  |  |  |  |  |  |  |  |
| Potatoes | 3,686,000 | 3,734,000 | 3,565,000 | 4,384,000 | 4,295,000 | 3,542,000 | 3,657, 000 | 3,941,000 | 4,331,000 | 3,892,000 |
| Sweet potatoes..... | 611,000 | 731,000 | 774,000 | -919,000 | 940,000 | ,941,000 | '992, 000 | 1,066, 000 | 1,116, 000 | 1,007, 000 |
| Beans (commercial) | 61,00 | 928,000 | 1,107,000 | 1,821, 000 | 1,744,000 | 1,060,000 | 8477,000 | '777, 000 | 1,043, 000 | 1, 255, 000 |
| Onions (commercial) |  |  |  | 64,580 | -65,400 | -52,830 | 65, 550 | 58, 070 | 64,780 | , 62, 660 |
| Cabbage (commercial) |  |  |  | 93, 090 | 111, 940 | 94,300 | 121, 421 | 104, 060 | 136, 860 | 102, 070 |
| Total | 4, 297, 000 | 5,393,000 | 5,446,000 | 7,281,670 | 7,156, 340 | 5,690, 130 | 5,682, 971 | 5, 946, 130 | 6,691, 640 | 6,318, 730 |
| Cranberries (3 States) |  | 23, 100 | 26,200 | 18,200 | 25,400 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| Flaxseed. | 2, 402,000 | 1,387,000 | 1, 474, 000 | 1,984, 000 | 1,910,000 | 1,503, 000 | 1,757,000 | 1,108, 000 | 1,251, 000 | 2,285,000 |
| Sugar beets | 498,122 | 1,611,301 | -665,308 | , 664,797 | 1594,010 | 1,692,455 | 1871,676 | 1814,988 | 1530,247 | 732, 000 |
| Tobacco. | 1, 209, 000 | 1,369,900 | 1,413,400 | 1,517,800 | 1,647, 100 | 1,951,000 | 1,960, 000 | 1,427, 000 | 1,725, 000 | 1,762, 000 |
| All hay | 66,356, 000 | 67,904, 000 | 72, 356,000 | 71, 415,000 | 71, 120, 000 | 74, 038,000 | 73, 888, 000 | 74, 401, 000 | 77, 050,000 | 76, 029,000 |
| Cotton................. | 35, 330, 000 | 31, 412,000 | 34,985, 000 | 33, 841, 000 | 36, 008,000 | 33, 566, 000 | 35, 878, 000 | 30, 509, 000 | 33, 036, 000 | 38, 287, 000 |
| Sorghum cane for sirup Peanuts. . . . . |  |  |  | 415,200 $1.842,000$ | 421,600 $1.865,000$ | 487,000 | 536,000 | 518,000 | 448, 000 | 402, 000 |
| Pranuts... |  | 230, 100 | $1,043,000$ 235,200 | $1,842,000$ 345,000 | $1,865,000$ 366,000 | $1,132,000$ 352,000 | 1,181, 000 | 1,214, 2200 | 986,000 257,000 | 918,000 492,000 |
| Clover seed |  |  | 939, 000 | 821,000 | 820,000 | 942, 000 | 1,082, 000 | 889,000 | 1,126, 000 | 739,000 |
| Grand total. | 313,756, 122 | 331, 994, 401 | 334, 333, 108 | 345, 825, 567 | 354, 243, 000 | 353, 451, 585 | 347, 636, 147 | 348, 183, 118 | 347, 987, 887 | 350, 507, 730 |

${ }^{1}$ Subject to revision in December, 1923.

Crop production in the United States.
[The figures are in round thousands-i. e., 000 omitted.]

| Crop. | Annual average, 1910-1914. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | $1922{ }^{1}$ | $1923{ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cereals. |  |  |  |  |  |  |  |  |  |  |
| Corn.....................bushels. . | 2,732,457 | 2,994,793 | 2,566,927 | 3,065,233 | 2,502,665 | 2, 811, 302 | 3,208,584 | 3,068, 569 | 2, 890, 712 | 3,029,192 |
| Wheat.......................do.... | 728,225 | 1,025,801 | 636,318 | 636, 655. | 921, 438 | -967,979 | 833, 027 | 814,905 | 862, 091 | 781,737 |
| Oats...........................d. do.... | 1,157,961 | 1,549,030 | $1,251,837$ 182,309 | 1,592,740 | 1,538,124 | 1,184, 147,608 | $1,496,281$ 189,332 | $1,078,341$ 154,946 | 1, 201, 186 | $1,302,453$ 199,251 |
| Barley......................d. do.... | 186, 208 | 228,851 | 182,309 48,862 | 22,933 | 251, 041 | 145,483 | 60,490 | 61,675 | 95, 497 | 64,774 |
| Rye.............................. | 17,022 | 15,056 | 11,662 | 16,022 | 16,905 | 14,399 | 13,142 | 14,207 | 15,050 | 14, 511 |
| Buckwheat.....................d. ${ }_{\text {do }}$ | 17, 378 | 28,947 | 40, 861 | 34,739 | 38, 606 | 41,985 | 52,066 | 37, 612 | 41,965 | 32,737 |
| Grain sorghums. . . . . . . . . .do |  | 114, 460 | 53, 858 | 61,409 | 73,241 | 130,734 | 137, 408 | 113,990 | 90,381 | 103,506 |
| Total. | 4, 883, 819 | 6,010,988 | 4,792,634 | 5,681, 490 | 5, 438, 245 | 5,373, 520 | 5,990,330 | 5,344, 245 | 5,383, 250 | 5,528,161 |
| Potatoes . . . . . . . bushels.. | 360,772 | 359,721 | 286, 953 | 442,108 | 411,860 | 322,867 | 403,296 | 361,659 | 451,185 | 416,722 |
| Sweet potatoes. . . . . . . . . . . . . do... | 57,117 | 75,639 | 70,955 | 83, 822 | 87,924 | 97,126 | 103,925 | 98, 654 | 109, 534 | 97,429 |
| Beans (commercial).........d.do.... |  | 10,321 | 10,715 | 16,045 | 17,397 | 13, 349 | 9,185 | 9,150 | 11, 893 | 14,936 |
| Onions (commercial) . . . . . . do.... |  | 7,664 | 8,562 | 12,376 | 19,336 | 11,398 | 23,525 | 14,440 | 19,129 | 16,503 |
| Cabbage (commercial)...... tons.. |  | 671 | 255 | 475 | 498 | 357 | 982 | 678 | 1,117 | 824 |
|  |  |  |  |  |  |  |  |  |  |  |
| Peaches................bushels.. | 45,842 | 64,097 | 37,505 | 48,765 | 33,094 | 53,178 | 45,620 | 32,602 | 56,705 | 45, 515 |
| Pears........................do.... | 11, 184 | 11, 216 | 11,874 193,905 | 13,281 166,749 | 13,362 169,625 | 15,006 142,086 | 16,805 | 11,297 99,002 | 18,661 201,252 | 15,335 193,855 |
| Apples.................... do.... | 197, 898 | 230, 011 | 193,905 471 | 166,749 249 | 169,625 352 | 142,086 549 | 223,677 $\cdot 449$ | 99,002 384 | 201,252 568 | 193, 855 |
| MISCELI.ANEOUS. |  |  |  |  |  |  |  |  |  |  |
| Flaxseed.................bushels. . | 18,353 | 14,030 | 14,296 | 9,164 | 13,369 | 7,256 | 10,774 | 8, 029 | 11,668 | 19,343 |
| Sugar beets.................tons. . | 5,391 | 6,511 | 6,228 | 5,980 | 5,949 | 6,421 | 8,538 | 7,782 | 5,183 | 6,667 |
| Tobacco. . . . . . . . . . . . . . pounds. . | 991,958 | 1,062, 237 | 1,153, 278 | 1,249, 276 | 1, 439, 071 | 1,465, 481 | 1,582, 225 | 1,069,693 | 1,324, 840 | 1,436, 738 |
| All hay..................... .tons. . | 81, 640 | 107, 263 | 110,992 | 98, 439 | 91, 139 | 104, 760 | 105, 315 | 97,770 | 112,791 | 102,914 |
| Cotton. . . . . . . . . . . . . . . . . . bales. . | 14, 259 | 11, 192 | 11, 450 | 11,302 | 12, 041 | 11, 421 | 13, 440 | 7,954 | - 9,762 | 10,248 |
| Sorghum sirup...............galls. . | 14,974 | 14, 823 | 13,668 | 37, 472 | -33,387 | 119,413 783 | -49,505 | 45,566 829 | 36,532 | 33,643 |
| Peanuts................. pounds.. |  |  | 919,028 | 1, 432, 581 | 1,240, 102 | 783, 273 | 841, 474 | 829,307 38 | 623,507 35 | 647, 589 |
| Broomeorn. . . . . . . . . . . . . . . tons. ${ }_{\text {Clover }}$. |  | 52 | 1,706 | 1,488 | 1,197 | 1,484 | 1,944 | 1,538 | 1,875 | 1,121 |

[Reports of Bureau of Foreign and Domestic Commerce, United States Department of Commerce.]

| Article exported. | Annual average, 1910-1914. | Year ending June 30- |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| Wheat. ............. bushels.. | 56,913,228 | 173,274, 015 | 149,831, 427 | 34,118,853 | 178, 582,673 | 122,430,724 | 293,267,637 | 208, 321, 091 | 154,950,971 |
| Wheat flour.......... barrels.. | 10, 678, 635 | 15,520,669 | 11,942, 778 | 21, 879,951 | 24,181,979 | 21,651, 961 | 16,179,956 | 15,796, 824 | 14, 882, 714 |
| Oats.................bushels.. | 8, 304, 203 | 95, 918, 884 | 88,944,401 | 105, 837, 309 | 96, 360,974 | 33, 944,740 | 4,302,346 | 15,987, 264 | 18,573, 603 |
| Rye....................... do. | 854,765 | 14,532,437 | 13,260,015 | 11,990, 123 | 27, 540,188 | 37, 463,285 | 45, 735, 052 | 29,683,602 | 51,411,550 |
| Barley.................... do. | 7,895, 521 | 27,473,160 | 16,381,077 | 26,285, 378 | 20, 457, 781 | 26,571,284 | 20,457, 198 | 22, 400, 393 | 18,192, 809 |
| Corn...................... do | 39,809, 690 | 38,217,012 | 64,720, 842 | 40,997, 827 | 16,687,538 | 14,467,926 | 66,911,093 | 176,385, 614 | 94, 064, 053 |
| Total, 5 cereals and flour...........pounds.. | 8,429,735, 124 | 20, 780, 577, 136 | 19, 330, 110,628 | 13, $951,418,808$ | 21, 996, 905, 576 | 16, 859, 428, 924 | 28, 195, 134, 292 | 28, 722, 130, 372 | 21, 828, 314, 100 |
| Sugar...................do..... | 70,976,908 | 1,630, 150, 863 | 1,248, 908,286 | 576, 483, 050 | 1,115, 865, 161 | 1,444,030,665 | 582,698,488 | 2,002,038,652 | 749, 855, 325 |
| Dairy products: |  |  |  |  |  |  |  |  |  |
| Butter............... do.... | 4,277,955 | 13,487,481 | 26, 835, 092 | 17,735,966 | 33,739,960 | 27,155, 834 | 7,829,255 | 7,511,997 | 9, 409, 837 |
| Cheese..............d. do.... | 4,915,502 | 44, 394,301 | 66,050, 013 | 44,303, 076 | 18,791,553 | 19,378, 158 | 10, 825, 603 | 7,471, 452 | 8,446, 321 |
| Milk (condensed) | 15, 773,900 | 159,577,620 | 259, 141, 231 | 528, 759, 232 | 728,740, 509 | 710,533, 270 | 266,506,031 | 288, 628, 298 | 159,956,707 |
| products <br> .pounds.. | 24,967,357 | 217,459,402 | 352,026, 336 | 590,798,274 | 781, 272,022 | 757,067,262 | 285, 160, 889 | 303,611,747 | 177,812,865 |
| Meat and meat products: |  |  |  |  |  |  |  |  |  |
| Canned beef........do. ${ }^{\text {do.. }}$ | 9,392, 122 | 50, 803, 765 | 67,536,125 | 97,343,283 | 108, 459,660 | 31, 133, 918 | 10,762,986 | 3,748,486 | 2,301,499 |
| Fresh beef.......... do.... | 29, 452,302 | 231, 214,000 | 197, 177, 101 | 370, 032,900 | 332,205,176 | 153, 560,647 | 21, 084,203 | 3, ${ }^{\text {3, }} 993,449$ | 4,077,002 |
| Pickled beef. . . . . . . do.... | 32,893, 172 | $38,114,682$ $102,645,914$ | 58,053,667 | 54, 467,910 | 45, 065,641 | 32, 383, 501 | 23, 312,856 | 26,774, 124 | 24,185, 263 |
| Oleomargarine........d. do. |  | 102,645 | 67, 110,11 | 56, 603,388 | 59, 292, 122 | 74,529, 494 | 106, 414, 800 | 117,174,260 | 104, 956, 378 |
| Stearin..............d.do | 3,268, 279 | 5,420,221 | 5, 51,267 | 6, 309, 896 | 18,570,400 | 20,952, 180 | 6,219, 165 | 1,989,421 | 2,027,546 |
| Tallow.................d. do. | -39, 008 | 13, 288,247 | 12,936, 357 | 10, 360,030 | 11, 537, 284 | 22,505,602 | 19, 177, 311 | 32,560, 766 | 70,767,939 |
| Canned pork........d.do. | 29,027,086 | 16,288, 73 | 15, 209,369 | 5, 14,964 | 16, 177, 111 | 32,937, 026 | 16, 843, 868 | 27,658, 097 | 25,664,985 |
| Fresh pork. ..........d.do. | 2,023,911 | 9,610, 32 | 5,896, 120 | 5,194,468 | 5,273, 329 | 3,261,967 | 1,118,967 | 2,263, 102 | 2,761, 121 |
| Bacon... . . . . . . . . . do. | 182,474,092 | 63, ${ }^{\text {208, }} 24$ | 50, 435,615 | 21,390, 288 | 19,644, 388 | 27,224,941 | 57,075, 446 | 25, 911, 193 | 43,501, 610 |
| Hams and shoulders.do. | 166,813, 134 | 579, 808,786 | 606, 151,972 | 81, 294,424 | 1,238,247, 321 | 803,666, 861 | 489,298,109 | 350,548,952 | 408, 282,065 |
| Pickled pork.........do. | 48,274,929 | 663,460,713 | 266,656,581 | 419,571, 869 | 667,240,022 | 275, 455, 931 | 172,011,676 | 271,641,786 | 319, 186, 689 |
| Lard . . . . . . . . . . . . . do. | 474, 354,914 | 427, 011, 338 | 444,789, 540 | 33, 221,502 | 31,503,997 | 41,643, 119 | 33, 286, 062 | 33,510, 146 | 40, 933, 756 |
| Lard, neutral.........do. | ${ }^{2} 43,571,550$ | 34, 426,590 | 444, 69,540 | 392,506, 305 | 724,771,383 | 587,224,549 | 746, 157, 246 | 812,379,396 | 952,641,705 |
| Lard, compounds. . .do.... | 67, 318,857 | 52,843.311 | 17, 359,493 | 4,258, 289 | 17, 395, 888 | 23, 202,027 | 22, 544, 303 | 19, 572, 940 | 26, 494, 079 |
|  |  |  | 56,350, 43 | 31, 278, 382 | 128,157, 327 | 44, 195, 842 | 42, 155, 971 | 30, 328, 176 | 11, 139,730 |


| Sausage, canned..... do. Sausage, other.......... Sausage, casings. | $6,369,268$ $30,674,928$ | $\begin{array}{r} 6,823,085 \\ 8,590,236 \\ 14,708,893 \end{array}$ | $\begin{aligned} & 6,294,950 \\ & 9,134,471 \\ & 6,118,060 \end{aligned}$ | $\begin{aligned} & 5,787,108 \\ & 9,239,341 \\ & 6,173,578 \end{aligned}$ | $\begin{array}{r} 8,503,580 \\ 9,721,925 \\ 13,524,093 \end{array}$ | $\begin{array}{r} 7,034,150 \\ 14,750,963 \\ 24,379,414 \end{array}$ | $\begin{array}{r} 4,429,723 \\ 4,926,552 \\ 29,894,681 \end{array}$ | $\begin{array}{r} 1,963,548 \\ 7,207,829 \\ 27,768,795 \end{array}$ | $\begin{array}{r} 2,693,636 \\ 7,719,026 \\ 20,043,425 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total, 18 meat products ............... pounds. | 1,416,546,331 | 2,000,053, 391 | 2,001,059,766 | 2,344,048,215 | 3,455, 285, 647 | 2, 220, 042, 132 | 1,806,713, 925 | 1,796, 994, 466 | 2,069,377,454 |
| Total of food products mentioned above..lbs. | 9,942, 225, 720 | 24, 628, 240, 792 | 22,932, 105, 016 | 17,462, 748, 347 | 27,349, 328,406 | 21, 280, 568, 983 | 30, 869, 707, 594 | 32, 824, 775, 237 | 24, 825, 359,744 |
| Cotton..............do | 4,419, 802, 157 | 3,084, 070, 125 | 3,088, 080, 786 | 2,320, 511, 665 | 2,762, 946, 754 | 3,543, 743, 487 | 2, 811, 388,710 | 3,358, 878, 748 | 2,626,732,147 |
| Tobacco.............do. | 392, 183, 071 | 443, 293, 156 | 411, 598, 860 | 289, 170,686 | 629, 287, 761 | 506, 526, 449 | 462,797,351 | 463, 388, 521 | 454, 410, 294 |
| Grand total.......do... | 14, 754, 210, 948 | 28, 155, 604, 073 | 26, 431, 784,662 | 20,072, 430,698 | 30, 741, 562, 921 | 25,330, 838,919 | 34, 143, 893,655 | 36,647, 042, 506 | 27, 906, 502, 185 |

1 2-year average.
2 4-year average.

## Publications of the Department.

The accompanying table gives a summary of new and reprinted publications issued by the department during the fiscal year ended June 30, 1923.
Of the bulleting, circulars, and Yearbooks there were 477 new titles and 783 reprints, making a total of 1,260 separate titles. The total editions of these amounted to $26,519,542$ copies, of which 21,649,398, or more than 80 per cent, were popular Farmers' Bulletins. The following new publications were issued during the year: 62 Farmers' Bulletins, 105 department bulletins, 57 departmental circulars, and 40 soil surveys.

Of the publications of a periodical and statistical nature 7,373,465 copies were printed. These publications include the "Experiment Station Record," "Official Record," "Clip Sheet," "Weather, Crops, and Markets," and the "Journal of Agricultural Research," as well as reprints from the latter publication.

Publications issued by the Department of Agriculture during the fiscal year ended June 30, 1923.

| Name series. | New. |  | Reprinted. |  | New and reprinted. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of titles. | Number of copies. | Number of titles. | Number of copies. | Number of titles. | Number of copies. |
| Bulletins, circulars, Yearbook, etc.: |  | - ${ }^{\text {c }}$ |  |  |  |  |
| Farmers' Bulletins. .............. | 62 | 2, 226,915 | 574 | 19, 422, 483 | 636 | 21, 649, 398 |
| Department bulletins . . . . . . . . . . | 105 | 553,089 | 46 | 84,500 | 151 | 637, 589 |
| Department circulars.............. | 57 | 874, 720 | 23 | 324, 520 | 80 | 1,199,240 |
| Secretary's Annual Report....... | 1 | 5,000 |  |  | 1 | 5,000 |
| Soil surveys....................... | 40 | 40,000 |  |  | 40 | 40,000 |
| Yearbooks (1921 and 1922)....... | 2 | 40,472 |  |  | 2 | 40, 472 |
| Bureau bulletins .................. . | 8 | 30, 500 | 8 | 5, 000 | 16 | 35, 500 |
| Bureau circulars. | 1 | 2,500 | 7 | 10,500 | 8 | 13, 000 |
| Statistical bulletins | 1 | 4,500 |  |  | 1 | 4,500 |
| Miscellaneous circulars........... | 10 | 69,000 | 3 | 28, 000 | 13 | 97, 000 |
| Service and regulatory announcements. | 58 | 390,500 | 6 | 16,000 | 64 | 406,500 |
| Miscellaneous...................... | 132 | 1,810,518 | 116 | 580, 825 | 248 | 2, 391, 343 |
| Total. | 477 | 6, 047, 714 | 783 | 20, 471, 828 | 1,260 | 26, 519,542 |
| Periodical and information publications: |  |  |  |  |  |  |
| Experiment Station Record..... | 23 | 165, 650 |  |  | 23 | 165, 650 |
| Official Record..................... | 53 | 833, 200 |  |  | 53 | 833, 200 |
| Clip Sheet.......................... | 51 | 255, 000 |  |  | 51 | 255, 000 |
| Weather, Crops, and Markets ... | 53 | 6,007, 000 | 2 | 14,000 | 55 | 6, 021,000 |
| Journal of Agricultural Research. | 17 | 34, 000 |  |  | 17 | 34, 000 |
| Separates from Journal of Agricultural Research. | 44 | 63,615 | 1 | 1,000 | 45 | 64,615 |
| Total. | 241 | 7,358, 465 | 3 | 15,000 | 244 | 7,373, 465 |
| Grand total . | 718 | 13, 406, 179 | 786 | 20, 486, 828 | 1, 504 | 33, 893, 007 |

## List of New Farmers' Bulletins, Department Bulletins, and Department Circulars Published During Fiscal Year 1923.

Following is a list of new Farmers' Bulletins, Department Bulletins, and Department Circulars issued during the fiscal year 1923, classified by general subject matter. Farmers' Bulletins are indicated by "F. B.," department bulletins by "D. B.," and department circulars by "D. C."
Bees:
Beekeeping in the Buckwheat Regions ..... F. B. 1216
Beekeeping in the Tulip Tree Regions ..... F. B. 1222
The Insulating Value of Commercial Double-Walled Beehives_ ..... D. C. 222
Eirds and Game:
Game Laws for 1922 ..... F. B. 1288
Laws Relating to Fur-Bearing Animals, 1922 ..... F. B. 1293
Beaver Habits, Beaver Cóntrol, and Possibilities in Beaver Farming ..... D. B. 1078
Migration Records from Wild Ducks and Other Birds, Banded in the Salt Lake Valley, Utah ..... D. B. 1145
Silver-Fox Farming ..... D. B. 1151
Annual Report of the Governor of Alaska on the Alaska Game Law, 1921 ..... D. C. 225
Directory of Officials and Organizations Concerned with the Protection of Birds and Game, 1922 ..... D. C. 242
Annual Report of the Governor of Alaska on the Alaska Game Law, 1922 ..... D. C. 260
The Purpose of Bird Censuses and How to Take Them ..... D. C. 261
Cotton:
Cotton Dusting Machinery ..... F. B. 1319
One-Variety Cotton Communities ..... D. B. 1111
Self-Fertilization and Cross-Fertilization in Pima Coton ..... D. B. 1134
Spinning Tests of Cotton Compressed to Different Densities D. B. 1135
Comparative Spinning Tests of Superior Varieties of Cotton (Grown Under Weevil Conditions in the Southeastern States; Crop of 1921) D. B. 1148
Boll-Weevil Cotton in Texas D. B. 1153
The Uniformity of Pima Cotton ..... D. C. 247
Grounding Cotton Gins to Prevent Fires ..... D. C. 271
Forestry and Trees:
Slashed Pine ..... F. B. 1256
Tree Planting in the Great Plains Region ..... F. B. 1312
Utilization of Basswood ..... D. B. 1007
Longleaf Pine ..... D. B. 1061
Oleoresin Production: A Microscopic Study of the Effects Pro- duced in the Woody Tissues of Southern Pines by Different Methods of Turpentining- D. B. 1064
Natural Reproduction of Western Yellow Pine in the Southwest_ ..... D. B. 1105
The Western Yellow Pine Mistletoe, Effect on Growth and Sug- gestions for Control_- D. B. 1112
Development of Cooperative Shelter-Belt Demonstration on the Northern Great Plains D. B. 1113
Lumber Cut of the United States, 1870-1920 ..... D. B. 1119
The Formation and Pathological Anatomy of Frost Rings in Conifers Injured by Late Frosts D. B. 1131
Kiln-Drying Handbook ..... D. B. 1136
Forest Products Laboratory ..... D. C. 231
State Forestry Laws of 1921 ..... D. C. 239
The National Forests of New Mexico ..... D. C. 240
Forest Fires in California, 1911-1920: An Analytical Study ..... D. C. 243
Turpentine and Rosin, Distribution of the World's Production, Trade, and Consumption ..... D. C. 258
Forage Crops:
Important Cultivated Grasses ..... F. B. 1254
Business Methods of Marketing Hay F. B. 1265
The Velvet Bean ..... F. B. 1276
How to Grow Alfalfa ..... F. B. 1283
Cowpeas: Marketing the Seed Crop ..... F. B. 1308
Alfalfa-Root Studies ..... D. B. 1087
History and Seed Production of Purple Vetch ..... D. C. 256
Fruits:
Apple-Orchard Renovation ..... F. B. 1284
The Handling, Shipping, and Cold Storage of Bartlett Pears in the Pacific Coast States ..... D. B. 1072
Fruits-Continued.
Inspection of Fruit and Vegetable Canneries ..... D. B. 1084
The Saidy Date of Egypt: A Variety of the First Rank Adapted ..... D. B. 1125
The Freezing Temperatures of Some Fruits, Vegetables, and CutFlowersD. B. 1133
Evaporation of Fruits D. B. 1141
By-products from Citrus Fruits D. C. 232
Grain Crops:
The Hard Red Winter Wheats ..... F. B. 1280
The Hard Red Spring Wheats ..... F. B. 1281
Foreign Material in Spring Wheat ..... F. B. 1287
The Bulk Handling of Grain F. B. 1290
The Common White Wheats F. B. 1301
The Club Wheats ..... F. B. 1303
The Durum Wheats ..... F. B. 1304
The Soft Red Winter Wheats ..... F. B. 1305
Use of Water by Spring Wheat on the Great Plains ..... D. B. 1004
Classification of American Wheat Varieties ..... D. B. 1074
Farm and Terminal-Market Prices: Wheat, Corn, and Oats ..... D. B. 1083
Methods of Winter-Wheat Production at the Fort Hays (Kansas) Branch Station

D. B. 1094
Some New Varieties of Rice D. B. 1127
A Physical and Chemical Study of Milo and Feterita Kernels_ ..... D. B. 1129
Significance of Wheat Hairs in Microscopical Examination of
D. B. 1130 Flour
D. B. 1139
Storage of Water in Soil and Its Utilization by Spring Wheat
D. B. 1155
D. B. 1155
Rice Experiments at the Biggs Rice Field Station in California-
Influence of Spacing on Productivity in Single-Ear and Prolific Types of Corn ..... D. B. 1157
Trebi Barley, A Superior Variety of Irrigated Land ..... D. C. 208 ..... D. C. 208
Wild Rice D. C. 229
United States Grades for Grain Sorghums. Recommended by the United States Department of Agriculture ..... D. C. 245
United States Grades for Rye. Recommended by the United States Department of Agriculture ..... D. C. 246
Home Economics:
Corn and Its Uses as Food ..... F. B. 1236
Farm Manufacture of Unfermented Apple Juice ..... F. B. 1264
Uses of Rural Community Buildings ..... F. B. 1274
How to Get Rid of Rats ..... F. B. 1302
Good Proportions in the Diet ..... F. B. 1313
Canaries: Their Care and Management ..... F. B. 1327
Digestibility of Cod-Liver, Java-Almond, Tea-Seed, and Water- melon Seed Oils, Deer Fat, and Some Blended Hydrogenated
D. B. 1033
D. B. 1033 Fats Fats .....
D. B. 1075 .....
D. B. 1075
The Whipping Quality of Cream
The Whipping Quality of Cream
D. B. 1082
D. B. 1082
The Production of Tulip Bulbs
The Production of Tulip Bulbs
D. B. 1091
D. B. 1091 Life History of the Kangaroo Rat Life History of the Kangaroo Rat
D. B. 1138
D. B. 1138
Vitamin B in the Edible Tissues of the Ox, Sheep, and Hog-
Absorption and Retention of Hydrocyanic Acid by Fumigated
D. B. 1149
D. B. 1149
Food Products
Food Products .....
D. B. 1161 .....
D. B. 1161
Effect of Composition on the Palatability of Ice Cream
Effect of Composition on the Palatability of Ice Cream
D. C. 237
D. C. 237
Some Experiments with a Boric-Acid Canning Powder---
Homemade Apple and Citrus Pectin Extracts and Their Use in Jelly Making ..... D. C. 254
Livestock and Dairying:
Breeds of Swine ..... F. B. 1263
Sheep-killing Dogs ..... F. B. 1268
Renting Dairy Farms ..... F. B. 1272
The Stock-poisoning Death Camas ..... F. B. 1273
Organization and Management of Cooperative Livestock Ship- ping Associations ..... F. B. 1292
Cost of Using Horses on Corn Belt Farms ..... F. B. 1298
Cleaning Milking Machines
D. B. 973
Livestock and Dairying-Continued.
Influence of Season of Freshening on Production and Income from Dairy CowsShrinkage of Soft Pork Under Commercial ConditionsD. B. 1086
Reindeer in AlaskaD. B. 1089
The Effects of Inbreeding and Crossbreeding on Guinea Pigs ..... D. B. 1090
Producers' Cooperative Milk-Distributing Plants ..... D. B. 1095
The Effect of Silage on the Flavor and Odor of Milk ..... D. B. 1097
A Method of Determining Grease and Dirt in Wool ..... D. B. 1100
Unit Requirements for Producing Market Milk in Delaware ..... D. B. 1101
The Detection of Hypochlorites and Chloramins in Milk and Cream D. B. 1114
The Effects of Inbreeding and Crossbreeding on Guinea Pigs.III. Crosses Between Highly Inbred FamiliesD. B. 1121
Proportioning the Ingredients for Ice Cream and Other Frozen Products by the Balance Method D. B. 1123
Dry-Land Pasture Crops for Hogs at Huntley, Mont ..... D. B. 1143
Cost of Milk Production on Forty-eight Wisconsin Farms D. B. 1144
The Livestock Industry in South America ..... D. C. 228
Utility Value of Purebred Livestock ..... D. C. 235
Defects in the Quality of Butter ..... D. C. 236
Food Animals and Meat Consumption in the United States D. C. 241
Tuberculin Testing of Livestock D. C. 249
Woolly-Pod Milkweed: a Dangerous Stock-Poisoning Plant ..... D. C. 272
Miscellaneous:
Farmers' Telephone Companies: Organization, Financing, and Management F. B. 1245
Farm Land Available for Settlement ..... F. B. 1271
Plain Concrete for Farm Use ..... F. B. 1279
Quack Grass F. B. 1307
Effect of Borax in Fertilizer on the Growth and Yield of Po- tatoes ..... D. B. 998
Farm Management and Farm Organization in Sumter County Ga D. B. 1034
Coal-Tar and Water-Gas Creosotes: Their properties and Methods of Testing D. B. 1036
Tests of Drainage Dumping Plants in the Southern States ..... D. B. 1067
Farm Ownership and Tenancy in the Black Prairie of Texas_-. ..... D. B. 1068
Farm Management in Catawba County, N. C. ..... D. B. 1070
Portland Cement Concrete Roads ..... D. B. 1077
Pedigreed Fiber Flax ..... D. B. 1092
By-Products from Crushing Peanuts ..... D. B. 1096
Legal Phases of Cooperative Associations D. B. 1106
Tables for the Microscopic Identification of Inorganic Salts ..... D. B. 1108
Sales Methods and Policies of a Growers' National Marketing Agency D. B. 1109
The Farmers' Short-Box Measuring Flume ..... D. B. 1110
Absorption by Colloidal and Noncolloidal Soil Constituents ..... D. B. 1122
The Marketing of Mill Feeds ..... D. B. 1124
The Effect of Borax on the Growth and Yield of Crops ..... D. B. 1126
The Results of Physical Tests of Road-Building Rock from 1916 to 1921, inclusive D. B. 1132
Soy and Related Fermentations ..... D. B. 1152 ..... D. B. 1152
List of Serials Currently Received in the Library of the United States Department of Agriculture, January 1, 1922 ..... D. C. 187
The Work of the Yuma Reclamation Project Experiment Farm in 1919 and 1920 ..... D. C. 221
Home Tanning ..... D. C. 230
Motion Pictures of the United States Department of Agriculture, ..... D. C. 233
Status and Results of County Agent Work in Northern and West- ern States, 1921 D. C. 244
Status and Results of Extension Work in the Southern States, 1903-1921 ..... D. C. 248
Federal Legislation, Regulations, and Rulings Affecting Land Grant Colleges and Experiment Stations ..... D. C. 251
Ireparation of Peat Composts D. C. 252
$85813^{\circ}-$ нвк $1923-7$
Miscellaneous-Continued.
Statistics of Cooperative Extension Work, 1922-23 ..... D. C. 253
Status and Results of Boys' and Girls' Club Work, Northern and Western States, 1921 D. (. 255
Composition of Filter Press (Lime) Cake ..... D. C. 257
Frost Resistance in Flax ..... D. C. 264
Plant Insects:
The More Important Apple Insects ..... F. B. 1270
Weevils in Beans and Peas ..... F. B. 1275
Nicotine Dust for Control of Truck Crop Insects F. B. 1282
Lime-Sulphur Concentrates: Preparation, Uses, and Designs for Plants ..... F. B. 1285
The Red-necked Raspberry Cane-Borer ..... F. B. 1286
The European Corn Borer and Its Control ..... F. B. 1294
Insect Enemies of Chrysanthemums F. B. 1306
Control of the Common Mealybug on Citrus Fruits in Cali- fornia ..... F. B, 1309
The Corn Earworm: Its Ravages on Field Corn and Sugges- tions for Control ..... F. B. 1310
The Striped Cucumber Beetle and How to Control It F. B. 1322
The Green June Beetle ..... D. B. 891
Curculios that $\Lambda$ ttack the Young Fruits and Shoots of Walnut and Hickory I. R. 1066
Biology of the Lotus Borer ..... D. B. 1076 ..... D. B. 1076
Experiments with Spray Solutions for Preventing Insect Injury to Green Logs ..... D. B. 1079
Effect of Low Temperature on the Hatching of Gipsy-Moth Fggs ..... D. B. 1080
Biology of the Papaya Fruit Fly, Toxotrypana Curvicauda ..... D. R. 1081
Broad-Nosed Grain Weevil ..... D. B. 1085
Zygobothria Nidicola, An Important Parasite of the Brown-Tail Moth D. B. 1088
The Gipsy Moth on Cranberry Bogs D. B. 1093
Impounding Water in a Bayou to Control Breeding of Malaria Mosquitoes_ D. B. 1098
Summary of Insect Conditions Throughout the United States During 1921 D. B. 1103
The Lead-Cable Borer or "Short-Circuit Beetle" in California ... ..... D. P. 1107
Chemical Changes in Calcium Arsenate During Storage ..... D. B. 1115
Natural Control of the Citrus Mealybug in Florida ..... D. B. 1117
Citrus Scab: Its Cause and Control D. B. 1118
The Deterioration of Felled Western Yellow Pine on Insect- Control Projects D. B. 1140
The Barrier Factors in Gipsy Moth Tree-Banding Material ..... D. B. 1142
Chemical, Physical, and Insecticidal Properties of Arsenicals_ ..... D. B. 1147
Feeding Habits of the Japanese Beetle which Influence its Con- trol D. B. 1154
Studies of Contact Insecticides ..... D. B. 1160
Length of the Dormancy Period of the Sugar-Beet Nematode in Utah D. C. 262
Preliminary Report on Control of San Jose Scale with Lubri- cating Oil Emulsion
Dispersion of the Boll Weevil in 1922 ..... D. C. 266
Dusting for the Cotton-Boll Weevil ..... D. C. 274
Plant Diseases:
Diseases of Watermelons ..... F. B. 1277
The Control of Sap-Stain, Mold, and Incipient Decay in Green Wood with Special Reference to Vehicle Stock D. R. 1037
Kernel Spot of the Pecan and Its Cause D. B. 1102
Internal Browning of the Yellow Newtown Apple D. B. 1104
Seedling Blight and Stack-Burn of Rice and the Hot-Water Seed Treatment ..... D. B. 1116
Investigations of Heat Canker of Flax ..... D. B. 1120
Decays and Discolorations in Airplave Woods ..... D. B. 1128
Symptoms of Wheat Rosette Compared with Those Produced by Certain Insects ..... D. B. 1137
Plant Diseases-Continued.
The Influence of Copper Sprays on the Yield and Composition ofIrish Potato TubersD. B. 1146
Investigations of Potato Wart ..... D. B. 1156
Anthracnose of Muskmelons ..... D. C. 217
White-Pine Blister Rust in the Western United States ..... D. C. 226
Eastern Blue-Stem of the Black Raspberry ..... D. C. 227
Bacterial Spot of Cucumbers ..... D. C. 234
Commercial Control of Citrus Melanose ..... D. C. 259
Kill the Common Barberry* with Chemicals ..... D. C. 268
Barberry Eradication Prevents Black Rust in Western Europe ..... D. C. 269
Tractors and Motor Trucks:
Tractors on Southern Farms ..... F. B. 1278
What Tractors and Horses Do on Corn Belt Farms ..... F. B. 1295
Changes Effected by Tractors on Corn Belt Farms ..... F. B. 1296
Cost of Using Tractors on Corn Belt Farms ..... F. B. 1297 ..... F. B. 1297
Shall I Buy a Tractor? F. B. 1299
Choosing a Tractor ..... F. B. 1300
Motor Trucks on Corn Belt Farms ..... F. B. 1314
Truck and Garden Crops:
Celery Growing ..... F. B. 1269
The Preparation of Fresh Tomatoes for Market ..... F. B. 1291
Marketing the Early Potato Crop ..... F. B. 1316
Greenhouse Construction and Heating ..... F. B. 1318
The Production of Cucumbers in Greenhouses ..... F. B. 1320 ..... F. B. 1320
Seed Potatoes and How to Produce Them ..... F. B. 1332
Group Classification and Varietal Descriptions of American Va-rieties of Sweet PotatoesD. B. 1021
A Study of Sweet-Potato Varieties with Special Reference to Their Canning Quality D. B. 1041
Frost Injury to TomatoesD. B. 1099
United States Grades for Potatoes Recommended by the UnitedStates Department of AgricultureD. C. 238



## A REPORT TO THE PRESIDENT BY THE SECRETARY OF AGRICULTURE. ${ }^{1}$

## The Price and Purchasing Power of Wheat.

THE farm price of wheat is down nearly to pre-war level and the purchasing power of a bushel is far below. The farm price August 1, for the first time since the beginning of the war, fell below the average for the corresponding month in the period 1909-1913, being 84 cents, compared with 91 cents. Since August prices have risen and are now slightly above the pre-war level. The November 1 average farm price was 95 cents. If the seasonal price movement for this year 1923-24, parallels that of last year, prices will continue to rise slightly, reaching the highest point of the season in the early spring.

The purchasing power of a bushel of wheat is more significant than the price of wheat. Although the average farm price of November 1 was above the 1909-1913 average for November, it is equivalent to only about 60 cents per bushel in the pre-war period. A suit of clothes which cost the farmer in North Dakota 21 bushels of wheat in July, 1913, cost him 31 bushels in 1923, and a wagon which then cost him 103 bushels would now cost him 166. The cost of nearly everything the farmer buys is necessarily very high because freight rates and industrial wages which enter not only into the cost of manufacturing but also the cost of transportation are far above their level before the war. With the November farm price of wheat only 107 per cent of the pre-war average price, the wholesale price of all commodities which is generally taken as a measure of the price level

[^4]was 153 per cent in October. ${ }^{2}$ On the basis of this price level the a verage farm price of wheat should have been about $\$ 1.35$ per bushel for November to give wheat pre-war purchasing power at wholesale prices.


The low price and purchasing power of wheat directly affects the income of about $2,000,000$ farmers. In large areas of North Dakota, South Dakota, Kansas, Nebraska, Montana, Idaho, and Washington farmers depend almost entirely upon wheat for their cash income. According to the census of 1919, 80 per cent of the farmers in North Dakota, 76 per cent in Kansas, and 66 per cent in South Dakota grew wheat. A farm survey in the Palouse district


[^5]

Figure 3.
of Idaho and Washington for the three years 1919-1921 showed that approximately 80 per cent of the cash income of the farmers in that district was derived from wheat; and, in 1922, 78 per cent of the income of farms surveyed in Sheridan and Daniels Counties in Montana was from wheat. As a direct source of cash income the wheat crop of the United States is more important than the corn crop, a large part of which is fed to livestock. In five years ending with 1922 farmers sold on the average $711,000,000$ bushels of wheat and $544,-$ 000,000 bushels of corn. Moreover, a large part of the corn sold is from one farmer to another for livestock feed. Many wheat farmers produce other commodities than wheat, but the prices of many of these, such as oats, barley, and rye, are below pre-war prices. The specialized wheat farmer, as a rule, does not produce, or produces only for home use, the commodities such as corn, butter, eggs, cotton, and wool, which are now selling at relatively high prices.

The low price and purchasing power of wheat is far-reaching in its effects, for not only the wheat farmer but practically all classes

of business men whose income depends to any extent upon the prosperity of the wheat farmer are adversely affected.

## The World Bread-Grain Situation.

The price which the farmer of the United States receives for his wheat is determined largely by the world supply of wheat. $\Lambda \mathrm{s}$ exporters, farmers in the United States receive for wheat the price paid in the world markets less the cost or charges for placing wheat or flour in those markets. Chicago prices follow closely the price in Liverpool and other large world markets, and farm prices follow closely Chicago prices.

The present prospects are that the total world production of wheat 'outside of Russia in the year 1923-24 may be over $3,400,000,000$ bushels, ${ }^{3}$ or $300,000,000$ bushels greater than last year and $500,000,000$

[^6]greater than the pre-war average production of the same countries. Since Russia exported annually 1909-1913 (crop movement years) only $164,000,000$ bushels of wheat, the increase in production outside of Russia makes up for the loss of Russian exports and increases the supply by more than $300,000,000$ bushels. The world production of rye, which has an important influence upon the wheat market, especially in Europe, may be $970,000,000$ bushels, or 131,000,000 bushels greater than last year, but $64,000,000$ below the prewar production in the same territory. Since Russia annually exported $29,000,000$ bushels before the war, the world production outside of Russia is still $93,000,000$ bushels short on rye. Adding together wheat and rye, the indicated supply of bread grains for

the year 1923-24 outside of Russia is over $400,000,000$ bushels greater than last year and more than $200,000,000$ in excess of the average pre-war supply.

## The Consumption of Bread Cereals in Europe.

War has had a marked effect upon the bread grain consumption of some European countries as well as of the United States. The present population of Europe is about the same as 10 years ago. The standard of living in some countries has been lowered and cheaper foods substituted for wheat. Wheat has been conserved by " long milling," mixing, and by feeding less to livestock. The per capita consumption of wheat in the United Kingdom has remained remarkably constant during the last 14 years but declined slightly during the war. In France per capita wheat consumption, including seed, was reduced from an average of 9.3 bushels during the period 1909-1913 to an average of 7.4 bushels during the war period 1914-1918. Since then the average has increased to 7.7 bushels. Milling restrictions are still in force requiring the mixing of from 8 to 10 per cent of substitutes with wheat flour. The per capita supply of bread grains has been considerably below normal also in Germany and Austria. Notwithstanding that the European production of wheat outside of Russia in 1922 was nearly $300,000,000$
bushels less than the pre-war average and that prices were relatively low, the net import of these countries in the year 1922-23 was only about $200,000,000$ bushels greater than the pre-war net import. ${ }^{4}$ The import of rye also has failed to make up for the decrease in production in importing countries.

Some increase in European consumption may be expected. It is significant that a large part of the increase in production this year as compared with last is in Europe. Outside of Russia the European wheat crop is about $245,000,000$ bushels or 23 per cent greater and the rye crop $165,000,000$ bushels, also 23 per cent greater than last year. The producers in many European countries are now complaining of low prices and may consequently market a smaller proportion of the crop than was marketed last year. Low prices both at interior markets and at import points may encourage a larger per capita consumption by the urban population. The reduction in the potato crop this year as compared with last will also contribute to an increase in the wheat and rye consumption. The experience of the last two years supports these assumptions. The European wheat crop of 1921 was estimated to be $1,216,000,000$ bushels, only $70,000,000$ below the estimates for the present year, and Europe imported about $515,000,000$ net; whereas last year with a crop of only $1,026,000,000$ bushels, but with a very large potato crop, net imports amounted to only approximately $567,000,000$ bushels. It seems, therefore, that notwithstanding some increase in production, European importing countries may import $500,000,000$ bushels of wheat in 1923-24. If the per capita consumption of European countries is not increased over last year an importation of $400,000,000$ bushels will meet all requirements.

European surplus producing countries are prepared to supply deficit countries with from $40,000,000$ to $80,000,000$ bushels of wheat. The five important surplus-producing countries outside of Europe could supply the European countries the maximum quantities that they will take, export $150,000,000$ bushels to countries outside of Europe and have larger quantities than last year to consume or carry over in stocks.

## Foreign Competition Increasing.

Looking ahead beyond this season, prospects are not good for marketing a surplus of wheat at satisfactory prices. European agriculture is returning to pre-war productiveness. Last year Russia exported some rye and a little wheat. The area of all cereals this year is estimated to be 20 per cent greater than last, but yields are lower and the total crop probably will be about the same as last year. Great efforts are being made to export both wheat and rye, and already this year's exports exceed the total for last year. The increase in the area of crops in Russia is a definite indication of a tendency to return to an export basis.

High prices during the war period greatly stimulated production in Canada. Since the war low prices for cattle in Australia and Argentina have encouraged the production of more wheat. In

[^7]Canada, since the western Provinces are better suited to produce wheat as a cash crop than to produce anything else for market, the area and production of wheat continue to expand. With small populations these countries must either find foreign markets for a large part of their crops or abandon a considerable area of wheat production. It is evident, therefore, that competition for the European markets will be increasingly keen and will tend to eliminate those countries in which the relative cost of production is highest.
Foreign competition is becoming increasingly keen, not only in quantity but also. in quality of wheat and flour produced. The return of Russia will bring back into the market a large supply of Durum wheat in competition with the United States and North Africa. The expansion of production in Canada increases the quantity of high-grade hard wheat available to European markets, and the flour made from this wheat is gaining in reputation in Europe.

The commercial, financial, and political relations of some European buyers make it more advantageous for them to purchase wheat from our competitors ihan from the United States. In so far as business interests follow the flag, the colonies and dependencies of the United Kingdom and France are in favorable positions for marketing their surplus wheat, and the war has strengthened their positions. The purpose of the recent negotiations between business men in Germany and in the United Kingdom with Russian organizations is to facilitate the exchange of manufactured goods for grain and other Russian raw materials.

High and fluctuating exchange rates also handicap the United States in trading with European countries. In the past year German grain dealers have had great difficulty in financing imports, not only because of the fluctuations in exchange bat also on account of restrictions upon the purchase of exchange. In some cases exporters of other countries are more liberal in terms of sale than are the exporters of the United States. For example, it is reported that whereas Canadian mills are quite satisfied to accept cash documents, Hamburg, American mills will sell only on New York sight draft, which handicaps the German importer who would buy from the United States.

American credit advances on favorable terms to German importers would facilitate the sale of American grain and flour in Germany. German importers need short-time credit at reasonable rates. A large grain importing company has expressed a keen interest in any possibility of securing American credit on easier terms for the handling of grain imports into Germany. This company reports that the restricted capital which they have available for extending credits limits sales of American wheat and flour, that they could sell much more if they had "gold capital" with which to work. They further report that the company has been doing a good and steady business in both wheat and flour with America and Canada, and that even in the first week in October, when German business seemed at a standstill, they had continued to do a steady business. They were able to carry on this business, however, only by taking up foreign documents and giving short-term credit to a selected list of mills and wholesalers. The losses on credit ad-
vances thus far have been almost negligible in relation to the volume of their business.

German banking and credit organizations also have made proposals for the financing of American grain in Germany. By their suggestion banks would arrange to provide securities for an American exporter, or they would take over the documents as trustee and cover these documents by special contract or acceptance against the mills receiving the grain, which would remain the property of the seller until payment was made.

To summarize briefly, changes in international, commercial, financial, and political relations, as well as the increase in quantity and improvement in quality of wheat produced by competing countries, have increased the difficulty of selling our surplus wheat.

## Distribution of the Wheat Crop of the United States.

The estimated production of wheat in the United States, plus estimated carry over in the form of both wheat and flour, amounts to $893,000,000$ bushels or $57,000,000$ bushels less than the available supply of domestic wheat for last year.
The amount of wheat that farmers retain on the farm for seed, feed, and reserves varies so much from year to year that no definite figure can be given as the requirement for this year. It is estimated that nearly $89,500,000$ bushels of last year's crop was used for seed. In August of this year the winter wheat producers declared their intention to reduce the acreage in wheat about 15 per cent. A favorable seeding season in some parts of the winter wheat belt has probably encouraged farmers to sow a little more wheat than they had intended. If they reduce 10 per cent, the amount of seed required will be about $80,000,000$ bushels. In a recent survey, however, farmers estimated seed requirements for the year at 9.3 per cent or $72,700,000$ bushels. Farmers have declared their intention to feed this year 11.6 per cent of the crop. Feeding this percentage of the crop would take off the market $90,700,000$ bushels. At the time this survey was taken the price of corn was high and the price of wheat so low that in parts of the country it was economical to feed wheat rather than corn. If the price of wheat improves toward the end of the year and the price of corn declines as the new crop comes into the market, the amount of wheat fed may be less than the amount intended. Stocks on farms at the end of last year amounted to over $35,600,000$ bushels. Farmers will have to retain on the farms $199,000,000$ bushels if declared intentions as to feeding and seeãing are carried out and stocks on farms at the end of the year are the same as last year. This is probably a maximum figure and may be reduced to $150,000,0000$ bushels by failure to carry out fully expressed intentions.

On the basis of the above estimates, at the beginning of the year between $694,000,000$ and $743,000,000$ bushels of wheat were available for food and reserves in the United States and for export. There is no exact measure of the annual food consumption. The per capita consumption last year computed on the basis of flour production and disappearance was 4.7 bushels. The per capita disappearance of wheat for food and feed was about 5 bushels. Reports from farmers indicate that the usual feeding is 3.5 per cent less than the intentions
for this year. Applying this estimate to last year's production would reduce the per capita food consumption to 4.35 , which seems too low. At the higher rate of 4.7 per capita, $523,000,000$ bushels would be required for food, leaving between $171,000,000$ and 220 ,000,000 bushels for reserves and exports. Of this amount between $95,000,000$ and $134,000,000$ bushels could be exported without reducing stocks below the amount on hand at the end of last year. The amount exported may be increased, of course, by reducing stocks or maintaining a per capita consumption lower than that for which allowance has been made.

Farm marketing this year has progressed about as usual. By October 1, 48 per cent of the crop had been marketed as compared

SEASONAL MARKETING OF WHEAT FROM FARMS, SEASONAL RECEIPTS AT 11 MARKETS, AND SEASONAL EXPORTS. AVERAGE, JUNE, 1910-JUNE, 1920.


Figure 6.
with 50 per cent for the same period last year, 57 per cent in 1921, and 41 per cent in 1920. Approximately 70 per cent of the farm sales for the year will have been made by December 1.
Exports in the first four months of the year amounted to 74,000 ,000 bushels, as compared with $115,000,000$ bushels last year. Last year 52 per cent of the total exports was shipped in the first four months of the year. At this rate of exportation the total exports for this year would be about $142,000,000$ bushels. Since crops in Europe are good this year, it is doubtful that this rate will be maintained. In 1921-22 the exports in this period were 58 per cent of the total, on the basis of which the exports for this year would be only $128,000,000$ busheils.

The above export figures do not take into account imports which amounted to $20,000,000$ bushels last year. An increase in the imports would, of course, make possible larger exports.

## Location and Character of Our Wheat Supply.

The location of production, the class and the quality of wheat are important factors in marketing it. Only five States east of the Mississippi River produced in 1923 more than they would consume at the pre-war rate of consumption, and the surplus in these States would be far short of supplying the needs of the other States east of the river. As a matter of fact some of this wheat is exported, and wheat and flour from territory between the Mississippi and the Rocky Mountains are shipped east to replace exports and to make up deficiencies in production.

The production of wheat west of the Rockies is estimated to be $143,000,000$ bushels, which is $43,000,000$ bushels greater than last year. On the basis of apparent average annual consumption as food and


Figurif 7.
feed in the last five years, 1918-1922, this region could export 92,000,COO bushels in the form of wheat and flour. ${ }^{5}$ If the amount fed to livestock in this part of the country is increased by $5,000,000$ bushels, the amount a vailable for export would be $87,000,000$ bushels, provided the food consumption of wheat is not increased. The production east of the Rockies this year is $117,000,000$ bushels less than last year. However, on the basis of the average disappearance in 1918-1922, this region could export approximately $83,000,000$ bushels. If feeding east of the Rockies is increased by $22,000,000$ bushels, the amount available for export would be $61,000,000$ withont reducing stocks or increasing food consumption. Even though there were only enough wheat east of the Rockies to supply domestic needs, under present conditions some wheat would be exported and other wheat would be imported from Canada. The special demand for Hard

[^8]Red Spring wheat causes some of this class to be imported even though some of the soft wheats have to be sent to markets outside of the United States.
Comparing estimates of production by classes this year with last year we find that there has been a considerable decrease in the production of Hard Red Spring wheat, Durum, and Hard Red Winter. On the other hand there has been an increase in the production of Soft Red Winter and White wheats. The records of Federal grain inspection throw some light on the marketing of the different classes. Unfortunately for the purpose of this study, the exports of flour can not be distributed to classes of wheat.

The 1923 crop of Hard Red Spring is estimated to be about 134,000,000 bushels, which is $23,000,000$ bushels less than the average of the three years 1920-1922. Exports, including inspections at Gulf and seaboard points and estimates of shipments through Canada and of shipments mixed with other wheat, averaged in this period about


Figure 8.
$25,000,000$ bushels. Imports from Canada have contributed to the available supply about $28,000,000$ bushels per year, $50,000,000$ in 1920-21, and smaller amounts since then. The average disappearance in the United States, therefore, for the years $1920-1922$ was greater than the estimated production for 1923. Presumably some of this wheat was exported in the form of flour, but we have no measure of the amount. It is evident that there is a shortage of Hard Red Spring wheat to meet the mill demand in the United States for such wheat, and consequently the market for this wheat is now upon an import basis, with prices determined to a large extent by the price at which Canada will sell spring wheat plus the tariff and other costs of bringing it into this country.
Notwithstanding that the crop of Durum wheat this year is but little more than one-half of the crop last year, being $46,000,000$ bushels compared with $85,000,000$ bushels, the market for this wheat is upon an export basis. The average production for the three years 1920-1922 was $59,000,000$ bushels, of which approximately $35,000,000$


Figure 9.
bushels were exported, leaving only about $24,000,000$ bushels for use in the United States. Therefore, unless consumption is increased over the average, approximately $22,000,000$ bushels may be exported in 1923-24 without reducing stocks. About one-half of this amount was exported in the first four months of the year.
In recent years Hard Red Winter wheat has constituted a considerable part of our exports. The production of this wheat in 1923 was approximately $220,000,000$ bushels, which is $48,000,000$ bushels less than last year and $59,000,000$ bushels less than the average of 1920-1922. The average export in the three years 1920-1922 has amounted to about $95,000,000$ bushels. The reduction in the crop leaves only about $46,000,000$ bushels available for export without reducing the average available, supply. Some increase in feeding and in the use of this wheat to mix with hard spring in the manufacture of flour will provide an outlet for some of the balance other-


Figurn 10.


Figure 11.
wise available for export. Over $13,000,000$ bushels of this wheat have been exported and our markets are still on an export basis, although good premiums are being paid for hard winter wheat with high gluten content, which indicates that there is a strong domestic milling demand for the best quality of this wheat.

Both the Soft Red Winter and the White wheats are on an export basis. The production of the Soft Red Winter is estimated to be about $265,000,000$ bushels, which is $21,000,000$ bushels above the average of 1920-1922. Exports amounted to about $30,000,000$ bushels. The increase in production would therefore increase the amount available for export to about $50,000,000$ bushels. The production of White wheat is $20,000,000$ bushels in excess of the average of the past three years, making a total of $117,000,000$ bushels, of which about $50,000,000$ may be exported without reducing stocks or domestic consumption. Increased feeding will reduce the exportable


Figure 12.
surplus of these two classes of wheat by about $15,000,000$ bushels, leaving about $85,000,000$ to be exported unless further reduced by increased food consumption.

The export of flour also must be taken into account in considering the market for wheat. The exports of flour in the past three years have averaged $15,620,000$ barrels, or an equivalent of $70,290,000$ bushels of wheat. The exports of flour in four months this year have amounted to $6,000,000$ barrels, or $27,000,000$ bushels. It is evident that unless millers pursue the policy of dumping flour into foreign countries at prices somewhat below the domestic price, the price that they can pay for wheat to make flour is determined by the market for the wheat abroad as well as the market for the flour. A considerable amount of flour exported, however, is of the lower grade. The selling of the lower grade at relatively low prices is one means of disposing of the surplus flour while retaining in the country the wheat offals and the best grade of flour for domestic consumption. As long as the domestic demand for high-grade flour and wheat offals is strong, millers may pay better prices for wheat than they could afford to pay if the market for a considerable amount of the best grade of the flour had to be found abroad.

To summarize the situation relative to a market for surplus wheat, it may be said that for this year it is necessary to find a market for a considerable quantity of Soft Red and Soft White, some Hard Red Winter and Durum wheat. Domestic millers will pay relatively good prices for the highest grades of wheat to be used in the manufacture of flour for the domestic market. The market for Hard Spring is on an import basis, whereas the markets for other wheats are on an export basis with premiums for some of the best wheat. At the present rate of export it is probable that before the end of the year the market for some of the other classes of wheat also may be on an import basis, at least for some grades:

The problem of disposing of the surplus wheat will diminish from year to year as the population increases and consequently the demand for domestic consumption increases. It must not be expected, however, that the demand will immediately return to the pre-war basis and increase in proportion as the population increases. There was before the war an apparent reduction in per capita consumption. Such data as are available indicate that the urban consumption of wheat is less than the rural consumption. As the proportion of industrial population increases the consumption per capita may decrease. At the rate of 5 bushels per capita for food, which is slightly less than the pre-war average and a slight increase over last year, about $670,000,000$ bushels of wheat would be required for seed, the usual feed and waste, and for food in the United States in 192425. With a ten-year average yield per acre of 14.4 bushels, nearly $47,000,000$ acres would be required to produce it. Allowing for a verage losses in winter wheat area, about $52,000,000$ should be sown. This is a reduction from the area seeded last year of $13,000,000$ acres, or 20 per cent. This reduction properly distributed among growers of Durum, Hard Winter, Soft Red, and White Winter wheat would take all classes off the export market basis except in years when yields were above the average. The area may be increased annually by about 1 per cent to meet the increase in demand by growth of population.

PRICES OF WHEAT, WHEAT FLOUR, AND BREAD AT MINNEAPOLIS AND OF WHEAT FLOUR AT NEW YORK CITY, 1913-14 TO 1922-23.


## The Decreased Consumption of Wheat.

Decrease in consumption of wheat flour in this country has contributed to the large exports of the war and post-war periods. The war appeal to save bread, aided by high prices, formed food habits which have remained with us. The pre-war custom of serving bread free with every a la carte order in restaurants, hotels, and dining cars was abandoned during the war period and has not been generally revived. "Free bread" is undoubtedly consumed more liberally than bread at the rate of two slices with a nickel order of bread and butter. At the rate of a cent and a half per slice, the cafeteria patron pays between 25 and 30 cents for a pound loaf of bread. In hotels, restaurants, and dining cars, where the charge for an order of bread and butter may be as high as 20 cents, the consumption of bread has been materially reduced.

The retail price of bread in cities has not fallen with the price of wheat and flour. A pound loaf of bread in Minneapolis which cost 5.3 cents in 1913-14 cost 9 cents in 1922-23, whereas a barrel of flour which cost $\$ 4.43$ in 1913-14 cost $\$ 6.89$ in 1922-23. Allowing 280 loaves of bread to the barrel of flour, the margin between the price of the flour and that of the bread produced from it increased from $\$ 10.40$ to $\$ 18.30$. Doubtless a narrowing of the margin between the prices of flour and bread would lead to more liberal use of bread and to some increase in the per capita consumption of wheat flour, with a consequent reduction in the surplus of wheat.

## Freight Rates as a Factor in the Wheat Situation.

The increase in the cost of transportation from the farm to consuming centers is a very important factor in the present situation. The rates from country shipping points to primary markets are about 45 per cent above the pre-war rates. For example, the rate from Larimore, N. Dak., to Minneapolis in 1913 was 7.2 cents per bushel; the present rate is 10.5. From McPherson, Kans., to Kansas City the rate was 7.6 cents per bushel in 1913 as compared with the present rate of 11.4. Export rates in general have been increased more than 45 per cent. In 1913 the export rate from Chicago to New York amounted to 7.8 cents per bushel; to-day it is 13.5 cents, or 73 per cent above the pre-war rate. The export rate from McPherson, Kans., to Galveston was 15.6 cents in 1913; the present rate is 27 cents, or 73 per cent above the 1913 rate.

War conditions caused freight rates to be raised, reaching the high point in 1920. Unfortunately the highest rates of the period were put into effect after prices had begun to fall. It was no more burdensome to pay 19.8 cents for transporting a bushel of wheat from Chicago to New York while the price was $\$ 2.20$ and above than it was to pay 7.8 cents before the war when the price was about $\$ 1$ at Chicago. Since 1920 prices of wheat have fallen nearly to the prewar level, whereas freight rates remain 45 per cent and more above pre-war rates.

Relatively high freight rates from producing regions of the United States to the seaboard are a serious handicap in competition with other countries in the markets of the world. The freight rates from points in Montana to Duluth are from 7 to 10 cents a bushel higher than the rates in Canada for the same distances to Port Arthur and

Fort William at the head of the Lakes, from which the rates to Liverpool under normal conditions are substantially the same as from Duluth.

Freight rates on wheat for like distances from points in Montana to Duluth and Canadian points to Port Arthur.

| Via Canadian National Railways. |  |  | Via Great Northern Railway. |  |  | Excess, United States over Canada, per bushel |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From Canadian points. | To Port Arthur, Ontario. |  | From Montana points. | $\begin{aligned} & \text { To Duluth, } \\ & \text { Min. } \end{aligned}$ |  |  |
|  | $\begin{aligned} & \text { Dis- } \\ & \text { tance. } \end{aligned}$ | Freight rate per bushel. |  | Distance. | Freight rate per bushel. |  |
| Saskatchewan. |  |  |  |  |  |  |
| Maryfield. | 649 | 10.8 | Snowden... | 650 | 18.0 | 7.2 |
| Buchanan. | 754 | 11.4 | Frazer ...... | 750 | 20.4 | 9.0 |
| Regina. | 794 | 12.0 |  | 797 | 21.6 | 9.6 |
| Briercrest. | 854 | 12.0 | Wagner. | 856 | 22.5 | 10.5 |
| Dalmeny.. | 936 | 15.0 | Havre. | ${ }^{333}$ | 23.7 | 8.7 |
| Conquest. | 1,002 | 15.0 | Teton | 1,004 | 25.2 | 10.2 |

The highest rate to the head of the Lakes from any point in western Canada, as shown in the 1922 report of the Grain Trade of Canada, is 17.4 cents per bushel from Athabasca, Alberta. From Calgary, Alberta, to Port Arthur, a distance of 1,339 miles, the rate is 15.6 cents per bushel. In the United States the rate from Teton, Mont., to Duluth, a distance of 1,004 miles, is 25.2 cents, a difference of 9.6 cents in favor of the Canadian wheat grower of Calgary.

While the foregoing comparisons are not intended to represent the rates which apply to the average distances to the head of the Lakes from wheat regions on each side of the border, the comparisons nevertheless emphasize the inequality of freight rates in so far as they affect the wheat grower in Montana. Whether Montana wheat is exported to foreign markets or shipped to the Minneapolis mills is not material, so far as its effect on the price received by the farmer is concerned. In either event the price paid to the Montana farmer is substantially the price at the primary markets at Duluth and Minneapolis, less the cost of handling and transportation from the country shipping point.

It is of interest in this connection that while freight rates in the United States are still 45 per cent and more above the 1913 level, Dominion rates from the western Provinces to Port Arthur are practically on a pre-war basis. In line with the policy of the United States, the Canadian freight rates were increased several times between 1916 and 1920. Beginning with January 1, 1921, however, reductions were made from time to time so that by July 6 , 1922, rates were only from 1 to 4 cents per hundred pounds in excess of the 1913 rates. The reduction made July 6, 1922, amounted to in many cases from 9 to 11 cents per hundred pounds or a decrease of from 26 to 28 per cent. This reduction offsets in part the affect of the tariff duty imposed by the United States upon the importation of wheat. For example, at Scobey, Mont., wheat grown
both in Canada and in the United States must pay 22.5 cents per bushel freight to Duluth, while wheat from Regina, a point on a Canadian railway 90 miles farther from the head of the Lakes, pays only 12 cents to Port Arthur. Adding 3 cents for lake freight to Buffalo, the transportation charges on a bushel of wheat from Regina to Buffalo plus duty is 45 cents, whereas the transportation charges alone from Scobey amount to 25.5 cents, leaving a differential against the Canadian grower at Regina of only 19.5 cents per bushel or 10.5 cents less than the tariff.

In comparison with the central wheat-growing regions of the United States, Canada has an advantage in that the bulk of the Canadian wheat for export moves to the seaboard via the Great Lakes. This cheap water transportation for a good portion of the inland haul, together with the lower rail rates, brings many of the Canadian wheat growers nearer to Liverpool than the producers of central Kansas. For example, the combined rate from Regina to Liverpool through New York amounts to 29 cents per bushel, whereas the combined rate from McPherson, Kans., to Liverpool through New Orleans or Galveston is 35.5 cents. ${ }^{6}$
Argentine wheat, which must pay higher rail rates per mile, but only for a short distance, enjoys an advantage of approximately 10 to 12 cents per bushel in the combined rail and ocean rate to Liverpool.

In the war period scarcity of shipping and high ocean rates placed the United States and Canada in very advantageous positions for marketing wheat in Europe in competition with Argentina and Australia. This advantageous position was an important factor in stimulating a great expansion of the wheat production in Canada and in the United States, whereas Argentina and Australia reduced production because they could not advantageously sell the wheat. Since the war, keen competition among ocean carriers has reduced the rates so greatly that they are in most cases practically on a prewar basis. This is encouraging a revival and expansion of production of wheat in Argentina and Australia. On the other hand, high railroad freight rates place the United States wheat growers in a position even less favorable, with respect to the European markets, than the position which they held before the war.
A reduction of freight rates practically to the pre-war level would be necessary to place the United States in the pre-war position to compete with Canada in transportation costs to European markets. Such a reduction also would again place the Kansas farmer approximately in the same position to compete with the Argentine farmer that he held before the war.

It is recognized that some railroads depend largely upon wheat for revenue. It seems evident, however, that in the long run such roads may profit by carrying wheat in a period of depression at little or no profit in order that agriculture may be maintained as a source of revenue in periods of prosperity. Low freight rates have aided in the settlement and development of a large part of the wheat growing regions. Low rates may be as necessary to maintain this development through periods of depression as they were to secure the settlement and development.

[^9]It is recognized also that a reduction of freight rates to pre-war levels would not raise the price of wheat sufficiently to give the wheat grower pre-war purchasing power. A reduction, however, would contribute to an improvement in the situation and should be made without delay, to remain in effect until the prices of wheat are more nearly on a par with the prices of other products. Economically it would seem wise to reduce the burden of freight rates upon lowpriced commodities such as wheat, and to make up for the loss in revenue by increasing rates upon high-priced commodities.

## Canadian Competition in Wheat Production and the Tariff.

Canada in recent years has greatly expanded her production of wheat, and is now our most formidable competitor in the markets of the world. Her wheat crop this season is almost $470,000,000$ bushels, as compared with an annual average production of 197,000 ,000 bushels in the period 1909-1913. This represents an increase of $273,000,000$ bushels, or 138 per cent. The population of Canada in 1921 numbered a little less than $9,000,000$. Canada's wheat production is hence greatly in excess of domestic requirements. She must, therefore, find and hold foreign markets for her wheat or materially reduce her acreage. As a competitor in the world markets, the position of Canada is measured by her exports of wheat and flour, which in the year 1922-23 amounted to $274,000,000$ bushels net, as compared with a pre-war average of $94,000,000$. The United States exported in 1922-23 less than 202,000,000 bushels net, as compared with 103,000,000 before the war.
The prairie Provinces of Manitoba, Saskatchewan, and Alberta account for most of the expansion in Canadian wheat production. These three Provinces contain 97 per cent of the 1923 wheat acreage and have produced about 95 per cent of the crop. The average wheat area of these Provinces before the war was about $9,000,000$ acres; in 1923 it is reported at over $21,500,000$.

Although rapid progress has been made during recent years in the settlement of western Canada, large bodies of virgin land suited to wheat production are still undeveloped. Various estimates place the arable land in these Provinces at figures ranging from 170,000 ,000 to $270,000,000$ acres. At present less than $40,000,000$ acres are in cultivation, of which 55 per cent is in wheat. A net work of railroads covers the southern half of the region and extensive tracts of virgin land lie within reach of transportation.
The further development of these lands hinges in no small measure upon an increase in population. Immigration to Canada, which was relatively heavy preceding the war, declined materially during the years 1916 to 1919, but has since revived considerably. During the fiscal years 1920 and 1921 the immigrant arrivals in Canada numbered over 265,000. One-third of these immigrants went to the prairie Provinces, and a large number of them no doubt engaged in farming. Shortly after the war, the Western Canada Colonization Association was formed with the purpose of promoting the settlement of large numbers of immigrants on the vacant lands of western Canada. In developing this program, that association, according to an official statement, has secured the cooperation of the Imperial Government as well as the Dominion and Provincial authorities and the transcontinental railway companies.

## Comparative Advantages of Canada in Wheat Production.

The Canadian wheat farmer enjoys substantial advantages over the American producer in the matter of yields, land values, the quality of wheat he produces, and lower freight rates from points equally distant from markets.

The yield of wheat, which is a very important factor in the cost of production, is materially higher in western Canada than in many of our wheat-producing States. The average yields of spring wheat in the prairie Provinces during the ten-year period 1913-1922 varied from 15 to 16 bushels per acre. In Minnesota, North Dakota, South Dakota, and Montana for the corresponding period they ranged from 10.6 to 14.3 bushels. Winter wheat yields on harvested acreage in Nebraska, Kansas, Colorado, Oklahoma, and Texas averaged, for the same period, from 12.6 to 16.2 bushels. These figures do not reflect the losses resulting from abandoned acreage. In the Pacific Northwest yields have been somewhat higher than in Canada, but this advantage has been offset to a considerable extent by higher land values. The significance of Canada's higher yields is apparent. A recent study of wheat costs in the United States brings out the fact that the cost per bushel for farmers who had yields ranging from 19 to 25 bushels per acre was 31 per cent less than for those who had yields varying from 7 to 13 bushels.

The capital invested in land is also materially lower in Canada than in the United States. The average value of farm lands in 1922 for Canada as a whole was $\$ 40$ per acre as compared with $\$ 79$ for the United States. In the prairie Provinces average land values ranged from $\$ 24$ to $\$ 32$; in 11 of the western wheat States the range was from $\$ 46$ to $\$ 110$. Montana is the only important wheat State in which the average value of land is not materially higher than in the prairie Provinces. It is significant also that land values in Canada during the war were marked up to a relatively slight degree. Between 1914 and 1920 the average value of land in the United States increased $\$ 35$ per acre; in Canada the average increase was only $\$ 11$. In the same period lands in the prairie Provinces advanced on the average from $\$ 7$ to $\$ 11$ per acre; in 11 western wheat States the increase ranged from $\$ 10$ per acre in Colorado to $\$ 61$ in Nebraska. It is evident, therefore, that the American wheat farmer has a much heavier per acre investment in land than his Canadian competitor and a correspondingly larger interest burden.

Canadian farmers have another advantage in the superior quality of their wheat. It is high in protein and much valued by foreign millers for mixing with softer wheats. The hard spring wheat of Canada for many years has sold at small premiums over both American Hard Spring and Hard Winter wheats in Liverpool, although at times the price has fallen slightly below. During the past two years the premiums paid for No. 1 Northern Manitoba over American No. 2 Hard Winter wheat in Liverpool when prices on both grades were reported have averaged 9 cents. Sales of American Hard Spring wheat in Liverpool have been limited and quotations are scattered. When quoted during 1923 the premium on No. 1 Northern Manitoba has been about 5 cents over No. 2 Dark Northern Spring. wheat in Liverpool. The excellent quality of the Canadian wheat is attested also by the fact that American millers purchase
and import it in considerable quantities even though subject to a duty of 30 cents. Canada's more advantageous position in the production of hard spring wheat is apparent. The present Canadian spring wheat crop is placed at $450,000,000$ bushels. This volume of superior hard spring wheat competes with the spring wheat crop of Minnesota, North Dakota, South Dakota, and Montana, which is estimated this season at $143,000,000$ bushels.
As indicated in greater detail elsewhere, more favorable freight rates give the Canadian wheat farmer substantial advantages over a great many American producers. Most of the wheat exported from Canada moves from the head of Lake Superior to Montreal and the Atlantic seaboard of the United States via the Great Lakes. This aflords cheap water rates for a good portion of the haul to the seaboard. Canadian wheat also enjoys the advantages of a relatively lower freight rate from the western Provinces to the head of the Lakes, compared with the rates to Duluth from corresponding distances in the Northwest.
While satisfactory comparisons between the cost of producing wheat in Canada and the United States can not be made on the basis of available studies, it is quite apparent that the Canadian farmer has advantages which enable him to produce wheat at materially lower costs per bushel than the American farmer.

## The Effect of the Tariff on Wheat Prices.

The tariff has been effective in protecting the spring wheat farmer. In Liverpool, Canadian spring wheat ordinarily sells at a small premium over American spring wheat. On the other hand, a comparison of prices for comparable grades of spring wheat in American and Canadian markets which have practically the same transportation rates to Liverpool shows a margin in favor of American prices which can only be explained as an influence of the tariff.

The Minneapolis price of No. 1 Northern Spring in the period from 1909 to 1913; when a 25 -cent tariff was in force, ranged in general from 5 to 10 cents above Winnipeg No. 1 Northern. Under a reduced tariff of 10 cents per bushel, prices at the two markets from 1913 to 1916 were practically on a level. From 1916 to 1920, controlled prices and other conditions incident to the war destroyed normal price relationships.

With the release of Government control, Winnipeg prices, in the latter part of 1920 , when no tariff was in effect, rose to a level with, and at times somewhat above, Minneapolis. After the emergency tariff went into effect, in May, 1921, however, Winnipeg fell to around 25 to 30 cents below Minneapolis, remaining near that level for the balance of the year. The difference narrowed early in 1922, and the Canadian market since that time has fluctuated from 6 cents above to 22 cents below Minneapolis.
Winter wheat prices appear to be less affected by the tariff. American winter wheat at Kansas City is usually above Canadian spring wheat from October to May or June and below during the summer months, when the bulk of the American crop is moving to market. Under the 25 -cent tariff existing before the war the average monthly margins in the two periods practically offset one another in amount, but under the 10-cent duty in force from 1913-1917 Win-
nipeg prices averaged from 5 to 7 cents above Kansas City. Under our post-war tariffs Winnipeg prices from June, 1921, to September, 1923, averaged 5 cents above Kansas City, but this average in favor of Canadian wheat has been due to the high margins that obtained during the summers of 1921 and 1922. Kansas City Hard Winter wheat prices have averaged 2 cents above Winnipeg during the past twelve months, and in the month of October averaged 14 cents above Winnipeg.

MARGINS OF AMERICAN OVER CANADIAN HARD SPRING WHEAT PRICES, SEPTEMBER, 1920-SEPTEMBER, 1923.


The beneficial influence of the tariff is also illustrated by comparing prices of wheat in Liverpool with prices in producing countries plus cost of transportation to Liverpool. Prices of Canadian wheat in Liverpool averaged for the year 1922, 10 cents, and for nine months of 1923, $6 \frac{3}{4}$ cents above Winnipeg prices plus freight on the basis of an all-rail rate to seaboard. During the month of October,

1922, they averaged as high as 30 cents per bushel above Winnipeg plus freight. Liverpool prices of American hard winter wheat, on the other hand, averaged during 1922 only 2 cents more than Kansas City plus freight, and during the early months of the year

MARGINS OF AMERICAN WINTER WHEAT OVER CANADIAN SPRING WHEAT PRICES, SEPTEMBER, 1920-SEPTEMBER, 1923.

were considerably below. In January, 1923, Liverpool again dropped below Kansas City plus freight, and has averaged from 1 cent to 2 cents under during the first nine months of the year. American hard spring wheat, on the other hand, as shown by the limited data
obtainable, has sold in Liverpool during the first half of 1923 at prices ranging from 3 to 15 cents below Minneapolis plus freight (all-rail). The average for the first four months, in fact, was about 13 cents below. Even No. 1 Manitoba, which usually sells above No. 1 Northern in Liverpool, was below No. 1 Northern Hard Spring at Minneapolis plus freight. These figures show that, on a Liverpool basis, Hard Red Spring wheat prices have been high throughout 1923 , and indicate roughly the extent to which the tariff has raised prices of this wheat above world levels. It also appears that prices of hard winter wheat in the Kansas City market at times are favorably influenced by the tariff.

The present tariff has not prevented the importation of Canadian wheat for domestic consumption. Our total imports of Canadian wheat from May, 1921, when the emergency tariff went into effect, to June 30,1923 , amounteu to $32.567,664$ bushels, of which 22 ,642.059 bushels were imported in 1922. Forty-seven per cent of this was milled in bond and exported as flour. Drawback was paid on only 4,638 bushels. The balance was consumed in the United States.

The transit movement in bond of Canadian wheat through the United States for export from our seaports is not affected by the tarifl and should not affect prices in this country. This novement is, however, much larger than our actual import trade. It mounted up during the war years, reaching as high as $127,000,000$ bushels in 1916. In 1918, 1919, and 1920 it fell to $25,000,000$ and below, but has since revived and is now approaching the hundred million mark.

The margin between prices of Canadian and American spring wheat has widened materially in the past several weeks. The price of Minneapolis No. 1 Northern Spring a veraged 17 cents over Winnipeg No. 1 Northern for the month of September. This spread has increased to 22 cents for the month of October. On November 1 the margin of Minneapolis No. 1 Dark Northern over Winnipeg No. 2 Northern was 30 cents. This widening of the spread between American and Canadian prices is resulting in larger importations of Canadian wheat duty paid. In the face of larger world supplies the price of Canadian wheat is being depressed to the point where Canadian wheat can be expected to flow over the tariff wall in large volume and directly compete with American hard spring wheat unless the duty is materially increased.

## The Financial Situation of Farmers in the Wheat Regions.

The indebtedness of farmers in various parts of the United States, especially in the West, has grown to burdensome proportions. There are a number of causes which account for this situation. Land values in the Middle West rose sharply during the war and some land was purchased by farmers at inflated prices. The number of farmers, however, who bought land during these years is not as large as usually thought. Surveys that have been made indicate that from 10 to 15 per cent of the farms in the United States changed hands during the years 1916 to 1920. It should also be noted that a great many farmers who purchased at exhorbitant levels have already lost their land. Still other farmers who did not buy land marked up the value of their land and other property, placed too much reliance upon


Figure 16.
this new and fictitious wealth and incurred liabilities in excess of their normal earning capacity.

Frequently the scale of farm operations and expenditures was materially expanded to meet the demand for increased production as well as to reap the benefit of war prices. In many parts of the dry-land wheat regions an extradordinary series of crop failures was experienced during the years 1917 to 1921. Farm operations in these years were conducted at maximum costs, and instead of profiting by high prices farmers piled up additional debts. The financial situation in these dry-land wheat regions became, in fact, so serious that Federal funds to the amount of $\$ 8,500,000$ were provided in 1918, 1921, and 1922 for seed and feed loans to enable farmers to continue their operations.

The degree to which farm debt has been increased is shown to some extent by the census. The average mortgage debt per owneroperated farm, which in 1910 ranged from $\$ 1,960$ to $\$ 2,364$ for the


Figure 17.
principal wheat regions, about doubled by 1920. These census figures do not include the mortgage debt on farms operated by managers and tenants. In addition to the farm mortgage encumbrance, a substantial part of farm indebtedness is represented by personal bank, and merchant credit, for which separate data are not available.

The evidence does not indicate that the total volume of farm indebtedness is in itself of alarming dimensions. Its significance lies more especially in its distribution. In some parts of the more specialized wheat regions the burden of farm debt is much heavier than in others. Within every community there are farmers who have very little or no debt, while others are very deeply involved. The situation on the average appears to be most serious in the semiarid regions where wheat farming is conducted as a specialized industry and under conditions of high crop risk. On the other hand, many farmers in the better wheat regions purchased land at inflated prices or incurred other heavy liabilities during the war and are now carrying burdensome debts.

When price deflation came in 1920, farmers who had accumulated large debts were seriously embarrassed. While the majority of them
have been successful in tiding over their financial diffculties, a substantial number have not. This situation is brought out in a special inquiry made by the Department of Agriculture in the spring of 1923. Reports were secured from 15 States covering the period January, 1920, to March, 1923. Out of over 68,000 owner farmers included in this survey 4 per cent lost their farms through foreclosure or bankruptcy, 4.5 per cent lost their farms without legal proceedings, and a little over 15 per cent had been spared such loss up to March, 1923, only because of the leniency of their creditors. Out of almost 26,000 tenant farmers, 7.2 per cent lost property through foreclosure or bankruptcy, 7.8 per cent lost property without legal proceedings, and 21.3 per cent retained their property merely as a result of the leniency of creditors.
According to this survey, the losses of farms and farm property were relatively most numerous in the Great Plains region. Applying the results obtained from these reports to the 1920 census figures for owners and tenants, it was estimated that the percentage of farmers who since 1920 had lost farms or other property ranged from 8.9 per cent of all farmers in Kansas to 28.3 per cent in Montana.

The seriousness of the situation is further reflected in the records of the bankruptcy courts. While the total number of bankruptcy cases among farmers is not large, it must be remembered that farmers as a rule do not resort to the bankruptcy courts when forced to give up property to creditors. The significance of the record lies, therefore, in the increase and distribution of such cases rather than in their absolute number. The records of the Department of Justice show that during the three pre-war years 1912-1914 an average of 5.5 per cent of all bankruptcy cases were farmers, while in 1922 the percentage was 14.4. The resort by farmers to bankruptcy courts was especially pronounced in the more specialized wheat regions. In the western winter wheat region farmer bankruptcy cases in the pre-war years averaged 8 per cent of all cases; in 1922 this percentage had increased to 25 . In the spring wheat region the percentage increased from almost 22 per cent of all cases in the prewar years to 48.9 per cent in 1922. The increase in bankruptcy among farmers in the Pacific Northwest States is also marked, particularly in Idaho, where almost 47 per cent of all cases put through the bankruptcy courts in 1922 involved farmers. The percentage of bankruptcies among farmers in 1922 was especially high in Iowa, Kansas, Nebraska, Colorado, North Dakota, South Dakota, Montana, and Idaho, ranging from 32.6 per cent of all cases in Nebraska to 78.5 per cent in North Dakota. Preliminary reports indicate that bankruptcies of farmers for the fiscal year ending June 30,1923 , will materially exceed those of 1922 .

Further illustration of the financial distress of farmers in various parts of the West is found in the accumulation of delinquent farm taxes. Tax payments in some sections are in arrears from one to four years. In some of the wheat-growing areas of Kansas, for example, delinquent taxes since 1917 have increased in volume several hundred per cent.
The movement of population from country to city is in this connection very significant. In 1922 there was a net shift of $1,120,000$ persons from farms to city, or about 3.6 per cent of the rural agri-
cultural population at the beginning of the year. This cityward movement is a result of attractive urban wages, on the one hand, and inadequate returns in agriculture, on the other. From a survey of vacant farmhouses it appears that the percentage of all inhabitable farmhouses not occupied in the United States increased from 4.7 per cent in 1920 to 7.3 per cent in 1922. This abandonment of farmhouses was high in various sections of the country, but especially so in several States of the Great Plains region and the Pacific Northwest.

## Cost of Producing Wheat.

The cost of the principal factors in the production of wheat advanced during the war less rapidly than the price of wheat, and a margin of profit was realized by farmers who obtained fairly good yields.

With the break in general prices in 1920 wheat declined much more rapidly than the cost of production. While the price of wheat is now slightly above the pre-war level, the factors of cost are relatively much higher. This difference between wheat prices and production costs has resulted during the last few years in heavy losses to wheat farmers generally, and has borne down with special weight upon those who accumulated large debts during the war.

Practically all costs which enter into the production of wheat are considerably higher than before the war. Average monthly farm wages for the United States on July 1, 1923, were 59 per cent above the 1913 level. Day wages at harvest time had increased even more. In Kansas the day wage in harvest was 82 per cent above 1913. This fact is of special importance in commercial wheat-producing regions where the bulk of the harvest labor is supplied by day hands. Interest charges which farmers must pay have increased with the accumulation of debts. Wholesale prices of the more common farm implements were this season from 45 to 59 per cent higher than in 1913, and retail prices were considerably higher. Threshing rates in various sections of the wheat territory ranged this fall from 7 to 15 cents per bushel, or 50 per cent more than in 1913.

The burden of taxes in many regions has become excessive. Taxes on farm lands in Kansas increased 171 per cent between 1913 and 1921, in South Dakota, 129, and in the eastern 20 counties of Washington, 237 per cent. With the exception of South Dakota, taxes in these States have continued upward since the war. It should be observed that a substantial part of public funds is expended for local improvement purposes, such as roads, and that from 80 to 90 per cent of such taxes in Kansas and South Dakota, for example, are levied by local government units. The remedy for high taxes in some regions, therefore, rests in large measure with farmers themselves. No doubt the ready market for tax-exempt securities also accounts in part for some of the ill-advised expenditures in local improvements.
Cost of Wheat Production in Representative Winter and Spring Wheat Regions, 1913-1923.
In 1919 the Department of Agriculture made extensive studies of the cost of producing wheat in representative winter and spring wheat areas of the country. From basic material gathered in this
study it has been possible to show the approximate fluctuations in wheat costs for the period 1913 to 1923.

In the winter wheat States of Kansas, Nebraska, and Missouri, the relation of the price of wheat to the cost of production, excluding land rent, was favorable to the producer until 1921. During the last three years, however, wheat farmers in these States have had no return for the capital invested in wheat land and have lacked from $\$ 0.70$ to $\$ 2.60$ per acre of receiving enough to pay the other costs of production.

In the spring wheat States of North and South Dakota and Minnesota the price of wheat has been sufficient to cover the net cost, excluding land rent, for seven of the past eleven years, although during some of these years very little was left for use of land after paying other costs. Since 1919 the price has been insufficient to pay for the use of land and has lacked from $\$ 0.10$ to $\$ 3.42$ per acre of covering other production costs.

More favorable yields in the winter wheat regions have been the main factor in making winter wheat production less expensive

FARM PRICE OF WHEAT AND THE COST OF IMPORTANT FACTORS IN PER CENT


Figure 18.-Data for 1923 as of September 1.
than that of spring wheat. For the eleven-year period 1913-1923 in the spring wheat region the computed average net cost of wheat production, exclusive of land rent, varied from $\$ 0.59$ to $\$ 2.19$ per bushel, whereas in the winter wheat region covered by the study the variation was from $\$ 0.52$ to $\$ 1.44$ per bushel.
Relative Costs of Wheat Production in Subhumid and Semiarid Regions.
A substantial part of both winter and spring wheat is produced in the semiarid regions of the West where, owing to low and uncertain precipitation, winter killing, hail, and other causes, the risk is high.

Ford County, Kans., is representative of semiarid conditions in the winter wheat region. In this county, in ten out of the last twelve years, there has been an abandoned acreage ranging from 6
to 92 per cent. The abandonment has been extremely high for individual years, as in 1917, 1918, and 1923 when it was 92,90 , and 80 per cent, respectively. During the twelve-year period 19121923 the abandonment of seeded acreage has been 37.1 per cent. The yield of wheat in this county during the last twelve years has a veraged 7.2 bushels per seeded acre. It is true that comparatively high yields are not infrequently obtained on these semiarid lands, and in such years the profits in wheat growing are good. On the other hand, successive years of crop failure often occur and unless a reserve of capital has been provided the farmer finds it a difficult problem to tide himself over such periods.

In McPherson County, situated in the subhumid wheat region of Kansas, the abandoned wheat acreage since 1912 has averaged 9.4 per cent. The acreage of wheat abandoned in Ford County has been nearly six times that abandoned in McPherson. The average yield of wheat in McPherson has been 13.1 bushels, or almost twice as great as that for the semiarid county. Under such conditions production costs per bushel in Ford County have been very much higher than in McPherson. The physical requirements, such as seed and man and horse labor prior to harvest, remain fairly constant, and in high-risk areas the larger amount of abandoned acreage carries with it a heavy expenditure for these items. Since 1912 man labor prior to harvest has varied from 0.15 to 17.7 hours per bushel. In McPherson County this variation has been from 0.20 to 1.01 hours per bushel. For seven of the twelve years more man labor was required to produce a bushel of wheat in Ford County than in McPherson; in four of the years the man labor per bushel was from four to sixty times greater. Similar ranges existed with respect to the amount of horse labor and seed wheat per bushel.

In a comparison of the relative profitableness of wheat production in these subhumid and semiarid counties, the returns per farm should be considered. By the use of large machinery and extensive methods of cultivation the wheat farmer in the semiarid section operates on the average a considerably larger wheat acreage than the farmer in the subhumid region. According to a study made in 1919 the seeded wheat acreage per farm was 318 acres for Ford County as compared with 143 acres for McPherson. On the basis of these acreages the total wheat production per farm in Ford County has in some years been considerably larger than in McPherson. The average production per farm during a period of ten years, however, has been nearly the same for both counties, and in view of the higher average production costs per bushel in the semiarid county it appears that with present methods the dry-land wheat farmer, at least in some sections, competes at a disadvantage with the wheat farmer in the more humid regions of the country.

## Cost of Producing Wheat in 1922.

In 1922 the average cost of producing wheat as reported on 2,417 farms in the United States was $\$ 1.23$ per bushel. The cost of production showed considerable variation as between geographical divisions. The net cost, including land rent, varied from an average of $\$ 0.98$ per bushel in the spring wheat States of Minnesota, North and South Dakota, and Montana to an average of $\$ 1.38$ for the States of New York, Pennsylvania, Maryland, Virginia, and West Virginia.

In all of these regions many farmers produced wheat at a loss. It should be remembered, however, that this does not represent an actual cash loss, since a substantial part of the total cost of production does not involve a cash outlay. In cost accounting, costs include charges for the labor of the farmer and his family and for the use of land, and if the price received for wheat is sufficient to cover these costs the farmer receives going wages for his time and interest on capital invested.


Figure 19.

The cost of producing wheat varies widely between individuals as between regions. The average cost for the total production, as shown by some investigations, covers the cost of a little more than half of the crop, and a wheat price which only equals this cost will not permanently maintain the industry. To place wheat growing on a stable basis, the price for wheat must be sufficiently high to yield satisfactory returns on the bulk of the production. This price wheat farmers have not received during the last several years.

## Costs and Other Factors in the Marketing of Wheat.

The spread between the price paid to the producer of wheat and the price paid by the consumer of bread has widened very materially since 1913.
The retail price of a 16 -ounce loaf of bread in Washington, D. C., has increased from 5.45 cents in September, 1913, to 9 cents in September, 1923. This advance in bread prices has not benefited the farmer. The portion received in 1913 by the wheat grower for the wheat equivalent of flour used in baking the Washington loaf was about one-fifth of the retail price of bread; in 1923 it amounts to less than one-sixth. While the wheat grower's portion of the retail price of bread has increased during this period less than one-third of a cent, the margins above have increased a total of 34 cents.
The margins between the mill and the retailer are, therefore, of most interest to the consumer, but the margins between the farm and the terminal market are of special concern to the farmer. According to the best available evidence the margins for the services of local and terminal handling agencies as well as those of trans portation agencies bear down heavily upon the wheat grower.
The Department of $A$ griculture has made an analysis of the operations during 1921-22 of 40 country elevators in north central Kansas. The gross margin of these elevators ranged as high as 9.6 cents per bushel, and averaged a little better than 4 per cent of the terminal

- selling price. The transportation costs to Kansas City averaged about $12 \frac{1}{2}$ cents per bushel or a trifle over 10 per cent of the terminal price.

The operating cost of these 40 Kansas elevators varied from 1.9 cents to 7.4 cents per bushel. This wide variation in operating expense is largely due to the variation in the volume of grain handled by the several elevators. The tendency for costs to decline with increase in volume of grain handled is quite marked.

The information at hand suggests the need of reducing both local and terminal margins in the marketing of wheat. A reduction of the country elevator margin can be effected in considerable measure by increasing the volume of grain handled by each elevator. This would necessitate a reduction in the number of elevators at points where there are two or more competing elevators. It should not be overlooked, however, that in the case of privately operated elevators the increased volume thus obtained might to some extent at least be offset by lower prices resulting from decreased competition.

Such investigations as have been made indicate that the cooperative farmers' elevator efficiently operated is an effective factor in reducing local buying margins. It is not so important to have competition in the case of patronage dividend elevators, since all profits over and
above operating expenses are ultimately returned to the patrons. Since 1904 the organization of cooperative elevators has proceeded rapidly. Between 1914 and 1921 the number of such organizations in 12 North Central States increased from 1,942 to 4,442.

During the last two years an effort has been made to reduce the margins at terminal markets and bring about a better seasonal marketing of wheat through the operations of grain marketing associations. Fourteen State associations of this kind have been formed,

DISTRIBUTION OF THE RETAIL PRICE OF A 1-POUND LOAF OF BREAD IN WASHINGTON, D. C.


Figure 20.-Based on bread formulas for the years 1913 and 1923.
and last August nine of them were affiliated in a national sales agency. Owing to their recent organization it is not possible to measure the influence of these associations on marketing margins and prices received by farmers.

## Quality of Wheat in Relation to Price.

The price which wheat will command is to a considerable extent influenced by its quality and grade. It is, of course, a well known fact that the lower grades, especially of certain classes of wheat, sell normally at a material discount under the better grades. Quality and grade, moreover, are determined to a considerable extent by weather conditions over which the farmer has no control. Yet, on the other hand, much may be done by the farmer himself to improve the grade of his wheat and better the price he receives.

In the northwest spring wheat region heavy and unnecessary losses are sustained by wheat farmers in growing and putting on the market wheat containing a large amount of foreign material which can be removed. According to the records of the Minnesota State Grain Inspection Department dockage has gradually increased from 1.9 per cent of all wheat shipped to Minnesota markets in 1902 to 4.2 per cent in 1922. During the 21 years covered in this period it is estimated that almost $110,000,000$ bushels of dockage were shipped to these markets. If shipped separately to market, this dockage, it is estimated, would have required over 84,000 freight cars for its transporation. Farmers of the Northwest shipped to Minnesota markets in the crop year of 1922 alone over $7,500,000$ bushels of dockage, using for this purpose about 5,800 cars. Had this equipment been available for the shipment of clean wheat, the car shortage in the Northwest in the crop movement season of 1922-23 would no doubt have been less serious. It should also be observed that market receipts do not fully measure the amount of dockage since a part of it is removed at the farm and at local elevators.

Spring wheat farmers are taking heavy losses on their dockage in more ways than one. Weeds are reducing wheat yields and some lands have become so foul that they are no longer profitable for wheat production. Harvesting and threshing weeds with the wheat adds materially to the cost of wheat production. At a threshing rate of 7 cents per bushel, it is estimated that farmers in Minnesota, North Dakota, South Dakota, and Montana paid over $\$ 675,000$ to thresh the dockage in their 1922 wheat crop.

A still more important item of loss is the cost of freighting dockage to market. The average dockage assessed per car in 1922 by the Minnesota State Grain Inspection Department was 54 bushels. The freight charges on this dockage between Larimore, N. Dak., and Minneapolis amounted to $\$ 5.67$ per car. If, for illustration, the LarimoreMinneapolis freight rate be taken as an average rate on wheat shipped to Minnesota markets and be applied to the total dockage assessed in 1922 it appears that the enormous sum of almost $\$ 800,000$ was paid to the transportation companies to haul the dockage of that season to these markets. An effective way, in short, to reduce transportation costs is to remove the foreign material before shipment is made.

Losses resulting from foreign material in wheat may be materially reduced by better crop rotations and cultural methods as well as by cleaning both seed and market wheat. The one-crop system in the Northwest has resulted in weed-infested lands, dirty wheat, and reduced yields.' The practice of sowing seed wheat containing a high percentage of weed seed has been altogether too common. A survey made in Minnesota and the Dakotas in 1921 disclosed the fact that 96 per cent of the farms visited were drilling with the wheat from 1,000 to 500,000 foreign seeds per acre. The employment of cleaning devices which have been perfected for farm, threshing machine, and elvator will materially reduce this financial leakage in the farm business.
Throughout the Pacific Northwest wheat regions smut is an important factor in reducing the quality of wheat; in the Eastern States garlic causes material damage. Losses from these sources may be materially reduced by cleaning the wheat both for seed and for market. In the Southwest improper farm storage of wheat is responsible for much of the loss in quality. Where the combine-harvester is used, wheat containing too much moisture is often stored under improper conditions with resulting deterioration. This loss may be prevented by proper ventilation of bins.

The importance of producing and putting on the market the best possible grade of wheat can not be overemphasized. In foreign markets our lower grades of wheat meet in competition the best wheats of other lands and sell at a discount. On the other hand, the demand in our domestic markets is for the wheats which have the highest milling value. The poorer grades usually sell, therefore, at substantial discounts, particularly when the percentage of such grades is relatively large.

Terminal prices reflect quite accurately the variations in the quality of wheat; local prices frequently do not. Farmers must know what factors determine the grade of their wheat in order to bargain for the best possible price. In recent years wheats of high gluten content and quality have commanded special premiums. On the Kansas City market car lots of hard winter wheat, grading No. 2, 3, or 4, but of high gluten content or quality, often sell above No. 1 for the same day. Even car lots grading No. 5 occasionally bring the highest price for the subclass. For a recent day on that market when No. 1 Hard Winter was quoted at $\$ 1.18$, the highest quotation for No. 4 was $\$ 1.16$ and for No. $5 \$ 1.19$. The producer as a rule does not know the gluten content of his wheat, and may, hence, be at considerable disadvantage in making his sale to the local buyer. Special efforts should be made by producers to acquaint themselves better with the market value of their wheat.

## Feeding Low-Priced Wheat to Livestock.

At prevailing prices some wheat can be profitably substituted for corn in the feeding of livestock in many sections of the country. The relative prices at which wheat economically may displace corn in feeding is shown in the following table:

Corn prices per bushel and equiralent wheat prices based on their relative feeding values. ${ }^{1}$
[Experimental data, Bureau of Animal Industry.]

| Corn. | Wheat. |  |  | Corn. | Wheat. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Poultry and sheep. | Hogs. | Beef cattle. |  | Poultry and sheep. | Hogs. | Bcef cattle. |
| Cents. $50$ | Cents. | Cents. | Cents. ${ }_{62}$ | Cents. 80 | Cents. 86 | Cents. 90 | Cents. |
| 55 | 59 | 62 | 68 | 85 | 91 | 96 | 105 |
| 60 | 64 | 67 | 74 | 90 | 96 | 101 | 111 |
| - 65 | 70 | 73 | 80 | 95 | 102 | 107 | 117 |
| - 70 | 75 | 79 | 86 | 100 | 107 | 112 | 123 |
| 75 | 80 | 84 | 92 |  |  |  |  |

[^10]According to these ratios, when corn is 80 cents a bushel on the farm, for example, 86 -cent wheat can be fed profitably to all animals, including poultry; 90 -cent wheat can be fed to cattle and hogs but not to sheep and poultry; while 99 -cent wheat is profitable for beef cattle only. These ratios do not take into account the cost of grinding the wheat, a necessary measure in feeding it.
The corn situation is at present very unusual. The visible supply of corn in the United States on November 3 was 809,000 bushels compared with $8,806,000$ last year and $18,935,000$ in 1921. The November 1 visible supply averaged $3,763,000$ bushels in the period 1914-1920 and 3,352,000 during the pre-war years 1909-1913. At no time since 1900 has the visible supply of corn for November been so low as it is at present. This situation has placed the prices of old corn this fall on very nearly the same level with wheat prices. For the month of October the spread between the average farm price of No. 2 corn and No. 4 wheat at representative shipping points in Kansas, Nebraska, Missouri, Iowa, and Illinois ranged from 0 to 8 cents and between No. 2 corn and No. 2 wheat from 3 to 12 cents. At these prices No. 4 and lower grades of wheat can be profitably substituted for corn in the feeding of hogs and cattle and even No. 2 wheat can be fed to beef cattle with profit. As noted above, however, wheat should be ground or crushed before feeding, and should also be supplemented with other feeds.

## Wheat Production and Agricultural Readjustments in the Principal Wheat Regions.

Under the stimulus of war prices and in response to the demand for large food supplies, the production of wheat was increased enormously during the years of the war. The initial rise in price following the declaration of war in 1914 encouraged the expansion of our wheat area. This large acreage, together with a favorable season, caused the wheat crop of 1915 to be the largest we ever harvested. Other countries also secured large crops that season, and as a result the price of wheat dropped to practically the pre-war level and remained low through the crop year 1915-16. A marked decline in wheat plantings followed, and with the heavy abandonment in 1917

FARM PRICE OF WHEAT, RYE, FLAX, POTATOES, BUTTER, AND EGGS, 1914-1923.

the acreage harvested that year fell to a point slightly below the prewar average.

With the bottling up of the Russian surplus the Allies had to depend upon overseas countries, especially North America for their wheat. The price of wheat advanced sharply in the fall of 1916 and continued to rise through the forepart of 1917. After the United States entered the war, measures were taken to regulate the price of wheat, and minimum prices were fixed for the 1917, 1918, and 1919 crops. Under continuous appeals for production of food, the production of wheat rose from an average of $690,000,000$ bushels in the period 1909-1913 to $968,000,000$ in 1919, an increase of 40 per cent, and the wheat area expanded from an average of 47,000,000 acres to $75,000,000$ in 1919.
In order to provide land for wheat, rye, oats, tame hay, and some other crops, of which there was an increase, the corn acreage was

FARM PRICES OF WHEAT, CORN, OATS, BARLEY, CATTLE, SHEEP, AND HOGS, 1914-1923.


materially reduced, and a large amount of pasture and meadow land in the older regions and wild grass land in the newly settled regions was drawn into cultivation.

When general deflation of prices began in the summer of 1920 , wheat prices broke sharply and have continued to decline into the present season. As a result substantial reductions have taken place in both acreage and production of wheat. Nevertheless, the crop for 1923 is $781,000,000$ bushels or 13 per cent greater than the average before the war, and the acreage is about 24 per cent larger. The corn acreage which was replaced by wheat has now recovered most of this loss, but is still slightly under the pre-war average. While there has been some reduction in cultivated crops, the total crop area of the country is still between $30,000,000$ and $40,000,000$ acres larger than before the war.

The States included in the Corn Belt, western winter wheat region, spring wheat region and Pacific Northwest, contain over 85 per cent of the 1923 wheat acreage and are, therefore, of special im-


Figuri 24.
portance. Winter wheat accounts for the major portion of our expansion in production. Of the $28,500,000$ acres increase in total wheat area during the war about $22,000,000$ were winter wheat.
In the Corn Belt wheat increased $7,000,000$ acres and displaced about $3,000,000$ acres of corn. Although substantial adjustments in crop acreages have been made since 1919, the wheat area is still almost $2,900,000$ acres over the average before the war and the corn acreage is about $1,722,000$ acres below. Some lands in the Corn Belt have also been returned to pasture and meadow.

The largest addition to the winter wheat area was made in the Great Plains States of Nebraska, Kansas, Colorado, Oklahoma, and Texas. By 1919 the wheat acreage in these States had been expanded by over $13,450,000$ acres. Corn was reduced $8,275,000$ acres, and


Figure 25.
better than $11,000,000$ acres of meadow and wild pasture land were plowed up and planted to crops. Much of the new land sown to wheat was located in the semiarid part of the region where the harvested wheat acreage between 1909 and 1919 more than trebled. Crop acreages in the region as a whole are still considerably out of line with their pre-war relationships. The wheat area is $7,240,000$ acres above and that of corn is about $4,600,000$ below the pre-war average. No reduction appears to have been made in the total area of cultivated land which at the present time is almost $12,500,000$ acres over the average before the war.

The area suited to spring wheat in the United States is more restricted than that for winter wheat and the expansion of the former has been, therefore, much smaller in amount. Less than $6,500,000$


Figurif 26.


Figure 27.
acres were added to the spring wheat area during the war and all of this increase has since been lost.

The States of Minnesota, North Dakota, South Dakota, and Montana account for about 4,150,000 acres of the increase in spring wheat during the war. These States as a group at the same time materially enlarged their rye, corn, oats, and tame hay production and made important reductions only in the case of barley and flax. This crop expansion was brought about by plowing up some pastures and meadows in Minnesota and North and South Dakota, but more especially wild pasture lands in the semiarid sections of the western part of the Dakotas and in Montana. The region as a whole has reduced its 1923 wheat area to 700,000 acres less than the average before the war. This reduction has taken place, however, in the eastern part of the Dakotas and in Minnesota where farmers have


Figuee 28.


Figure 29.
turned to livestock and dairying as important lines of production. Although there has been considerable abandonment of lands during the past several years in the semiarid sections of North Dakota, South Dakota, and Montana, the harvested wheat acreage in these areas is this season about 176 per cent greater than in 1909, and for the region as a whole the area in cultivated crops has continued to expand since the beginning of the war.

The wheat area in the Pacific Northwest was enlarged to the extent of $1,250,000$ acres, in considerable measure by decreasing the amount of summer fallow and by plowing up wild pasture lands, and only slightly through the replacement of other crops. Here again a substantial part of the additional acreage sown to wheat was semiarid land. Only slight reductions in the wheat acreage have been made since 1919.


Ftgure 30.


Figure 31.
Three aspects of our acreage shifts during the last decade may be emphasized. The area of land used for cultivated crops has been greatly extended, and large amounts of meadow and pasture have been brought into cultivation. The wheat area was very greatly expanded, displacing corn more than any other crop, and while considerable readjustment has been made, pre-war crop relationships have not been reestablished. Finally, within the semiarid regions of the West where crop hazards are high large bodies of wild pasture land have been broken and planted to wheat. In the one-crop system of these semiarid regions wheat holds a dominant place and has stubbornly resisted reduction.


Figure 32.

## Agricultural Readjustments in the Principal Wheat Regions.

The increasing foreign competition in wheat production points to a relatively low level of prices for wheat and to the advisability of materially reducing the acreage. Our wheat production should be placed gradually on a domestic basis and then should keep pace with our growth in population and domestic demand. In those regions where wheat displaced other crops in response to war-time prices, the acreage of wheat should be reduced as fast as profitable alternatives can be found.


[^11]Most crops which can be substituted for wheat are feed crops and any marked increase in their production must be accompanied by more livestock. The prices of cattle and hogs are low, while those for dairy and poultry products, sheep and wool, are much better. Adjustments in crop acreages must take into account the relative price trends of farm products.


Figurf 34.-The 19 crops comprise about 95 per cent of total crop acreage in the United States.

Conditions vary widely between farmers as between regions, and what may apply to one individual may not apply to another. Wheat may have an important place in the rotation of some farms and further reduction may not be practicable, and the economical use of labor and equipment may make it desirable to maintain a relatively large acreage of wheat. Many wheat farmers, in short, are restricted in their choice of alternative crops, and, furthermore, are not financially able to change materially their type of farming. Under such conditions adjustments must be largely in the direction of economy and more efficient production.

Wherever possible, lands which give relatively low returns in cultivated crops should be seeded to meadow or be allowed to revert to pasture. Cash outlays in the production of crops can often be reduced. A part of the hired labor on some farms may be eliminated

and more of the supplies for the household as well as feed for livestock may be produced on the farm. In some sections it even may be possible to supplement the farm income from sources outside of the farm.

Farmers in the Corn Belt and other eastern States have made substantial progress in readjusting their crops. The wheat area, however, is still in excess of the pre-war average, while that of corn is considerably below. The value of corn per acre in the region is usually greater than that of small grains which are included in the cropping system to permit the fuller utilization of farm labor and equipment and serve as nurse crops for pasture and hay. The spread between the average value of corn per acre in Ohio and that of either wheat or oats was greater in 1922 than it had been since 1913 , and an acre of corn this year promises to be worth nearly twice
as much as either wheat or oats. At present prices, therefore, it appears that Corn Belt farmers will find it profitable to keep their corn acreage at the highest point consistent with a balanced labor program and the maintenance of soil fertility. It should not be overlooked, however, that the present relatively high prices for corn may not be maintained if the prices of cattle and hogs remain at present levels.

Conditions in the eastern humid parts of Nebraska and Kansas are very similar to those in the corn States to the east. A sub-

humid belt in which the rainfall is lower than in the eastern humid region cuts across the central portion of the western winter wheat States. Wheat yields in this belt are more dependable than those of corn, and wheat has occupied, therefore, a more important place in the system of farming. The value of an acre of wheat in McPherson County, Kans., which is representative of the subhumid region, has been higher than that of corn since 1913, and in a majority of years has exceeded also that of oats, barley, and rye. The spread between the acre value of wheat and corn was less in 1922 than it had been since 1917, and on the basis of a verage yields present prices place corn very nearly on an equality with wheat in value per acre. On the basis of average yields and present prices the value of an acre of wheat less the cash costs of producing it is about $\$ 3$ under the corresponding value of an acre of corn. Since the demand of wheat and corn for labor do not seriously conflict, it appears that in so far as corn can be profitably utilized as feed or can supply a local demand it deserves a more important place in the cropping system of the region. As grain sorghums are more dependable in dry years than corn, farmers will usually find it advantageous to grow some sorghums to assure themselves feed in dry years.

In the humid portions of Minnesota and South Dakota where dairying and hog production have become the leading enterprises on most of the farms, wheat has already been displaced to a large extent by other crops.

Wheat has been the principal crop in the subhumid portion of the spring wheat region largely because the acre value of wheat has usually been greater than that of other crops. With present prices, howerer, more attention should be given to the production of feed crops, especially corn, and likewise to the production of flax. The one-crop system of wheat farming, hitherto largely followed, has resulted in weed-infested land, reduced soil fertility and in heary losses in years of crop failure.

The production of flax in the United States is now confined almost entirely to the spring wheat region. Flax production has been below domestic consumption in every year since 1909, and while the acreage this year is the highest since 1913, the indications are that the consumption during the present year (July 1, 1923 to July 1, 1924) will be at least double this year's domestic production. The present tariff of 40 cents per bushel has resulted in an increase in price to growers in the United States, and so long as production is below consumption and the tariff remains in effect flax prices will probably be attractive.

The average value per acre of the 1922 flax crop in North Dakota was $\$ 9$ more than the average value per acre of the wheat crop. This is a greater difference in favor of flax than had existed since 1916. Present indications are that the spread between the value per acre of the two crops this year will be nearly as great as it was last year.

Records from 150 farmers in northeastern Montana show that the average yield of wheat for the 10 -year period 1913-1922 was 13 bushels and that of flax 6 bushels per acre. At these yields flax will be more profitable than wheat whenever the price per bushel of flax is more than twice as great as the price of wheat. Flax usually does best as the first crop on newly broken sod, but it probably is
advisable to confine the growing of flax to those farms where it can compete successfully with wheat on old but clean land.

In effecting adjustments in the agriculture of the semiarid regions special consideration must be given to the financial situation. Although financial difficulty is widespread among farmers in many regions where wheat is extensively grown, the situation is no doubt at its worst in the semiarid sections extending from western Kansas and eastern Colorado to the Canadian border. In these dry-land areas during the last few years farm indebtedness has grown in

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN


Figere 37.-Spring wheat region (Minnesota, North Dakota, South Dakota, Montana).
volume; delinquent farm interest and taxes have accumulated; foreclosures and bankruptcies have multiplied; and the capital and credit of farmers have been so depleted that it has been necessary to provide county, State, and Federal funds for seed and feed loans. With the failure of crops year after year business concerns have failed, a large number of banks have closed, and the financial stability of local government units in some cases has been severely tried.
This condition of things is the outcome of several causes, the results of which have been cumulative. The semiarid country of
the West was opened to settlement under a land policy which was not suited to the region. As a result a great deal of land which is poorly adapted for crops has been homesteaded and sown to wheat, frequently by settlers who were not equipped to cope with the problems of the region. In some years, when wheat prices were at war levels, crops in many sections failed. On the other hand, production costs remained high and long hauls and high freight rates to market bore down upon the dry-land farmer with special weight. Moreover, during the early years of the war, when crops were good, the high prices of wheat coupled with easy credit led to over-extension on the part of many in the purchase and renting of land and in outlays for more extensive equipment. The one-crop system of wheat farming, however, which has been so largely followed, is one of the most important factors in the situation. The complete failure of the wheat crop has frequently left the farmer without funds for living and other expenses. As one crop failure succeeded another,

## INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE PACIFIC NORTHWEST REGION, 1909-1913-1922.



Figure 38.-Pacific Northwest region (Idaho, Washington, Oregon).
many farmers increased their wheat acreage in the hope of recouping previous losses and thereby often merely increased their indebtedness.

The situation varies materially within the semiarid wheat regions. Soil and climate are much more favorable to wheat production in some areas than in others, and in every region individual farmers may be found who because of their methods and business ability have met with a fair measure of success.

Fundamental and far-reaching adjustments must be made in the agriculture of this region. Wheat in the past has been the dominant crop and will probably retain an important place in the dry-land farming of the future. It is evident, however, that the one-crop system of wheat farming in general has failed under the methods commonly employed. A safer type of farming must be developed. The land now in cultivation which is not suited to field crops should be allowed to revert to pasture. Some forage crops should be grown on every farm and reserves of feed, livestock, and capital must
be carried from one year to another to tide over periods of crop failure. Both livestock and poultry will help stabilize the farm income. A considerable amount of wild pasture land in some sections is available for grazing purposes and should be utilized in so far as conditions will permit to supplement the farm income. Economical cropping and tillage practices which conserve moisture should be developed and used. Since average yields on dry land are relatively low, the farm business should be organized with a view to utilizing the maximum acreage consistent with good farm methods and the financial ability of the farmer. It is also important that there be developed a system of farming in which the dependence upon highpriced migratory labor is reduced to the minimum.

As a result of foreclosures or abandonment a large number of farms in various parts of the semiarid region are now in the possession of mortgage holders. Some of this land, no doubt, can be profitably cropped if capitalized at reasonable prices and if suitable farm methods are employed. There is much of it, however, which under present price levels will probably not yield satisfactory returns from field crops and should revert to pasture. For the development of a stable agriculture in the semiarid regions it is imperative that a true appraisal be made of the uses to which these lands can be put most profitably.

A change to a more stable form of agriculture in the semiarid regions will be gradual and assistance during the period of transition will be needed. Some farmers are now so deeply involved that further credit extensions will not benefit them. On the other hand there are many dry-land farmers whose loans should be extended under a long-term payment plan at a reasonable rate of interest, and who should also receive such additional credit as may be necessary to effect essential changes in the type and organization of their farming.

## Summary and Conclusions.

The wheat industry of the United States is in a period of serious depression. A great many farmers have already lost their farms or other property and the financial condition of others is critical. This condition of things has resulted from the decline in wheat prices, the relatively high level maintained in the prices of other commodities and services, and also from the maladjustments which exist in the wheat industry itself.

Present low prices are caused by the large world supply of wheat. for which there is not an effective demand at higher price levels. The total world crop outside of Russia is estimated at $3,400,000,000$ bushels, which exceeds the production of last year by $300,000,000$ bushels and the pre-war average by $500,000,000$, excluding Russia. Both importing and exporting countries whose production fell during the war are resuming rapidly the position they previously held as wheat producers. Moreover, the evidence indicates that competition in wheat production will increase very materially. Russia is gradually restoring her agriculture and is already exporting some bread grains. Argentina, Australia, and especially Canada are selling abroad large amounts of wheat and will in all probability continue to expand their wheat exports. These countries enjoy material advantages over the United States in the production of wheat. So
long as the United States produces a surplus, the prices of American wheat will be determined largely in the markets of the world and American farmers as exporters of wheat must be prepared to meet the keen competition of foreign producers for these markets.

Although wheat prices have dropped to pre-war levels, prices of manufactured commodities and of services remain high. The costs which enter into the production and marketing of wheat are so high that, at present prices for wheat, the farmer can not continue to pay them and remain in business. Taxes, machinery, wages, freight rates, and prices of food and clothing are out of proportion to the price of wheat and the earnings of the wheat farmer.

A number of factors within the wheat industry itself also have contributed to the present wheat crisis. Lands on which wheat can not under present economic conditions be grown profitably have been brought into cultivation in some regions. This fact coupled with the dependence placed upon wheat as a cash erop accounts for the losses of some farmers. Furthermore, high prices and the appeal for larger food supplies during the war induced many farmers to expand unduly their farm operations and to incur liabilities which since the break in wheat prices they have been unable to carry. The financial distress which has come as a result of these various causes is considerably aggravated by losses which are due to inefficient farm management. Many farmers are growing and marketing wheats which do not fulfill the highest market requirements and consequently fail to yield maximum net returns. On some farms, furthermore, excessive emphasis on wheat carries with it an unsatisfactory seasonal distribution of farm labor with resulting heavy expenditures for hired help. The financial difficulties of many, in short, would be reduced if their farm business were operated along more efficient lines.

It is important to bear in mind that the solution of present agricultural difficulties depends quite as much upon the efforts of farmers themselves as upon any Government action. There are fundamental and far-reaching adjustments in production and marketing which farmers themselves must make as a part of a long-time program. A survey of the situation indicates that well-considered action in a number of directions will bring wheat farmers a substantial measure of relief.

A large number of wheat producers are on the verge of bankruptcy. Many of them are, no doubt, beyond the point where further credit extensions would benefit them. On the other hand, a larger number can and should be saved by the renewal of loans or by additional credit on reasonable terms. Where a large volume of personal credit exists and the mortgage status of the farm permits, outstanding short-time loans should be funded into long-term mortgage loans at lower rates of interest. In this connection full advantage should be taken of the facilities afforded under the Federal Farm Loan Act. Moreover, the new credit facilities provided in the Federal intermediate credit banks should be utilized to reduce the cost of personal credit to the farmer. In this bankers should lend a willing hand even where such action does not increase their immediate profits. The constructive country banker will readily see that in the long run such action benefits him as well as the farmer.

To meet successfully foreign competition in some markets in which exchange rates and opportunities for exchange of commodities favor purchases of wheat from other sources, easv credits on Amer-
ican purchases may be necessary. The War Finance Corporation should make special efforts to finance the exportation of wheat in line with the joint resolution of Congress, January, 1921, reviving the activities of that corporation.

The wheat surplus may be reduced materially by increasing domestic consumption. The per capita consumption of wheat flour and bread has been lessened by the war-time campaign to save food, coupled with the high prices for bread which have since been maintained. A reduction in the price to consumers by narrowing the margin between wheat flour and bread would, no doubt, increase the consumption, and a return by public eating houses and dining cars to the custom of serring bread free with orders would contribute to the same end. Furthermore, at present prices, wheat can be economically substituted for corn as livestock feed in many parts of the country, and its use for this purpose may be increased to advantage.


Figlere: : 39.
American freight rates, which are still 45 per cent and more above those of 1913, have not been adjusted to meet the decline in farm prices, whereas Canadian rates are now practically back to their pre-war level. To meet the emergency a reduction of at least 25 per cent in interstate rates on wheat and wheat products originating in the distressed wheat areas would be helpful, these rates to remain effective until wheat prices shall have more nearely reached a parity with the prices of other commodities or until a readjustment has been made in all freight rates. In order to determine a proper basis for this adjustment, the Interstate Commerce Commi-sion or a special commission composed of representatives of railroads and shippers, and created for that purpose, should review without delay the entire structure of interstate railroad rates and should make or submit recommendations for adjustments which will return adequate revenues to the railroads and as well afford some relief in the way of reducing the cost of transporting agricultural products.

Farm taxes in many sections of the country have become a serious burden, especially in regions where farmers are in financial distress, and a downward revision is essential. The partial substitution of taxes based on income for the present property taxes would provide
a measure of relief. Further shifting of the cost of good roads to those who make most use of them, through taxes on gasoline and motor vehicles, offers still another means of a more just distribution of the tax burden.

Changed market conditions necessitate important readjustments in crops. $\Lambda \mathrm{s}$ foreign outlets for American wheat become more restricted, the production of wheat should be gradually placed on a domestic basis, and the wheat acreage should be reduced as fast as profitable alternatives can be found.

Adjustments in agricultural production should be made in accordance with differences in regional and farm conditions. In some parts of the wheat territory some shift from wheat to corn probably will be profitable. Oats for local consumption might be substituted for wheat to a slight extent. With present prices flax will be a profitable alternative on suitable land for a small portion of the wheat acreage in the Northwest. Since the prices of dairy products have continued relatively strong, further emphasis should be placed on dairying and the production of feed crops. This increase in diversity of crops and livestock will in general result in better organization of the farm business and also help to stabilize the farm income.

A safer type of farming must be developed for the semiarid regions. Lands which are unsuited to field crops should be dropped from cultivation and revert to grass land. Some forage crops and livestock should be grown on every dry-land farm. Reserves of feed, livestock, poultry, and capital should be carried from year to year to tide over periods of crop failure, and the farm business should be so organized as to secure the maximum returns per inan.

Each farmer should carefully review the possibilities which lie before him. Undoubtedly diversification will result, from careful thought on this subject, in many of the States where the surplus wheat acreage is found. On the other hand, in those regions where wheat is grown as a part of a diversified system of farming, it may be that eren at the present price it is more profitable than any alternative crop.

In the present critical situation it is very essential that wheat farmers adopt methods which reduce production costs and conserve the cash income. This may be accomplished by avoiding out-ofpocket cost. by growing on the farm in so far as possible the feed supplies for the stock and provisions for the family, a policy which is made more urgent by the increase in freight rates and the high cost of processing and retail distribution, by utilizing to the fullest possible extent the arailable labor supply and the farm equipment through a well-balanced diversification of crops and a better distribution of labor throughout the year, by keeping land of low production in grass and other crops demanding but little labor or expense, and by devoting labor and capital to such crops and livestock enterprises as promise to give the greatest profits.

Improvement in the quality of wheat produced will materially increase profits in the wheat industry. Certain classes of milling wheats are in special demand and should be substituted for less desirable wheat wherever conditions are favorable. Moreover, heavy and unnecessary losses are incurred by farmers in producing and marketing dirty and low-grade wheat. The production and marketing of dockage is expensive. Wheat should be cleaned before sow-
ing and marketing, care should be exercised in its storage, and such seed selection and farm practices in growing and harvesting should be adopted as will result in the best market grades of wheat.

Prices paid at terminal markets reflect quite accurately the variations in quality of wheat; prices paid at country points frequently do not. Farmers must know the quality and grade of their wheat in order intelligently to bargain for the best market price. Wheats of high gluten content usually command premiums at terminal markets. While the Federal grades for wheat through subclass specifications indicate broadly the ghuten content, the only practicable method of measuring it requires extensive laboratory equipment. It is desirable, therefore, that State authorities, in cooperation with the Federal Government, undertake to determine and make available as early as possible in the harvest season information in regard to the gluten content of wheat in the important wheat-producing areas. Wheats may vary widely in gluten content within local areas; farmers should, therefore, have individual tests made of their wheats by the agencies set up for this purpose.

Concerted and coordinated action in the form of producers' organizations should improve the production and marketing of wheat. Higher returns may be obtained by standardizing the production of wheat in conformity with market demands, and substantial economies may be made in the cost of wheat marketing. Cooporative organizations efficiently managed will contribute to this end and their development should, therefore, be still further encouraged.

The movement of farmers into other occupations which is now under way will help to restore the balance between agriculture and other industries. Every farmer who is not able to make a living where he is should review carefully his own possibilities, but should not make a blind move into other types of farming or into city occupations. There are, however, thousands of farmers skilled in the industries of the city who will doubtless turn to their former occupations for relief.
The adjustments that have been indicated are part of a long-time program for agriculture and must be made in considerable measure through the efforts of the farmers themselves. Yet all of these means will not go far toward promptly restoring the purchasing power of the farmer's dollar, which has been unreasonably reduced by the rapid deflation which agriculture was least able to resist.

Since the immediate difficulty in the present situation is the maladjustment in price ratios, what is most needed right now is some way to restore the proper ratios either by increasing the prices of farm products or by reducing the prices of other commodities.

The prices of farm equipment. food, clothing, and building materials, as well as farm wages, are influenced by the costs of mining, transportation, and manufacturing, and by the ability to adjust production to that limit of supply which can be sold in the domestic market at a price to yield a profit.

One of the largest elements in the production cost of manufactured products as well as in transportation cost is the wages of labor. Wages have remained high since the war. The immigration and Adamson laws, together with the policies of organized labor, have been potent factors in maintaining wage scales. On the other hand, the domestic market for the products of the manufacturing indus-
tries makes it possible for them to continue production at a profit even with high wages for industrial labor. Under these conditions organized industry can maintain high prices in the domestic market and dump surpluses in foreign markets at low prices.

The question may be raised whether protection to labor and industry shall be withdrawn in order that the inflow of foreign labor and manufactured products may reduce the prices of the products which farmers buy to the level of farm products or whether some better remedy should be sought. The better and more practical alternative may be to try to improve prices of farm products of which we have an exportable surplus and which are, therefore, unduly depressed. Abundance of work at good wages gives assurance of good demand for farm products, but justice requires that the farmer be helped so far as possible and proper to secure relatively good wages for his labor. Indeed, industry and labor can not hope long to enjoy a disproportionately high price level for their products for the simple reason that farmers constitute about 30 per cent of the purchasers of such products and if the farmers' ability to buy is materially lessened for any length of time, both industry and labor suffer through lessened demand and prices will be forced lower.

Cooperation among farmers has been suggested as a means of attaining the end sought. While cooperation is to be encouraged as one of the best means of improving marketing methods and reducing marketing costs, as well as of improving the quality of farm products, it does not appear possible, and certainly not within a short period of time, to organize the producers of the great staples of American agriculture so effectively as to give them that control over supply which is necessary substantially to influence price.

The sale or gift of a substantial part of our surplus wheat to countries which are not able to buy, and which would, therefore, take out of the ordinary channels of trade and competition the wheat sold or given, would unquestionably have a helpful effect upon domestic prices of wheat, provided larger tariff protection were given. Before such rale or gift could be consummated, however, more than two-thirds of this year's wheat crop will have passed out of the hands of the farmers.

Inasmuch as the first step looking toward increasing the domestic price requires the disposition of the surplus over and above domestic needs, and inasmuch as the facts presented in the foregoing pages indicate that the world production of wheat will probably be overlarge for another year or so, the suggestion that the Government set up an export corporation to aid in the disposition of this surplus is worthy of the most careful consideration. Such a corporation neessarily would need rather broad powers. It would not be necessary that it should undertake to handle the entire crop, and it could probably carry on its activities in cooperation with existing private agencies. If it should be found necessary to arrange for the sale of the surplus exported at a price much lower than the domestic price, the loss so incurred would properly be distributed over the entire crop.

The prime duty of such an export corporation would be to restore, so far as possible, the pre-war ratio between wheat, and other farm products of which we export a surplus, and other commodities. Its activities would therefore expand or contract according as the relative prices for farm products varied with other commodites, and it would cease to function as pre-war ratios become fairly well restored.


By E. W. Brandes, C. O. Townsend, ${ }^{1}$ P. A. Yoder, and S. F. Sherwood, Bureau of Plant Industyy; ${ }^{2}$ R. S. Wishburn, G. B. L. Arner, ${ }^{3}$ and O. E. Baker, Bureau of Agricultural Economics; F. C. Stevens, ${ }^{4}$ Louisiana College of Agriculture; F. H. Chittenden, Bureau of Entomology, and C. F. Langworthy, Bureau of Home Economics.

SUGAR provides about 13 per cent of all the energy obtained from food consumed by the people of the United States (fig. 1). The average amount eaten is 2 pounds per person per week. This includes the sugar used in candies, sweet drinks, and other foods not prepared in the home. The amount which would be used in cooking and on the table averages about $1 \frac{1}{2}$ pounds per person per week. For a family consisting of a father and mother, both doing active muscular work, and three children, 9,6 , and 4 years old, the average consumption amounts to between 6 and 7 pounds of sugar a week. The amount of sugar consumed is now higher in the United States than in most other parts of the world, the per capita consumption having increased during the last 100 years from 10 pounds to over 100 (fig. 2). There are no statistics to show how the increased per capita consumption is used, but it seems safe to assume that a considerable proportion goes into candies and sweet drinks.

It is well known that pure sugar provides none of the nitrogenous or mineral substances needed to make muscle or other body tissues. These important substances, and also the vitamins, must be supplied by meat, milk, eggs, cereals, vegetables, fruits, and other food materials. When used in proper proportion to other foods, sugar is a

[^12]valuable article of diet. As a source of fuel, sugar is extremely economical. A pound yields 1,820 calories of energy. At 6 cents a pound it provides 100 calories of energy for one-third cent, a figure which is lower than that for almost any other of the familiar food materials.

In addition to the energy value of sugar it imparts at the same time an agreeable flavor to food. If it were not for the presence

FUEL VALUE AND COST OF SUGAR IN THE DIET.


Fig. 1.--Sugar supplies about 13 per cent of the energy or fuel value of the foods consumed in the United States; but its costi at retail, including candy, is only about 6 per cent of the total expenditure for food. ${ }^{1}$


#### Abstract

${ }^{1}$ Quantity of foods consumed based on statistics of production plus imports minus exports: percentages of fuel or energy value of vegetable products computed from tables in Paarl's "Our Nation's Food," and of animal products from estimates of United States Department of Agriculture far 1918-1922; percentages of money value are based on Bureau of Labor's retail price for 1918-1922, except that farm prices were used for half the poultry and eggs. milk and dairy products, and potatoes, while values of fruits and vegetables were based on census and other data. A study made by the Department of Agriculture of the diet of 500 families shows the following percentages supplied by foods of different sorts. For discussion see United State Department of Agriculture Miscellaneous Circular No. 6 (1923).


Table 1.

| Food material. |
| :--- |

TOTAL AND PER CAPITA CONSUMPTION OF SUGAR, CONTINENTAL UNITED STATES, 1823-1922.
TOTAL CONSUMPTION SHORT TONS IN MILLIONS

5


0
Fig. ؛.--The consumption of sugar in the United States has increased during the past century from less than 10 pounds to more than 100 pounds per capita, while the total consupmtion in the United States has increased from a few thousand tons to more than 500.000 tons.
of sugar the diet would be less palatable to most persons and the use of flavoring extracts, spices, and other flavoring materials would probably be much increased, which would add to the cost of the diet without adding directly to its food value.
The annual cane and beet sugar production in the continental United States supplies only about $1,200,000$ tons, or scarcely onefourth of the total of over $5,000,000$ tons of sugar consumed annually in this country. Combined with the production of sugar from cane in Porto Rico, the Territory of Hawaii, and the Philippines, the production of sugar under the American flag does not quite reach half of the amount consumed by the American people (figs. 3 and 48). Notwithstanding this inadequate domestic production, our continental and insular sugar industry is one of vast proportions utilizing millions of acres of land and occupying the time of millions of persons (Table 2).

## Historical Development.

Sugar cane was introduced into the New World shortly after its discovery, and it is recorded that in 1518 many sugar mills were in operation on the island of Santo Domingo. It was not until 1751,

SUGAR PRODUCTION IN THE UNITED STATES AND INSULAR TERRI-


Fig. 3. -The sugar-cane production of Hawaii. Porto Rico, and the Philippines has increased more rapidly thar that of Loulisiana. The production of each of these insula: territories is now greater than the cane sugar production of the continental Inited States. Likewise, beet-sugar production has increased more rapidiy than that of cane sugar in the continental Cnited States, and is now nearly four times as great as the production of cane sugar.
however, that the plant was grown in continental America as a result of the importation of cuttings by Jesuits in Louisiana. From that time it was cultivated in a desultory manner until the end of the eighteenth century, when the failure of indigo and other crops forced the Louisiana planters to turn their attention to the manufacture of sugar as a source of revenue. Establishment of the American sugar-cane industry may be said to date from 1795 , when the first successful mill began operations on a plantation about 6 miles above New Orleans. Other mills soon followed and from that time an almost continuous extension of the industry was experienced until about 1894. Production then remained about constant till 1911, and in recent years has been somewhat lower (fig. 4).

LOUISIANA SUGAR PRODUCTION, 1823-1922.


Fig. 4.-The production of cane sugar in Louisiana increased rapidly until the beginning of the Civil War. During the period of the war cane-sugar production in the Southern States was reduced practically to nothing. From that time there was a more or less constant increase in cane-sugar production until about 1904, after which date the production has decreased somewhat with wide annual variations.

The establishment of the sugar-beet industry on a paying basis has been a comparatively recent development in American agriculture. Attempts to launch the industry were made as early as 1838 , but all efforts met with failure until 1879, when a factory erected at Alvarado, Calif., proved to be a profitable undertaking. By 1890 several factories were operating, and from that time, stimulated by the policy of taxing imported sugar, the production of beet sugar has increased, until at present it amounts to about a million tons per annum, as compared with one-fourth that amount manufactured from cane (figs. 5 and 6).

Table 2.-Acreage and production of sugar beets and sugar cane, and quantity of sugar produced, continental United States and Insular Territories, 1919.

SUGAR BEETS.

| States. | Farm census reports. |  |  |  |  |  | Sugar factories reports. 1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Farms reporting. | Per-centage of all farms. | $\begin{gathered} \text { Area } \\ \text { har- } \\ \text { vested. } \end{gathered}$ | Area per farm re-porting. | Beets produced. | Yield per acre. | $\begin{gathered} \text { Area } \\ \text { har- } \\ \text { vested. } \end{gathered}$ | Beets sliced. | Sugar produced. | Pro-duction per acre. |
|  | $N o$. |  | Acres. | Acres. | Tons. | Tons. | Acres. | Short tons. | Short tons. | Lbs. |
| California | 1,488 | 1.3 | 88, 257 | 59.3 | 666, 866 | 7.56 | 107, 000 | 805,000 | 131, 000 | 2,440 |
| Colorado | 7,604 | 12.7 | 165, 840 | 21.8 | 1,658, 167 | 10.00 | 183, 000 | 1,656,000 | 194, 000 | 2,120 |
| Idaho. | 2, 760 | 6.6 | 37, 334 | 13.5 | 260, 309 | 6.97 | 30, 000 | 197,000 | 26, 000 | 1,740 |
| Michigan | 14, 812 | 7.5 | 106, 450 | 7.2 | 1,025, 550 | 9.63 | 123, 000 | 1,032,000 | 130,000 | 2, 120 |
| Nebraska | 1,531 | 1.2 | 54, 486 | 35.6 | 554,646 | 10.18 | 59,000 | 554,000 | 61,000 | 2,060 |
| Ohio. | 3,684 | 1.4 | 33, 561 | 9.1 | 365, 415 | 10.89 | 31, 000 | 292, 000 | 32, 000 | 2, 060 |
| Utah. | 8,398 | 32.7 | 93, 359 | 11.1 | 930, 427 | 9.97 | 103,000 | 908, 000 | 101,000 | 1,960 |
| Wisconsin | 3,495 | 1.8 | 12, 737 | 3.6 | 136, 208 | 10.69 | 12,000 | 106,000 | 11,000 | 1,840 |
| All other. | 3,439 | . 3 | 44, 410 | 12.9 | 395, 821 | 8.91 | 44,000 | 338, 000 | 40,000 | 1,820 |
| United States.. | 47,211 | . 7 | 636, 434 | 13.5 | 5,993, 409 | 9.42 | 692, 000 | 5, 888, 000 | 726, 000 | 2, 100 |

SUGAR CANE.

| States. | Farms reporting. | Per centage of all farms. | $\begin{gathered} \text { Area } \\ \text { har- } \\ \text { vested. } \end{gathered}$ | Area per farm re-porting. | Quantity of cane produced. | Yield per arre. | Quan- <br> tity of <br> sugar pro- <br> duced. | Sugar produced average per acre. | Quantity of sirup produced. | Sirup pro- duced aver- age per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. |  | Acres. | Acres. | Tons. | Tons. | Tons. | $L b s$. | Gallons. | als. |
| Alabama. | 56,604 | 22.1 | 25, 302 | 0.45 | 208, 342 | 8. 23 |  |  | 3, 235, 231 | 128 |
| Mrizona |  | . 1 | 10 | . 90 | 60 | 6.00 |  |  | 758 | 76 |
| Arkansas | 3,686 | 1.6 | 2,406 | . 65 | 9,695 | 4.03 |  |  | 165,947 | 69 |
| Florida | 24, 331 | 45.1 | 20, 413 | . 84 | 179, 573 | 8.80 |  |  | 3, 675, 249 | 180 |
| Georgia | 72,740 | 23.4 | 41, 558 | . 57 | 365, 603 | 8.80 |  |  | 7,052, 984 | 170 |
| Lollisiana. | 36, 421 | 26.9 | 2234,049 | 6.42 | 22, 435, 683 | 10.41 | 2121,000 |  | 1,899, 423 |  |
| 22 sugar-producing parishes. | 12, 296 | 31.1 | ${ }^{3} 221,204$ | 18.00 | 32,325,004 | 10.50 | 121,000 | 41,340 | 326, 474 |  |
| Other parishes.. | 24, 125 | 25. 1 | 12, 845 | . 53 | 111,679 | 8. 69 |  |  | 1,572, 949 | 122 |
| Mississippi........ | 44, 795 | 16.5 | 25,256 | . 56 | 186, 283 | 7.38 |  |  | 3, 015, 956 | 119 |
| South Carolina | 13, 600 | 7.1 | 5, 537 | . 41 | 34,947 | 6. 31 |  |  | 563, 953 | 102 |
| Texas. | 19, 090 | 4.4 | 18, 407 | . 91 | 2124,493 | 6.76 | 1,125 |  | 1,631, 459 | 89 |
| United States | 271, 278 | 4. 2 | 372, 938 | 1.37 | 3, 544, 679 | 9.53 | 122, 125 |  | 21,240,960 | 135 |
| Hawaii. | 1,310 | 24.8 | 123, 165 | 94. 02 | 4, 862, 707 | 39.48 | 556, 343 | 9,034 |  |  |
| Porto Rico. | 8, 839 | 21.5 | 227, 815 | 25. 77 | 3,961, 984 | 17. 39 | 485, 071 | 4,258 | ${ }^{5} 262,729$ |  |
| Virgin Islands ${ }^{6}$. | 286 | 66.5 | 8,685 | 30.37 | 84,129 | 9.69 | 8,149 | 1,877 |  |  |
| Philippine Islands? |  |  | 598, 424 |  |  |  | 562, 362 | 1, 880 |  |  |

[^13] scale and now far exceeds cane sugar in importance.

In our insular possessions sugar-cane culture is relatively more important than in the continental United States, but as it is impossible to cover adequately within the scope of this paper all of the many features peculiar to different regions, the detailed discussion will be limited to the industry as it is carried on at home (fig. 3). Our sugar-beet industry is confined entirely to continental United States.

Practically the only point of similarity between sugar cane and sugar beets is the fact that both plants at maturity contain a high per cent of sucrose or "cane sugar." The area devoted to these two crops is widely separated owing to fundamental differences in the climatic requirements of the plants. The practices employed in growing the crops are likewise radically different, and even the methods of recovering the sugar at central factories or mills, while alike in some-respects, are dissimilar in essential details. In view of these facts, the two crops will be discussed separately.


Fig. 6.-The development of the beet-sugar industry in the United States has been rapid since its establishment in 1879. The production has increased more rapidly than the acreage, and both more rapidly than the number of factories.

## Factors Influencing Sugar-Cane Culture.

As sugar cane is a tropical plant, grown in the United States somewhat beyond its natural climatic zone, it is here more sensitive to climatic conditions than in the Tropics. While it grows on a variety of soils, they must possess definite characteristics for successful cane culture. Other factors of importance are topography, water supply, drainage, and the presence of injurious insects and diseases. Factors essential for profitable production are a supply of satisfactory labor, close proximity to the central mill, good roads, and railroads. The price of labor, and frequently of land also, is normally higher in the United States than in tropical countries, so that the closest attention must be given to the cost of production. Since the growing of sugar cane is usually the principal and often the only enterprise on the farm or plantation, the sugar-cane grower is more seriously affected by
changes in market price of sugar and changes in the factors influencing costs than the sugar-beet grower, who usually grows several other crops. These factors will be briefly discussed in the following pages.

Effect of Climatic Conditions on Sugar-Cane Production.
Sugar cane requires a uniformly high temperature, ample sumshine, and a large and constant supply of moisture to keep the plants growing rapidly. At any time up to harvest, cool, cloudy, or dry conditions will reduce the tonnage. The optimum rainfall for the crop in Louisiana is about 60 inches. The more nearly the weather approaches humid tropical conditions, such as heavy precipitation followed almost immediately by bright sunshine rather than a succession of overcast, cool days with drizzling rain, the better will be its effect on the rapidly growing crop. Practically continuous sunshine is indispensable always, but irrigation water may be substituted for


Fig. 7.-Cane-sugar production in the Enited States is confined almost entirely to the subtropical Mississippi Ielta district of southern Louisiana. A small amount of sugar is produced annually in Texas, and three sugar-cane mills have been erected in Florida.
rainfall in some localities. For ripening, sugar cane is benefited by dry and cooler weather and a shortening of the days or periods of sunshine.

In the sugar-cane district of Louisiana the summer temperature averages $81^{\circ}$ F. and the frost-free season is over 250 days. As sugar cane is cut in an immature condition in Louisiana, the longer it is left standing, the higher the sugar content. Growers formerly suffered much loss from the fall freezes, but with the present excellent warning service cane is allowed to stand until a forecast of a minimum temperature of about $26^{\circ}$ or $27^{\circ} \mathrm{F}$. is issued by the Weather Bureau. A large force of men is then put in the fields and all of the seed cane and as much of the mill cane as possible is windrowed. Sometimes a warning of damaging temperatures will result in windrowing of cane valued at over $\$ 10,000,000$.

In competition with tropical cane-producing countries, Louisiana is at a disadvantage in many respects, not the least of which is the alternation of growing and dormant seasons. The tropical planter is free from the heavy expense involved in protecting the seed cane and the mill cane from frost damage, which causes diminished germi-


Fig. 8.-Sugar cane is grown in eight of the Southern States, much the largest acreage being Louisiana, with Georgia, Alabama, Mississippi, Florida, and Texas following in the order named. Of the cane sugar produced in this country over 95 per cent is made in Louisiana. The balance of the cane grown in the Southern States is used almost exclusively for sirup producfion. (Maps of IIawaii and Porto Rico are on a larger scale than that of the United States. Kauai is one of the Hawaiian Islands.)
nation of the former and inversion or "souring" of the latter. Furthermore, on account of the frost hazard in Louisiana harvesting time becomes a high-pressure period for the labor, since the planting cr windrowing must be done concurrently with the cutting, transporting, and milling. In most tropical countries the necessity for immediate planting is not so urgent, in fact planting often extends over a period of five or six months. In countries like Java and Formosa, where the "seed" is obtained from a crop of immature cane grown specially for the purpose, planting is done before the mills begin to grind and these two operations are therefore entirely divorced. This plan is impracticable in Louisiana for the obvious reason that planting would need to begin so far in advance of harvesting for the mill that the cane would sprout and be winter-killed. A portion of the crop is planted in the fall in advance of grinding but the planting material is mature and dormant cane. Until practical labor-saving devices are perfected, the harvesting season in Louisiana will continue to be a time when even the best efforts of all hands fall short of accomplishing the many tasks in a satisfactory manner.

Thus it is seen that climate is the principal limiting factor which restricts the successful production of sugar to certain well-defined areas in the United States. These areas are southern Louisiana, southeastern Texas, and southern Florida. Up to the present, the industry is comparatively unimportant in the two latter States (figs. 7 and 8) but an attempt is being made to promote sugar production in Florida.

Growing sugar cane for sirup is not so restricted by climate, owing to the fact that the noncrystallizable sugars which are present in immature cane are desirable in sirup. Cane is grown for this purpose in the majority of the counties in Florida, the eastern half of South Carolina, the southern half of Georgia, Alabama, and Mississippi, central and northern Louisiana, and eastern Texas.

## Sugar-Cane Soils.

Sugar-cane growing for sugar manufacture is confined almost altogether to the lower Mississippi Delta region of Louisiana, where, in addition to the long frost-free season, the soils are more suitable than elsewhere in the United States. The Sharkey clay in its better drained phases is the principal sugar-cane soil in the sugarproducing area. Other important sugar-cane soils are the silt loam, silty clay loam, and clay members of the Iberia series, and the fine sandy loam and silt loam of the Olivier series. These are all soils of high natural fertility and have nearly flat surface features. Similar soils occur very extensively farther north in Mississippi and Arkansas, but the growing season there is considered too short for maximum yields of sugar cane. Nearly all of these soils are very retentive of moisture, a feature of considerable importance for the sugar-cane plant, which during its period of rapid growth demands large quantities of water. Light soils and sandy soils are quite unsuited for the production of sugar cane unless they are irrigated and heavily fertilized.

In addition to high natural fertility and water-retaining capacity of the top soil, it is essential that the subsoil permit rapid drainage. A stiff, impermeable clay subsoil, particularly if near the surface, holds the water so that the plants will suffer from lack of aeration.

On some soils sugar cane will tolerate flowing surface water for long periods, but when the water is standing cane is more quickly injured. The soils of southern Louisiana are almost ideal for sugar-cane growing, a fact which compensates in some measure for its somewhat unsuitable climate. In contrast to these alluvial soils of the Mississippi Delta, soils of volcanic origin are extensively used for sugarcane production in many parts of the world, notably in Java and Hawaii. With irrigation and intensive fertilization such soils sometimes yield a very high tonnage of cane.

Of considerable interest is the recent attempts to utilize the muck and peat soils of the Florida Everglades for growing sugar cane. The better-drained muck soils, found mostly near Lake Okeechobee, support a very rank growth of cane, but it remains to be seen whether this luxuriant vegetative growth will yield juices rich in cane sugar over a series of years. No doubt slow maturing varieties of cane will eventually be found more appropriate for these highly productive muck soils. The peat or " saw-grass" land, of which the bulk of the Everglades is formed, has not, up to the present, shown promise by the methods now employed.

The small patches of sugar cane for sirup making in the Gulf States are planted mostly on soils naturally very productive, such as alluvial lands along streams, depressed areas where the soils are dark, and the mere fertile uplands. It is generally known, however, that a lighter colored and a better quality sirup is produced from cane grown on light-textured, well-drained soils, such as the sandy loam and fine sandy loam types of the Norfolk, Tifton, and Kalmia series.

## Drainage and Irrigation of Cane Lands.

The high proportion of clay in the alluvial soils of the Mississippi Delta prevents a rapid downward percolation of water, and makes the closest attention to proper drainage a matter of great importance. Drainage is accomplished by means of open ditches which are wasteful of land and expensive to maintain, but owing to the character of the soil and the absence of sufficient fall it is very difficult to prevent tile drains from silting up. It would be almost impossible to overdrain the plantations, and improper balance of water and soil is usually traceable to errors in the direction of inadequate drainage. The frequent torrential downpours nust not be allowed to accumulate and stand on the fields, a condition which is sometimes due to inadequate ditches, but more often to neglect in keeping existing ditches clean and in working order.

Notwithstanding the fact that irrigation plants could be installed on Louisiana plantations perhaps more cheaply than in almost any other cane region, many planters are content to rely on rainfall and are reluctant to make the necessary investment in pump, syphon. and irrigation ditches to raise the water over the levee and distribute it over the fields. Where irrigation has been employed in Hawaii, Java, Formosa, Egypt, British India, Peru, Mauritius, and southern Porto Rico, it has almost invariably been found to pay. Of course, in many places irrigation is absolutely essential owing to arid conditions, but even where rainfall is ample in annual volume, but unevenly distributed, the certainty of providing water at critical times is sufficient justification for providing irrigation where the outlay is
not large. Since about 85 per cent of subnormal crops in Louisiana are attributable to drought, the benefit to be derived from irrigation is apparent.
Owing to the immensity of the undertaking, the drainage of the Everglades has not advanced to the point where immunity from inundations has been attained. It is hoped that this danger will be overcome, as work on the great drainage canals is progressing steadily. These canals are expected to furnish a source of water during periods of drought, and here, as well as in Louisiana, the flat character of the land offers no unusual difficulty in the operation of either drainage or irrigation systems, once the proper water level is established and maintained. Irrigation is not employed in the small scale operations in connection with growing cane for sirup.

## Sugar-Cane Varieties in the United States.

The principal varieties of sugar cane planted in Louisiana are the Louisiana Purple, Louisiana Ribbon, and D-74, the last being an improved seedling variety of erect habit obtained in Demarara by germination of the minute seeds occasionally produced by some varieties of cane under the proper conditions. All varieties at present grown in the South on a large scale for manufacture of sugar are of the wide-leaf, thick-stalk, and relatively soft and juicy type, belonging to the species Saccharum officinarum. Up to now these varieties have given reasonably satisfactory results, but it has become increasingly apparent during the past few years that production is declining in some districts on account of susceptibility to disease. Considerable apprehension was caused during the winter of 1922-23 on account of an unusual degree of seed-cane deterioration caused by rot-producing organisms, and increased infection of the growing plants by the organisms causing root disease and by " mosaic" has been very noticeable. The varieties now grown are neither immune to these diseases nor very tolerant of the injurious effects caused by them. Varieties which are immune, or at least resistant to root disease and mosaic, are being grown in this country experimentally and may prove to be acceptable for commercial sugar production, but this point has not yet been demonstrated.

In growing cane for sirup on the numerous and scattered one and two horse farms of the Gulf and adjoining States, a slenderstalk type of cane has lately come into prominence. Varieties of this type are similar to the Uba, grown in Natal for sugar manufacture. The stalks are intermediate in size between those of Saccharum offcinarum and the so-called Japanese forage cane. These varieties of the Uba type probably were originally cultivated in southeastern China, and for convenience should be called "Chinese" canes. The Cayana-10, grown in Georgia and Florida, is of the Chinese type. The Chinese canes are, as a rule, slow maturing and in our climate have not up to now been used to any great extent for sugar production, owing to the presence in the immature plants of relatively large percentages of other sugars (invert sugar) which tend to retard crystallization of cane sugar. For sirup production, however, the performance of Chinese varieties in comparison with varieties of $S$. officinarum indicates that certain advantages may be claimed for them.

1. In producing the first crop, i. e., the plant-cane crop, the planting expense for seed cane is a very large item for the largestalk varieties and only a moderately large item for the Chinese varieties. However, the haryesting and grinding expenses for Chinese varieties greatly exceed those for the large-stalk varieties.
2. The yields from the Chinese varieties exceed those from the large-stalk varieties, especially in the case of the stubble, or ratoon, crops. The yields from the large-stalk varieties rapidly drop off after the first year, and the third crop (second stubble crop) usually ceases to be profitable. With the slender-stalk varieties of the Chinese type the yield of the first stubble crop is usually as high as that of the plant-cane crop, and sometimes considerably higher. The second stubble crop, if well cared for, usually yields about as much as the plant-cane crop.
3. The Chinese varieties are either immune or highly resistant to mosaic and to root disease, while the large-stalk varieties in common use are seriously affected by both of these maladies.

The selection of proper varieties of cane for either sugar or sirup is of utmost importance to the planter, but unfortunately it is a point which usually does not receive proper consideration. Often existing varieties do not meet the requirements. This is a task for the plant breeder, and will be briefly discussed under " Improvement of sugar plants by breeding and selection," page 203.

## Practices and Labor Requirements in Growing and Transporting Sugar Cane.

The propagation of sugar cane differs from that of most field crops in that the planting material consists of sections of the stalk of the cane. This material required for planting constitutes a considerable portion of the previous crop, and thus involves a much larger planting expense than is required for most other field crops. Furthermore, in the United States and other countries in the temperate zones, a much greater amount of planting material must be used than in tropical countries because of deterioration during the dormant season.

The cane plant is a perennial grass. Where conditions are favorable the plants will sprout up from the roots after harvest for an indefinite number of years, depending on favorable climate, freedom from disease, and renewal of plant food. These successive crops secured without planting are called "ratoon" or "stubble" crops. In Louisiana the "plant" cane, or crop arising from the planting of seed cane, yields a higher tonnage than the succeeding crop of first stubble. It is not customary to permit a crop of second stubble to grow, although it is sometimes done. Due to the elimination of a large percentage of the stools by disease and other causes, second stubble yield a very thin stand. The heavy replanting necessary for filling of the empty spaces is not practicable, since it would result in a ragged or uneven stand and would interfere with the accepted practices for the renewal of plant nutrients by means of green manures. Small patches of cane on virgin soil in southern Florida have been known to ratoon for 10 years or more. In commercial plantings on a large scale investigation usually shows that the fields claimed to have been ratooned for 10 or 20 years have been replanted
to such an extent that hardly any of the original plants remain. Thus, even in the Tropics on virgin soil of high fertility, it is to be expected that the original plants will gradually disappear, owing to the accumulation of disease organisms and insect pests, the drain on mineral nutrients, and periods of unfavorable weather.

## Planting the Cane.

Sugar cane in Louisiana is planted either in the fall or in the spring. For fall planting, the preparation of the land, or bedding, generally begins in late August and continues through the fall. It is temporarily suspended, either wholly or in part, during the latter half of September in order to harvest the corn, hay, and such other feed crops as have been produced. Planting begins about October 15 and continues unabated until the harvest or grinding season begins, when all hands and mules are used to rush the cane to the mills before freezing weather arrives. It is thus evident that there is considerable conflict in the demand for labor in the fall between the planting of cane and the harvesting of cane for the factory.

For this reason spring planting must, from force of circumstances, be resorted to in many cases even though it is slightly more expensive and entails some very disagreeable field labor, due to a greater amount of rainfall at this season. There are some lands which, because of poor drainage or unusual soil conditions, are unsafe for fall planting and so must be spring planted. Seed cane is very susceptible to injury if fall planted in soil which is either too wet or too "dry. If planted in soil which is too wet there is danger of "wet" rot, while if the soil is too dry, the seed cane will dry out and shrivel, thus lowering its vitality and making it more subject to decay from fungous invasion. This holds true whether cane is fall planted or windrowed for spring planting. The advocates of spring planting claim an advantage in that the cane taken from the windrow can be examined and the inferior canes discarded before planting, thus making possible more perfect stands than are obtained when cane is planted in the fall.

The cane is not thoroughly mature when fall planting begins, but because of a desire to get as much planted as possible before grinding commences there is a tendency to advance the date as far as can safely be done. Especially has this been true during recent years because of the labor shortage.
Table 3.-The operations commonly performed in preparing land for planting of cane, together with the acres cocered per day and the man and mule labor required per acre. ${ }^{1}$


[^14]There is little difference in either man or mule labor required per acre or unit for cultivating and harvesting sugar cane, whether the crop be spring or fall planted. Because of variations in soil types, there is, however, some difference in the labor required in caring for the seed cane, the sandy soil adjacent to streams being easier to work than the stiffer clay soils lying farther inland. In caring for the seed cane the requirements for spring planting average 90 per cent greater for man labor and 58 per cent greater for mule labor than the labor requirements for fall planting. In the preparation of the seed bed there is 21 per cent more man labor and 20 per cent more mule labor on the clay than on the sandy land. Presuming that half the cane crop is grown on sandy and half on heavy soil the average amount of labor required for this class of work will be for man labor 0.95 day and for mule labor 1.73 days per acre (Table 3).

Planting is performed with two crews of laborers, one stripping and cutting the seed cane and the other planting. The planting is done


PLANTING SEED CANE IN GEORGIA.
Fig. 9.-Commercial sugar-cane seed consists of sections of cane stalks, which are laid in furrows and later covered by means of a plow or other suitable implement.
by men with 2 -mule plows opening the rows, passing up and down the row throwing the soil to each side, or perhaps with small middle busters doing the same work by passing once across the field; another man follows with a team and plow or block finishing up the furrow. The canes are usually thrown directly from the wagon into the furrow by two or three men called "droppers" (fig. 9). Following them are the "whackers," who cut or whack the crooked or extra long stalks into a number of pieces and see that the seed stalks lie straight in the bottom of the bed. Whacking is done not only to prevent the plows in the spring cultivation from catching the ends and ripping the entire cane from the row, but also to check the destruction of the seed by the cane borer. It is claimed by some
planters, however, that this means of checking the cane borer is offiset by the added opportunity for entrance and encroachment of fungous and bacterial diseases. The whacking is performed by women, girls, or boys equipped with cane knives. After it has been whacked the cane is covered by throwing four furrows over each row. When the soil is dry, the rows are rolled with either a 2 or 3 horse roller in order to retain the soil moisture. The last of the planting operations is the opening of the quarter drains, a system of open ditches, which are necessary because of the heavy rains of this region.

The fall planting of cane, including stripping and cutting of the seed cane and hauling it to the place of planting, requires, on the average, 11.21 man and 6.8 mule days per acre. Of this amount 3.6 man days may be charged as harvest labor performed on the crop furnishing the seed, and 7.61 man and 6.8 mule days as labor directly to planting operations.

Table 4.-The size of crews and duty of each crew for work on seed cane and fall planting.


[^15]Seed cane for spring planting is wintered in windrows or mats. The method of windrowing is usually to cut and throw the cane from two rows into a center furrow and then cover with two furrows to the row. Mats are similar to windrows except that more than two rows are thrown together. Spring planting is usually done in January, February, and March, and sometimes even as late as April. The preparation of the seed bed, as well as the planting of spring cane, is practically the same as for fall planting. The only real difference is the operation of removing the seed cane from the windrows. This is usually done by first scraping the dirt off with a plow, stubble shaver, or small road-grading machine, and then pulling the seed cane out of the bed with one mule hitched to a two-hooked implement called a monkey.

Table 5.-The size of crews and duty of each crew for work on seed cane and spring planting.

| Operation. | Crew. |  | Tons per day. | $\begin{gathered} \text { Acres } \\ \text { per } \\ \text { day. } \end{gathered}$ | Days per acre. |  | Total days per acre. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men. ${ }^{1}$ | Mules. |  |  | Man. | Mule. | Man. | Mule. |
| Harvesting seed cane: |  |  |  |  |  |  |  |  |
| Cut and lay in windrows. | 3 |  | 15 | 1.25 | 2.40 |  | 22.40 |  |
| Storage operations: Fall- |  |  |  |  |  |  |  |  |
| Cover (2 times to row) | 1 | 2 |  | 5 | . 20 | 0.40 |  |  |
| Hoe, cover butts and tips | 1 |  |  | 5 | . 20 |  |  |  |
| Plow and shovel drains. | 2 | 2 |  | 12 | .17 | . 17 |  |  |
| Spring- |  |  |  |  |  |  |  |  |
| Remove soil cover. | 1 | 2 |  |  | . 20 | . 40 |  |  |
| Pull canes with monkey | 1 | 1 | 8 | . 75 | 1. 33 | 1.33 |  |  |
| Shuck cut............... | 2 |  | 8 | .75 | 2.67 |  |  |  |
| Load and haul | 4 | 4 | 8 | . 75 | 5. 33 | 5.33 | 10.10 | 7.63 |
| Planting operations: |  |  |  |  |  |  |  |  |
| Open row (2 times to row) | 1 | 2 |  | 5 | . 20 | . 40 |  |  |
| Open row ( 1 time to row). | 1 | 2 |  | 10 | .10 | . 20 |  |  |
| Lay and whack.......... | 4 |  | 8 | 2 | 2.00 |  |  |  |
| - Cover (4 times to row) | 1 | 2 |  | 2. 50 | . 40 | . 80 |  |  |
| , Plow and shovel drains | 2 | 2 |  | 12 | . 17 | . 17 |  |  |
| Water boy. | 1 | 1 |  | 3.3 | . 30 | . 30 | 3.17 | 1.87 |
| Total days per acre- 3 groups of operations |  |  |  |  |  |  | 15.67 | 9.50 |

${ }^{1}$ The terms "men" and "mar"' are used in showing labor requirements as a composite including men, women, and children.

2 This labor is charged to the erop furnishing the seed. It is shown here as a part of the labor actually involved in the propagation of sugar cane.

## Cultivation.

The cultivation of plant cane extends through the spring and summer, from March to July for the native Louisiana cane, and into August for the variety known as D-74. With the latter variety, because of its upright habit of growth, the rows do not close early and shade the centers well, and hence later cultivation and hoeing are required in order to maintain soil moisture and prevent weed growth. With the exception of minor differences in cultivation, due to variety planted, there is very little difference in the culture of spring and fall planted cane.

Tabte 6.-The size of creus, and duty of the crews, necessary in cultirating a crop of spring or fall planted cane.


With stubble cane there is no preparatory labor, the only field operations being tillage and harvesting. In the cultivation of this cane most of the operations are the same as those used in the production of plant cane. There are, however, the additional operations of removing a part of the soil from above the cane roots, known as shaving the stubble, which is followed by an operation called digging, which loosens up the soil about the stubble. A specially constructed machine is used for each operation. The labor normally required in these operations, together with that of opening drains, is noted in Table 7.

Table 7.-The operations of cultivation for stubble cane in aldition to those for planted cane.

| Operation. | Times done. | Crew. |  | $\begin{gathered} \text { Acres } \\ \text { per } \\ \text { day. } \end{gathered}$ | Days per acre. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Men . | Mules. |  | Man. | Mule. |
| Shave stubble ( 1 time to row) | 1 | 1 | 2 | 6 | 0.17 | 0.33 |
| Dig stubble (1 time to row).. | 1 | 1 | 2 | 10 | . 10 | . 20 |
| Shovel drains. . . . . . . . . . .-..................-. -- |  | 1 |  | 12 | . 08 |  |
| Additional labor as shown for planted cane in Table 6. |  |  |  |  | 12.04 | 5.72 |
| Total cultivation labor per acre for stubble cane, days |  |  |  |  | 12.39 | 6.25 |

Fertilization and Rotation.
The fertility of the alluvial soils of the Mississippi Delta is maintained by the application of commercial fertilizers and by plowing in green manures. Approximately half of the cane grown in Louisiana receives fertilizer of some kind. The application of commercial fertilizers, when used, varies from 400 to 600 pounds per acre for plant cane and somewhat more for stubble cane. A part or all of the commercial fertilizer for plant cane is applied in the row at time of planting. Should only a part of it be applied at the time of planting, the rest is used as a side application after the first cultivation. Stubble cane is usually fertilized just following the first or second time it is barred off.

It is the intention of the cane planter to sow about one-third of his crop land to peas each year, in order to furnish a green-manure crop which will improve the texture and fertility of the soil and thus aid in maintaining the yield of cane. The land intended for peas is usually planted to corn in the spring and the peas sown between the corn rows at the last cultivation. The yield of corn is ordinarily low because the spacing of the rows is the same as that for cane, which is 5 or 6 feet, and the corn receives little attention owing to the labor requirement on cane, which comes at the same season. The advantages of planting corn are that its culture prepares the seed bed for peas, it produces a small amount of grain, it furnishes support for the peas, and the cornstalks, together with the pea vines, furnish considerable fall and winter pasture for the mules.

Frequently the nitrogen supplied by a crop of cowpeas is not quite enough to restore that removed by a plant-cane crop and one or two stubble crops. The deficiency is made up by applying nitrogenous fertilizers, usually in the form of cottonseed meal.

On the light textured soils of the sirup-producing sections heavier applications of fertilizers are made, often 800 to 1,800 pounds per
acre, except for the small patches of cane for which sufficient barnyard manure is available or for which the land is especially enriched by penning cattle on it previous to planting it to cane.

Ordinarily, peas in the cane-producing sections of Louisiana do not produce a seed crop but are turned under and followed by plant cane. Nlthough occasionally some hay is removed from land planted to peas, it is believed that the cost of the seed peas may safely be considered a direct charge against the cane crop, since the value of the hay so obtained is seldom worth more than the cost of harvesting.

Table 8.-The labor required per acre for hauling, mixing, hauling to the field, and distributing ferlilizer then the rates of application are 400 to 600 pounds, per acre, respectively.

| Operation. | Crew. |  | Acres per day. |  | Days per acre. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men. | Mules. | $\begin{gathered} \text { At } \\ 4001 \mathrm{bs} . \end{gathered}$ | $\begin{gathered} \text { At } \\ 600 \mathrm{lbs} . \end{gathered}$ | At 400 lbs . |  | At 600 lbs . |  |
|  |  |  |  |  | Man. | Mule. | Man. | Mule. |
| Haul to farm, 4 tons a day.. | 2 | 2 | 20 | $13 \frac{1}{2}$ | 0.10 | 0.10 | 0.15 | 0.15 |
| Mix and sack, 5.7 tons a day | 2 |  | 28 | 19 | . 07 |  | . 10 |  |
| Hanl to field................. | 1 | 2 | 50 | 50 | . 02 | . 04 | . 02 | . 04 |
| Distribute.. | 4 | 8 | 50 | 50 | . 08 | . 16 | . 08 | . 16 |
| Total labor, all distributed at one time. |  |  |  |  | . 27 | . 30 | .35 | . 35 |
| Total if put out in two applications..... |  |  |  |  | . 37 |  | .45 |  |

## Harvesting Cane.

The usual harvesting operations are stripping the leaves from the stalk, topping the cane, cutting it at the ground, and hauling to the station or factory. The time required for these operations will yary with the yield, condition of cane, and the weather. The heavier yields will require slightly more labor per acre, but less labor per ton for harvesting. Harvesting of lodged or crooked cane will also retard operations. In many sections it is the custom now to let cutting and stripping out on contract at 50 cents per ton, while in others all this work is done by day labor.

Table 9.-Approximate labor requirements for harvesting sugar cane per acre and per ton with varying yields. ${ }^{1}$

|  |  |  |  |  |  | oor rec per | ireme on. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Operation. |  | w. | $\underset{\text { per }}{\text { quire }}$ | ments cre. |  | yield tons cre. | Wit of 1 per | yield <br> tons <br> cre. |
|  | Men. | Mules. | Man days. | Mule days. | Man days. | Mule days. | $\begin{aligned} & \text { Man } \\ & \text { days. } \end{aligned}$ | Mule days. |
| Strip, top, and cut | 19 |  | 7.17 |  | 0.60 | - - . . . | 0.42 | ....... |
| Hand load 2.... | 3 |  | 1.14 |  | . 09 |  | . 07 |  |
| Haul............. | 3 | 12 | 1.14 | 4. 56 | . 09 | . 37 | . 07 | 0.27 |
| IIoist and weigh ${ }^{3}$ Water boy..... | 3 | 1 | 1.14 | . 38 | . 09 | . 03 | .07 | . 02 |
| Water boy..... | 1 | 1 | . 38 | . 38 | . 03 | . 03 | . 02 | . 02 |
| All operations. | 29 | 14 | 10.97 | 5.32 | . 90 | . 43 | . 65 | . 31 |

[^16]
## Character of Implements and Labor Employed.

In the production of cane in Louisiana many special implements are used, including extra large plows and middle-breakers, high double cultivators, stubble shevers, and stubble diggers, and, on some plantations, mechanical loaders. Special hand tools of inexpensive design are used to do the harvesting (fig. 10): Where sugar cane is a minor crop, as is the case in the principal sirup-producing sections, the cultivating implements are practically the same as for other crops.

In this discussion, laborers are spoken of as men. It should be remembered, however, that large numbers of women, girls, and boys are employed on cane plantations, the girls and boys ranging in age from 15 to 18 years and drawing about the same wage as women. Such operations as stripping, cutting, hoeing, shucking, whacking, and carrying water are usually performed by this type of labor.

The size of the crews for planting and other operations may vary, depending on the acreage to be planted and the time available for the work. In this discussion the crews are treated on an acre basis. The number of mechanical appliances for handling cane also affects the size of crews. On some plantations the loading of wagons is accomplished with small hoisting machines mounted on trucks, together with a gasoline engine, the outfit being drawn about the field by four mules. The same machine, with


IMPLEMENTS FOR HARVESTING SUGAR CANE.
Fig. 10.-In harvesting sugar cane the leaves are first stripped from the stalk by using the back of a cane knife, C. Sometimes the special tool represented by $A$ and $B$ is used for stripping. The stalk is then topped and cut off at the surface of the ground with the cane knife. A hoe, D, may be used for the latter operation. somewhat different appliances, is sometimes used instead of a mule and monkey for pulling the seed came from the windrow. Small road-grading machines are sometimes used for uncovering the windrowed seed cane and are also used for opening drain ditches. Trac-
tors have replaced mules on some plantations in the performance of operations where the draft is great and the growth stage of the cane and the condition of the soil will permit.

## Total Labor Requirements.

Field investigations made on the 1922 sugar-cane crop in Louisiana show that an acre of fall-planted cane receiving no fertilizer required, on the average, 15.8 days of human labor and 9.45 days of mule labor from the time the seed stalks were put in the ground up to the time of harvest. The human labor consisted of men, women, and children. The harvesting operations, which include stripping, topping, cutting, loading, hauling, hoisting, and weighing, add 10.97 days of human labor and 5.32 days of mule labor for a 17 -ton-per: acre crop, making a total of 26.77 days of human labor and 14.77 days of mule labor to grow and harvest fall-planted cane producing that yield. In order to make these figures comparable to those which follow on spring-planted cane, we must add the time required to load the seed cane and haul it to the place of planting. This will increase the man labor 4.8 days and the mule labor 4.8 days per acre, making a grand total of 31.57 days of human labor and 19.57 days of mule labor per acre.

Table 10.-Summary of man and mule labor per acre for fertilized and unfertilized sugar canc.
[Days of labor shown for cane harvested for the mill and for seed.]

| Operation. | Cane for the factor: |  |  |  |  |  | Cane fir seed. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 17 tons per acre. |  |  |  | 12 tons per acre cane. |  | 17 tons jer acre plantcane. |  | 12 tons per acre cane. |  |
|  | $\begin{aligned} & \text { Fall- } \\ & \text { planted } \\ & \text { cane. } \end{aligned}$ |  | Springplanted canc. |  |  |  |  |  |  |  |
|  | Man. | Mule. | Man. | Mule. | Man. | Mule. | Man. | Mule. | Man. | Mule. |
| Storage, and transporting seed cane | 4. 80 | 4. 80 | 10. 10 | 7.63 |  |  | 7.45 | 6.21 |  |  |
| Fitting land. | . 95 | 1.73 | $\stackrel{.95}{8 .}$ | 1.73 |  |  | 2.95 | 1.73 1.94 |  |  |
| Planting... | 2.81 | 2. 5.72 | 3.17 12.04 | 1.87 5.72 | 12.39 | 6. 25 | 12.04 | 1.94 5.72 | 12. 39 | 6. 25 |
| Harvesting. | 10.97 | 5. 32 | 10.97 | 5.32 | 10.97 | 5. 32 | ${ }_{2} 3.00$ |  | 8.40 | 4. 80 |
| Labor per acre, unfertilized cane. | 31.57 | 19.57 | 37.23 | 22. 27 | 23. 36 | 11. 57 | 26.43 | 15.60 | 20.79 | 11.05 |

[Addition for fertilized cane.]

| Labor per acre, unfertilized cane Applying fertilizer............. | $\begin{array}{r} 31.57 \\ .45 \end{array}$ | $\begin{array}{r} 19.57 \\ .55 \end{array}$ | $\begin{array}{r} 37.23 \\ .45 \end{array}$ | 22.27 .55 | $\begin{array}{r} 23.36 \\ .45 \end{array}$ | $\begin{array}{r} 11.57 \\ .55 \end{array}$ | 26.43 .45 | $\begin{array}{r} 15.60 \\ .55 \end{array}$ | $\begin{array}{r} 20.79 \\ .45 \end{array}$ | $\begin{array}{r} 11.05 \\ .55 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Labor per acre, fertilized cane. | 32.02 | 20.12 | 37.68 | 22.82 | 23.81 | 12.12 | 26.88 | 16.15 | 21. 24 | 11.60 |

[^17]Cane planted in the spring required 16.16 days of human labor and 9.32 days of mule labor to plant and cultivate up to the time of harvest, if no fertilizer was used on the crop. Harvesting a 17 ton crop of spring-planted cane added 10.97 days of man labor and 5.32 days of mule labor, making a total of 27.13 days of man labor and 14.64 days of mule labor per acre of spring-planted cane without fertilizer. To this should be added the labor of windrowing the seed cane in the fall and removing it from the windrows in the spring, which can be called storage operations. These operations add 10.1 days of man labor and 7.63 days of mule labor, making a grand total of 37.23 days of man labor and 22.27 days of mule labor to produce and harvest an acre of unfertilized spring-planted cane.

It required 12.39 days of human labor and 6.25 days of mule labor to cultivate an acre of stubble cane. To harvest a 12 -ton crop of stubble cane required 10.97 days of human labor and 5.32 days of mule labor per acre. The total human labor per acre on unfertilized stubble cane throughout the entire season was 23.36 days, while the mule labor totaled 11.57 days per acre.

If fertilizer was used, approximately one-third of a day of man labor and a like amount of mule labor per acre was required, whether the cane was fall planted, spring planted or stubble (fig. 11).

DAYS OF MAN LABOR PER ACRE SPENT ON FIELD OPERATIONS OF PRODUCING SUGAR CANE, LOUISIANA, 1922.


Fig. 11.-The production of spring-planted cane required over 5 days more man labor than fall-planted cane, and stubble cane about 8 days less labor. It required almost twice as much labor to store, transplant, and plant spring cane as it did fall cane. Stubble cane required a little more labor for cultivation on the average than plant cane, but somewhat less labor for harvesting.

## Rates for Labor.

Customarily, laborers are employed on cane plantations on a daily wage basis, the amount of pay being governed by the kind of work that is performed. Before and after the harvesting and grinding season, field work is handled by local help that works on the plantation throughout the year. During the harvesting and grinding season, there is a large influx of additional labor that helps in the heavy rush of work which comes at that time. In general, all the laborers on the cane plantations during this rush period receive a daily wage from 25 to 75 per cent higher than wages paid during
the other seasons. In Table 11 is shown the trend of daily wages paid during the past seven years for laborers during the grinding season (which corresponds to the harvesting season) and the remainder of the year.

Table 1.1.-Showing the prevailing plantation rates for labor through a series of years, grouped as to class and season. ${ }^{1}$

| Year. | During grinding. |  |  | Before and after grinding. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men. | Women. | Drivers. | Men. | Women. | Drivers. |
| 1916. | 81.25 | \$1.00 | \$1.50 | \$0.80 | \$0.60 | 80.90 |
| 1917. | 1.25 | 1.15 | 1.50 | . 90 | . 70 | 1.10 |
| 1918. | 2.25 | 1.75 | 2.50 | 21.00 | 2.70 | 21.40 |
| 1018. |  |  |  | ${ }^{3} 1.25$ | 3.80 | ${ }^{3} 1.50$ |
| 1919. | 2.25 | 1.75 | 2.50 | 1.25 | . 90 | 1.50 |
| 1920 |  |  |  | 21.40 | 21.00 | ${ }^{2} 1.65$ |
| 1920 | 2.25 | 1.75 | 2.50 | ${ }^{4} 1.50$ | 41.10 | ${ }^{4} 1.75$ |
| 1929. |  |  |  | 51.75 | 51.25 | 52.00 |
| 1921. | 1.25 | 1.00 | 1.50 | 1.00 | . 80 | 1.25 |
| 1922. | 1.25 | 1.00 | 1.50 | 1.00 | . 80 | 1.25 |

${ }_{2}^{1}$ Perquisites granted laborers not included.
2 January to April.
${ }^{3}$ A pril to time of grinding.
${ }^{1}$ April to May.
${ }^{5}$ May to time of grinding.

## Cost of Production.

In the study of cane production and in showing labor used in the several operations it has been considered that harvest labor should

```
COST, EXCLUDING RENT OF LAND, OF PRODUCING ONE ACRE OF SUGAR CANE NOT FERTILIZED, LOUISIANA, 1922.
```



Fig. 12.-The cost of producing an acre of sugar cane is high compared with other fiedd crops. The large amount of hand labor lequired is largely responsible for this. In addition, the cost of seed cane is particularly high in the United States. The cost of labor does not include value of perquisites. Sometimes rent of cabin, land for garden, wood for fuel, etc., are supplied free. Their values vary on different plantations and at different times.
only include the labor necessary to bring the cane to the point of acceptance by the factory, whether it be the field hoist, the barge, or by wagon direct to the factory hoist. In this discussion, therefore, the labor in the factory has not been considered. The total cost of the manual labor necessary to produce and deliver cane to the factory
is the largest single item of expense, and during 1922, for planted cane, constituted from 42 to 47 per cent of all expenditures, excluding the rent of land. In the production of stubble cane manual labor made up from 53 to 58 per cent of all expenses in production, excluding land rent. As an average for all cane upon a plantation which consists of approximately one-fourth fall planted, one-fourth spring planted, and one-half stubble cane, manual labor made up in 1922 from 48 to 52 per cent of all costs other than land rent (fig. 12).

From the limited number of observations made in Louisiana upon the crop produced in 1922 the following table upon direct cost of production has been drawn up. . Such items of indirect cost as overseeing, loss in procuring and holding labor, perquisites given, and cffice expense are not included. The data cover the growing of approximately 4,000 acres of sugar cane.

Table 12.-Average cost, excluding land rent, of growing and harcesting for the factory, 1 acre of sugar cane on individual plantations in Louisiana, 1922. ${ }^{1}$

| Item. | Fall plant. | Spring plant. | Stubble. | Weighted average. ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: |
| - |  |  |  |  |
| Man labor ${ }^{3}$. | \$39.46 | \$46.54 | \$29.20 | \$36.10 |
| Contract labor | 1.00 | 1.00 | 1.00 | 1.00 |
| Mule labor ${ }^{3}$.. | 15. 66 | 17.82 | 9.26 | - 13.00 |
| Seed cane. | 21.60 | 27.00 |  | 12.15 |
| Green manure-peas | 2.43 | 2.43 | 1.42 | 1.92 |
| Machinery.......... | 4.96 | 4.96 | 4.96 | 4.96 |
| Total-unfertilized | 85.11 | 99.75 | 45.84 | 69.13 |
| Fertilizer..... | 4.34 | 4.34 | 6.17 | 5.25 |
| Man labor for fertilizing | . 56 | . 56 | . 56 | . 33 |
| Mule labor for fertilizing.. | . 44 | . 44 | . 44 | . 44 |
| Total-fertilized. | 90.45 | 105.09 | 53.01 | 75.39 |
| A verage vield-tons. | 17 | 17 | 12 | 14.5 |
| Cost per ton.... | \$5. 32 | \$6.18 | \$4.42 | \$5. 08 |

${ }^{1}$ Exclusive of overhead supervision and interest on investment in land.
2 Assuming one-fourth in fall-plant, one-fourth in spring-plant and one-half in stubble.
${ }^{3}$ Man labor at $\$ 1.25$ per day and mule labor at $\$ 0.80$ per day. Value of perquisites not included.
The labor and machinery costs in Table 12 include only that portion used in production, and do not include any factory labor or equipment. At the usual rates of planting it requires 4 tons of seed cane per acre for fall planting and approximately 5 tons of seed cane per acre for spring planting. To keep about half of the cane acreage in plantcane each year consumes, therefore, a considerable portion of the crop. About 15 per cent of the total cane yield is used for seed each year.

## Transporting the Cane to the Mill.

Sugar manufacture from cane in the United States in competition with other sugar-producing countries is feasible only by operating at high efficiency, and this is possible only by extensive operations, involving the investment of half a million or more dollars in the railroad and mill (figs. 13 and 16). To supply such a mill the cane must be the main crop on an extensive area, 5,000 acres or more, near the factory. The manufacture of sugar from cane is therefore an industry not adapted to sections where soil and climate are not well suited to making sugar cane the main crop. When the cane is ready
to harvest it must be cut, stripped, topped, and transported to the mill in the shortest possible space of time, and this requires a coordination of big-scale operations not approached by any other agricultural enterprise. The necessity for speed is urgent in Louisiana and other temperate zone countries, because of the danger of frost and the consequent inversion of cane sugar. In the Tropics, the same efficient transportation to the mill after cutting is necessary, because of the activity of ever-present microorganisms which cause inversion at a rapid rate in warm climates, once the cane has been cut and ceases to carry on its normal physiological functions.

These facts impose the necessity for organization of a transportation system and a rigid discipline in all related activities comparable in its efficiency to the service of supply in a modern army. Field superintendents receive their orders for cutting from the supervising field manager, who in turn must cooperate with the mill adminis-


RAILROAD BRIDGE ON A SUGAR-CANE PLANTATION.
Fig. 13.-The cost of building private railways is a large item of expense in sugar-cane production.
trator. If, for instance, the precrusher in the mill should break down, this intelligence must be communicated without delay to the remotest field where cane is being cut to prevent an accumulation of loaded cane trains in the mill railroad yards. The cut cane would spoil even after a short delay in milling operations. Roads must be maintained in condition to enable heavily loaded carts or wagons to pass from the fields to the railroad sidetracks in an orderly procession. The railroad traffic manager must keep the loaded cane trains moving to the mill and provide "empties" where needed, despite the traffic accidents which are bound to occur on the unballasted and sometimes portable tracks, which are used everywhere except for the main lines.

Among the factors mentioned at the beginning of this discussion was the necessity for close proximity of land to the mill. Economic operation demands that the fields be not too distant on account of
the time consumed in making long hauls, the extra fuel burned in making these hauls, and the extra investment in trackage and rolling stock necessary. The ideal arrangement is for the mill to be placed at the center of an approximately circular feeding area with the public railroad passing near the sugar-storage warehouse of the mill. This arrangement is often interfered with by local conditions, such as the presence of swamps, lakes, rivers, and land unavailable or unsuited for cane cultivation.

## The Labor Situation.

The Louisiana planter is confronted with an emergency in the farm labor situation to-day. Sugar cane is a crop that requires a vast amount of hand labor. The sugar plantations of the South were originally worked by slaves. Since the Civil War the labor problem has in successive stages become more acute until at present it may be truthfully characterized as the problem for which, more than for any other, a solution is urgently needed. The labor conditions of to-day result from the competition between the northern manufacturer and the southern planter, and the planter is unable frequently to attract and hold labor in the face of inducements offered by the manufacturer. Migration from the southern farm to the northern factory has therefore been going on at an increasing rate for several years. No labor-saving machinery of sufficient practicability has come into use to compensate for this loss. The solution may lie in the direction of breaking up the plantation into small privately owned farms, as in the beet sections.

Moreover, Louisiana comes into competition with countries where labor is almost unbelievably abundant and cheap. While the wage scale in Cuba, Porto Rico, and other West Indian islands has advanced during the past few years, it is still below that in the United States. The Philippine laborer gets from one-fourth to one-half the wages of the southern negro, and the coolies of Java and Formosa, drawn from an almost inexhaustible supply, receive from onetenth to one-fifth the amount paid in Louisiana. It should be stated, however, that this difference is compensated in some measure by the fact that Malay labor is not so efficient as our negro, and that the low price paid to the more capable Chinese coolies on Formosan plantations is partially offset by the poverty of their soils as compared with ours.

## Diseases of Sugar Cane in the United States.

It is not possible in the limits of this article to mention all the fungous, bacterial, and other diseases of sugar cane reported as occurring in the United States. The presence of these diseases constitutes one of the hazards which confront the cane growers, coordinate in its effect with unfavorable weather or adverse economic conditions. Not all of the serious diseases of cane are yet present here, and it is to be hoped that owing to the quarantine regulations now in force, with the cooporation of American cane growers, certain cane diseases of other sugar regions will be excluded. Among the diseases not present here, which seriously curtail production or add to the cost of production elsewhere, are Sereh, Fiji disease, gumming disease, downy mildew, smut, and rust. Some of these destructive diseases have necessitated a complete change of varieties, impor-
tant changes in cultural practices, and minor modifications in milling methods.
On account of our temperate climate with its annual alternation of growing and dormant periods for the cane plant, it is possible to classify cane diseases into those which exert their greatest influence on the growing crop, and those which affect the seed cane during the winter while it is banked or lying in the ground. Injury due to the


EFFECT OF MOSAIC DISEASE ON STALKS OF A VERY SUSCEPTIBLE
FIG. 14.-Mosaic is one of the many infectious diseases of sugar cane in America. The injurious effect of mosaic is somewhat similar to the effects of soil poverty or drought; the slight stunting of the plants in many cases is overlooked by planters. In the illustration a healthy stalk is shown in the center for comparison.
latter type of disease is more readily computed than the former. The amount of seed cane necessary to obtain a good stand in this country, as compared with tropical countries, is an index of the injury caused by the disease organisms which work during the dormant period. In the Tropics, where the dormant period is almost negligible, $1 \frac{1}{2}$ tons of seed per acre will produce a good stand. In Louisiana 4 to 6 tons of seed are required, largely on account of destruction of "eyes" by various fungi and bacteria. Improved methods for storing the seed cane, and attention to the possibility of spread of infection in windrows, would certainly diminish this annual loss of 350,000 to 500,000 tons of cane.
Of the diseases affecting the growing crop, the root disease, the mosaic disease, and the leaf-spotting diseases may be mentioned. Root disease, in which the young root tips are invaded and killed by fungi, until the roots are so reduced as to be unable to supply the plant with nutrients or provide anchorage, is generally considered responsible for the failure of stubble crops here. The parasitic organisms survive in cane trash and soil of cane fields, so that direct methods of control are not practicable. Since some varieties, such as some of the P. O. J. seedlings from the Pasoeroean, East Java, Experiment Station are resistant to this disease, the root disease problem must eventually be solved by substitution of these or similar varieties of cane.

The mosaic disease is a good illustration of the effect of careless importation of sugar-cane varieties from foreign countries. This destructive disease, which affects corn, sorghum, and millet, as-well as sugar cane, must have been introduced into the United States about 10 years ago. Careful records of its occurrence here, dating from 1919, when it was first observed in Louisiana, prove that it has spread from definite local points at an astonishing rate since that time. Mosaic disease causes destruction of the chlorophyl, or green coloring matter of leayes, and consequent stunting of the plants (fig. 14). Notwithstanding the efforts of the United States Department of Agriculture and State agricultural agencies, this disease has been practically ignored by cane planters everywhere, except in the peninsular section of Florida, where destruction of diseased plants, made compulsory by the Florida Plant Board, promptly and effectively stamped it out at the eight infected centers. Elsewhere, with the exception of a few small areas, the disease is now beyond control. Sereral varieties of sugar cane are known to be immune to it, however, and although the known immune varieties are not suitable for Louisiana, one of them is now being extensively grown in Georgia.

## Insect Pests of Sugar Canc.

The primary insect pest of sugar cane in the United States is the sugar cane moth borer (Diatraea saccharalis cramb̈idoides). As indicated by the name, the "borer" is the larva of a moth. The exact date of its appearance in the United States is unknown. It appears to have been first noticed in the Parish of St. John the Baptist, La., in 1865. It is probable that the pest was introduced in shipments of cane either from the West Indies or South America.

The injury to cane by this insect consists of tunnels about an eighth of an inch in diameter and sometimes several feet long made by the larva in the interior of the stalk (fig. 15). For the most part
the injury is not readily noticed as the cane leaves remain green. Sometimes, however, in the case of young plants, the injury is so severe that the death of the plant occurs within a few days after it has been attacked. The insect passes the winter in the larval stage within its host. It is therefore important to plant only borer-free


INJURY TO CANE STALKS BY BORERS.
Fig. 15.-The sugar-cane borer penetrates the cane stalk and remains within the stalk until it reaches maturity. It then emerges and produces another brood of borers. Several broods of this pest may be produced during a single season. seed cane if possible. The mature insect emerges in the spring to start another generation. Four or five generations occur annually in Louisiana. It has been computed that the loss in production of sugar upon one Louisiana plantation because of borer infestation amounts to 1,000 pounds per acre.

Certain parasites of the moth borer are found in the "trash" leaves, or "shucks," left on the fields after cutting the cane. It is recommended that instead of burning this débris, it be lightly covered with earth in the fall and plowed under in the spring. This practice allows the parasites to winter over successfully and attack the moth borers the following season.

It has been demonstrated by the Department of Agriculture that the borer larvæ within seed-cane stalks can be killed by treatment with hot water for 20 minutes at $52^{\circ} \mathrm{C}$. without injuring the cane. This treatment is practicable for treating seed cane previous to shipping into noninfested territory. Hotwater treatment of seed cane on a large scale for field planting has been tried; in addition to eliminating the borer, it stimulated the cane to earlier germination and more rapid growth.

The sugar cane mealybug (Pseudococous calciolariae) has a wide distribution in the United States, being particularly abundant in the important sugar-growing parishes of Louisiana near New Orleans. It is present, however, in all of the other parishes where sugar cane is grown on large areas and in Georgia and Florida as well. The colonies of this insect may be recognized by the presence of white woolly patches situated usually on the
stalks in the vicinity of "eyes" where they are protected by the leaf sheaths. When infested cane is cut for seed the colonies remain in this position and frequently the insects increase in numbers to such proportions that the tender eyes are killed by their feeding. Feeding is accomplished by sucking the juice from the tender growth. Many of the stunted plants in badly infested fields of young cane have been checked in growth by the mealybug. The insects are distributed to uninfested territory on seed cane. An intimate relation between the mealybug and the Argentine ant has been proved. The mealybugs increase enormously when tended and protected by this ant. Eliminating the ant by poison bait therefore reduces the mealybug infestation. It has recently been shown that seed cane can be completely freed of the mealybugs by immersion of the cane in water at $52^{\circ} \mathrm{C}$. for 20 minutes. Spread of the pest into new territory may be prevented in this way.

## Manufacture of Sugar from Cane.

The juice is extracted from the cane by means of heavy steel horizontal crushers and rollers driven by powerful steam engines. The cane passes first between two crushers, which are rollers with interlocking teeth of various design on their faces. Here the cane is pressed into a mat of even thickness. It passes by means of an endless carrier to the first set of rollers which are arranged in a


A TYPICAL CANE MILL.
Fig. 16.-The development of the modern cane mill has kept pace with the most progressive of industrial enterprises. The efficiency and capacity of these mills have been greatly increased in recent times.
group of three-two below and one above. In most modern mills there are three to four such groups of rollers arranged in tandem. As the mat of cane passes in a horizontal direction from one set to the next, it is sprayed with hot water to dilute the remaining juice and facilitate a more complete extraction. After passing the last roller the mat of extracted cane fiber, or bagasse, is carried on an-
other endless conveyer to driers or directly to the furnace, where it is used for fuel to operate the mill (fig. 16).

The juice flowing downward from the sets of rollers is first strained to remove suspended matter. It passes through a juice heater, where the temperature is raised to $190-200^{\circ} \mathrm{F}$., thence into settling tanks. After about one-half hour the fairly clear juice is drawn off, leaving a deposit of dirt in the bottom of the tank. The juice is further clarified by the addition of lime. Sulphurous acid or other chemicals may also be used, depending on the methods followed in individual mills. All methods have for their purpose the precipitation of impurities, which are afterwards filtered out, or the decomposition of reducing sugars into organic acids. The settlings and scums from juice heaters and settling tanks are treated separately, and the clear liquor recovered from them is added to the main body of clear juice, which is evaporated to sirup under partial vacuum in


MAKING SIRUP ON A SMALL FARM.
Fig. 17.-The old-time sirup mill is still to be found in the Southern States. The rollers are operated by means of mules and the juice is evaporated to sirup in the open kettle. There are now many modern mills in which steam or electric power is used and improved forms of evaporators are employed in making cane sirup.
the so-called "effects." The sirup may or may not be further clar1fied and filtered at this point, depending on details of the process used. It now passes into the vacuum pans where it is boiled at low temperatures under greatly reduced atmospheric pressure. After long-continued boiling the sirup becomes very thick and concentrated, due to evaporation of water, and small crystals of sugar begin to appear in the heavy viscous liquid. These crystals grow in size with the introduction from time to time of fresh sirup. When the crystals are of proper size the magma of crystals and mother liquor known as "massecuite" is passed on to the centrifugals, where the next operation of separating crystals from the mother liquor (molasses) takes place. Usually the molasses is not entirely exhausted of sugar and is returned and boiled again in the vacuum pan, either
alone or with the addition of fresh sirup. The process may be repeated several times.

The centrifugal machines, of which there are usually a large number, known technically as a "battery," consist of vertical cylindrical baskets inclosed in jackets. The sides of the baskets are perforated and in addition are lined with fine-mesh wire-gauze strainers. The baskets are revolved at high speed and the molasses is thrown out against the sides of the outer jacket and drops into a gutter below. The crystals are retained in the baskets and are washed quickly with water while revolving to remove the film of molasses. The sugar is scraped with paddles from the sides of the baskets as they revolve and is carried through tubes to driers, then to a spout where it is bagged or barreled.

The entire process of sugar manufacture from cane is subject to great variation of details, but all methods are based on the above fundamental principles. Sugar produced in this manner varies greatly in the amount and nature of impurities still contained. Those of high purity, polarizing as high as 99.6 at $30^{\circ} \mathrm{C}$., are sometimes sold as direct consumption sugars. Others containing greater amounts of glucose, ash, and organic impurities are sent to refineries for further purification. The by-products of a cane factory, derived principally from bagasse and molasses, will be discussed under "Byproducts of sugar manufacture."

## Manufacture of Sirup.

The manufacture of table sirup, as it is carried on in the South, requires only a small investment in equipment, consisting usually of a small three-roller mill driven by an internal combustion engine and an open evaporating pan placed over a furnace and heated by means of a wood fire. The cane juice is first settled and the fairly clear liquid is then introduced into the pan and evaporated to sirup. During evaporation the juice is continually skimmed and certain impurities are removed, but usually no chemical clearing agents are used (fig. 17).

Extension of the market for cane sirup has been retarded by the fact that, as it is produced by a large number of individuals on a relatively small scale, the sirup has varied greatly in quality. Furthermore, cane sirup evaporated to fairly high density will crystallize, while on the other hand sirup of sufficiently low density to prevent crystallization inevitably ferments unless heated and preserved in air-tight containers. Correction of these difficulties will materially assist in increasing the market for cane sirup.

Crystallization of cane sirup is due to the presence of too great a proportion of sucrose or cane sugar and may be prevented by a process recently developed in the Department of Agriculture. This consists of using invertase, an enzyme obtained from yeast, in such manner as partially to invert cane sugar, thereby producing a mixture of cane sugar and invert sugar of increased solubility. By partially inverting the cane sugar in cane sirup by this method it is also possible to produce a noncrystallizing sirup of such high density as to greatly minimize the danger of fermentation. This last procedure is recommended for sirup shipped in barrels or held in bulk during
warm weather. The process is also advantageous for preventing crystallization of sirup of moderate density packed in cans. The value of the method has been demonstrated in commercial practice. The cost for invertase is approximately one-half cent per gallon of sirup.

For the purpose of producing sirup of uniform quality the organization of cooperative associations offers attractive possibilities. A movement in this direction has been fostered during the last year by the farm bureau federations in a number of Southern States. Except in localities where a large amount of cane is available within easy hauling distance, a cooperative mill is hardly feasible. The most practical plan for most sections is to deliver finished sirup at a central blending plant, the sirup from the various individual producers being there mixed on a sufficiently large scale to insure uniformity of the various grades. The sirup can also be given such further treatment as is practicable. Experimental work indicates the feasibility of filtering the finished sirup at the central plant and by this means improving the quality of low-grade sirup.

Extension of the market for cane sirup would make profitable for the farmer an increased acreage of sugar cane, which is highly desirable in view of the need for greater diversification of crops in the South.

## Factors Influencing Sugar-Beet Culture.

The commercial production of sugar beets depends upon soil, topography, climate, water supply, drainage, and seepage. In addition to the foregoing natural factors which may be considered of importance in selecting a locality for sugar-beet production, many other factors influence the production of this crop. Various pests and diseases have become so prevalent in certain areas that successful beet culture is impossible. Among the agronomic factors affecting beet production may be mentioned crop rotations, especially their influence upon soil fertility, date of plowing, preparation of seed bed, date of planting, thinning, and other operations, as well as the application of fertilizers and the care exercised by labor in performing the various operations involved in the growing of the crop. The sugar-beet areas of the United States lie in part within humid regions, dependent upon rainfall, and in part within the semiarid and arid regions, where most of the crop is grown under irrigation.

## Effect of Weather on Sugar-Beet Culture.

While the temperature must be sufficient to keep sugar beets growing, it has been found that moderate temperatures and long hours of daylight are necessary to produce a high sugar content. Beets are very sensitive to frost when young, but can stand rather cold weather as they approach maturity. The crop should have a growing period of about five months.

The sugar beet requires for its development and growth a uniformly warm and moist soil and a warm atmosphere during the early and middle portions of its growing period. Cooler weather with large diurnal variations in temperature is needed during the ripening period.

The most successful beet districts in the United States are in the regions where the mean temperature during the summer months is not far from $70^{\circ} \mathrm{F}$. Figure 18 shows the belt in which the mean summer temperature is between $67^{\circ}$ and $72^{\circ} \mathrm{F}$. It will be noted that most of the sugar-beet factories are located in this belt.

A uniform supply of moisture is needed for sugar beets, as drought retards growth, while excessive moisture in the soil is followed for several days by a reduced sugar content of the beet roots. Comparatively dry weather should prevail during ripening. In the Great Plains, Rocky Mountain, and intermountain regions the rainfall is not sufficient to produce a satisfactory crop of beets and irrigation is necessary. In these regions drainage as well as irrigation is usually essential to success.


Fig. 18. - Sugar beets thrive best in localities where the temperature during the summer (average of June, July, and August) does not vary greatly from $70^{\circ} \mathrm{F}$. Nearly all of the beet-sugar factories in the United States are located betwern the isotherms of 67 and $72^{\circ} \mathrm{F}$. summer temperature. Owing to great variations in altitude in the Western states, the shaded area includes a wide range of climatic conditions in these States.

## Sugar-Beet Soils.

Soils have a marked influence in determining the extent of development and distribution of the sugar-beet crop. The chief beet-growing centers east of the Mississippi River are in two well-defined areas. One of these is about Saginaw, Mich., the other extends from southeastern Michigan across northwestern Ohio. These are mostly old glacial lake plains which are flat or only slightly uneven in topography. They are characterized in large part by medium loams to heavy clays, dark gray to black at the surface and with gray mottled subsoils becoming distinctly calcareous at depths of 2 to 3 feet. It has been found that the best average results with sugar beets are secured on the dark colored silt and clay loams, and it is probable that these soils carry over 75 per cent of the crop. Similar soils occur in the smaller centers of production about Decatur, Ind., in southeastern Wisconsin, and in Hancock County, Iowa.

Light colored, better drained soils, and even light sandy types, are used to some extent for sugar-beet production, but in most cases their
use is incidental, resulting from their occurrence in small areas intermingled with the dark soils. The yields are lighter and more variable than on the dark soils, although as a rule the percentage of sugar carried is higher. Muck soils also are used in a limited way, but they never have been rated among the best soils for sugar-beet production. Even if large yields are secured, this may be more than offset by a low sugar content.

In the West a greater variety of soils are used for sugar-beet production. The industry has been extended to a number of widely scattered areas, each of which has soils more or less peculiar to itself. In general, lighter textured soils are used there than in eastern areas. By far the greatest acreage is carried on sandy loams, fine sandy loams and silt loams. with considerable development on clay loams. These soils are grayish brown to brown, or in a few cases dark brown in color, have friable subsoils and fair to good underdrainage. Sand types are not used to any extent because of their poor waterholding properties even under irrigation, and soils of heavy texture often have adobe-like properties which make them very difficult to handle. Heavy soils also tend to accumulate harmful quantities of alkali.

One of the essentials of successful beet production is high soil fertility. It is not only necessary that a satisfactory type of soil le sclected for the growing of beets, but that the soil should be well supplied with available plant foods. The necessary plant foods may be supplied either in the form of stable manure, or of so-called commercial fertilizers, and green manure crops are helpful. In many of the sections where beets are grown under humid conditions considerable quantities of commercial fertilizers are used with apparently satisfactory results, but scarcely any fertilizer is used as yet in the irrigated districts.

## Crop Rotations.

While beets may be grown for several years in succession it is a practice not usually followed, since it results in the accumulation of diseases and insect pests which eventually destroy or reduce the crop below a profitable basis. The systems of crop rotation vary with the locality and the individual farmer. For example, on farms where dairying is one of the principal industries, more attention is given to the production of feeds of a certain type than upon farms where other kinds of farming are practiced. In general, beans and sugar beets rotate well in areas where both of these crops are satisfactorily grown. Potatoes and beets are successively rotated in several sugar-beet areas, but care must be taken to a void the introduction of potato scab (Oospora scabies) since the same disease attacks both beets and potatoes. Small grains are satisfactory rotating crops, especially when grown after sugar beets. The tilth of the soil seems to be improved by the cultivation and harvesting of the beets, so that small grains grown after the beet crop will almost universally produce larger yields.

In certain areas where crops grown in rotation with sugar beets are particularly successful they may become competing crops, and in some instances make it difficult to procure the required acreage of
beets necessary to operate a beet-sugar mill. Just as it is unwise to grow sugar beets after sugar beets for a long series of years, it is also unwise to grow continuously any one of the competing crops. Among the crops that most strongly compete with sugar beets under present conditions are beans, potatoes, and alfalfa, and in some instances the grain crops, especially corn. In general, the best results are obtained in the long run by growing crops in rotation, not only because of the effect upon the soil and the prevention of the accumulation of dangerous diseases and insect pests, but also because by so doing more uniform and satisfactory marketing and price conditions may be maintained.

## Production of Sugar-Beet Seed in Amcrica.

In contrast to sugar cane, beets for the tactory are grown from seed instead of from cuttings. The same care in selection of the planting material is required, for if the resulting crop falls below certain limits in sucrose content, it could not be worked up economically at the factory and would be unusable for sugar manufacture. Thus poor beet seed results in greater loss than is the case with other crops in which diminished yield is usually the only result of inferior seed. Since variation in quality of beets is permissible only within narrow limits, and since considerable technical skill is required in the selection of seed mother plants to maintain high quality, the production of seed is an operation which is not practicable for individual farmers on a small scale. The beets from a lot designed for seed production are analyzed by removing representative portions from individual beet roots without destroying the latter. The promising beets are then stored over winter and their progeny from seed are analyzed the second year following. Those not eliminated by this second test are stored and are planted out the fourth year to produce the " mother seed." This seed is planted the following spring, and the resulting beet roots or "Stecklinge" are stored and planted out the sixth year to produce marketable beet seed. The types of beets used in the United States are for the most part those known as Vilmorin and Kleinwanzleben (fig. 19).

Previous to the World War practically all of the seed used in America came from the large beet-seed companies in Europe. During the war the quality of seed from Europe deteriorated, and in addition much of it was found to be adulterated with stock-beet seed. This resulted in a considerable amount of seed being produced, mostly by the increase of seed of European origin, by large beet-sugar companies in America. Since the close of the war the importers of European seed are again assured of seed of good quality, and importation has increased (fig. 20). Much of the seed produced here during the war was of good quality, but it is evident that it can be purchased abroad more cheaply, owing no doubt to the greater experience of foreign producers and availability of cheaper labor in Europe. The advantages of a domestic supply of beet seed are obvious and were emphatically demonstrated during the war. It is almost needless to enumerate all of the advantages of a home supply of seed, but it may be pointed out that the require-

[^18]ments of the local beet-producing areas are very different. It is a recognized fact that in the improvement of cultivated plants by breeding, many types are produced that are successful on some areas but not at all suitable for others. It is reasonable to suppose, therefore, that beet types evolved for use in definite local areas would be superior to those imported from remote regions, even though the latter give approximately satisfactory results.


## A BEET SEED PLANT.

Fig. 19.-Sugar-beet seed is produced the second season, the root being grown the first year and planted out the following spring for seed production. The seed plants grow to a height of from 4 to 6 feet and each plant produces from several ounces to more than a pound of seed, depending upon the season and upon the type of plant.

## Practices in Growing Sugar Beets.

In the growing of sugar beets many of the implements used for the production of other crops are employed, such as plows, drags, harrows, and the like. A few special implements are necessary if beets are to be grown continuously or on a commercial scale. The principal special implements are the beet-seed drill, beet cultivator, beet lifter, and a special wagon for hauling the roots to the factory or loading station. Beet-seed drills are usually constructed so that they will plant four rows at a time. The bect rows are usually from 18 to 22 inches apart and the drills are made so that they can be adjusted to the width of the row desired. Because of the narrow rows special cultivators are made for cultivating sugar beets. In planting beet seed care should be taken to cover the seed to a uniform depth and to make the rows as nearly straight as possible. Many good stands of keets are severely injured by cutting out beets when cultivating, and

SUGAR-BEET SEED FRODUCTION, CONSUMPTION, AND IMPORTATION, 1911-1922.


Fig. 20... The quantity of sugar-bcet seed used in the Cnited States has incroascd with the increased acreage of beets planted. Intil the outbreak of the World War practically all sugar-beet seed used in this country was imported from Europe. With the outbreak of the war, sugar-beet seed production was taken up and for several years the domestic supply was nearly half of the United States requirement. In 1922 the domestic production of beet seed was very small. (The quantity of seed used each year is an estimate based on acreage sown and averages about 20 per cent less than the total of imports and domestic production. This surplus is accounted for by acreage reseeded, stocks of seed on hand, losses by deterioration, etc.)
this is much more generally the case if the rows are not straight. In order to insure a uniform depth of planting, the seed bed should be thoroughly prepared until it has a uniform firmness over its entire surface.

Sugar beets are cultivated just as soon as the rows can be followed, and the beets are then blocked and thinned so that they will stand one plant in a place at intervals of from 10 to 12 inches in the row. The blocking and thinning of the beet crop is ore of the most important factors in the production of a satisfactory yield. Many good stands of beets are permanently injured by blocking and thinning the
beets too far apart, or by improper thinning, so that two or more beets remain where there should be but one. Sugar beets should be cultivated often enough to keep down all weed growth and maintain a mulch over the surface of the ground. Occasional hoeings between the beets in the row are performed to keep the rows clean. When the beet leaves cover the ground the crop is laid by, and nothing further is required until the beets are full grown. Then samples are taken at random throughout the fields and tests made with reference to sugar content and purity. As soon as the sugar in the beet is greater than 12 per cent, and the purity coefficient is 80 or more, the beets are considered fit for harvesting (fig. 21). A purity coefficient below 80 indicates that the beets are not mature and that they should be allowed to remain in the ground for a longer time before they are harvested. The weather conditions greatly influence the maturity of


A FIELD OF BEETS READY FOR HARVEST.
Fig. 21.-When sugar beets are mature the foliage, if uninjured, is dense and has a yellowish tinge. The leaves and crowns of the beets, which are left in the field at harvest time, produce a large amount of stock feed.
beets, the most satisfactory condition being cool nights and warm days.

In harvesting the beets the first operation consists of lifting or loosening them from the soil. They are then thrown into piles or windrows. Usually from 12 to 20 rows of beets are used to make one row of piles or one windrow. After the beets are piled they are topped, and again thrown in piles where the ground is free from leaves and other trash. In topping the beets they are cut at the point where the lowest leaves were attached. This operation is usually performed by means of large straight knives, one stroke being sufficient to top a beet. After the beets are topped and piled they are loaded onto wagons and hauled to the sugar mill or loading station. The distance which it will pay to haul beets depends upon the con-
dition of the roads, that is, whether hilly or level, soft or hard, but usually it is not advisable to undertake to haul beet roots more than 4 or 5 miles. Farmers living at a greater distance from the sugar mill are commonly provided with loading stations or dumps at convenient points along the railroad.

## Sugar-Bect Discases.

There are four diseases of the sugar beet which are of special interest to sugar-beet growers, namely, curly-top, root rot, leaf-spot, and wilt.

Curly-top, the cause of which is not definitely known, is found only in the western part of the United States. It is carried from plant to plant and from field to field by means of a leaf hopper. The most promising line of control of this disease is through the development of a curly-top resistant strain of beets. Distinct progress is being made by the Department of Agriculture in the development of such a strain.

Root rot, produced by a fungus known as Phoma, is found more or less generally distributed over the entire sugar-bect area of the United States. It occurs also in foreign countries. It is influenced largely in its development by weather conditions, excessive moisture and high temperature being the principal factors favoring it. The only control measures known are crop rotation and uniformly favorable growing conditions.
Leaf-spot is more or less prevalent on sugar beets each year in the eastern and north central portion of the United States. Iit is caused by a fungus, and injury may be reduced by a deep fall plowing and crop rotation. Leaf-spot may also be controlled by spraying with Bordeaux mixture and by the development of leaf-spot resistant strains of beets.

The sugar-beet wilt, produced by the sugar-beet nematode, has been found in several Western States, where it does serious damage annually. The cause of this disease is a minute wormlike organism which lives in the soil and feeds upon the sugar beet and, to a less extent, upon many other plants. The only remedy for this disease is crop rotation. Care should be taken to avoid spreading the nematode from field to field by farming implements, animals, or man. The dump dirt which clings to the beets when they are harvested and delivered should be deposited where it can not find its way into sugar-beet fields.

Several minor diseases of the sugar beet do considerable damage annually in certain local areas. The total damage produced by sugar-beet diseases amounts to millions of dollars.

## The Principal Sugar-Bcet Insect Pests of the United States.

Prominent among the injurious insects of sugar beets are the sugar-beet webworm, beet army worm, beet wireworm, beet leaf beetle, beet leafhopper, root lice or aphids, false chinch bug, and cutworms.

The sugar-beet webworm is a serious beet pest and the most troublesome of those which subsist upon foliage. It is an imported species, introduced on the Pacific coast, and has spread to all sugar-
beet sections in the United States and Canada. Ordnarily this webworm subsists on weeds, such as lamb's-quarters, pigweed, and Russian thistle, in addition to beets, but when it becomes abundant it feeds on a variety of vegetables. After the webworms hatch they begin feeding on the foliage of beets, which they soon strip, causing severe losses, that become apparent in the low yield of roots per acre at harvest time. Losses as high as $\$ 2,000,000$ per annum, it has been estimated, are apt to occur unless control measures are instituted as soon as infestation is observed. This webworm can be controlled by arsenicals, Paris green and zinc arsenite having proven perfectly satisfactory. Arsenate of lead and of lime are not as satisfactory. The Department of Agriculture has succeeded in effectively controlling the pest by spraying beet fields with 3 pounds of Paris green to 100 gallons of water, while other institutions have used as high as four times this amount. Careful work needs to be done to determine the most economical formula.

The beet army worm, also an imported pest, has spread into nearly all the sugar-beet districts. It is larger than the sugar-beet webworm, causes similar damage, and can be controlled by the same methods. Wireworms are particularly destructive to beet roots on the Pacific coast. A certain amount of exemption from injury can be obtained by the collection of the "worms" with baits and by using some of the usual wireworm remedies.

The bect leaf beetle, or "alkali bug," does its principal injury in alkali regions and attacks beets after the removal of its natural food plants, such as sea blite and lamb's-quarters. It is well known to growers, but seldom destroys large acreages. A knowledge of the fact that the beetle passes the winter under bunches of grass, especially "tickle grass," heaps of weeds, straw, and the like, is of value in its control, which is accomplished by providing similar artificial shelters in infested fields and burning them during the winter. Large numbers of hibernating beetles are thus destroyed. Arsenicals and other insecticides are not entirely satisfactory.

The sugar-beet leaf hopper, the vector (transmitter) of "curlytop" or "curly-leaf," exists in all fields through the growing season. This disease becomes manifest when the beets bunch up or form rosettes. It has been estimated that in 1914 the malady transmitted by this insect was the cause of a loss of over $\$ 1,000,000$ in the Salinas Valley of California alone, and that in years of serious outbreaks losses in the United States may total $\$ 2,000,000$. This species has been the subject of investigation for a period of years, but definite, practical results are lacking, the insect seeming to defy all attempts to combat it successfully. Spraying with Bordeaux mixture, an economic method of controlling the related potato leaf hopper and nicotine dust, valuable against most all sucking insects, have proved ineffective. The most promising control method being investigated is the cultivation of resistant strains of beets.

Beet root lice or aphids range orer the entire sugar-beet area of the United States. No direct remedies are indicated. Crop rotation, irrigation, and the destruction of cottonwoods, which harbor the winged form of the pest, are helpful as methods of control.

The false chinch bug is a pest of wide distribution and is usually periodical as regards injury. It is not confined to sugar beets, attacking many other plants, but when abundant it swarms over sugar-
beet fields and is then difficult to combat. The best methods for controlling it consists in killing the bugs by means of contact poisons and capturing them on a form of sticky shield, a variation of the "hopperdozer" used for grasshoppers.

Cutworms are quite destructive to young beets, but if work is undertaken at the outset of attack they may be easily controlled by the use of poisoned baits.

In the control of all insects injurious to sugar beets clean culture is a necessity, and the eradication of weeds at all times is of great importance, because many weeds, especially such as grow in irrigated alkali regions, serve as a natural breeding place for practically all of the pests which have been mentioned, as well as for others.

## Cost of Producing Sugar Beets.

Sugar beets, when produced on an extensive scale, require much more capital than most other crops. Some special beet equipment is necessary, and the crop is grown on relatively high-priced land. In addition, intensive methods, involving a relatively large cash outlay


Fig. 2\%.-Location of areas where cost studies of sugar-beet production have been made. These areas include most of the typical sugar-beet districts of the United States.
for labor to perform the handwork, are essential to the successful production of this crop. Since the price for sugar beets is settled before the crop is planted, the grower should attempt to adjust his operations so as to produce at a cost which will return a profit at the contract price.

The areas in which studies of the cost of production have been made are shown in Figure 22. ${ }^{5}$

[^19]
## Elements of Cost.

The principal items entering into the cost of sugar-beet production are man and horse labor, seed, fertilizer, irrigation water, taxes, use of land, and equipment.
Under eastern humid conditions, as represented by Michigan, Ohio, and Wisconsin, the percentage distribution of the various cost items grouped under four general classes is about as follows: Man and horse labor, 65 per cent; materials, 10 per cent; use of land, 20 per cent: and all other costs, 5 per cent. In the irrigated areas, represented by Colorado, Utah, Idaho, and Montana, and for Pacific coast irrigated and nonirrigated conditions represented by California: Man and horse labor constitute about 55 per cent; materials, 10 per cent; use of land, 30 per cent; and all other costs, 5 per cent of the total cost of production. The relatively lower land values in Michigan, Ohio, and Wisconsin serve to reduce the percentage of total costs represented by land rental and to increase the percentage that labor is of the total cost of sugar-beet production in these States.

Cost items expressed as money units are subject to considerable change, especially during periods of wide price fluctuations. The same items when expressed in terms of quantity requirements of labor and materials, such as hours, pounds, and the like, are more stable and lend themselves better to analytical study. The items which can be shown in this manner in the case of sugar beets are man labor, horse labor, seed, manure, and commercial fertilizer, the combined cost of which represents from 83 to 91 per cent of the total operating expense of producing an acre of sugar beets. (Fig. 23 and Table 13.)

The sugar beet is an intensive crop and requires a large amount of man labor, especially during the thinning and harvesting periods. About six times more man labor is required to raise an acre of sugar beets than an acre of corn and twelve times more than is required to raise an acre of hay. The number of acres a grower can handle is limited by the amount of hand labor available at the thinning and harvesting periods. When large acreages are grown, the hand labor is usually employed on a contract basis, a stipulated sum per acre being paid for blocking and thinning, hoeing, pulling, and topping. The hand labor constitutes from 60 to 80 per cent of the total man-labor expense.

Considerable variation existed in the labor requirements for the sugar-beet districts shown in Figure 23 and Table 13. The man hours per acre were relatively low in California, while the horse hours per acre were relatively low in Michigan and Ohio. The large size equipment used in the California districts was one of the chief factors tending to reduce the man-hour and to increase the horsehour requirements, while in Michigan and Ohio small equipment was used, requiring more man hours but relatively fewer horse hours per acre. In Colorado, Utah, and Idaho the extra work, because of irrigation, served to increase the man-hour requirements. Because sugar beets are a bulky, heavy product, the yield per acre is an important factor in determining the labor requirements.

An example of the seasonal distribution of man and horse labor in a representative district of Colorado is given in Figure 24. The

SUGAR BEETS: QUANTITY COST FACTORS PER ACRE, 1914-1916.


Fig. 23.-Differences in yields and in the practices of growing and handling the crop caused considerable regional variation in the hours of man and horse labor required, and in amounts of seed, manure, and commercial fertilizer used. In the Western States no commercial fertilizer was used, and in California very little stable manure was applied. The ratio of the cost of the quantity factors to the total operating expense was slightly lower in Utah, Idaho, and California than in Ohio, Michigan, and Colorado.
seasonal demand for labor on sugar beets in this district is rather uneven and fits in well with the production of barley, oats, and alfalfa. The growing of these crops serve to fill in profitably the otherwise slack periods during June and July.

Table 13.--sugar beets: Quantity cost factors per acre, 191亿-1916.

| Region. | Yield per acre. | Man labor. | Horse labor. | Seed. | Manure. | $\underset{\text { mercial }}{\text { Com- }}$ fertilizer. ${ }^{2}$ | $\begin{aligned} & \text { Percent- } \\ & \text { age } \\ & \text { quantity } \\ & \text { cost } \\ & \text { factors } \\ & \text { are } \\ & \text { of total } \\ & \text { oper- } \\ & \text { ating ex- } \\ & \text { pense.s } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| California: | Tons. | IItours. | IIours. | Pounds. | Tons. | Pounds. | Per cent. |
| Los Angeles. | 14.5 | 87.7 | 109.3 | 20.7 | (1) |  | 84 |
| Oxnard. | 9.5 | 79.5 | 111.5 | 16.6 | (1) | (4) | 85 |
| Salinas. | 15.6 | 101.2 | 124.3 | 14.6 | (1) | ( ${ }^{\text {( }}$ | 85 |
| Utah and Idaho: |  |  |  |  |  |  |  |
| Garland. | 14.8 | 133.3 | 98.5 | 14.7 | 5.1 | (4) | 87 |
| Provo.... | 15.0 | 130.8 | 117.1 | 14.9 | 7.0 | (4) | 86 |
| Idaho Falls. | 13.6 | 119.4 | 79.3 | 14.7 | 6.3 | (4) | 83 |
| Colorado: Greeley. | 15.6 | 123.9 | 104.5 | 18.0 | 8.3 |  | 91 |
| Frort Morgan | 13.6 | 118.1 | 103.0 | 21.1 | 4.4 | (4) | 88 |
| Rocky Ford. | 13.0 | 117.3 | 132.7 | 21.7 | 3.6 | (4) | 90 |
| Michigan: |  |  |  |  |  |  |  |
| Caro. | 9.7 | 105.5 | 80.0 | 15.6 | 2.0 | 92 | 90 |
| Alma. | 11.4 | 114.8 | 95.3 | 15.3 | 2.7 | 62 | 90 |
| Grand Rapids. | 10.2 | 111.3 | 93.8 | 14.2 | 2.8 | 94 | 99 |
| Northwestern Ohio. | 13.2 | 113.4 | 79.1 | 15.2 |  | 61 | 89 |

[^20]The labor of hauling to loading station or sugar factory constituted about 12 per cent of the total man hours and 35 per cent of the total horse hours required to produce and deliver the crop. Studies that have been made in various sugar-beet districts indicate that the average haul is about 3 miles. The relation of the distance hauled to the labor cost of hauling is shown in Figure 25. The expense of transportation serves to concentrate the production of sugar beets within a relatively short haul from the loading station or beet-sugar factory.

The arerage amount of beet seed used per acre was slightly less in Utah, Idaho, Michigan, and Ohio than in California and Colorado (fig. 23). The seed requirements for all California districts and the Fort Morgan and Rocky Ford districts of Colorado include a small amount of replanting.

Barnyard manure was used in all districts, but only to a slight extent in California and Ohio. In the California areas the supply of farm manure was limited; in Ohio the growing of sugar beets in rotation with clover partly accounted for the small amount used in that State. In Utah, Idaho, and Colorado, where winter feeding of sheep and beef cattle was largely practiced, considerable manure was available for use on sugar-beet land.

MONTHLY DISTRIBUTION OF SUGAR-BEET LABOR PER ACRE: FORT MORGAN DISTRICT, COLORADO, 1914-15.


Fig. 24.--The heaviest requirements for man labor in the production of the beet crop occur in May and October, during the thinning and harvesting periods; the "peak loads" for horse labor are in April and October at the seeding and harvesting season. Much of the man labor required-in these operations is hired on a contract basis.

Commercial fertilizer was applied only in the Michigan and Ohio districts. The actual application varied from an average of 130 pounds in the Caro districts to 170 pounds per acre in northwestern Ohio.

## The Use of Quantity Requirements of Labor and Materials in Computing

 Costs.A knowledge of the quantity requirements of labor and materials makes it possible to compute approximate costs for a given year, providing prices and yields are known. Table 14 shows how current rates may be applied to these requirements in computing the average regional cost of producing sugar beets in 1922 for the districts under consideration.

LABOR COST OF DELIVERING SUGAR BEETS, UTAH AND IDAHO, 1918-19.


[^21]Table 14.-Computed cost of producing sugar bcets, 19??.

| Item. | Ca!ifornia-Oxnard district. |  |  | Colorado-Creeley district. |  |  | Michigan-Cars district. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Amount per a(re. | Rate. | Cost per acre. | Amount per acre. | Rate. | Cost per acre. | $\begin{gathered} \text { Amount } \\ \text { per } \\ \text { acre. } \end{gathered}$ | Rate. | $\begin{aligned} & \text { Cost } \\ & \text { per } \\ & \text { acre. } \end{aligned}$ |
| Man labor (hours) ${ }^{1}$ | 19.5 | \$0.30 | \$5. 85 | 44.2 | \$0.25 | \$11.05 | 38.5 | \$0.25 | \$9. 62 |
| Contract hand labor |  |  | 18.30 |  |  | 18.00 |  |  | 18. 50 |
| Horse labor (hours) ${ }^{1}$ | 107.1 | . 125 | 13.39 | 93.7 | . 15 | 14.06 | 78.2 | . 17 | 13.29 |
| Seed (pounds) .-...... | 16.6 | . 15 | 2.49 | 18.0 | . 20 | 3.60 | 15.6 | . 15 | 2.34 |
| Commercial fertilizer (pounds) |  |  |  |  |  |  | 92.0 | \$32 T. | 1.47 |
| Manure (tons).................. |  |  |  | 8.0 | . 65 | 5.20 | 3.0 | . 90 | 2.70 |
| Total |  |  | 40.03 |  |  | 51.91 |  |  | 47.92 |
| Per cent these items were of total operating expense, 1915 | 85 |  |  | 91 |  |  | 90 |  |  |
| Total operating expense ( 100 per cent) |  |  | 47.09 |  |  | 57.04 |  |  | 53. 24 |
| Use of land. | 8300 | 7\% | 21.00 | \$180 | 7\% | 12.60 | \$125 | $6 \%$ | 7.50 |
| Total cost per acre. |  |  | 68.09 |  |  | 69.64 |  |  | 60.74 |
| Yield per acre (tons), 1922 Total cost per ton | 8 |  | \&. 51 | 10.25 |  | 6.79 | 9 |  | 6.75 |

${ }^{1}$ Adjustments of man and horse-hour requirements were made on the basis of yield.
So long as the cost of the total quantitative requirements maintains a fairly constant relation to the total operating expense and constitutes a relatively large per cent of it, these requirements provide a valuable basis for estimating costs. If it is desired to esti-

VARIATION IN COST PER TON OF PRODUCING SUGAR BEETS, UTAH AND IDAHO, 1918-19.


Fik. 26.-The largest number of farmers in these districts produced beets in 1918 at a cost of $\$ 9$ and $\$ 10$ per ton, but two farmers produced at a cost of $\$ \overline{5}$ per ton, while one farmer had a cost of $\$ 35$. Yield per acre was the principal factor which enabled some growers to produce at a cost materially below the average, yet undoubtedly a part of these lower costs was the result of a more economical use of labor and the other factors of production.
mate the cost on a particular farm, the actual requirements for that farm should, of course, be used.

## Variations in Cost.

Farm cost figures, as a rule, have been shown as averages. It is a matter of common observation, however, that land values and the amounts and prices of labor and materials in a given region vary

INFLUENCE OF YIELD PER ACRE ON COST OF PRODUCING SUGAR BEETS, UTAH AND IDAHO, 1918-19.


F'ic. 27.-The farmers with the highest yield per acre produced beets at the lowest cost per ton. As the yields increased the cost per acre increased, but the cost per ton decreased at a much faster rate. The cost groups indicate that in these years the methods of production were not sufficiently intensive to result in an increasing cost per ton.
from farm to farm and that yields fluctuate widely. These differences result in wide variations in production costs. A comparison of a grower's own costs with an array of costs for a group of farms indicates where his farm stands in the array and should serve to encourage him to study his costs with a view of reducing them wherever possible.

Figure 26, showing an array of costs in Utah and Idaho for the years 1918 and 1919, is presented as an example to illustrate the wide range that may exist in the cost of producing sugar beets. The average cost was $\$ 9.49$ per ton for an average yield of 13.7 tons per acre, while the range in cost was from $\$ 5$ to $\$ 35$ per ton. Yield per acre was the dominant factor in the grouping of these farms according to cost. The grower with the highest cost had a yield of only 3 tons per acre, while the grower with the lowest cost had a yield of 24 tons per acre. Approximately 80 per cent of the growcrs, 81 per cent of the harvested acreage, and 89 per cent of the total production were included in a cost of $\$ 12$ or less per ton.

In general, for a constant acre yield an increase in beet acreage per farm within reasonable limits results in a decrease cost per ton. For most profitable production a grower should have sufficient
acreage to make the sugar-beet enterprise an important one in the farm business. With a certain market and a guaranteed price per ton, an effort should be made to obtain good yields, which are associated with thorough tillage methods, a good cropping system, and the exercise of care in the performance of the handwork, especially blocking and thinning, upon which a good stand largely depends.

An example of the influence of yield per acre on the cost per acre and per ton is shown in Figure 27. With few exceptions an increase in yield results in some increase in cost per acre, but a very much greater decrease in cost per ton. With an increase in yield of from 9 to 24 tons per acre, the cost per acre increased from $\$ 119$ to $\$ 160$, or 34 per cent, while the corresponding cost per ton decreased from $\$ 14$ to $\$ 7$, or 50 per cent.

## Sugar-Beet Land Tenure.

Studies of the tenure of sugar-beet land in the principal sugarbeet districts of the United States show that in Ohio, Michigan, Utah, and Idaho a greater percentage of the beet land was operated by owners than by tenants, while in Colorado and California the opposite was the case.

In these areas both the cash and share methods of rental were followed in leasing sugar-beet land. Under the cash rental method the landlord paid the land tax and all building and fence maintenance, and the tenant furnished all work stock and equipment, paid all operating expense, and received all of the crop produced. Several methods of share leasing of sugar-beet land were practiced, and much variation existed as to the division of the expense and the share of the proceeds from the sale of the crop that was received by the landlord and tenant, the landlord receiving one-half, one-third, onefourth, one-fifth, or two-fifths of the crop according as the expenses were shared by each. Of these the one-fourth and one-half share method of rental were most general. Under the one-fourth share, which was the most common method of leasing sugar-beet land in California, Colorado, and Utah, the landlord paid the land tax and the tenant furnished all work stock and equipment, paid all operating expense, and gave the landlord one-fourth of the proceeds from the sale of the crop. The half share method of rental prevailed in Michigan and Ohio. Under this system the usual custom was for the landlord to maintain the buildings and fences, pay the land tax and half of the expense for seed, fertilizer, and hand labor, and to receive half of the proceeds from the sale of the crop, the tenant furnishing the work stock, equipment, and all labor except half of the hand labor.

## Relation of Sugar Beet Prices to the General Price Level.

In order that the sugar company may know the approximate tonnage that will be available for the "campaign " and that the grower may have a definite market for his product, it has become the unirersal practice for the sugar company and the grower to execute an agreement relative to the acreage to be planted and the price to be paid by the company for the crop when produced. The price usually involved a sliding scale based upon the sugar content.

In Figure 28 the index number of the wholesale price of all commodities is taken as a measure of the general price level and compared with the index number of the farm price of sugar beets. In order to provide a standard of pre-war conditions for measuring price changes, these index numbers were computed using the year 1913 as a basis. A comparison of the prices received for sugar beets with the general price level for all commodities serves to measure whether the price received for sugar beets is relatively high or low.

The general trend in the price level of all commodities and the average farm price received for sugar beets over the period 1911 to 1915 was fairy constant. During the next four years, the trend in price of all commodities and of sugar beets was upward; but the price of things that farmers buy, as measured by the general price level of all commodities, increased at a faster rate than did the price of sugar beets, so that the growers' purchasing power, as measured by sugar beets, was lower during and after the World War than for

TRENDS OF PRICE OF SUGAR BEETS AND OF ALL COMMODITIES, 1911-1922.


Fig. 28.-The price of sugar beets in 1922 was slightly below the price in 1913 whereas the average price of all commodities was nearly 50 per cent above the 1913 price. Consequently, the purchasing power of a ton of beets in 1922 was only about two-thirds of its purchasing power in 1913. This was the lowest for any year during the period 1911 to 1922.
the period immediately preceding. In 1922 the price index for all commodities was 149 , while the price index for sugar beets stood at 99 .

## Manufacture of Sugar From Beets.

Sugar beets, like sugar cane, are transported for manufacture into sugar to large factories which, for the reasons given in the discussion of cane, should be centrally located with reference to the beet-growing area (fig. 29). Private railways are in almost universal use on cane plantations, but this is not the case with beets, which are grown mostly on small independent farms, and hauled in wagons to the
mill or to loading stations on the main railway. At the factory the beets are dumped into V -shaped bins at the bottom of which is a flume covered with removable boards. As needed, the beets are carried into the factory by the swift current of the flume.

Briefly, the process of manufacture consists of cleaning and slicing the beets, placing the slices in large cylinders and extracting the sugar by diffusion. This is accomplished by successive treatments with hot water. Here is where the process differs essentially from extraction from cane. The extract is clarified by treatment with suitable chemicals, the sludgelike precipitated material removed by filtering, and the clean juice evaporated under reduced pressure until a mass of sugar crystals has been formed. The sugar is finally separated from the other liquor or molasses. After several strikes of sugar have been obtained, the molasses is further desugarized by other processes. The Steffen process is generally used in this country.


A TYPICAL BEET-SUGAR FACTORY.
Fig. 29.- Modern beet-sugar factories in the United States are capable of slicing from 500 tons to more than 3,000 tons of beet roots per day. The average slicing capacity of the beet-sugar factories in the United States is approximately 1,000 tons daily. When the factory is started it operates continuously until the entire crop of beets has been sliced.

Owing to variations in the composition of beets, due largely to storage and variations in degree of maturity, it has been necessary to discard molasses from time to time in operating the Steffen process, the net result being that only 65 per cent of the beet molasses produced has been treated for recovery of sugar. The remaining 35 per cent has been used in the past largely for feeding purposes, a relatively small amount having been used for manufacture of alcohol. Owing to the recent drop in price of this discard molasses, the question of increased efficiency in desugarization has become very important. The Department of Agriculture is investigating this problem at the present time and also devising improved analytical
methods, which will make it possible to determine more accurately the amounts of sugar entering the factory and the losses which occur during the process of operation. More accurate chemical control makes possible further reduction of sugar losses (fig. 30).

## Improvement of Sugar Plants by Breeding and Selection.

Competition between the sugar-producing countries of the world has resulted in attention being directed toward increasing the amount and quality of sugar plants produced from a given unit of area. The early years of the sugar-beet industry in Europe were marked by successful efforts to raise the sugar content of the beets by selection in order to compete with cheap sugar imported from the cane plantations of the Tropics. At present these efforts are not confined to competition between beet and cane growers. Both industries are established on permanent footings. The attempts directed toward

SUGAR BEETS, PURITY AND EXTRACTION, AVERAGE FOR UNITED STATES, 1904-1922.


Fig. 30.-The purity coefficient, which is determined by dividing the amount of sugar in a given quantity of beet juice by the total solids in the same quantity of beet juice, should be not less than 80 if the beets are mature. The extraction of sugar from beets depends upon the quality of the beets, the coefficient of purity, and the efficiency of the factory equipment and operators. The percentage of extraction increased appreciably between 1904 and 1915.
amelioration of sugar plants is evident among the cane regions in competition with one another and among the beet regions of the world as well. There are 18 Government-maintained experiment stations devoted wholly or in part to the improvement of sugar-cane varieties. A still larger number of private experiment stations are supported by cane-sugar companies or associations of companies. All of the large sugar-beet seed companies that produce their own seed must engage in the breeding of desirable strains, and many Government institutions also give attention to this problem.

Keeping in mind the relatively high value of land suitable for sugar plants and the great expense required in growing them, the essential object to be attained is seen to be production of a large

[^22]amount of sugar per acre. Practices in growing the crops may cause great variation in yields, but the characteristics of the plants themselves are fundamentally important. Reduced to a simple statement, they must yicld a large amount of raw material rich in sucrose. Many other factors, such as the time required to reach maturity and resistance to cold, drought, and other adverse conditions must be considered. A large yield of sugar per acre from a great tonnage of raw material may be less profitable owing to the expense in handling the latter than a somewhat smaller yield of sugar recovered from a small tonnage richer in sugar. In the case of sugar cane some varieties extremely rich in sugar yield too small an amount of sugar per

TREND OF YIELD PER ACRE OF CANE AND SUGAR, JAVA COMPARED WITH LOUISIANA, 1895-1922.


Fig. 31.-The gradual increase in yield of cane and sugar per acre in Java is owing largely to adoption of superior varieties evolved by experiment stations and nurserymen. Practically all of the sugar produced by Java to-day is made from hybrid seedling varieties.
acre on account of the small size and weak stooling properties of the plants. The habit of growth of sugar "ane, such as prolific stooling and early shading of the ground or "closing of the rows," results in a reduction of expense in cultivating. Erect growth, freedom from irritating bristles in the leaf sheath, and ease in removal of the leaves or "trash" are characteristics that facilitate harvesting.
In the case of sugar bects, and sugar cane as well, immunity from the attacks of certain diseases and insect pests is a matter of utmost importance.

The presence of nonsugar compounds and sugars other than sucrose and their effect in preventing or complicating the recovery of sucrose must be considered. These poinss, together with many others, must be taken into account by the sugar-plant breeder.

Sugar beets being grown commercially from seed, the desirable strains as described in the discussion of beet-seed production are bred by selection of pure lines rich in sucrose. The flowers are open-fertile and failure to select the desirable strains would soon lead to deterioration in subsequent generations. Sugar cane, on the other


CANE SEEDLINGS IN GREENHOUSE.
Fig. 32.-Thousands of sugar-cane seedlings are produced annually by the Department of Agriculture. Their performance is tested by checking against that of standard varieties. Viable seed has been obtained in the United States only in southern Florida.
hand, is grown commercially only from cuttings. By this vegetative method of reproduction no obvious deterioration has been demonstrated. Recently the practice of obtaining improved varie-


## CANE SEEDLINGS ABOUT SIX WEEKS OLD.

Fig. 33.-The minute seeds from cane which has " arrowed" is sown on sterilized soil in flats or pots. The amount of germination varies greatly with different varieties. Some varieties are quite sterile. The seedings at the left are hybrids resulting from the crossing of a standard variety with a variety immune to mosaic.
ties from seed in Java and Barbados has, however, necessitated the adoption of hybridization and selection by competing countries (fig. 31).

Much of the work in improving varieties of sugar cane has been haphazard, largely owing to the extreme technical difficulties encountered in crossing varieties and germinating the minute seeds. In many regions viable seed are not produced. With proper study of the characteristics of parents and intelligent application of the principles of genetics, much has been accomplished, but the possibility of further improvement still exists. Seedlings from self-fertilized plants, especially hybrids, are sometimes better than the parents (figs. 32-34).

Consideration is being given to the possibility of improving sugar cane by bud selection. True bud mutations or "sports" are


CANE-SEEDLING TRANSPLANTS.
Fig. 34.-After the roots are well established the seedlings are picked out and transplanted to pots accommodating about 10 plants. As they develop in size individual plants are then transplanted successively into pots of increasing size, and those which survive are eventually designated by number and planted in the field.
rare, however, and authentic cases, as far as have been proved, are simply color variations. Individual plants of the same variety vary greatly in size of stalks, tillering, etc., under apparently the same conditions. The desirable ones may be plus variants rather than mutations, and it is yet to be proved whether in the cases of a crop which is replanted every few years a selection of these plants is commercially practicable. Bud selection has been notably successful in the case of long-lived citrus and other trees.

## Production of Sucrose by Sorgo and Maple.

Sucrose is produced in considerable quantities by sorgo and maple, being utilized mostly in the form of sirups. There are many varie-


## A FIELD OF SORGO.

Fig. 35.-The sorgos, from which the sorgo sirup is produced, are grown in nearly all States. When the sorgo is mature it is harvested in a manner similar to sugar cane and milled, generally in farm or custom mills and not in large factories.
ties or strains of sorgo grown in this country. One or more varieties are grown commercially in each of the 48 States (fig. 36). Owing to the readiness with which sorgo plants cross-pollinate, existing varieties are badly mixed. Rapid progress is being made in the breeding of pure and improved strains suited to the great variety of soil and climatic conditions of this country (fig. 35). At the outbreak of the World War the production of sorgo sirup had fallen to below


Fig. 36.-The production of commercial sorgo sirup is confined almost exclusively to the Southeastern and South Central States. Large quantities of sorgo sirup are produced for home consumption, however; as far north as Wisconsin and Minnesota. The map shows total production of sorgo sirup in the more important States. In the Gulf States and Georgia about twice as much sirup is made from sugar cane as from sorgo.

PRODUCTION OF SORGO SIRUP IN THE UNITED STATES, 1859-1919.


Fig. 37.-The production of sorgo was stimulated in the late seventies and the early cighties by the hope that sugar could be made from this plant. From that period the production of sorgo sirup declined until just previous to the World War, when less than $15,000,000$ gallons were produced annually. With the outbreak of the World War the production of sorgo sirup again increased until in 1919 it amounted to $39,400,000$ gallons, and in 1921 reached the maximum of approximately $45,500,000$ gallons. By 1923 the production had declined to $33,600,000$ gallons. These estimates for 1919,1921 , and 1923 were made by the Department of Agriculture; for other years the figures are from census reports.
$15,000,000$ gallons, but by 1917 it had increased to $37,472,000$ gallon's, and in 1921 it reached a total of $45,554,000$ gallons (fig. 37 ). Production declined to $33,600,000$ gallons in 1923.

The amount of maple sirup and sugar produced in the United States declined 20 per cent between 1909 and 1919 , but the total value


Fig. 38.-Maple sugar and sirup are produced in 23 States; but 13 States, located in the northcastern quarter of the United States, produce 95 per cent, and 3 States (Vermont, New York, and Ohio) produce over 70 per cent. No maple sugar or sirup is made outside of the United States and Canada. The production in the United States of maple sugar and sirup (jointly equivalent to about 20,000 tons of sugar in 1919 ) is insignificant compared with sugar from beets and cane (about $1,000,000$ tons).
increased 120 per cent. Seven thousand fewer farms reported the production of maple sirup and sugar in 1919 than in 1909, a drop of 8 per cent, and $1,440,000$ fewer trees were tapped. Vermont and New York are close rivals in production. In general the sugar groves


## MAPLE GROVE IN VERMONT.

Fig. 39.-Maple trees normally grow in groves. The large tree in the foreground in the above picture shows the method of collecting sap for sugar or sirup production.
in Vermont are considerably larger than those in other States, the larger production in New York being due to a greater number of small groves. The total production of maple sugar and sirup in 1919 was equivalent to $4,700,000$ gallons of sirup, valued at over $\$ 12,300,000$ (figs. 38 to 40 ).

## Production of Other Sugars.

Glucose is manufactured in large amounts from cornstarch, and is sold for table sirup and other purposes. It is prepared by a chemical process which consists of hydrolizing the starch into glucose by means of acids. Frequently part of the output of a glucose plant is blended with maple sirup or other flavoring materials. The resulting mixtures are palatable and nutritious, but do not possess the caloric value nor the sweetening power of sirups having a larger per cent of sucrose, such as cane, maple, and sorghum sirups. The value of these products increased from $\$ 32,930,918$ in 1909 to $\$ 134,548,109$ in 1919.
Other sugars that previous to 1914 were largely or entirely imported, but which are now manufactured in the United States in sufficient quantities for domestic needs, are lactose (milk sugar),

## MAPLE SUGAR PRODUCTION, 1839-1919, AND MAPLE SIRUP PRODUCTION, 1859-1919.



Fig. 40.-The production of maple sugar has decreased greatly since 1889 , while the production of sirup has increased considerably during that period. The production of maple sugar and sirup is dependent upon the season, as well as upon the number of trees tapped.
used in the preparation of infant foods, etc.; levulose, used in place of sucrose in the foods of persons suffering from diabetes, etc.; and the so-called " rare" sugars, such as maltose, xylose, melezitose, melibiose, trehalose, rhammose, etc., used almost entirely in chemical and bacteriological investigations. The production of these sugars varies from about $6,000,000$ pounds in the case of lactose to possibly less than 1 ounce in the case of some of the rare sugars, and the price varies from about 20 cents per pound in the case of lactose to $\$ 25$ or more per ounce in the case of certain of the rare sugars.

## By-Products of Sugar Manufacture.

With the centralization of sugar-cane and sugar-beet enterprises, and the accompanying increase in the size of mills and factories, the enormous amount of by-products became more apparent and their utilization more practicable. Until recently the great bulk of these by-products, produced in small amounts by the innumerable small inefficient mills, were wasted. The principal by-products common to both cane and beet sugar factories are molasses and products
derived from it, such as alcohol and rum. In addition to the output from the beet factories of the West and Middle West and the cane mills of the South, a great quantity of blackstrap molasses is imported each year from Cuba (fig. 41). It is used largely as stock feed, principally in feed mixtures. Many farm animals relish these mixtures, which consist for the most part of roughage sprinkled with dilute molasses. Good results have been obtained in the fattening of beef cattle with both beet and cane molasses." Since molasses is rich in carbohydrates, it should be fed with alfalfa or other protein feed in order to make a balanced ration. Cane molasses is more or less constipating, while beet molasses, owing to the high per cent of salts, has a laxative action. Excessive amounts, therefore, should not be used.

Molasses is also used for the manufacture of industrial alcohol, and it is anticipated that the demand for this product will increase. In

IMPORTATION OF MOLASSES INTO THE UNITED STATES, 1875-1922.


Fig. 41.-Considerable molasses was imported into the United States, mostly for human consumption, as early as 1875 , but the imports decreased to almost nothing in the late nineties. During the past 10 years the importations have very greatly increased. These imports, however, are mostly black-strap molasses, which is used principally for stock feed and the production of alcohol. Nearly all of this black-strap molasses comes from Cuba. Small quantities of molasses are imported from Santo Domingo and the British West Indies. Some of this molasses is fit for human consumption.
Natal a satisfactory motor spirit is obtained by the distillation of fermented molasses, and in many countries rum is made in large quantities. When the market price of molasses is low it is sometimes mixed with bagasse and used as fuel and sometimes put back on the land as fertilizer.
A number of by-products peculiar to beet manufacture are of such value as stock feed that stock raising has become a profitable adjunct of the industry. After the saccharine matter is extracted from the sliced beets in the sugar factory a fibrous mass remains which is known as pulp. This is fed either wet as it comes from the factory or as dried pulp. Wet pulp is used largely by beef and dairy cattle and by sheep. It is consumed almost entirely near the sugar factories, Fig. 42.

Many of the beet factories have equipment for drying the green pulp. The moisture is reduced from 95 per cent to 12 per cent without injury to the feeding value. Dried pulp can be shipped satisfactorily and is becoming a popular feed. Various experiments have demonstrated that dried beet pulp compares favorably with corn. Dried beet pulp produces larger gains in growing animals, but corn makes more rapid gain during the finishing period. Dried pulp has given good results when fed to the various classes of livestock at the following rates per day: Fattening steers ( 1,000 pounds), 6 pounds; dairy cows, 4 pounds; horses, 3 pounds; fattening sheep, 1 pound; and hogs, 1 pound.
Wet pulp is especially suitable for feeding old ewes and cattle. Ten times the weight of that given for dried pulp may be fed in wet form. Wet pulp which is fed either fresh, as it comes from the fac-


CATTLE EATING SUGAR-BEET TOPS.
Fig. 42.-Sugar-beet pulp and tops are excellent feeds for livestock, especially for dairy cows. These feeds are most economically fed in large strong troughs.
tory, or in the fermented state, as it comes from silos, is usually too bulky for younger animals.

Beets are purchased by the sugar companies with the tops and crowns removed, because certain salts accumulate in the crown which interfere with the recovery of sugar from the juices. The tops and crowns are left in the field at harvest time and later are either pastured or gathered and fed as forage or used for silage. In the sugar-beet producing areas of Colorado, Idaho, and Utah these tops are fed largely to sheep and cattle. The tops are palatable, but because of their cathartic character must be fed cautiously. The best way to feed beet tops is in the form of silage. The silage is succulent and palatable and makes a desirable ration when supplemented with some legume, hay and grain. The cathartic properties of the beet tops are largely corrected in the fermentation process in the silo. Beet-top silage has given good results in both beef and mutton production.

Waste lime is used to some extent as fertilizer, but most of it is discharged into the sewage ditches.

The bagasse from cane mills was formerly too wet for burning under boilers. At the present time it is so completely extracted by modern mills that, with the addition of a small quantity of crude oil, it supplies the fuel needs of most plants, and sometimes there is an excess. This material is also used in the manufacture of cheap paper, insulating material, wall board, packing material, etc. The ash from bagasse contains large amounts of phosphates and potash and is usually returned to the soil as fertilizer. Filter press cake, rich in nitrogen and phosphates, is also used for fertilizer.

The green cane tops are fed to cattle in many cane countries, particularly to carabaos in the Orient, but up to the present this material is not extensively used for feed in America. It may be satisfactorily used as silage. While the cane-top silage has not proved as satisfactory as that from corn, soybeans, sorgo, and cowpeas, it is a valuable feed in many areas where the latter crops can not be grown successfully. In some countries where, owing to overpopulation, the struggle for existence is more intense than here, the dead cane leaves and trash are carefully gathered and used as fuel for cooking.

## World Production and Movement of Sugar.

The production of sugar forms a part of the agricultural economy of nearly every important country of the world. Since the cane is a tropical plant and the beet is at home in the temperate zones, sugar is produced in commercial quantities in every continent, and from Natal and Argentina in the Southern Hemisphere to Canada and Sweden far to the north (fig. 43).

The reported world production increased very rapidly in the years just before the World War, and in 1912-13 reached 20,700,000 short tons. In the next seven years, in spite of the war and subsequent unsettled conditions, the minimum production was $17,700,000$ short tons in 1919-20, with a maximum of $19,600,000$ tons in 1917-18.
In 1921-22, and again in 1922-23, the world sugar output was in round numbers $20,000,000$ short tons. But while the total production has remained so remarkably constant, there has been a radical shift in the chief resources of supply (fig. 46). In 1912-13, 9, 000,000 tons, or 45 per cent of the world's supply of sugar, was produced in continental Europe, which not only supplied its own demand and that of Great Britain but exported considerable quantities to the United States and the Near East. Following the war in 1919-20, the European production was less than $3,000,000$ tons, or 17 per cent of the world production, and even in 1922-23 Europe has produced only $4,500,000$ tons, or 23 per cent of the total. Germany and France are now importing more sugar than they export, and only Czechoslovakia has any considerable surplus for export. The United Kingdom, with its large demand for foreign sugar, has been obliged to turn to Cuba, Java, and other producing centers in the Tropics (fig. 44).
This shift in production has also meant a shift from beet sugar to cane sugar. In the five years just preceding the World War, out of an average world production of $18,400,000$ short tons, 8,500000 tons, or 46 per cent was beet sugar. In the five years since


Fig. 43.-The production of sugar is widespread throughout the world. Cane sugar is produced in tropical and subtropical zones and beet sugar in temperate latitudes as far north as Sweden. Since the beginning of the World War sugar production has increased most rapidly in tropical countries, particularly in Cuba. Over one-fifth of the world's sugar is produced in Cuba. The


Fig. 44.-The two largest sugar-exporting countries are Cuba and Java, with secondary sources of supply in Hawaii, the Philippines, Porto Rico, Czechoslovakia, Formosa, Brazil, and Peru. The United States and the United Kingdom fre the most important sugar-importing countries, followed in importance by British India, China, France, and Canada. The United States imports sugar from Cuba to supplement the domestic supply and shipments from its insular territories, while the United Kingdom and
western Europe import more largely from Java and the minor surplus countries.
the close of the war, with an average world production of $18,800,000$ short tons, only $4,750,000$ tons, or 25 per cent, was produced from beets. This shift may be shown by a comparison of two countries, Germany and Cuba. Germany in 1909-10 to 1913-14 produced an average of $2,296,000$ short tons of beet sugar, while in the same years Cuba produced an average of $2,295,000$ short tons of cane sugar. In the years 1918-19 to 1922-23, Germany produced an average of $1,220,000$ tons, while Cuba produced an average of 4,350,000 tons (fig. 46).

Since Europe had relied so largely upon beet sugar, the sudden change to a cane sugar basis found the importing countries of Europe lacking in adequate cane-sugar refineries. Therefore, much of the cane sugar destined for European consumption has been refined in the United States, and appears in the trade statistics as

WORLD PRODUCTION OF SUGAR, 1853-1922.


Fig. 45. The commercial production of sugar first became important in the last half of the nineteenth century. Froduction increased rapidly until 1914, when it was checked by the World War. Beet-sugar production, at first unimportant, was stimulated by bounties and tariffs and was approximately cqual to that of cane sugar from 1884 until 1914. Since 1914 cancsugar production has continued to increase, while beet sugar has declined in relative importance to less than one-third of the total sugar supply of the world.
exported from the United States to Europe. Consequently, the sugar exports of the United States increased from an average of 80,000 tons in the years 1909-1913 to an average of 650,000 tons in the four years 1919-1922, thereby making the United States in these years not only the largest sugar-importing country, but the third largest sugar-exporting country, exceeded only by Cuba with exports of $4,200,000$ tons, and Java with $1,700,000$ tons (fig. 47). Next to the United States, the largest sugar-importing countries in the years 1919-1922 were the United Kingdom, France, Canada, British India, and China. (See corner graph of fig. 44.)

The sources of the net sugar supply of the United States, making allowance for raw sugar imported and later exported as refined sugar, were for the years 1918-1922, inclusive, approximately as follows; Cuba, 50 per cent; domestic beet, 18 per cent; Hawaii, 11.4
per cent; Porto Rico, 8.2 per cent; domestic cane, 4.7 per cent; Philippine Islands, 2.7 per cent; other sources, 5 per cent (fig. 48). In the fiscal year ending June 30, 1923, the dutiable imports of

SUGAR PRODUCTION IN PRINCIPAL SUGAR-PRODUCING COUNTRIES, 1890-91 TO 1922-23.


[^23]IMPORTS AND EXPORTS OF SUGAR, CONTINENTAL UNITED STATES, YEARS ENDING JUNE 30, 1875-1922.


Fig. 47.-While the amount of sugar imported into the Cnited States has varied somewhat from year to yrar, the general tendency has been toward larger importations from decade to decade. Sugar exports were very small until about 1914. Since that date the sugar exports have been larger. The exports of sugar consist mostly of shipments to the United States for refining to be later reshipped.
sugar into the United States amounted to $3,929,000$ short tons, of which $3,865,000$ tons came from Cuba. In addition, 277,000 tons were imported without tariff duties from the Philippines; 598,000 tons were brought in from Hawaii; 355,000 tons from Porto Rico, and 5,000 tons from the Virgin Islands. These amounts added to the domestic production of 970,000 tons give a total gross supply

SOURCES OF SUGAR SUPPLY OF THE CONTINENTAL UNITED STATES.


Fig. 48. -In the five years from July 1, 1917, to June 30, 1922, the sources of the sugar supply of the United States were varied. In these years 50 per cent of the net supply was obtained from Cuba, 22.7 per cent was produced in continental United States. 11.4 per cent came from Hawaii, 8.2 per cent from Porto Rico, 2.7 per cent from the Philippine Islands, 0.8 per cent from Dominican Republic, 1.6 per cent from Central and South America, and 2.5 per cent from other countries of which Java was the most important. Under normal conditions the United States receives practically no sugar from foreign countries except Cuba.
for the year of $6,134,000$ tons. The exports in the same period were 391,000 tons, leaving $5,743,000$ tons for consumption, or 29 per cent of the world's supply.

## Price and Consumption of Sugar.

Cuban sugar has long been the controlling factor in the United States sugar market. Prices of raw sugar and of refined sugar in the United States during the last 21 years have closely paralleled the price of raw sugar in Cuba. Except for abnormal foreign demand, as in the later years of the World War, the price of sugar in Cuba has in turn been dominated by the Cuban sugar supply.

The parallel upward trend of production and price, as shown in Figure 49, indicates that the demand for Cuban sugar has expanded as rapidly as production has increased. The upward trend in the general price level has also contributed to the rise in sugar

PRICES AND SUPPLY OF RAW SUGAR IN CUBA, 1904-1923.


Fli. 49. Roth price and supply of sugaz in Cuba show an upward trend since
1904. This trend was appaient before 1914 , but production in subsequent years was greatly stimulated by the high prices of the war years. If we disregard this upward trend, the inverse correlation between price and supply is apparent, the price tending tọ be low when the supply is large.
prices. The high peak of supply shown for the grinding year 1922 (including, as usual, about one month of the preceding callendar year) was due to an abnormally large carry-over from the previous crop which, owing to the collapse of the raw sugar market, had not been moved. The drop in the supply from 1922 to 1923 is due not solely to the actual decline in production, but as well to the moving of these large accumulations of stocks. It is important to note in this connection that there is no measure of unconsumed stocks of sugar in the channels of trade except in Cuba and at refiner's ports in the United States. It should not be assumed, therefore, that all of the sugar statistically accounted for as consumption was necessarily actually consumed in the year.

[^24]

The close parallel normally maintained between the price of raw sugar in Cuba and raw and refined sugar in the United States is shown in Figure 50. While the general trend of both consumption and price in the United States has been upward during the last 21 years, the quantity of sugar apparently consumed per capita has

SUGAR CONSUMPTION AND RELATIVE RETAIL PRICES, UNITED STATES, 1913-14 TO 1922-23.


Fif. 51.-- Since 1919-14 the consumption of sugar in the United States has generally shown an inverse correlation to the price. The most striking exception to this rule was in the year 1919-20, when prices increased so rapidly that people were led to speculate in sugar and hoard it in anticipation of still higher prices. It is probable that the recent increase in sugar consumption is to some extent a result of the adoption of the prohibition amendment.
been generally lowest in years in which retail sugar prices have been highest relative to the prices of all foods. The per capita consumption amounted for the first time to as much as 104 pounds in 1921-22, when the average retail price of sugar was relatively lowest. The outstanding exceptions to this relationship, shown in Figure 51, were in the fiscal years 1919-20 and 1922-23. It the pre-war market with restrictions on consumption and price relaxed, and with uncertainty as to supplies, the apparent consumption for the year 1919-20 increased to a new record even while retail prices of sugar averaged fully 50 per cent higher than the retail prices of all foods. And again in 1922-23, when apprehension of impending shortage resulted in a relative price of sugar fully one-third higher than in the preceding year, consumption per capita was barely checked at the same level.

## Sugar Legislation.

Among the factors influencing sugar production in the United States the tariff was mentioned. For one reason or another taxes have been levied on imported sugar since the early days of the Republic. The first act relative to tariff on sugar was passed by Congress in 1789, before sugar had been made in this country and many years before it had become an important commercial product. Sugar was considered a luxury in those days and the tax was purely a luxury tax designed for additional Government income. Sugar was placed on the free list in 1792, but this act was repealed in 1794, and since then an import duty has'been collected on all sugar from foreign countries, gradually becoming an almost traditional policy of protection for the American sugar industry. On account of the enormous quantities of sugar still imported into this country and on which full preferential duty is paid, the Government receives no inconsiderable income. From the standpoint of the producer, legislation has been more or less favorable, varying greatly with different administrations, all of whom, however, acted on the presumption that protection was necessary for the survival of the industry. In 1890 an act was passed giving producers of sugar a bounty of 2 cents per pound under certain conditions. This was repealed in 1894. The question of tariff has lately become very complicated due to conflicting interests of producers both at home and in insular territories and protectorates, refiners and consumers. In 1876 an act was passed admitting sugar from the now Territory of Hawaii free of duty, and by proclamation of the President, sugar from Porto Rico was placed on the free list July 25, 1901. In 1902, import duty on sugar from the Philippines was fixed at 75 per cent of existing foreign rates, and since 1913 sugar actually produced in the Philippines has been admitted free of duty. In 1903 import duty on sugar from Cuba was reduced to 80 per cent of that from other foreign countries. In view of the importance of this'legislation, it seems appropriate to include a list of tariff acts of the United States which have been passed mostly for the protection of the sugar industry (Table 15).

Table 15.-Ratcs of duty on imports of sugar under the tariff acts, 1789-1922.

Date of act (and when effective).

Tuly 4, 1789 (Aug. 1, 1789) Aug. 10, 1790 (Dec. 1, 1790). May 2, 1792 (July 1, 1792)... June 5, 1794 (Oct. 1, 1794)... June 7, 1794 (July 1, 1794)... Jan. 29, 1795 (Apr. 1, 179.5)..

Mar. 3, 1797 (July 1, 1797)...
May 13, 1800 (July 1, 1800).. July 1, 1812 (July 1, 1812)... A pr. 27, 1816 (July 1, 1816).
Tuly 14, 1832 (Mar. 4, 1833)..
Mar. 2, 1833 (Jan. 1, 1834)..
Aug. 30, 1842 (Aug. 31, 1842).
July 30, 1846 (Dec. 2, 1846)..
Mar. 3, 1857 (July 1, 1857)..
Mar. 2, 1861 ( $\Lambda$ pr. 2, $1 \times 61$ )..

Aug. 5, 1861 (Aug. 6, 1861).

Dec. 24, 1561 (Dec. 25, 1861)
July 14, 1862 (Aug. 2, 1862)..

Apr. 29, 1864 (Apr. 29, 1×64). June 30, 1864 (July 1, 1864)...

July 14, 1870 (Jan. 1, 1871)..

Dec. 22, 1870 (Dec. 22, 1870).

Mar. 3, 1875 (Mar. 4, 1875)...
Aug. 15, 1876 (Sept. 9, 1876). Mar. 3, 1883 (July 1, 1883)...

Oct. 1, 1890 (Apr. 1, 1891)...

Aug. 27, 1894 (Aug. 1, 1894).

July 24, 1897 (July 24, 1897).

Apr. 12, 1900 (Apr. 12, 1900).
A Pr. 30, 1900.

Tuly $25,1901$.
Mar. 8, 1902 (Mar. \&, 1902)...
Dec. 17, 190:3 (Dec. 27, 1903).
fug. 5, 1909 (Aug. 6, 1909).

Rates of duty.

Brown, 1 cent per pound; loaf, 3 cents per pound; other $1 \frac{1}{2}$ cents per pound. Brown, $1 \frac{1}{2}$ cents per pound; loaf, 5 cents per pound: other $2 \frac{1}{2}$ cents per pound. All sugar free.
Refined, 4 cents per pound.
Clayed or lump, 1 cent per pound.
White clayed or white powdered, 3 cents per pound; other clayed or jowdered, $1 \frac{1}{2}$ cents per pound.
Brown, $\frac{1}{2}$ cent per pound.
Brown, 1 cent per pound.
Existing rates dombled until one jear after the war
White clayed or powdered, 4 cents per pound; lump, 10 cents per pound; loaf, 12 cents per pound; brown, 3 cents per pound.
White clayed, $3 \frac{1}{2}$ cents per pound; brown, $2 \frac{1}{2}$ cents per pound.
Existing rates exceeding 20 per cent to be reduced to 20 per cent by yearly reductions to July 1, 1842.
Raw and brown clayed, $2 \frac{1}{2}$ cents per pound; other, not refined, $t$ cents per pound; refined, 6 cents per pound.
All kinds, 30 per cent.
All kinds, 24 per cent.
Brown (muscovado), white and clayed, unrefined, $\frac{3}{4}$ cent per pound; refined, 2 cent per pound; refined, linctured, colored, adulterated, 4 cents per pound.
Brown and sugars not advanced above No. 12 Dutch standard, 2 cents per pound; above No. 12, not refined, $2 \frac{1}{2}$ cents per pound; refined, 4 cents per pound; refined and tinctured, 6 cents per pound.
Brown and sugars not above No. 12 Dutch standard, $2 \frac{1}{2}$ cents per pound; above No. 12, not refined, 3 cents per pound; refined, 5 cents per pound; refined and tinctured, 8 cents per pound.
Not above No. 12, $2 \frac{1}{2}$ cents per pound; above No. 12 to No. 15, 3 cents per pound; above No. 15 to No. 20, $3 \frac{1}{2}$ cents per pound; above No. 20,4 cents per pound; refined and tinctured, 10 cents per pound.
Existing rates increased 50 per cent for 60 days.
Not above No. 12, 3 cents per pound; above No. 12 to No. 15, $3 \frac{1}{2}$ cents per pound; above No. 15 to No. 20, 4 cents per pound; above No. 20, 5 cents per pound; refined and tinctured, 15 cents per pound.
Raw not above No. 7, 13 cents per pound; above No. 7 and other sugars not above No. 10, 2 cents per pound; other sugars above No. 10 to No. 13, 21 cents per pound; other sugars above No. 13 to No. 16, 23 cents per pound; other sugars above No. 16 to No. 20, $3 \frac{1}{4}$ cents per pound; all sugar above No. 20 and all rofined, 4 cents per pound.
All sugar not above No. 7, $1 \frac{3}{4}$ cents per pound; above No. 7 to No. 10, 2 cents per pound; above No. 10 to No. 13, $2 \frac{1}{4}$ cents per pound; above No. 13 to No. 16, $2 \frac{3}{4}$ cents per pound; above No. 16 to No. $20,3 \frac{1}{4}$ cents per pound; above No. 20 and refined, 4 cents per pound.
Rates of December 22, 1870, increased 25 per cent; melada hereafter to be "sugar" dutiable according to the rates for the Dutch standard.
"Sandwich Island sugar" free.
All sugars not above No. 13 and melada, beet and cane juice, etc., testing by polariscope not above $75^{\circ}$, 1.4 cents per pound; for each degree over $75^{\circ}$, 0.04 cent per pound additional. All sugar above No. 13 to No. 16, 2.75 cents per pound; above No. 16 to No. 20,3 cents per pound: above No. 20, 3.5 cents per pound; refined, tinctured, etc., 10 cents per pound.

Bounty to Unitc d States producers to July 1, 1895, sugar not below $90^{\circ}$ by polariscope from beets, sorghum, sugar cane, and maple sap, 2 cents per pound; below $90^{\circ}$ and not below $80^{\circ}$, $1 \frac{3}{4}$ cents per pound. Duties-all sugars above No. 16, 0.5 cent per pound; not above No. 16, and melada, sirups of cane juice, etc., free; refined, tinctured, etc., 5 cents per pound.
Bounty law repealed. All sugars, melada, sirups of beet and sugar cane, etc., 40 per cent; all sugars above No. 16 and all discolored sugars, $\frac{1}{8}$ cent per pound additional.
Sugars not above No. 16, melada, sirups of cane juice, etc., testing by polariscope not above $75^{6}, 0.95$ cent per pound; for each additional degree 0.035 cent per pound additional; above No. 16 and all sugar which has gone through a process of refining, 1.95 cents per pound; refined and tinctured, 4 cents per pound and 15 per cent; maple sugar and sirup, 4 cents per pound.
Shipments from Porto Rico to United States: 15 per cent of existing rates. Territorial Government of Hawaii established and any dutiable article the growth, production, or manufacture of that territory may enter United States free.
Shipments from Porto Rico to United States free. (Proclamation by President.)
Imports from Philippine Islands of articles grown and produced there, 75 per cent of existing rates. (Ceased Aug. 6, 1909.)
Imports from Cuba of products of soil or industry of that country, 20 per cent below existing rates. N ot subsequently repealed.
Sugars not above No. 16, melada, sirups of cane juice, etc., testing by polariscope not above $75^{\circ}, 0.95$ cent per pound; for each additional degree, 0.035 cent per pound additional; above N 0.16 and all sugar which has gone through a process of refining, 1.9 cents per pound; refined and tinctured, 4 cents per pound and 15 per cent; maple sugar and sirup, 4 cents per pound. Rates apply to Philippine Islands to this extent, imports of sugar in any fiscal year exceeding 300,000 gross tons.

Table 15.-Rutes of duty on imports of sugar, etc.-Continued.

| Date of act (and when <br> effective).Oct. 3, 1913 (Mar. 1, 1914)... | Rates of duty. |
| :---: | :---: |
|  | gars, melada, sirups of cane juice, etc., testing by polariscope not above |
|  | $75^{\circ}$ d. 0.71 cent per pound; for cach additional degrec, 0.026 cent per pound |
|  | additional; on and after May 1, 1916, free. Maple sugar and sirup, 3 cents |
|  | , 1916, free. All articles the growth or |
| May 27, 1921 (May 28, 1921). | Sugars, melada, sirups of cane juice, etc., testing by polariscope not above |
|  | $75^{\circ}, 1.16$ cents per pound; for each additional degree, 0.04 cent per pound |
| Sept. 21, 1922 (Sept.22, 1922). | Sugars, melada, sirups of cane juice, ctc., testing by polariscope not above |
|  | $75^{\circ}$, and all mixtures of sugar and water testing above $50^{\circ}$ to $75^{\circ}, 1.24$ |
|  | cents per pound; for zach additional degree, 0.046 cent per pound ad- |
|  | ditional; refined sugar, tinctured, 40 per cent. Maple sugar and sirup, |
|  | free. All rates subject to change by President after invcstigation of cost |
|  | of production, domestic and foreign. |

$\Lambda \mathrm{s}$ has been noted, the United States has become one of the principal sugar refining and exporting countries of the world, in addition to being the greatest consumer of this product. A discussion of the duties imposed by foreign countries at the present time therefore possesses interest. Practically all sugar-producing countries have passed laws taxing imported sugar for the protection of their industry; and other countries, almost without exception, have such laws for purposes of revenue. Sugar is, in fact, one of the most universally taxed articles of commerce the world over. It is on the free list in a few unimportant countries, such as the federated and some of the unfederated Malay States, and in free ports, such as Curaçao, Singapore, Hongkong, etc. Internal conditions of industrial competition have raised local differences of opinion in some countries and resulted in bitter controversies on tariff policies. As a case in point, the extensive jam trade of Australia, making use of imported sugar for the manufacture of their product, which is largely exported, comes into conflict with the interests of sugar producers in northeastern Australia. Such instances of internal interests not in consonance on the subject of sugar tariff could be multiplied. In view of its bearing on export of sugar from the United States, a table of custom duties imposed by some foreign countries is appended (Table 16).

Table: 16.-Ratess of duty on imports of sugar for various countries.

| Country and description. | Actual duty in money and wei | Date when duty was in force. | Duties con- verted in dollars per 100 pounds (exchange ason date of duty listed). |
| :---: | :---: | :---: | :---: |
| Argentina (law of 1906, as increased 1920): ${ }^{1}$ | ${ }^{9}$ pesos per 100 legal <br> 6) kilos. | \Aug. 7,1923 | $\left\{\begin{array}{l}3.085 \\ 2.056\end{array}\right.$ |
|  |  |  |  |
| cluding the sack......................... |  |  |  |
| Australia (law of 1920): | $\left.\underset{\text { Free }}{9-6-8}\}^{12}\right\}_{\text {pounds per long }}^{\text {ton. }}$ | Aug. 13, 1923 | $\left\{\begin{array}{l}\text { 2.447 } \\ \text { 1.903 } \\ \text { Freee }\end{array}\right.$ |
| Sungar, produced of sugar cane |  |  |  |
| Molasses. |  |  |  |
|  | 48 gold crowns per 100kilos. | \}Aug. 7,1923 |  |
| Candy sugar............. |  |  | 1.458 |
| ${ }^{1}$ There is a surtax of 7 per cent of the yalue. <br> 2 Duties to be paid in gold. |  |  |  |

'rable 16.—Rates of duties on imports of sugar for rarious countries-Contd.

| Country and description. | Actual duty in money and weight of each country. | Date when duty was in force. | $\begin{aligned} & \text { Duties con- } \\ & \text { verted in } \\ & \text { dollars per } \\ & 100 \text { pounds } \\ & \text { (exchange } \\ & \text { as on date of } \\ & \text { dutylisted). } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Belgium (law of 1913, as increased 1921): |  |  |  |
| Juices and raw sugars, of beet and cane | franes per 100 kilos. | Aug. 13, 1923 | 0.819 |
| Brazil: ${ }^{\text {Refined sugars }}$ | francs per 100 kilos. | Aug. 13, 1923 | . 819 |
| Brazil: ${ }^{8}$ |  |  |  |
| Sugar, candy Sugar, ot her. | 135)milreis per 10 $266.8\}$ kilos. | ...do. | $\begin{array}{r} 7.489 \\ 14.826 \end{array}$ |
| Canada (law of 1907 amended May, 1921 and 1923): |  |  |  |
| All sugar above No. 16, Dutch standard in color, |  |  |  |
| and all refined sugars of whatever kinds, grades, |  |  |  |
| $135^{4}$ (graduated scale increasing by from 2 to |  |  |  |
| ion)- |  |  |  |
| When not exceeding $88^{\circ}$ of polarization..... | 1.50 Canadian dollars |  | 1.4659 |
| When exceeding $98^{\circ}$ but not exceeding $99^{\circ}$.. | $1.89\}$ per 100 pounds. | Aug. 7, 1923 | 1.8476 |
| Sugar above No. 16, Dutch standard in color, when imported by a recognized sugar refiner, for refining purposes only, under regulations | for refining purposes only, under regulations |  |  |
| by the Minister of Customs and Inland Reve- |  |  |  |
|  |  |  |  |
| Dutch standard in color, sugar drainings or |  |  |  |
| pumpings, drained in transit, melada or concentrated melada, tank bottoms, sugar con- |  |  |  |
| When not exceeding $76^{\circ}$ of polarization . . . . . | 0.8108 Canadian dol- |  | . 7915 |
| When exceeding $97^{\circ}$ but not exceeding $98^{\circ}$. | $1.3432\}$ lars per 100 |  | 1.312 |
| When exceeding $98^{\circ}$. . . . . . . . . . . . . . . . . . . . . | 1.425 pounds. |  | 1.3926 |
| Chile: |  |  |  |
| Sugar not sperified, with following saccharose |  |  |  |
| More than 98 per cent but not over 99\% per cent. | ${ }^{6}$ (pesos per 1 wo kilos $3_{3}$ not. | Aug. 7, 1923 | .3289 $.164 ?$ |
| China: ${ }^{6}$ |  |  |  |
| Sugar, brown | 0.23)IItaikwan tae | (10. | . 1389 |
| Sugar, white. | $0.32 \int$ per picul. | do. | . 1932 |
| Colombia: 7 l ${ }^{7}$ |  |  |  |
| Sugar, muscodado or centrifuga | ${ }^{8}$ ¢ pesos per 100 kilos. | do. | 3.3883 |
|  |  |  |  |
|  |  |  |  |
| Sugar, "corriente" nol refin | 16 colons per 100 kilos | ....do..... | 1.6744 6.9790 |
| Refined sugar | $60)$ gross. | . 1 | 6.2790 |
| Cuba: |  |  |  |
| Raw sugar... | $1.00{ }^{\text {dollars }}$ per 100 |  |  |
| Refined sugar | 0.937i) kilos. | do | . 421 |
| Czechoslovakia: |  |  |  |
| Beet sugar and all sugar of similar kinds (cane sugar) in every condition of purity, except molasses. |  |  | 4. 4629 |
| Sugar of other kinds, e. g., glucose, starch sugar grape sugar, fruit sugar, milk sugar and the like, sugar for coloring purposes (for eoloring beets), ete. | 338 crowns per kilos. | do. | 4. 4629 |
|  |  |  |  |
| Sugar in loaves, sheets, cakes, and the like, whole, undivided, also powdered sugar with a polarization of over 98 per cent, grape or starch sugar. | 10 . ${ }^{\text {crowns }} \begin{gathered}\text { kilos. }\end{gathered}$ | do. | . 8253 |
| Powdered sugar with a polarization of over 86 per cent not over 98 per cent. | 6.5 |  | . 3364 |

3 Sacks, gross; other packing 15 per cent tare.
4 Provided that refined sugar shall be entitled to entry under the British preferential tariff upon evidence sat isfactory to the Minister of Customs and Inland Revenue, that such refined sugar has been manufactured wholly from raw sugar produced in the British colonies and possessions, and not otherwise.
5 Provided that all raw sugar, including sugar specified in this item the produce of any British colony or possession shall be entitled to entry under the British preferential tariff, when imported direct into Canada from any British country.

6 Custom duties to be paid in IIaikwan tael.
7 There is a surtax of 7 per cent of the duty with an additional surtax of 10 per cent of total import duty which includes the surtax. Exchange is given as per quotation of Apr. 18, 1923.
8 There is a surtax of $2 \frac{1}{2}$ centavos per gross kilo; also a surtax of 2 per cent of the duty in all Provinces except Limon, where it is 5 per cent of the duty. Duty is per gross weight.

* Duty is per legal weight.

Table 16.—Rates of duties on imports of sugar for various countries-Contd.

Country and description.


Mexico (law of 1916, as increased 1922): ${ }^{16}$ Common sugar.
Netherlands ${ }^{17-s u g a r: ~}$
(b) Loaf, lumps and not specified.
(a) Raw, of 98 per cent purity and over
(d) Raw, of less than 98 per cont purity, fir every degree of purity * * * but the duty shall not be less than 0.15 florins per 100 kilos net.
Norway ${ }^{18-\text { sugar and sirup: }}$
Sugar of all kinds, including dissolved and liquid sugar and juice from which sugar has been separated.
Common sirup and molasses with a sugar content of less than 70 per cent ad valcrem.

Peru: ${ }^{19}$ Refined sugar
Poland: ${ }^{20}$
Raw sugar.
Refined sugar
Pcrtugal ${ }^{21}$-sugar:
Above No. 20 Duteh standard, net.
Not specified, net

## Rumania:

Raw sugar and sirup and gluccse
Refined sugar
Actual duty in money
and weight of each and weig
country.

| Date when duty was in force. | $\begin{aligned} & \text { Duties con- } \\ & \text { verted in } \\ & \text { dollars per } \\ & \text { 100 pounds } \\ & \text { (erchang? } \\ & \text { as ondated } \\ & \text { ?utrlisted). } \end{aligned}$ |
| :---: | :---: |
| \}Aug. 7, 1923 | 2. 5595 |
| do | Free. |
| Aug. 1, 1923 | 4. 467 |
| \}May 5,1923 | $\left\{\begin{array}{l}\text { 1.4587 } \\ \text { Free. }\end{array}\right.$ |
| \}July 27, 1923 | $\left\{\begin{array}{l}1.5683 \\ 1.0422\end{array}\right.$ |
| Aug. 1, 1923 | $\left\{\begin{array}{r}.922 \\ 1.436 \\ 1.236 \\ 1.568 \\ 1.715\end{array}\right.$ |
| \}Aug. 7,1923 | 159 |
| .do. . . . . . | 10 per cent ad valorem. 3. 2579 |
| \}Ang. 1,1923 | $\left\{\begin{array}{c}3.98 \\ 3.98 \\ .039\end{array}\right.$ |
| $\left\{\begin{array}{l}\text { Aug. 7,1923 } \\ . . . . . d o . . . . . . . ~\end{array}\right.$ | $\left\{\begin{array}{c} 1.610 \\ \text { to } 6.442 \\ \text { Free to } 55 \\ \text { per cent } \\ \text { ad valo- } \\ \text { rem. } \\ 3.717 \end{array}\right.$ |
| d | $\left\{\begin{array}{r}.7796 \\ 1.60 .3\end{array}\right.$ |
| \}May 5,1923 | $\left\{\begin{array}{l} 0.8752 \\ 1.4586 . \\ 0.7293 \\ 1.2155 . \end{array}\right.$ |
| Aug. 7, 1923 | $\left\{\begin{array}{l} 0.3887 \\ 0.6775 \end{array}\right.$ |

10 Import permit required.
${ }_{11}$ Duties are paid in gold. When paid in paper, duties on sugar are to be multiplied by 6.
12 Duties to be paid in gold or in paper at current exehange.
${ }^{13}$ Sugar temporarily imported free of duty until further notice (by cable of May 14, 1923). Duties to be padin gold.
${ }_{14}$ No rates of exchange could be obtained Aug. 14, 1923.
${ }^{15}$ Latvian gold franes per 100 pounds.
16 There is an additional surtax of 12 per cent of the duty. Duty is per gross weight.
${ }^{17}$ Domestic industry protected by royal edict imposing restrictions on sale of foreign and Javan sugar for domestic consumption.
18 The minimum rates are applied to imports from the United States.
${ }^{10}$ Surtax at Callas are 19 per cent of duty; at Salaverry, Paite and Pisco and Talara, 20 per cent of duty: all other parts of Peru 18 per cent of duty. Duty is per gross weight. Exehange is given as per last quotation, Dec. 13, 1922, 10 sols is appioximately 1 libre, for which quotations are given.
${ }_{20}$ When paid in paper current, coefficient is applied.
${ }^{21}$ Duties are paid in gold. Minimum rates are applied to imports from the United States.

Table 16.—Rates of duties om imports of sugar for rarious countrics—Contd.

Country and description.


${ }^{22}$ All imports are under license. Duties are paid in paper at official conversion rates.
${ }^{23}$ The second tariff is one-half rate of first tariff. The lower rates apply to goods from the United States. ${ }^{24}$ There is an additional surtax of 56.5 per cent of duty. Exchange is given as per last quotation, Sept. 5, 1922.

## The Outlook For the Sugar Industry in the United States.

The total acreage devoted to cane in the United States for both sugar and sirup does not exceed 500,000 acres, while the acreage devoted to cane for sugar production alone does not normally exceed half of that area. While sugar-cane culture for sugar is limited climatically to the lower portions of the States bordering on the Gulf of Mexico, the area under cultivation is capable of considerable expansion even with the present varieties of cane. Production of cane for sirup, not so sharply delimited by climate, could be greatly increased if justified by demand; and attention to the technical problems involved in insuring a uniform product would no doubt result in an increasing demand. The production of sugar in Porto Rico has reached the point where fluctuation in acreage planted from year to year will depend largely on the market price of the product. The marked correlation between price and acreage during the past fiveyear period seems to indicate that price is the main factor governing the variations in production. In the Hawaiian Islands also this factor, together with availability of labor, is largely responsible for the annual fluctuations in the acreage planted to cane. The total area of the islands is not large, and most a a ailable land is already utilized for this purpose. Pineapples, the chief competitive crop, are fre-
quently grown on land that might be used for cane, but agricultural interests in general would be best served by maintaining this diversity of products. In the Philippines, on the other hand, great tracts of land which appear to offer every natural advantage for cane culture remain undeveloped.

Particularly on the island of Mindanao opportunities for agricultural development seem very great, and attention has been recently directed toward the possibility of growing sugar cane, rubber, cinchona, cassava, and other crops as well. With the steady increase in the world's consumption of sugar it becomes apparent that potential sources of supply ought not be overlooked, and investigation of the practicability of sugar-cane culture on this island, which is almost as large as Java, is desirable and justified. The labor problem in such a thinly populated region would have to be met by importation of laborers from neighboring islands, or by the use of transient coolies.

In the Western States sugar beets occupy only a small percentage of the acreage of suitable soils in those localities in which beets are grown, and no doubt they could be grown in many sections where they have not been introduced. The agronomic possibilities for extending sugar-beet growing in the North Central States seem very great, since there is a large acreage of dark soils in that section of the United States similar to those now used for this crop. In addition to the sugar-beet States listed in Table 17, parts of several other States lie within the climatic zone suited to sugar-beet production, as is shown in Figure 18.

Table 17.-Land in crops and acres in sugar beets in the present sugar-beet States, 1919.

| State. | $\begin{aligned} & \text { Land in } \\ & \text { crops, } 1919 . \end{aligned}$ | Irrigated area. 1919. | Area in sugar beets. | Sugar-beet acreage, percentage of. |  | $\begin{gathered} \text { Beet- } \\ \text { sugar } \\ \text { factories. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Acreage of all crops. | Value of all crops. |  |
| California | Acres. 6, 850, 805 | Acres. <br> 4, 219, 040 | Acies. 88, 257 | Per cent. 1.29 | Per cent. <br> 1.47 | Number. |
| Colorado. | 5,416,712 | 3,348, 385 | 165,840 | 3.06 | 9.61 | 15 |
| Idaho.. | 2,797, 943 | 2, 488, 806 | 37,334 | 1.33 | 2.16 | 6 |
| Illinois. | 21,462,852 |  | 2,830 | . 01 | . 04 | 1 |
| Indiana. | 13,223, 256 |  | 4,119 | . 03 | . 09 | 1 |
| Iowa.... | 21,609,534 |  | 7,009 | . 03 | . 06 | 1 |
| Kansas.. | 22,843, 587 | 47,312 | 1,682 | . 01 | . 01 | 1 |
| Michigan.. | 10,000, 611 |  | 106,450 | 1.06 | 2.92 | 16 |
| Minnesota. | 17,149, 813 |  | 3, 509 | . 02 | . 05 | 1 |
| Montana. | 3,924, 337 | 1,681,729 | 8,600 | . 22 | 1.16 | 1 |
| Nebraska. | 19,432,145 | 442,690 | 54,486 | . 28 | 1.12 | 4 |
| Ohio....... | 13,934, 239 |  | 33,561 | . 24 | . 63 | 5 |
| South Dakota | 15,313,006 | 100,682 | 1,106 | . 01 | 17.04 |  |
| Washington. | 4, 251, 170 | 1, 529,899 | - ${ }^{\text {5,363 }}$ | 8.13 .13 | . 22 | 2 |
| Wisconsin. | 10, 265, 998 |  | 12,737 | . 12 | . 33 | 4 |
| Wyoming. | 1,210,250 | 1,207, 982 | 9,935 | . 82 | 3.36 | 3 |
| Other States. | 184, 674,316 | 3,753, 540 | 275 |  |  |  |
| Total. | 375, 431, 734 | 19, 191, 716 | 636, 434 | . 17 | . 45 | 89 |

It is not to be assumed that all of the improved land in the sugar-beet States, nor the land in crops, is capable of producing satisfactory yields of sugar beets; but if even 10 per cent of the crop
area is suitable for sugar-beet culture, there is a wide margin for the further development of the sugar-beet industry.

Increase in the production of sugar from both cane and beets is not necessarily limited to extension of the cultivated area. Improved methods of cultivation and improvement of the plants by breeding and selection offer possibilities which have not as yet been fully investigated for all regions. In some regions where accurate records have been kept over a long series of years, the benefits to be derived from breeding have been clearly demonstrated. A pronounced increase in yield has been obtained in this way in Java with cane and in Germany with beets. Such results have been obtained elsewhere, but in lesser degree. It becomes increasingly difficult to evolve better types of plants as the upper limit of production is approached, and it is to be expected that progress will be slower and slower. Rapid increase in production would follow the application of this method in regions where it has been neglected, and such regions include mucli of our own territory.

In general, the natural conditions of soil and climate in American cane and beet regions can not be considered the factors which limit expansion of the sugar industry. The limiting factors appear to be economic rather than agronomic. Labor supply, market price, crop competition. and assurance of protection are among the important factors which govern the production of sugar in the United States and its insular possessions. The American farmer, accustomed to the use of labor-saving machinery, is loath to perform the large amount of hand labor necessary for successful growing of sugar crops. The problem of securing and holding an adequate supply of labor on cane plantations in the South must be solved before any increase in production can be expected. The solution may lie in smallfarm production by owners rather than by day labor under supervision. Such a system, however, puts difficulties in the way of coordination of effiort so necessary for successfully conducting the large-scale plantation and mill operations.

Sugar-beet and sugar-cane culture will be expanded only when more profitable than the other crops with which these sugar crops must compete. Competition of other cash crops for the land is more severe in the beet regions, where long-time rotations are practiced, than on the cane plantations, where the other crops are largely consumed or utilized on the plantation.

The outlook for sugar production in the United States is further affected by the production of sugar in other countries and the competition of this foreign-grown sugar in our markets. It may be truthfully stated, however, that no sugar-producing country is without its own peculiar problems, which are frequently very different from ours, but just as difficult of solution. They tend to curtail production, or increase the cost of production, which from the standpoint of capital invested amounts to the same thing. Since no country can be considered ideal for sugar production, the more successful ones in the future will be those which give the greatest attention to systematic and intelligent study of the factors limiting production.


By D. A. Spencer, M. C. Hall, and C. D. Marsh, Bureau of Animal Industry; J. S. Cotton, C. E. Gibbons, O. C. Stine, O. E. Baker, V. N. Valgren, R. D. Jennings, and G. K. Holmes, Bureau of Agricultural Economics; W. B. Bell, Bureau of Biological Survey; and Will C. Barnes, Forest Service.

SHEEP HUSBANDRY is one of the most important, as well as one of the oldest, of the world's agricultural enterprises. Wool ranks next to cotton in importance among the fibers and has played probably a more important part than cotton in the spread of civilization. The wearing of clothes made from wool, which is a nonconductor of heat and does not readily absorb moisture, has made it possible for man to withstand the rigorous winters that prevail over much of the earth's surface. The present world production of wool is only about 2 pounds per capita. As most of the people living within the Tropics use but little of this commodity, the supply a vailable to the people living in the colder regions is somewhat larger. The American people are among the heaviest users of wool, the annual per capita quantity being over 5 pounds.

From the dawn of history the flesh of sheep has been an important item of food for man. Lamb and mutton are among the most healthful, nutritious, and palatable of meats. However, the consumption of these meats varies widely in different countries. In the United States the average annual per capita consumption of lamb and mutton for the 10 -year period 1912-1921 was 6.2 pounds; Canada in 1910 averaged 9 pounds; the United Kingdom in the period 1895-1908 averaged 26.7 pounds; France in 1904 consumed 9 pounds per person, and Germany in 1904-1913 only 2.2 pounds per year. In the respective periods mentioned the consumption of lamb and mutton constituted the following percentages of the total meat consumption: 4.35 per cent for the United States, 5.57 for Canada, 22.25 for the United Kingdom, 11.25 for France, and only 1.91 per cent for Germaty.

Sheep raising has always been one of the world's leading pioneer enterprises. In the past, sheep kept primarily for the production


Fig. 1.-The leading sheep-producing countries are Australia, Russia, Argentina, United States, India, Union of South Africa, Cnited Kingdom, and New Zealand. The distribution of sheep in Russia and the Tnited States is less dense than in the other countries. Four of the six densest centers of sheep raising-Australia, the Argentine-Uruguay area, the Union of South Africa, ant New Vealand-are in the Southern Hemisphere. These are relatively new lands with sparse population. In the Mediterranean countries topography and limate favor the shecp industry, which is seminomadic in character. In Great Britain the large area of pasture makes mutton and wool production a prominent industry in spite of dense population and high-priced land.

TREND IN NUMBER OF SHEEP IN IMPORTANT COUNTRIES.


FIG. 2.-In Australia, the greatest sheep-producing country of the world, the number of sheep increased very rapidly from 1860 to 1890. Since 1890 wheat production and cattle raising have been displacing sheep. The sheep industry of Argentina is, likewise, giving way to grain production and cattle raising. New Zealand continued to increase its number of sheep until quite recently, but dairying vast soon vast terion, still maintains an important sheep industry.
of wool have been raised very cheaply in regions remote from civilization because, owing to their herding instinct, they could be handled in large bands, and wool could readily be transported for long distances without serious danger of spoilage and at relatively small cost. Although the pioneer phase of the industry is passing, the above factors, together with the adaptability of sheep to a wide range of climatic conditions, their ability to go for several days and even weeks without water when on succulent feed, as well as their fondness for shrubby and weedy types of forage not consumed by most domestic animals, make it possible to keep sheep in regions that would otherwise be unutilized. This is especially true of the arid regions.

In the United States sheep production is of special importance in the grass-producing regions of the Eastern and Central States, particularly in rolling and hilly sections, in the more arid portions of the West, in the rugged range territory adjacent to and including the national forests, and in the fenced range area of southwestern Texas. Sheep are fond of a great many varieties of weeds and underbrush which cattle and horses do not relish; thus they are useful in keeping fields and fence corners clean and in the utilization of farm and range forage not so well adapted to other kinds of livestock. On rugged pasture lands the flock of sheep will always be found on hills or knolls during the hours of rest, so that most of the manure is left, in those parts of the field where it is most needed for the maintenance of soil fertility.

## World Distribution of Sheep.

Of the six densest areas of wool and mutton production fourAustralia, New Zealand, Argentina, and South Africa-are in the Southern Hemisphere. The two remaining centers, the British Isles and the Mediterranean region, are in the Northern Hemisphere (fig. 1).
Australia is about the same size as the continental United States, but has a much larger area that must be devoted to grazing purposes, as the annual precipitation over three-fifths of the continent is less than 15 inches. Sixty per cent of the land area is best adapted to sheep raising. In the semiarid regions where the feed, because of its weedy and shrubby character, is not suited to cattle, and where transportation facilities are inadequate, Merino sheep, which are kept primarily for the production of wool, prevail. In the farming regions the crossbreds (sheep of the fine wool and mutton cross) are very popular, and the growing of mutton for export trade is becoming important. Australia now ranks third in mutton exportation.

As practically all the Crown lands (public lands) suitable for grazing are leased for long periods and in areas sufficient for extensive operation, the Australian flockmasters are on a much more stable basis than are those of the western United States. Australia is, however, subject to severe droughts, and occasionally very heavy losses are sustained from which it usually takes several years to recuperate fully. In parts of the country rabbits are a serious pest, while in other sections prickly pear is destroying much of the range.
New Zealand leads in the production of mutton, its exports averaging about $250,000.000$ pounds annually. A luxurious growth of
forage, which is available for grazing purposes throughout the greater part of the year, covers most of the islands. Sheep raising has been the dominant industry in these islands since their settlement. The dairy industry, however, is becoming a strong competitor. The rapid rise in land values in recent years, together with the breaking up of large holdings, has given a great impetus to dairying and it has made a rapid growth.

Most of the New Zealand sheep are kept in regions where the rainfall is less than 50 inches. Considerable use, however, is being made of the western side of South Island, where the rainfall is very heavy, sheep from the east being driven through the mountain passes when the trails are opened in the spring. Sheep are encroaching also on the volcanic plains of the central part of North Island.

In Argentina the number of sheep has declined from a total of $80,000,000$ head in 1880 to less than half that number in 1920 (fig. 2).

RELATION OF SHEEP TO POPULATION AND TO LAND AREA IN 11 IMPORTANT COUNTRIES.


Fig. 3.-The leading countries in the number of sheep for each 100 inhabitants are all in the Southern Hemisphere. These countries are sparsely populated. Great Britain, although densely populated, leads in the number of sheep per square mile, New Zealand standing next. The Ralkan States, represented by Groce and Yugo-Slavia, rank high both in number of sheep per inhabitant and per square mile. Spain, the home of the Merino, similarly stands relatively high. Russia, which is -second in the total number of sheep, and the United States, which ranks fourth, both have a relatively low number of sheep per inhabitant and per square mile.

For some time past cattle and grain farming have been forcing some of the sheep to the more arid regions to the south and west. The production of fine wool is now largely confined to the arid Provinces of southern Argentina. About 75 per cent of the total sheep in the country are of the mutton types. These mutton types of sheep still occupy a prominent place in the agricultural Provinces. In the Province of Buenos Aires, where nearly 50 per cent of the sheep are located, all of the sheep are of mutton breeding. Argentina stands next to New Zealand in the exportation of frozen mutton.
In British South Africa, except for the coast areas, the rainfall is low and prolonged droughts are common. Most of the rain occurs during the summer, the winter being very dry, especially over much of the plateau area of the interior. For this reason, most of the
land is best suited to grazing purposes and primarily to the production of wool. Practically all of the good land has been under private ownership for many years. The Crown lands are barren areas which, for lack of water, are not capable of carrying stock. Large areas of this land could be made available for sheep grazing by providing watering places and by irrigation. The Merino is the dominant breed.

The United Kingdom is one of the few countries of dense population where sheep still persist (fig. 3). The moist, mild climate is favorable to the production of a luxurious growth of grass, and, as the winters are mild, stock can be grazed most of the year. The agriculture of the islands is largely pastoral, and sheep have occupied a prominent place since a very early date. As the English people have always consumed large quantities of mutton, especial emphasis has been given to the development of mutton types of sheep, this country being the home of the mutton breeds. For many years England sent a constant stream of improved breeding sheep of the mutton type to all parts of the world. Recently there has been a small decline in the number of sheep. They are apparently being displaced by dairy cows needed in the production of milk for urban use.

Although Spain does not stand high in the total number of sheep. it deserves mention because it was the original home of the fine-wool breeds. About the year 1500 Spain and England were the leading sheep countries of the world. Sheep still occupy a prominent place in Spanish agriculture, and the growers still possess grazing rights granted in medieval times. Compelled to migrate from the hot, dry, lowland pastures into the northern mountains each spring to obtain summer grazing, the Merino developed into a very hardy breed with fine quality of fleece, but with poor mutton qualities. The adaptability of this breed to dry, remote range has been an important factor in the demand for Merino blood in newly settled countries.

In the Balkan States and in Asia Minor the arid or semiarid plains and mountain highlands, as well as the more or less nomadic habits of the people, have caused sheep and wool production to occupy an important place among the rural industries.
Russia stands second in total number of sheep, but relatively low in the number per square mile and per capita of population. Little is known concerning the present situation of the sheep industry in that country.

The United States ranks fourth in total number of sheep, but, like Russia, the country taken as a whole- stands relatively low in the number of sheep per square mile and per inhabitant. There are, however, areas of dense concentration of sheep, as in the fine-wool section of Ohio, and in portions of the western intermountain region.

## Development of the Sheep Industry in the United States.

Sheep were introduced into Virginia in 1609, into Massachusetts about 1630 , and are reported to have been introduced into the other Colonies soon after they were founded. Conditions in the Colonies were not favorable for rapid increase in the number of sheep. Predatory animals, Indians, and severe winters made serious inroads on their numbers. At first the few sheep were kept within town
inclosures, or on islands or peninsulas fenced off from the mainland. Wherever sheep ran at large, herders were necessary to protect them. It was customary for one or more herders to take care of the flock of the entire settlement.
Sheep were important to the Colonies of the North as their source of clothing material. The wool was mostly worked up by the family that owned the sheep. Doubtless there was some trade in the wool, some families exchanging their surplus of wool with other families and some making clothing for exchange with others. There was no demand for mutton, except as meat for the family table. In the South cotton took the place of wool to a certain extent in the manufacture of clothing. In the North the sheep were so important that colonial governments did much to encourage the keeping of sheep.

During the eighteenth century the character of the American sheep remained unchanged. Sheep were kept primarily to supply the demand for wool for homespun clothing. In some communities more homespun was produced than was necessary to supply the local needs and the products of this industry entered into commerce to some extent, but there was practically no manufacture of woolen clothing outside the homes. The first woolen mill having more than one loom was established in Hartford, Conn., about 1788. Woolen clothing continued to be imported from England. During the Revolutionary War, when this supply was curtailed or cut off, there was a marked growth in the household industry. This gave a temporary impetus to the keeping of sheep. However, in 1800 the typical farm flock in New England contained from 10 to 20 sheep, which clipped about 2 pounds of coarse wool per head.

After the Revolution woolen goods of British manufacture again appeared on the colonial markets, but by the Embargo Act of December, 1807. and the Nonintercourse Act of 1809, this country again was thrown on its own resources in meeting the domestic demand for clothing. The number of woolen mills began to increase rapidly to supply the grades of clothing better than homespun, which hitherto had been imported. In 1810 it was estimated that there were about $7,000,000$ sheep in the United States.

The almost complete stoppage of foreign commerce during the War of 1812 accelerated the growth of wool manufacturing and further increased the price of wool. Between 1810 and 1814 the number of sheep is estimated to have increased from $7,000,000$ to $10,000,000$ head. After the country reverted to a peace footing, in 1815, foreign manufacturers again flooded the American market with woolen goods. Most of the American factories soon shut down or operated but a part of the time for several years. These adverse conditions were accentuated by the panic of 1819 , and the result was a severe depression in the sheep industry of the country.

Soon after 1820 the woolen industry began to improve, and by 1824 it was in a fairly prosperous condition. Although the factory production of coarse woolens had become important by 1830, the largest market for coarse wool still was the home manufacturer. At least half of the domestic wool clip was being used in the household. Poor transportation facilities were an important factor in maintaining the household manufacture of woolen clothing.


FIG. 4.-The greatest sheep-raising center in the United States in 1840 was in Vermont. Sheep were numerous along the eastern bank of the Hudson River and in western New York, in southwestern Pennsylvania, and eastern Ohio. The blue-grass districts of Kentucky and Tennessee also had a number of sheep. There were only a few sheep in the South and practically none in the western Enited States as then constituted.

During the period from 1830 to 1837 the woolen mills doubled their output. A general application of power and the use of improved machinery greatly lowered the cost of the manufacture of cloth. The growth of cities rapidly increased the demand for the factory product. As transportation facilities improved, enabling the merchandise of the cities to be carried into the country, the home manufacture of clothing rapidly lost ground.

With the rapid development of wool manufacturing there was a change in the status of the sheep industry. Previously only small flocks had been necessary to supply the home needs for clothing. The factories, however, demanded large quantities of wool, and the prices paid by them induced many farmers to specialize in wool production, especially those farmers who lived in outlying districts.


Fig. 5.-Between 1840 and 1860 the number of sheep declined greatly in New England and New York, being displaced largely by dairy cows. Ohio has become the leading state: and several million sheep are found in Texas, New Mexico, and California. The number has also increased several fold in Michigan and the upper Mississippi Valley.


Fig. 6.-Ohio, southwestern Pennsylvania, and southern Michigan constituted the most important sheep-producing region in 1880. The increase in numbers in the far West has been much greater than in the East. Two-fifths of the sheep are now west and southwest of the Missouri River. The decrease in New England and New York continues, whereas the number of sheep is Ohio. Michigan, and Wisconsin has increased.

Wool growing developed rapidly in western Massachusetts, Vermont, and New York in the thirties. It was undoubtedly stimulated by the high prices prevailing between 1830 and 1840. The industry along with other agricultural enterprises, however, suffered from the panic of 1837. The prices of wool began to decline about 1840 .

The first accurate figures available relative to the number of sheep are those for 1840 , when the census enumerated $19,000,000$ head. The greatest center of sheep production was in Vermont. Western New York was also an important center of sheep raising. The industry as yet had not developed to any great extent west of the Alleghanies, although a beginning had been made in southwestern Pennsylvania and in eastern Ohio. (See fig. 4.)


Fig. 7.-In 1900 nearly three-fifths of the sheep were in the western range country. The increase in numbers in the Great Plains and intermountain regions since 1880 has been very great, but the industry began to decline in California and western Oregon soon after 1880. The number of sheep in New England and New York continues to decrease, and a decline has set in also in Ohio and Michigan.

Following 1840 there was a decline in the high prices of farm products that had prevailed during the late thirties. The growing of grain became for the time generally unprofitable throughout the Middle West, where the transportation charges to the East were very heavy. As wool, relative to its value, could be transported easily and cheaply, there was a rapid shifting of the sheep industry from the East to the West. Many sheep raisers moved their flocks from New England to Ohio and Michigan, and some drove on farther west. The sheep farmers remaining in the East reduced their flocks.
The eastern sheepmen also began to turn their attention to the production of mutton as well as wool, particularly after 1850. The change to the mutton type was most rapid near the cities. As the farmers selected and improved the mutton qualities of their sheep the demand for mutton increased. Instead of being a secondary consideration mutton soon became a determining factor in the selection and production of sheep in the East. By 1850 the center of wool production had shifted to the West, and Ohio had become the leading sheep raising State of the Union.

During the decade of 1850-1859, the sheep industry made little progress. In the East the dairy industry continued to displace sheep. However, the increase of the mutton breeds, especially for the production of early lambs, continued quite rapidly. Many mutton-type wethers were fed in the East during the winter to be marketed early in the spring. Sheep for winter feeding were driven east from Kentucky and south from eastern Canada, where mutton breeds were kept almost exclusively. In the West sheep husbandry met with severe competition from other farm enterprises, especially grain production, cattle, and hogs. With the opening up of the European markets shortly after 1845 a considerable export trade in grain developed. This, together with a rapid increase in transportation facilities and the reduction of shipping costs, made farming again profitable.

Where the land was level and easily brought under cultivation, the sheep industry did not succeed in holding its place on the frontier in competition with wheat, corn, cattle, and hogs. Consequently, sheep raising as a pioneer industry passed rapidly across the level prairies to the far West. Sheep have persisted, however, to the present day on the rough or uneven lands of eastern Ohio and southern Michigan. The first development in the far West was the growth of the industry from Texas and New Mexico northward. The sheep industry of New Mexico had been in existence since an early date. As early as 1700 , sheep were driven from New Mexico to California. In the expansion of the western industry New Mexico was drawn upon for much of the foundation stock, which has been gradually improved by the introduction of Merino blood. As early as 1860 there were many sheep in both Texas and California (fig. 5).

The first effect of the Civil War was to increase the price of wool and stimulate the sheep industry. This increase in price was due to the demand for woolen goods for military use. Moreover, for a time the supply of cotton from the South was cut off and woolen goods had a monopoly of the clothing market. The number of sheep increased rapidly, not only in the newly developed agricultural regions but even in the old sheep-producing centers of the East.

The war had an opposite effect on hogs and dairying, and some of the producers of these products turned to the production of sheep.

The end of the war, however, caused a crisis in the sheep industry. A sharp decline in the price of wool followed shortly (1866) after the close of the war. With the end of the war cotton began to come back. Large stocks of Army woolens had been accumulated and were offered for sale. There was an oversupply of wool and woolen goods. To add to this situation there was a heavy influx of foreign wools in 1866. On the other hand, the prices of some other commodities improved relatively owing to the restoration of the southern markets. Eastern farmers again turned from sheep raising to other farm enterprises. Large numbers of sheep were driven westward. By 1870 the sheep industry in the Eastern States had declined to about the same condition as in 1860 . There had been a great increase in the Southwest and far West. In these regions remote from markets sheep raising still continued to be the most profitable enterprise.

Following 1870 there was a rapid expansion in the far West, where free grazing could be obtained throughout the entire year, so that the only expense was for labor and supplies, and the only investment involved was in the sheep and a camp outfit. This western expansion of the sheep industry continued until most of the range country was overcrowded. The maximum number of range sheep seems to have been reached about 1884, at which time the number in California began to decline (fig. 6). In some sections, however, the maximum number was not reached until much later, Montana reaching its highest number in 1903. The year 1884 also marks the high point of the industry for the United States as a whole. There were reported to have been $50,627,000$ sheep, exclusive of lambs, in that year. The decline in the number of western sheep has been due partly to deterioration of the range because of overstocking, but more largely to the settlement of vast areas of grazing lands for farming purposes.

During the period of greatest expansion of the western-range industry wool production also was expanding rapidly in other parts of the world, especially in Australia and Argentina. As it was generally impossible for eastern farmers to compete in wool production with either our West or those countries, most of them were compelled to give up sheep raising or to turn their attention to the production of mutton. The annual exports of wool from Australasia increased from an average of $148,000,000$ pounds in the 10 years ended in 1870 to $647,000,000$ pounds for the five years ended 1899. The production and exportation of wool from Argentina also increased very rapidly. The price of wool and the price of sheep fell steadily from 1870 to 1896.

By 1900 sheep raising in the East was largely confined to areas where, because of-much rough land or soil conditions, most of the farm was kept in pasture, as in southwestern Pennsylvania, eastern Ohio, and portions of Kentucky, southern Michigan, and southern Iowa (fig. 7). Since that date the sheep industry has been subject to severe competition throughout the United States. In the East dairying has continued to make inroads upon the sheep industry, and in those sections of the West where dry farming is important, cattle have replaced sheep to a considerable extent (fig. 8).

The fattening of range sheep for market began in the western part of the Corn Belt and the region tributary to the big flour mills of Minnesota in the early eighties, and developed rapidly during that decade and the one following. It first the business was mostly in the hands of large operators who gencrally purchased all their feeds. $\Lambda$ little later farmers began feeding sheep as a means of utilizing large quantities of roughage, and in the Corn Belt some oftheir surplus corn. This practice was greatly encouraged by the development of the great packing centers in the upper Mississippi Valley. The far West was shipping sheep to these packing centers, and it soon became evident that it was profitable to give some of these animals a "better finish" before they were slaughtered. In the early stages the sheep were almost wholly wethers. Later, as the demand


Fif. 8.-By 1920 sheep had largely disappeared from the Atlantic coast. Vermont, which was the densest center of sheep production in 1840, con tains only a few thousand head. Large numbers of sheep are still found in the Ohio fine-wool region, in the valleys of the Appalachian Mountains, and in southern Michigan. A notable decline has occurred in the Great Plains region, except in the fecding districts, owing largely to the advance of dry farming.
for lamb increased and the numerous wether, which were largely unprofitable, disappeared from the range, the feeders turned their attention to the fattening of lambs.

During the recent World War the demand for immense quantities of wool for military uses greatly stimulated the industry. Shortly after the close of the war the allied nations found that they had immense stocks of woolen goods on hand for which there was no further need, while the British and United States Governments also hat accumulated large supplies of raw wool, most of which was of the coarser type. This heavy supply did not become burdensome until 1920, when, owing to a falling off in consumption, there was a break in the price of the coarser wools. This was soon followed by a sharp break in the price of all wools during the period of general deflation.

In the spring of 1921 many sheepmen found themselves with a clip of wool on hand, and some, who had held the 1920 clip for better prices, had two clips, for which there was virtually no market. Heavy importations of lambs fiom New Zealand at this time greatly
depressed the lamb market. A large number of eastern growers, especially those who had taken up sheep production during the war, immediately liquidated their flocks, in some instances causing a severe congestion of mutton on the markets.
The western sheepmen were severely hit. A large percentage of these men had borrowed heavily in order to increase their flocks to war-time neecis. The southwestern range men had just passed through a three-year drought period in which there had been heary losses. The northern men had suffered from an unusually dry summer (1919) which was followed by a severe winter. As they were already in a very precarious condition, the calling of loans in 1920 resulted in many sheepmen being thrown into bankruptcy, while the majority of the remainder were for the most part obliged greatly to curtail


Fig. 9.-The decrease in the number of sheep in the United States is due to several factors. In the more densely populated farming sections the dairy cow has been steadily displacing sheep. The heavy decrease of range sheep in Montana and Wyoming is owing largely to the severe climatic conditions of 1917-1919, and to the rapid occupation of much of the range by homesteaders. In New Mexico a three years' drought (1916-1918) caused heavy liquidation. There was an increase of over 100 per cent in Texas. The number of sheep in Arkansas remained practically unchanged.
their operations. With the passing of the financial stringency, those who were able to survive have gradually been getting on their feet. The accumulated stocks of wool have been used up and the sheep business is again on the upward swing.

In the meantime foreign competition has diminished rather than increased. Other important sheep-raising countries have had experiences similar to that of the United States. Grain farming and cattle ranching are displacing sheep ranching in Argentina and Australia. There remains no important sheep-raising country, excepting possibly South Africa, in which it appears that the number of sheep will increase notably.

## Improved Types of Sheep.

Early in the nineteenth century the demand for fine wool encouraged the development of Merino sheep in the United States. New England, particularly Vermont, became famous for the heavyshearing, wrinkled type, for in those early days wool was para-


## SHROPSHIRE RAM.

Fig. 10.-Shropshire sheep are popular for mutton and wool production on the farm. Sbropshires constitute nearly one-third of all the purebred sheep in the country. They are widely distributed over the mutton-sheep-producing areas of the farm States. The northeastern quarter of the country contained three-fourths of all purebred Shropshires in 1920.


## RAMBOUILLET RAM.

Fig. 11.-The Rambouillet is sometimes called French Merino, as the foundation of this breed was developed in large measure by the French Government at Rambouillet, France. It is a popular breed in fine-wool regions, both in the East and West, and is the dominating fine-wool breed of the western range. A large percentage of our crossbred range sheep are founded on the Rambouillet.


HAMPSHIRE RAM.
Fig. 12.-Hampshires are bred on both farm and range. Their robust vigor, plump mutton form, and early maturing qualities make them valuable for market-lamb production where feed is abundant. Hampshire rams are used extensively on the western range for mating with crossbred and fine-wool ewes for the production of market lambs to be sold for slaughter direct from the range.


## LINCOLN RAM.

Fig. 13.-Lincolns are large mutton-type sheep that produce heavy fleeces of long but rather coarse wool. The common practice on the range of mating Rambouillet ewes with Lincoln rams results in a crossbred type especially valuable for mutton and wool production under range conditions, provided grazing forage is sufficiently abundant for the production of lambs.
mount and mutton a by-product. But as the century wore on manufacturing and population increased rapidly in the East, sheep moved westward and by the close of the nineteenth century a healthy demand for mutton had developed. Wool was then produced at less expense on the western range and the East attempted to meet this western competition by producing more mutton. However, the provision of transportation facilities throughout the country and the continued demand for mutton created the need for a mutton type in the western range country as well as in the farm States. Even fine-wool breeders are now striving for mutton development in the Delaine Merino and Rambouillet. Wool remains important, but mutton is now yielding as much of the returns as wool, and, in many of the farm States, it yields more.

Shropshires (fig. 10) are widely distributed in the farming sections of the North and West, but they are especially popular in the


Fig. 14.-In the farm-flock region the purebred sheep business is largely concentrated in the North Central States, notably Ohio and Michigan. In the range area a large proportion of the purebreds are found in the Snake River Valley of Idaho and eastern Oregon and the Salt Lake Valley of Utah.

Corn Belt and Great Lakes regions. In 1920 the Middle Atlantic and North Central States reported 73 per cent of all the purebred Shropshires. Rambouillets (fig. 11) are bred successfully in some of the farm States, notably Ohio and Michigan, but they are more extensively produced in the West. The 12 far western range States reported 90 per cent of all the purebred Rambouillets. Merinos are bred most extensively in the Ohio fine-wool region. The States of Ohio, West Virginia, Pennsylvania and Michigan reported 56 per cent of all the purebred Merinos (chiefly Delaines), and Ohio alone reported 40 per cent of them. They are also bred to quite an extent in Oregon, California, New Mexico, and Texas. Hampshires (fig. 12) are found to some extent in New York, Pennsylvania, Michigan, Missouri, Virginia, and Kentucky, but 59 per cent of the purebred Hampshires were in the 12 western range States. Oxfords were most numerous in the North Central States; Lincolns (fig. 13) in the Mountain and Pacific States; Dorsets near hothouse-lamb mar-
kets in the Middle Atlantic and East North Central; Southdowns in Tennessee, Kentucky, West Virginia, Ohio, Pennsylvania, and New York; Cheviots in New York; Leicesters chiefly in the Northeastern and North Central States; and Suffolks are scattered sparsely in both farm and range States.

As stated above, the Rambouillet has gained a strong foothold on the western range. Much has been accomplished in the development of the mutton tendencies together with the maintenance of hearyshearing qualities in this breed, and it has proved to be well adapted to hazardous range conditions. In those regions where range forage is sufficiently abundant to produce finished market lambs, Rambouillet and Delaine ewes have been bred to Lincoln and other longwool rams for the production of lambs that mature for the market at an earlier age and with more pronounced mutton form than would


Fis, 15.-The proportion of purebred sheep to all sheep is greatest in the North Atlantic States. According to the 1920 census, 54.1 per cent of all purebred sheep in the United States were of the medium-wool breeds, 42.2 per cent were fine wool, and 3.7 per cent long wool. Shropshires made up 31.5 per cent of the purebreds; Rambouillets, 27.07 ; Merinos, 15.17 ; LIampshires, 13.13 ; Oxfords, 4.20 ; Lincolns, 3.51 ; Dorsets. 2.13 ; Southdowns, 2.12 ; Cheviots, 0.75 ; Leicesters, 0.19 ; and Suffolks, 0.18 per cent.
be possible for the average fine-wool lambs. Moreover, the LincolnRambouillet crossbreds and similar crosses yield heavy fleeces of comparatively light-shrinking wool. This wool is of medium fineness and sells to advantage. During the last 10 years a great deal has been done toward the establishment of this type. Work of this nature, conducted by the United States Sheep Experiment Station, Dubois, Idaho, has resulted in the development of what is known as the Columbia (fig. 16). This has been accomplished by mating Lincoln-Rambouillet crossbred ewes with rams of the same cross. The Corriedale, a similar type of crossbred, which was developed in New Zealand by crossing Lincoln rams on Merino ewes, is now considered an established breed. Some choice Corriedales have been imported into the United States since 1914 for use on western ranges. Another similar crossbred type known as the Panama, which was founded by crossing Lincoln ewes and Rambouillet rams, was
developed in south-central Idaho during the last decade. The use of Hampshire rams on crossbred and fine-wool range ewes has also been extensively practiced, especially in regions having an abundance of forage. Hampshire-sired lambs mature early and on the slaughter market they sell exceedingly well.


CROSSBRED EWES ON THE WESTERN RANGE.
Fig. 16.-These ewes represent the Columbia type, derived from crossing Lincoln rams with Rambouillet ewes. They shear heavy fleeces of readily salable wool of medium fineness; and when mated with rams of their own type or with mutton-type rams they produce lambs that mature for the market more rapidly than fine-wool lambs. Their Rambouillet inheritance furnishes enough of the flocking instinct and rugged constitution to insure adaptability to the range, while the Lincoln blood improves the size, mutton form, and length of staple in the fleece. The camp wagon is the sheep herder's home.

Karakul sheep were introduced from central Asia in recent years for the production of fancy furs in the form of lambskins. They are very few in number and their importation is expensive, but they seem to be adapted to a wide range of conditions, and Karakul lambskins have been in great demand.

## Sheep Management.

Sheep management in the United States is divided into three distinct systems; (1) the keeping of small flocks on farms, (2) the running of sheep in large bands to utilize extensive range areas, and (3) the fattening of range sheep on irrigated and Corn-Belt farms.

## Farm Flocks.

Eastern farm flocks are most frequently found in the hilly and mountainous regions where much of the land is too rough to farm and must be kept in pasture. In regions distant from large cities, sheep frequently form one of the major farm enterprises. In districts where dairying predominates, they are seldom kept except on farms having an excess of pasture. In the level areas, where most of the land is tilled; farm flocks are rather infrequent. With the ex-
ception of flocks that are kept for the production of purebred stock, it is seldom that any special crops are grown for the sheep. They are generally turned onto pasture as soon as the grass begins to grow in the spring and remain there until the crops have been harvested, when they are usually given the run of the fields to graze on aftermath and clean up the weeds, where they remain until snow comes. They are then carried through the winter on hay and some of the unsalable roughages, receiving little or no grain.

The sheep are kept primarily for the production of lambs, and are mostly of the mutton breeds, Shropshires predominating. Most of the lambs are born in the early spring when the pastures begin to grow, and are generally marketed in September and October, about the time the pastures begin to fail. There is a decided tendency to give the sheep insufficient care, with the result that many inferior lambs are produced. As inferior lambs are not readily salable, they are generally unprofitable to their owners. Furthermore, as the market is usually congested in these months, they seriously affect the price of the better-quality lambs that have been more carefully raised.
North Atlantic States.-Sheep farming at one time occupied an important place in the North Atlantic States. However, the growth of cities with a consequent increasing demand for dairy products, soon made dairying more profitable. As wool could be more cheaply grown on the free western grazing lands, sheep in the East have been steadily displaced by dairy cows. The increasing cost of producing western wool now makes it seem advisable to increase the number of eastern flocks. While there is doubtless an economic place for many more farm flocks, efforts at stimulating the industry have not been wholly successful. In fact, during the last decade there was a 15 per cent decline in the North Atlantic States. The hesitation on the part of eastern farmers to keep more sheep is pri-


SHEEP ON A NEW ENGLAND FARM.
Fig. 17.-Sheep are valuable in the better utilization of eastern pastures. They relish many plants which cattle will not eat, and which consequently have a tendency to crowd ont the more valuable grasses. On steep hillside pastures they utilize and improve the rougher parts which cattle neglect.
marily due to a lack of knowledge as to their care, to losses from disease, and especially the fear of trouble from dogs.

In the bean-growing and fruit districts of western New York, sheep, although occupying a secondary place, are an important farm enterprise. They utilize the pastures and the unsalable rough feeds, particularly bean straw, fully as well as dairy cattle, and require much less attention during the summer months when all of the farmer's time is needed in caring for crops.

A number of men in this section and in Ohio specialize in producing winter or "hot-house " lambs. These lambs are born in the late fall or early winter and are marketed from Christmas to Easter time, usually bringing fancy prices. Such lambs are expensive to produce, as much grain and special care are needed, while consider-


SHEEP ON A CORN-BELT FARM.
Fig. 18.-Small flocks can be used to clean up weeds, fence corners, and waste places. Such flocks do not require constant care during the crop-growing season ; consequently, they can usually be run very cheaply. However, they can not be neglected.
able difficulty is experienced often in getting the ewes to breed at the proper season. Moreover, the demand is quite limited, being largely confined to the first-class hotel and dining-car trade, so that the business can easily be overdone. During the past six or eight years this business has been on the wane, as production costs have been prohibitive.

North Central States.-In the rougher sections of the Corn Belt, where much of the land is pasture, flocks of 50 sheep or more are common, and are usually associated with herds of breeding beef cattle. This is especially true in the more broken regions of northern Missouri and southeastern Iowa. There are also numerous flocks in parts of northeastern Indiana and southern Michigan. While there are many fine-wool sheep, as in southwestern lowa, the mutton breeds, especially the Shropshires, generally prevail.
In preference to keeping permanent flocks a considerable number of Corn-Belt farmers have followed the practice of purchasing each
fall a bunch of western range ewes that have been discarded because of age. Such ewes will do well for a year or two longer on farms where the feed is more succulent and more easily obtained. These ewes are generally bred to mutton rams. After the lambs have been shipped the ewes are generally fattened and sold.

Although Ohio is still one of the leading wool-producing States, its sheep have declined steadily in numbers since 1883. The decline has been about 30 per cent during the last decade. This is due partly to the low value of wool prior to 1917 and the steady substitution of dairy cows. In southeastern Ohio, the "panhandle" of West Virginia, and the adjacent counties of southwestern Pennsylvania, there is a large area of hilly country where only about one-fourth of the land is cultivated. In this section (known as the Ohio finewool region) sheep, mostly Delaines, are kept extensively, along with beef cows. In this region there has been a tendency to displace sheep with cattle, but it has not generally been successful, as cattle do not graze the steep, hilly pastures to the best advantage.
There has been a tendency also to substitute mutton and crossbred animals for the fine-wool sheep. 'However, they are not so well adapted to the conditions. Furthermore, this region produces an excellent quality of fine wool that commands the highest market price. While the flocks have generally decreased in size, the Delaines still persist. The former practice of keeping wethers, however, has largely been discontinued. The present practice is to fatten the wether lambs during the winter and sell them in the spring, although some are held until after the second fleece has been shorn. The ewe lambs are mostly retained or sold for breeding purposes.

South Atlantic and South Central States.-Sheep have never been important in the South Atlantic and South Central States, except in parts of the Virginias, Kentucky, and Tennessee and in the southwestern prairie country where range methods prevail. In the four States just mentioned there are districts where the production of carly lambs has reached a high stage of development. In the western part of Virginia, the adjacent part of West Virginia, and to some extent in North Carolina, there are numerous mountain valleys where the limestone and certain other soils produce rich bluegrass pasturage and where most of the land is kept in sod (fig. 19). These pastures are primarily utilized for fattening cattle. On nearly all of these farms sheep are run as a secondary enterprise for the production of lambs, which are marketed in June and July. The ewes are run on the rough hillsides during the summer and fall months, being brought down to the bluegrass pastures for the winter, where they are kept until after the lambs are sold. While they get most of their winter subsistence from the bluegrass pastures, they are sometimes fed a little hay and grain and in some instances grazed on grain pastures.

Much the same method is used in the bluegrass district of Kentucky, except that there are no mountain pastures. In central Tennessee the ewes get most of their winter grazing from wheat fields. They are taken from these areas in April in time for the wheat to mature and produce a good crop of grain.

In these regions approximately half the producers sell all the lambs and maintain the breeding flocks by purchasing mature ewes. These purchased ewes are obtained from the neighboring mountain
districts, from the Piney-Woods region of the South, and from the western ranges, and are bred to rams of the mutton breeds. Because of the succulent nature of the pasture grasses which insures an abundance of milk, the lambs, which are born from January 15 to $\Lambda$ pril 15, make a rapid growth and are ready for the May, June, and July markets. $\Lambda \mathrm{s}$ there is a relatively small supply at this time. they usually command a good price.

In the Appalachian Mountains outside the limestone areas there are many small flocks, which seldom exceed 50 head. The sheep. which are of a nondescript type, are allowed to run wild most of the year, although they are usually given the run of the farm during the winter months, occasionally receiving a little additional feed. Because of depredations and hardships, flock increase is not very great and the owners depend mostly on the wool. While the receipts from the sale of wool are low, nevertheless they are of considerable


Fig. 19.-The production of lambs for the early markets is highly specialized. In the valleys of California, where there is excellent winter grazing, the production of lambs for the April and May market is rapidly developing. In the Pacific Northwest many lambs are produced for the June and July market. In the blue-grass districts of Kentucky, Tennossee, and the Virginias early lamb production is also an important industry. In Michigan. Indiana, and Ohio lambs are usually fattened in barns. In the Centrai West lambs are fattened in cornfields. Farther west, where open winters prevail, lambs are fattened in yards. In the upper Ohio Valley, where the country is much broken, Delaine shcep are kept for the production of wool. The practice of allowing sheep to run wild in the Piney Woods section of the South is declining. The keeping of shecp in wolf-proof fenced pastures is rapidly growing in Texas.
importance to owners who have a very limited income. The number of these mountain sheep is declining.

In the Cotton Belt less than 3 per cent of the farmers have sheep and the farm flocks are generally small. Most of the improved acreage is devoted to the production of tilled crops, principally cotton and corn, with some small grain and hay. The few pastures that exist are hardly sufficient for the necessary work stock.

In the Piney-Woods region, which borders the Cotton Belt on the east and south, there are large areas of undeveloped land that are utilized as open range (fig. 19). Although the grass is somewhat sparse and of inferior quality, this land carries considerable stock. In this region sheep, cattle, and hogs, which are mostly in the hands
of large land owners, are allowed to run wild throughout the entire year. Each spring the sheep are rounded up, shorn, branded, and the ram lambs castrated. They are of a nondescript type which shear an average of about 3 pounds of coarse wool. As there is a heavy loss from internal parasites, predatory animals, and insufficient feed during the winter, the death rate in the past has been nearly as large as the birth rate. At present there is a tendency to give them a little more care and to improve their quality. There are some sales of ewes to the early lamb districts but most of the income is from wool, which, although low in value, costs but little to produce.

Western Farm Flocks.-In recent years numerous flocks of from 25 to 50 head and more have been springing up on the irrigated farms of the West. In the small, irrigated valleys which lie in the center of extensive range areas, farming is generally based on the production of winter feed for range stock. On the larger irrigation projects, such as the Yakima Valley, Washington, and projects along the Snake River in Idaho, where a great surplus of feed can be produced, it is necessary to grow other crops, such as fruits and sugar beets. In order that such farms may be kept at their highest efficiency it is generally necessary to keep some farm livestock to help utilize unsalable products and to furnish manure with which to maintain soil fertility. The sale of dairy products is somewhat limited and beef cattle do not fit in well on such small farms. It has, therefore, been found that sheep, which can be used to excellent advantage in keeping the ditch banks free from weeds and to graze waste corners, have an important place, especially as they require but little labor during the busy season. For this reason it is probable that their numbers will rapidly increase in the near future. In the northwestern irrigated valleys, where they occur most frequently on farms of 80 or more acres, the mutton types, especially Hampshires, prevail. Many of the flocks are purebred, the best males being sold to range operators. Most of the lambs, however, are sold as early spring lambs. In the Willamette Valley, long-wooled sheep prevail. These sheep are especially well adapted to the mild but humid climate and are very useful in keeping the pastures, many of which are cut-over lands, free from shrubby growth.

## Range Sheep.

The western practice of running sheep in large bands was developed as a means of utilizing the vast areas of free grazing lands in the Plains and Mountain States. Bands of from 2,000 to 5,000 head were common, each band being under the care of a herder who remained with them constantly to guard against wild animals, to prevent loss through straying, and to direct their grazing. There was also a camp tender for every one to three bands who brought in supplies and moved camp. In the larger companies there were foremen who had general supervision over every 5 to 10 bands and who hunted for the good grazing areas. In a small outfit the owner frequently served as camp tender or foreman.

The sheep were primarily kept for their wool and were run on the open range throughout the entire year. They frequently traveled long distances, there being record of bands that were driven from the Pacific coast to Missouri River points, taking a couple of years en
route. The business was wholly nomadic, there being no investment in land or buildings. The only investment was for a camp outfit, costing from $\$ 200$ to $\$ 400$, and for the sheep, which were worth about $\$ 2$ a head. Practically the only expense was for labor, which at that time was comparatively inexpensive, and for necessary camp supplies. The operating expenses were, therefore, very low, it being stated that some flocks were run as cheaply as 50 to 75 cents per head per year.

With the gradual taking up of the best grazing lands for farming purposes, the livestock were steadily pushed back to the rougher and more arid areas where competition for range became very severe. The cattlemen, especially the large companies, were the first to feel this competition and many were forced to discontinue. This was partly because the cattle, not being herded, could not easily be shifted


COUNTING SHEEP ON A NATIONAL FOREST.
Fig. 20.-About $8,000,000$ sheep are grazed each summer in the national forests of the West. They enter the forests in May and June, and in September and October the breeding stock are driven down toward irrigated valleys or desert ranges for the winter, while the lambs not retained for breeding purposes are shipped to market.
from congested and overgrazed areas, and also because sheep, which graze more closely, could get feed where cattle could not. Later, as large areas of range were patented and consolidated into numerous holdings, cattle, which can be handled in small numbers, in turn began crowding out the sheep, as under range conditions sheep can be economically run only in comparatively large numbers. This is especially true of the Great Plains region, where small herds of cattle kept in connection with dry farming have rapidly displaced sheep. In Montana and Wyoming, which were the last to feel this movement, there was a decline in number of sheep of 59 per cent and 62 per cent respectively during the period 1909-1919. This decline was partly due to the dry season of 1919 and the financial difficulties following, but more largely to the rapid homesteading of land under the law granting 640 -acre homesteads.

In order to remain in business most of the range operators have been compelled to purchase or lease sufficient land to control their range. In some instances this has meant the acquiring of a sufficient number of small holdings to control the watering places. In other cases it has meant the purchasing or leasing of the greater part of the range. In many instances it has been necessary to develop more watering places, build warehouses for the storage of feed, and in other ways develop these holdings. It is now necessary to own improved ranch property before one can obtain permission to use the national forests. This investment in land and improvements has greatly increased the necessary capitalization. In some localities this capitalization is as high as $\$ 14$ per sheep. At present an investment of not less than $\$ 13.500$ is usually needed in order to


SUMMER GRAZING IN A WESTERN FOREST.
Fig. 21.-The sheep thrive on the soft, lush feed of the high mountains, many remaining most of the summer close to or above timber line. The cattle, on the other hand, graze mostly in or near the parks and open timber areas.
engage in the range sheep business. This would be apportioned somewhat as follows:

|  | Low. | High. |
| :---: | :---: | :---: |
| 800 to 1,000 breeding ewes at $\$ 8$ to $\$ 10$ each (one band) | \$6,400 | \$10,000 |
| 20 to 25 rams. | 600 | 1,000 |
| Camp outfit. | 600 | 1,000 |
| Home ranch to serve as operating base.. | 5,000 | 5,000 |
| Cash with which to meet current expenses. | 1,000 | 1,000 |
|  | 13, 600 | 18,000 |

While there are numerous bands with a much lower investment, these are generally operated by persons of foreign birth or descent who are willing to live very cheaply, and who usually act as herders or camp tenders. In order that a man may make a managerial wage he should have at least two bands.

This constant crowding has necessitated the retirement of many range operators and a considerable curtailment of most of the range flocks, until at the present time (1923) there are only about $21,000,000$ sheep in the 11 far Western States. The sheep, with the exception of those on southern ranges, have been forced, in large measure, into those regions that include desert lands, which can be used only in win-
ter when snow and water are available, and also afford summer grazing in the mountains. The greater part of the summer grazing areas are now included in the national forests, where grazing is regulated by the United States Department of Agriculture.

Operating expenses have also greatly increased. The crowded conditions make it necessary, except on the southern ranges, to provide considerable winter feed, the amount varying with the locality and with the season. The labor costs per sheep are also much greater. This is partly because it has become necessary to reduce greatly the size of the bands, which now vary from as low as 600 head up to 2,000 head, seldom exceeding 2,500 . It is also necessary to use more men, as most operators now have a camp tender with each band, who


OPEN-RANGE LAMBING SUPPLEMENTED BY TENTS.
Fig. 22.-Large tents, warmed by stoves and lighted with lanterns, receive ewes whose lambs are likely to arrive during the long cold nights. A man is always at hand to look out for the ewes.
spends most of his time in helping to herd. There has also been a considerable increase in the wages paid.

These increased operating expenses have made the production of wool alone generally unprofitable. Fortunately, the increasing demand for mutton, especially lamb, has made it possible for the range operators to change from a strictly wool-producing basis to that of producing both wool and lamb. At the outbreak of the World War the majority of range operators were giving more attention to the production of lambs than of wool. The first step in meeting the higher operating expenses was the elimination of the numerous bands of wethers, which were kept primarily for their wool. The development of a type of ewe that would produce a good market lamb and a readily salable grade of wool, and at the same time maintain the herding instinct of the Merinos, was accomplished by breeding Ram-
bouillet ewes to coarse-wool rams. In many cases this crossing with coarse-wool animals was carried to such a point that at the outbreak of the war many of the ewes were losing their herding instincts and had very inferior fleeces. With the high prices for wool that prevailed from 1914 to 1920, there has been a tendency to breed back to the fine-wool type. As it is difficult to keep the desirable characteristics of the first cross, various efforts have been made to secure a fixed type of crossbred sheep.

In order to keep the breeding stock ${ }^{-1}$ at standard strength it is generally necessary to replace about one-fourth of the flock each year. The early lamb raisers usually make this replacement by direct purchase, but most flockmasters save a sufficient number, about half of the ewe lambs, for this purpose. Under ordinary range conditions crossbred ewes must usüally be discarded by their sixth year, while Merinos last from one to two years longer. These discarded ewes usually sell for about half of their original value when entering the band. In spite of the discarding of aged ewes there is a considerable annual loss by death and occasional heavy losses due to droughts or severe winter storms.

The breeding expense, when figured separately, usually runs a little over 50 cents per ewe. This is made up of two items. First, the expense of keeping the rams, which is much heavier than for ewes inasmuch as the rams must be run in small bands of from 350 to 500 head, and must be given more care. The second item is for the purchase of rams, there being about 20 to 25 rams to every 1,000 ewes. The majority of the sheepmen purchase yearlings, as ram lambs are usually not hardy enough. These yearlings cost approximately from $\$ 30$ to $\$ 40$ a head, depending on their quality. The approximate period of usefulness of such an animal is about five years, at the end of which time he has practically no sale value. However, as there is about a 20 per cent annual loss, few last so long.

The New Mexico-Arizona Region.-The fewest operating changes have taken place in the southern range States, where, because of the very low rainfall, there has not been much interference from dry farming. In southern New Mexico, where the climatic conditions at breeding and lambing time are frequently unfavorable, the lamb crop averages approximately 60 per cent. For this reason fine-wool sheep predominate. In order to operate successfully in this region it is usually necessary to control land on which water can be developed.

In northern New Mexico and southern Colorado many of the sheep are owned by persons of Mexican descent, some of whom operate on a very small scale. The flocks, which are mostly Merinos, usually range from 500 to 1,000 head. Although the feed is somewhat sparse, the climatic conditions are more favorable for the production of lambs. The majority of these lambs are shipped to the eastern Colorado and Corn-Belt feed yards. The sheep are kept on the open range throughout the year and travel comparatively short distances to and from the summer and winter ranges.

The Arizona sheep are run mostly on the high plateau area in the northern half of the State during the summer season. About 70 per cent of them are within the national forests, the rest running on patented (mostly railroad) lands and Indian reservations. As water
is scarce, it is necessary to build large storage reservoirs costing from $\$ 1,000$ to $\$ 15,000$ each, where the run-off from the occasional rains can be stored. During the winter season most of the sheep are grazed in adjacent valleys and protected areas, while about one-third are driven or shipped to the foothills and desert areas in the southwestern and western parts of the State. In years when there are favorable rains, the sheep get about six weeks of excellent grazing on the deserts. If the rains fail, much trouble is experienced in getting sufficient feed and water for the flocks.
As most of the feed throughout Arizona is too sparse to make it possible to produce fat lambs, and as much of the range is so brushy that the sheep must be closely herded, the Rambouillet predominates. The operators who depend on using the deserts for a part of their winter grazing generally aim to have the lambs born in February, so as to be ready to rush onto these areas as soon as the rains come. Some of them breed their ewes to Hampshire rams, shipping all of these lambs to the early market. In the northern districts the lambing season usually comes in May and the lambs are sold in the late fall most of them as feeders. In years when prices are unsatisfactory, or when the lambs make a poor growth, they are sometime held another year.
All of this southern range is subject to occasional droughts, some of which are of long duration. At such times it is necessary to buy large quantities of feed in order to carry the sheep through, and to ship large numbers of them out of the country. In spite of these efforts there are sometimes heavy losses through starvation.

Central Range Region.-In most of Wyoming, Utah, Nevada, and in parts of northwestern Colorado and southern Idaho and Oregon sheep are run in the mountains to a considerable extent, generally within the national forests, from about the middle of June to the middle of October. They are then grazed toward the winter ranges, usually remaining in the foothills until about December 1. As soon as there is sufficient water and snow available, they are driven on to the desert areas where they remain as long as the water lasts. Whenever possible, the operators generally provide sufficient feed to carry the sheep through periods of stormy weather. Those grazed near irrigated districts are frequently fed considerable hay. In April they begin moving toward the summer ranges, from 50 to 150 miles away. The lambing season usually comes in April and May and shearing in late May and June while the sheep are on the intermediate range.
As on the southern ranges lambing is usually conducted on the open range, efforts being made to select camps that are reasonably protected from storms and where there is plenty of feed and water. In some instances tent shelter is provided. The lambs are usually weaned about the time the sheep leave the national forests. The lambs not retained for breeding purposes are then shipped, most of them going to the primary markets. As the feed is more luxuriant than farther south, many of the lambs are fat enough to go direct to the slaughterers. A very large proportion, however, are finished in feed yards.

California Region.-In California the methods of handling sheep are quite diverse. In the northern half of the State the same general methods that prevail in the central range district are found. The
majority of sheep are run on the national forests or privately owned or leased land during the summer. The rest of the year they are largely kept on privately owned range, in stubble fields, or wherever suitable grazing can be found.

In the southern part of the State the sheep are handled in much the same manner as in Arizona. During the summer months all that can be accommodated are grazed on the national forests. The rest are run wherever suitable range can be found. In the winter and early spring they are run on the desert areas, if there is sufficient rainfall for the feed to grow. They are also grazed in stubble fields, in vineyards, or wherever forage can be found.
Formerly a large percentage of the lambs were born in the spring and marketed in the fall, but in recent years the practice of lambing in midwinter has grown rapidly. The production of these winter lambs started about 15 years ago in the Imperial Valley of California and in the Salt River Valley of Arizona. Farmers in these


SHEEP ON SPRING RANGE NEAR OWENS VALLEY, CALIF.
Fig. 23.-Sheep, through their ability to go without water several days, and even weeks, when on succulent feed, are oftentimes able to get much feed from desert areas that have no other use.
valleys would purchase aged range ewes, breed them to mutton rams, and graze them on alfalfa pastures. The lambs which were born in December were ready for the April and May markets. Since the World War many of the alfalfa pastures have been plowed up for the production of cotton. However, the demand for such lambs has been so keen that many sheep growers in the San Joaquin and Sacramento Valleys have begun producing winter lambs. The lambs are marketed during April and May, the majority of them being shipped between April 15 and May 15. It is estimated that in 1923 approximately 300,000 lambs were marketed during this period. Most of them were shipped to Chicago and Kansas City, although the coast cities consumed a considerable number. The California lambing season now extends from November and December in the Imperial Valley into May in the northern counties of the State.
Northern Range Region.- The greatest changes in management have taken place in the northern range States. The majority of the sheep now remaining in Montana and northeastern Wyoming graze during the summer on the national forests and are run on privately
owned land or on Indian reservations during the remainder of the year. In many cases it is necessary to feed them for a period of from three to five months.

A few of the sheep in Washington and northeastern Oregon are able to get some winter grazing from the semidesert areas. However, the greater number are grazed on privately owned land (much of which is in the wheat-growing sections), that is too rough for cultivation, except for a period of three or four months in summer when they are in the mountains. Most of the sheep in central Washington are fed alfalfa hay for a period of from three to five months in winter. In order to meet the consequent high operating costs, many of the sheepmen have turned their attention in recent years to the production of early spring lambs.
This spring-lamb industry has reached its highest development in Idaho, where the sheepmen have succeeded in developing a type


NOONTIME IN MONTANA.
Frg. 24.-Range sheep usually begin grazing at early dawn. It is customary for them to rest from about the middle of the forenoon, when it begins to get warm, until late afternoon. Then they continue grazing until dark, when they settle down for the night.
of lamb that seems well adapted to market requirements. Very nearly half of the Idaho sheep raisers are now engaged in early lamb production. The irrigated valleys produce large quantities of alfalfa hay for which a market must be found. As there is not sufficient desert land, except in the southern part of the State, on which to winter their sheep, and as the spring and fall range is also limited, the Idaho flockmasters have come more and more to depend on winter feeding.

The ewes, which are a cross between the long-wool breeds and the Rambouillet, are brought onto the irrigated farms in the late fall and fed alfalfa for a period of three to five months during the winter. A large percentage of them are bred to Hampshire rams sufficiently early to lamb in February, the lambing operations being conducted in specially constructed sheds (fig. 25). The lambing equipment on
the better organized farms usually represents an investment of about $\$ 1.50$ per ewe. The raisers of early lambs in Washington and Oregon, having a more broken range, are compelled to use Rambouillet ewes, which are generally bred to Hampshire rams.
Not only does this Washington-Oregon-Idaho early lamb district produce a high-quality lamb, but, because of the better care which the ewes receive, a much larger lamb crop is generally obtained than under ordinary methods of range management. This lamb crop frequently exceeds 85 per cent and many flockmasters report occasional crops slightly in excess of 100 per cent. The lambs are generally shipped in June, July, and August, at which time they command top prices. As most of the flocks, because of the lack of sufficient fall range, must be reduced to a minimum as soon as they come out of the forests, and as the ewe lambs, because of their mixed breeding, would not be suitable for range purposes, the entire crop


LAMBING SHED AND CORRALS, UNITED STATES SHEEP EXPERIMENT STATION, DUBOIS, IDAHO.
Fig. 25.-This shed is on open range at an elevation of 5,900 feet and illustrates the general type used for early lambing in the Northwest. The central portion has a capacity for 1,600 lambing ewes. By means of sheds early lambing is possible and large numbers of lambs are saved from losses that occur on the open range. The shepherd's cottage is at the left in the foreground.
is sold. The breeding flocks are largely maintained by purchasing ewes from districts which have difficulty in producing fat lambs.
Southwestern Texas.-Texas leads the States in the total number of sheep. There is no public domain since Texas, when it entered the Union, retained title to all public lands, and practically all the grazing lands have been sold to livestock producers. Many of the ranchers have put up wolf-proof fences, constructed concrete water tanks, and made other improvements. A large part of the sheep industry is, therefore, conducted in a manner somewhat intermediate between the western range and the eastern farm systems.

The principal sheep-raising area is the Edwards Plateau, adjacent districts, and westward. Cattle and goats are frequently grazed
on the same land with the sheep. In the northern part of the area cattle predominate and only enough sheep are kept to graze the weeds and other feed that cattle will not touch. As the sheep do not displace any cattle, and, in fact, when properly run have a tendency to improve the cattle range, their inclusion increases the gross carrying capacity of these pastures. To the south, as the grass is replaced by shrubs, sheep become more numerous and only enough cattle are run to utilize the grasses that the sheep do not care for. On the more brushy ranges goats in turn predominate, while sheep are a secondary enterprise, there being only a few cattle.

The majority of the sheep in this district are in small units averaging from 600 to 1,000 head. Many of them are herded in much the same manner as in New Mexico. However, in recent years, the practice of turning the sheep loose in pastures which have been fenced against predatory animals has been rapidly increasing. While such fences are very costly ( $\$ 250$ to $\$ 300$ per mile, pre-war prices), it has been found that a pasture will carry nearly double the number of sheep when they are allowed to run loose than when they are herded, as there is much less destruction of feed through trampling. It has also been found that one man can handle nearly twice as many sheep. Furthermore, large lamb crops and better lambs are generally obtained than where the sheep are herded.

Sheep ranching in this district is on a wool-growing basis, as difficulty is experienced in getting good lamb crops. The lambs are generally born in April and May. Most of them are retained, the ewes for breeding purposes and the wethers until one or more crops of wool have been obtained. In favorable seasons the wethers are generally fattened on winter pasture before selling. Partly because of the brushy character of the range and partly because of the comparatively warm winters, about one-third of the sheep are sheared twice annually, in April and in September or October. They shear an average of about 8 pounds per head per year.

## Fattening Sheep for Market.

Fattening sheep for market is extensively followed in several sections of the Corn Belt and adjacent areas, and in many irrigated districts. There are three general systems of finishing: (1) Fattening in cornfields in the Corn-Belt States; (2) open-yard feeding west of the Missouri River; (3) fattening in barns in the East Central States.

F'attening in Cornfields.-The practice of fattening lambs by turning them into the cornfields and allowing them to harvest the crop is followed in districts throughout the entire Corn Belt. It is, however, most common in Iowa and northeastern Nebraska, where it is the prevailing type of sheep finishing. Most of the lambs are purchased at the central markets, Omaha and Chicago principally, in September and October, although some are taken in August. The lambs are usually given the run of the pastures and hay fields and allowed to clean up weeds and waste corners for a period of a week or two. They are then turned into the cornfields in which rape has usually been planted, and are allowed to harvest the crop (fig. 26). Most of them are sold in the latter part of November and in December. The lambs that are not fat enough are held over and fed ear corn on pasture or in dry lots and shipped in January. This practice
has the advantage of requiring but little labor and practically no equipment. The death rate is usually greater than in open yard or barn feeding.

Open Yard Feeding.-The practice of feeding in open yards prevails west of the Missouri River where there is comparatively little stormy weather during the early part of the winter. The most extensive feeding district is in Weld and Larimer counties and vicinity, in northeastern Colorado, where from 500,000 to $1,000,000$ head are fed annually. Other extensive feeding districts are the Arkansas Valley in southeastern Colorado, the Scotts Bluff district in western Nebraska, and along the Platte River in Buffalo, Hall, and Merrick counties, in Nebraska. There are other small areas in Nebraska and Kansas, and also in the irrigated valleys of the far West (fig. 27).


SHEEPING DOWN CORN.
Fig. 26.-This practice saves labor in harvesting corn, as well as in feeding sheep. It can be followed only in regions where there is but little rain during the fall months. Lambs fattened in this way fill in the market gap between the fat-range lambs and those from the feed yards.
The fattening of lambs occupies an important place in the beetgrowing districts as it helps to provide a market for the large quantities of alfalfa which must be grown in the rotation system and also for the utilization of the beet tops. The manure is highly prized in helping to maintain sugar-beet yields. As corn is grown only to limited extent in these districts it is shipped in from Nebraska and Kansas. Barley, oats, and even wheat are fed also in the early stages of the fattening process. In Nebraska the lambs not only help to provide a market for alfalfa, but also help in utilizing some of the surplus corn.

A large percentage of the lambs are fed in bunches that vary from 250 to 5,000 head. There are, of course, men who operate on much more extensive scale. These are usually large landholders who distribute their sheep about on different farms, seldom having over 5,000 to 10,000 sheep in a single yard. Most of the lambs are put in the yards in October and November. The northern range lambs usually
weigh about 60 pounds and the southern lambs from 50 to 55 pounds when delivered. They are fed for a period of four to five months, during which time they make a gain of from 25 to 30 pounds. It is generally figured that during the feeding process a lamb will consume about 250 pounds of hay and 150 pounds of corn or its equiralent. As the lambs do not finish evenly, it is a practice, especially in the larger yards, to sort out the fat lambs from time to time so that they are generally marketed in several shipments. These shipments usually begin in February, the bulk of the lambs going in March and April and sometimes there are shipments in May. Some of the operators also handle a limited number of aged ewes and wethers.


LAMB FATTENING ON CORN AND ALFALFA HAY, CENTRAL NEBRASKA.
Fig. 27.-Lamb feeding not only furnishes a home market for some of the hay and corn, but also provides gainful occupation for farm help during the winter, when the help otherwise would be idle.
Feeding in barns.-In the East Central States, where there is much stormy weather in the late fall and winter months, lamb feeding is usually carried on in barns. While barn feeding is practiced in parts of Illinois, it is most extensively followed in northeastern Indiana and southern Michigan, in parts of Ohio, and, to a limited extent, in western New York. Although charges for labor and equipment are much higher than where the lambs are fattening in cornfields or in open yards, barn feeding furnishes gainful occupation for the farmer during the winter months when ordinarily there is not much farm work. There is also much less risk as the sheep are given more attention. The majority of these farmers handle only 150 to 300 head, and plan to get lambs that will finish evenly. The majority of lambs are purchased at Chicago. They are fed from four to five months and then shipped to Buffalo, Pittsburgh, or other eastern markets. As the cost of grain is higher than farther west, these eastern farmers find it difficult to compete with the Corn Belt and Colorado feeders. They feel, however, that they can afford to feed on a very close margin for the sake of the manure, which is much needed in maintaining soil fertility.

## Losses Among Sheep.

The annual losses among sheep are from various causes (fig. 28). In the farming States most of the losses are from parasitic diseases, -although there are some losses from lack of care and shelter. Dogs also inflict much damage. In the Piney-Woods region of the South there are considerable losses from predatory animals and from lack of feed in winter. In the range States the annual losses are principally due to straying from the band, poisonous plants, predatory animals, and parasites. Such losses vary from year to year and according to the character of the range. They average from 7 to 8 per cent on the northern ranges and a little higher on the southern. In addition there are also periodic losses, due to drought or unusually severe winters. In the early days loss from sudden, severe storms was of frequent occurrence and sometimes very devastating. In


FIG. 28.-On the western range predatory animals, poisonous plants, and exposure on hazardous grazing grounds cause considerable loss. In the farming States internal parasites constitute an important cause of loss, particularly among lambs. Lamb losses are generally larger than those for mature sheep, especially in the humid regions. Much of this loss occurs at lambing time during cold rainy weather.
recent years it has been possible to avoid much of this loss by providing winter feed and by more careful methods. Even with the best of care such losses can never be wholly eliminated. The losses due to straying depend largely on the herder and on the character of the country. These losses are unavoidable in a rough country, and are frequently large when inexperienced or careless herders are employed. On the other hand, they are generally small when the sheep are in the hands of careful herders and in an open country.

## Poisonous Plants.

There are a great many plants that cause sickness and death among sheep. These occur in all parts of the United States. Because of the greater number of sheep and because of the method of handling them on the range, the losses of economic importance are largely confined to the western range country. Sheep, like other animals, if left to themselves or if grazed in loose formation, seldom eat enough
of any poisonous plant to suffer from its effects; but, under the system of close herding that prevails in many regions, where they cat practically all the regetation as they move along, they are much more liable to poisoning and sometimes heavy losses occur. Many sheep are lost on driveways. The first bands passing over a driveway usually consume all the good forage. Succeeding bands, especially if they are hungry, will take such poisonous plants as may be there. Sheep having passed over trails where there is little forage and emerging on patches of poisonous plants frequently gorge themselves on these plants with fatal results.

There are three groups of plants on the western ranges which are especially destructive to sheep. Of these the locoes, of which the White loco is especially poisonous to sheep, were formerly the most harmful. These are found in the Great Plains area extending from Canada into Mexico. In the southern range area they also extend westward into California and north into Utah. With the homestead settlement of the plains country the sheep have been driven out of much of the region where these plants grow.

Second in importance, and in late years perhaps first, are the species of death camas. These are found in the higher parts of the Great Plains area and west to the Pacific. Some of them grow in damp meadows, others on rather dry hillsides. These plants cause most of the losses from poisoning that occur in the spring and early summer. The lupines, of which there are many kinds, doubtless rank third. These are even more widely distributed than the death camas. They are not all equally poisonous, but it is not known which are harmless. Lupine leaves rarely, if ever, injure sheep, but heavy losses have been produced by eating the pods and seeds. The losses occur in the summer and fall months.

There are other groups of poisonous plants whicn are common to the East and West. Among these are the laurels, of which there are several kinds, which cause a considerable loss among sheep grazing in the eastern United States. Some western laurels are especially destructive to sheep. The leaves of wild cherries also take a considerable toll, especially among sheep that are driven over a trail where very little other feed is obtainable. Although the aggregate losses from wild cherries are not great, in some places they may be very heavy.

The milkweeds, the rayless goldenrod of New Mexico and Texas, the Colorado rubber plant of Colorado and New Mexico, and the coffee bean of Texas, are some of the other plants which also cause losses. The western sneezeweed is a serious menace in Utah and portions of the Southwest. ${ }^{1}$

There is no way of determining the magnitude of the losses among sheep from poisonous plants, as such losses are seldom reported. There are numerous records of individual herds where the losses have been 50 per cent or greater. It has been stated that the losses in Colorado amount to $\$ 1,000,000$ annually. At the present time there is no practicable method of eradicating most of these plants. However, a careful and experienced herder, who is familiar with the plants and the places where they occur, can do much to prevent such losses.

[^25]
## Predatory Animals.

The western livestock owners suffer heavy losses from depredations of predatory animals, these losses being formerly estimated to amount to from $\$ 20,000,000$ to $\$ 30,000,000$ annually. Wolves, coyotes, and bobcats are the greatest offenders, and in many localities inflict such heavy and continuous losses as to make sheep raising an unprofitable enterprise (fig. 29). In the earlier days the individual stockman endeavored to combat these predatory animals on his own range by employing hunters to shoot, trap, and poison them. The payment of bounties for animals taken was also resorted to. These individual efforts were not satisfactory and demonstrated the necessity for organized effort in order to secure adequate results. The coordination of the efforts of all those directly interested in the problem was then undertaken. As the Department of Agriculture had charge of the control and eradication of predatory animals in the national forests and on the public domain, and as it had already


Fig. 29.-Predatory animals at one time exacted a heavy toll from the western livestock industries. In recent years, through concerted efforts of various local and State organizations and the United States Department of Agriculture, losses from this source have greatly decreased.
developed methods of eradication which had proved eminently successful, the work is now largely conducted under its general supervision.

At present the department is cooperating with many States, county officials, and livestock associations in well-organized campaigns for the destruction of these pests. Congress has appropriated $\$ 274,000$ for fighting these animals during the fiscal year 1924, while 13 States, mostly western, have appropriated $\$ 285,000$ for cooperation during this period. Additional funds have also been provided by stockmen's associations. A well-organized force of hunters, who are supervised by capable and experienced men, and who have been thoroughly trained in the most up-to-date and efficient methods of trapping, poisoning, and den hunting, are employed. Substantial headway has already been made and stockmen report greatly improved conditions, with losses entirely eliminated in some instances and markedly reduced in others. Approximately 500,000 predatory animals have been destroyed since 1915 .

In the greater part of the farming region losses from wild animais are comparatively small. Throughout all of this region, however, farmers suffer severe losses from predatory dogs. While dogs do considerable damage to all classes of livestock, their depredations on sheep are especially severe. No accurate figures are available as to the damage caused by them. However, as a result of an investigation conducted in 1913 it was estimated that a total of 108,000 sheep which had been killed by dogs the previous year were paid for out of State and county funds. This figure does not take into consideration the damage to the rest of the flock which, from a monetary standpoint, is usually much greater than the actual killings. Sheep which have been frightened seldom do well, and if this occurs in the late fall there is usually a heavy loss of lambs the following year as well as a much reduced wool clip. The fear of damage from dogs keeps many men out of the business who otherwise would be glad to engage in it. Most of the States now have laws for the control of dogs. In a number of States the county pays for the animals actually killed, while in others the owner of the dog is held liable for all damage done by it. Nearly all States make it illegal to keep a sheep-killing dog, while a few States have laws making it a misdemeanor to allow dogs to run at large. Some States, notably Michigan, have laws that are proving to be a real protection to sheep.

## Parasitic Diseases.

Sheep probably suffer more from animal parasites than do any other kind of livestock, although ordinarily they are but little subject to diseases caused by bacteria and viruses. Most of these losses occur among lambs, as these young animals are usually more heavily parasitized and appear to be more seriously injured by a given infestation than are the older animals. Parasites of sheep are of two general types, external and internal.

External parasites.-The external parasites are those which live on the skin or in the skin or hair follicles, such as lice, ticks, and scab mites, or which attack the exterior of the animal from time to time, such as blood-sucking flies. The most important of these external parasites are the scab mites and sheep ticks.

Scabies is one of the oldest known, most contagious, and most injurious diseases affecting sheep (fig. 30). Its history dates back to the earliest age of civilization. It is easily transmitted from one sheep to another and spreads very rapidly after being introduced into the flock. When allowed to spread, sheep scab causes financial loss to the industry, (1) by a decrease in the quantity of wool produced, (2) by the unthrifty condition of the animals, and (3) by the death of large numbers of infested sheep. It was formerly the greatest drawback to the sheep industry of the United States. The migratory character of the western sheep business was very favorable to the spread of this parasite. The sheep were frequently exposed to the disease by infected ranges and trails, by " picked-up strays" from other infested flocks, and in many other ways.

Although scab is highly contagious, insidious in its nature, and severe in its effects, it yields rapidly to proper treatment and is easily cured. It is, therefore, highly desirable to eradicate the disease so far as possible. For this reason the Department of Agriculture has extended aid to the industry by controlling the inter-
state movement of sheep to prevent the carrying of infection from one State to another. Cooperative work has also been carried on with the livestock authorities of the various States concerned, with the intention of completely eradicating the disease. This work has been in progress for 17 years. During this time the disease has been very greatly reduced over most of the previously infected area. However, taking the country as a whole, considerable expense is involved in keeping it under control.

The sheep tick, which is really a wingless parasitic fly, is widely distributed in many of the sheep-growing countries of the world. In this country it is found in practically every State. It is most prevalent, however, on the western ranges where sheep are herded in large flocks, the northern two-thirds of the range country being the most heavily infested. The previous custom, in a majority of the principal sheep-growing States, of dipping the flocks regularly for scab evidently served at the same time to control the tick. With the eradication of scab in many States, dipping, especially in the Northwest has been discontinued to a great extent. Subsequently,


Fig. 30.-Sheep scab is most common on the range, but occurs in the Central States as far south as southern Missouri and Kentucky. The Atlantic Coast States, with the exception of New York, and most of the Southern States are free from the disease. Although scab spreads rapidly and requires energetic measures for its control, its elimination from Montana, one of the largest sheep-producing States, shows what can be accomplished by persistent and energetic measures.
the ticks have spread rapidly and become so prevalent that compussory dipping again has become necessary in order to eradicate them. In the Southwestern States, where sheep owners still continue to dip their flocks more or less regularly, ticks are not so plentiful. Many of the farm flocks also_harbor these parasites.

Other external parasites which cause considerable losses are the screw worm and the various wool maggots. These are especially bad in the warm, humid climate of the South. To avoid serious losses, shearing cuts and other wounds must be properly protected from them. These maggots are also likely to infest sheep suffering from diarrhea.
Internal parasites.-Internal parasites live in the tissues, cavities, and tubes of the host animal. In the case of the sheep these parasites
include roundworms, lungworms, flukes, tapeworms, the maggot known as grub in the head, and some microscopic forms.

Of the various roundworms, the stomach worm is probably the most common and important. This parasite, which is found in the fourth stomach, occurs over almost the entire world where there are sheep, goats, cattle, or other suitable host animals. In the United States it is most plentiful in the South, where it is favored by abundant warmth and moisture. It is also a serious pest in the Northeastern and Middle Western States and in low, wet areas throughout the entire country. It is present in smaller numbers and does less damage in the high, dry, and cool areas of the Rocky Mountain region.

It is impossible to estimate with accuracy the losses caused by the stomach worm. However, it is probable that this parasite causes more loss to the sheep industry than any other disease, and that the total loss from it is very large. The stomach worm is probably one of the leading factors in preventing the expansion of the sheep industry in the South; and, together with dogs, it has undoubtedly been responsible for much of the decline of the sheep industry in the Northeastern and Central States. Losses from this cause are greatest among lambs, especially after they are weaned from their mothers and turned on infested pastures. Not only is there a considerable loss by death, but because of this worm infestation a large percentage of the farm lambs have to be marketed in an unthrifty condition. Such lambs always bring a low price in the markets.

The sheep become infected while grazing on pasture. The eggs of this parasite pass out of the body of the sheep in the droppings and are scattered broadcast over the pasture. The young worms which hatch from the eggs feed upon the organic matter in manure and grow until they are nearly one-thirtieth of an inch in length. Further development then ceases until the worm is swallowed by a sheep or other ruminant after which the worm again begins to grow and reaches maturity. The chances of the young worms being swallowed are greatly increased by the fact that they crawl up blades of grass whenever sufficient moisture is present and the temperature is favorable. While the infestation can be avoided to a certain extent by a careful rotation of pastures this method is not entirely effective. These worms can be controlled by the administration every three or four weeks of a 1 per cent solution of copper sulphate in suitable doses. ${ }^{2}$

The liver fluke is common in certain portions of the United States, especially along the South Atlantic and Pacific coasts and the Gulf of Mexico. It was a serious disease of sheep in California as early as 1833. It is especially prevalent in Oregon. As the flukes require snails for their intermediate hosts, prevention is largely a matter of a voiding wet pastures. Not only is there a considerable loss of sheep resulting from this disease, but there is an additional loss sustained by the packing houses from the large number of diseased (fluky) livers that are condemned at the time of slaughter.

Nodular worms live in nodules in the intestines of sheep. Not only do these cause an unhealthy condition in the sheep, and sometimes death, but where these nodules are numerous, they destroy the value of the intestines as sausage casings. Nodular disease at the present

[^26]time is so prevalent in this country that it is necessary to import casings at considerable cost from other countries where the parasites producing this condition are less prevalent. Nodular disease is spreading in the United States and unless suitable control measures are found and applied it is only a question of time when the production of casings from sheep intestines will be reduced to a negligible item.

Gid, which is a disease due to a bladderworm or larval tapeworm occurring in the brain or spinal cord, has caused heavy losses in Montana, where it is most prevalent. Grub in the head is due to a maggot in the nostrils and frontal sinuses. The irritation due to this causes the profuse flow of mucus from the nostrils. Keeping the sheep's nose smeared with pine tar or some similar preparation during the fly season is a valuable preventive. Among the numerous other internal parasites are the blood-sucking hookworm, and worms which occur in the lungs of sheep, causing a bronchitis characterized by a husky cough.

Much can be done in the prevention of parasites in sheep by not keeping them too long on the same pasture. Fairly frequent changes of pasture are desirable, not only for the sheep but also for the pasture. Clean barns and yards, clean feed, and a good, safe supply of drinking water are always important. Dogs are responsible for conveying a number of parasites (tapeworm and tongueworm) to sheep, as well as other farm animals. Stray or unrestrained dogs running over the farm are a source of livestock infestation.

## Cost of Producing Mutton and Wool.

The most extensive studies on the cost of producing mutton and wool are those made by the Tariff Board (appointed by President Taft) for the year 1910, and by the United States Tariff Commission for the years 1918-1920. These two studies covered the western range industry and included costs on a total of $3,000,000$ and $1,419,000$ sheep, respectively. The Tariff Board also made a comprehensive study of the cost of producing wool in the farming States, especially in those sections producing fine wool. The figures published are based on the cost of producing a pound of wool, and no segregation of the individual items of expense has been made. The best figures a vailable concerning recent costs of keeping farm flocks are, (1) an investigation by the United States Tariff Commission in 1918 on the cost of keeping Merino sheep on 18 farms in the Ohio fine-wool séction, and (2) a 4 -year cooperative study conducted by Purdue University and the United States Department of Agriculture on 42 Indiana farm flocks. The Indiana figures are believed to be representative of Corn-Belt conditions.

Considerable information has been obtained by the Department of Agriculture relative to the cost of fattening range sheep for market. The figures obtained are for a number of the leading feeding centers and cover nearly 400,000 sheep, principally lambs.

## Cost of Carrying Range Sheep.

The average cost of running a range sheep for a year under pre-war conditions (1910) was $\$ 2.11$. For the 3 -year period, 1918-1920, which was the peak period of high costs, these figures had risen to $\$ 8.30$. The operating costs in 1923 were less than for the period of

VARIATION IN COST FACTORS OF KEEPING SHEEP- 10 RANGE STATES, 1919.
PER CENT OF TOTAL COST
FEES \& INTEREST DECREASE IN INVENTORY


Fig. 31.-Labor constituted approximately one-third of the total cost, varying from 20 per cent in Arizona. where cheap Mexican labor was obtainable, to over 40 per cent in Wyoming, where because of difficulties with new settlers considerable help was necessary. Interest on investment in sheep and land is the next heaviest item of expense, ranging from approximately 10 per cent in States where but little of the range land is owned, to over 30 per cent in Texas, where interest and rental fees constitute nearly half the total cost. In where the sheep are seldom fed, to over 30 per cent in Idaho, where winter feeding prevails. The heavy decrease in inventory in New where the sheep are seldom fed, or over expanding their business. (Data from report of the United States Tariff Commission, "The Wool-Growing Industry," Table XXX.)
greatest inflation, but much higher than in 1910. This is because it is now necessary, owing to the more crowded condition of the range, to run the sheep in smaller bands and to depend more and more on the use of supplemental feeds during the winter, and especially because of the generally much heavier investment in land than in 1910.
A comparison of the various items of expense shows that in both periods labor constituted approximately one-third of the total cost (fig. 31). It was generally the largest item, except in Texas in 19181921, where the practice of herding was giving way to that of turning the sheep loose in large wolf-proof fenced pastures. In both periods the item of feed amounted to about one-fifth of the total cost. This item varies greatly with the region. In the southern range States, where sheep are kept on the open range throughout the entire year, the feed costs are generally small, except during periods of drought. In the more northern regions, as in Washington and Idaho, where most of the sheep are fed for a period of four or five months during the winter, feed is the largest item of expense.
Interest on the investment in real estate has in recent years become a heavy expense to most operators. In Texas, where many of the sheep are now run in inclosed pastures the year round, interest constitutes nearly one-third of the total cost.

## Cost of Keeping Farm Flocks.

Figures obtained for 1910 by the Tariff Board on 543 farm flocks (109,000 sheep) in the Ohio region showed the average cost per head, when feed is figured at the cost of raising, to be $\$ 2.44$. Figuring the

> TREND OF FARM PRICE OF WOOL IN OHIO COMPARED WITH PRICES OF ARTICLES FARMERS BUY AND OF OHIO FARM WAGES, WITHOUT BOARD, 1910-1923.


Flg. 32.-Farm prices of wool in Ohio were lower in the last half of 1913 than at any other like period since these prices have been reported by the Department of Agriculture. In June. 1911, and again in October, 1921, prices were nearly as low. High prices prevailed from 1917 to 1920 , and were also relatively favorable to Ohio woolgrowers during 1923. The money price in 1923 averaged more than double the 1913 price. Farm wages without board in Ohio and prices of articles farmers buy (general index numbers) were fairly stable until they began to rise early in 1915 and reached the high point in 1920, since which time they have receded to a position about 50 per cent higher than in 1913. (Prepared by S. W, Mendum.)
feed at its selling price on the farm, the average cost was $\$ 3.37$ per head.

In 1918 the cost of keeping sheep in the Ohio fine-wool section (a part of the same region), based on data obtained from 18 farms, on 16 of which sheep were the major enterprise, was $\$ 7.11$. This is approximately double the 1910 costs. As a number of the sheep were wethers, 67 per cent of the receipts was from wool and 33 per cent from lambs.

The average cost of keeping a ewe a year on 42 Indiana farms for the 4-year period, 1918-1921, was approximately the same, amounting to $\$ 7.18$. An average of 1.06 lambs and a $7 \frac{1}{2}$-pound fleece was produced per ewe. Two-thirds of the gross income was from lambs and one-third from wool. The average size of the flock was 40 ewes, 9 ewe lambs and 1 ram. In both instances the charge for dry feed was the greatest item of expense, amounting to nearly 50 per cent, while that for pasture came second, amounting to 30 per cent of the total cost in Indiana and 20 per cent in Ohio.

The Indiana sheep were fed an average of 94 pounds of grain, mostly corn and oats, and 204 pounds of roughage, about half of which was alfalfa and clover hay. They were pastured for about eight months. In addition to the regular pasture, they were given the run of the farm and allowed to clean up the fence rows and fields from which crops had been taken.

Cost of Fattening Lambs for Market.
The data available on the cost of finishing lambs for market are for three systems of feeding, as follows: (1) Open-yard feeding west of the Missouri River; (2) fattening in cornfields in the Corn Belt; and (3) feeding in barns in the eastern part of the Corn Belt and in New York. The figures obtained are mostly for the feeding seasons of 1916-17 and 1917-18, although one study includes an average for the five consecutive feeding years of 1912-1917.

The feeding season of 1916-17 was one of the most profitable ever experienced by sheep feeders, as the lambs were purchased at practically pre-war prices and were fed on a steadily advancing market at a time when nearly all agricultural enterprises were highly profitable. The season of 1917-18 was generally quite the reverse. The majority of the lambs were purchased at a prohibitive price, and many were sold at the end of a three to five months' feeding period for less than their original cost.

From the standpoint of the operator, the initial cost-the cost of the feeder lamb delivered at the feed yard-is the heaviest item of expense (fig. 33). This charge, which varies considerably from year to year and also with the distance from the source of supply, usually constitutes from 55 per cent to 70 per cent of the total cost. For this reason it is very important that much care be used in buying the sheep. A mistake in judgment as to their value, or how they will fatten, may cause the feeder a heavy loss. The next largest item of expense is for feed, which constitutes approximately onefourth to one-third the total. This cost varies not only according to seasonal prices but also with the locality. Hay is generally very cheap in the western irrigated valleys and rather high in the Eastern States. In the eastern feeding districts grain also is more expensive.

The feed used varied with the locality. On the average, 546 pounds of concentrates and 994 pounds of roughage were used by the open-yard feeders in securing 100 pounds of gain. In fattening sheep in the cornfields, 713 pounds of concentrates and 110 pounds of dry roughage (not including cornstalks) were reported as consumed for each 100 pounds gain by the sheep. The amount of corn was unusually high owing to the fact that most of it was soft, having been damaged by frost. The lambs fattened in barns consumed on the average 572 pounds of concentrates and 608 pounds of roughage per 100-pound gain.

State experiment station literature on lamb feeding often reports lower feed requirements. However, the lambs in these experiments
dISTRIBUTION OF THE MAJOR COST ITEMS IN FATTENING LAMBS.


Fig. 33.-The initial cost, which is the cost of the feeder lamb delivered at the feed yard, varied from a little over half the total cost of the fattened lamb for the winter of 1916-17, when lambs were purchased on a pre-war value, to as high as 73 per cent for lambs fattened in cornfields in the fall of 1917, when feeder lambs were at the highest price ever known. The relatively high initial cost of the lambs fattened in cornfields, as compared with those fattened in barns ( 61 per cent) for the same year, is due largely to the much lower cost of feed and of operating expenses for that type of feeding. Miscellaneous expenses, which varied from about 5 per cent for the lambs fattened in cornfields to a little over 11 per cent for barn lambs of Michigan and Indiana in 1916-17, include labor, interest on investment, risk, taxes. and equipment charges. Marketing expenses, including freight, varied from nothing for the New York lambs sold at the barns to over 4 per cent for the yard-fed lambs.
usually have been carefully selected for the proper weight and feeder condition to secure rapid and economical gains. Skillful feeding and short feeding periods on which some of the experimental data are based also favor especially economical gains.

In the winter of 1916-17 the Indiana Experiment Station fed 224 lambs having an average initial weight of 59.5 pounds. ${ }^{3}$ These lambs were on feed 120 days and required 407 pounds of concentrates and 806 pounds of roughage per 100 pounds of gain. The following year 199 lambs having an initial weight of 56.1 pounds were fed. ${ }^{4}$. These lambs in a 90 -day feeding period consumed, on an average, 404 pounds of concentrates and 828 pounds of roughage. Again, in the

[^27]winter of 1921-22, 200 lambs having an average initial weight of 61 pounds, and which were kept on feed 90 days, took 361 pounds of concentrates and 877 pounds of roughage. ${ }^{5}$ In these Indiana experiments, corn was the principal concentrate and silage constituted approximately one-half to three-quarters of the roughage.

The Nebraska Experiment Station reports that during a 65 -day feeding period in the winter of 1914-15 a lot of 50 lambs required 367 pounds of shelled corn and 238 pounds of alfalfa hay per 100 pounds gain, while another lot of 50 lambs required 366 pounds of shelled corn, 205 pounds of alfalfa hay, and 121 pounds of corn silage. ${ }^{6}$ The initial weight of these lambs was 53 pounds. The same station reported that in a feeding test, in the fall and winter of 1917, one lot of 35 lambs having an average initial weight of 58.5 pounds kept on feed 58 days required only 298 pounds of shelled corn together with 612 pounds of alfalfa hay for 100 pounds gain. ${ }^{7}$ It will be noted that these Nebraska lambs were comparatively light and their short feeding periods favored rapid gains that were unusually economical in feed requirements.

## Financing the Sheep Industry.

In the raising of sheep as in other lines of production, it is the exception rather than the rule that the man in position to give his time and efforts to the industry has sufficient capital of his own to enable him to produce on a profitable scale. This is, of course, particularly true of the rancher, who specializes in sheep production, as contrasted with the operator of a diversified farm who raises sheep more or less as a side line to his general farming.

Suitable credit facilities for the sheep producer constitute a part of the larger problem of livestock credit. As compared with cattle, sheep as security for loans are frequently looked upon with rather less favor. Advantages and disadvantages of these two classes of livestock security appear, however, to be fairly well balanced. An important consideration in favor of sheep is that they mature and are ready for market in about one-fourth the time required for beef cattle. Furthermore, the wool clip in the spring provides an income usually sufficient to cover much, if not the whole, of the maintenance cost. Sheep loans, therefore, liquidate themselves much more quickly than do cattle loans, so far as flocks or herds of breeding animals are concerned. On the other hand, sheep are more subject to sudden loss by reason of inclement weather and depredations of beasts of prey. Sheep are also less readily identified, since they can not be branded in the manner so successfully used with cattle.
The sources of credit for sheep producers are commercial banks, wool warehouse companies, and specialized credit agencies generally known as livestock loan companies. While some livestock loan companies lend money on cattle exclusively, others specialize to a considerable extent in sheep loans. In amount the credit extended is usually limited to two-thirds, or at most three-fourths, of the value of the flock. Occasionally, however, loans more nearly approaching actual value are granted where the owner is a man of established

[^28]business integrity and well equipped in all respects to handle his flocks to best advantage. In such cases the relatively certain and rapid increase in the growth and value of the flock is held to justify a temporary disregard of the usual margin between the amount of the loan and the value of the security.

In the past the credit facilities have been adapted to the needs of the feeder or finisher of livestock rather than to those of the grower. The term of the loan rarely exceeded six months. In the case of the grower or producer of livestock, one or more renewals have generally been expected by both parties to the credit agreement, and in normal times such renewals have, of course, readily been obtained. The difficulty has been that in times of financial stress, such as followed our period of war and post-war inflation, a sudden consciousness of overextended credits gave rise to more or less frantic efforts at retrenchment and liquidation. Lt such times the rancher has often found his loans falling due and renewals refused him, making it necessary to sacrifice his flocks at heavy loss to himself and to the detriment of the industry.

It seems reasonable to expect that the added credit facilities established and authorized by the agricultural credits act of 1923 will, in large measure, remove the credit difficulties under which the livestock grower has labored. The extension of the term of discount by the Federal reserve banks on agricultural and livestock paper from 6 months to 9 months, and the creation of 12 Federal intermediate credit banks with their powers to make discounts and advances for periods of 6 months to 3 years, should make available to the livestock interests, as well as to agriculture in general, a more ample supply of'credit under all conditions and greatly reduce the necessity of relying on frequent renewals of technically short-term loans. The same act also authorizes the organization under Federal charter of privately financed and managed national agricultural credit corporations which have in view primarily the credit needs of the rancher or livestock man.

## Marketing Sheep and Wool.

Sheep raising involves the production of both wool and mutton, each of which constitutes a distinct commodity. While there is always a close correlation and interdependence between these two commodities, they differ so widely in nature, use, price, and ultimate distribution, that it is not only desirable but necessary to consider them separately.

The problem is still further complicated by the shifts in relative importance which have occurred in the course of development of the industry. In the early history of the United States sheep were raised almost exclusively for wool. Later mutton became an important market commodity, whereas more recently the production of lamb has assumed a dominating place in the industry. In 1899 sales of sheep and lambs provided $52.3 \%$ of the flock receipts in the United States and sales of wool $47.7 \%$. In 1909 the percentages stood at $56.4 \%$ and $43.6 \%$ respectively, and in 1919 they were $56.6 \%$ and $43.4 \%$.

As late as the middle of the last century wool was so preeminently the reason for the existence of the sheep industry that when, because of a depressed market for that commodity many sheep men
abandoned the business, whole flocks were slaughtered and the carcasses fed to hogs. In contrast to this are the prices paid in February, 1924. During that month the market value of an average weight fleece of wool was about $\$ 4.12$. The live sheep weighing 90 pounds was worth $\$ 7.88$ and the mutton carcass $\$ 4.81$. A live $80-$ pound lamb, however, was valued at $\$ 11.96$ and the carcass of dressed lamb resulting from its slaughter $\$ 9.04$.

Wool is a commodity which enters into world trade and its price is, in general, determined by world conditions of supply and demand. Mutton, however, so far as the United States is concerned, is almost wholly dependent on the domestic market, as the people of this country prefer strictly fresh, rather than frozen, lamb and mutton. Furthermore, the character of mutton is such that, without freezing, it can not be stored satisfactorily for more than two or three weeks.


Fig. 34.-Owing to large numbers of sheep on the western range, the center of mutton production is nearly 700 miles west of the center of slaughter. The center of consumption is close to the center of human population, and only about 200 miles cast of the center of slaughter. In reality, the regions of greatest consumption are the North Atlantic States and the far West.
Because of this difficulty in keeping fresh lamb and mutton in merchantable condition for any considerable time, and despite the fact that during the last 40 years the center of sheep production has been farther removed from the center of consumption than has been true of any other class of meat animals, and despite the further fact that heavy loss through shrinkage and other causes results from long hauls, live sheep and lambs are frequently transported nearly across the continent in order that they may be slaughtered and dressed as near the point of consumption as possible (fig. 34).

## Marketing Sheep and Lambs.

Although very early in the history of America some sheep were slaughtered, the production of mutton was merely incidental to the major interprise of producing wool with which to clothe the colonists' families. For many years there was a decided prejudice against mutton as food. This prejudice still exists to a marked degree in many rural communities, particularly in the more sparsely settled portions of the South and Central West. Apparently this
prejudice is due largely to inefficient and unsatisfactory methods of slaughter and dressing. Another reason for the existence of such prejudice in the early days was the fact that most of the sheep raised were not of the mutton type, and did not produce meat of the best quality and flavor. Still another reason was that most sheep were not slaughtered until they were 4 or 5 years old, when the meat was likely to be tough and unpalatable. Even after the fine-wool breeds were crossed with sheep of the mutton type for the purpose of producing a better animal for slaughter, it was many years before mutton became an important item of trade. Up to the middle of the last century mutton was of so little consequence that when flocks were slaughtered, on account of the wool prices falling below the cost of production, the pelt and the tallow were the only portions of the animal salvaged. The larger centers of population have always furnished the principal market for lamb and mutton.

The consumption of mutton increased greatly after 1870. This increase was due partly to improved methods of slaughter, but chiefly to the development of artificial refrigeration and more particularly refrigerated transportation. The invention of refrigeration made it possible to slaughter sheep and lambs in the Middle West and transport the carcass meat by rail to the Atlantic coast cities. From that time on the sheepman had two strings to his bow, and was no longer wholly dependent on wool for his flock returns. The first change from a strictly wool basis consisted largely in an effort to market ewes in a fairly merchantable condition after they had outlived their usefulness for breeding purposes, and to market wether sheep after they had produced from four to five clips of wool.

Although some lambs were marketed in the nineties they were of so little consequence as a market commodity that no sustained or continuous price quotation records were kept. By 1900, " lamb" had taken a permanent place as an article of commerce and provided the sheepman with a third item of revenue. Since that time lamb marketing has increased greatly. Lambs now constitute from 75 to 90 per cent of the receipts of ovine stock at the principal livestock markets.

One of the striking features of the sheep industry of the last 30 or 40 years is the progressive lowering of the slaughter age. This same tendency is also shown in the cattle and swine industries. Whether the demand for meat from younger animals was responsible for changing production methods, or whether producers developed this demand by slaughtering at an earlier age, it would be difficult to say. In any event, the tendency to market and slaughter animals at a progressively younger age has fitted in well with the producers' increasing costs as well as with the taste of the consuming public. Whereas in 1890 probably 75 per cent of the ovine stock marketed consisted of sheep ranging from 4 to 8 years of age, at the present time approximately 80 per cent of such marketings are lambs ranging from 4 to 12 months old.

Receipts at the public stockyards.-From 30 to 90 per cent of the sheep and lambs marketed in different sections of the country are sent to public stockyards, and probably in the country as a whole fully 75 per cent of the marketing is conducted in this manner. Although practically every public stockyard handles some sheep, as might be expected, the bulk of the offerings goes to those markets
which are either located nearest the areas of production or are situated on the direct route from the producing areas of range States to the consuming centers along the Atlantic seaboard.

During the nine years from 1915 to 1923 the receipts of sheep and lambs at public stockyards averaged about $22,353,000$ head annually. The peak was reached in 1919 when $27,256,000$ head were marketed. The lightest movement occurred in 1915 when receipts totaled only 18,435,000 head. At that time the World War had been in operation nearly a year and the resulting advance in wool prices provided a strong incentive to retain a much larger proportion of ewe lambs than usual.

As is true of other classes of meat animals, a very large proportion of the sheep and lambs marketed pass through a few of the larger markets. For example, during the nine years from 1915 to 1923 five markets, Chicago, Omaha, Denver, Kansas City and Jersey


Fig. 35.-Chicago, the premier sheep and lamb market of the country, draws its supplies from the range and from most of the Corn Belt. The Missouri River points, which, in the aggregate, receive more sheep and lambs than Chicago, secure most of their supplies from the range country, with a few from the feed yards. Denver and the other western markets depend principally on range sheep. At Jersey City, Buffalo, and the other eastern markets the receipts are mostly from eastern farm flocks, with some barn-fed lambs.

City, received more than 54 per cent of the total number of sheep and lambs sent to public stockyards in the country. Of the total, Chicago handled 19 per cent, Omaha 14 per cent, Denver and Kansas City each $7 \frac{1}{2}$ per cent, and Jersey City about 6 per cent (fig. 35).

Seasonal variation in receipts.-The marketing of sheep and lambs is largely a seasonal matter. This is especially true of lambs, because so large a percentage are marketed as grass-fed stock. When the grass season ends they must go to market. Using the eight years, 1916-1923 as a basis, October stands out as the month of heaviest receipts of sheep and lambs at public markets. During the period mentioned 14.4 per cent were marketed in October. September was second with 12.6 per cent; whereas August and November were tied with 10 per cent each. February was the lightest month with 5.8 per cent, followed by April and March with 5.9 and 6 per cent, respectively. The percentage marketed during each of the remaining five months varied from 6.6 to 7.6 per cent (fig. 36).

Source of market lambs.-The first range lambs to arrive in numbers are the lambs born in sheds in Idaho, Oregon and Washington. They begin coming to market by the middle of June and continue through July. During the next three months the movement from the range increases steadily until it reaches its peak in October. Some lambs are marketed from the range in November, but in many of the heaviest-producing areas winter storms and destruction of summer forage have sent the bulk of stock to market before that time. In October and November many farm sheep and lambs go to market for similar reasons. In December receipts consist largely of short-fed stock, which were bought late in the summer or early in the fall and sent out to clean up stubble fields and farm roughage, and lambs which have been fattened in cornfields. In January most lambs coming to market are from feed lots. In February, March, and part of April practically all of the lambs come from feed lots. In very recent years California spring lambs, which are marketed in $\Lambda$ pril and May,


Fig. 36.-October is usually the month of heaviest movements of sheep and lambs. Over a period of eight years October receipts constituted 14.4 per cent of the total movement for the year. February is generally the lightest month, though March and $\Lambda$ pril frequently show movements fully as light as the shortest month of the year.
have become an important factor. These are followed by the early lambs from Tennessee and Kentucky, which are marketed in considerable numbers in May and June. In fact, lambs from these two widely separated producing areas are frequently offered on the market at the same time. By the middle of June the northwestern "shed lambs" have again started to market.

Feeder sheep shipments.-Not all the sheep and lambs marketed are slaughtered immediately, a considerable proportion of them being returned to the country for further finishing. During the eight years $1916-1923$, the number of feeders shipped out of central markets varied from $6,956,000$ in 1919 to $3,095,000$ in 1921. The movement for 1923 was $4,478,000$ head. Combined feeder shipments for the eight years constituted 20 per cent of the receipts (figs. 35 and 37).

The different markets vary widely in importance as distributing centers for feeder sheep. On the basis of number reshipped, Omaha is the leading feeder-sheep market of the country with average an-


Fig. 37.-Omaha is the leading distributing point for feeder sheep and lambs. Denver shipments go largely to feed yards in eastern Colorado and Nebraska. Chicago, which ranks third, is the main distributing point for the eastern Corn Belt. Kansas City receives large numbers of sheep and lambs from the Southwest, which are distributed for feeding in the lower Missouri Valley. During the six years, 1916-1921, these four markets handled 79 per cent of the feeder sheep and lambs that passed through public stockyards. The circles in the map above represent a much smaller number of sheep for the same area of circle than in fig. 35 .
nual shipments during the above eight years of 1,143,236 head. Denver is second with $1,016,324$, Chicago third with 745,458 , and Kansas City fourth, with 479,281 head. These four markets handle nearly 74 per cent of the feeder sheep and lambs that pass through public stockyards. On the basis of percentage of receipts which are returned to the country as feeders, Denver stands out preeminently. During the eight years mentioned Denver reshipped 56 per cent of its receipts as feeders or breeders; Omaha 37 per cent; Kansas City 28


Fig. 38.-The majority of the range sheep are shipped east for slaughter to the large packing houses at Chicago and Missouri River points, all of which are under Federal inspection. Most of the shcep and lambs from the Central States are also slaughtered at these plants. 1 large proportion of the dressed carcasses are then shipped east for consumption in the industrial centers. The packing houses on the Atlantic coast depend upon the States from Ohio and Michigan eastward for their supplies.
per cent, and Chicago 17 per cent. These four markets combined shipped 31 per cent of their receipts back to the country.

Feeder-sheep shipments are largely confined to the four months August to November, during which time more than 70 per cent of such shipments from central markets usually occur. The heaviest movement takes place in September and October, when the movement of range sheep to market is at its height. Nearly 45 per cent of the feeder shipments for the year occur in these two months. March is the month of lowest shipments.

While the greater number of the feeder lambs pass through central markets, a considerable number are sent direct from the range to feed lots. In some years these feeder lambs are contracted for several months in advance.

Concentration of slaughter.-Sheep and lamb slaughter is more centralized than the receipts figures indicate. Considering total slaughter, both federally inspected and otherwise, during the four years 1920 to 1923, the four markets, Chicago, Jersey City, ${ }^{8}$ Omaha, and Kansas City slaughtered over 63 per cent. During that period Chicago slaughtered 26 per cent of the total, Omaha and Jersey City each 14 per cent, and Kansas City 10 per cent. A larger proportion of the sheep and lambs slaughtered in the United States are handled under Federal inspection than of any other class of livestock. Out of a total slaughter in 1923 amounting to $14,818,200,11,528,550$, or 78 per cent were slaughtered under Federal inspection. In that same year only 66 per cent of the cattle and 65 per cent of the hogs slaughtered were féderally inspected (fig. 38).


Fig. 39 .-In the western range country large numbers of sheep and lambs are slaughtered by herders and camp tenders. In the East, notably the North Atlantic States, farm-dressed mutton and lamb are used for the country home and small town consumption. A dot on this map represents a much smaller number of sheep than a dot of the same size in fig. 38.
The slaughter of sheep and lambs on farms is comparatively light (fig. 39). Such slaughter in 1919 totaled only 434,533 or 3 per cent of the total slaughter of sheep and lambs for that year. The comparatively small size of sheep and lambs makes them especially suitable for farm slaughter, as there is little difficulty in disposing of all the meat while it is still in prime condition. However, sheep

[^29]raisers of the farm States have not formed the habit of depending very largely on lamb or mutton for their meat supply. In recent years the relatively high prices of market lambs has naturally encouraged farmers to sell their lambs and slaughter lower-priced beef and pork for home use. Comparatively few local butchers in the smaller towns and villages of the Middle West handle lamb and mutton regularly. These meats are consumed mostly in restaurants, hotels, and city homes of industrial centers.

## Market Prices of Sheep and Lambs.

The more important factors which determine the market price of sheep and lambs are available supplies, consumptive demand, grade of the animal, and the price of wool.


Fig. 40.-Of the total lamb and mutton available for consumption in the United States approximately 35 per cent is consumed in the North Atlantic States. However, the heaviest per capita consumption is in the Western States. The lowest per capita consumption is in the South Atlantic and the West North Central States. These regions jointly consume only about 15 per cent of the Nation's supply.

Available supplies.-As previously, noted, the supply of sheep and lambs at market centers varies widely, not only with the season of the year but from year to year. An eighth of the annual receipts usually arrive in each of the two months, September and October, one-tenth each in August and November, and only about one-fifteenth in each of the other eight months. The variation from year to year is less but still very large. During the nine years 1915 to 1923 receipts at public markets show an extreme variation of $8,821,000$ head, or about 48 per cent of the receipts in the lowest year. However, this wide variation was largely due to war conditions.

Consumption of lamb and mutton.-The consumption likewise varies from year to year. In the 17 -year period for which figures are available, 1907-1923 the per capita consumption ranged from 4.6 pounds in 1917 to 8.2 pounds in 1912, an extreme variation of 3.6 pounds per capita, or more than 74 per cent. The importance of such a variation becomes apparent when the further fact is taken into account that there is practically no foreign trade in lamb and mutton, the sheep producer being dependent almost entirely on domestic consumption for an outlet. Table 1 shows that
the variation in per capita consumption of lamb and mutton, though less in number of pounds from year to year than in other meats, is much greater relatively.

Consumption of lamb and mutton also varies widely in different sections of the country (fig. 40). It is greatest in the northeastern and far western sections, least in the South Atlantic and West North Central States. In the western range country the per capita consumption by the rural population is decidedly greater than in the farm States. This is particularly true of Nevada, New Mexico, Utah, and Wyoming, where the average in 1919 was 22.2 pounds, 15 pounds, 8.3 pounds and 7.8 pounds, respectively. East of the Rocky Mountains the per capita consumption by the rural population averages less than 1 pound.

Table 1.-Annual per capita consumption of lamb and mutton, beef, veal, pork, and lamb, 1907-1923.

| Year. | $\begin{aligned} & \text { Lamb } \\ & \text { and } \\ & \text { mut- } \\ & \text { ton. } \end{aligned}$ | Beef. | Veal. | Pork, ex-cluding lard. | Lard. | Year. | Lamb <br> and <br> mut- <br> ton. | Bcef. | Veal. | Pork, ex-cluding lard. | Lard. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $L b s$. | Lbs. | Lbs. | $L b s$. | Lbs. |  | $L b s$. | $L b s$. | Lbs. | Lbs. | Lbs. |
| 1907. | 6.4 | 79.7 | 7.1 | 74.1 | 12.5 | 1916. | 6.2 | 57.3 | 5.3 | 73.1 | 14.4 |
| 1908. | 6.2 | 72.4 | 6.8 | 85.4 | 14.3 | 1917 | 4.6 | 61.1 | 6.5 | 58.5 | 11.9 |
| 1909. | 6.6 | 76.2 | 7.5 | 68.6 | 11.6 | 1918 | 4.7 | 65.2 | 7.4 | 67.6 | 13.6 |
| 1910. | 6.5 | 71.8 | 7.4 | 60.3 | 10.5 | 1919. | 5.8 | 58.0 | 7.7 | 68.6 | 12.8 |
| 1911. | 7.8 | 68.4 | 7.0 | 75.1 | 11.8 | 1920. | 5.0 | 61.2 | 7.9 | 69.0 | 13.1 |
| 1912. | 8.2 | 61.7 | 7.0 | 70.6 | 11.4 | 1921. | 6.2 | 57.8 | 7.0 | 72.9 | 11.3 |
| 1913. | 7.6 | 60.8 | 5.0 | 72.5 | 11.7 | 1922 | 5.0 | 61.4 | 7.3 | 76.0 | 14.1 |
| 1914. | 7.5 | 59.3 | 4.4 | 70.3 | 12.1 | 1923. | 5.2 | 62.5 | 7.9 | 91.4 | 16.4 |
| 1915. | 6.4 | 56.0 | 4.3 | 70.2 | 13.2 |  |  |  |  |  |  |

Grades of sheep and lambs.-Although the general price level of sheep and lambs is largely determined by supply and demand conditions combined with the price of wool, the price of any given lot of sheep or lambs depends chiefly on the grade of the animals which comprise the lot. The grade of sheep and lambs intended for slaughter is determined largely by variations in quality, conformation, and finish. Quality refers to the degree of fineness of bone and relative freedom from coarseness. Fineness and character of fleece also sometimes serve as an index of quality. Conformation refers to the general form, build, or outline of the animal. Finish pertains to the amount and distribution of fat. Lambs are graded as prime, choice, good, medium, common, cull, and inferior in the order named; wethers, prime to cull; and ewes, choice to canner. A canner ewe corresponds to an inferior lamb. Lamb prices at Chicago during October, 1923 , averaged $\$ 12.30$ per 100 pounds for those grading medium to prime, and $\$ 9.90$ for those grading common to inferior. (Fig. 41.)

Effects of wool prices.-Wool is the third factor which enters strongly into the determination of sheep and lamb prices. Perhaps this commodity is the source of more complications than any other single item. This is due partly to comparatively wide fluctuations in the price of wool, but more particularly to the extreme variations in the amount of wool carried by the animal at various seasons of the year. For example, late in the spring an animal may carry from 5 to 8 pounds of wool. If wool is worth 40 cents a pound the value of the fleece alone will range from $\$ 2$ to $\$ 3.20$. Assuming a weight of 85
pounds for the lamb and a price of 12 cents a pound, the total value of the animal would amount to $\$ 10.20$. Of this amount, however, from $\$ 2$ to $\$ 3.20$ represents the value of the wool that the lamb carries, which amounts to approximately 25 to 30 per cent of the total value of the animal. It may happen, however, that although at a given time the animal carries a greater weight of fleece than it did previously, the price of wool has declined in the meantime so that


## MARKET GRADES OF LAMBS.

Fig. 41.-Conformation, quality, and finish largely determine the market grades of lambs. Experienced buyers when considering wooled lambs seldom determine grade solely on observation; they invariably handle the animals to discover deficiencies and to determine the degree of fatness or finish. The above cuts illustrate three grades of lambs before and after shearing: A, Choice lamb (wooled) ; B, choice lamb (shorn) ; C, medium lamb (wooled) ; D, medium lamb (shorn) ; E, cull lamb (wooled) ; F, cull lamb (shorn).
the increased amount of wool may be worth no more than the smaller amount earlier in the season.

Long-time variations in prices.-In studying sheep and lamb prices over a period of time, one characteristic stands out strongly. Largely because of the fact that lamb and mutton still are considered by some people as luxuries, lamb and sheep prices show a much greater sensitiveness to rariations in general business, trade, and economic conditions than do most commodities.
^ study of yearly average sheep prices at Chicago from 1893 to 1023 inclusive, indicates that average prices reached their lowest 1 oint in 1894, the price for that year being $\$ 2.80$ per 100 pounds. The highest price occurred in 1918 when the average for the year stood at $\$ 12.15$. Lamb prices followed a virtually parallel course. For 1894, the Chicago average price was $\$ 3.55$, and in 1918 it was $\$ 16.60$ per 100 pounds (fig. 43).


Fig. 42.-Although a lamb carcass produces fewer retail cuts than either beef or pork, a larger proportion of it is used as chops than is true of any other class of meat. This fact, together with the comparatively small size of the various retail cuts, makes lamb particularly suited to the needs of small families and to the mode of living of the average city dweller.
A comparison of both of these sets of prices with indexes of general commodity prices shows that whereas the sheep and lamb market reached the lowest point in 1894, general commodity prices did not reach bottom until two years later, or in 1896. The highest point in the sheep and lamb market was touched in 1918, whereas general commodities did not reach the peak until two years later, or in 1920. This would seem to indicate that, in general, the sheep and lamb market anticipates rather than follows fluctuations in general trade conditions.


I'1G. 43.-Yearly average prices of live lambs advanced more or less steadily from 1894 to 1914 , but the purchasing-power price remained at about the same level from 1895 to 1914 . Money prices then rose rapidly, but the purchasing-power price declined after 1915 , reaching a low point of $\$ 6.46$ in 1920. Since 1921 the price has risen rapidly, reaching a purchasing-power price of $\$ 9.09$ in 1922 , which is higher than in any previous year for which quotations are available.

It may be of value in this connection to compare actual market prices with the purchasing power of such prices expressed in terms of general commodity prices. In the case of shcep, although the lowest market price was registered in 1894, the lowest purchasing power occurred in 1921. On the other hand, both the highest price and the highest purchasing power occurred in 1918. In the case of lambs the situation was somewhat different. Both the lowest market price and the lowest purchasing power of the period considered occurred in 1894. Although the highest market price occurred in 1918, the highest purchasing power was reached in. 1922.


Fig. 44.-Prices of lambs in 1923 were almost double the average price for 1911-1915, which years are fairly representative of pre-war prices, and were nearly as high as the average price during the period 1916-1920. Lamb prices usually reach their seasonal peak in May, though in 1923 the high point occurred about the middle of June. The lowest quotations generally occur in June, owing partly to the fact that many of the lambs going to market at that time are clipped.

Not only are sheep and lamb prices subject to sudden fluctuations, but over a period of time such variations are extremely wide. For example, in the 31 years, 1893 to 1923, yearly average sheep prices varied from $\$ 2.80$ to $\$ 12.15$ per 100 pounds-a range of $\$ 9.35$, or 334 per cent, using the lower number as a base. Lamb prices during the same period varied from $\$ 3.55$ to $\$ 16.60$-a range of $\$ 13.05$ or 368 per cent.

Seasonal variations in prices.-As is true of market movements of sheep and lambs, so also market prices move in fairly well-defined cycles. Some of these cycles as noted are dependent chiefly on changes in general economic conditions. Others depend largely on seasonal supply conditions.

A study of weekly average prices of lambs at Chicago for two 5 -year periods, 1911 to 1915 and 1916 to 1920, shows that, as a rule, prices are lowest somewhere between the middle and the end of

DISTRIBUTION OF CONSUMER'S LAMB AND BY-PRODUCTS DOLLAR.


Fig. 45.-Out of the dollar which the average consumer paid for dressed lamb in July and August, 1923, 63.1 cents went to the producer, 14.5 cents were retained by the retailer; 13.1 cents went to the packer; 8 cents were paid to the transportation companies; and 1.3 cents to the various central market agencies, such as commission men and stockyard companies. The proportion of the consumer's dollar received by the various agencies of production and distribution varies somewhat from time to time, with changes in market prices, freight rates, and other charges.
June, and highest around the middle of May (fig. 44). It seems probable, however, that this close proximity of the highest and lowest prices of the year is more apparent than real. By the middle of June most of the lambs coming to market are shorn, whereas a month earlier the bulk of the lambs carry a full fleece. The importance of this feature becomes apparent when shorn lambs first reach the market. The difference between wooled and shorn stock frequently amounts to as much as $\$ 1$ or $\$ 1.50$ per 100 pounds and sometimes more.

Because of the varying quantities of wool carried by animals at different seasons of the year, it seems probable that dressed-lamb prices should serve as a better index of the trend of true lamb prices than do the quoted prices of live lambs. Such a study of weekly a verage lamb prices at New York City over a period of years indicates that, as a rule, dressed lamb prices reach their peak in March or April
and are lowest in September and October. This corresponds very closely with normal fluctuations in market supplies. Live lamb prices average highest in May, not only because the supply is small and a large portion of the lambs at that time carry full fleeces, but also because virtually all of the lambs marketed at this season of the year are either lambs which have been on feed for several months and are therefore in a finished condition, or are spring lambs which sell at a premium because they are relatively scarce.

Abnormal variations in prices.-No study of present-day sheep and lamb marketing would be complete that did not include some reference to the period of liquidation which occurred during 1920 and 1921. Sheep and lamb prices started downward from five to nine months earlier than those of cattle and hogs. This decline had been preceded by an abrupt collapse of the wool market, which in turn caused a heavy liquidation and a glutting of the mutton market. The lamb market was further demoralized by heavy importations of lamb and mutton from New Zealand and Argentina, amounting during 1920 to about 10 per cent of the domestic production.

Lamb prices reached their peak late in January, 1920, when the weekly average at Chicago stood at $\$ 20.80$ per 100 pounds. From that point, with certain minor fluctuations, the market declined until a low point of $\$ 8.35$ was reached for the third week in February, 1921. Sheep prices, on the other hand, did not reach their peak until the fourth week in April, 1920, when the weekly average stood at $\$ 14.90$. From that point, however, the market dropped precipitously, declining approximately $\$ 7$ per 100 pounds within a 10 -weeks period. As was true of lambs, after a slight recovery in July, 1920, sheep prices again moved downward until February, 1921.

It is noteworthy also that despite a decline of $\$ 12.45$ in 13 months, lamb prices never quite equaled the level of the five pre-war years, 1910 to 1914. Sheep prices, on the other hand, touched that level during the fourth week of December, 1920, and by the first week of the following February had dropped 81 cents below it.

Widening differential between prices of sheep and lambs.-It has already been pointed out that in the course of development of the sheep industry there has been a gradual lowering of the slaughter age. This has been due partly to a change in taste of the consuming public. Relative prices usually serve as an excellent index of relative desirability of different commodities. This is developed rather strikingly by a study of prices over a period of years.

The great bulk of meat animals of the ovine species fall into one or another of three general classes: Sheep, yearlings, and lambs. A comparison of the price of each of these classes from 1899 to 1923 shows that there has been a steady widening of the differential between them. For example, in 1899, yearlings averaged 45 cents per 100 pounds higher than mature sheep, the premium paid for yearlings amounting to 10 per cent of the sheep price. In 1923, however, the year in which the premium was greatest, yearlings brought a premium of $\$ 4.05$ per 100 pounds, or over 55.5 per cent over sheep.
Following this study a step further, lambs in 1899 brought $\$ 1.15$ per 100 pounds more than sheep, the premium amounting to 26
per cent. In 1921, although the differential was only $\$ 4.75$, the per cent of premium paid for lambs as compared with sheep amounted to 93 per cent. In 1922 when the differential expressed in dollars was greatest, lambs brought a premium of $\$ 6.30$ per 100 pounds, or 87 per cent. In 1923 the differential was $\$ 6.20$ and the premium in favor of lambs 85 per cent.

## Problems in Marketing Sheep and Lambs.

One of the greatest problems in marketing sheep and lambs is that of avoiding the congested markets which occur during the three months, August 15 to November 15. During this period the receipts at the leading markets are frequently much greater than can be readily absorbed. As such gluts almost invariably cause a break in prices, all possible steps should be taken to avoid this condition. Probably the greater number of range operators will always find it necessary to ship at this time. There are, however, many operators


HAULING WOOL ACROSS THE PLAINS.
Fig. 46.-In the western range country wool is frequently hauled for a distance of 100 or more miles to the railroad. Owing to its high value per pound, it can be hauled farther than almost any other agricultural commodity.
who can just as well get their lambs on an earlier market, or if the lambs are not suitable for slaughter, hold them in valleys for a few weeks or ship direct to the feed lots. That efforts are being made to avoid shipping during this period of peak supplies is evidenced by the large percentage of the Pacific coast and Idaho growers who aim to market their lambs from April through July.

The autumn congestion is still further aggravated by the large number of native lambs, a large percentage of which are of inferior quality, that are marketed at this time. These inferior native lambs have a decidedly depressing influence on the market. Not only do they hurt the sale of good lambs, but because of their inferior condition due to poor breeding, insufficient feed, internal parasites, or lack of castration and docking, they yield a poor quality of meat and are
generally produced at a loss. This problem is one of giving the sheep more and better attention as well as giving more attention to the market requirements.

Sheepmen also are confronted with the problems of relatively high transportation and marketing charges. On some classes of sheep these charges reduce profits to a dangerously small margin.

## Marketing Wool.

Wool is one of the important items of world commerce. In the early days virtually every family produced sufficient wool to meet its own needs. There was, therefore, little or no marketing of wool. With the division of labor, however, and the concentration of population in the cities there came the demand for specialization in wool production.


Fig. 47.-The freight rate in December, 1922, on 100 pounds of wool in the grease from Pocatello, Idaho, to Boston was $\$ 2.44$; from Pendleton, Oreg., $\$ 1.78$; and from Portland, Oreg., $\$ 1.50$. The rate from Salt Lake City, Utah, was $\$ 2.36$; from Winnemucca, Nev., $\$ 2.66$; and from San Francisco, $\$ 1.50$. The rate from Phoenix, $\Lambda$ riz., was $\$ 2.61$; from Albuquerque, $N$. Mex., $\$ 1.99$; from San Angelo, Tex., $\$ 2.61$; from Kansas City, Mo., $\$ 1.24$; from St. Louis, Mo., $\$ 1.15$; and from Columbus, Ohio, 78 cents. The rate from Rawlins, Wyo., was $\$ 2.03$; from Billings, Mont., $\$ 2.12$; from Bloomfield, Iowa, $\$ 1.08$; from Chicago, 99 cents; and from Rochester, N. Y., 52 cents. It appears that the zone of highest freight rates to Boston extends from western Montana and eastern Idaho through Utah and Nevada to Arizona.

Separating the center of production from that of consumption gives rise to marketing. Generally speaking, the farther these two points are from each other the more complicated marketing becomes. Wrool generally can be produced more cheaply in regions that are undeveloped agriculturally. Due to its relatively high value per pound it can be transported long distances and still yield a profit to the producer. Because of these facts wool production has been mostly a frontier enterprise. Wool consumption, on the other hand, is greatest in the more densely populated regions. For these reasons it is probable that wool is transported over longer distances than any other important commodity (figs. 46 and 47).

## International Trade in Wool.

Nearly half of the world's present supply of wool is produced in the Southern Hemisphere. On the other hand, the greater part of

the wool is consumed in the Northern Hemisphere, the latter being much more densely populated. The leading countries in the exportation of wool are Australia, Argentina, New Zealand, British South Africa, and Uruguay, in the order named. (Fig. 48.)
The leading importing countries are the United Kingdom, France, Germany, United States, Belgium, and Japan. The United Kingdom and the United States are both heavy producers and large importers of wool. British India exports considerable quantities of wool, which is mostly carpet wool. It imports, however, nearly as much as it exports, most of the imported wool being used for clothing purposes.

The United Kingdom is the greatest wool-handling country of the world. A large percentage of the colonial wools and also a consider-


SOUTH AMERICAN WOOL ON COMMONWEALTH PIER, BOSTON, MASS.
Fig. 49.-Interior view of Commonwealth Pier, Boston, showing 24,700 bales of South American wool, valued at $\$ 12,500,000$, just as it was unloaded from the boat on January 28, 1917. The second floor of the pier contained, in addition, wool valued at $\$ 1,750,000$.
able amount from South America and other countries are shipped to that country for sale. Bimonthly auction sales are held at the London Wool Exchange in which a large assortment from all parts of the world is available. While much of the wool is sold for domestic consumption, large quantities are reexported to the United States and to continental Europe. World prices for wools used in the manufacture of clothing are virtually established at the London market. Similar sales are held at Liverpool and other cities. Liverpool is the leading exchange market for carpet wools.

In recent years there has been a growing tendency for the importing countries to buy directly from the exporting countries, and the Australian auction sales have reached considerable importance. The wools of South America are sold largely by private contract. Before
the World War most of the wool imported by the United States was purchased on the British markets. In 1919, however, Great Britain stood sixth from the standpoint of exports to this country, Argentina standing first. (Fig. 49.) The following year, however, the United Kingdom was back in second place, where it has since remained.

Although the United States ranks third in the production of wool, the average for the last 35 years amounting to approximately 300 ,000,000 pounds per annum, it has never produced sufficient quantities to meet its needs. For some years prior to the World War yearly imports of wool to the United States averaged about $200,000,000$ pounds. In 1918, the peak year, they amounted to $453,72 \mathrm{~T}, 000$ pounds. Boston, which is the second largest wool market of the world, is preeminently the leading wool market of the country. Receipts of foreign and domestic wool at that point amounted to


Fig. 50.-The manufacture of woolen goods is very largely concentrated in the North Atlantic States. Nincty per cent of the mill consumption of wool in the United States is in these States. The industry centers mostly around Boston and I'hiladelphia. Massachusetts leads in consumption, manufacturing ncarly a third of the total. The remaining 10 per cent of mill consumption is not reported separately by States in fhe census. The consumption in Vermont therefore can not be shown. The figures are based on mill purchases, part of which is in the grease and part scoured.
$507,000,000$ pounds in 1917, and $416,000,000$ pounds in 1923. In some years Boston handles as much as 75 per cent of the domestic wool and occasionally as high as 70 per cent of the imported wool (fig. 50). Philadelphia handles considerable quantities of domestic and foreign wools, while New York receives considerable quantities of imported wools. ${ }^{9}$

## Methods of Marketing Wool in the United States.

The methods of marketing wool in this country have changed somewhat from time to time, and there are also some variations in differ-

[^30]ent parts of the country. However, until recent years the general plan of marketing did not differ materially from that in use in the early days of the country.

The more important agencies involved in getting wool from the producer to the consumer are the country buyer, the country assembler, the central market dealer, the commission merchant, the broker, and the manufacturer. In the farm States the country buyer gathers up small lots of wool and either sells them to some merchant in town or holds the wool in his own warehouse. The central market dealer sends his agents through these smaller towns or concentration points and buys such of the wool as is suited to his needs. The wool is then shipped to some large center, where it is graded on the basis of mill requirements, and finally sold to the manufacturers.

Another form of marketing is one in which the growers consign their wool to wool warehouse companies and usually obtain advances amounting to a certain per cent of the market price of their wool. The warehouse company grades the wool and holds it for the inspection and purchase of the broker or mill agent. When the wool is sold the warehouse company remits to the grower the price obtained less any advances that may have been made, interest due on money already advanced, and a certain charge per pound for grading and carrying.

Recently the cooperative idea has been applied to wool marketing. Great quantities of wool are now assembled annually by wool pools which are, generally speaking, cooperative organizations made up of woolgrowers. The wool of the individual growers is assembled and pooled at some point, where it is graded and held for the inspection of wool buyers. Frequently advances are made on the wool so pooled. The buyers, who may represent brokers or mills, visit the points where wool is assembled and bid on the wool either in job lots or by grade, depending upon how the wool has been handled by the pool.

In the range States wool selling is quite different from that in farm flock-regions. Contracting the sale of the clip before shearing has been practiced by many ranchmen, especially when the contract provided for an advance payment, or at times when there appeared to be danger of a decline in wool prices. However, wool growers have usually lost heavily by this system, and in general they now consider it unbusinesslike. Much of the range wool is sold to eastern dealers at shearing time or very soon thereafter, the buyers dealing directly with the wool grower at his shearing shed or warehouse. This method is sometimes handled by sealed bids, each buyer offering his bid under seal, each ranchman or group of ranchmen reserving the right to accept or reject any or all bids. Much wool from the range is also consigned to commission houses in large wool centers, most of it going to Boston, Philadelphia, Chicago, St. Louis, and other Missouri River points. Part of that consigned from the Washing-ton-Oregon-Idaho district goes to Portland, Oreg.

Much effort has been spent in attempts to work out systems of cooperative marketing of range wool, and considerable progress has been made, though naturally the movement has not developed to the same point in the range country that it has in some of the farm-flock areas. Many systems have been tried out, ranging from very simple and temporary organizations handling sealed bids that are accepted

INCREASE IN AVERAGE WEIGHT OF FLEECE, VERMONT, OHIO, OREGON, AND NEW MEXICO.


Fig. 51.-By introducing new strains and by careful selection for heavy shearing qualities in the breeding flocks woolgrowers have increased the average fleece weight from about 2 pounds in 1840 to 7 or 8 pounds by 1920 in Vermont, the Mid-West and the far Northwest. In New Mexico the average fleece weight has increased from about 2 pounds in 1880 to almost 6 pounds at present.


Fig. 52.-In recent years fleece weights of 7 or 8 pounds are the rule, except in the Southeastern States, where the weight ranges from 3 to 5 pounds, and in the North Atlantic States, where the average fleece ranges from 5 to 7 pounds. The weight of the fleece varies somewhat from year to year, depending upon feed and climatic conditions.


Fig. 53.-Fleeces from the desert range shrink on scouring about 60 to 70 per cent, while fleeces from the farming States shrink only about 40 to 50 per cent. The heaviest fleeces in the grease come from the northern range States (fig. 52), whereas the heaviest fleeces after scouring are from the North Central States. It is worthy of note that the southwestern fleeces are little heavier than those from the Southeast after scouring.
or rejected by the sales committee, to permanent, incorporated organizations serving in the capacity of commission houses and dealing on the basis of binding, legal contracts with the growers. When the wool market is in a healthy condition there is a fair degree of competition among buyers in those parts of the range area that yield large quantities of desirable wool, and a number of buyers are attracted to a given community. The results of some of the cooperative selling indicate that it helps to make competition among buyers even more keen and facilitates business-like transactions. It promises also to alleviate, to a certain degree, heavy overloading and serious depression of the market.

A striking peculiarity of the wool market of the United States is the fact that although from $550,000,000$ pounds to $750,000,000$ pounds


Fig. 54.-The farm value of fleeces is usually highest in Ohio and Montana, followed by Oregon and Michigan, and is lowest in the Southeastern States. In the other States the average farm value of fleeces ranged mostly between $\$ 2$ and $\$ 3$ in 1923.
of wool with a total valuation ranging from $\$ 112,000,000$ to $\$ 350$,000,000 are handled annually, there is no established public market for the commodity. Practically all of this vast quantity of wool is bought and sold by private agreement. Another peculiarity is that while there is no open public or auction market a very large proportion of the wool passes through two or three leading centers. In other words, the marketing of wool is probably more concentrated than that of any other important commodity.

## Grades of Wool and Their Uses.

Wool is extremely complex and varied in its characteristics. As a commodity of commerce it is one of the most difficult to classify and grade for the systematizing of trade. While the variation in wool occurs somewhat in correlation with the types and breeds of sheep, wide variations exist within the breeds. Fleeces having the same fineness (diameter of fiber) often vary greatly in strength of fiber, spinning properties, length, and the contents of grease (natural wool oil) and dirt. Soil, climate, and feed have far-reaching influence on the production of wool. In some sections of the western range where grass is sparse and sand storms are frequent, fleeces of Merino or Rambouillet sheep may shrink as much as 65 to 75 per cent or more in grease and dirt, when scoured or cleaned preparatory to manufacture, while fleeces from sheep of these same types when grown on excellent bluegrass pastures where sand storms seldom, if ever, occur, may shrink only 50 to 60 per cent (figs. 52 and 53). Such characteristics as strength of fiber, spinning property, and length of staple are also affected by the conditions of soil, climate, and feed.

Commercial grades of wool are based primarily on fineness or diameter of fiber. The very finest of wool is known by the grade term "fine." Wool of this grade is produced by Merino or Rambouillet sheep. "Half-blood" wool is the next grade coarser than fine, but it is commonly considered a fine wool; that is, the fibers have smaller diameter than those of the wool which is commonly called medium wool. A large percentage of the half-blood wool is grown on sheep having considerable Merino or Rambouillet inheritance. It should be understood that the word "blood" is a wool grade term and has no reference to the breeding of the sheep, but the use of a fraction in connection with the word blood indicates a certain fineness or diameter of fiber. "Three-eighths blood" is the finest and "quarter blood" the coarsest of what is known as medium wool. These grades are produced chiefly by the medium-wool mutton breeds such as Southdowns, Shropshires, and Hampshires; also by the crossbreds resulting from mating the fine and long-wool breeds, which is extensively done on the western range. "Low-quarter blood" is coarser than "quarter blood," but the finest of what is known as coarse wool. "Common" is medium in coarseness, and " braid" the coarsest of coarse wool. Oxfords produce a great deal of "lowquarter blood" as well as " quarter blood," and all grades of coarse wool are grown on the long-wool breeds, such as Lincolns, Leicesters, and Cotswolds.

Fine and half-blood wools are used in the finest of dress goods, and choice wool of these grades is usually in strong demand. The modern tendency toward mutton production is increasing the propor-
tion of three-eighths and quarter-blood wools, and in a relative sense the supply of fine and half-blood is being reduced. The three-eighths and quarter-blood wools are used in the manufacture of coarser clothing for which there is a large demand under normal conditions.

Low-quarter blood, common, and braid are used in the coarsest of goods such as heavy overcoating, blankets, and carpets. Both demand and prices for the three coarsest grades are less, and they are not produced so abundantly in America as the fine and medium wools. Wool of good length (about $2 \frac{1}{2}$ to 3 inches long) is desired for the manufacture of choice, durable worsted goods. When wool has fibers only about 1 to 2 inches long, it is used largely in the manufacture of woolens or flannels.

Grading of wool by the grower was very uncommon in this country prior to the World War. There is to-day, however, a marked tendency on the part of those who pool or consign their wool to sell by grade. Selling any commodity ungraded is bound, in the long run, to work to the advantage of the buyer. This must be true bectiuse the buyer is naturally in a better position to judge the true value of ungraded commodities than is the average producer. The United States Department of Agriculture has established grades for wool based on diameter of fiber.

## Prices of Wool.

Wool prices, like those of sheep and lambs, have followed a rather tortuous course during a period of years. Fluctuations in wool prices, while not so wide as those for mutton and lamb, have exceeded in extent and violence those in most other important commodities. One reason for these wide variations is the fact that wool is a world commodity and its price level is, to a considerable extent, determined by world conditions of supply and demand. Another reason is the fact that almost from the founding of the country wool has been the

YEARLY AVERAGE PRICE, PRODUCTION, AND IMPORTS OF WOOL, 1890-1922; PERCENTAGE OF THE AVERAGE FOR 1909-1914.


Fig. 55.-As a rule there is a close relationship between wool prices and imports into the United States. Both prices and imports reached their highest points in 1918. Domestic production of wool has been fairly constant during the past 30 years.

## PRICE OF " WASHED" MEDIUM OHIO FLEECE WOOL AT ATLANTIC SEABOARD MARKETS, AND PURCHASING POWER, 1824 TO 1922.



Fig. 56. Since 1824 there have been two long-time cycles of falling and rising prices-the first from 1836 falling until 1843 and rising until 1864 ; the second falling from 1864 until 1896 and rising again until 1918. In general, wool prices have followed the trend of the general price level. Within these long-time cycles there are short cycles with annual fuctuations, which are the result largely of expanding and contracting wool production. The Civil War and the recent World War caused prices of wool to rise quickly, and these high prices were followed by sudden drops at the close of these wars. Panics, such as those of 1837 and 1893, also affect the price of wool.
subject of various legislative enactments. Probably no tariff bill has been enacted in the United States that did not either impose, raise, lower, or eliminate import duties on wool. These artificial influences have had a tendency to modify the natural play of economic forces, and have resulted in materially changing available supplies of wool in the United States and, therefore, in raising or lowering prices (fig. 55).

A study of yearly average prices of medium-grade wool over a period of 100 years shows that the market averaged lowest in 1896, when washed, medium, Ohio fleece wool was quoted in eastern markets at 19.5 cents a pound; and was highest in 1918, when the same grade averaged 91.5 cents. The range between these two extremes amounted to 72 cents or 369 per cent (fig. 56).

If the market price of the above-named grade of wool is compared with its purchasing power in terms of all commodities, one is likely to be impressed with the rather close correlation which, under normal conditions, exists between the two. Although the market price and the relative price are rarely identical, it is believed that during a period of time the purchasing power of wool comes as near equaling the market price as do most important agricultural commodities. In other words, the wool market is, generally speaking, a fair index of the general level of commodity prices.
In 17 of the first 18 years beginning with 1824, the market price of wool exceeded somewhat its purchasing power in terms of other commodities. During the next 20 years, however, the purchasing power exceeded the market price. During the Civil War although wool prices advanced sharply they did not keep pace with prices of other commodities. By 1877 the market price had again dropped below the purchasing power and remained so until 1912. From 1915 through 1923 the market price was consistently higher than the purchasing power (figs. 55 and 57 ).

[^31]YEARLY AVERAGE PRICE OF "UNWASHED" OHIO FINE WOOL AND 3/8 BLOOD, AT BOSTON; AND PURCHASING POWER IN TERMS OF THE 1913 DOLLAR, 1890-1922.


Fig. 57.-The trend of wool prices was downward from 1890 to 1896 , upward from that year to 1905, fairly stable till 1909, and then slightly downward until 1914. In the latter year a sharp advance began which culminated in 1918. The purchasing power of wool in terms of the 1913 dollar exceeded the money price until about 1910. In 1915 a wide divergence between the two began, and for the peak year of 1918 the vearly average price of 77 cents had a purchasing power of only 40 cents in terms of all commodities. In 1923 the average money price was 55 cents and the purchasing-power price was 36 cents. These 1923 figures were received too late to include in the graph.

War invariably stimulates the demand for wool, and therefore advances prices. During the Civil War period wool sold up to $\$ 1$ a pound. In 1867 the market broke sharply, but during 1871 and 1872 prices rose to a relatively high level, the Franco-Prussian War in Europe being an important factor in the advance. In 1873 a business panic occurred, and from that time until 1879 wool prices declined rather steadily. The revival of business which occurred in 1879 resulted temporarily in higher prices for wool, but with

MONTHLY AVERAGE PRICE OF "TERRITORY" AND "FLEECE" WOOL AT BOSTON, 1910-1923.


Fig. 58.-Wool prices were fairly steady from 1910 to 1914 . In 1915 the market started definitely upward and, so far as medium grades were concerned, reached the peak in 1918. After a secondary advance during the speculative period of 1919 prices broke sharply and reached the low point about the middle of 1921 . Since 1921 prices have more than doubled.
certain fluctuations, wool prices declined after 1880. By this time increased wool production in the Southern Hemisphere began to have its effect on wool markets and by the middle eighties there was a pronounced decline in wool prices, and the panic of 1893 hastened this downward movement. In the next few years the prices increased slightly. However, the average for the period of 1901 to 1910 was lower than that of the years from 1840 to 1890 , if the Civil War period be excluded. In 1913 the trend of wool prices was downward, but there was a recovery in the following year.

During the World War prices broke all previous records, fine staple territory wool on a scoured basis at one time selling at $\$ 1.85$ per pound at Boston. On the signing of the armistice, prices broke but recovered rather quickly after the reopening of the London wool sales in April, 1919. During February and March, 1920, prices advanced to $\$ 2.05$ per pound. Presently the market turned extremely dull and prices started downward. As a matter of fact, quotations from June to December of that year were largely nominal, there being but few actual sales.

Although the wool trade revived somewhat in 1921, prices were comparatively low. The average price at Boston of three-eighths blood, unwashed Ohio and Pennsylvania wool was 26 cents a pound for the three months, July, August, and September. The average price for the year was 28 cents compared with 53 cents in 1920, 67 cents in 1919, and 77 cents in 1918. Toward the end of the year trade improved and prices advanced somewhat. Generally speaking, the market was active throughout 1922 and 1923. The average price for the full year 1922 was 17 cents higher than that of 1921 ; and the average for 1923, 10 cents higher than 1922, or 27 cents over that of 1921 (fig. 58).

## Problems in Marketing Wool.

Largely because of the dual character of the industry in which he is engaged, the sheepman probably is confronted with more serious marketing problems than either the cattle or hog producer. To conduct his marketing intelligently, the sheepman must keep in touch with conditions prevailing in two markets which differ widely in almost every respect. One of the commodities which he produces enters extensively into world trade. The other depends for an outlet almost entirely on domestic requirements.

In general, prices for wool and those for dressed lamb and mutton follow somewhat parallel courses (fig. 59). This is probably due largely to the fact that although wool is more of a necessity than lamb and mutton, the prices of both, as a rule, follow rather closely the trend of general business prosperity or depression.

Wool, although a world commodity, is imported rather than exported. The sheepman therefore is vitally concerned with any import duties which may be imposed on foreign wool and in the removal or modification of such duty.

Another problem with which the sheepmen must deal is the lack of an open public wool market corresponding with the London wool

AVERAGE PRICE OF LIVE AND DRESSED LAMB AT CHICAGO, AND 3/8 BLOOD UNWASHED WOOL AT BOSTON, 1903-1923.


Fig. 59.-The relationship between prices of live and dressed lambs is usually very close and fluctuations in the one are, as a rule, very promptly reflected in the other. Wool prices are subject to less sudden fluctuations than either live or dressed lamb, showing usually rather broad upward and downward swings. These broad movements in wool prices, however, have a rather pronounced effect on the trend of live lamb prices, and fluctuations in live lamb prices are quickly reflected in the dressed-lamb market. It should be noted that the percentage increase in price of wool during the war years was little, if any, greater than the percentage increase in price of lambs.
auction sales. During the World War the Government assumed control of all wool stocks in the country, and after the war considerable quantities were disposed of by the auction sale method. The prevailing system of disposing of wool by private sale makes it difficult for the wool grower to obtain accurate information concerning the market price for a given grade of wool.

Another problem consists in the fact that until quite recently most wool growers sold their product ungraded, the grading being done in the larger wool centers by brokers, whose business it was to sort and grade the wool in accordance with the requirements of the different mills. Under this system the grower who produced relatively clean wool of high quality was frequently penalized because his wool was purchased in a lot with that of other less careful growers.

NUMBER OF FLEECES REQUIRED TO BUY A SUIT OF CLOTHES.


Fig. 60.-In 1914, when wool and clothing were both comparatively cheap, the farmer needed 11 fleeces to exchange for a suit of clothes. In the fall of 1920, when prices of farm commodities were at a low level and when clothes were still high in price, approximately 27 fleeces were needed to purchase the same kind of a suit. By 1922 conditions in the wool and clothing market had become readjusted, so that practically the same number of fleeces were needed to buy a suit of clothes as before the war.

## Wool Import Duties.

During the colonial and early national eras there was no tariff on wool. Prior to 1800 comparatively little attention had been given to sheep raising. Between 1800 and 1815 numerous importations of Spanish Merino sheep were made, and during this same period a number of woolen mills were established, which began to create a demand for more wool. Both the raising and the manufacturing of wool were greatly stimulated by the Embargo Act of 1807, the Nonintercourse Act of 1809 , and the War of 1812. Shortly after the close of that war, the British began exporting large quantities of woolens to this country, which seriously depressed the woolen industries. The first tariff legislation on wool was enacted in 1816 when a duty of 15 per cent ad valorem was placed on wool, and 25 per cent on woolen goods.

The act of 1824 placed a duty of 15 per cent ad valorem on wool valued at 10 cents a pound or less; 20 per cent on other wools the first year, 25 per cent the second year, and 30 per cent thereafter. In 1828 a combination of specific and ad valorem rates was tried, the rates being higher than in the previous act. In 1854 wool from Canada was admitted free under the reciprocity treaty. In 1857 it was practically put on the free list through a provision that all wool costing
less than 20 cents at the place of exportation was to come in without duty.

The tariff act of 1861 introduced the principle of compensating duties on woolen goods. This compensation was based on the fact that 4 pounds of wool from some of the heaviest shrinking fleeces of South America were needed to make a pound of cloth. As most of the wool imported under this act was admitted on a duty of 3 cents a pound, the compensating duty on woolen cloth was 12 cents.

In 1867 the "blood classification" was introduced. This classification was based on the "blood" or breeds of sheep as follows: Class 1 , wool showing any trace of Merino blood and down clothing wools; Class 2, combing wool from "English" breeds; Class 3, native wools, that is, wools from unimproved sheep. An attempt was also made to describe these classes more accurately by designating Class 1 as clothing wools, Class 2 as combing wools, and Class 3 as carpet wools. The act also provided for the naming of the countries from which the wools originated, making virtually a three-fold classification. As improved machinery had made a change in the usage of some of these wools, the terms clothing, combing, and carpet were dropped in 1890.

Between 1867 and 1894 changes were made from time to time in the rate of duty. In 1894 wool was placed on the free list while the duty on woolen goods was considerably reduced.

A duty was again placed on wool in 1897. In this act, a difference was made between unwashed wool and scoured wool, the duty on washed wool being double and on scoured wool treble that on unwashed wool.

The act of 1913 again placed wool on the free list. During the World War period there was a tremendous demand for nearly all kinds of wool. The close of the war was soon followed by a severe depression and a resulting surplus of wool. In the emergency tariff bill of 1921, duties were again enforced on wools of Classes 1 and 2 , while Class 3 or carpet wools were admitted free. The present schedule was enacted in 1922. It provides for a duty on ", wool not improved by the admixture of Merino or English blood" (carpet wools) of 12,18 , and 24 cents, depending on whether in the grease, washed, or scoured. Such wools may be imported under bond, and if used for the manufacture of rugs, carpets, or other floor coverings are admitted free. The rate on all other wools (used principally in the manufacturing of woolens and worsteds), whether in the grease or scoured, is 31 cents a pound on the basis of clean content (scoured weight). This act also provides for additional ad valorem duties, or for a change of duties, if deemed expedient by the President. In passing this bill, it was believed that making a specific tax on the clean content of the wool would do away with the inequalities due to difference in shrinkage in fleeces from variours parts of the world. Provision for the changing of the rates by executive orders was to make possible adjustments that might become necessary because of changed world conditions.

Table 2.-Rates of duty on wool imports under the tariff acts 1789-1922.

| Date of act (and when effective). | Rates of duty. |
| :---: | :---: |
| 178 | Fr |
| April 27, 1816 (July 1, | First act. 15 per cent ad valorem. |
| $\begin{aligned} & \text { May 22, } 1824 \text { (July 1, } \\ & 1824 \text { ). } \end{aligned}$ | Value of 10 cents a pound or less, 15 per cent; other wool, 20 per cent until June 1, 1825; 25 per cent until June 1, 1826; 30 per cent thereafter. |
| $\begin{aligned} & \text { May 19, } 1828 \text { (September } \\ & -2,1828) . \end{aligned}$ | 4 cents a pound plus 40 per cent to June 30,1829 ; plus 45 per cent to June 30 , 1830; plus 50 per cent thereafter. |
| July 14, 1832 (March 4, 1833). | Value of 8 cents a pound or less, free; other wool, 4 cents a pound plus 40 per |
| March 2, 1833 (January 1,1834). | Duties exceeding 20 per cent to be reduced to 20 per cent by yearly reductions to July 1, 1842. |
| Sept. 11, $1841)$ 1841 (Oct. 1, | All rates below 20 per cent to be 20 per cent. |
| August 30, 1842 (August 31, 1842). | Value of 7 cents a pound or less, 5 per cent; other wool, 3 cents a pound plus 30 per cent. |
| July 30,1846 (December 2,1846 ). | 30 per cent. |
| $\begin{gathered} \text { March } 3,1857 \text { (July 1, } \\ 185 \text { ). } \end{gathered}$ | Valued at 20 cents a pound or less free. All other, 24 per cent. |
| $\begin{aligned} & \text { March 2, } 1861 \text { (April 2, } \\ & 1861 \text { ). } \end{aligned}$ | Value of 18 cents a pound or less, 5 per cent; value over 18 cents to 24 cents, 3 cents a pound; value over 24 cents, 9 cents a pound. |
| $\begin{aligned} & \text { June 30, } 1864 \text { (July 1, } \\ & \text { 1864). } \end{aligned}$ | Value of 12 cents a pound or less, 3 cents a pound; value over 12 cents to 24 cents, 6 cents a pound; value over 24 cents to 32 cents, 10 cents a pound, plus 10 per cent; value over 32 cents, 12 cents a pound plus 10 per cent. Scoured wool, three times these rates. |
| $\begin{aligned} & \text { March 2, } 1867 \text { (March 3, } \\ & \text { 1867). } \end{aligned}$ | Class 1 (clothing wool), value of 32 cents a pound or less, 10 cents a pound plus 11 per cent; value over 32 cents, 12 cents a pound plus 10 per cent. Class 2 (combing wool), value of 32 cents a pound or less, 10 cents a pound plus 11 per cent; value over 32 cents, 12 cents a pound plus 10 per cent. Class over 12 cents, 6 cents a pound. Washed, Class 1, twice these rates; scoured, all classes, three times these rates. |
| June 6, 1872). 1872 (August 1, | All wools, 10 per cent reduction of former rates. |
| March 3, 1875 (March 4, 1875). | 10 per cent reduction of June 6, 1872, repealed. |
| $\begin{aligned} & \text { March } \\ & \text { 1883). } \end{aligned}$ | Class 1, value of 30 cents a pound or less, 10 cents a pound; value over 30 cents, 12 cents a pound. Class 2, value of 30 cents a pound or less, 10 cents a pound; value over 30 cents, 12 cents a pound. Class 3 , value of 12 cents a pound or less, $2 \frac{1}{2}$ cents a pound; value over 12 cents, 5 cents a pound. Washed, Class 1 , twice these rates; scoured, all classes, three times these rates. |
| October 1, 1890 (October 6,1890). | Class 1, 11 cents a pound. Class 2, 12 cents a pound. Class 3, value of 13 cents a pound or less, 32 per cent: value over 13 cents, 50 per cent. Washed, Class 1, twice this rate: scoured, Classes 1 and 2, three times these rates. |
| August 27, 1894 (August 1, 1894). | Free. |
| July 24, 1897 (July 24, 1897). | Class 1,11 cents a pound. Class 2, 12 cents a pound. Class 3, value of 12 cents a pound or less, 4 cents a pound; value over 12 cents, 7 cents a pounc. wasked, for carding or spinning, Class 3 , three times these rates. |
| August 5, <br> 6,1909 ). | Class 1, 11 cents a pound. Class 2, 12 cents a pound. Class 3, value of 12 cents a pound orless, 4 cents a pound; value over 12 cents, 7 cents a pound. Washed, Class 1, twice this rate; scoured, Classes 1 and 2, three times these rates: fit for carding or spinning, Class 3, three times these rates. Foregoing rates are in the minimum tariff; the maximum tariff is 25 per cent higher and is to be in force to March 31, 1910, and thereafter, unless the President by proclamation declares no discrimination by particular countries. |
| October 3, 1913 (December 1, 1913). | Free. |
| May 27, 1921 ). 2 | Clothing wool, unwashed, 15 cents a pound; washed, 30 cents a pound; scoured, 45 cents a pound. |
| September 21, 1922 (Sep- tember 22, 1922). tember 22, 1922) | Wool not improved by admixture with Merino or English blood, in the grease, 12 cents a pound; washed, 18 cents a pound; scoured, 24 cents a pound. If used for carpets, rugs, or other floor coverings, duty refunded. Other wool, in the grease or unwashed, 31 cents a pound of clean content; scoured, 31 cents a pound. (All rates subject to change by President after investigation of cost of production, domestic and foreign.) |

## Outlook for the Industry.

The history of the sheep industry is made up of periods of abounding prosperity followed by periods of extreme depression (figs. 55 and 61). War has always played a prominent part in creating instability. It develops an abnormal demand for wool to which the sheepman always responds to the limit of his resources. Just as
surely, however, as he has profited temporarily by war, he has suffered by its termination. No instance is recorded in recent centuries in which the signing of peace did not find the sheep industry vastly overexpanded. On such an occasion not only are the number of sheep invariably in excess of peace-time needs, but there is always an accumulation in the world of both raw and manufactured wools.

The majority of the world's sheep have in the past been kept on the outskirts of civilization, where they have met frequently with severe competition from cattle. The continuous occupation of the more arable grazing lands for the growing of farm products needed by an increasing population, as these areas have become available through improved transportation facilities, has resulted in large numbers of cattle and sheep being constantly shifted to areas hitherto unoccupied. In such movements the sheep were generally forced to the less accessible areas.

Until very recently new regions were being made available for livestock production at frequent intervals. As the sheep, which were kept almost wholly for wool, could be run very cheaply, and since during prosperous times money with which to finance the industry could easily be secured, there were periods of rapid expansion to the point of overproduction. Such periods of overproduction were almost invariably followed by corresponding periods of depression and liquidation. Again, as much of the business was of an exploitive character and as provision against adverse climatic conditions was seldom made, there were frequent and heavy losses.

The pioneer phase of the industry is rapidly passing and with it, it is believed, much of its consequent instability. There is relatively little unoccupied land in the world to which the industry can turn. In general any future world expansion will be largely at the expense of cattle or wheat production. As wool is necessary to the welfare of the race, and as the present production is hardly more than sufficient for present needs, there is bound to be a growth in the industry as population increases. It is somewhat problematical, however, whether the growth of the sheep industry will keep pace with that of population.

## World Trend.

Practically all of the large producing centers, unless it be parts of South Africa and Asia, seem to have reached their maximum number of sheep. In fact, in most of the leading countries, as in Australia, Argentina, and the United States, there has been a notable decline in the number of sheep in recent years. It would seem, considering the world-wide need of wool, that this decline would soon reach its limits, if it has not already done so.
While practically all the available land is now in use, it is probable that ultimately considerable areas of semidesert lands that are now inaccessible to livestock, because of an insufficient water supply, notably parts of South Africa, will be made available to sheep by the provision of wells and reservoirs.
In the past the sheepmen who produced only wool could not meet competition from other agricultural enterprises unless they were located on very cheap land. The sheepmen of to-day, except in the semiarid regions, are no longer solely dependent on wool. Consider-
ing the industry as a whole, lamb production is now a highly important and profitable feature, while there is usually a good market for mature mutton.

In the readjustments that are taking place, the sheep industry of the world seems to be settling down to three general types: (1) The production of fine wool with lambs as a secondary consideration in the arid regions; (2) the production of lambs and wool in the semiarid regions; and (3) the production of lambs, with the wool of secondary importance, in the humid and subhumid regions.

In the arid regions where stock water is scarce, where vegetative conditions are less favorable to other stock, especially cattle, and where transportation facilities are limited, sheep of the fine-wool type, which are kept primarily for the production of wool, will continue to be, for several years at least. the leading agricultural enterprise.

In the semiarid regions of the world where grazing meets with competition from the growing of small grains, but where intensive agriculture is not practicable, sheep will probably continue to be one of three, or possibly more, major enterprises. As most of the sheep will be kept on privately owned land, the operating expenses will be higher than in the arid regions. In order to meet these larger operating costs, most of the sheep will be of the crossbred type and will be kept for the production of both lambs and wool, the latter being less important. World-wide efforts are being made to establish breeds of the crossbred type that will have the necessary characteristics for the production of marketable lambs and uniform fleeces, suitable for the manufacture of worsteds.

In the humid regions where general farming prevails, the majority of the sheep will be kept primarily for the production of lambs. In such regions wool is usually secondary and seldom forms more than about one-third of the total receipts. In regions of intensive agriculture, sheep will occur generally in small flocks and as one of a number of farm enterprises. The dairy cow will continue to be their greatest competitor.

## Trend in the United States.

The pioneer phase of the sheep industry, in which sheep are extensively kept on new and comparatively cheap land, is passing. A large percentage of the sheep are now grazed either on owned or leased pastures and in national forests for at least a part of the year. The investment in stock and equipment is so great that wasteful methods will lead to failure. Sheep must now be handled with the ntmost care and along the lines of the most scientific thought if the venture is to prove profitable.

Although the future holds promise of a much greater stability for the industry than has been true in the past, the sheepman of the United States will always find competition. He must compete not only with woolgrowers in other parts of the world, but also with other meats for a place in the diet, and, finally, with producers of other livestock for land, labor, and all the intricate machinery of production.. He must expect also recurring cycles of prosperity and depression. When prices are low producers, particularly on farms, reduce the size of their flocks or go out of business. This temporarily

POPULATION OF THE UNITED STATES, P P $O O D U C T I O N$ AND NET IMPORTS OF WOOL, NUMBER OF SHEEP, 1850-1922; CONSUMPTION OF WOOL AND NUMBER OF SHEEP PER CAPITA, 1870-1920.


Fig. 61.-The number of sheep in the United States kept pace with the increase in number of people until 1884, which year marked the high point of the industry. The number per capita is now only two-fifths as great as in the early eighties. It is interesting to note the wavelike character of the curve of number of sheep since 1884 , the crests being 8 to 10 years apart. It is also noteworthy that despite the decrease in number of sheep the production of wool has remained more or less constant till recently, owing to increasing weight of fleece. The per capita consumption of wool has been maintained by a great increase in imports. The peaks of imports in 1897 and 1909 appear to have been occasioned by anticipation of tariff acts, while that of 1915 to 1919 was owing to war demands.
increases the number of sheep marketed, which further depresses the price. Later, the supply of wool is found to be approaching exhaustion and the supply of mutton is so low that prices rise. As this occurs producers, especially on farms, begin to increase their flocks, causing prices to continue to rise until a little later an increase in the supply of wool and mutton causes prices to fall and the same cycle is repeated.

It would seem that the industry reached a low point during the recent period of financial depression and that it is again building up. As during recent years more than half of the wool used in this country, including carpet wool, has been imported and as the demand for mutton is continuing strong, there is need for a considerable expansion of the industry. This expansion as already noted will probably be characterized by less violent fluctuations than in the past, because unused lands are no longer available. Considerable expansion can come with better utilization of western grazing areas and improved management of farm flocks.

NUMBER OF SHEEP TO EVERY EIGHT PEOPLE.


Fig. 62.-The ratio of number of sheep to human population in the United States has been declining since 1884 . In the 5 -year period, 1899-1903, there were approximately 5 sheep for every 8 people. Ten years later there were only 4 . For the period of 1919-1923 there were only 2.8 sheep for every 8 people, or about one-third of a sheep per person.

The Outlook for Sheep in the East.
The eastern and midwestern farmer, with good markets close at hand, can more easily meet the competition of the western range operator, as their costs are approximately equal. In fact, there are many farms where sheep, kept largely on farm by-products, can be more cheaply produced than under some of the western range conditions. The limiting factors in any rapid increase in the number of eastern farm flocks seems to be the general lack of knowledge concerning the care of sheep, especially the prevention of diseases, competition with established and successful farming systems, inadequate fencing, and the fear of dogs. The rapid growth of small farm flocks in the irrigated sections of the West shows that sheep can be advantageously fitted into general farming systems.

In those localities where the greater part of the land is kept in cultivation, the sheep will seldom occupy more than a secondary place. This is especially true in the corn-producing section, where
hog raising and the fattening of livestock will continue for some time as the main livestock enterprise. In localities near large centers of population dairying will predominate. In regions where, because of the broken character of the land, it is desirable to keep fully half or more of the farm in hay and pasture, sheep are finding an important place. This is especially true of those regions that are somewhat. remote from centers of dense population. Under such conditions sheep will generally be associated with either dairy or beef cattle and will probably be one of the major enterprises, not infrequently the leading one. While such sheep will generally be of the mutton type, there are regions, such as the upper Ohio Valley, where sheep for some time to come will be kept primarily for the production of wool.

There is room also for considerable expansion of the industry in the South. However, any growth will probably be slow, as this region is especially adapted to the growing of tilled crops. The lack of adequate pastures and the difficulty of handling parasitic diseases are also severe handicaps at the present time.

The Outlook for the Industry in the West.
In the West expansion will generally be on the basis of much higher operating expenses than formerly. The sheepmen, however, are already meeting these conditions. In the first place a large percentage of the operators are keeping flocks of the crossbred type. In such flocks the lambs furnish approximately 55 per cent of the revenue, as against 45 per cent for wool. They are also giving their sheep better care, and as a result are generally securing better lamb crops as well as heavier fleeces. Better management of the sheep and of the range is also making it possible to carry additional stock on the same extent of range.

One serious handicap in the expansion of the business is that of securing adequate range. Many operators are finding it difficult to secure sufficient range for their present needs. Others who are operating wholly on the public domain are faced with the uncertainty as to how much longer these lands, some of which are deteriorating, will be available to them.

The rapid deterioration of the remaining public domain, because of constant unrestricted grazing, is given much concern. Nearly all livestock producers recognize the need of some stabilized policy of protection, in order that further destruction of these areas may be prevented. Various plans for the better control and utilization of the remaining public domain, not suitable for farming purposes, have been suggested. While many prefer private ownership or long-term leasing, the plan that is being given most consideration is that of creating grazing districts and alloting stock among resident users under a permit system somewhat similar to that now in the national forests. Under proper systems of grazing the carrying capacity of these areas can be increased greatly. An adequate and settled land policy would make it possible to place the Western sheep business on a much more stable basis than has previously existed, and would probably result in a considerable increase in the number of sheep.


By C. V. Piper, H. n. Vinall, R. A. Oakley, and Lyman Carrier, Bureau of Plant Industry; O. E. Baker, J. S. Cotton, O. A. Juve, and N. P. Bradshaw, Bureau of Agricultural Economics; E. W. Sheets and C. D. Marsh, Bureau of Animal Industry; W. C. Barnes, Forest Service; and W. B. Bell, Bureau of Biological Survey. ${ }^{1}$

$\stackrel{1}{N}$EVEN-TENTHS of the $365,000,000$ acres of land in the United States occupied by crops harvested in the census year 1919, or approximately $257,000,000$ acres, were used to produce forage, that is, concentrates and roughage for livestock. ${ }^{2}$ About two-tenths, or $76,000,000$ acres, produced food for human consumption; and nearly one-tenth, or $32,000,000$ acres, was used for other purposes, principally to produce cotton fiber, tobacco, and flax. In addition, our livestock consumed the product of about $60,000,000$ acres of humid improved pasture, probably of $171,000,000$ acres of humid unimproved grassland pasture, over half of which was in farms, and of about $237,000,000$ acres of forest and cut-over pasture land in farms or under other private ownership and in our national forests, besides that of perhaps $587,000,000$ acres of arid or semiarid grazing land in the West. ${ }^{3}$

[^32]It seems safe to say that livestock ${ }^{4}$ consume about three-fourths of the product of the improved land and practically all the product of the unimproved pastures and grazing lands within and without farms (fig. 1).

In this connection it should be noted that the "hay and forage ${ }^{*}{ }_{5}$ crops of the census occupied in 1919 only 19 per cent of all improved


Fig. 1. -About 69 per cent of the total land area of the United States was used in 1919 for the production of forage. Some of this, for instance the forest land that was pastured, contributed other products than forage. The above statement merely indicates the immensity of the land area required for the support of the Nation's livestock. The $257.000,000$ acres producing crops for feed yielded slightly more sustenance than the $1.05 \overline{5}, 000,000$ acres used for pasture. More than half of this pasture is arid western range and nearly a fourth more is forest and cut-over land which, in general, has a low carrying capacity.

[^33]land and about 27 per cent of all cropped land. The census classification does not include many crops used mostly for forage. It excludes corn (except fodder), for instance, the most important of all crops used for forage, and thus presents a very incomplete picture of our forage resources, when the word "forage" is used in its broad significance.

## Proportions of the Total Crop Acreage Used to Produce Forage, Food, and Other Products.

The proportions of the total crop acreage used to produce the different classes of crop products, herein described, are based on the percentage of those products consumed as forage, as food, as fiber, and in other ways. These percentages as well as the actual acreage vary widely in different parts of the United States. (Compare figs. $2,3,4$, and 5.) In the Cotton Belt about 53 per cent of the crop land in 1919 was devoted to the production of feed for livestock, mostly corn, cowpeas, velvet beans, and peanuts, about 37 per cent to cotton, ${ }^{6}$ tobacco, and other crops not used as feed for livestock or food for man, except incidentally, and less than 10 per cent to produce food consumed directly by man. Corn is used for both forage and food in this region, the estimated consumption by livestock being 90 per cent of the crop, and by the human population 10 per cent.

In the corn and winter wheat region, which lies between the Cotton Belt on the south and the Corn Belt to the north, nearly three-fourths of the crop land in 1919 produced forage for livestock and the remaining fourth food, except for 2 per cent of the crop area that was devoted to tobacco. In the Corn Belt, where all the hay and nearly all the corn and oats are fed to livestock, about 84 per cent of the crop land produced forage for farm animals and 16 per cent food for man, wheat being the most important food crop. Only onefifth of 1 per cent of the crop acreage was used for other than feed or food crops.

In the hay and dairying regions to the north and east hay is the dominant crop, occupying about 33 per cent of the crop land, while corn for fodder and silage occupies nearly 6 per cent more. The acreage used for feed of oats, of corn (harvested for grain), of barley, and of other crops, including a pro rata acreage of the wheat based on the percentage of mill feed, totals over 30 per cent of the crop land. About 30 per cent more is devoted to crops used for human food, principally wheat (for flour), fruit, rye, potatoes, and vegetables. Only 1 per cent is used for other crops than those grown for feed or food. This is mostly flax, grown in the eastern Dakotas and in Minnesota and used to make linseed oil.

In the humid eastern half of the United States considered as a whole, one-fourth of the crop land is used to grow corn for grain, another fourth to produce hay, fodder, and silage, and a fifth is devoted to oats and other crops used as feed. The remaining 30 per cent produces most of the food used directly for human consumption in the United States, and over half of the cotton fiber of the world.

[^34]

Fig. 2.-A very large proportion of our harvested forage is produce in the eastern or humid part of the United States. In this eastern half crops are much more important than pasture, while in the western half the reverse is true. The Corn Belt and the Great Plains States, it will be noted, are the principal regions of feed production. Compare this map with Figure 3, also with Figure 10.

The western half of the United States is largely semiarid or arid, and is consequently mostly pasture or range land. Only about 6 per cent of the land is in crops, but over three-fifths of this is devoted to producing feed for livestock. It will be noted, however, that this is a smaller proportion of the crop land than in the East (fig. 3), owing largely to the fact that wheat is one of the best semiarid crops. Wheat occupied nearly a third of the harvested crop land in the western half of the United States in 1919. Fruit, also, is relatively more important in the West than in the East.

When the different States are considered individually, it is found that in all but one State 50 per cent or more of the crop acreage is


Fig. 3.-About seven-tenths of the land in harvested crops in 1919 was used to produce forage for livestock. "In only one State did the proportion fall below 50. per cent, and in six it was 85 per cent or more. The total quantity of forage thus produced was sufficient to feed all livestock only a little more than half the year. Pasture supplies the remainder of the forage needed by our farm animals.


Fig. 4.-Only a little over one-fifth of the land in harvested crops in 1919 was used to produce breadstufts, fruit, vegetables, and other human food. The percentage of crop land devoted to the production of foodstuffs was highest in the wheat and fruit-growing areas and lowest in Nevada and Vermont and in the Cotton Belt.
used to produce feed for farm animals (fig. 3). In six States 85 per cent or more of the harvested produce is used as forage. These percentages relate only to harvested crops and do not include pasturage.

## Relative Values of Forage, Food, and Other Crop Products.

Although it required about seven-tenths of the total crop acreage to produce our harvested forage, this forage constituted only a little over half of the farm value of all crops in 1919. (Fig. 6.) The average value of the crops used for forage in that year was $\$ 30.87$ per acre, as compared with $\$ 60.33$ for the crops used as food (wheat, fruits, vegetables, etc.), and $\$ 83.82$ for the fiber and other crops. Though in


Fig. 5.-The percentage of the crop land devoted to the production of plant products other than feed for livestock and human food is almost negligible in the States north of the Cotton Belt. In 1919 only 9 per cent of all the cropped land in the United States whe devoted to the production of such products.
all but one State more than half the crop land was used to produce forage for livestock, in only 24 States did the value of this forage equal half the farm value of all crop products.
In the Cotton Belt the value of the forage produced by crops constituted only about 25 per cent of the value of all crops, whereas it required 53 per cent of the acreage for its production. In the corn and winter-wheat region the forage produced by crops constituted about 40 per cent of the value of all crops, and in the Corn Belt about 80 per cent. In the hay and dairying region the value of the forage was nearly 60 per cent of the value of all crops; and in the western regions, where pasturage is more important than crops, the harvested forage constituted about 45 per cent of the value of all crops.

The farm value of the crops and crop products used for forage in the United States in 1919 was nearly $\$ 8,000,000,000$, whereas the value of the crops and crop products used for food was about $\$ 4,650,000,-$ 000 , and of the crops and crop products used for fiber and other

## FARM VALUE OF THE CROP PRODUCTS USED AS FEED FOR LIVESTOCK, HUMAN FOOD, FIBER, ETC., AND ACREAGE REQUIRED TO GROW THESE PRODUCTS, UNITED STATES, 1919.



Fig. 6.-The farm value of the crops and crop products used as feed for livestock is less than twice that of the crops and crop products used for human food, although the former requires over three times as much crop land for its production as the latter. To produce the fiber and other nonedible crop products required less than one-seventh as much land as that devoted to producing feed for livestock, but these fiber and other crop products had a farm value one-third that of the feed.
purposes about $\$ 2,620,000,000$ (fig. 6). The census statistics for 1909 indicated that the total value of forage was approximately the same as the farm value of all animals sold for slaughter or slaughtered on the farm and of all livestock products, notably milk, wool, and mohair, but excluding the value of horse and mule labor.

## The Development of Forage Production.

The importance of forage-producing crops in the agriculture of a nation depends not only upon climatic and soil conditions, but also upon the stage of agricultural development. As in the industrial evolution of other peoples the hunting stage has generally been followed by a pastoral husbandry, this in turn by grain growing, and only in a late stage of development by the cultivation of forageproducing crops; so in the history of American agriculture we find the pioneer depending in large measure on game for a livelihood supplemented by the products of a few cattle and sheep grazed in
the woods or on the prairies, then, with the coming of the canals and railroads, grain production became profitable, and, finally, grain farming was followed by systems of general farming in which crops that produced forage were dominant.

As people become more numerous and land becomes scarcer it must be made to produce more per acre. Because crop land usually produces more forage to the acre than does pasture land, the normal trend with the growth of population is to increase crop land at the expense of pasture. During the past 40 years pasture land in the United States has decreased about $3,000,000$ acres per year on the average, while crop land has increased about $4,500,000$ acres per year. In other words, two-thirds of this increase in crop land has come from pasture and one-third from forest. However, of the 46,000,000 acres increase of crop land between 1909 and 1919 apparently less than $5,000,000$ acres came from forest.

The greatest per capita acreage of pasture and range land in the United States (acres divided by total population) was reached before 1880, the greatest per capita number of livestock (animal units) about 1892, and the greatest per capita acreage of crops about 1900 (fig. 7). The human population has increased at the rate of 8,000 ,000 to $16,000,000$ people each decade since 1850 , whereas the animal population has increased but little since 1894 and there has been an actual decrease in the numbers of beef cattle and sheep. This divergence in the trends of human and animal population is shown in Figure 8.

The final stage of this agricultural evolution can be seen in Japan, China, and India, where there is almost no pasture, livestock occupy a very minor place in the systems of farming, and the forage consists largely of crop residues and wastes. However, in portions of Great Britain and Ireland, in northern France, and in much of Germany, where population is much denser than in the United States, forage crops are almost, if not fully, as important in relation to other crops as in the United States.

The superiority of a general system of farming based on forage crops and livestock over specialized systems, such as wheat farming, cotton farming, or fruit farming, is being increasingly recognized. No artificial fertilizer can fully replace animal manures in maintaining crop yields. Moreover, many of the forage crops are legumes which in decaying add nitrogen to the soil (fig. 9). The grasses, too, as their roots decay, supply nutriment for bacteria that gather nitrogen from the air and add it to the soil. Their extensive root systems, the fine threads of which ramify throughout the soil, leave humus upon their decay and tend to keep the soil in excellent tilth. In brief, forage crops and livestock, under present conditions, constitute the best basis of a permanent agriculture.

A general system of farming tends to maintain not only the productivity of the soil but also economic stability. This fact is well illustrated by the present situation in the wheat-producing areas of the Great Plains. This region was one of the last to be developed agriculturally in the United States, and the western portion particularly is only now passing from the pastoral into the wheat farming stage of development. Owing to low prices for both wheat and beef the present distress in this region is acute.


Fig. 7.-The per capita production of the nine principal crops (combined on the basis of the average price during the 34 years, 1889-1922) shows an upward trend from the Civil War years to about 1890 , then remained more or less constant till 1915 ; and has since declined slightly. In order to maintain this per capita production of the crops as population increased forests have been cleared and pasture land broken for crops. In recent years most of the increase of crop land has been at the expense of pasture (see article on Land Utilization). Owing to this decrease in actual area of pasture while population was increasing, the decline in per capita acreage of pasture has been very rapid. The number of animal units per person was almost as high in 1892 as in 1850 , but has since decreased rapidly, being affected, apparently, more by the decline in per capita pasture acreage than by the fairly well maintained per capita crop acreage.

TREND IN POPULATION COMPARED WITH TREND IN NUMBER OF CATTLE, SWINE, AND SHEEP, 1850-1922.


Fig. 8.-The marked divergence in the trends of human and animal population indicates a gradual change in our national diet. The numerical relation between people and livestock continued much the same from 1850 to the decade 1884-1893. The number of sheep show a downward trend since 1884. The number of swine have remained about stationary since the eighties. The number of beef cattle have decreased 22 per cent since 1894 , whereas the human population has increased 62 per cent. Dairy cattle are the only kind of livestock (other than poultry) to show a consistent increase in numbers throughout the entire period represented on the chart. From 1890 to 1920 the number of dairy cattle, however, increased only 27 per cent, as compared with 68 per cent increase in population.

The agricultural development of the northern Great Plains in particular is delayed in a measure by the lack of a forage crop adapted to the cool semiarid conditions. In the southern Great Plains the introduction of the sorghums has made possible the utilization of millions of acres of land for crops that would otherwise have remained in less productive pasture; but in much of the northern plains the growing season is too short for sorghum, and only dwarf early varieties of corn will mature. The lack of satisfactory forage crops is one of the reasons the present agricultural depression is more severe in the northern plains than elsewhere.

The trend in American agriculture during the past 30 years has been toward the increase of forage-producing crops principally at the expense of pasture, and this trend appears likely to continue. Land is becoming more expensive; and unless the pastures are im-


BEEF CATTLE ON CLOVER PASTURE.
Fig. 9.-Red clover is noted as a " soil builder." Plowing under the entire crop secures the greatest possible manurial value, but as a rule it is more economical to graze the clover and plow under the residue. Most of the clover is grown mixed with timothy.
proved and made to yield larger returns, they will slowly give place to crops. But after the production of forage crops has been developed to the utmost, there will remain vast areas of arid or rough land in the West suitable only for grazing, probably $600,000,000$ acres in all, or nearly one-third of the land area of the United States. These lands are dedicated by nature to the production of beef cattle and sheep. They provide cheap forage and give assurance that however great the population may become, the American people will never be wholly without meat. In the humid eastern portion of the United States also, there is much land better suited to pasture than to crops. Many of these pastures, however, being located in regions of denser population and more intensive agricultural production,


Fig. 10.-Nearly half the animal units in the United States are in the Corn Belt and Great Plains States. Yet even the castern Corn Belt does not produce enough livestock to supply its needs for meat and other animal products. (See fig. 11.) It will be noted that livestock are most abundant in the regions of heavy crop production (see fig. 2) rather than in the West, where arid grazing land predominates.
will be used mostly for dairy cattle and horses, and, to a lesser extent, for hogs and poultry.

## Relations between Livestock and Human Population.

The numerical relations between people and domestic animals are complex and the subject has been but little explored. ${ }^{7}$ The number


Fig. 11.-In the United States there was approximately one animal unit for each person in 1919. The above map shows for each State the number of animal units in excess or in deficiency of a number equal to the national proportion. Illinois had a deficiency because of the large industrial population of Chicago and vicinity, while Arkansas, Mississippi, and Vermont show a surplus chiefly because these States are without any large cities. The Great Plains and the western part of the Corn Belt produce most of the surplus meat which goes to support the manufacturing centers in the East (compare with fig. 10).

[^35]of animals in any country or in any State is the result of constant adjustment to economic conditions; some areas produce a surplus for export, others are dependent on imports.

If all the domestic animals in the United States are reduced to hypothetical "animal units " ${ }^{s}$ equal to adult cattle in feed requirements, there were in the United States January 1, 1920, nearly $106,000,000$ animal units, or almost exactly one such animal unit to each person. The average number of animals for 1919 was about 4 per cent greater than on the above date, or $110,000,000$ animal units. In the different States the proportions vary widely, some States having a surplus over the national average, others a deficiency. In States where there is a very large urban population in proportion to rural population, the number of animals per capita tends to be reduced correspondingly. These variations are shown in Table 1 and in Figures 10 and 11.

Table 1.-Human population and livestock (animal units), January 1, 1920.

| Division and State. | $\underset{\text { population. }}{\text { Human }}$ | Livestock (animal units). | $\begin{aligned} & \text { Ratio } \\ & \text { ito- } \end{aligned}$ | Surplus of animal units. | Deficiency of animal units. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| United State | Number. 105, 711, 000 | Number. $105,688,000$ | 1.0 | Number. | Number. |
| Geographic divisions: |  |  |  |  |  |
| New England. | 22, 261,000 | 1, ${ }^{1,8823,000}$ | . 27 |  | $5,519,000$ $16,325,000$ |
| East North Central | 21,476, 000 | 18, 390,000 | . 86 |  | 3, 086,000 |
| West North Central | 12,544, 000 | $31,128,000$ | 2.48 | 18, 584, 000 |  |
| South A tlantic... | $\begin{array}{r}13,990 \\ 8,893 \\ \hline 1000\end{array}$ | 8, 8192,000 | . 60 |  | 5, 568,000 |
| Weast South Central | $8,893,000$ $10,242,000$ | 15, ${ }^{8}, 197,000$ | $\begin{array}{r}.92 \\ 1.50 \\ \hline\end{array}$ | 5, 108, 000 | 696,000 |
| Mountain... | 3, 336,000 | 11, 032,000 | 3.31 | 7,696,000 |  |
| Pacific. | 5,567,000 | 5,352, 000 | . 96 |  | 215,000 |
| New England: Maine | 768,000 | 459,000 | . 60 |  | 309, 000 |
| New Hampshi | 443, 000 | 231, 000 | . 52 |  | 212,000 |
| Vermont... | 352, 000 | 526,000 | 1.49 | 174,000 |  |
| Massachusetts | 3,852,000 | 366, 000 | . 10 |  | 3,486, 000 |
| Rhode Island. | 604,000 | 51, 000 | . 08 |  | 5553,000 |
| Connecticut. | 1,381, 000 | 249, 000 | . 18 |  | 1,132,000 |
| New York. | 10,385, 000 | 2,986,000 | . 29 |  | 7,399,000 |
| New Jersey. | 3, 156, 000 | 353,000 | - 11 |  | 2, 803,000 |
| Pennsylvania | 8,720,000 | 2,597, 000 | . 30 |  | 6,123,000 |
| East North Central: Ohio. | 5,759,000 | 3,619,000 | . 63 |  | 2,140,000 |
| Indiana. | 2,930,000 | 3,073, 000 | 1.05 | 143,000 |  |
| Illinois. | 6, 485, 000 | $5,223,000$ | . 81 |  | 1,262,000 |
| Michigan. | 3,668,000 | 2,521,000 | . 69 |  | 1,147,000 |
| Wisconsin | 2,632,000 | 3, 954,000 | 1.50 | 1,322,000 |  |
| West North Central: Minnesota | 2,387,000 | 4,307,000 | 1.80 | 1,920,000 |  |
| Iowa. | 2, 404, 000 | 7, 251, 000 | 3.02 | 4, 847, 000 |  |
| Missouri. | 3,404,000 | 4, 893,000 | 1. 44 | 1,489, 000 |  |
| North Dako | 647,000 | 2, 163, 000 | 3.34 | 1, 516, 000 |  |
| South Dakot | 637,000 | 3,416,000 | 5. 36 | 2,779, 000 |  |
| Nebraska. | 1, 296,000 | 4,634, 000 | 3. 58 | 3,338, 000 |  |
| Kansas..... | 1,769,000 | 4, 464,000 | 2.52 | 2,695, 000 |  |
| South Atlantic: | 223,000 | 101, 000 | . 45 |  | 122,000 |
| Maryland. | 1,450,000 | 573, 000 | . 40 |  | 877,000 |
| District of Columbia | 1438,000 | 7,000 | . 02 |  | 431,000 |
| Virginia. | 2, 309,000 | 1,580, 000 | . 68 |  | 729,000 516,000 |
| West Virginia. <br> North Carolina | $1,464,000$ $2,599,000$ | 1948,000 $1,377,000$ | . 65 |  | 1,182,000 |

[^36]Table 1.-Human population and livestock (animal units), January 1, 19:20Continued.

| Division and State. | Human population. | Livestock (animal units). | Ratio <br> 1 to- | Surplus of animal units. | Deficiency of animal units |
| :---: | :---: | :---: | :---: | :---: | :---: |
| South Atlantic-Continued. | Number. | Numb |  | Number. | Vumber. |
| South Carolina | 1,684,000 | 920,000 | . 55 |  | 764,000 |
| Georgia. | 2,896,000 | 2, 059,000 | . 71 |  | 837,000 |
| Fast South Central: | 968,000 | 857,000 | . 88 |  | 111,000 |
| Kentucky... | 2, 417,000 | 2,159,000 | . 89 |  | 258,000 |
| Tennessee. | 2, 338, 000 | 2, 243, 000 | . 96 |  | 95,000 |
| Alabama. | 2, 348, 000 | 1, 784, 000 | . 76 |  | 564,000 |
| $\xrightarrow{\text { Mississippi....... }}$ | 1,791, 000 | 2,010,000 | 1.12 | 219, 000 |  |
| Arkansas.. | 1,752, 000 | 1,934,000 | 1.10 | 182,000 |  |
| Louisiana | 1,799, 000 | 1, 384,000 | . 77 |  | 415,000 |
| Oklahom | 2, 028, 000 | 3, 315, 000 | 1.63 | 1,287, 000 |  |
| Texas. | 4,663,000 | 8,716,000 | 1.87 | 4,053,000 |  |
| Montana. | 549, 000 | 2,085,000 | 3.80 | 1,536,000 |  |
| Idaho. | 432,000 | 1, 316,000 | 3. 05 | 1, 884,000 |  |
| W yoming | 194,000 | 1, 224,000 | 6. 31 | 1, 030,000 |  |
| Colorado. | 940,000 | 2,362,000 | 2.51 | 1,422,000 |  |
| New Mexic | 360,000 334,000 | 1,654,000 | 4.59 | 1, 294,000 |  |
| Arizona | 334,000 449 | 1,052,000 | 3.15 1189 | 718,000 |  |
| Nevada | 77,000 | 8490,000 | 1.89 6.36 | 413,000 |  |
| Pacific: |  | -0,00 |  | 413,000 |  |
| Washington | 1, 357,000 | 1, 0225,000 | .76 .78 |  | 332,000 |
| California | 3,427,000 | 1, $2,936,000$ | 1.78 .86 | 608,000 | 491,000 |

Note.-Due to rounding the figures the differentitems do not in every case add to the total, but the totals are correct.

In Canada the ratio of animal units to population is about 1.4 to 1. In Australia and New Zealand the ratios are 5.3 to 1 , and 5.2 to 1 , respectively. In these countries low death rates, absence of illiteracy, large per capita wealth and similar criteria indicate a high degree of widespread well-being, but the productive wealth is very largely agricultural, the percentage of income from manufacturing being much smaller than in the United States and Canada. Exports of agricultural products from Australia and New Zealand are relatively larger and manufactured products are received in exchange. Under these conditions of large pastoral area and small manufacturing development, it is to be expected that the number of animal units per capita of the population would be several times higher than in the United States and Canada. Canada, however, exports a much larger proportion of her agricultural products than the United States, roughly 30 per cent at present as compared with about 15 per cent for the United States.

In western European countries before the World War the number of farm animals per person was less than in the United States, except in Denmark where there were relatively more animals than in the United States (Table 2). In general, after allowing for imports of meat and dairy products, there seems to have been a consumption of animal products equivalent to about two-thirds of an animal unit for each person. In all of western Europe before the war, there were apparently only a slighly greater number of animal units than in the United States.

Table 2.-Ratios of human population to animal population in western Europe.

| Country. | Population, 1911. | ```Livestock (animal units) aver- age, 1911- 1913.``` | $\begin{gathered} \text { Ratio of } \\ \text { fersons } \\ \text { to animal } \\ \text { units, } 1 \\ \text { to- } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| Germany | Number. <br> 64, 925;000 | Number. <br> 31, 182, 000 | $0.48$ |
| Belgium. | 7, 424, 000 | 2,419,000 | . 33 |
| France. | 39, 602, 000 | 22,156,000 | . 56 |
| Great Britain and Ireland | 45, 221, 000 | 19,062,000 | . 42 |
| Spain.- | 19, 951, 000 | 7, 818, 000 | . 39 |
| Denmark. | 2,757, 000 | 3,295, 000 | 1. 20 |
| Netherlands | 5, 858, 000 | 2,811, 000 | . 48 |

Relation of Different Classes of Livestock to Human Population.
Ratio of dairy cattle to population.-Dairy cattle, from the standpoint of value, are now the most important class of livestock on American farms. If we consider gn average family to be five people, there is one milk cow to-day for each family in the United States. This ratio, however, varies considerably in different regions (fig. 12). In the Cotton Belt there is 1 dairy cow to 5.8 people, in the corn and winter wheat region 1 to 6.3 people, in the Corn Belt 1 to 3.4 people, and in the hay and dairying region 1 to 5.6 people. (See Table 3.) This last region, however, contains nearly two-fifths of the population and dairy cows of the nation. In the western half of the United States there is 1 dairy cow for every 5 people.

Table 3.-Ratios of dairy cattle to human population in the different agricultural regions of the United States, January 1, 1920.

| Region. | Population. | Dairy cattle (all ages). | Dairy cows 2 years old and over. | People per head |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Dairy cattle. | Dairy cowis. |
| United States. | Number. <br> 105, 710, 620 | Number. <br> 31,364, 459 | Number. <br> 19, 675, 297 | Number. 3.4 | Number. 5.4 |
| Subtropical coast. | 2, 682, 450 |  | 151, 914 | 10.8 | 17.7 |
| Cctton belt............ | 18, 179, 211 | 5, 536, 022 | 3,117, 859 | 3.3 | - 5.8 |
| Corn and winter wheat | 21, 097, 430 | 5,147, 168 | 3,347, 233 | 4.1 | - 6.3 |
| Corn Belt | 12, 263,229 | 5, 773, 957 | 3, 612, 164 | 2.1 | 3.4 |
| Hay and dairying belt | $41,032,968$ $2,662,822$ | 11, 2911,651 | 7, ${ }_{864,} \mathbf{8 1 3 5}$ | 3.6 | 5.6 |
| Rocky Mountain. | 1,313,228 | 1, 3378,513 | 809,494 299 | 2.0 3.5 | 3.3 5.7 |
| Arid interior plateaus | 1,556, 132 | 475, 279 | 272, 391 | 3.3 | 5.7 |
| South Pacific. | 2, 826,599 | 610, 465 | 395, 925 | 4.6 | 7.1 |
| North Pacific. . | 2,099, 551 | 567, 916 | 373, 883 | 3.7 | 5.6 |

In European countries the ratios of dairy cows ${ }^{9}$ to people is much the same as in the United States. Previous to the war this ratio in

[^37]

Fig. 12.-The principal regions of surplus livestock production are the Corn Belt and the Great Plains. These two regions produce a surplus of all classes of livestock. The area of gratest deficit is the Hay and Dairying region, where the large urban population region, depend in part upon other portions of the United States for its Animal Foodstufts, especially for its beef and pork. This region, depend on the Corn Belt and Great Plains for a large part of their beef.

France, Germany, and Austria was 1 cow to 5 or 6 people; in Ireland, and Sweden (also in Canada), 1 to 3 , and in Denmark 1 to 2 people. In Great Britain it was 1 cow to 15 people. England imports much of its dairy supplies from Ireland and the Scandinavian countries.

Ratio of beef cattle to population.-Beef cattle are slightly more numerous than dairy cattle in the United States, but their value is less. The number of people was almost exactly three times that of beef cattle on January 1, 1920. This ratio of beef cattle to human population is highest in the Great Plains region (over three head per person) and lowest in the hay and dairying region ( 15 persons per head). (See Table 4.) The Great Plains and the Corn Belt are the principal regions of surplus beef production (fig. 12).

Table 4.-Ratios of beef cattle to human population in the different agricultural regions of the United States, January 1; 1920.


Ratio of horses and mules to population.-Next to the dairy cow, the numerical relation of people to work animals (horses and mules) seems to be most constant. There are approximately 4 people in the United States to each horse or mule, including those in cities. In most European countries the ratio is much higher. In France, there are 12 people to 1 horse or mule, in Germany 15 to 1 , in Great Britain 20 to 1 . This relative scarcity of horses and mules in western Europe is due in part to the large industrial population and in part to the greater use of man labor on farms. In our hay and dairying region; which contains many large cities, the ratio is 10 to 1. In the Great Plains region, on the other hand, there are about as many horses and mules as there are people.

Of equal significance is the fact that there were 17 acres of harvested crops in the United States to each mature horse and mule on farms in 1919. As horses and mules constitute the principal source of power on farms, this ratio of acreage of crop land to number of horses and mules in the different regions of the United States is interesting. The number of acres in crops per work animal is remarkably uniform in the different agricultural regions. (See Table 5.)

Table 5.-Ratios of horses and mules on farms to human population in the different agricultural regions of the United States, January 1, 1920.

| Region. | Population. | Mature horses and mules (2 years old and over). | People per head of horses and mules. | Acres of crops per mature horse and mule on farms. |
| :---: | :---: | :---: | :---: | :---: |
| United States. | Number. $105,710,620$ | Number. $21,872,594$ | Number. $4.8$ | Number. 17.2 |
| Subtropical coast. | 2, 682, 450 | 248, 230 | 10.8 | 15.0 |
| Cotton Belt. | 18, 176, 211 | 4, 575, 392 | 4.0 | 16.8 |
| Corn and winter wheat belt | 21, 097, 430 | 4, 170, 818 | 5.1 | 16.6 |
| Corn Belt | 12, 263, 229 | 4, 809, 384 | 2.5 | 18.6 |
| Hay and dairying belt. | 41, $032, \mathrm{e68}$ | 4, 012, 762 | 10.2 | 19.3 |
| Great Plains. | 2,662, 822 | 2, 235, 677 | 1.2 | 16.1 |
| Rocky Mountain. | 1,313, 228 | 569, 143 | 2.3 | 13.8 |
| Arid interior plateaus | 1,556, 132 | 728, 105 | 2.1 | 8.8 |
| South Pacific. | 2, 826, 599 | 343, 035 | 8.2 | 17.3 |
| North Pacific. | 2,099, 551 | 180, 048 | 11.7 | 12.6 |

In the United States there are about 2 work animals (mature horses and mules) on farms per person engaged in agriculture, whereas in Great Britain the ratio is about 1 to 1, and in Germany there are 2 people engaged in agriculture to each work animal. In Italy there are over 4 persons engaged in agriculture to each work animal.

Ratios of hogs and sheep to population.-On January 1, 1920, there were about 2 persons in the United States to each head of swine, the largest ratio, 1 person to 2 hogs, being in the Corn Belt. In the Cotton Belt there were 3 persons to 2 head, and in the corn and winter wheat region there were 2 persons to 1 head. The Corn Belt usually supplies whatever deficiency in pork and lard may exist in other portions of the United States, and also contributes nearly all the exports.

Sheep and goats are found mostly on the arid and semiarid lands of the West, the highest ratio to human population ( 5 sheep per person) being in the arid interior plateaus region. The average for the United States is 1 sheep to 3 persons.

Poultry are found mostly in regions of abundant feed production, particularly in the Corn Belt and the corn and winter wheat region.

## Relations Between Livestock and Forage Production.

Although the function of livestock as consumers of waste on the farm and as a means of utilizing forage on extensive grass areas is apparent, this use of animals affords no adequate explanation of their numerical status in modern agriculture. Even if we add to this the fact that farm animals tend to keep up soil productivity, much yet remains to be said. The importance of the primary products of domestic animals, namely, meat, hides, milk, eggs, wool, and of the use of such animals as beasts of burden, is clearly evident, and it is for these that farm animals are mainly utilized and not for the incidental relations to productivity. On no other theory is the fact intelligible that the product of seven-tenths of our tilled land is fed to animals.

The distribution of livestock in the United States is determined primarily by the quantity and kind of forage available, and secondarily by location with reference to markets and suitability of the land for other agricultural purposes. The introduction of refrigerator cars and the development of large central packing plants have made location, with respect to the ultimate market, of less importance in the production of animal products than the forage supply. Most of the pork consumed in the Atlantic seaboard cities comes from the Corn Belt; most of the beef from the Corn Belt and Great Plains regions; and much of the mutton from the far western States, threefourths of the distance across the continent. Abundance of corn has made possible the vast development of pork production in the Corn Belt; the grass of the Great Plains, supplemented by the corn of the Corn Belt, has made these two regions the principal centers of beef


Fig. 13. - Corn is by far our most important forage crop. It supplies over half the harvested forage produced in the United States and is the real foundation of our vast meat-packing industry. More than half of the crop is produced in the Corn Belt (see fig. 12) ; but corn is the leading crop in value also in the corn and winter wheat region, and is the all-important cereal in the Cotton Belt.
production; and sheep are found on the arid grazing lands of the West, because they can best utilize the scanty forage. Dairying is about the only livestock industry that shows a tendency to develop near the centers of consumption, and the location of the intensive dairying districts mostly in the northeastern quarter of the United States is due as much to favorable conditions for the production of hay and silage as to the proximity of large markets. Intensive poultry production is, in part, located near large markets, but its distribution in the United States is correlated principally with grain production.

## Forage Production in the Different Agricultural Regions.

The quantity of forage produced in different sections of the United States varies widely, according to the suitability of the soil and climate to a general system of farming and the influence of cost of production and price upon the selection by the farmer of competing
crop and livestock enterprises. The principal agricultural regions are outlined in Figure 12.

The Corn Belt produces more forage, probably, than any other area of equal size in the world. It may not inappropriately be called the heart of American agriculture. Into it flow the stocker and feeder cattle from the West for fattening, to supplement its homegrown stock, and out of it flow more than two-thirds of the beef and pork consumed in the eastern, northern, and, to a lesser extent, in the southeastern sections of the country (fig. 12). It supplies, moreover, most of the large exports of pork and lard; and, in addition, ships corn and hay in vast quantities to the eastern and southern markets. Although the Corn Belt includes only 8 per cent of the land area of the United States, it produced over 50 per cent of the Nation's corn crop in 1919 (fig. 13), and possessed over 20 per cent of the cattle, 25 per cent of the horses, and 41 per cent of the hogs of the Nation. It contained, on January 1, 1920, about 21,500,000 animal units, or 94 animal units per square mile, which is equivalent to a horse or steer for every 6.8 acres.

The Corn Belt produces on the average 5,000 bushels of corn per square mile, and in addition about 2,500 bushels of oats (fig. 27), over 1,000 bushels of wheat (fig. 35), more than one-quarter of which becomes mill feed for stock, 150 tons of hay and fodder (fig. 14), and provides about 150 acres of pasture. Several counties in the Corn Belt produce annually over 10,000 bushels of corn per square mile in addition to other crops, or over 40 bushels per acre of land in corn.

The next most important forage-producing region is the hay and dairying region, which adjoins the Corn Belt on the north and east, and may now be made to include the former spring-wheat area of western Minnesota and the eastern Dakotas. This region includes about one-seventh of the land area of the United States, and possesses about one-third of the dairy cows and one-fifth of the horses and poultry, but less than one-eighth of the sheep, one-tenth of the hogs, and only one-twentieth of the beef cattle. The region contained over 18,000,000 animal units on January 1, 1920, an average of 45 animal units per square mile. In some of the richer counties, however, there are over 100 animal units per square mile. It produced in 1919 about 125 tons of hay and fodder per square mile (fig. 14), largely timothy and clover (figs. 31 and 33) ; and, in addition, about 600 bushels of corn, mostly grown along the southern margin, 670 bushels of oats, 400 bushels of wheat, 120 bushels of barley, and 400 bushels of potatoes, of which, however, probably less than 10 per cent is used for feeding stock. In addition to the corn grown for grain and for fodder (figs. 13 and 15), a large acreage is cut for silage (fig. 16). Only 29 per cent of the land area was in harvested crops in 1919.

Of almost equal importance in the production of feed is the corn and winter wheat region, which occupies the area between the Corn Belt and the Cotton Belt and extends up the Atlantic coast as far as New York City. In this region, agriculture is intermediate in character between the northern and southern systems. The average production of corn per square mile of land area is about 1,400 bushels, of wheat 900 bushels, of oats 300 bushels, and of hay and forage 80 tons. Only about one-third of the land is in crops, the remainder being used for pasture and forest. The region includes a little over 10 per cent of the land area of the United States, and contains about


Fig. 14.-" Hay and forage" crops in the census reports include only the crops that are used as roughage for livestock, principally hay, fodder, silage, and roots. The distribution of these crops is heaviest in the north-central and northeastern quarter of the United States, especially around the margin of the Corn Belt and in the hay and dairying region. These regions produce a large proportion of our meat and dairy products.

23 per cent of the horses and mules, 12 per cent of the cattle, 17 per cent of the hogs, 7 per cent of the sheep, and 25 per cent of the poultry. These livestock totaled $15,000,000$ animal units on January 1, 1920, an average of 48 per square mile.

The Cotton Belt contains almost as much livestock as the corn and winter wheat region-about $15,000,000$ animal units in all. The average number of animal units per square mile, however, is only 34, the Cotton Belt having a larger area. Horses and mules constitute a larger proportion of the livestock than in the other agricultural regions since cotton and corn, which require much more horse and mule labor than the other major crops, constitute nearly three-


Fig. 15.-The practice of harvesting corn as fodder is less common in the areas of intensive corn production than it is on the outskirts of the Corn Belt. This method of harvesting results in a higher feed value for the crop, but requires too much labor to become popular on farms with a large corn acreage. It is probable that the corn from two-thirds of the acreage shown on this map was husked ifrom the cured fodder and utilized separately as grain.
fourths of the crop land. Corn is the principal feed, the production averaging about 870 bushels per square mile in 1919. In addition, the region produced 200 bushels of oats per square mile, 115 bashels of wheat, mostly in the Texas and Oklahoma portion, 17 tons of hay and fodder, and 12 tons of cotton seed. Only 28 per cent of the land was in crops in 1919.
Extending along the Gulf and South Atlantic coast from Matagorda Bay, Tex., to Charleston, S. C., there is a coastal strip from 30 to 100 miles wide which has an agriculture distinct from that of the Cotton Belt. In much of this subtropical coast region forage crops have become very important, but as only 6 per cent of the land area is in crops, the production of forage per square mile is small. Corn is the principal forage crop, occupying 36 per cent of the crop land in 1919, and hay and roughage, mostly velvet beans, cowpeas, peanuts, and Bermuda grass, occupied nearly 20 per cent. Beef cattle constitute 55 per cent of the total animal units in this region, which is about the same proportion as in the Great Plains region and more


Fig. 16.-The distribution of silage production is correlated closely with the intensity of the dairy industry. The storing of corn and the sorghums in silos is also now becoming common in many of the dry-farming areas of the central and southern Great Plains region and in the irrigated districts of the West.
than double the proportion in any other eastern region. There are many large cattle ranches in southern Florida and along the Texas coast.

These five regions constitute the eastern or humid half of the United States. The rainfall is more or less evenly distributed throughout the year, except that in the western and southeastern sections a larger amount occurs during the summer than in other seasons. In these humid regions the harvested crops-the cereals, hay, fodder, straw, and silage-contribute much more to the sustenance of the livestock than do the pastures. In the western half of the United States, which is largerly semiarid or arid, the pastures provide the larger proportion of the forage. This western half of the nation, like the eastern, may be divided into five agricultural regions; however, moisture and altitude are here the principal factors in determining the use of the land and the systems of agriculture, hence the agricultural regions
in general extend north and south, following the mountain ranges, rather than east and west, as they do in the Eastern States where latitude and soil are the determining factors.
The Great Plains is a semiarid region with summer rainfall. It extends from the Rocky Mountains eastward to about the 100th meridian, or, to be more precise, to where humid systems of farming become dominant and the acreage of crop land exceeds the acreage of pasture. Wheat constituted 29 per cent of the crop acreage in 1919 (fig. 35), hay 25 per cent, corn for grain, fodder, and silage 12 per cent, sorghums 8 per cent (fig. 38), rye 5 per cent, oats 4 per cent, barley 3 per cent. All the feed crops (including 30 per cent of the wheat acreage) totaled about two-thirds of the crop land. However, only about 12 per cent of the land area was in crops, most of the land being used for pasture. The region contained on January 1, 1920 , over $11,000,000$ animal units, 55 per cent of which were beef cattle. This is an average of 24 animal units per square mile, or half the number in the eastern regions as a whole, and only about one-fourth the number per square mile in the Corn Belt.


Fig. 17.-"Hay and forage" crops as considered by the census include only those crops which are used as roughage. The percentage of cultivated land devoted to such crops is highest in New England, Wyoming, and Nevada, ranging from 66 per cent to 90 per cent in these States. In most of the States north of the Cotton Belt the proportion is between 20 and 40 per cent.

The Rocky Mountain, arid interior plateau, and south Pacific regions consist, in general, of partially forested mountains with subhumid to arid slopes, plateaus and valleys, many of which contain a considerable acreage of irrigated and dry-farmed land. The north Pacific region, however, possesses a humid climate, except during summer, and is largely in forest. From the crest of the Rocky Mountains westward, except in New Mexico and eastern Arizona, the rains come in the late fall, winter and spring, and the summers are practically rainless.

These four regions include over one-third of the land area of the United States. About 80 per cent of the land in these regions is pasture and range, very largely arid and of low carrying capacity, and only $3 \frac{1}{2}$ per cent is in crops. About 35 per cent of the crop land

[^38]was in "hay and forage" in 1919 (fig. 17), mostly alfalfa, wild hay, and grain hay (fig. 22), with a little timothy and clover in the moister valleys (figs. 31 and 33 ); 30 per cent was in wheat, 7 per cent was in fruit, $4 \frac{1}{2}$ per cent in oats, 6 per cent in barley, $2 \frac{1}{2}$ per cent in potatoes and vegetables, 2 per cent in corn, and 1 per cent in sugar beets. Nearly two-thirds of the crop land is used to produce forage. The four regions contained on January 1, 1920, about 12,000,000 animal units, 44 per cent of which were beef cattle and about 20 per cent sheep. The average number of animal units per square mile was less than 12, which is half of the density in the Great Plains region, one-fourth that in the humid eastern portion of the United States, and one-eighth that in the Corn Belt.

## Harvested Forage.

Forage is commonly divided into two broad groups-roughages and concentrates. The latter group includes all forage of high feeding value per unit of weight, such as grains, while roughage consists of feed materials of relatively low nutritive value. Six classes of roughage are commonly recognized; (1) Hays and fodders, (2) straws and stovers, (3) silage and roots, (4) green feed or soilage, (5) mature crops pastured off, and (6) pasturage.

Pasturage is so important and so different in character from the other classes of roughage that it is discussed separately in the latter part of this article. The practice of soiling or feeding crops cut green is not common in the United States, but is sometimes resorted to by dairymen for short periods of time when other roughage is scarce. However, there is no information on which to base even an approximate estimate of the quantity of feed utilized in this manner, and it is believed that much of the feed obtained in this way has been included under other items in the census classification. In this section, therefore, only the production and relative importance of the concentrates, of the three principal classes of harvested roughage, and of mature crops pastured off are considered.
Feed units.-In order to measure even roughly the relative importance of such diverse feeds, it is necessary to estimate the feeding value of each. The Danish or Scandinavian feed-unit system has been used, because it is simple and seems to be best adapted to the requirements of this article. ${ }^{10}$ It is realized that this system, like all

[^39]others, has its defects, but it is believed to be sufficiently accurate for the purpose in view.

It is, of course, not implied that an animal could thrive satisfactorily on any one feed alone, whether grain, hay, straw, or silage; but the number of animals that definite amounts of these four feeds will sustain is the same, whether calculated each by itself or combined into a balanced ration. In other words, the number of animal units that the whole forage supply will maintain, based on the yearly rations indicated, will not be changed by figuring on the basis of practicable rather than on theoretical rations, nor if 2 animals for 6 months each be assumed rather than 1 animal for 1 year.

To provide for satisfactory growth and fattening, these theoretical rations might need to be increased materially for some farm animals. The theoretical ration used is the closest estimate that could be made of the average plan of nutrition of all livestock in the United States. That these rations are approximately correct is indicated by comparing the results of the calculations of the feed value of the crops used for forage and of the grazing capacity of the pastures with the aggregate number of animal units in the United States, as shown by the census. These calculations were made entirely independently of each other and resulted in estimates that the crops fed to livestock in 1919 had a feed value sufficient to support about $55,000,000$ animal units and the pastures sufficient to support $52,000,000$ animal units, a total of $107,000,000$. The census enumeration indicates an aggregate of 106,000,000 animal units on farms and in cities on January 1, 1920, and after allowance is made for slaughter, deaths, and births by months during the year, it appears that the average number of animal units during the 12 months of 1919 was about $110,000,000$.

## Classes of Harvested Forage.

The concentrates supply more feed than all of the other classes of harvested forage combined, the hays and fodders furnish less than 30 per cent of the total harvested feed, and the aggregate feed value of the straws and stovers, silages and roots, and mature crops pastured off, is only about 13 per cent of the total. (See Table 6 and fig. 18.)
Table 6.-Classes of forage (excluding pasture): Production, estimated quantity fed, and aggregate feed value in 1919.

| Classes of forage. | Production. | Estimated quantity eaten by livestock. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: |
| Concentrates. | Tons. $122,433,000$ | Tons. | Number. $31,862,000$ |
| Hays and fodders.. | 106, 558,000 | 101, 918,000 | 15,761,000 |
| Straws and stovers. |  |  |  |
| Silage and roots......... | $44,147,000$ $6,035,000$ | $34,263,000$ $4,978,000$ | 2,034,000 |
| Mature crops pastured off | 6,035,000 | 4,978,000 | 855,000 |
| Total. |  |  | 54,813,000 |

Concentrates or Concentrated Feeds.
The concentrates include grains, seeds, and the by-products of grain mills, such as bran, rice polish, and oat feed; of breweries and distilleries, such as malt sprouts and brewer's grain; of oil mills,
such as the meal and cake from cottonseed, flaxseed, peanuts, and soybeans. The by-products of packing houses, such as blood meal, tankage, and fish meal, are also considered concentrates, but as these are animal products they are not included in this discussion of forage resources.

Estimates of the quantity of grain and other concentrated feeds produced in the United States and consumed by farm animals in 1919, and the approximate number of animal units each item would theoretically support for one year are shown in Table 7. Certain minor concentrates, including seed screenings, sunflower seed, and molasses are omitted.

Table 7.-Concentrated feeds: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919. ${ }^{1}$

| Concentrates. | Acreage. | Production. | Production, less seed and net exports. | $\begin{gathered} \text { Esti- } \\ \text { mated } \\ \text { quantity } \\ \text { eaten } \\ \text { by live- } \\ \text { stock. } \end{gathered}$ | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  | Thous- | ands of | ands of | ands of |  | Thous- |
|  | ands. |  | tons. | tons. | Tons. |  |
| Corn. | 87,772 | 65,683 | 65, 083 | ${ }^{6} 58,576$ | 2.65 | 22,109 |
| Oats | 37,991 73 | 16,883 28,362 | 14,743 19 19 | 14,256 76,555 | 2.85 2.75 2. | 5,002 2,38 |
| Sorghum (grain) | 3,619 | 2,018 | 1,997 | 1,997 | 2.85 | 701 |
| Barley...... | 6,473 | 2,929 | 1,932 | ${ }^{6} 1,519$ | 2.65 | 573 |
| Cottonseed (meal and cake). |  | ${ }^{2} 1,817$ | 1,592 | 986 | 2.10 | 470 |
| Rye.... | 7,679 | 2,128 | 711 | 510 | 2.65 | 19 |
| Flaxseed (meal and cake) |  | ${ }_{311}^{121}$ | ${ }^{1} 241$ | 241 280 | 2.10 2.75 | 110 |
| Mixed grains.. | 577 | 311 175 | 311 175 | 280 | 2.75 2.75 | 1 |
| Rice.......... | 911 | 725 | 308 | 890 | 2.85 | 32 |
| Peanuts: |  |  |  |  |  |  |
| Nuts.. | 1,125 | 302 | 367 | 18 | 2. 10 | 9 |
| Cake and meal |  | ${ }^{8} 82$ | 82 | 62 | 2.10 | 30 |
| Emmer and spelt. | 167 | 83 | ${ }_{65}^{67}$ | 67 <br> 52 | $\stackrel{2.65}{2.85}$ | 18 |
| Field peas.... | $\begin{array}{r}183 \\ 1,162 \\ \hline\end{array}$ | 81 | $\begin{array}{r}65 \\ 440 \\ \hline\end{array}$ | 52 <br> 44 | 2.85 2.65 | 18 |
| Sweet corn. | 272 | 91 | 90 | 30 | 2.65 | 11 |
| Soybeans: |  |  |  |  |  |  |
| Seed.. | 113 | 33 | 10 | 8 | 2.65 | 3 |
| Velvet beans...... |  |  | 58 | 8 | ${ }^{2.75}$ | 3 |
| Velvet beans. Cowpeas..... | ${ }_{633}$ | ${ }_{91}$ | 10 | 5 | 2.85 | 5 <br> 2 |
| Total. | 221,976 | 122, 433 | 107,982 | 85,494 |  | 31,862 |

${ }^{1}$ For methods employed in calculating the figures given see footnotes under Tables 13 to 20
${ }_{2}$ From report of the Federal Trade Commission on Commercial Feeds, March 29, 1921.
${ }^{3}$ Accurate data regarding the production of peanut cake and meal are not available. This estimate is based on the quantity of peanut oil produced by domestic mills in 1919.
4 Imports of flaxseed and products exceed exports.
${ }^{6}$ There were 8,000 tons of soybean cake imported in 1919, according to the reports of the Department of Commerce, Bureau of Foreign and Domestic Commerce, 1910-1920.
${ }^{6}$ Includes brewers' grains and malt sprouts.
7 Mill feed mostly.
${ }^{8}$ Bran and polish with the accompanying broken grains or "grits."
It appears that the concentrates alone would theoretically feed nearly $32,000,000$ adult cattle for one year, whereas all other harvested feed actually eaten would support about $23,000,000$. Among the concentrates corn is by far the most important, providing about

## RELATIVE IMPORTANCE IN LIVESTOCK PRODUCTION OF THE FIVE PRINCIPAL CLASSES OF HARVESTED FORAGE, UNITED STATES, 1919.



Fig. 18.-The concentrates alone provide sufficient feed to sustain over $32,000,000$ animal units for one year, which is almost exactly twice the number that could be maintained on the hays and fodders, and is greater than the total of all other harvested forage.

70 per cent of the total feed value of the concentrates; oats constitute about 16 per cent, and mill feeds from wheat over 7 per cent (fig. 19). On the basis of feed value nearly half of the concentrates are produced in the Corn Belt.

```
PRODUCTION OF IMPORTANT GRAINS AND THE PROPORTION FED TO FARM ANIMALS, UNITED STATES, 1919.
```



Fig. 19.-Corn is by far the most important grain feed of livestock in the United States. Oats rank second, although the total production is less than that of wheat. The wheat represented as fed to livestock consists of the bran, middlings, and other by-products of the flour mills, and an estimated 2 per cent of the grain fed to poultry and other farm animals.


Fig. 20.-The production of hay is greatest in the hay and dairying region, in the western Corn Belt, and in the irrigated valleys of the West. New York. leads all other States in production followed closely by Minnesota, Iowa, Nebraska, Wisconsin, and Kansas. These States produce one-third of the entire hay crop of the country.

## Hay and Fodder.

The total area devoted to hay and fodder crops in 1919 was a little over $82,000,000$ acres and the production about $107,000,000$ tons, according to the census ${ }^{11}$. The production of hay, it will be noted in

PRINCIPAL HAYS AND FODDERS: PRODUCTION AND AGGREGATE FEED VALUE, UNITED STATES, 1919.


Fig. 21.-Alfalfa hay, on account of its high feeding value per unit of weight, leads all the hays and fodders in the number of animal units it will theoretically support for one year. The production of timothy hay is considerably greater than that of clover hay, but the latter outranks it in aggregate feed value. The production of timothy and clover mixed, as reported by the census, is assigned half to timothy and half to clover.

[^40]Figure 20, is heaviest in the hay and dairying region, in the western part of the Corn Belt, and in the valleys of the West. The leading States in hay production in 1919 were New York, Minnesota, Iowa, Nebraska, Wisconsin, and Kansas in the order named. These States produced approximately one-third of the total hay crop of the United States. In Table 8 are given the acreage, production, estimated quantity eaten by livestock, and approximate feeding value of each of the hay and fodder crops. They are arranged in the order of the number of animal units each would support for a single year. In the feeding of hay the wastage is from 10 to 15 per cent, and this has been considered in determining the annual ration. Figure 21 shows the production and feeding value of the principal classes of hay and fodder in 1919.

Table 8.-Hays and fodders: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.

| Kind of hay or fodder. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoreti- cally sup- port for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Alfalfa. | Thousands. $8,625$ | Thousands of tons. 18,853 | Thousands of tons. 18, 853 | Tons. ${ }_{5}$ | Thousands. $3,771$ |
| Clover ${ }^{1}$. | 12,835 | 16, 818 | 16, 818 | 5 | 3,364 |
| Timothy ${ }^{1}$ | 20,616 | 25,470 | 25,470 | 8 | 3, 184 |
| Wild grass. | 17, 126 | 15, 631 | 15, 631 | 8 | 1,954 |
| Corn (fodder) ${ }^{2}$.. | 4,500 | 8,100 | 5,670 | 7 | 810 |
| Miscellaneous tame grass ${ }^{3}$ | 6,056 | 6,404 | 6,404 | 8 | 800 |
| Sorghum (fodder) ${ }^{4}$. | 4,747 | 7,913 | 5, 539 | 8 | 692 |
| Oat5.. | 2, 300 | 2, 300 | 2,300 | 7 | 329 |
| Wheat ${ }^{5}$. | 1,700 | 1,700 | 1,700 | 7 | 243 |
| Cowpea ${ }^{6}$ | 1,100 | 990 | -990 | 5 | 198 |
| Barley ${ }^{5}$. | 1,500 | 1,313 | 1,313 | 7 | 188 |
| Soybean ${ }^{6}$. | 287 | 287 | 287 | 5 | 57 |
| Peanut ${ }^{6}$.. | 307 | 230 | 230 | 5 | 46 |
| Velvet bean 7 | 193 | 193 | 193 | 5 | 39 |
| Rye ${ }^{5}$. | 175 | 150 | 150 | 7 | 21 |
| Field bean ${ }^{6}$ | 64 | 92 | 92 | 5 | 18 |
| Field pea ${ }^{6}$.. | 59 | 69 | 69 | 5 | 14 |
| Vetch ${ }^{6}$. | 30 | 45 | 44 | 5 | 9 |
| Hay, net imports ${ }^{8}$. |  |  | 165 | 7 | 24 |
| Total. | 82, 220 | 106, 558 | 101, 918 | ............ | 15,761 |

[^41]The relative importance of different kinds of hay in the Northeastern, Southeastern, and Western States is indicated in Figure 22. Timothy and clover mixed is the principal hay crop of the Northeastern States and timothy seeded alone stands second on the list. In the Southeastern States a large proportion of the total is con-
tributed by "other tame grasses" and by annual legumes. In the Western States alfalfa and the native grasses provide the larger part of the hay with the small grains ranking third.


FIG. 22.-In the northeastern humid region (the States north of the Cotton Belt and east of the Great Plains) timothy constitutes nearly half the acreage of hay, and mixed with clover nearly a quarter more. In the Southeastern, States the census group known as "other tame and cultivated grasses" (in this region largely Bermuda and Johnson grass) and the annual legumes are the most important hay crops, constituting each about one-quarter of the acreage. In the Western States alfalfa is the dominant hay crop, with wild hay second in importance.

## Straws and Stovers.

Straws and stovers ${ }^{12}$ are the least nutritious of all substances used as feed, if estimated on the basis of dry weight. The best of them


Frg. 23.-An estimate of the quantity of straw produced in each State has been made chiefly by calculating it from known ratios of straw to grain for the different cereals. Much of the straw is wasted or used for other purposes than for feeding livestock; yet on account of the immense quantity produced it forms no inconsiderable part of our forage resources. The centers of straw production are the Corn Belt and Great Plains States and the western portion of the hay and dairying region.

[^42]are scarcely good enough to keep an animal alive for any considerable period when they constitute the sole ration. Nevertheless, utilized in connection with other feeds they are far from valueless, and taken as a whole they have a feeding value over one-fourth that of the hays and fodders. In Table 9 is shown the estimated production of the principal straws and stovers, an estimate of the amount of each actually eaten, and the number of animal units that each would theoretically support for one year.

Table 9.-Straws and stovers: Acreage, production, quantity eaten by livestock, and agyregate feed value in 1919.

| Kind of straw or stover. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Corn (stover) ${ }^{1}$ | Thousands. 87, 772 | Thousands of tons. 75,000 | Thousands of tons. 25, 000 | Tons. ${ }_{10}$ | Thousands. $2,500$ |
| Oat..... | 37, 991 | 34, 000 | 10,000 | 11 | 909 |
| Wheat. | 73, 099 | 43, 000 | 4,300 | 15 | 287 |
| Sorghum (stover) ${ }^{1}$ | 3,957 | 4,946 | 2,473 | 10 | 247 |
| Cotton (seed hulls) ${ }^{2}$. |  | 1,143 | 1,029 | 12 | 86 |
| Field bean.. | 1,162 | 581 | 523 | 8 | 65 |
| Peanut. | 1,125 | 563 | 422 | 7 | 60 |
| Barley.. | 6,473 | 3, 000 | 750 | 13 | 58 |
| Cowpea. | 633 | 316 | 237 | 8 | 30 |
| Rye... | 7,679 | 5,000 | 250 | 15 | 17 |
| Mixed grains | 577 | 508 | 152 | 11 | 14 |
| Field pea... | 233 | 116 | 87 | 8 | 11 |
| Rice...... | 911 | 911 | 90 | 11 | 8 |
| Soybean. | 113 | 56 | 42 | 8 | 5 |
| Flax. | 1,261 | 315 | 65 | 15 | 4 |
| Total. | 222, 986 | 169,455 | 45, 420 |  | 4,301 |

[^43]The most important items, it will be noted, from the standpoint of feed utilized are corn stover and oat straw. The corn stover is necessarily most abundant in the Corn Belt, and the oat straw in a crescentshaped area bordering the Great Lakes (figs. 13 and 27). The relative importance of the States in the production of straw is shown in Figure 23.

## Silage and Root Crops.

These products differ from other harvested feeds in their high water content, and hence are called succulent feeds. Silage is particularly important in connection with dairying. Most of the silage is made from corn, but an important fraction from sorghum. The geographic distribution of crops cut for silage is shown in Figure 16.

Sugar beets, although grown principally as a source of sugar, furnish a by-product, beet-pulp, which is an important item of forage. Usually only cull potatoes are used for feed in the United States. These, together with potato peclings commonly fed to livestock or poultry on farms, are estimated at about 10 per cent of the crop available for consumption. It is similarly estimated that about 20 per cent of the sweet potatoes are used for feed. Root-crops are unimportant in the United States. They are grown mostly in regions.
of cool summer climate-New England, New York, the Lake States, and the North Pacific coast. The total production in 1919, of silage, wet beet-pulp, potatoes and sweet potatoes, and other root crops such as mangels, rutabagas, and turnips, the estimated amount consumed by livestock, and the number of animal units each item will support for one year are shown in Table 10.

Table 10.-Silage, noot-crops, and other succulent feeds: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.

| Kind of forage. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Corn silage. | Thousands. $\text { 3, } 924$ | Thousands <br> of tons. $29,284$ | Thousands of tons. 29, 284 | Tons. ${ }_{16}$ | Thousands. $1,830$ |
| Beet pulp (wet) |  | 2,550 | 2,550 | 32 | 80 |
| Potatoes... | 3,252 | 8,713 | 797 | 20 | 40 |
| Sweet potatoes. | 804 | 2,343 | 440 | 16 | 28 |
| Sorghum silage | 79 | 398 | 398 | 16 | 25 |
| Root crops.... | 88 | 599 | 599 | 32 | 19 |
| Canning pea silage ${ }^{1}$. | 104 | 260 | 195 | 16 | 12 |
| Total. | 8,251 | 44, 147 | 34, 263 |  | 2,034 |

${ }^{1}$ This consists of the refuse from pea canneries.
Unmarketable fruits and vegetables used for feed have been omitted. The quantity is not known, but the feeding value is undoubtedly small. It will be noted that silage is nearly tenfold as important as all the other succulent feeds.

## Mature Crops Pastured Off.

An increasing proportion of the corn and annual legume crops is being utilized by turning the livestock into the fields to pasture off


Fig. 24.-The acreage of mature crops pastured off is composed very largely of corn in the Northern States and of cowpeas, velvet beans, and peanuts in the Southern States. In many cases these legumes are interplanted with corn in the South, and in the Corn Belt, the practice of planting soybeans in the corn which is to be " hogged off" is becoming quite common. The acreage indicated in the San Luis valley of Colorado is very largely field peas or field peas and some small grain grown in mixture.
the crop. This saves labor, which is now so expensive, and results in the utilization of almost as large a proportion of the crop as though it were harvested by man.

The census reports 3,107,000 acres of " crops hogged off" in 1919 (fig. 24). In the North these crops were almost wholly corn and a small acreage of soybeans; but in the South much of the acreage consisted of peanuts, cowpeas, and velvet beans, grown alone or mixed with corn. In Table 11 the total acreage of the several crops is greater than the census total shown, owing to interplanting, but allowance has been made in the estimated production for the mixed crop acre yields. The proportioning among the different crops of the total acreage given by the census and the estimates of production are


Fig. 25.-Corn contributes as much feed for our livestock as all other crops taken together. Corn originated in the Western Hemisphere, and was the chief food grain of the American Indian when this country was discovered by the white man. While it has not retained its primitive importance among the food crops, it now occupies a dominant position among the feed crops and indirectly, in the form of pork, lard, beef, poultry, eggs, and milk, it provides a large proportion of the animal foods consumed by the American people.
based on returns from about 50,000 crop reporters of the Department of Agriculture.

TABLE 11.-Mature crops pastured off: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.

| Crop plant. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Corn. | Thousands. $2,350$ | Thousands of tons. 13,525 | Thousands of tons. 12, 468 | Tons. 7 | Thousands. 353 |
| Cowpeas | 1,000 | 800 | 800 | 5 | 160 |
| Velvet beans. | 800 | 800 | 800 | 5 | 160 |
| Peanuts. | 1,125 | 750 | 750 | 5 | 150 |
| Soybeans. | 174 | 160 | 160 | 5 | 32 |
| Total. | 3,107 | 6,035 | 4,978 | ............. | 855 |

${ }^{1}$ See notes 3 and 4 under Table 13.

## The Principal Forage-Producing Crops.

Nearly every crop grown in the United States is partly or wholly used to feed farm animals. Several crops are utilized partly in one way, partly in another, as corn for grain, fodder, stover, and silage. The total contribution of each important crop to the national supply of forage therefore seems worth noting. In Table 12 are shown the principal crops that produce forage in the order of number of animals each would support for one year. It will be noted that corn produces as much forage as all other plants combined, and that oats are nearly as important as timothy and the clovers combined (fig. 25 ). Some of these crops also supply pasturage during a portion of the year. An estimate of the value of this pasturage is given in Table 22.

Table 12.-Relative importance in livestock production of the principal cropplants producing harvested forage, 1919. ${ }^{1}$


[^44]
## Corn.

Nearly all our corn (maize) is produced in the eastern half of the United States where the nights are warm and the summers are moist (fig. 13). More than half of this crop is produced in the Corn Belt; but corn is the leading crop in value also in the corn and winter wheat region, and is the most important cereal in the Cotton Belt. Nearly 90 per cent of the nation's corn acreage is found in these three regions, where it constitutes over one-third the acreage of all crops. Corn is a very productive crop, yielding in general about twice as many pounds of grain per acre as wheat, oats, barley, or rye. An analysis of the corn crop from a forage standpoint is presented in Table 13.


FATTENING HOGS ON A CORN-BELT FARM.
Fig. 26.-The production of hogs in the United States goes hand in hand with corn production. No other crop product seems to be so well suited to the growth and fattening of this farm animal. Hogs are abundant in the States almost in direct proportion to the quantity of corn produced.

Corn is not only the most important of all the crops in the United States, but it is also the greatest producer of forage. About 90 per cent of the grain, possibly more, is consumed by animals. Over 87,000,000 acres were harvested as grain in 1919 and the resultant stover is an important forage. About $14,500,000$ acres were cut as fodder in 1919, some of it fed as such, but apparently about $10,000,000$ acres of this fodder were reported also in the grain acreage and in the computed yield of grain production. Nearly $4,000,000$ acras were utilized as silage, and over $2,000,000$ acres were pastured off. The various items of the corn crop fed to animals furnished sufficient feed to sustain for one year over $27,500,000$ animal units (table 13). In other words, approximately half of the harvested forage needed to support our livestock is supplied by corn (fig. 25).

Table 13.-Corn: Acreage, production, quantity eaten by livestock, and aggregaite feed value in 1919.

| Kind of forage. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one ycar. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands of tons. | Thousands of tons. | Tons. | Thousands. |
| Grain. | 87, 772 | 65, 683 | 58,576 | 2.65 | 22,104 |
| Fodder | 4,500 | 28,100 | 5,670 | 7.00 | 810 |
| Stover. | 87, 772 | 75, 000 | 25.000 | 10.00 | 2,500 |
| Silage.. | 3, 924 | 29, 284 | 29, 284 | 16.00 | 1,830 |
| Pastured off | 2,350 | ${ }^{3} 3,525$ | ${ }^{4} 2,468$ | 7.00 | 353 |
| Sweet corn | 272 | 91 | 30 | 2.65 | 11 |
| Total. | ${ }^{1} 98,818$ |  |  |  | 27,608 |

${ }^{1}$ The acreage of stover is included also in the grain acreage, hence it is omitted from the total.
${ }^{2}$ A verage yield of corn plus the average yield of stover.
${ }^{3}$ Average yield of corn plus the average yield of stover reduced by one-sixth forinterplanting of leguminous crops in the South.
${ }^{4}$ It is estimated that 70 per cent of the crop, the same as for fodder, is eaten by livestock.
Oats.
Oats are grown mostly in the moderately cool and humid northeastern quarter of the United States with a less dense acreage extending down the prairies to central Texas (fig. 27). Three-fourths


Fig. 27.-Oats rank second to corn among the crops producing harvested forage. The threshed grain is valued especially for feeding work animals. Production of oats is heaviest in the northern portion of the Corn Belt, but the crop is very important also in the hay and dairying region and in eastern Kansas, Oklahoma, and Texas.
of the oats are grown in the Corn Belt and the hay and dairying region (fig. 12). The oats in the Corn Belt are not grown because of peculiarly favorable climatic conditions, but rather because of the need of a grain to feed work animals and of a spring grain nursecrop for clover which will not require attention when labor is needed for the corn and hay crops. In parts of the Corn Belt soybeans are now rapidly replacing oats. An analysis of the oat crop from a forage standpoint is presented in Table 14.

Table 14.-Oats: A,creage, production, quantity eaten by livestock, and aggregate feed value in 1919.

| Kind of forage. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grain. <br> Hay... <br> Straw. | $\begin{array}{r} \text { Thousands. } \\ 37,991 \\ 2,300 \\ 37,991 \end{array}$ | Thousands of tons. $\begin{array}{r} 16,883 \\ 2,300 \\ 34,000 \end{array}$ | Thousands of tons. $\begin{array}{r} 214,256 \\ 2,300 \\ 10,000 \end{array}$ | Tons. $\begin{array}{r} 2.85 \\ 7.00 \\ 11.00 \end{array}$ | $\begin{array}{r} \text { Thousands. } \\ 5,002 \\ 329 \\ 909 \end{array}$ |
| Total. | 140, 291 |  |  |  | 6,240 |

${ }^{1}$ The acreage of straw is included also in the grain acreage, hence it is omitted from the total.
2 This quantity represents the production less that used for seed and food and the net exports.
Oats are second in importance to corn in the production of forage. Less than 5 per cent of the grain, according to the best interpretation of the Census of Manufacturers, is used for food. The grain is, therefore, nearly all fed to livestock and the $14,250,000$ tons are sufficient to support $5,000,000$ animal units one year. Probably more oats are cut green for hay than any other small grain. The amount is roughly estimated at $2,300,000$ tons for 1919. Oat straw is also much used as a feed, being considered superior to the straw of any other cereal. It is estimated that $10,000,000$ tons were eaten by livestock in 1919. Taken as a whole, the oat crop furnished the equivalent of a full year's ration in 1919 for about $6,240,000$ animal units.

## Alfalfa.

Alfalfa as a hay crop is exceeded in total tonnage produced only by timothy and clover mixed, but owing to its high feeding value, alfalfa leads the hays in number of animal units it will support. The


Fig. 28.-Kansas and Nebraska led in alfalfa acreage in 1919. The climate in these States is subhumid and the soil is fertile and well supplied with lime. Most of the alfalfa west of the one hundredth meridian is grown under irrigation. On the irrigated lands it is commonly the leading crop. Less than $\mathbf{9}$ per cent of the alfalfa acreage of the United States is east of the Mississippi River and only $13 \frac{1}{2}$ per cent cast of the ninety-fifth meridian, which is approximately the eastern boundary of Kansas.
crop of 1919 was sufficient to support (theoretically) 3,771,000 animal units for one year. At present alfalfa constitutes over 19 per cent of the total hay crop of the country and 45 per cent of the hay harvested west of the eastern line of the Dakotas, Nebraska, and Kansas. Since 1899 the acreage of alfalfa in the United States has practically doubled every 10 years; and while the acreage will continue to grow, it is not at all probable that the present rate of increase will be maintained. The increase of acreage in the past 20 years has been promoted by a very active and intensive propaganda favoring alfalfa. This propaganda is now much less widespread and in many sections practically discontinued; furthermore, in the future, new land suitable for the production of alfalfa is not likely to become available in sufficient quantity so that any large increase in alfalfa acreage may be expected from this source. Notwithstanding the extensive campaign conducted in behalf of alfalfa in the eastern part of the United


ALFALFA IN STACK ON IRRIGATED FARM.
Fig. 29.-Alfalfa is the premier hay crop on the irrigated lands of the Western States. It can be cut from two to six times during the year, $\dot{\text { aepending on }}$ the length of the growing season and the adequacy of the water supply. On account of its quick recovery after cutting the yield per acre is larger than that of any other hay plant and the feeding value of the hay is very high.
States there is now only $13 \frac{1}{2}$ per cent east of the 95 th meridian which approximates the eastern boundary of Kansas. The climatic and soil relations of alfalfa, particularly the former, are very largely responsible for the relatively small acreage in the East. The distribution of the alfalfa acreage in 1919 is shown in Figure 28 and its relative standing among the crops which produce harvested forage is shown in Tables 8 and 12.

The average yield of alfalfa hay in the entire United States is 2.2 tons per acre. Most of the hay produced is fed on the farms where it is grown or sold for local use, but it finds a ready sale in all parts of the country where it is known. It is quoted regularly on the markets of Kansas City, Omaha, Minneapolis, Chicago, San Francisco, and St. Louis. During 1920 and 1921 alfalfa hay sold at a higher price per ton than shelled corn on the


Fig. 30.-It is said that the best interests of a permanent agriculture require about 20 per cent of the cultivated acreage to be in clover or a similar crop every year. In 1919 only 2.7 per cent of the cultivated land on farms in the Corn Belt was devoted to clover. If half the acreage of timothy and clover cut for hay is considered as clover, the percentage is raised to 10 , or only half the desired acreage.
Kansas City market, and appreciably above the price commanded by timothy and other hays. In New York City, where alfalfa hay is less well known, it sells at a lower price than timothy. It is estimated that approximately 300,000 tons of alfalfa hay are ground into meal. This meal is sold as it comes from the mills or is used as an important constituent of mixed feeds.

## Clovers.

The clovers rank fourth among the forage-producing crops of the United States. They will (theoretically) support $3,364,000$ ani-


Fig. 31.-Timothy and clover, mixed, is the premier hay crop of the northeastern quarter of the United States. The total production of this mixed alone. Timothy and clover do not thrive in dry regions except when irrigated. The crop is well suited to the Puget Sound district, and is increasing in importance there. Compare with maps of alfalfa (fig. 28) and of wild hay (fig. 37 ).
mal units for one year. (See Tables 8 and 12.) In 1919 there were produced $4,147,050$ tons of clover hay (fig. 30) and $25,341,314$ tons of mixed clover and timothy hay (fig. 31) on a total of $22,509,820$ acres. Of this total 93 per cent was produced in the territory east of the Dakotas, Nebraska, and Kansas, and north of the southern boundary of Missouri, Tennessee, and North Carolina. This is the great clover region of the United States, though clovers are grown in other States; sometimes in small isolated sections, as in Louisiana and in the mountain valleys of the Rockies, and again over considerable areas, as in the Pacific Northwest and along the eastern fringe of the Great Plains States.

Clover hay, as reported by the census, includes that made from red, alsike, crimson, and sweet clover, and, in the Southern States, that made from lespedeza or Japan clover and bur clover. While no exact figures of the quantity of hay produced by each clover are available, it seems probable that in the main clover region about 65 per cent is red, 30 per cent alsike, and 5 per cent crimson and sweet clover. In the northeastern quarter of the United States the red and alsike clovers are by far the most important legumes (fig. 22) ; but in other sections they are of minor importance, except along the north Pacific coast.

Sweet clover is little used for hay, though the practice of cutting the first season's growth late in summer is increasing. Its chief use is as a rotation pasture crop. Sweet clover thrives and is used on a wide variety of soils. It has been found especially profitable on the two extremes of high-priced rich soil and low-priced poor soil; in the first because it carries more animals per acre than most other crops, and in the second because it is one of the few crops that can be profitably grown. It is eaten by all classes of livestock, but is especially valuable for beef and dairy cattle and horses.


HAYMAKING IN OHIO.
Fig. 32.-Haying machinery, such as the power stacker, the automatic loader, and the buck rake, are not used in the harvesting of timothy hay to the same extent that they are employed in stacking alfalfa hay. Much of the timothy crop is still harvested by the method shown here.

Timothy.
Timothy is by far the most important perennial hay grass in American agriculture, producing each year more than twice as much hay as all other tame grasses (not legumes), both annual and perennial, and including the small-grain hays. In estimating the total acreage and production of timothy, half of the census figures for "Timothy and clover" are credited to timothy (see Table 8). The


Fig. 33.-Timothy is practically confined to the northeastern quarter of the United States, except for a scattered acreage in the cool, moist valleys of the Rocky Mountain region. There were nearly $1,500,000$ acres devoted to timothy cut for hay in Ohio in 1919, and M1ssouri and Illinois each are credited with over $1,000,000$ acres. In general, timothy is grown on somewhat poorer or heavier soils than clover or timothy and clover mixed.
acreage and production of timothy show little change since 1909, the first year for which timothy figures are available. The average yield per acre, according to the census figures, is 1.24 tons. The timothy crop alone will theoretically support for one year $3,184,000$ animal units.

One of the most important factors in the widespread popularity of timothy is its excellence as a market hay. For many years it has been regarded as the standard for all grass hays in the markets of large cities, partly owing to its good shipping qualities and general uniformity but more perhaps to the fact that it is valued very highly as roughage for work animals, particularly for driving horses. The market demands of large cities as well as climate have had their influence on the distribution of the timothy acreage, which is shown in Figures 31 and 33.

## Wheat.

Wheat is the most important cereal used for human food, but furnishes in addition a great amount of feed for animals. According to the Census of Manufacturers, flour constituted only about 71 per cent of the wheat milled in 1919. The principal by-products are bran, shorts, middlings, and screenings. These mill feeds will theoretically support for one year $2,384,000$ animal units and cause wheat to rank third in importance among our crops as a producer of concentrates. Very little wheat is fed as grain to livestock, except that some lowgrade grain is fed to poultry, probably about 2 per cent of the crop. Wheat hay is an important forage, particularly in the Pacific Coast


Fig. 34.-In regions where other hays are scarce a considerable acreage of the small grains is cut for hay, usually to provide roughage for work stock on the farm. Some grain hay finds its way to the city markets, however, principally on the Pacific coast. Of the $5,462,853$ tons of grain hay produced in 1919 , it is estimated that about 42 per cent was oat, 31 per cent wheat, 24 per cent barley, and 3 per cent rye. There was an unusually large acreage of small grains cut for hay in the northern Great Plains in 1919 on account of the failure of these crops to produce a profitable grain yield.

States, and in the northern Great Plains region also in 1919, owing to the drought (fig. 34). Wheat straw has low feeding value, and probably not more than 10 per cent is eaten by animals. Much of the straw is destroyed by burning. In Kansas and adjacent States much of the young fall wheat is pastured lightly in the winter. The value of this forage is discussed under pastures. Measured by the animal units that the various wheat products used for feed will support (Table 15), this crop ranks sixth in importance among the crops producing forage.


Fig. 35.-Wheat is, of course, most important as human food. However, the bran, middlings, and other by-products of the flour mills, the low-grade grain, the straw, the wheat cut for hay, and the fall pasturage of wheat fields in the winter wheat areas, altogether provide a generous contribution to our forage supply.

Table 15.-Wheat: Acreage, production, quantity eaten by livestock, and aggre gate feed value in 1919.

| Kind of forage. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grain. <br> Hay.. <br> Straw | Thousands. 73,099 13,700 73,099 | $\begin{gathered} \text { Thousands } \\ \text { of tons. } \\ 28,362 \\ 1,700 \\ 43,000 \end{gathered}$ | Thousands of tons. $\begin{array}{r} 6,555 \\ 1,700 \\ 4,300 \end{array}$ | Tons. $\begin{array}{r} 2.75 \\ 7.00 \\ 1.00 \end{array}$ | $\begin{array}{r} \text { Thousands. } \\ 2,384 \\ 243 \\ 287 \end{array}$ |
| Total.. | ${ }^{2} 74,799$ |  |  |  | 2,914 |

1 This quantity was estimated as indicated in the preceding text discussion.
${ }^{2}$ The acreage of straw is included also in the grain acreage, hence it is omitted from the total.
There are four principal areas of wheat production in the United States: (1) The soft winter wheat area, extending from Maryland


Fig. 36.-The expenditure for feed, as reported by the census, includes mill feed, mostly wheat bran and middlings, grain, hay, and other feed not raised on the farm. The expenditure is greatest in the hay and dairying region, especially the eastern portion, where the production of grain is deficient, and in the Corn Belt, where large quantities of bran and middlings are used and where corn is freely bought and sold by the farmers. Although the figures include much more than mill feeds, the map indicates in a general way the regions where the by-products from the milling of wheat are used
and Pennsylvania to Missouri ; (2) the hard winter wheat area of Kansas and adjacent States; (3) the spring wheat area of the Dakotas, western Minnesota, and eastern Montana; and (4) the mixed winter and spring wheat area of Washington, Oregon, and California (fig. 35). Of the $612,000,000$ bushels of wheat milled in 1919 , over $450,000,000$ bushels, or about three-fourths, were made into flour and mill feed in the Mississippi Valley, mostly in the upper and central portion. Statistics for the consumption of this mill feed are not available by States; but Figure 36 shows that the regions of heaviest expenditure for feed in 1919 were in the North Atlantic States and the Corn Belt.

## Wild or Native Hay.

The wild hay crop is gradually becoming relatively less important, because the acreage has remained practically constant during the last decade while that of most other forage crops increased. The native grasses still contribute, however, an important part of our hay supply, ranking fourth among the hay crops and seventh in the list of all crops producing forage (Tables 8 and 12). From the days of the first settlements of America by the white man to the present time wild hay grasses have aided largely in the settlement of the country. They have made it possible for the pioneer to take his livestock with him as he has pushed the limits of settlement westward. The grasses and sedges of the tidal and other marshes of the Atlantic coast were of great value to the early colonists before


Fig. 37.-The importance of wild, salt, and prairie grasses for hay production will be appreciated when it is noted that they occupied in 1919 almost twice the acreage devoted to alfalfa and produced nearly as much hay. About three-fourths of the acreage of wild hay is found in the Dakotas, Nebraska, Minnesota, and Kansas. The value of these grasses as a forage resource of the northern Great Plains and spring wheat areas can scarcely be overestimated.
they could clear away the timber and grow tame forage. Now they are of relatively little importance from the forage standpoint, since more valuable hay can be produced from cultivated grasses.

At present the northern Great Plains region and contiguous portions of the spring wheat belt constitute the most important native hay area of the United States (fig. 37). South Dakota, Nebraska, North Dakota, Minnesota, Kansas, Oklahoma, and Iowa have more than three-fourths of the total acreage and produce more than twothirds of the tonnage of the entire country. In this group of States native hay constitutes approximately 35 per cent of the entire hay crop.

Native or prairie hay is sold regularly on the markets of Kansas City, Minneapolis, Chicago, and St. Louis, where it sells for more than 75 per cent as much as timothy hay of corresponding grades. While in the aggregate a large tonnage of native hay finds its way to the city markets, by far the larger part of it is consumed on the farm. If it were not for the native hay grasses in the drier parts
of the Great Plains region and westward the livestock industry would be greatly limited, because of the scarcity of cured forage with which to feed the stock during winter.
The quality of native hay varies greatly. That produced in the castern part of Oklahoma, Kansas, southern Nebraska, and in similar latitudes where the rainfall is relatively high, will scarcely more than maintain cattle and horses. Westward and northward the native hay is much more nutritious and valuable for feeding livestock through the long periods in the winter or other seasons when it is impossible for the animals to subsist by grazing. Practically all the native hay of the Great Plains and westward is regarded as very valuable horse hay. It can be fed in unlimited quantities without causing digestive disturbances and is an excellent roughage for horses at hard work or those kept for driving.
In the eastern part of the large native-hay area extending from northern Oklahoma to the Canadian border and eastward into Minnesota and Wisconsin, the most important species of grasses are Bluejoint (Calamagrostis canadensis), Big bluestem (Andropogon furcatus), Little bluestem (4. scoparius), Indian grass (Sorghastrum nutans), and Switch-grass (Panicum virgatum). These species, with the exception of the first mentioned, are important as far as the western edge of the prairies; but from the 100th Meridian westward, Western wheat grass (Agropyron occidentale or A. Smithii), Slender wheat grass (A. tenerum), Side-oats grama (Bouteloua curtipendula), and other species of Bouteloua become increasingly important. In Montana, especially in the Milk River Valley, Western wheat grass is the most important species. In the southwestern part of the State this species and Bluejoint are the most important wild hay species. In the high mountain parks of Colorado, Wire grass (Juncus baltious) is an important hay plant. In northern Nevada, California, and southeastern Oregon the valuable wild-hay grasses include Bunch wheat grass (Agropyron spicatum), Nevada bluegrass (Poa nevadensis), Short-ligule bluegrass (Poa brachyglossa), and Beardless rye grass (Elymus triticoides). Over much of California the introduced and wide-spread wild oats produces large crops of valuable hay.

## Sorghums.

The term sorghum, as here used, embraces the sorgos or sweet sorghums; the grain sorghums, such as kafir, milo, and feterita; and also broomcorn, which furnishes some forage after the brush has been harvested. A small acreage of sugar cane and Japanese cane is used as forage in the Gulf Coast States. Most of this is made into silage. In the census reports sugar cane was included with the sorghums harvested for forage, but the quantity thus used is relatively so small that it can be disregarded without serious error in the present broad consideration of forage production.

The sorghums, unlike corn, are not native on this continent. Most of the varieties now being grown in the United States originated in Africa. On account of their drought-resisting qualities they have become very important in the southern Great Plains-Kansas, Oklahoma, Texas, and the eastern portions of Colorado and New Mexico. The distribution of sorghum acreage in 1919, according to the census


Fig. 38.-This map shows the combined acreage of all sorghums, except those grown for sirup production and broomcorn. It will be noted that the sorghum crop is confined chiefly to the southern Great Plains and the irrigated valleys of Arizona and California. The sorghums are very drought resistant and can be depended upon in the southern Great Plains to supply both fodder and grain to support the livestock industry.
data, is shown in Figure 38. That year there were over $9,000,000$ acres devoted to sorghums, 482,043 acres of this being used for sirup and 337,806 acres broomcorn. This leaves a total of more than $8,000,-$ 000 acres devoted almost exclusively to the production of feed for livestock (fig. 38). The production in tons and the number of cattle which this acreage of sorghums would support for one year are shown in detail in Table 16.


HARVESTING SORGHUM FOR FODDER IN KANSAS.
Fig. 39.-In early days sorghum was harvested for fodder and silage almost wholly with a corn knife. Since the advent of the corn binder, sorghum can be quickly and economically tied in bundles, ready to shock or haul to the silo without hand labor. The acreage of the sorghums doubled from 1900 to 1910 and almost doubled again between 1910 and 1920.

The importance of this introduced crop is even greater than it appears, because of the fact that the sorghums thrive in a region of heavy livestock production where corn and other crops used as forage are uncertain, and thus provide an insurance against absolute failure of feed in years of extreme drought. About 90 per cent of the coarse forage in the southern Great Plains is derived from the sorghums, and they rank eighth in the list of forage-producing crops for the entire United States.

Table 16.-Sorghums: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.

| Kind of forage. | Acreage. ${ }^{1}$ | Production. ${ }^{2}$ | Estimated quantity eaten by livestock. ${ }^{3}$ | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Thousands | Thousands |  |  |
| Grain. | $\begin{array}{r} \text { Thousands. } \\ 3,619 \end{array}$ | of tons. <br> 2,018 | of tons. <br> 1,997 | Tons. ${ }_{2}$ | Thousands. |
| Fodder. | 4, 747 | 7,913 | 5,539 | 8.00 | 692 |
| Stover. | 3,957 | 4,946 | 2,473 | 10.00 | 247 |
| Silage. | 79 | 398 | 398 | 16.00 | 25 |
| For sirup | 482 | 1,644 |  |  |  |
| Total. | 9,265 |  |  |  | 1,665 |

[^45]
## Barley.

Most of the barley in the United States is grown in the hay and dairying region, notably in the spring wheat section, and in the South


Fig. 40.-Barley ranks ninth among the forage-producing crops. Its value as a substitute for corn in the feeding of farm animals is becoming more generally recognized, especially in sections where corn is not well adapted to climatic conditions. The principal centers of production are the western portion of the hay and dairying region and the South Pacific region. It should be noted that a dot on this map represents only half as many bushels as on the maps of oat and wheat production (figs. 27 and 35) and one-third as much as on the map of corn production (fig. 13).

Pacific region, where the climate is also cool during the winter season when the barley is growing (fig. 40). In California and in North Dakota and northwestern Minnesota barley is in large part a substitute for corn as a concentrated feed.

Of the grain produced by barley it is estimated that approximately 52 per cent is fed as grain to livestock. The report of the Commissioner of Internal Revenue shows that in 1919 about $23,375,000$ bushels of barley, or 19 per cent of the crop was used in brewing and distilling. There remained as a by-product about 208,000 tons of dry brewers' grains, and 23,000 tons of malt sprouts, which jointly have a feeding value equal to about $7,700,000$ bushels of grain. Barley straw is more nutritious than that of any other small grain except oats and rice, and about one-fourth of it, probably, is consumed by livestock. In the West, particularly in California, much barley is cut green for hay. In all it is estimated that the barley crop of 1919 supported the equivalent of 819,000 animal units (Table 17). This places it ninth in rank among the forage-producing crops.

Table 17.-Barley: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.

| Kind of forage. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grain. Hay. Straw. | Thousands. $\begin{aligned} & 6,473 \\ & 1,500 \\ & 6,473 \end{aligned}$ | Thousands of tons. $\begin{aligned} & 2,929 \\ & 1,313 \\ & 3,000 \end{aligned}$ | Thousands of tons. $\begin{aligned} & 1,519 \\ & 1,313 \\ & 750 \end{aligned}$ | Tons. $\begin{array}{r} 2.65 \\ 7.00 \\ 13.00 \end{array}$ | Thousands. 573 188 |
| Total. | ${ }^{1} 7,973$ | ......... |  | ------..... | 819 |

${ }^{1}$ The acreage of straw is included also in the grain acreage, hence it is omitted from the total.

## Miscellaneous Tame Hays.

The census item, "Other tame or cultivated grasses cut for hay," includes a number of different grasses. In Table 18 an effort has been made, on the basis of field knowledge, to estimate the acreage and yield of the principal grasses included. Both acreage and production of these miscellaneous tame grasses in the United States have increased about 50 per cent, since 1909. The geographic distribution of this acreage in the census year, 1919, is shown in Figure 41. The combined production of this group of grasses was sufficient to support 800,000 animal units for one year.

Table 18.-Miscellaneous tame grasses cut for hay: Estimated acreage, production, and aggregate feed value in 1919. ${ }^{1}$

| Kind of grass. | Estimated acreage. | Estimated production. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: |
| Redtop <br> Orchard grass <br> Millets. <br> Kentucky bluegrass <br> Sudan grass. <br> Crab grass. <br> Bermuda grass. <br> Johnson grass. <br> Miscellancous......... | Thousands 1,000 800 750 650 600 600 400 400 853 | Thousands oftons. $\begin{array}{r} 800 \\ 800 \\ 1,000 \\ 400 \\ 1,050 \\ 500 \\ 400 \\ 500 \\ 954 \end{array}$ | Tons. <br> 8 8 8 8 8 8 8 8 8 | Thousands. 100 100 125 50 131 63 50 62 119 |
| Total. | 6,056 | 6,404 | .-... | 800 |

1 These estimates of the acreage and production of the different tame grasses, which were included by the census under the one item, "Other tame or cultivated grasses cut for hay," were made by C. V. Piper and others in the Office of Forage Crop Investigations. They are proposed only as tentative estimates to indicate the probable importance, as hay plants, of these miscellaneous grasses.


Fig. 41.-The miscellaneous tame grasses cut for hay, which include orchard grass, redtop, Kentucky blue grass, Bermuda grass, Johnson grass, Sudan grass, millet, brome grass, and others, cover an acreage only a little more than half as large as the acreage devoted to timothy alone. Nevertheless, these grasses are important because they provide hay in localities where other hay crops, such as timothy, clover, and alfalfa, do not thrive.

## Cotton.

Cotton is primarily a fiber crop; but the seed, a by-product, is an important source of oil, cake, and meal. The cake and meal are valued highly as concentrates in feeding livestock. The production of cottonseed in 1919, according to the Bureau of Census, was $5,074,000$ tons, of which $4,013,000$ tons were crushed during the year ended July 31, 1920. This operation resulted in the production of $161,529,000$ gallons of oil, used mostly for human food, of $1,817,000$ tons of cake and meal, and of $1,143,000$ tons of hulls. About 90 per cent of the hulls, it is estimated, was fed to livestock. There were
exported 225,000 tons of cake and meal, leaving a balance of $1,592,000$ tons in this country. It is estimated that 986,000 tons of the cake and meal which remained in the United States were used as feed and 606,000 tons as fertilizer. The amount fed, supplemented by the hulls, would theoretically support about 556,000 animal units for one year, placing cotton eleventh among the crops producing feed for livestock.

Although there has been ample justification heretofore to use cottonseed meal as fertilizer, as it gave different results from chemicals carrying nitrogen, it seems in the light of recent investigations that fertilizers containing magnesium will at least in certain cases give the same results as cottonseed meal. If this proves true, it is better economy to use the cottonseed meal as feed.

Rye.
About $41,530,961$ bushels of rye, or 54.7 per cent of the 1919 crop, were exported and $5,458,245$ bushels were fed as grain to livestock. According to the Census of Manufacturers, $17,693,250$ bushels were milled in the United States. Of the rye milled 51 per cent became flour and 49 per cent mill feeds and screenings, both of which are used mostly as feed for animals. Rye straw is very poor forage and it is roughly estimated that only 5 per cent was used for feed. It is estimated that in 1919 about 175,000 acres of rye were cut green for hay. The pasturage afforded by fields of young rye is an important item not considered in this place. Altogether the harvested forage obtained from rye in 1919 was capable, theoretically, of supporting 230,000 animal units for a year, as shown in Table 19.

Table 19.-Rye: Acreage, production, quantity eaten by livestock, and aggregate feed value in 1919.

| Kind of forage. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grain. <br> Mray... <br> Straw. | Thousands. $\begin{array}{r} 7,679 \\ 175 \\ 7,679 \end{array}$ | Thousands of tons. $\begin{array}{r} 2,128 \\ 150 \\ 5,000 \end{array}$ | Thousands of tons. 510 150 250 | Tons. $\begin{array}{r} 2.65 \\ 7.00 \\ 15.00 \end{array}$ | Thousands. $192$ $21$ $17$ |
| Total. | ${ }^{1} 7,854$ |  |  |  | 230 |

${ }^{1}$ The acreage of straw is included also in the grain acreage, hence it is omitted from the total.
Sugar Beets.
In localities where the sugar beet is grown, the pulp from sugar factories forms an important part of the feed for livestock. There were 175,000 tons of dried pulp and $2,550,000$ tons of the wet pulp available for feeding animals in 1919. Experience has shown the dry pulp to be about equal to corn, oats, or the other cereal grains in feeding value. The wet pulp is similar in feeding value to other root crops and less valuable than silage. The sugar-beet crop
as a whole supplied sufficient feed in 1919 to support about 144,000 units for one year, ranking sixteenth among the crops which produce forage.

## Flax.

Flax is important chiefly as a source of oil and fiber, but the meal obtained as a by-product of the oil mills is a highly prized concentrate or stock feed. The production of flaxseed in 1919 was $6,653,200$ bushels, and in addition there were imported $14,019,000$ bushels more than were exported. There were milled in the United States 631,458 tons, resulting in the production of 409,141 tons of cake and meal. Of this last item 168,168 tons were exported during the fiscal year ended June 30, 1920, and approximately 241,000 tons fed in the United States. It is apparent that about three-fifths of the total linseed meal or cake manufactured in the United States is fed here. The general situation is therefore very similar to that of cottonseed meal and cake, so far as feed is concerned, but no linseed meal is used as fertilizer. Apparently the large exports of these two oil meals are due to the relatively low expense of their transportation and handling.
The 241,000 tons of linseed meal, on account of its high feeding value, is sufficient to support approximately 115,000 animal units for one year. Only a small part of the flax straw is fed to animals, so that the crop as a whole is capable of supporting only about 119,000 animal units.

## Mixed Grain.

" Mixed crops," according to the census, were produced in 1919 on 577,078 acres. The principal acreages were in Minnesota, 193,864; New York, 128,477; Wisconsin, 95,302; Iowa, 45,573; Michigan, 19,879; Nebraska, 16,230; and Oregon 15,591. In Minnesota and Wisconsin the mixtures were largely wheat and oats and a little oats and peas, also wheat and flax. About 16 per cent of these mixed grains was separated after harvest and sold. In New York, Michigan, Nebraska, and Iowa the mixture was mainly oats and barley, and the mixed grain was used almost wholly as feed. In Oregon the mixtures were oats and vetch and wheat and vetch. The vetch seed is either separated or the mixture used for new seedings. It is estimated that about 90 per cent of the total of mixed grains is used as feed and that this is sufficient to support about 102,000 animal units for one year.
The straw from these mixed crops is roughly estimated at 508,000 tons and the quantity eaten at 30 per cent, or 152,000 tons. This straw would support an additional 14,000 animal units, making a total feed value of 116,000 animal units for one year.

## Annual Legumes.

The annual legumes used in part for feed include cowpeas, field or Canada peas, soybeans, field beans, peanuts, vetch, and velvet beans. The refuse of pea canneries is also used for feed. Most of these crops are grown both for hay and for grain and large quan-
tities are pastured off.` The straw remaining after threshing the grain is also a valuable forage. The census reports contain statistics of soybeans, other beans, Canada peas, cowpeas, and peanuts, harvested for seed, but furnish statistics only of the total acreage of animal legumes cut for hay (fig. 42). This total acreage cut for hay, as reported by the census, ${ }^{13}$ has been proportioned among the


FIg. 42.-The annual legumes included in the acreage shown on the above map are cowpeas, soybeans, field peas, peanuts, and vetches. These crops are most important in the Southeastern States. That portion of the crop cut for hay represents only a small part of the total acreage of these legumes. Large acreages of cowpeas, soybeans, and vetches are plowed under as green manure or harvested for seed, while the greater part of the peanut crop is either " hogged off" or the nuts gathered for use as human food.
different kinds, according to the best information available. Similarly estimates have been made of the acreage of the different annual legumes " hogged off." These estimates are given in Table 20. The acreage of soybeans has increased greatly since 1919, particularly in the Corn Belt. Estimates of the acreage and production of certain annual legumes in 1922 and 1923 are given in the statistical appendix of this volume.

## Cowpeas.

The cowpea is the best known and most extensively grown leguminous plant in the Southern States, but during the past few years the acreage has decreased to some extent. In many parts of the Corn Belt and Southern States soybeans have almost entirely replaced the cowpea, and the introduction of velvet beans has also tended to reduce the acreage of cowpeas in the Gulf States. The cowpea is grown principally for soil improvement, hay, and pasturage, necessitating the use of a large part of the seed for planting purposes. The seed, other than that required for the next year's

[^46]Table 20.-Annual legumes: Acreage, production, estimated quantity eaten by livestock, and aggregate feed value in 1919.

| Crop and kind of forage. | Acreage (partly estimated). | Production (partly estimated). | Production less seed and net exports (partly estimated). | Estimated quantity eaten by livestock. | Theoretical annual ration. | $\Lambda$ nimal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cowneas: | Thousands. | Thousands | Thousands | Thousarids |  |  |
| Grain. | Thousands. | of tons. 91 | oflons. 10 | oftons. 5 | Tons. 2.85 | Thoustnds. |
| Straw | 633 | 316 | 316 | 237 | 8.00 | 30 |
| Hay. | 1,100 | 990 | 990 | 990 | 5.00 | 18 |
| Pastured off | 1,000 | 800 | 800 | 800 | 5.00 | 100 |
| Total. | ${ }^{1} 2,733$ | ............ |  |  |  | 390 |
| Peanuts: |  |  |  |  |  |  |
| Grain. ......... | 1,125 | 302 | 367 | 18 | 2.10 | 3 |
| Mealand cake. |  | 82 | 82 | 62 | 2.10 | 30 |
| Straw. | 1, 125 | 563 | 563 | 422 | 7.00 | 60 |
| Hay.. | +307 | 230 | 230 | 230 | 5.00 | 46 |
| P'astured off | 1,125 | 750 | 750 | 750 | 5.00 | 150 |
| Total. | 12,557 |  |  |  |  | 295 |
| Velvet beans: |  |  |  |  |  |  |
| Grain........ | 150 800 | 36 800 | 15 800 | 15 800 | 2.75 5.00 | 5 160 |
| Hay... | 193 | 193 | 193 | 193 | 5.00 | 39 |
| Total | 1, 143 |  |  | --------.- |  | 24 |
| Soybeans: |  |  |  |  |  |  |
| Grain .......... | 113 | 33 | 10 | 8 | 2.65 | 3 3 |
| Cake (import) | 113 | 56 | 56 | +88 | 2.75 8.00 | 5 |
| Hay. | 287 | 287 | 287 | 287 | 5.00 | 57 |
| Pastured off | 174 | 160 | 160 | 160 | 5.00 | 32 |
| Total | 1574 | -............ | .-.. | -........... | --........... | 100 |
| Field beans: |  |  |  |  |  |  |
|  | 1,162 | 581 | 581 | 523 | 2.00 | 65 |
| Hay | 64 | 92 | 92 | 92 | 5.07 | 18 |
| Total. | ${ }^{1} 1,226$ |  | .... |  |  | 103 |
| Field peas: |  |  |  |  |  |  |
|  | 233 | 116 | 116 | 87 | 8.00 | 11 |
| Hay. | 59 | 69 | 69 | 69 | 5.00 | 14 |
| Total | ${ }^{1} 292$ | . | .... | -.......... | .... | 43 |
| Canning peas: |  |  |  |  |  |  |
| Vetch: Hay | 30 | 45 | 45 | 44 | 5.00 | 9 |
| Total (all above legumes). | 8,659 |  |  |  |  | 1.153 |

1 The acreage of straw is included also in the grain acreage, hence it is omitted from the total.
seeding, is used extensively as human food in the Southern States. In 1919 the various products of the cowpea crop used to feed livestock it is estimated were sufficient to support 390,000 animal units for one year.


DAIRY CATTLE PASTURING COWPEAS IN GEORGIA.
Fig. 43.-A field of cowpeas planted for green-manure purposes in a pecan orchard in Florida. After being pastured off, the residue is plowed under to enrich the soil. Soybeans, velvet beans, and peanuts are likewise pastured off in this manner, mostly by cattle or hogs.

## Peanuts.

Peanuts have much the same climatic range as cowpeas. They are used quite largely for human food in the form of oil, confections, and peanut butter, or merely roasted. The crop is, however, very important from a forage standpoint. It is estimated that over $1,000,000$ acres were "hogged off" in 1919, and approximately 300,000 acres cut for hay. Besides these two items there were about 82,000 tons of peanut meal produced as a by-product of the oil mills. This meal is esteemed very highly as a concentrated feed for dairy cows. It is estimated that the crop, including the part "hogged off," will furnish sufficient feed to support 295,000 animal units for one year. More than 95 per cent of the peanut crop is produced in the Southeastern States, including Virginia.

## Velvet Beans.

The relatively recent development of early maturing varieties of velvet beans has done much to extend the region in which this crop is grown. The States leading in velvet-bean acreage in 1923 were Georgia, Alabama, Florida, South Carolina, Mississippi, Louisiana, Texas, and North Carolina, in the order named. According to the estimates of the Department of Agriculture the total for these eight States was $2,315,000$ acres. The velvet bean is interplanted in fields of corn and Japanese cane very extensively in the above-named

States, and the crop "hogged off" when the beans are ripe. Probably 75 per cent of the crop is used for pasture and green manure. No other legume appears so well adapted to the climatic conditions prevailing in the Gulf States. It produces heavy crops of seed of high feeding value, which are particularly free from insect injury and but little affected by the moisture and heat that make it so difficult to store seed grains in the Southern States. An estimate, based on census data, indicates that the velvet bean crop in 1919 was sufficient to support 204,000 animal units for one year.

## Soybeans.

The large recent increase in the acreage of the soybean crop (see statistical appendix) seems to indicate that it will become in the near future a farm crop of much greater importance in the United States. Although used mainly as a forage crop, for which purpose the acreage has grown steadily, there has been a considerable increase in the acreage for seed production, especially in the Corn Belt States. In some parts of this region the soybean has proved a more profitable crop than oats, which it is replacing in many rotations. In the central Corn Belt mills are now being erected and others equipped with machinery for extracting oil from soybeans. It seems likely that an appreciable part of the crop will in the future be used in this way to produce oil for human food and industrial purposes. The by-product, oil meal, will be used mostly as stock feed. It has been estimated that the different products of the soybean crop were sufficient in 1919 to provide an annual ration for 100,000 animal units.

## Field Beans.

The straw is the most important part of the field-bean crop used for forage, but the cull beans, estimated at 10 per cent of the crop, are also used for feed. The bean straw in the New York and Michigan districts is largely used for feeding sheep. The total contribution of the crop to the sustenance of farm animals is estimated as sufficient to support 100,000 animal units for one year.

## Field Peas.

The field pea can be grown successfully only in a cool climate, and its utilization as a summer crop is confined principally to the States bordering on the Great Lakes, the Pacific Northwest, and to high altitudes in the Rocky Mountain region. It is grown to a limited extent as a green manure crop in California and the Gulf States. No accurate estimate of the field-pea acreage is possible. It appears, however, that there were in 1919 about 233,000 acres harvested for seed and about one-fourth that much cut for hay. When grown for hay purposes, the field pea is usually seeded in mixture with some small grain. It is estimated that field peas furnished sufficient forage to support 43,000 animal units in 1919, not taking into consideration that small portion of the crop pastured off.

## Vetch.

There are several kinds of vetches, the most important of which are the common or spring vetch and the hairy vetch. The vetches are
ordinarily seeded with some small grain, such as rye or oats, and are cut for hay, plowed under for green manure, or harvested for seed. They are grown chiefly on the Pacific coast, around the Great Lakes and in the Southeastern States. A much larger acreage of vetch would be sown in the United States if the seed were less expensive. It is estimated that approximately 30,000 acres of vetch are cut for hay annually, and that the product of this acreage will support 9,000 animal units for one year.

## Rice.

Rice is essentially a food crop and is only of minor importance as a forage producer. Very little of the crop except parts of the mill waste, known in the trade as rice bran and rice polish, is fed to animals. The census of manufacturers reported 71,492 tons of rice bran and 18,099 tons of rice polish produced in 1919.

Feeding experiments in Texas, Arkansas, and Louisiana indicate that these rice products can be profitably fed in combination with other feeds, but can not be successfully employed as the sole concentrate in a ration. Very often commercial rice bran or polish contains as much as 25 per cent of "grits" or broken grains. The contribution of the rice crop toward the support of our animal population in 1919 is shown in Table 21.

Table 21.-Rice: Acreage, production, quantity eaten by livestock, and aggregate feed ralue in 1919.

| Kind of forage. | Acreage. | Production. | Estimated quantity eaten by livestock. | Theoretical annual ration. | Animal units each item would theoretically support for one year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grain. Straw. | Thousands. 911 911 | Thousands of tons. 795 911 | Thousands of tons. $90$ $90$ | Tons. $2.85$ $11.00$ | Thousands. 32 8 |
| Total. | ${ }^{1} 911$ |  |  |  | 40 |

${ }^{1}$ The acreage of straw is included also in the grain acreage, hence it is omitted from the total.

## Potatoes.

In years of low prices large quantities of potatoes are fed to livestock in the United States, but normaily only cull potatoes are so used. In western Europe, on the other hand, potatoes are an important forage. Although the proportion fed to livestock in the United States is small, estimated to average about 10 per cent, the large quantity produced results in an estimated feed value sufficient to support 40,000 animal units for one year.

## Sweet Potatoes.

In the Southern States sweet potatoes are a much more important crop than potatoes. Although they are grown primarily for human food, it is estimated that about 20 per cent are fed to livestock. Their feeding value is somewhat higher than that of potatoes, so that the proportion of the crop fed is estimated to be capable of supporting 28,000 animal units for one year.

Emmer and Spelt.
The total acreage of emmer and spelt reported by the Bureau of Census for 1919 was 166,829 and the production was $2,607,868$ bushels. Practically all the grain, except that required for seeding, and perhaps 10 per cent of the straw, were fed to livestock. The crop was sufficient to support 25,000 animal units one year, not taking the straw into consideration. Most of the emmer and spelt is grown in the Great Plains region and the Lake States.

## Root Crops.

Root crops for forage ordinarily include beets or mangels, rutabagas, turnips, carrots, artichokes, and parsnips. They are grown extensively for forage in northern Europe and eastern Canada, but are of little importance as forage in the United States. The total area of root crops grown for forage in 1919 was only 88,333 acres and the production 598,945 tons. This would be sufficient to support about 19,000 animal units for one year. The low place which roots occupy in our long list of forage crops is due partly to the lack of extensive areas with moist, cool summers, such as prevail in northern Europe, and in part to the large amount of hand labor required in growing and harvesting.

## Pasturage. ${ }^{14}$

The area of land in the United States used for grazing, excluding crop land pastured part of the year, is about $1,055,000,000$ acres, or 55 per cent of the total land area of the country. This is over four times the area of crops used for feed, but the total sustenance supplied by pasturage is somewhat less than that produced by crops. 'The low productiveness of our pasture land compared with crop land is owing in part to the fact that over half is arid grassland and desert shrub land too dry for crop production; over one-fifth is forest and cut-over land, the use of which for pasture is usually less important than its use for the production of wood; and more than one-tenth is hilly upland in humid regions, mostly too rough and stony for the production of crops (fig. 44). Only a little over one-tenth of the total area is improved land in rotation pasture or in permanent pasture which could be used for crops.

This low productiveness is also due to the neglect of pastures which has characterized American agriculture since pioneer times. Pasture was cheap along the frontier, and was especially abundant on the prairies and plains, in which areas most of our agricultural expansion has occurred during recent decades. This low valuation of pastures has persisted among farmers. Recent studies show that the gains made by cattle on pasture cost, in general, only one-half to one-fourth as much as those made when the animals are fed crops (page 412), owing in large part to the low rentals charged for pasturage.

The neglect of the pastures by American farmers is further shown by comparing the carrying capacity of improved pastures in the humid northeastern portion of the United States with that of the

[^47]pastures in northwestern Europe. Although the average acre-yields of the crops in the United Kingdom, France, and Germany, considered jointly, are only about a half greater than those in the United States, the carrying capacities of the pastures are, apparently, fully double the capacities of comparable kinds in the United States. ${ }^{15}$.

Pastures in the United States have not received from the agricultural scientists the attention they deserve. One would expect that a method of land utilization which contributes nearly as much to the sustenance of our livestock as all the crops combined would have been made the subject of much study and investigation. Although some good work has been done, the scientific literature relating to pastures is small compared with that concerning crops.

ESTMMATED AREAS OF HUMID AND ARID GRASSLAND AND FOREST
PASTURES, IN FARMS AND NOT IN FARMS, UNITED STATES, 1919.


Fig. 44.-Although improved pasture in farms occupies a smaller acreage than any other class of pasture shown in the graph, it carries about $25,000,000$ animal units during the 6 -months season, or nearly one-fourth of the total animal units in the United States (see Table 22). Unimproved pasture in farms carries another quarter of the livestock for a somewhat longer season on the average. Grassland and semi-desert shrub land not in farms includes a larger acreage than that of both improved and unimproved pasture in farms. This class of pastures, however, carries a much smaller number of animal units than either of the above classes of farm pasture; but it is grazed, in general, during a longer season. The forest and cut-over lands used for grazing contribute only about one-tenth of the sustenance supplied by all pastures.

Relegated largely to land too poor or too rough to till, neglected commonly by the farmer, often abused by the grazier, ignored by most investigators, our permanent pastures, both tame and wild, still furnish nearly four-tenths and our rotation and temporary pastures over one-tenth of all the feed consumed by domestic animals. Pasture is the key to the profitable utilization of millions of acres of semiwaste land now lying idle or unproductive. "Better pastures" should be made the keynote in the promotion of American agricultural progress.

Probably less than 10 per cent of the total pasture area, or about $100,000,000$ acres, is suitable for crops in its present condition and, therefore, comparable with crop land in productivity. ${ }^{16}$ The carry-

[^48]ing capacity of this $100,000,000$ acres is between 3 and 4 acres per animal unit for a 6 -months' season, whereas it required only $2 \frac{1}{3}$ acres of crops to support an animal unit for six months in 1919. The pasture land that may be used for crops often occupies the less productive fields. In general, the amount of feed per acre produced by pasture is somewhat less than that produced by crop land of the same quality. This conclusion is supported by the figures secured in farm management surveys in Pennsylvania, New York, Ohio, Minnesota, and North Dakota. The labor required for the maintenance of pasture is, of course, very much less than that required for the production of crops.

## Area and Carrying Capacity of Certain Classes of Grazing Land.

Grazing conditions vary according to the type of vegetative covering and its use. Open grasslands used exclusively for pasture normally have a higher carrying capacity than forest areas, where

PASTURE AND RANGE LAND IN THE UNITED STATES CLASSIFIED ACCORDING TO OWNERSHIP, 1919.


FIG. 45.-Over two-thirds of the land used for grazing is privately owned. Of the privately owned grazing land slightly over half is in farms. The privately owned land not in farms includes a vast area in the West, belonging to railroad and lumber companies and to large livestock producers, and a smaller area in the East of forest and cut-over land used for grazing, belonging to lumber companies and individuals. Over 40 per cent of the publicly owned or administered grazing land is in the public domain and 30 per cent more is in the national forests. The Indian lands are not publicly owned, but they are administered by a. Government agency.
the trees reduce the growth of forage plants. They also furnish more grazing than crop lands pastured in the fall after the crop has been harvested. Each kind of pasture varies according to the amount of rainfall, the length of growing season, and the soil conditions. For these reasons it has been helpful in estimating the amount of livestock the various types of land will support to classify the grazing lands into four general groups: (1) Humid grassland, (2) semiarid and arid grazing land, (3) forest and cut-over pasture land, and (4) temporary pastures. These classes in turn have been subdivided into various groups based partly on their ownership and partly on their productivity (Table 22).

RELATIVE AREAS OF THE PRINCIPAL CLASSES OF PASTURE, IN FARMS AND NOT IN FARMS, UNITED STATES, 1919.


Frg. 46.-Although pasture land in farms includes only 36 per cent of the total grazing land of the United States, it carries 60 per cent of the total animal units grazed (excluding temporary pasture). Improved pasture is the most productive. It includes only 7 per cent of the total pasture area (in farms and not in farms), but contributes 25 per cent of the total sustenance obtained by grazing. Pasture not in farms is almost equally divided between publicly owned and privately owned land. Nearly two-thirds of each kind is grassland and desert shrub land and one-third is forest and woodland.

The area of privately owned grazing land is more than double that of publicly owned (fig. 45), and the number of animal units the privately owned pastures would maintain for one year is seveneighths of the total for all pasture land. Nearly half the privately owned pasture land is not in farms, consequently the area of pasture not in farms is much greater than that in farms (fig. 46). The average carrying capacity per acre of the pasture land in farms, however, is nearly double that of the pasture not in farms. The two principal


Fig. 47.-The Corn Belt and the Great Plains States contain the largest areas of improved pasture. In the Western States a considerable amount of arid and semiarid pasture which has been fenced has been included evidently in improved land. The proportion of this arid pasture, as shown on the map, is only a rough estimate. This map and Figure 48 are based on tabulations of 1909 census returns, altered to allow for changes since, as indicated by tabulations now in progress of the pasture returns of the 1920 census.
classes of pasture land in farms are improved and unimproved. The distribution by States of these two kinds of pasture is shown in Figures 47 and 48. The improved pasture, although it includes only about one-fifth of the pasture land in farms, contributes nearly half the sustenance supplied by farm pastures.

Table 22.-Animal units carried by pasture in the United States. ${ }^{1}$
[Estimated number in the year 1919.]

|  | Acres. | Acres per animal unit and length of season. | Number of animal units carried. |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Scason. | Year long equivalent. |
| Humid grassland: <br> Improved in farms. <br> Unimproved in farms-East. <br> Unimproved in farms-West <br> Privately owned not in farms. <br> National forest (alpine) <br> Indian reservations. <br> Other publicly owned. $\qquad$ <br> Total | Thousands. |  | Thousands. |  |
|  | $60,000$ | $2 \frac{1}{2}$ for 6 months. | $24,000$ | $12,000$ |
|  | 73,000 | 5 for 6 months... | 24, 14,600 | 12,000 |
|  | 15,000 70 | 10 for 9 months. . | 1,500 | 1,125 |
|  | 70,000 2,000 | 10 for 9 months. | 7,000 | 5,250 |
|  | 3,000 | 6 for 3 months. 8 for 9 months. | 333 375 | 83 281 |
|  | 8,000 | 10 for 9 months. | 800 | 600 |
|  | 231, 000 |  | 48,608 | 26,639 |
| Semiarid and arid grazing land: ${ }^{2}$ <br> Grassland and dessert shrub- <br> Improved in farms. <br> Unimproved in farms. $\qquad$ <br> Privately owned not in farms. <br> National forests. $\qquad$ <br> Indian reservations. $\qquad$ <br> Other publicly owned. $\qquad$ <br> Public domain (excluding next item and woodland).. <br> Mohave-Gila Desert. $\qquad$ |  |  | 48,608 | 26, 63 |
|  | 10,000 | 10 for 6 months. | 1,000 | 500 |
|  | 142,000 | 15 for 9 months.... | 9,466 | 7, 100 |
|  | 146,000 | 20 for 9 months.... | 7,300 | 5,475 |
|  | 14,000 | 18 for 6 months... | , 778 | -389 |
|  | 38,000 | 38 for year long. | 1,000 | 1,000 |
|  | 27,000 | 27 for 8 months. | 1,000 | -667 |
|  | 116,000 | 55 for 6 months. | 2,109 | 1,054 |
|  | 13,000 | 55 for 2 months. | ${ }_{2} 236$ | 1,059 |
| Pinon-juniper and chaparral woodland (including $30,000,000$ acres in national forests ${ }^{3}$ ) |  |  |  |  |
|  | 81,000 | 50 for 9 months. | 1,620 | 1,215 |
| Total......................................... | 587,000 |  | 24,509 | 17,439 |
| In farms. | 66,400 | 20 for 6 months. | 3,320 |  |
| Privatcly owned not in | 98,000 | 25 for 6 months. | 3,920 | 1,960 |
| National forests...... | 65,000 | 24 for $5 \frac{1}{2}$ months. | 3,700 | 1,960 |
| Indian reservations | 5,600 | 24 for 6 months.. | 2, 233 | 1, 117 |
| State forests. | 2,000 | 25 for 6 months. | 80 | 40 |
| Total........................................ | 237,000 |  | 10,261 | 5,018 |
| Temporary crop land pastures: <br> Hay aftermath |  |  |  | 1,000 |
| Stubble fields ${ }^{5}$ | 24,000 45,000 | 3 for $1 \frac{1}{2}$ months 5 for 2 months. | 8,000 9,000 | 1,000 1,500 |
| Winter grain fields.......................................... | 8,000 | 5 for 3 months. | 1,600 | 1,500 |
| Total.......................................... | 77,000 |  | 18,600 | 2,900 |
| Total pasture | 1,132,000 |  |  | ${ }^{6} 51,996$ |

[^49]Although the humid grassland pastures include only about onefifth of the total grazing area, the amount of forage supplied by them is more than half the total for all pasture and range. On the other hand, the arid and semiarid grazing lands, although including
over half the total pasture and range area, supply only about onethird of the total feed; and the forest and cut-over lands used for grazing, which include over one-fifth of the total grazing area, contribute only one-tenth of the total feed. Temporary crop-land pastures, the least important of the four major classes, are none the less of great significance; and cost of production studies (page 410) suggest that the estimates in Table 22 of the extent to which hay and grain fields are used for pasture in the fall and winter are probably too small.


Fig. 48.-The Great Plains and Rocky Mountain States contain most of the unimproved pasture in farms. Much of this pasture in the Great Plains, Rocky Mountain, and Arid Interior regions is arid or semiarid. In the East it is mostly upland pastures, often hilly and stony. In the Lake States and along the North Pacific coast it is largely stump land and poorly drained land used for pasture. The carrying capacity per acre of the humid unimproved pasture in the East averages about three times that of arid unimproved pasture in the West.

## Terms Relating to Pastures.

The preceding classification of grazing land was necessarily determined in large part by the available statistics, which were tabulated geographically. From an agronomic standpoint, the classification is inadequate, and although statistics are almost wholly lacking for the following kinds of pasture, it is necessary to recognize the distinctions made and define the meaning of the terms used in this discussion.

## Definition of Pasture Terms.

Permanent or long-lay pastures are those covered with perennial or self-seeding annual plants, usually both, and are kept in grass for a long period of years. In many cases such pastures are seldom or never plowed. Rotation or short-lay pastures are those sown to perennial grasses for one to three years' lay and then plowed up. Temporary pastures are those used for grazing during a few weeks. These include miscellaneous crop-land pastures, such as seedling pasture, stubble pasture, aftermath pasture, fallow pasture, and crop pasture.

Tame pastures are those composed largely of domesticated grasses. Native, wild, or natural pastures are areas covered wholly or mainly with native plants useful for grazing; when extensive, such an area
is called a " range." Shrub or brush pastures are those covered largely or mainly with shrubs; on such pastures the feed is called "browse," and the act of feeding, "browsing." A forest or woodland pasture is one in which more or less grass and other forage plants grow in among trees. A stump or cut-over land pasture is one on land which has been deforested, and may or may not be growing a new crop of trees.

## Periods and Degree of Grazing.

(1) Season-long grazing-grazing a pasture continuously during the whole season; if grazed during entire 12 months, then called " yearlong " grazing.
(2) Continuous grazing-grazing constantly throughout the season.
(3) Rotation grazing-grazing two or more pastures or areas in regular order, with definite resting periods. This method, where only two fields are involved, is sometimes called "alternate" grazing.
(4) Intermittent grazing-grazing a pasture now and then, regardless of definite periods.
(5) Premature grazing-turning animals on the pasture too early in the season, before the ground is firm and before the grasses have gained a sufficient start.
(6) Deferred grazing-keeping animals off a pasture until after the seed crop is mature, primarily to insure natural reseeding, but also in many cases to stimulate vegetative reproduction.
(7) Season-long resting-no grazing during one whole season, and incidentally natural reseeding.

Of the above, deferred grazing and season-long resting definitely provide for natural reseeding, while the others do not include such provision.

The above terms relate to the period of grazing. Other terms are used mostly to denote the degree of grazing.
(8) Carrying capacity is the ratio of animals to the unit of area that will furnish ample sustenance; thus 1 cow to 2 acres; 3 sheep to 1 acre.
(9) Close or heavy grazing-pasturing as many animals on a given type of pasture as will furnish good feed to the animals and at the same time not injure or destroy the plants.
(10) Overgrazing-grazing which results in the destruction of desirable vegetation, sometimes called " destructive grazing."
(11) Undergrazing or light grazing-pasturing below the carrying capacity of the area. In humid regions undergrazing often results in pasture deterioration by the ingress of weeds.

## Systems of Grazing.

In a series of fields or pastures any one of the grazing-period methods may be used first on one field and then on another. This grazing may be continuous or intermittent, light or heavy, as may be desirable. The animals may be all of one kind or of two or more, grazed together, or in succession. A definite method of grazing used in respect to two or all of these three factors-periods of grazing, rate of grazing, and kind or kinds of animals used-may be called a grazing system. There are many possible systems of grazing and there yet remains a great field of investigation to determine the best for each type of pasture.

## Grazing Systems in Different Pasture Regions.

In the northern humid region the farm animals are usually kept on pasture throughout the grazing season or until all the forage has been utilized. During the fall months, the regular pastures are generally supplemented by giving the livestock the run of various farm fields for a month to six weeks. Occasionally, farmers are found who move their animals from one pasture to another in order that the pastures may be rested for a time, or who change the classes of livestock from year to year, as from sheep to cattle. Many dairymen have what is termed "a night pasture," where for convenience the cows are allowed to graze and rest during the night.

In the Southern States, where there are still vast areas of unfenced land, much of the livestock is allowed to run loose throughout all or the greater part of the year. In recent years the establishment of permanent tame pastures and the growing of special winter pasture crops have been increasing.

In the far Western States, where there are large areas of land usable only for grazing purposes, most of the livestock is grazed during as much of the year as possible. A number of farmers, especially in the semiarid Great Plains region, divide their lands into summer and winter pastures. On some of the larger cattle ranches these are further subdivided into a number of pastures. They may run cows in one pasture, yearlings in another, and the older steers in still a third. In some sections the more progressive cattlemen also follow the practice of using pastures in rotation, whereby given areas are grazed for only a definite part of the year. Sometimes one of the pastures is held until the grasses have matured a seed crop before being grazed. The practice of running more than one class of animals on the same pasture is also becoming common, especially in Texas.

## Kinds of Pasture.

The different kinds of pastures are classified, first, according to the length of time they are to be used into permanent, rotation, and temporary; second, on the basis of the plants that make up the pasturage into tame and wild.

## Permanent Pastures.

Permanent pastures are most common on land that can not wisely be tilled. Such lands include steep hillsides, which erode easily, and lands too dry, too wet, too poor, or too remote from markets to produce crops profitably. On permanent pastures two types of grasses need to be distinguished, as they differ greatly in character: Bunch grasses, those which grow in clumps and have no creeping branches; and creeping grasses, those with horizontal branches either on the surface or below the surface. Typical bunch grasses are timothy, orchard grass, broom sedge, wire grass, and many of the western range grasses (fig. 49). Characteristic creeping pasture plants include bluegrass, white clover, Bermuda grass, carpet grass, and some of the wild short grasses of the West-notably buffalo grass and mesquite grass (fig. 50). Bunch grasses weaken greatly under continuous mowing or constant grazing, so that sooner or later many of the plants die. Orchard grass and sheep's fescue apparently withstand continuous grazing better than the other bunch


CATTLE ON BUNCH-GRASS PASTURE IN COLORADO.
Fig. 49.-A bunch-grass pasture in one of the valleys of the Uncompahgre National Forest of Colorado. This illustrates the better class of pastures which are found in the mountain valleys of the West. They provide much of the grazing in the national forests.
grasses. The creeping grasses are rarely killed out by heavy continuous grazing. Two of the larger creeping grasses, howeverJohnson grass and quack grass-almost disappear under continuous grazing or constant mowing. With creeping grasses or other plants, close grazing is the best practice, provided it is not begun too early in the spring. Bunch grass pastures must be grazed carefully, as


A BLUE-GRASS PASTURE IN VIRGINIA.
Fig. 50.-Blue-grass pastures of southwest Virginia. The cattle usually graze the higher areas and the fields in the valley are used for corn and hay.
they will not withstand continuous grazing unless it is light or moderate up to the time of seed maturing. They may then be grazed close or heavy as previously defined.

Growing with either type of perennial grasses there may be various annuals such as lespedeza, hop clovers, crab grass, wild oats, alfilaria, bur clover, and black medick. Annual plants may be either rinter annuals, as bur and hop clovers in the South, and alfilaria in California, or summer annuals, as lespedeza and crab grass. The most valuable annual plants for pasture produce seed even when kept closely grazed. Some, indeed, when closely mowed or grazed, produce creeping branches, as do the crab grasses.

## Rotation or Short-Lay Pastures.

Rotation pastures are fields in a cropping system that have been sown to perennial grasses. These pastures are most important in the Corn Belt and the southern portion of the hay and dairying region north and east of the Corn Belt. The common rotation in these regions is corn, oats or wheat, clover and timothy, the last frequently being pastured for one or two years before being plowed up for corn. In New England and eastern New York orchard grass, redtop, and the bent grasses partially replace timothy. There are about $140,000,-$ 000 acres of crops in these regions, but not all this acreage is in a rotation involving pasture. It appears likely that about $30,000,000$ acres in these regions are in rotation pasture, and that there are, probably, $5,000,000$ acres in other parts of the United States. This total of $35,000,000$ acres would include over half of the improved humid pasture of the country (see Table 22).

## Temporary Pastures.

Temporary pastures are very diverse in type and are here considered to include various types of crop fields used as pastures for short periods.
Fallow pastures.-Fallow land is often pastured to keep down weeds. This practice is common in Oregon and Washington.
Seedling pastures.-Fields of young wheat, rye, oats, clover, etc., are frequently grazed for a time in the fall and winter, and in particular regions this is regarded as beneficial to the subsequent grain or hay crop. The largest acreage of wheat pastured in this way is found in Kansas and adjacent states. It is roughly estimated that about $8,000,000$ acres of winter grain are pastured in this way. Some plants may be pastured continuously from the seedling stage to maturity. Thus, rye is frequently sown wholly for pasturing during the cool part of the year, and Sudan grass is much employed for summer pasture.

Stubble pastures.-This term refers to fields other than meadows from which the main crop has been harvested and the stubble and weeds then pastured. This practice is common with small grain crops, which altogether occupy about $127,000,000$ acres. It is estimated that $45 ; 000,000$ acres of small grain fields are pastured after harvest. This figure is largely a guess, but stubble pasture on the whole is an important item.

Aftermath pastures.-Hay meadows are very commonly pastured in the fall after the hay is cut. The proportion pastured varies in different parts of the United States and with the kind of hay, prob-
ably over half the wild hay land being pastured and less than onefourth of the alfalfa. It appears safe to assume that one-third of all hay land is thus incidentally used for pasture. There were nearly $73,000,000$ acres in hay in 1919, and it is roughly estimated that about $24,000,000$ acres were pastured.

Crop pastures.-Mature or well-developed crops are often utilized by pasturing. Such might be considered either as pasturage or as crops. From a statistical standpoint they are here regarded as crops and are thus discussed (see p. 340). A considerable proportion of the cowpeas, velvet beans, soybeans, rape, and peanuts is pastured off when green or approaching maturity, but the proportion of the acreage is impossible to estimate.


Fig. 51.-Of the various tame grasses and legumes which form the vegetation of permanent tame-grass pastures in the United States, Kentucky blue grass constitutes about one-third of the total, while white clover, redtop, Bermuda grass, timothy, Canada blue grass, and orchard grass jointly form 38 per cent. The remaining 28 per cent is made up of numerous other plants. Detailed statistics not being available, the above figures represent the best estimates of six well-qualified students of the subject. Their estimate is based on the assumption that 65 per cent of all the permanent tame pasture is in the northern humid region, 15 per cent in the southern humid region, and 20 per cent in the West.

## Tame Pastures.

Tame pastures include all rotation pastures and such permanent pastures as are composed principally of tame grasses. The tame pastures of the United States constituted probably three-fourths of the improved pasture in farms in 1909, or about $60,000,000$ acres, and probably a little over one-third of the unimproved pasture (excluding woodland pasture), or $40,000,000$ acres (fig. 52). The total area in 1909 , therefore, may be roughly estimated at $100,000,000$ acres. The acreage is probably somewhat less to-day, since much improved pasture which was plowed up for crops during the war has not yet been restored to grazing.


Fig. 52.-Most of the tame-grass pastures are in the northern humid region. In the Corn Belt, where tame grasses constitute 80 per cent or more of all pastures, rotation pastures, largely timothy and clover, are very important. In the South little attention has been given to tame pastures in the past, but owing to the depredations of the cotton-boll weevil greater interest is now being taken in their establishment. In the West much of the country is too arid for tame grasses. These are important, however, in the humid

The principal grasses and other plants which make up these tame pastures and their importance are shown in Figure 51. The carrying capacity of some of these pastures is as high as one steer per acre for six months. Good bluegrass pasture will carry one steer to 2.5 acres for six months and furnish considerable feed for two or three months longer. For all of the tame pastures it is assumed that 3 acres will carry a steer for 6 months. In parts of the East, especially in certain more humid portions, observations and experiments indicate that the average tame pasture composed of creeping grasses is grazed at little more than half of its capacity. The farmer fears pasture shortage and hence tends to undergraze his tame pastures, overlooking the fact that in these regions the grass that is allowed to grow tall is never grazed. Tame pastures of creeping grasses in this region are seldom "overgrazed" in the sense that injury results to the grasses. Indeed, heavy grazing keeps such pastures in far better condition than does the light grazing ordinarily practiced, because such closely grazed grass keeps green and growing, whereas if allowed to flower and to seed it becomes dormant. Undergrazing is often harmful, too, because it encourages the growth of weeds, which tend to kill the grass by shading. With more intelligent management tame pastures of creeping grasses in humid or irrigated regions will carry at least 50 per cent more animals and the pastures will be improved by such heavier grazing.

## Wild Pastures.

Native or wild grass pastures cover about 10 times as large an acreage as tame-grass pastures and supply fully twice as much sustenance. They include the forest and cut-over land pastures of the more humid portions of the country, the native tall-grass pastures of the prairies, the short-grass pastures and range lands of the Great Plains and other semiarid portions of the West, the bunch grass areas of the western plateaus, foothills, mountains and valleys, and the desert-shrub areas of the arid regions (fig. 53). The carrying capacity of the best humid prairie pastures along the edge of the Corn Belt is as high as that of tame pasture, but in most of the West it requires from 10 to 100 acres to maintain one steer during the grazing season. Whereas some of the tame-grass pastures of the more humid regions of the East are undergrazed and deteriorating as a consequence, much of the wild-grass range of the West is overgrazed and deteriorating even more rapidly. The problems of pasture improvement are very different in different portions of the United States, consequently it is necessary to consider the pasture situation by regions.

## The Pasture Regions.

From the standpoint of pasture utilization the United States may be divided into three main regions and one lesser region: The northern humid region, the southern humid region, the western range, and the Pacific humid region. The first two regions embrace all of the humid grassland areas, except the belt along the northern Pacific coast, and small scattered areas in the range States. They also include two-thirds of the forest and cut-over lands used for grazing. The western range region covers practically all of the arid and semiarid grassland and desert shrub areas, limited areas of the humid grassland, and nearly one-third of the forest and woodland pasture.


Fig. 53.-Forests, including semiarid woodland (pinon, juniper, mesquite, chaparral, etc.), originally covered about $830,000,000$ acres in the United Siates. About $270,000,000$ acres have been cleared for agriculture and $350,000,000$ acres have been cut over or devastated. About $670,000,000$ acres of land in the United States were covered originally with grass, interspersed commonly with other herbaceous plants. Nearly $200,000,000$ acres of this grassland have been plowed up and used for crops or for pasture in rotation with crops, including about $7,000,000$ acres irrigated. Semi-desert vegetation characterized about $400,000,000$ acres of land in the United States of which about $12,000,000$ acres have been reclaimed by irrigation. Half of the present area of forest and cut-over land is pastured, practically all of the grassland and nearly all of the semi-desert.

In the northern humid region the pasture lands are mostly included in farms and are used largely to supplement the crop lands. In the southern humid region, where the livestock industry is, in general, not yet highly developed, grazing is largely on unimproved lands, considerable areas of which, although privately owned, are open range. In the western range country much of the agriculture is based on the utilization of the vast areas of grazing lands, largely unfenced, and some of which are publicly owned. Pasture lands in the Pacific humid region are handled in much the same manner as those of the northern humid region.

## The Northern Humid Region.

The northern humid region includes practically all lands lying north of the Cotton Belt and extending westward to where conditions


Fig. 54.-Kentucky blue grass is the most important pasture plant in the northern humid region and is undoubtedly the leading tame-pasture grass in the United States. It is also important in the valleys of the Pacific humid region, and occurs in many of the irrigated pastures and some of the mountain meadows of the northern range States, where its use is increasing.
become too dry for the successful growth of timothy and Kentucky bluegrass. For convenience in discussion, the southern boundary of Virginia, Kentucky, and Missouri may be taken as the dividing line on the south, although the region properly includes the southern Appalachian area in western North Carolina, eastern Tennessee, and northern Georgia, also the mountains of northwestern Arkansas. The 98th meridian is approximately the western boundary.

The pasture grasses.-Originally this region was forested, except for the triangular prairie portion extending from central Illinois northwestward to North Dakota and southwestward to Oklahoma (fig. 53). Interspersed throughout the timbered region were numerous openings, often the result of Indian occupation, where native grasses, such as the lyme grasses and broom sedges, prevailed. In the prairie country the dominating grasses were the bluestems, and these grasses are still largely used for both hay and pasture in Minnesota and the eastern Dakotas. Nebraska, and Kansas.

In the forested parts of the region, after the land was cleared of timber and converted into farms, various tame grasses became es-


FIG. 55.-White clover occurs in most pastures of the northern humid region. It grows much farther south than Kentucky blue grass, extending in places to the Gulf of Mexico. It is also found in many of the humid valleys and mountain areas of the West.
tablished. These introduced grasses have replaced wholly or in large part the native grasses. In this northern region the principal introduced grasses are Kentucky bluegrass, white clover, redtop. Rhode Island bent, and Canada bluegrass. These introduced plants are far superior to the native plants as producers of pasturage, and add materially to the average carrying capacity. They are mostly of a creeping habit, whereas the native species were bunch grasses.

Kentucky bluegrass (sometimes called "June grass ") is the leading tame pasture plant of the region (fig. 54). It tends, however, to occupy only the richer soils. White clover stands next to Kentucky bluegrass in importance. It occurs with more or less frequency in most bluegrass pastures, although it does not form so large a percentage of the total sod. This plant also extends southward to the Gulf of Mexico in Louisiana (fig. 55). Redtop fre-


Fig. 56.-Redtop (including the bent grasses) occupies a prominent place in many of the pastures of the northern humid region and the more mountainous portions of the southern humid region. In west-central Ohio, central Indiana and Illinois, and in most of Iowa, where more than 50 per cent of the tame-grass pasture is rotation pasture and where the land has been pretty well drained, this grass is not reported as important in pastures.
quently forms the basis for pasture sods on the poorer and undrained soils where Kentucky bluegrass does not thrive (fig. 56). In southern Illinois, on heavy clay soils, redtop tends to dominate. In New England, Rhode Island bent is the most abundant grass on the poorer lands, where it is generally accompanied by redtop, white clover, and hop clover. Canada bluegrass also occupies a prominent place in many of the poorer areas where conditions are not favorable to the growth of Kentucky bluegrass and white clover. Orchard grass is important in New England, eastern New York, and the southern Appalachians.

The grazing season.-In the northern humid region the grazing season varies according to the length of time the ground is free from snow, the duration of the growing season, the occurrence of drought, and the kind of vegetation. In the northern part the normal season is about five months, while in the southern part it lasts nearly seven months, the average for the whole region being not far from six months (fig. 57). In the western part the pasture season is


Fla. 57.-The average length of grazing season for the entire United States is about $6 \frac{3}{2}$ months. In the hay and dairying region of the North and in those parts of the Corn Belt where late summer droughts are frequent and the feed used up early in the fall the grazing season is less than 6 months. In the mountains of the West the grazing season also is mostly under 6 months. In the corn and winter wheat belt and on the plateaus of northern Nevada and southern Oregon and Idaho the season is from 6 to 7 months. In regions where there are extensive areas of pasture and where the ground is fairly free from snow the grazing season lasts from 7 months to a year. Along the southern margin of the United States and in most of California there is yearlong grazing.
usually cut short by a dry period in late summer. In many portions of the region, especially the western, the grazing season is often extended by two to six weeks grazing on the various crop fields.

Throughout the northern half of this region the cattle are usually turned on pasture during the last week in April or the first two weeks in May, at which time the grass has attained a fair growth. In the more northern sections many farmers wait until the middle of May. In the southern half most of the cattle are turned out during the first three weeks in April. Cattle are generally taken off pasture during the last week in October or the first week in November, except in the western part of the region where they may be transferred to other fields early in October and sometimes in


Fig. 58.-In the northern part of the eastern humid region cattle are mostly turned on pasture about May 1 , at which time the grass has made a fair start. In the southern part they are mostly turned out in April, except where they are allowed to graze throughout the entire year. In sections when the pasture gives out early because of shortness of feed, due to dry weather or insufficient acreage, cattle are taken off pasture as carly as October 1 . Where there is an abundance of feed they may be left out until snow falls. in the fall.


FIG. 59.-In the Corn Belt and in the southwestern portion of the hay and dairying region, where the soil is naturally rich and where there is ample rainfall, most of the pastures will carry an animal unit on 1 to 2 acres. The lowest carrying capacity, over 75 acres per animal unit, is in the arid interior plateau region and in the dense forests of the North Pacific coast. A comparison with Figure 51 shows that the areas having the greatest percentage of tame pastures generally have the highest carrying capacity.

September (fig. 58). Where bluegrass pastures are especially luxuriant they are frequently grazed until December and even January.

Carrying capacity.-The permanent pastures in this region will carry an animal unit for a 6 -months' season on from 1 acre to 5 acres or more. The average is probably close to 3 acres. Rotation pastures will average about $2 \frac{1}{2}$ acres per animal unit. In Iowa the carrying capacity of rotation pastures, averaging the 350 reports for the State, is about 1.7 acres, as against 1.8 for permanent tamegrass pastures. In New York and Pennsylvania the figures are 2.5 as against 2.8 . The average carrying capacity of the dominant type of pasture is shown in Figure 59. Among the temporary pastures, the stubble fields that are pastured will carry apparently about 1 animal unit to 5 acres for 6 to 10 weeks, and cornstalk fields commonly carry an animal to the acre for nearly a month. The


SHEEP ON A NEW ENGLAND HILLSIDE PASTURE.
Fig. 60.-A pasture in northern Vermont on which sheep have been grazed for several years. It has an excellent stand of bue grass and is comparatively free from weeds.
aftermath pasture of hay fields may be roughly estimated at 3 acres per animal during a 6 weeks' period. The forest and cutover land pastures in this region average about 20 acres to the animal unit for the 6 to 7 months' season; the brush-land pastures average a somewhat smaller acreage per animal.

The place of pasture in the agriculture of the region.-In the northern humid region forage crops are very important; and, in general, pasture occupies a secondary position as a source of feed. The region produced in 1919 over two-thirds of the crops fed to livestock and over three-fifths of the vegetable food for man harvested in the United States. It also possesses about three-fifths of the total animal units in the nation.

With the exception of the forest and cut-over areas of the Lake States and some of the more mountainous areas, there is little grazing land outside of farms and this is of relatively low carrying capacity.

Of the land in farms about one-third is in pasture. The relative amounts of land in pasture and the kinds of pasture vary greatly within the region. In the New England States and eastern New York, where the area of crop land is relatively small and where much of the farming is based on the production of dairy products, all of the rougher lands not covered with timber are utilized as pasture. Some of these pastures are fairly productive (fig. 60), but the majority are on rather poor soil or are more or less covered with brush and timber. It is probable that these pastures furnish about half of the total subsistence of the dairy cows during the six warmer months. In the central and southern Appalachian areas, which include southern New York, most of Pennsylvania, eastern Ohio and West Virginia and parts of Virginia, North Carolina, Tennessee, and Kentucky, pastures are also important. In regions accessible to in-


JACK PINE PLAIN IN MICHIGAN.
Fig. 61.-Jack pine and scrub oak are characteristic of the sandy plains of northern Michigan, Wisconsin, and Minnesota. So long as these pine plains are subject to fires they are incapable of either forest or pasture improvement. In their present condition they afford only very poor grazing.
dustrial centers these pastures are largely used by dairy cows, but in the more remote sections beef cattle and sheep dominate. In the cut-over section of the Lake States much of the pasture is land that has not been sufficiently cleared for crop production. In the sandy jack-pine areas the pastures are very scanty owing to the poor soil (fig. 61). These cut-over lands are not fully utilized as a rule, because not enough feed crops are grown to carry the animals through the winter.

In the Corn Belt and in part of the corn and winter wheat region, permanent pastures are largely confined to the rougher land or shallow soils. The less rolling lands are kept mostly in crops and rotation pasture. In the Corn Belt, where large quantities of roughage are available, the hayfields in the rotation system are used for a year or two longer as pasture, the livestock being fattened on corn.

## The Southern Humid Region.

Nearly all of this area was originally covered with timber, and over half is still in timber or has been cut over and is growing up to brush and trees. As in the northern humid region, there were oc-


Fig. 62.-The principal areas of cut-over land available for grazing purposes are in the piney-woods regions of the south Atlantic and Gulf coastal plain and the upper Lakes region of Michigan, Wisconsin, and Minnesota. Much of this land is sandy, although good soils are also to be found. There are smaller areas of cut-over land in the Pacific Northwest.
casional prairies where broom sedges, panic grasses, and wire grasses grew.

In practically all of this region relatively little attention has been given to the development of tame-grass pastures and the production of livestock. The farmers have devoted most of their time to the growing of cotton, corn, and tobacco. Until recently a large percentage of them did not even grow sufficient feed for their own work


Fig. 63.-Bermuda grass is unquestionably the best summer-pasture grass of the South, where it occupies the same relative position as Kentucky blue grass in the North. It also occurs in many of the irrigated valleys of California and Arizona. On the best lands it frequently has a carrying capacity, between frosts, of two cows to the acre.
animals, much of the grain and hay being shipped in from the WestCentral States. As there was plenty of unimproved land in the hilly areas, in the swamps, and in the vast areas of forest and cut-over lands (fig. 62), the animals were generally able to find sufficient feed to maintain themselves. The livestock were often given the run of the crop lands during the winter months.


Fig. 64.-Lespedeza occupies a prominent place as a pasture plant in most of the Southeastern States. While it will grow on poor soils, it does best on rich loams. It is spreading over a large area of the southern cut-over 1mnds, where it furnishes excellent feed after the wire grass has become unpalatable. On the more productive valley lands of the Cotton Belt it is sometimes cut for hay.
In recent years, especially after the advent of the boll weevil, greater interest has been taken in the production of livestock, principally hogs and cattle. This, in turn, has made it necessary to give more attention to the growing of feeds and the improvement of pastures. The enactment of laws which prohibit the turning out of livestock to range at will has also compelled farmers in many sections to improve their pasture lands.


Fig. 65.-Carpet grass is becoming one of the most important pasture grasses in the southern humid region. On many soils it has demonstrated its ability to crowd out most other grasses. It is common around small towns where burning the pastures is not customary and close grazing is practiced.

The pasture grasses.-Introduced species have not replaced the native grasses in this southern humid region to nearly the extent that they have in the northern. However, Bermuda grass, carpet grass, lespedeza, Dallis grass, and crab grass are rapidly spreading in the forest and cut-over lands. Most of these introduced grasses are destroyed by the annual burning of the forests and poorer pasture lands, a common practice in the South, whereas few of the native grasses are injured by this practice. Indeed, the purpose of this burning is to destroy the unpalatable old growth and to encourage the young growth of the native grasses. When the fires are kept out and the pastures closely grazed, carpet grass and lespedeza tend to displace the native plants, especially on the better soils. However, these native grasses, of which broom sedges and wire grasses are the most important, still supply most of the grazing in the open forests and


CHARACTERISTIC FLORIDA FLATWOODS RANGE.
Fig. 66. -Typical forest range in the lake region of central Florida. The longleaf pine, palmetto, and wire-grass vegetation is characteristic. Cattle, hogs, and sheep are allowed to run loose throughout the year. Wire grass and broom sedge furnishes most of the grazing. Approximately 10 acres of such range are needed to carry a stẹer a year.
other unimproved land, especially during the spring and early summer months.

Although there are comparatively few permanent tame pastures in this region, it is not difficult generally to establish such fields, except on the very sandy soils. With the increasing interest in livestock production, the acreage of tame pasture will undoubtedly increase greatly in the next few years. Bermuda grass is the leading tame pasture grass and occupies much the same relative place in the South that Kentucky bluegrass does in the North (fig. 63). White clover (fig. 55), lespedeza (fig. 64), and carpet grass (fig. 65), on the better soils are also being used quite commonly in improved pastures.

The grazing season.-The season in the Cotton Belt lasts from 7 to 12 months, depending on local conditions and practices (fig. 57). The period of turning out to pasture is somewhat variable. Those
who do not practice yearlong grazing generally turn their animals out during the latter half of March or the first week in April (fig. 58). Usually the animals are allowed to run on pasture until about the first of January. In the Gulf coast region, where the growing season is long, and where there is a vast extent of grazing land, livestock are generally allowed to run on pasture throughout the year.

In the Cotton Belt the practice of using unimproved pasture during the summer season generally prevails. However, in the late summer and fall, when the native pasture grasses become dry and woody, the livestock are frequently turned into fields of corn, often mixed with cowpeas or velvet beans, and allowed to graze on the cornstalks and legumes after the corn is harvested. Peanuts are extensively grown to be pastured off by hogs. Many farmers now seed vetch, crimson clover, rye, and winter oats in the fall to serve as winter pasture.

Carrying capacity.-The pastures of the South vary greatly in carrying capacity. The " piney woods," and, indeed, most of the forest and cut-over lands used for pasture, probably average about 20 acres per animal unit. In the more open woodlands the grazing capacity may rise to 10 acres per steer on yearlong range (fig. 66). The best Bermuda pasture, on the other hand, will carry as high as two animal units to the acre. The carrying capacity of improved pastures is in general 2 to 3 acres per animal unit (fig. 59), and of the unimproved pastures, mostly forest and cut-over land, 5 to 25 acres.

The place of pastures in the agriculture of the region.-Throughout the greater part of the South, farm pastures, which are largely unimproved, occupy a relatively unimportant place. The vast areas of unfenced forest available for grazing, and the greater remuneration to be derived from growing cotton, have prevented the development of improved pastures. But with the coming of the boll-weevil conditions have changed, and undoubtedly improved pastures will become more common. The pastures will be supplemented during the fall and winter by turning the animals into fields of velvet beans, cowpeas, and other forage crops.

Nevertheless, the forest, cut-over, and other unimproved grazing lands will doubtless provide for many years a greater aggregate quantity of feed than the improved pastures. There are over 100,000,000 acres of cut-over land in the South, a large part of which is now unproductive and rapidly growing up to brush. The best of these lands will undoubtedly be cultivated in time, but as there is little demand for new lands at present and as clearing is an expensive process, large areas can still be best. utilized for grazing, or for grazing while timber is becoming established. Even after all the lands available for grazing have been developed, there will remain large areas of sandy or sterile soils of more value for forest than for any other purpose.

## The Pacific Humid Region.

The Pacific humid region, except for a few prairie districts, was originally heavily forested and largely remains so. The more accessible forests have been and are being cut; but much of this cut-over land, owing to the high cost of clearing, is reverting to forest and brush, especially the rougher lands. Some, however, is being cleared,
and pastured meanwhile by cattle, sheep, and goats. Farm land in this region, other than forest, constituted only 11 per cent of the land area in 1919.

The general usage of pastures in this region is not greatly different from that in the northern humid region. The native prairie grasses, mostly lyme grasses, fescues, bluegrasses, bents, and bromes have been largely replaced by introduced tame grasses. The most important of these grasses from the pasture standpoint are Kentucky bluegrass (fig. 54), white clover (fig. 55), Italian and perennial rye-grasses, velvet grass, and the bent grasses. Because of the moist, mild climate, the grazing season lasts the greater part of the year (fig. 57). The improved pastures have a relatively high grazing capacity, the best pastures varying from one-half acre to $1 \frac{1}{2}$ acres per cow. The forest lands used for pasture, on the other hand have, in general, a very low grazing value, owing to the dense stand of trees. Most of the forest land is not pastured, and some that is pastured has a capacity of only one animal unit to 75 or 100 acres. The cut-over lands (fig. 62) will carry an animal unit on 25 to 35 acres.

## The Western Range Region.

The western range region embraces practically all of that part of the country west of the 98th meridian, except the humid belt along the North Pacific coast. In the eastern part of this region lie the semi-


A SHORT-GRASS RANGE IN THE MOUNTAINS OF ARIZONA.
Fig. 67.-A "park" or open space in the yellow-pine forests of the higher plateau region of Arizona. Grama grass and other short grasses prevail, although some weeds and browse occur. These parks, which sometimes contain several hundred acres, are used mostly as summer range for cattle and sheep.
arid Great Plains, a vast expanse of grassland. Along the eastern edge of the plains tall prairie grasses prevail, but the greater part of the area is covered by short grasses, notably grama grass in the northern part, buffalo grass in the central plains, and mesquite grass south of the Red River. In the Rocky Mountains and other high mountain areas, where there is adequate moisture, forests and woodlands occupy much of the area. Scattered throughout these forests
are numerous parks or open places, which are covered with grasses and other herbaceous plants that furnish excellent summer grazing.

Between the Rocky and the Sierra-Cascade mountains is an arid intermountain region consisting mostly of high plateaus and basins, both cut through by narrow river valleys. Sage brush is the characteristic vegetation of the northern and central portions of this intermountain region, and creosote bush and cacti of the southern portion (fig. 53). The Columbia Basin is almost encircled by forested mountains. The Blue Mountains of eastern Oregon nearly cut off the Columbia Basin from the Great Basin to the south. On the higher plateaus of the Columbia Basin and on the foothills of the mountains to the north, east, and west of the Great Basin, the pasturage is largely bunch wheat grass. On the plateaus of western New Mexico and northern Arizona, short-grass vegetation prevails, mostly grama in the northern and mesquite grass in the southern portions (fig. 67).
The valleys of California, like the moister portions of the Columbia Basin, were originally covered with a bunch-grass vegetation. These native grasses were early overgrazed and largely destroyed. They have been replaced by annual grasses and other plants introduced


DRY FOOTHILL RANGE IN UTAH.
Fig. 68.-One of the numerous small valleys of Utah. These are best utilized in the production of hay and other crops that are fed in winter to the livestock using the surrounding range. The foothills furnish spring and fall grazing for the animals, and the higher mountain areas provide summer grazing.
from Europe, especially from the Mediterranean region. In the Cascade and Sierra Nevada Mountains, the highlands are covered with timber with numerous grassy parks intervening and alpine meadows above timber line. In the north, the eastern foothills of these mountains are covered largely with the bunch wheat grasses, but in the south both slopes at the lower levels are largely covered with thickets of woody shrubs, called chaparral.

The grazing season.-In the greater part of this region the livestock are grazed for as much of the year as possible, and the animals may travel many miles in going from one grazing ground to an-


Fig. 69.-The great variety of climatic and soil conditions existing in the Western States results in very decided differences in the possible grazing seasons as well as the character and value of the herbage. The higher mountains furnish from 3 to 6 months of excellent grazing in summer (when the ground is free from snow). Although the foothills and plateau areas are available for grazing most of the year, the extent of the range is not sufficient generally to carry the animals grazing upon these areas for more than six to eight months without a change of pasture, except on the southern range. The desert or winter ranges, because of lack of water, are available to livestock, principally sheep, only during the winter months. Some of the Arizona-California desert region is, because of a lack of water, practically unusable for livestock. Much of the range livestock is now fed in irrigated valleys during the winter.
other. During the summer months much of the livestock is grazed in the mountains; the spring and fall months will find them in the foothills and higher plateau areas, and in winter many of them will be on the desert or semi-desert lands, in the irrigated districts, and on the stubble fields of the dry-farming areas. In areas where there is insufficient winter range, the animals are often fed for a period of from three to five months (fig. 68).

The time of the year that a given range area is grazed depends largely on when it is available for use and partly on the general system of livestock production followed. In general, the western range country may be subdivided according to the season of its availability as (1) summer range; (2) yearlong range, and (3) winter range (fig. 69).


A MOUNTAIN MEADOW IN CALIFORNIA.
Fig. 70.-A typical mountain meadow (altitude 7,000 feet) in the Sierra Nevada. The meadows and surrounding open-timber areas furnish excellent summer grazing for cattle. The top of the ridge in the background is better adapted to sheep.

Summer range.-The summer ranges are mostly in the mountains and, because of the shortness of the growing season, are available only during the warmer months (fig. 70). The grazing season varies from approximately three months in some of the higher altitudes in the northern range States to about six months in the mountains of the Southwest. Most of these lands are in the national forests, although some summer grazing is obtained in forest areas belonging to lumber companies and others.

Yearlong range.-The " yearlong ranges" are those areas where grazing can be carried on during practically the entire year. Most of the yearlong ranges are covered with grass, and in the northern range States are fairly free from trees and brush. A large portion of the less rolling yearlong range in the northern Great Plains and Columbia Basin, where there is sufficient rainfall for the growing of crops, has in recent years been converted into farms.

In the semiarid Great Plains region the grazing season is now largely dependent on the farm practice. Formerly yearlong grazing prevailed throughout the region. The rapid settlement of much of this region in recent years has so greatly reduced the area available for pasture that it has generally become necessary to shorten the pasture season and resort to winter feeding. A ranchman who is primarily engaged in the production of livestock and who has extensive pasture lands will graze his animals throughout the greater part of the year and, except in unusually severe winters, will give them comparatively little supplemental feed. Under such circumstances the range is frequently divided into summer and winter pastures. On the other hand, a small farmer with a limited acreage and with only a small number of animals seldom has sufficient pasturage to last longer than six to eight months.


A TYPICAL SAGE-BRUSH RANGE.
Fig. 71.-Characteristic sage-brush range of southeastern Oregon. Although such lands can be grazed the year round, they are now, because of insufficient range, mostly used during the spring and fall months. From 50 to 100 acres of such range are needed to carry a cow a year.

In the northern portion of the Great Basin the range, although it can generally be grazed throughout the greater part of the year, is now so restricted in area that it will carry only a part of the total livestock. For this reason it is generally reserved for spring and fall grazing, and serves to a large extent as an intermediate range for animals traveling between the summer range and the winter range or feed lots (fig. 71).

In the southern range States, where conditions are generally too arid for farming, there are still large areas of yearlong range (fig. 72). Here, however, it is often customary to use the higher levels during the warmer season, and the lower levels in winter. The distance traveled from one to the other is comparatively short, frequently being only a few miles.

Winter range.-The winter ranges are restricted mostly to the valleys and basins of the intermountain and southern range States, where the rainfall is light and where water or snow is available for livestock only during the winter months. The vegetation in such areas consists largely of shrubs and weedy annuals, many of which are not relished by cattle but are readily grazed by sheep. In the more northern desert areas the winter ranges are available for a 4- or 5-months' period, whereas in the Mohave-Gila desert the grazing period is usually restricted to a few weeks in the late winter and early spring. In case the spring rains fail, these latter areas are usually unavailable.

In the irrigated and dry-farming districts, much late fall and early winter grazing is obtained by giving the animals the run of stubble fields, the aftermath of hay fields, especially alfalfa, and by pasturing them on marshy lands. In fact, in California many of the sheep get their entire winter subsistence by grazing on crop lands after harvest, or in orchards and vineyards.


SEMI-DESERT RANGE IN ARIZONA.
Fig. 72.-Semi-desert grassland range with considerable browse. The grasses are mostly perennials that cure standing and the browse plants are usable at any time. Such lands are best used as yearlong range for cattle, though they are sometimes used temporarily for sheep when the adjacent desert range fails.

Carrying capacity.-Owing to the very diverse moisture and temperature conditions, the carrying capacity varies widely in different parts of the range region. It is shown in a general way in Figure 59 , and is summarized for some of the more important grazing districts in Table 23. This table also indicates briefly the character of the pasture and duration of the grazing season.

Table 23.-Character of forage and estimated capacity of the western grazing areas of the United States.

| Areas. | Chief forages. | Length of season. | Area to support a cow. |
| :---: | :---: | :---: | :---: |
|  |  | Months. | Acres. |
| Northern Great Plains | Grama, buffialo, needle, and wheat grasses | 5 to 10 | 10 to 30 |
| Southern Creat Plains. | Grama, buffalo, bluestem, beard, and mesquite grasses; scrub oaks. | 8 to 12 | 15 to 35 |
| Black Hills | Grama, buffalo, and bluestem grasses........... | 3 to 5 | 25 to 39 |
| Central Rocky Mountains....... | Blue, fescue, wheat, brome, and redtop grasses; Baltic rush; and "weeds." ${ }^{1}$ | 3 to 6 | 15 to 25 |
| New Mexico-Arizona mountains.. | Grama, fescue, beard, and wheat grasses; scrub oak, mountain mahogany. | 5 to 8 | 12 to 25 |
| West-central Montana foot hills and high plains. | Fescue, wheat, blue June, porcupine, brome, and grama grasses. | 5 to 7 | 5 to 30 |
| Northern Rocky Mountains.... | Pine, wheat, blue, brome, and fescue grasses. . .- | 3 to 6 | 20 to 150 |
| Central Idaho................... | Pine, wheat, brome, fescue, and blue grasses ${ }^{\text {Wheat }}$ porcupine |  | 25 8 8 |
| Wasatch, Uinta, and Wyoming Mountains. | Wheat, porcupine, fescue, and blue grasses; bluebells and other "weeds;" 1 browse. | 3 to 7 | 8 to $2 \overline{5}$ |
| Northeastern Nevada, southern Idaho, and central Oregon. | Wheat, blue, and fescue grasses; sagebrush, shadscale, greasewood. | 4 to 8 | 35 to 40 |
| East-central Nerada mountains. - | Wheat, blue, and fescue grasses; browse...... | 4 to | 25 to 50 |
| W yoming semideser | Salt grasses; sagebrush, shadscale, greasewoo | 2 to 6 | 35 to 100 |
| Utah, Nevada, Arizona deserts. | Salt, grama, three-awn, and annual grasses; annual "weeds;" 1 sagebrush, winter fat, greasewood, shadscale, mesquite, palo verde, cacti. | 2 to 5 | 50 to 150 |
| New Mexico-Arizona foothills and basins. | Grama, tobosa, galleta, three-awn, muhlenbergia, and salt grasses; sagebrush, shinnery, and other browse. | 4 to 12 | 15 to 75 |
| San Luis Valley of Colorado. | Blue, salt, and fescue grasses; Baltic rush; sagebrush |  | 30 to 40 |
| Utah foothills and valleys. | Wheat, porcupine, and June grasses; sagebrush.. | 5 to | 20 to 30 |
| Nevadas | Salt, and lyme grasses; greasewood, shadscale, sagebrush. |  |  |
| Southeastern Oregon and Snake River plains. | Fescue, wheat, and lyme grasses; sagebrush..... | 2 to | 50 to 100 |
| Columbia River Basin. ..... | Blue, fescue, wheat, lyme, and salt grasses; sagebrush, greaswood. |  |  |
| Eastern California mountains. | Short, blue, wheat, needle, oat, and brome rasses.deerbrush and other browse | 3 to | $15 \text { to } 35$ |
| Western Oregon mountains....... | Fescue, brome, wheat, pine, and bent grasses; deerbrush and other browse. | 3 to | 30 to 100 |
| Southwestern California moun- | Deerbrush and other browse. | 6 to 12 | 40 to 60 |
| California, and southwestern Oregon foothills and valleys. | Browse; "weeds"; 1 annuals, including wild oat, rye, brome, barley, and fescue grasscs; bur and wild clovers; alfilaria. | 6 to | 15 to 50 |

${ }^{1}$ On the range "weeds" refers to miscellaneous herbaceous plants.

## Improvement of Methods in the Western Range Region.

While the western range lands include over half of the grazing lands of the United States, they support at present only about onethird of the total livestock carried on pasture. This is largely owing to the prevailing arid conditions, but also much of the range land has been overgrazed and its carrying capacity greatly reduced. The experience of numerous ranchmen and the work of State and Federal investigators prove that these lands can be restored to their original carrying capacity and be thus maintained. The methods that have proved most effective deserve mention.
Avoidance of premature grazing. -The keeping of livestock from the range until the grass has had a chance to get a fair growth will tend to increase its total carrying capacity. On the national forests, the prevention of premature grazing has had much to do with range improvement.
Prevention of over grazing.-Not only is too close grazing harmful to the range, but it is usually reflected in the lack of gains made
by the animals. However, a pasture on which stock cattle are run can be slightly overgrazed without causing any appreciable effect on the animals. Whether a range is being overgrazed can generally be determined by watching the gradual disappearance of the grasses and their replacement by less desirable vegetation. Recent experiments with range pastures at Mandan, N. Dak., composed largely of grama grasses and needle grasses, lead to the conclusion that from 15 to 25 per cent of the foliage covering should remain on this type of pasture at the close of the season, if overgrazing is to be prevented. This conclusion applies also to ranges farther west covered with perennial bunch grasses.

Deferred grazing.-On some types of grasslands, notably in the mountains, the use of deferred grazing methods have resulted in great improvement. The plan is to permit the desirable grasses on a portion of the range to mature seed before grazing is commenced. Thus, quantities of seed are scattered and to some extent trampled into the soil.

Rotation grazing.-In the improvement of ranges it is a desirable practice to graze a series of pastures in a regular succession, leaving each year one field for deferred grazing. This method gives the grasses and other forage plants a better chance to reestablish themselves. Usually it is only necessary to defer the grazing on any particular area once in three years in order to maintain the stand of desirable plants. Sometimes it is desirable to use the same field for deferred grazing two years in succession.

Grazing with two or more kinds of animals.-Two or more kinds of animals are often used on the same range, either at the same time or in succession. In Texas it has been found on many ranches that a certain number of sheep and goats can be run in addition to the cattle without decreasing the number of cattle; in fact, in some instances the carrying capacity for the cattle has been slightly increased. On such ranges the sheep prefer the weedy plants that the cattle do not care for and prevent these plants from encroaching on the grasses. On some of the Texas ranges where there is much browse which neither sheep nor cattle felish, the addition of goats has been helpful in keeping the oaks and mesquite from crowding out the grasses.

Improved methods of grazing sheep.-An important step in improving ranges where sheep are run is to avoid having the animals "bed down" in the same place for more than two or three nights in succession. The constant traveling between the bed grounds and the grazing areas results in the destruction of much vegetation through trampling. It has also been found that sheep do much better and that less damage is done to the vegetation where, instead of being " close herded," they are allowed to scatter while grazing. In Texas it has been found that nearly twice as many sheep can be carried on the same area when they are allowed to run lose in fenced pastures than under the herding system.

Development of watering places.-The development of well-located and adequate watering places is important. Without plenty of water within a reasonable distance animals can not make satisfactory gains. The watering places should be so distributed, if possible, that cattle do not travel much over 2 miles in going to water, and in a very rough country not much over half a mile. Frequent watering places
aid also in preventing the formation of trails, which in time form rain channels and may lead to erosion. Well-located watering places are helpful also in opening up areas that were formerly but little grazed.

Proper distribution of salt.-On cattle ranges much can be done in equalizing the grazing by placing salt at suitable distances from the watering places and in such localities as to draw the cattle away from the heavily grazed areas to those only lightly grazed. Systems of salting have been found to be an excellent means of regulating grazing on unfenced ranges.

Building trails.-The grazing capacity of many ranges can be increased by building trails in rough country or through timber to open up numerous small areas which, because of their inaccessibility, are little grazed. Many stockmen have found that it is profitable to build trails which save the energy of the animals and prevent trampling of the vegetation.

The importance of introduced range plants.-The idea has often been expressed that better pasture plants can be found that will thrive in the different section of the western range country. Judging from what has happened in other parts of the country there are reasons for the belief that properly chosen introduced plants will greatly increase the carrying capacity of the range lands. In the northeast quarter of the United States the pastures are entirely made up of introduced grasses-bluegrass, white clover, redtop, timothy, etc.-all from Europe and all so aggressive that the native vegetation can not compete. In the South, Bermuda grass, carpet grass, lespedeza, Johnson grass, Dallis grass, and others have been of similar importance. In California 80 per cent of the lowland forage is now produced by introduced plants mainly from the Mediterranean region, such as wild oats, bur clover, wild barleys, alfilaria, and many others, all introduced by chance. Many of these plants are now spreading in the Columbia River Basin. It is true that some plants introduced by chance in each region are undesirable. However, by using proper precautions it is not likely that undesirable plants will be introduced.
Important results may be obtained in the range region by introducing desirable plants from regions with similar climatic conditions. For the most of our range lands the source is central Asia, from whence came alfalfa and sweet clover, the two most valuable forage plants of the West; also Russian thistle, rosy saltbush, and tumbling mustard, which have spread of their own accord over large areas of the ranges in less than 10 years. These last three plants are not particularly desirable, but there can be little question that excellent forage plants which will spread with comparable vigor can be found by intelligent search. There is every reason to expect that desirable wild range plants from central Asia will add as much wealth to the West as did alfalfa, the great cultivated forage from the same region. One of these, crested wheat grass, is already giving very promising results.

Seeding with tame-pasture plants.-The cultivated grasses and legumes now in use in this country are not adapted to the greater portion of the western range country. Excepting in the more humid areas, most of the seeding experiments have yielded poor results. The cheapest and apparently the best method of reseeding with native grasses is by the method of deferred grazing. In many of the


Fig. 73.-Prairie dogs and ground squirrels eat the more valuable grasses throughout the area in which they occur. Where they are numerous pasturage is commonly reduced from 10 to 25 per cent and at times the forage value of infested land is entirely destroyed. Organized community campaigns have proven effective in destroying these animals and have resulted in marked betterment of the range.
mountain meadows, however, the conditions are very favorable for such plants as bluegrass, redtop, the fescues, and white clover, and it is highly probable that these plants will eventually become important in such areas.

Elimination of rodents.-In increasing the carrying capacity of the range, much can be accomplished by the destruction of the various rodents, particularly prairie dogs, ground squirrels, jack rabbits, pocket gophers, and mice. Prairie dogs and ground squirrels select the richer valley and bench lands, and are direct competitors with livestock for the use of the more palatable and nutritious forage (fig. 73). Prairie dogs often destroy the grass roots and denude


Fig. 74.-Jack rabbits often become excessively numerous over great areas and destroy much growing forage. As many as 10,000 are sometimes killed in a single organized drive. Pocket gophers greatly reduce the quantity of feed available by burrowing under ground, eating and breaking off grass roots, thus injuring the stand; and by piling up mounds of dirt which cover considerable areas of grass. They frequently so undermine the ground that the trampling of the burrows by livestock causes permanent injury to the range.
the lands, rendering them barren wastes occupied only by plants of little or no forage value and subjecting them to permanent damage by erosion. Their constant migrations into new feeding grounds result in the establishment of new towns and the extension of their devastation. Ground squirrels, because of their greater numbers and more general distribution (fig. 73), consume even larger quantities of grass.

Jack rabbits, which inhabit most of the range country (fig. 74), also subsist largely on the grasses. Their numbers fluctuate greatly from time to time, and consequently the amount of damage caused by them. Meadow mice and pocket gophers also destroy grass, and when numerous the gopher burrows interfere seriously with handling the livestock.

Effective and economical methods for poisoning and otherwise destroying these pests have been worked out, and extensive poisoning campaigns inaugurated in recent years in nearly all of the range States. These are conducted by the United States Department of Agriculture (Biological Survey) in cooperation with the various State agencies and organizations of stockmen and farmers. Several million acres of grazing land have been freed of rodents, and a marked increase in forage production has resulted. In Arizona a 3year united effort on the part of over 800 stockmen cooperating with the Biological Survey to exterminate prairie dogs, was entirely successful, an area 120 miles long and from 10 to 20 miles wide being wholly freed of this pest.
The elimination of predatory animals and wild horses.-It is estimated that predatory animals, until recent years, took an annual toll of $\$ 20,000,000$ to $\$ 30,000,000$ worth of livestock on the western ranges. The Department of Agriculture (Biological Survey) is now cooperating with State and county officials and livestock associations in the destruction of these wild animals, approximately 500,000 having been destroyed since 1915 (see page 265 of preceding article, "The Sheep Industry"). The destruction of the large numbers of wild and practically worthless horses, which on some areas number thousands, would also increase the capacity of the range in many districts. Their presence not only decreases the number of valuable livestock, but they are an actual source of injury to the range. In many instances they are so wild and the country is so rough that it is impossible to round them up or remove them. Even if rounded up they have no commercial value, except for fertilizer or for poultry feed.

The elimination and avoidance of poisonous plants.-Poisonous plants cause heavy loss among western livestock, especially sheep and cattle. These losses are much more prevalent on the western ranges than on eastern pastures, because the animals graze in large herds and the plants sometimes grow in dense masses. It is important that livestock producers be able to recognize the poisonous plants, in order that so far as possible they may prevent their animals from grazing upon them. The most important are the death camases, milkweeds, larkspurs, and locoes.
Some of the milkweeds, which are rather widely distributed (fig. 75), are exceedingly poisonous. They kill not only sheep, but also many cattle and some horses. Larkspurs, which grow on all of the mountain ranges of the West, as well as in some of the Eastern


Fig. 75.-Asclepias pumila, A. galiodes, and A. mexicana are all whorled milkweeds. The A. pumila grows in the Great Plains region and does comparatively little harm. The A. galioides, the worst of the whorled milkweeds, is confined to the Southwestern States, while A. mexicana is limited to Nevada and the Pacific Coast States. A. eriocarpa, the woolly-pod milkweed, is a broad-leafed milkweed of a specially dangerous character and is limited to the coastal region of California. These milkweeds are especially destructive to sheep.
States (fig 76), are the most dreaded by cattlemen of all of the poison plants. There are several kinds, but apparently all are poisonous. As cattle must eat about 3 per cent of their weight in order to be poisoned by these plants, scattered patches of larkspur do little harm. The plants sometimes grow in canyons in thick masses, and it is when hungry cattle drift into these places that heavy losses occur. The destruction of these large patches helps greatly to lessen losses. The saving of cattle resulting from the destruction of large patches of these plants in the national forests has much more than paid for the work involved. It is not feasible wholly to exterminate


Fig. 76.-The locoes, larkspurs, and death camases are widely distributed in the western half of the United States. The death camases are particularly characteristic of the foothill regions. The larkspurs are largely mountain plants and are distributed over practically all of the western mountain regions and to a limited extent in the East. The locoes, which may be considered as the most destructive of all stock-poisoning plants, are characteristic of the Great Plains region.
larkspur, but the danger from it can be greatly lessened. As horses and sheep are not poisoned by larkspur some of the infested ranges can be used by these animals.

The locoes, which have perhaps caused more losses than all the other poisonous plants combined, are widely scattered throughout the Great Plains country (fig. 76). Of the several different species, the white loco or rattle weed, the purple or woolly loco, and the blue loco are the most important. Much of the area where these plants occur has been taken up for farming purposes within the last few years, and the losses though still large are much less than formerly. It has been shown to be profitable to dig out the loco plants in inclosed pastures, but there is no feasible method of controlling loco trouble on the open range.

Not only is it important to know which plants are poisonous, but also that, generally speaking, the greatest losses usually occur at times of feed shortage. Losses seldom occur when the animals have sufficient good pasturage.

Control of Grazing Lands in the Western Range Region.
The majority of livestock producers in the northern half of the range country now own or lease the greater part of their grazing lands. During the past 20 or more years they have purchased large areas of railroad lands and patented homesteads. They have also leased considerable areas of State, Indian, and lumber company lands. A large proportion of the stockmen depend on running as many as possible of their cattle and sheep on the national forests during the summer months. Those who have access to the unrestricted public domain usually try to use these lands for a part of the year. As there is generally insufficient range for all, a large number of them now depend on feeding their animals for from three to five months of the winter.

In the southern range States (excluding Texas, where all the lands are privately owned) the percentage of land owned by livestock producers is considerably less. This is owing largely to the greater aridity of the land, so that the inducement for homesteading has been less. It is also partly because much of the land is too unproductive to justify any great expenditure in acquiring control of it. However, the majority of the producers own, in addition to a headquarters ranch, at least sufficient land on which water can be developed, so that they can control the remaining range. Many of these men lease large areas of railroad, State, and Indian lands. A large number of them depend on grazing a part of their stock on the national forests for at least a part of the year. They also use considerable areas of the remaining free range. For the most part they do not use supplemental feeds, except during periods of severe drought.

## Control of the Federal, State, and Indian Lands.

About half of the western grazing lands are publicly owned or controlled. These may be classified according to their control, as State lands, Indian lands, national forests, and unreserved, unappropriated public domain.


Fig. 77.-Approximately $2,250,000$ cattle and horses (animal units) and over 7,000,000 ewes with about three-fourths as many lambs are grazed annually on the national forests. This is about one-fifth of the cattle and one-third of the sheep in the 11 far Western States. In the more northern forests permits are issued in periods ranging from three to six months, while on some of the southern forests yearlong permits are granted. The average length of grazing season is probably not far from six months.

State lands.-The State lands are areas ceded by the Federal Government to the States for various purposes and are generally scattered in small tracts throughout the entire region. Those not suitable for farming purposes are generally leased for a term of years by stockmen.

Indian lands.-Much of the land lying within the Indian reservations that is not suitable for farming purposes, or is not used by the Indians, is leased to cattle and sheep men, usually in large tracts. In order to prevent overgrazing, the leases usually specify the number of stock that are to be grazed.
The national forests.-The national forests occupy about $133,000,-$ 000 acres of the western range region. Of this it is estimated that about $100,000,000$ to $110,000,000$ acres furnish more or less grazing. These forests were primarily established for the maintenance of a supply of timber and to protect the forest cover which regulates the flow of streams. Grazing as well as all other uses of the forests must of necessity be subservient to these two fundamental needs. However, their use for grazing purposes is now very important to the livestock industry, as nearly two-thirds of the grazing lands that can be used only in the summer in the 11 far Western States lie within these areas (fig. 77).

As the number of livestock listed in applications for the use of these grazing lands is much in excess of the number of animals that can be supported, and in order that farmers and graziers may have opportunity to use the range in proportion to their needs, it has been necessary to establish certain restrictions. Preference is given to United States citizens who own and reside on improved ranch property which is dependent on the national forests, and who own stock within certain exemption limits. These exemption limits vary according to the district. Maximum limits are also established, which, in general, are 400 cattle and 2,500 to 4,000 sheep in the Northwest, and usually 2,000 cattle or 8,000 sheep in the Southwest. Second choice is given to prior users who do not own improved ranch property, and persons owning such property who own stock in excess of the established exemption limit. These are largely men whose main source of income is from livestock.

The grazing permits are granted for periods of one or five years for a definite number of animals, which are, so far as possible, assigned to definite areas. In general the fees charged are less than those charged for the use of similar pasturage in the immediate vicinity.

Public domain.-This area now includes $180,000,000$ acres, located mostly in the Arid Intermountain Region and in the Southwest. These unappropriated lands have a rather low carrying capacity, as the best estimates indicate that at the present time 55 acres of such land, on the average, are needed to carry a steer for six months. These lands have been subjected to years of misuse until they have deteriorated greatly in carrying capacity.
One of the important problems connected with the better utilization of the western ranges is that of the control of the remaining " unappropriated and unreserved" public domain. It is essential that, with a steady growing population, such areas instead of being destroyed, should ultimately be developed to their highest carrying capacity. It is also equally important that the present users, many
of whom are in a precarious financial condition, be given some legal means of control over these lands and thus promote the stabilization of the industry. Under existing conditions they are unable to do this, for any regulations they may attempt among themselves are ineffective, as they can not be enforced.

Practically all of this land can be used only as grazing land, and because of its low grazing capacity it must be used in large units. There are, however, no laws that will permit the use of these grazing lands, either permanently or temporarily, by the stockmen in areas sufficiently large to make their use profitable. Associated with these public lands in the kelts included in the railroad grants are similar grazing lands owned in alternate sections that have passed to private ownership. These are subjected to the same low standard of management as the uncontrolled public lands because of the lack of properly designed legislation.

Livestock producers and scientific investigators are in agreement that the control of the remaining public arid grazing lands and subdivision of the range into proper-sized units by means of fences, provided the value of the range justifies the expense, is sure to bring about an increased productivity of the land and marked improvements in the organization of the range livestock industry. Such control would not only result in stopping the deterioration of the range lands which is now going on, but would also lead to a great increase in the present grazing capacity and, consequently, in the quantity of animals and animal products.

Several methods for the stabilization of the open range have been suggested. Among these are the following: (1) Sell the remaining lands; (2) continue the policy of enlarging the area granted as a grazing homestead; (3) lease the lands; (4) consolidate private and Federal holdings by exchange; (5) give the remaining Federal lands to the States in which they lie; and (6) establish a permit system somewhat similar to that used in the national forests. Each of these policies has its own limitations, its own advantages and disadvantages. None of them is new; all have been tried to some degree.

The method of selling the land is that adopted by Texas long ago with fairly satisfactory results. In the other Western States, where any Government land remains unappropriated and unreserved, ownership of land not to exceed 640 acres by an individual can now be secured under the present grazing homestead act. There are, however, certain limitations as regards the areas subject to entry under this act. The leasing system is that used on most Indian reservations and on State lands. The method of grazing permits is that used in the national forests with satisfactory results. Much of the unappropriated public domain is winter range which must be used in conjunction with the summer range in the national forests.
It is greatly to the interest of every State and individual concerned that the range lands be utilized at their highest permanent efficiency, and that the livestock industry of the West be stabilized. These lands constitute a great national resource and it is manifestly to the interest of all concerned that legislation be enacted which will permit their most efficient use.

## Economic Importance of Farm Pastures.

The proportion of farm land in pasture varies greatly with the region and also with the type of farming. Over half of the total farm land of the country is used for pasture during a portion of the year, and practically a third of the land is used solely for pasture. However, only 10 per cent of the farm area was classified in the census of 1909 as improved pasture. The amount of pasture land in farms in that year varied from a little over 9 per cent in North Carolina, South Carolina, and Georgia, where but little attention is given to pasture, to 83 per cent in Nevada, where agriculture is primarily based on the production of livestock.

For nine scattered localities located mostly in the northern humid region, in which farm-survey records have been obtained, the amount of pasture varies from 21 per cent of the farm area for the farms surveyed in Clinton County, Ind., and Chester County, Pa., to about 50 per cent in Washington County, Ohio, Mercer County, Pa., and Hillsboro County, N. H. (Table 24). In Hillsboro County the acreage in pasture was double that in crops, and in Mercer and Washington Counties it exceeded that in crops. In the Iowa counties, on the other hand, the pasture acreage varied from 45 to 75 per cent of that of the crops.

The kind of pasture also varied widely, depending largely on the character of the country. In the Hillsboro district nearly all the pasture land was untillable, 40 per cent of it being in •woodland. The Mercer County district, where dairying leads, and the Washington County area, where general livestock farming prevails, are also quite hilly. Although 28 per cent of the pasture land in Washington County is classified as tillable land, it is kept in permanent pastures in order to prevent erosion. In the Chester County district half the pasture was tillable, half untillable. The country is rolling. Milk is produced for Philadelphia and as much of the land as possible is kept in crops. However, some of the bottom lands, which are heavily fertilized, furnish luxuriant pasturage. Clinton County, Ind., and Tama County, Iowa, being in a comparatively level country, have large areas in crops, especially corn. In these counties rotation pastures, which constitute about 12 per cent of the farm area, fit in advantageously with the cropping system and furnish grazing for the hogs and beef cattle which are fattened on the corn. In the Dane County, Wis., district, dairying and hog raising are the leading enterprises. Here half of the land is in crops, 15 per cent is in rotation pasture, and 20 per cent in other kinds of pasture.

Table 24.-Proportion of total farm area in crops and in pasture in nine farmsurvey districts in the northern humid region. ${ }^{1}$

| District. | Farms. | Year. | $\begin{aligned} & \text { Aver- } \\ & \text { age } \\ & \text { farm } \\ & \text { area. } \end{aligned}$ | Farm crops. | Farm area in pasture. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{aligned} & \text { Rota- } \\ & \text { titan } \\ & \text { pas- } \\ & \text { ture. } \end{aligned}$ |  |  | $\begin{gathered} \text { Woods } \\ \text { pas- } \\ \text { ture. } \end{gathered}$ | $\begin{aligned} & \text { Total } \\ & \text { pas- } \\ & \text { ture. } \end{aligned}$ |
|  | $\begin{aligned} & \text { Num- } \\ & \text { ber. } \end{aligned}$ |  | Acres. | P.ct. | P.ct. | P.ct. |  |  |  |
|  | $\begin{array}{r}136 \\ 378 \\ \hline\end{array}$ | 1918 |  |  |  |  |  |  |  |
| Mercer County, Pa. ${ }^{4}$ | 349 | 1916 | 101 | 47 |  | 13 | 30 | 10 | ${ }_{53}$ |
| Lenawee County, Mich. ${ }^{\circ}$. | 300 | 1911 | 104 | 57 | 10 | 8 | 6 | 9 | 33 |
|  | 60 | 1913-17 | 148 | 55 | 15 | 4 | 7 | 9 | ${ }^{35}$ |
| Washington County, Ohio ${ }^{\text {\% }}$. | 14 | $\begin{array}{r}1912-22 \\ 1910 \\ \hline\end{array}$ | 157 | 29 | 2 | 28 | 19 | 1 | 50 |
| Clinton County, Ind.8....... | 100 | $\left\{\begin{array}{l}1913-19\end{array}\right.$ | 127 | 74 | 12 | 2 |  | 6 | 20 |
|  | 209 183 | 1918 1918 | 219 177 | 65 52 5 | 13 4 | 9 18 | ${ }_{13}^{6}$ | $\stackrel{2}{5}$ | 30 40 |
| Warren County, Iowa ${ }^{10} \ldots$. | 183 | 1918 | 177 | 52 | 4 | 18 | 13 | 5 | 40 |

[^50]
## Relation of Cost to Pasture Rental.

Pasture Rental.-Studies made by the Department of Agriculture ${ }^{17}$ to determine as accurately as possible the relation of pasture costs to pasture rentals are available for 182 farms in 10 districts (Table 25). In these studies the permanent pastures have generally been valued at considerably less than the crop lands. These values, which include fence investment, vary from $\$ 34$ for the Montana district to $\$ 139$ for Cottonwood County, Minn. In the Wisconsin district the permanent pasture is valued at a little less than half that of crop land. Rotation pastures range in value from $\$ 113$ in the South Dakota district to $\$ 160$ in the Cottonwood County, Minn., district. In computing interest charges on these values, conservative mortgage rates have been used. The figures show that almost no money was spent for pasture equipment or for maintaining or improving these fields.

Table 25.-Acreage and value per acre of land in pasture per farm, 1922, for 182 farms in 10 districts.

| State. | County. | $\begin{aligned} & \text { Num- } \\ & \text { ber } \\ & \text { farms. } \end{aligned}$ | Total. acreage per farm. | Acres in pasture. |  |  | Value per acre, dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Permanent. | Rotation. | Total. | Permanent. | Rotation. | Total average. |
| Kentucky. |  | 23 | 236.6 | 36.2 | 24.9 | 61.1 |  |  | 137.20 |
| Ohio. | Greene. | 20 | 155. 4 | 13.2 | 21.6 | 34.8 | 100.00 | 125.00 | 115. 53 |
| Ohio.. | Medina. | 15 | 131.0 | 38.7 |  | 38.7 | 68.43 |  | 68.43 |
| Wisconsin | Walworth | 23 | 141.6 | 39.9 | 6.5 | 46.4 | 65.33 | 138.63 | 75.61 |
| Minnesota | Steele. | ${ }^{1} 20$ | 186.6 | 42.7 | 2.4 | 45.1 | 127.25 | 140.00 | 127.90 |
| Minnesota. | Cottonwood | 119 | 170.0 | 38.5 | . 5 | 39.0 | 138.81 | 160.00 | 139.00 |
| South Dakot | Kingsbury . | 20 | 289.2 | 18.5 | 15.1 | 33.6 | 103.13 | 113.06 | 107.58 |
| Kansas. | Jackson. | 17 | 206.6 | 75.8 |  | 75.8 | 101. 57 |  | 101.57 |
| Kansas | McPherson | 17 | 308.2 | 50.0 |  | 50.0 | 122.67 |  | 122.67 |
| Montana | Galla | 8 | 326.50 | 96.84 |  | 96.84 | 34.00 |  | 34.00 |

In 1921.
${ }^{17}$ These studies were made in cooperation with the agricultural colleges in the several States.

The slight variation in the various costs in the districts studied is noteworthy (Table 26). Interest charge varies more than any other factor, ranging from $\$ 2.48$ in Gallatin County, Mont., to $\$ 7.27$ in Steele County, Minn. The Montana district has the lowest average cost, but the greatest range in costs of any of the 10 districts. This is owing to the fact that while most of these farmers are using cheap land for their pastures, there are others pasturing high-priced irrigated land. The Minnesota counties have relatively high costs per acre in comparison with the other areas shown. In Steele County this is the result of the land charge and in Cottonwood County of a rather high fencing cost. The miscellaneous costs are interesting, in that they show how little is spent for pasture maintenance or improvement.

Table 26.-Pasture costs per acre, 1922.

| County and State. | Fences. ${ }^{1}$ |  |  |  |  | Land charges. |  |  | Mis-cellaneous. costs. | Total costs. | Range in costs. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Man and horse labor. |  |  | Cash outlay. | Total. | $\begin{aligned} & \text { Inter- } \\ & \text { est. } \end{aligned}$ | Taxes. | Total. |  |  |  |  |
|  | Man hoars. | Horse hours. | Cost. |  |  |  |  |  |  |  | High. | Low. |
| Kentucky. |  |  |  |  | \$0.32 | \$6. 86 | \$1.07 | \$7.93 |  | \$8. 25 | \$16.69 | \$3.12 |
| Greene County, Ohio... | 1.65 | . 67 | \$0.58 | \$1.11 | 1.69 | 5.76 | 1. 24 | 7.00 | \$0.03 | 8.72 | 13.35 | 6.26 |
| Medina County, Ohio. - | . 93 | . 15 | . 30 | . 23 | . 53 | 3. 42 | . 75 | 4.17 | . 01 | 4.71 | 10.76 | 2.60 |
| Walworth County, Wis. | 1. 59 | . 46 | . 45 | . 39 | . 84 | 3.78 | . 93 | 4.71 | . 01 | 5. 56 | 9. 47 | 1.74 |
| Steele County, Minn.... | 2.83 | 1.07 | . 60 | . 14 | . 74 | 7.27 | . 85 | 8.12 | . 03 | 8.89 | 10.84 | 6.11 |
| Cottonwood County, Minn..................... | 2.28 | . 71 | . 90 | . 72 | 1.62 | 6.55 | . 81 | 7.36 | . 01 | 8.99 | 13.21 | 7.82 |
| Kingsbury County, s. Dak. | 2.43 | . 77 | . 64 | . 38 | 1.02 | 6. 45 | . 79 | 7.24 |  | 8.26 | 11. 71 | 2.96 |
| Jackson County, Kans. | 1. 78 | . 72 | . 45 | . 19 | . 64 | 4.07 | . 80 | 4.87 | .01 | 5. 52 | 12.13 | 1. 42 |
| McPherson County, Kans................. | 2.54 | . 54 | . 72 | . 17 | . 89 | 4.91 | . 53 | 5. 44 | . 01 | 6. 34 | 8.98 | 5.40 |
| Gallatin County, Mont. |  |  |  |  | . 20 | 2.48 | . 17 | 2.65 | . 01 | 2.86 | 16.05 | 1.19 |

${ }^{1}$ Fencing costs include both the cost of replacement and repairs.
The rental from these pastures (Table 27) is derived by charging each class of livestock for the use of pasture at current monthly pasture rates in the community. In none of these districts did the rental of the pastures equal the cost, when interest is included on
Table 27.-Relation of the charge for pasturage to total feed cost per farm and rental return per acre for regular pastures.

|  | Total charge for feed and pasture per farm. | Totalpasturecharge(includ-ing fallpas-ture.) | Total rental from regular pasture per farm. ${ }^{2}$ | Per cent total pasture charge was of total feed cost. |  |  | Per cent regular pasture charge was of total feed cost. |  |  | Rental returns from regular pasture per acre. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Average. | High. | Low. | Average. | High. | Low. | Average. | High. | Low. |
| Kentucky Ohio: | \$1, 941. 21 | \$471. 21 | \$378.95 | 24.4 | 53.7 | 10.9 | 19.7 | 45.0 | 8.0 | \$6.20 | \$15.77 | \$2.36 |
| Greene County. | 2,536. 79 | 354.31 | 193.76 | 14.0 | 20.4 | 8.3 | 7.6 | 14.1 | 1.3 | 5.57 | 8.96 | 3. 24 |
| Medina County | 1, 892.53 | 210.60 | 162.78 | 11.1 | 18.9 | 6.6 | 8.6 | 15.5 | . 4 | 4.20 | 10.70 | 2.80 |
| Minnesota: <br> Steele County.. | 2, 268. 29 | 182.06 | 175.13 | 8.0 | 15.5 | 2.8 | 7.7 | 15.5 | 1.6 | 3.89 | 6. 89 | 2.04 |
| Cottonwood | 2, 268.20 | 182.06 | 17.13 | 9.9 | 18.5 | 6.8 | 9.3 | 18.5 | 5.6 | 3.89 5.76 | 6.89 | 2.04 |
| South County...... | 2,412. 20 | 232.97 | 224.47 | 9.7 | 18.0 | 6.8 | 9.3 | 18.0 | 5.6 | 5.76 | 14.66 | 2.52 |
| South Dakota, | 1,890. 51 | 249.88 | 191.06 | 13.2 | 17.3 | 9.2 | 10.1 | 16.4 | 5.9 | 5.69 | 11.60 | 3.15 |
| Kansas: |  |  |  |  |  |  |  |  |  |  |  |  |
| Jackson County McPherson | 2, 047. 58 | 311.74 | 166. 48 | 15.2 | 26.6 | 9.0 | 8.1 | 16.9 | 3.2 | 2.20 | 12.90 | . 72 |
| County. | 1,175.67 | 165. 48 | 132.60 | 14.1 | 33.8 | 3.5 | 11.3 | 24.1 | 2.2 | 2.65 | 12.80 | . 91 |
| Montana, Gallatin County |  |  |  | 16.6 | 30.9 | 11.3 | 14.2 |  |  | 2.77 |  | 1. 20 |
| County . . . . . . . | 1,573. | 313.85 | 267.78 | 16. 6 | 30.9 | 11.3 | 14.2 | 29.8 | 11.0 | 2. 77 | 12.00 | 1.20 |

[^51]the appraised land values. In fact, in only two districts, Gallatin County, Mont., and Medina County, Ohio, was the rental sufficient to cover interest charges at current rates on the capital invested.

While the annual rental rates of these pastures did not return a sufficient income to meet all costs, nevertheless, in most of the

PASTURE COST AND RENTAL VALUE PER ACRE, 10 COST-OF-PRODUCTION AREAS, 1922.


Fig. 78.-In only two districts, Gallatin County, Mont., and Medina County, Ohio, does the rental value equal the interest charge. In these two districts it very nearly equals the annual pasture costs. In Steele County, Minn., and the two Kansas districts the rental value was very low. In the other areas there seems to be a fairly close relationship between the rent and the interest charge. Taxes, as may be expected, show about the same relative fluctuation as interest.
areas the return on land investments, after all other costs had been deducted, compared favorably with the usual returns on land devoted to crops. In Medina County, Ohio, for instance, pasture rental was sufficient to return 4.4 per cent upon the value of land after the maintenance and fencing costs had been cared for. In Montana the pasture rates charged against livestock returned 3.8 per cent on the land valuation; pastures in South Dakota returned 3.6 per cent, and those in Kentucky 3.5 per cent. Although these

FREQUENCY OF PASTURE COSTS AND RENTAL VALUES PER ACRE, NINE COST-OF-PRODUCTION AREAS, 1922.


Fig. 79.-There is wide variation in the pasture costs, these ranging from a little over $\$ 1$ per acre to almost $\$ 17$. The normal cost, however, seems to center around $\$ 6$ to $\$ 8$," which was the average cost for 25 per cent of the farms. The income per acre had very nearly the same range. The normal income, however, was between $\$ 3$ and $\$ 5$, 38 per cent of the farms falling in this group.
returns are not high, it will be remembered that often a large proportion of the land used for pasture is of such a character that it can not be put to other productive uses. Furthermore, the low interest return realized on capital invested in pasture is, in part at least, offset by reduction in the labor cost necessary in caring for livestock while on pasture.

The average rental charge for permanent or rotation pasture per farm varied from $\$ 133$ in McPherson County, Kans., where it constituted about 11 per cent of the feed bill, to $\$ 378$ in Kentucky, where it made nearly one-fifth the total (Table 27). In addition to the regular pasture the animals on most of the farms were given the run of the crop land in the fall. The value of the grazing obtained from aftermath, stubble fields and cornfields varied greatly. It averaged $\$ 7$ and $\$ 9$ per farm each for the two counties in Minnesota. In Green County, Ohio, it averaged $\$ 160$, or 45 per cent of the total pasture charge, and in Jackson County, Kans., \$146 (fig. 80). This variation in the value of crop land pasturage is due to the length of pasture season, the amount of permanent and rotation pasture available, the kind of forage in the pastures, and the livestock kept. Work horses and hogs did not use pastures to the same extent as did cattle and sheep.

The length of the grazing season greatly influences the extent to which pastures are utilized in different areas and upon different farms. This is one reason why the Kentucky district leads the others both in the proportion of total feed cost represented by pasturage and in the average rental return per acre. The Minnesota counties were low in the ratio of pasturage to total feed cost, but compare

PERCENTAGE THAT PASTURE COST WAS OF TOTAL FARM FEED COST,
NINE AREAS IN 1922


Fig. 80.-Pasture rental constituted less than 10 per cent of the total feed bill for the two Minnesota districts, where this charge was very low. In both these districts but little value was assigned to the grazing obtained from the crop fields after harvest. In Kentucky the pasture charge. was nearly 24 per cent of the total feed bill. In the Green County, Ohio, and Jackson County, Kans., districts fall pasturage on crop lands was a very important source of cheap feed.
favorably with other similar areas in the per cent of feed derived from regular pastures. Farmers in those counties are not so extensive users of fall pastures as those in Kentucky, Ohio, and Kansas. In Kansas the extensive use of fall pasturage is in part responsible for the very low rate paid for regular pastures.

## Economic Importance of Pasture on Dairy and Beef Cattle Farms.

The proportion of the total sustenance furnished by pastures on dairy and beef producing farms studied by the Department of Agriculture is much greater than the income from these pastures would indicate. In the seven districts where studies were made concerning requirements for the production of market milk, pasturage furnished very nearly one-third the total sustenance for the cows (Table 28). On these same farms the pasture cost was only oneseventh of the total feed cost.

Records secured for the years 1914-1916 on 478 Corn-Belt farms which produced beef calves, showed-that the breeding cows obtained their entire living from pasture for 200 days and from roughage and concentrates for 165 days. The total annual feed bill for these cows was $\$ 24$ of which pasture constituted $\$ 8.50$. In other words pastures which were furnishing a little over half the total sustenance were credited with only one-third of the feed bill.

The above figures would indicate that farm pastures are generally contributing more of the total sustenance of livestock than the value assigned to them would indicate. Partly because of the low rental value generally assigned to pasture, and also because many of the pastures, especially the mismanaged ones, do not produce as much feed per acre as when crops are grown on the land, there is a tendency to believe that pastures which are arable should be plowed up and put into crops. Many persons, however, do not take into consideration the much greater expense attached to the growing of crops. Unquestionably, there are conditions under which arable pasture lands should be put to more intensive use. On the other hand, there are also conditions where some of the crop land should be in pasture. These factors depend partly on topography and soil conditions, partly on distance from market and partly on labor conditions. There is much hillside land being used for crops which is gradually being eroded, and which in the course of time will be completely ruined. From the standpoint of long-time usefulness such land should be conserved by being kept in grass as much of the time as possible.

Table 28.-Fced units per dairy cow obtained in a year from concentrates, roughage, and pasture in seven widely scattered districts. ${ }^{1}$

| State and time of study. | Year. | Number of cows. | Feed units per cow. |  |  |  | A ver-ageproduc-tion ofmilkpercowperyear. | Feed units per pound of milk. | Per cent of total feed furnished by pasture. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | $\begin{aligned} & \text { Con- } \\ & \text { cen- } \\ & \text { trates. } \end{aligned}$ | $\begin{aligned} & \text { Rough- } \\ & \text { age. } \end{aligned}$ | Pasture. ${ }^{2}$ | Total for year. |  |  |  |  |
| North Carolina(1915-17). | \{First.... | 301 | 1,711 | 2,046 | 1,170 | 4,927 | Pounds ${ }^{\circ}$ | 1. 004 | 23.7 | 7.1 |
|  |  |  |  |  |  |  | 4,908 |  |  |  |
|  |  | 256 | 2,486 | 2,216 | 856 | 5,558 | 4,922 | 1. 129 | 15.4 | 5.2 |
| Indiana (1915- | First.... | 334 | 1,898 | 2,295 | 1,481 | 5, 674 | 6, 877 | . 825 | 26.1 | 17.5 |
| 17)..... | Second.. | 404 | 1,902 | 2,454 | 1,400 | 5,756 | 6,987 | . 824 | 24.3 | 11.5 |
| Vermont (1916- | FFirst.... | 444 | 999 | 2,255 | 2,184 | 5, 438 | 5,415 | 1. 004 | 40.1 | 10.6 |
| 19) | Second.-. | 403 | 1,023 | 2,381 | 2,134 | 5,538 | 5,111 | 1. 083 | 38.5 | 9.6 |
| Washington | First.... | 533 | -937 | 2,216 | 2,062 | 5,215 | 7,369 | . 707 | 39.5 | 24.2 |
| (1917-20)..... | Second. . | 514 | 1,297 | 2,393 | 2,284 | 5,974 | 8,323 | . 717 | 38.2 | 20.7 |
| Nebraska (1917- | First.... | 268 | 1,510 | 2,418 | 1,336 | 5,264 | 5,806 | . 906 | 25.3 | 19. 8 |
| 20) ............ | Second.. | 266 | 1,221 | 2,617 | 2,170 | 6,008 | 5, 843 | 1. 028 | 36.1 | 22.3 |
| Louisiana (1918- | First.... | 452 | 2,079 | 281 | 282 | 2,642 | 2,994 | . 882 | 10.6 | 10.6 |
| 20)............ | Second.. | 441 | 2,452 | 332 | 546 | 3, 330 | 3,263 | 1. 020 | 16.4 | 5.9 |
| Delaware (1919- | FFirst.... | 249 | 1,984 | 1,404 | 2,077 | 5,465 | 5, 556 | . 983 | 38.0 43.0 | 11.9 20.0 |
| 21)............ | Second. | 282 | 1,467 | 1,465 | 2,220 | 5,152 | 5,326 | . 967 | 43.0 | 20.0 |
| Total. |  | 5,147 |  |  |  |  |  | Av. | 29.6 | 14.1 |

[^52]The principle of recurring effeciency is also involved in determining the proportion of the farm area that should be kept in pasture. When a farm is too large for one man to handle efficiently, but is not large enough to justify the hiring of an additional man, it generally would not pay to develop such a place to a 2 -man intensity. Under such conditions the area to be kept in pasture is the amount in excess
of what.the one man can handle efficiently. The same rule applies on farms needing two or three men and so on up, except that as the number of men increases the proportional amount of land kept in pasture would tend to narrow.

## Value of Pastures in the United States.

Estimates of the rental value of pastures in the United States and the sustenance supplied by them, as compared with the value of the crops fed to livestock and the sustenance supplied, leads to the same conclusion as the farm survey records-that pasture is a very cheap source of feed. After making liberal estimates of the rental value of the various classes of pasture itemized in Table 22 it appears that the aggregate rental value of these $1,132,000,000$ acres of pasture in 1919 did not exceed $\$ 1,000,000,000 .{ }^{18}$. This averages about 90 cents per acre, or nearly $\$ 10$ per animal unit for a 6 -months' grazing season. The farm value of crops fed to livestock, on the other hand, was nearly $\$ 8,000,000,000$ (fig. 6). Inasmuch as the sustenance supplied by pastures was nearly equal to that supplied to livestock by the crops, it is evident that pasturage is a very cheap source of feed.

Crops in 1919 commanded a very high price, their aggregate value in that year being nearly three times the value in 1909 and over twice the aggregate value in 1923. Rental value of pasture, on the other hand, is more conventional and less fluctuating. However, after making allowance for the lesser response of pasture to the high price levels of crops and livestock existing in 1919, it appears probable that the annual value of the crops fed to livestock is at least three to four times as great as the rental value of all pastures. Many millions of acres of pasture lands are remote from market and hence are held at a low price, other vast areas are too rough or too dry for the production of crops and have no other competing use. Other areas are free range, as on the public domain of the West, or almost free range, as in the forest and cut-over lands of the South. Yet after these and other factors have been taken into account, it is evident that our pastures have not been given due credit by the farmers and graziers for the feed which they supply.

[^53]
## Bulletins Relating to Hay, Fodder, and Pasture.

The Department of Agriculture has available for distribution a number of bulletins which deal with methods of production, management and utilization of hay and fodder crops and of pastures, including the western ranges. These publications can be secured free in small numbers from the Division of Publications, Department of Agriculture, or may be purchased in quantity at the prices quoted below from the Superintendent of Documents. Government Printing Office, Washington, D. C.

## Hay and Fodder.

Farmers' Bulletins. (Free from United States Department of Agriculture if supply permits; otherwise, 5 cents each from Superintendent of Documents.)
1125. Forage for the Cotton Belt. 1283. How to Grow Alfalfa. 1229. Utilization of Alfalfa. 757. Commercial Varieties of Alfalfa. 1158 . Growing and Vtilizing Sorghums for Forage. 973. The Soy Bean: Its Culture and Vses. 886 . Harvesting Soy Beans for Seed. 1148. Cowpeas: Culture and Varieties. 1153. Cowpeas: Utilization. 515. Vetches. 967. Purple Vetch. 690. The Field Pea as a Forage Crop. 1276. Velvet Beans. 969. Horse Beans. 1365. Clover Failure. 1339. Red Clover Culture. 797. Sweet Clover: Growing the Crop. 820. Sweet Clover: Ctilization. 836. Sweet Clover: Harvesting the Seed Crop. 1151. Alsike Clover. 1142. Growing Crimson Clover. 579. Crimson Clover: Vtilization. 646. Crimson Clover: Seed Production. 693. Bur Clover. 730. Button Clover. 1143. Lespedeza as a Forage Crop. 990. Timothy. 1048. Rhodes Grass. 1126. Sudan Grass. 1130. Carpet Grass. 814. Bermuda Grass. 726. Natal (irass. 1254. Important Cultivated Grasses. 1433. Cultivated Grasses of Secondary Importance.

Dcportment of Agriculture Bulletins. (Free if supply permits; some can be secured from Superintendent of Documents at price quoted.)


#### Abstract

981. Sudan Grass and Related Species (out of print). 1260. Sorghum Experiments in the Great Plains (in press). 1244. Forage Crops in Relation to Agriculture of the Northern Great Plains (in press). 439. Utilization of Sor Beans ( 5 cents). 1174. Hungarian Vetch (5 cents). 876. Hairy Vetch Seed Production in the United States (10 rents). 617. Australian Saltbush (5 cents). 1045. The Sunflower as a Silage Crop (10 cents).

\section*{Pasture and Range.}

Department of Agriculture Bulletins. (Free from Department of Agriculture if supply permits; available in quantity from Superintendent of Documents at prices quoted.) .7.5. Important Range Plants ( 40 cents). 791. Plant Succession in Relation to Range Management (15 cents). 700. Climate and Plant Growth in Certain Vegetative Associations (15 cents). 201. Native Pasture Grasses of the Cnited States 15 cents). 772. The Genera of Grasses of the United States ( 40 cents). 626. Pasture Land on Farms in the Cnited States (10 cents). 1170. Effects of Different Systems and Intensities of Grazing Cpon the Native Vegetation at the Northern Great Plains Field Stations ( 15 cents). 728. Certain Desert Plants as Emergency Stock Feed (10 cents). 575. Stock Poisoning Plants on the Range ( 50 cents). 592. Stock Watering Places on Western Grazing Land (5 cents). 1001. The Relation of Land Tenure to the Uses of Our Grazing Land of the Southwestern States ( 15 cents). 790. Range Management on the National Forests ( 35 cents). 827. Cut-over Pine Lands in the South for Beef Production ( 15 cents).


## Miscellaneous.

Atlas of American Agriculture. Zon.-Natural Vegetation Section. (In press.) Yearbook, 1921. Separate No. 874. Our Beef Supply. ( 20 cents.)
Yearbook, 1906. Separate No. 419, Range Management.

## Bulletins no longer available, except in Iibraries.

[^54]

By L. C. Gray, O. E. Baker, F. J. Marschner, and B. O. Weitz, Bureau of Agricultural Economics, and W. R. Chapline, Ward Shepard, and Raphael Zon, Forest Service.

THE DOMINANT characteristic of American economic life has been abundance of land resources. The assumption of this abundance has colored our habits of thought and become the essential foundation for our economic policy, both individual and public. This national tradition was first seriously challenged by the conservation movement, which caused our people to pause and consider whether our amazing population growth and two centuries of exploitation of natural resources might have altered the outlook. However, that movement directed attention principally to the forests, mineral resources, and water powers, whereas the object of this article is to consider our present situation and future outlook in regard to our resources available for growing the food and raw materials that must be supplied by our crop lands, pastures, and forests. ${ }^{1}$

This will involve (1) a summary of our present land resources and of the extent and character of present uses, and (2) an estimate of future requirements-particularly those of the next few decadesand the relation of these requirements to the potential area available for the various uses.

[^55]The three principal agricultural us:s of the land are for crops, for pasture, and for forest. It is important to consider these three uses jointly, because they are partly competitive and partly complementary in their land requirements. Thus, a large part of the humid land of the United States is physically capable of being employed for each of these three uses. The arid or semiarid land is


Fig. 1.-Crops harvested in 1919 occupied 19 per cent of the land area of the United States. Pasture (excluding both temporary crop pasture and forest land used incidentally for pasture) occupied 43 per cent, and forest and cutover land about 25 per cent of the total area. However. the fifth of the land area in crops yielded a vastly greater annual product measured by value than the two-thirds in pasture and forest. The remaining 13 per cent of the land area was almost equally divided between land in farms not used for crops, pasture, or forest (mostly crop land lying idle, crop failure farmsteads, lanes, and waste areas), and nonagricultural land outside farms (mostly urban land, absolute desert, rocky areas, and land used for roads and railroads). Many of the figures in the graph are estimates.
not suitable for growing forests, ${ }^{2}$ but nearly all of it may be employed for grazing; and the portions where rainfall, topography, and soil are suitable, may be used for crops. Again, the three uses are in part complementary, for much of our forest lands may be used at the same time for grazing, and our crop land may generally be improved by including pasture in the crop rotation. Furthermore, crops and pasture are alternative sources of feed for livestock.

## Present Uses of Our Land Resources.

No attempt at a complete economic classification of the land area of the United States has ever been made. Consequently, in the following discussion it has been necessary to rely largely on estimates made by the writers of this article. ${ }^{3}$


Fig. 2.-The total area shown by the two circles as not at present employed for crops harvested in 1919 , pastures or forests is $237,000,000$ acres, almost equally divided between land in farms and land not in farms. It should be noted, however, that the items under land in farms includes an estimated $15,000,000$ acres of crop failure in 1919 , which was a very dry year in the spring-wheat region of the Northwest, and an estimated $25,000,000$ acres of crop land lying idle or fallow. If these $40,000,000$ acres are subtracted there remain only $75,000,000$ acres of land in farms not used for crops, pasture. or forests. The $6,000,000$ acres of national parks include about $3,000.000$ acres of forest, which is not utilized as such. Of the entire $237,000,000$ acres of such land in farms and not in farms it is estimated that about one-half is physically capable of use in the future for crops. pasture, or forest.

The estimated division of our total land area of approximately $1,903,000,000$ acres, ${ }^{4}$ from the standpoint of the present uses of the surface, is summarized in Figure 1.

[^56]It will be noted that, of the total area, only about $237,000,000$ acres, or a little over 12 per cent, are not already in use for crops, pasture, or forest (fig. 2). More than half of this land, about $122,000,000$ acres, is outside the boundaries of farms, while about $115,000,000$ acres are land in farms not employed at present for any of the three uses mentioned. However, this last includes an estimate of $15,000,000$ acres of crop land not harvested, because of crop failure, and an estimate of $25,000,000$ acres of crop land idle or fallow. ${ }^{5}$

Of the $237,000,000$ acres not used at present for harvested crops, pasture, or forest, it is estimated that less than one-half may some time be employed for one or more of these purposes, leaving $134,000,000$ acres that can not be employed for crops, grazing, or forests in the future, either because devoted to other uses or because physically unsuitable. ${ }^{6}$

Thus, it appears that there is an area of less than $1,800,000,000$ acres $(1,769,000,000)$ capable of being used for either crops, pasture, or forest, although for part of it some form of reclamation would be necessary. Ultimately, of course, the increase of population will require the employment of somewhat larger areas of land for cities and villages, roads, and farmsteads. When the maximum population of the Nation is attained, it is probable that about $35,000,000$ acres more may be needed for these uses, reducing

[^57]the area ultimately available for crops, pasture, and forest to approximately $1,734,000,000$ acres of land. ${ }^{7}$

Land Now Used for Crops, Pasture, and Forest.

About $1,666,000,000$ acres, or 94 per cent of the $1,769,000,000$ acres available for crops, pasture, and forest, are now employed for one or more of the three uses (fig. 1). ${ }^{8}$ However, very large areas are of low productiveness and will be always, even allowing for future progress; and other large areas are greatly under-used.

Thus, it is estimated that $587,000,000$ acres, or nearly a third of the total available area, are arid or semiarid pasture and range. All of this land is in the West. For the most part, the carrying capacity is very low, requiring an estimated average of 24 acres to maintain an animal unit for the grazing season. In spite of the enormous magnitude of the area, amounting to more than six times the farming area of Germany before the World War, it is estimated that in 1920 it supplied pasture for the grazing season sufficient to maintain without supplemental feed only a little more than $24,000,000$ animal units, ${ }^{9}$ or about 22 per cent of the total livestock on farms and


Fig. 3.-The largest acreage of unimproved pasture in farms, including woodland pastures, as reported to the census enumerators in 1910 , was in the subhumid to arid Great Plains region, notably in Texas, and in the valleys and plateaus of the Pacific Coast States. In addition to the unimproved pastures in farms in the West there is a much larger acreage of similar but usually more arid land not in farms. Since 1910 a large area of range-land in the West has been added to the farming acreage. Large acreages of unimproved pasture will also be noted in the steeply rolling to rough lands of the upper Mississippi Valley and in the hilly New England States. Similar information was gathered in the 1920 census, but has been tabulated as yet only for a few States.
ranges in the United States. Allowing for the winter feed needed. this pasture and range land supplied approximately 16 per cent of the sustenance needed during the year by all livestock.

[^58]A small part of this area of semiarid and arid pasture (about $44,000,000$ acres, much of which is piñon-juniper and chaparral) is included in the national forests (see top bar of figure 1). This area is used for grazing under careful regulations which make for efficient use. Another area subject to public restrictions is the semiarid grazing land included in Indian reservations. About 141,000,000 acres of semiarid grazing land are in the unreserved public domain, and are used as an unrestricted grazing commons, which results in the most inefficient utilization and which has caused a great deterioration in the quality of the range. Somewhat better employed are the $67,000,000$ acres of other publicly owned land, mostly belonging to the States, and the $172,000,000$ acres privately owned but not in farms. However, over much of this land the range is almost as badly overgrazed as in the public domain. The $163,000,000$ acres in farms, of which $10,000,000$ are reported improved, are not subject to the devastating effects of competitive grazing by rival stockmen;


FIG. 4.-The largest acreage of improved pasture in 1910 was in the upper Ohio Valley, the western portion of Corn Belt, the southern part of the hay and dairying region, and the eastern portion of the Great Plains; in other words, in the best general farming and livestock-producing sections of the United States. The concentration of pasture acreage shown in certain Texas counties in the map above, and also in Figure 3, is largely due to the census reporting total acreage of ranches as being located in the same county as the ranch headquarters are located, and includes, therefore, ranch land lying in adjacent counties. These maps are based on a special tabulation of the census schedules made by the Department of Agriculture and published in department Bulletin 626 .
but, for the most part, the ranchers have not developed conservative methods of using their land (fig. 3). ${ }^{10}$

Humid grassland pasture-that is, humid pasture other than woodland-occupies an area estimated at $231,000,000$ acres; with a carrying capacity averaging about one animal unit per 5 acres. Of this area about $60,000,000$ acres are improved pastures in farms (fig. 4), consisting mostly of rotation pastures and permanent seeded pastures with an estimated average carrying capacity of one animal unit to $2 \frac{1}{2}$ acres for a 6 -month season. About $88,000,000$ acres are unimproved pasture in farms (fig. 1), with an average carrying capacity estimated at one animal unit to $5 \frac{1}{2}$ acres. ${ }^{11}$ The

[^59]

Fig. 5.-This generalized map of forest areas, including cut-over and burned-over lands and arid woodland, was prepared in cooperation with the Forest Service. The figures given in the table are merely tentative. As a result of more recent estimates the statistics for individual States are somewhat different from estimates previously published. The estimates for the originally forested atistics portion of the United States, except for several States in which forest surveys have been made, are based largely on deductions from the statistics of the 1920 census. These compilations were made by counties. of the 483,000 oon acres of forest and cut over land in the United States, about one-half is in the South, one-eighth in the Northeastern States, one-eighth in the cutStates, and nearly onequarter in the West, mostly in the Rocky Mountain and north Pacific regions. Howere over the Lakes $138,000,000$ acres of virgin saw timber is in the West.


Fig. 6.-Over five-sixths of the crop land is in the humid eastern half of the United States, and nearly two-thirds is concentrated in a triangular-shaped area, the points of which are located in western Pennsylvania, central Texas, and north central North Dakota. In this area, which includes only about one-fourth of the land of the United States, are produced four-fifths of the corn. threefavorable natural conditions for the growth of corn, and few regions possess so favorable conditions for the culture of the small grain and hay crops.
remaining area is publicly owned land or privately owned land not in farms. (See bottom bar of figure 1.)

Another large area is classed as forest (including cut-over and burned-over land), estimated at $483,000,000$ acres, or 27 per cent of the total area available for the three uses (fig. 5). However, of this amount $81,000,000$ acres are cut-over land not restocking, that is, not becoming reforested, and $142,000,000$ acres are timber of cordwood size. About $260,000,000$ acres are saw timber, of which only $138,000,000$ are virgin forest. ${ }^{12}$ Of the total forest, cut-over and burned-over area, it is estimated that about $237,000,000$ acres are employed for grazing. Almost one-third of this is in the national forests and Indian reservations, about one-third is wood lots in farms used for grazing, and the remainder is privately owned land not in farms. The carrying capacity of this forest and cut-overpasture is very low, estimated at an average of about 23 acres per animal unit for a 6 -month season.

In addition to the $483,000,000$ acres classed as forest, there is an area of about $80,000,000$ acres of mesquite, piñon-juniper, live oak. and chaparral, nearly all of which is included in the area of semiarid grazing land. The wood on this land is useful for fuel and fence posts, and will undoubtedly be more widely used when the price offered justifies transportation to centers of consumption. (See fig. 5.)

Land in crops harvested in 1919 is estimated at $365,000,000$ acres (fig. 6), or only a little over one-fifth of the total area available for the three uses. However, there is always a considerable area of land planted to crops not harvested, mainly on account of crop failure. This is estimated roughly at $15,000,000$ acres for 1919 . There was also an area of crop land lying idle or fallow estimated at $25,000,000$ acres. Some of this probably consists of old fields recently abandoned. ${ }^{13}$

## Land Potentially Available for Crops, Pasture, or Forest.

With the agricultural derelopment of the United States, the acreage of crops has been more or less constantly expanding, in earlier periods largely at the expense of forest, and more recently mostly at the expense of pasture (see fig. 20). This process will probably continue with the increase of population, and although it is unlikely that the limits set by physical conditions to the expansion of crop land will ever be reached, it is helpful in studying the problems of crop-land utilization to determine what these extreme physical limits are. From this point of view, the estimated potential areas of land capable of being used for crops are shown in Figure 10.

[^60]

Fig. 7.-The area of irrigated land increased $5,000,000$ acres, or one-third, between 1909 and 1919 ; and the irrigation enterprises were capable of irrigating $7,000,000$ acres more than were actually irrigated in 1919. There is sufficient water in the West to irrigate double the area that existing enterprises were capable of irrigating in 1920 , or about $50,000,000$ acres, when higher prices of farm products justify the constantly increasing cost per acre of construction of irrigation works. California, Colorado, and Idaho farm in irrigated acreage at present; but Montana rises into second place in the estimate of total irrigable area. Estimates of irrigable area were supplied by R. P. Teele.


Fig. 8.-This map is based largely upon drainage reports available in the Division of Agricultural Engineering (Drainage Investigations) and upon maps of the United States Soil Survey, United States Geological Survey, and the General Land Office. These reports and maps were compared with statistics of drainage enterprises and of land in farms needing drainage, available for the first time in the 1920 census, by L. A. Jones, of the Bureau of Public Roads, and F. J. Marschner, of the Bureau of Agricultural Economics. Two-thirds of the land unfit for caltivation without drainage is in the Southern States and one-half of the remainder is in the three Lakes States. Nearly all of the wet land in the South, except the Florida Everglades and prairies, tidal marshes, and Gulf coastal prairies, is forested, and requires both drainage and clearing; but much of, the wet land in the Lakes States consists of unforested peat bogs. Of the $91,000,000$ acres or more of wet land it is estimated that only $75,000,000$ acres can be drained at a cost that
will ever prove feasible.


FIG. 9.-This map is based on compilations by counties for the eastern forest region, including a marginal woodland belt containing about $19,000,000$ acres, along the western edge of the forest regi on in Texas and Oklahoma. The study also included the Pacific Coast States, the Idaho Panhandle, and northwestern Montana. Most of the region in between is either arid or so mountainous that forest land suitable for crops is available only in small areas characterized for the most part by a very short growing season, and is insignificant in amount. Only a smalises land even of fair quality. Much of this land would require heavy expenaiture for fertilization in the finded States pense for clearing. By far the greater part consists either of sands or light sandy loams ered by the Soil Survey and descriptive data in the (reneral Land Office survey records, and was prepared by F. J. Marschner, Bureau of Igricultural Fconomics (Division of Land Feonomics).

It appears that about $100,000,000$ acres more of improved land, mostly improved pasture, are potentially available for crop production. The rapid increase in crop acreage during the World War came largely from this improved pasture land. There are also about $30,000,000$ acres more of land in the West which it is possible to irrigate (fig. 7) and about $75,000,000$ acres more of potential crop land unfit for crops without drainage, though the greater part of it must also be cleared of timber or stumps (fig. 8). A large area of humid unimproved land, estimated at $235,000,000$ acres, is physically capable of crop production without drainage. About $170,000,000$ acres of this are forest and cut-over land, located mostly in the South and in the Lake States (fig. 9). Finally, there are about $52,000,000$ acres of subhumid lands, mostly in the Great Plains region,


Fig. 10.-In addition to the $365,000,000$ acres of land in harvested crops in 1919 , it is estimated that there are also about $600,000,000$ acres physically capable of being utilized for crops some time in the future. This includes practically all the land that is not too rough, rocky, sandy, cold, or dry, or that is not now employed for uses other than agriculture and forests. Consequently it includes some land that it will not be economical to reclaim for crops even when we reach our maximum population. It also makes no allowance for pasture, except semiarid pasture too dry for crops and a small amount of humid pasture too rough for cultivation, nor for land needed for the expansion of urban areas, roads, railroads, etc. Undoubtedly, a part of this potential crop area will always be employed for pasture. Most of the figures are based on estimates.
and possibly $116,000,000$ acres of semiarid land, mostly east of the Rocky Mountains, which could, if necessary, be utilized for dryland crops. ${ }^{14}$

There are in all, therefore, about $608,000,000$ acres of potential crop land, which, added to the $365,000,000$ acres in harvested crops, orchards, vineyards, etc., make a total of $973,000,000$ acres (fig. 10). When one recalls the fact that the crop area of the German Empire before the World War was only about $70,000,000$ acres, ${ }^{15}$ the above area appears enormous. Howerer, for a number of reasons the estimate of potential crop area gives an entirely unreal and illusory conception of our available resources.

In the first place, as noted above, this is the area of land that is physically capable of being employed for crops when our need shall become so extreme that considerations of cost of utilization are relatively secondary. Thus, of the land capable of being employed for crops, pasture, and forest in the originally forested region of the eastern half of the United States, there is excluded only the land too rough for crops and about $16,000,000$ acres of loose sands which it was considered proper to regard as suitable only for forest (fig. 11). The area indicated as capable of being employed for crops is mostly land that would have to be cleared of timber or of brush and stumps, much of it at heavy cost. Only about $32,000,000$ acres are classed as heavy soils. The remainder consists of $162,000,000$ acres of soils of medium texture and $26,000,000$ acres of fine sands. Most of the former area is light sandy loam. Without doubt practically all of the area of fine sands and a large proportion of the medium-textured soils are of low productivity; but. they constitute a reserve area of considerable importance for vegetables, fruits, and other intensively cultivated crops, notably cotton and tobacco. Probably heavy annual fertilization will be required for most of this land. Moreover, a considerable part of the area, though not absolutely too rough to be used for crops, is so

[^61]

Fig. 11.-Most of the $220,000,000$ acres in the region capable of use for crops without drainage is now forest or cut-over eastern originally forested land. There are about $9,000,000$ acres more of such land in the Prairie States. The light soils will, in general, need more fertilizer than the heavy soils. The soils of medium texture are mostly sandy loam. The swamps and other wet lands are also forested for the most part, and will, therefore, require clearing in addition to drainage. At least 15 per cent of these swamp lands, owing to adverse conditions, is unlikely ever to be drained. Some of the rough, mountain land can be used for orchards, provided the slopes are kept in sod; but the amount of land likely to be so used is very small. Similarly some of the loose sands can be used for crops provided fertilizer is liberally applied, but the extent of such land will remain very small so long as better lands are available. Undoubtedly most of these $457,000,000$ acres of land will not be needed for crops until at least another crop of timber can be cut (see p. 495).
rolling that erosion would probably result in serious soil depletion. Some of this land in the northern portion of the Lake States is also subject to summer frosts. Most of the potential crop land in the eastern forest region is either in the Southern States or in the northern parts of Minnesota, Wisconsin, and Michigan (fig. 9).

Of the estimated $75,000,000$ acres capable of being employed for crops after drainage (fig. 8), probably about 68 per cent would also have to be cleared of trees or stumps and brush. Much of the drainable land is fertile, but considerable areas are either deficient in fertility or the soils are of undesirable texture.

The reclamation of arid land by irrigation (fig. 7) also involves heavy costs. The steady increase in average cost per acre for irrigation, which was about eight times as high for projects begun in the decade 1910-19 as for projects begun prior to 1890, suggests that the easier projects were first undertaken and that much of the remaining area classed as irrigable will require extremely heavy costs for construction of dams and ditches.

Of the $100,000,000$ acres of so-called improved land not used for crops, a considerable part is probably potential crop land of fair quality. In fact, an estimated $15,000,000$ acres is land actually employed for crops but not harvested in 1919. Much of this is land in the semiarid crop regions of the West, however, where crop failure because of inadequate rainfall is frequent. About $25,000,000$ acres is crop land which is idle or fallow. This is found mostly in the semiarid wheat areas of the West, where bare fallowing to conserve moisture is practiced, and in the South and East, where many unprofitable fields have been allowed to grow up to broom sedge and weeds. Much of the $60,000,000$ acres of improved land in pasture is pasture in rotation with crops, probably the equal of the crop land in fertility; and most of the remainder is fertile permanent pasture. However, to devote any large part of this area to crops without providing a substitute by the improvement of pasture now classed as unimproved would result in the serious disturbance of the necessary relationship of pasture to crops in the systems of farming.
The potential crop land in the subhumid prairies comprises land which hitherto has not been employed for crops or for improved pastures, either because of rough topography or the presence of stone or because the soil is shallow or infertile. Most of this area is in central Texas and Oklahoma.

The potential crop land in the semiarid portion of the Great Plains region has mostly so low a rainfall that an average yield of wheat year in and year out would probably be not more than 7 bushels to the acre. The price of wheat would need to be much higher than at present to make its production profitable under these circumstances In fact, much of the land in this region which has been planted to wheat has proved to be unprofitable at the present level of prices. However, when the population of the nation becomes much greater than at present, considerable portions of this area may be used for grain production, supplemented by the raising of livestock on forage crops, range pasture, and the straw and stubble.
Of the estimated area of $18,000,000$ acres of potential crop land west of the Great Plains not irrigable or drainable, about one-third is humid or subhumid land in the Pacific Coast States or in mountain parks. Most of this humid land is covered with heavy forests or
with the large stumps left after lumbering. The cost of clearing is very heavy. The remaining two-thirds is largely semiarid land.

It is also important to keep in mind the fact that most of the potential crop area shown in Figure 10 is now used either for forest or for grazing, and if used for crops would not be available for these other uses. As previously noted, about $1,769,000,000$ acres are available for all three uses. Of this amount, $468,000,000$ acres are land so


Fig. 12.-Of the $1,903,000,000$ acres in the Cnited States, about $468,000,000$ acres are arid range, suitable only for grazing, with very low-carrying capacity. About $328,000,000$ acres are humid land, of which $262,000,000$ acres are so rough or sandy that the land is primarily valuable only for forests, and $66,000,000$ acres are too rough for cultivation, but used for pasture and not forested at present. About $973,000,000$ acres are physically capable of use for either crops or pasture, but probably a considerable portion will remain in forest. (See fig. 10.) With the increase of population the area devoted to cities, roads, farmsteads, etc., will need to be increased somewhat. The figures are based largely on estimates.
arid that it is capable of being used only for grazing (fig. 12). Another area of $262,000,000$ acres is capable of being used only for forest. Most of this is mountainous or other land of rough topography (fig. 13). Thus, if all of the $973,000,000$ acres of potential crop land were employed for crops, there would remain $66,000,000$


Fig. 13.-The study on which this map is based, as in the case of Figures 9 and 11, included county compilations only for the eastern half of the United States and the Pacific Coast States. Within these regions the land lad cossed as suitable only for for the eastern
of the areas too rough for crops and the areas of coarse consists of the areas too rough for crops and the areas of coarse sand. The total is about $152,000,000$ acres in the East and $67,000,000$
acres in the Paclfic Coast States, to which have been added 53000000 ares in the Rock acres in the Paclfic Coast States, to which have been added $53,000,000$ acres in the Rocky Mountain region suitable only for forests.
There are, in addition, probably $200,000,000$ acres of land that can There are, in addition, probably $200,000,000$ acres of land that can be more economically used for forests than for other purposes Uning the next few decades."The increase of "improved" and cleared "unimproved" farm land in the forested portions of the in the rate of clearing during the next few decades. 1910 and 1920 , and there seems little likelihood that there will be any great increase
acres of humid pasture land other than forest or cut-over pasture. It is obvious that even a nation of very dense population would not maintain so small a proportion of pasture to crop land. In Germany, where the density of population is many times as great as it is in the humid portion of the United States, pasture, other than woodland pasture, comprises an area about two-thirds as large as the area of land in crops.

As will be shown later, the $262,000,000$ acres of forest would provide, even under the best of conditions, for growing a supply of timber, for only a small part of our present per capita consumption of timber and timber products. Furthermore, in the next few decades we shall by no means need for crops all of this area of potential crop land. Consequently, the problem of future land utilization becomes one of relative requirements for the several uses. A primary object of the present study is to determine these requirements for the next few decades as a basis for indicating the nature of the land policy required.

## Increasing Scarcity of Land Resources and Nature of This Scarcity.

As long as a large portion of our national domain remained unused for crops, pasture, or forest, the potential competition of these uses for our national area was not apparent. For some decades, however, we have been using for crops or for grazing the greater part of the land not occupied by forests, and during this period there has been practically no important reserve area for the expansion of any one of the three uses except at the expense of the others. Consequently, the growth of our population has resulted in an ever-increasing scarcity of our available land area, and it is important to consider some of the evidences of this scarcity.

Decrease in Per Capita Acreage of Land in Farms, of Improved Land, and of Land in Crops.

According to the census of 1920, the area of land in farms had increased more than threefold since 1850 , while the area of improved land had increased nearly fivefold (fig. 14). Howéver, the per capita acreage of farm land reached a maximum at the outbreak of the Civil War (fig. 15). The decade in which the Civil War occurred resulted in a notable decline in per capita acreage of farm land. In 1900 the per capita acreage of farm land was larger than in 1870, mainly as a result of the tremendous expansion of the area of land in farms from 1890 to 1900 , but thereafter decreased. The per capita acreage of improved land in farms was at the maximum in 1880 and 1890. The per capita acreage of crop land has declined since 1900.

The decline in the per capita acreage of improved land and of crop land during the last few decades is attributable partly to the limited area of the United States available for crops, pasture, and forest. But it has been due even more to the difficulty of enlarging our crop area by the addition of land of a quality capable of being profitably used for crops.

The decline in the per capita area of farm land, improved land, and land in crops is the result of a number of factors. The cen-


Fig. 14.-While the increase in the area of land in farms from 1850 to 1920 was greater than the increase of improved land, the rate of increase for the former was less than for the latter. However, since 1880 the ratio of improved land to farm land has been more or less constant at about 1 to 2. From 1880 (when census figures of crop acreage became available) to 1920 the harvested area of the principal crops increased at a more rapid rate than the area of all farm land or of improved farm land. In other words, the proportion of the improved land which is in crops was increasing, and the proportion in pasture was decreasing accordingly.

PER CAPITA AREA OF LAND IN FARMS AND OF IMPROVED FARM LAND, THE UNITED STATES, 1850-1920; PER CAPITA HARVESTED AREA OF 14 PRINCIPAL CROPS, 1880-1920; AND INDEX OF PER CAPITA PRODUCTION OF 9 PRINCIPAL CROPS (5-YEAR AVERAGES CENTERED ON CENSUS YEARS), 1870-1920.


Fig. 15.-The per capita acreage of land in farms has shown a decreasing trend since 1850. The per capita acreage of improved îarm land was about the same in 1920 as in 1850 , but has decreased in each decade since 1890 , when the maximum was attained. The per capita area of land in the 14 principal crops increased slightly from 1880 to 1900 , but was less in each succeeding decade. The index of per capita production of 9 principal crops increased from 1870 to 1900 , but was less in 1920 than in 1900 . The data on acreage of land in farms, improved land, and crop land are from the census. The data on per capita production represent 5 -year averages of Department of Agriculture estimates, centered on census years. The crops are combined on the basis of the aggregate value obtained by multiplying the total product of each by the 43 -year average price. Comparable data for all decades are available for only nine crops, comprising, however, nearly 90 per cent of the total crop area.
sus of 1920 revealed the fact that, since 1910, in that part of the United States east of the Great Plains, there had occurred a widespread decrease in the acreage of land in farms, amounting to 7,000 ,1000 acres, with an increase only in a few scattered localities, the most important of which were the northern portion of the Great Lakes States, the Mississippi River bottoms, particularly in Missouri and Arkansas, and a few other districts where the reclamation of land by drainage or clearing was taking place (figs. 16 and 17). This decrease was offiset by a widespread increase in the area of land in farms in the western half of the United States, amounting


Figs. 16 and 17. With the exception of the northern portion of the Great Lakes States, Florida, and southeastern Oklahoma, there was no notable increase in the acreage of land in farms east of the Great Plains. In the latter region and other parts of the West the great expansion of the area of land in farms was owing largely to the enactment of the enlarged homestead act, in 1909 , and the grazing homestead act, in 1916 , which authorized entry of 320 and 640 acres of land, respectively. With the exception of the areas mentioned, and a few other scattering districts where reclamation of one kind or another occurred, decreasing acreage of land in farms was the general tendency east of the Great Plains. The marked decreases in Texas were probably mostly nominal, being due largely to shifts of the headquarters of large cattle ranches from one county to another.
altogether to $84,000,000$ acres. A large proportion of this land has proven suitable for grazing rather than for crops. In fact, the total increase of improved land in the West between 1910 and 1920 was 24,000,000 acres, much of it being the result of the improvement of land already in farms.

In spite of the general decrease of land in farms in the eastern half of the country, there was a net increase in crop land in this section amounting to nearly $25,000,000$ acres, while in the western half of the country the increase was about $20,000,000$ acres (figs. 18 and 19). Although this increase in crop acreage in the eastern half of


[^62]the country may include small additions to both farm area and crop area through drainage or clearing of land, it more largely comprises the using for crops of improved pasture land in farms. The fact that improved land in the United States increased only $25,000,000$ acres during the decade, while the area of land in crops increased about $45,000,000$ acres, indicates that a large proportion of the increase in crop area came from improved pasture land.

Since 1920 the area of farm land and of improved land has increased very little, possibly not at all, and the acreage in crops has decreased since 1919. Population, on the other hand, has probably increased somewhat more rapidly than during the decade 19101919, which included the war years and epidemics of influenza. The rate of decrease of per capita acreage of farm land, improved land, and crop land, therefore, has probably been more rapid since the World War than before.

Has this decrease for more than two decades in the acreage of crops per capita meant also a decline in production per capita, or may not the decrease of per capita acreage have been offset by a larger yield per acre? The answer to both questions probably must be in the negative. The index of average production per acre increased considerably from the 5 -year period 1883-87 to that of 1903-07, but from the latter period until 1918-22 there was, if anything, a slight decrease in the index (fig. $4 \dot{5}$ ). ${ }^{17}$

## Decrease in Area of Pasture.

The significance of the decline in the per capita acreage of crop. land during the past two decades is emphasized all the more by the fact that it has been accompanied by an even more marked decrease in the per capita area of grazing land, including that without as well as within the boundaries of farms. For, whereas the area of farm land during the period was increasing, albeit, not with sufficient rapidity to keep up with the increase of population, this very increase involved a decrease in the total area of land not in farms. Nearly all the land not in farms suitable for grazing has been grazed since 1890. ${ }^{18}$.Within the area of land in farms, crops have encroached constantly on the pasture land. Crop land increased 11.3 per cent between 1909 and 1919, whereas farm land increased only 8.8 per cent. It appears almost certain that half of the increase in crop land during this decade was at the expense of improved pasture, and much of the remaining half from unimproved pasture within or without farm boundaries. The clearing of forest land in farms and the use of this land for pasture ${ }^{19}$ has not been nearly so

[^63]extensive as the expansion of crop land. In fact, the actual area of land used for pasture has probably decreased since 1880, and almost certainly since 1890 (fig. 20). The estimated amount of decrease per decade in pasture area since 1890 is as follows: ${ }^{20}$


On the basis of these estimates it appears that the per capita acreage of humid pasture (exclusive of woodland) and semiarid pasture was reduced from 14.28 acres to 7.75 acres, or nearly half during the 30 years. Moreover, the carrying capacity of the pasture

TREND IN THE USE OF THE LAND AREA FOR CROPS, PASTURE, AND FOREST, UNITED STATES, 1880-1920.


Fig. 20.-The area of land in harvested crops has steadily increased at the expense of forest and cut-over land, on the one hand, and of pasture, on the other band. During recent years the increase has been mostly at the expense of improved pasture. The area of other uses and waste has been practically constant, while the area for cities, farmsteads, roads, etc., has increased, this increase is probably offset by the decrease in area of waste land.
per acre probably decreased also, since the pasture land put into crops was undoubtedly the best pasture.

The growing scarcity of land available for grazing is reflected in the statistics of livestock. The per capita number of livestock in 1922 was less than two-thirds that in 1894 (fig. 21). This was largely caused by decreases in the per capita numbers of sheep, beef cattle, horses, and mules. The expansion of the livestock industry across

[^64]the central and far West between-1850 and 1900, and its stationary condition since, are shown in Figures 22 to 29.

TRENDS OF TOTAL AND PER CAPITA NUMBERS OF LIVESTOCK, UNITED STATES, 1850-1922.


Fig. 21.-Since about 1894 there has been but little increase in the total number of livestack in the United States, and consequently the number per capita in 1922 was only about two-thirds that of 1894 . In order to reduce the different classes of livestock for any given year to a single figure, the number of head of each class was given a relative weight equivalent to its $56-y e a r$ average price. The curve probably contains a certain margin of error due to defects in basic statistics, as revealed by the sudden variations from trend shown at cerfain periods, as, for instance, between 1906 and 1907.

Increasing Land Values as an Indication of Increasing Scarcity of Farm Land.

An increase in the average valuation of land per acre is not a conclusive proof of the increasing scarcity of land in a particular country. It may be a result of other influences, such as a decrease in the rate of capitalization or influences outside of the country affecting the world market. Again, an increase in average valuation per acre for the country as a whole may reflect the influences of the addition of new cheap lands in the process of expansion. However, changes in land values may tend to confirm other indications.

The trend in the value of farm real estate per acre from 1850 to 1920, according to the decennial census, is shown in Figure $30 .{ }^{21}$

When land valuation is expressed in current dollars without reference to changes in the value of the dollar itself, without regard to the relationship between the valuation of land expressed in dollars and the valuation of other commodities expressed in dollars, it appears that the valuation per acre of farm land has increased during every decade except from 1890 to 1900 . This upward trend has occurred in spite of the fact that each decade has seen included in the land area of the nation a large acreage of new and cheap farm land.

However, when the valuation of land per acre is expressed in current dollars, the upward movement may reflect merely inflation

[^65]

Figs. 22 to 25 .-In 1850 only the eastern portion of the Corn Belt was occupied by livestock, and that sparsely, and only a beginning had been made in the extreme southern part of the great dairy States, Wisconsin and Michigan. There were no livestock reported in Iowa, except the extreme eastern part, nor in Minnesota, the Dakotas, Nebraska, and Kansas. A beginning had been made in eastern Texas. Between 1850 and 1880 the Corn Belt, the southern parts of the Great Lakes States, Texas, and the more desirable parts of the Pacific coast and the Rocky Mountains were largely occupied by livestock, but little progress had been made in the Dakotas and Oklahoma, and the vast arid range lands of the western half of the United States were only partly utilized


Figs. 26 to 29.-Between 1880 and 1920 the principal extensions in the territory occupied by livestock were the Dakotas and Montana east of the mountains, the western third of Texas, and Oklahoma. Most of this increase was between 1880 and 1890 . Between 1890 and 1920 there appears to have been some decrease in the quantity of live stock in much of the Corn Belt. In this series of maps (figs. 22 to 29, inclusive) the various classes of livestock are converted to a single unit of measurement, based on the average values of 56 years, in order to show the expansion of the livestock industry considered as a whole. The statistics were compiled by Dr. Sewell Wright, Bureau of Animal Industry.
of the currency and be a part of a general increase in the prices of all commodities. When we divide the average valuation of farm land per acre by the index number of prices of all commodities (land not being included), we get a rough measure of the changes in the value of land; that is, of the purchasing power of land in terms of other commodities. The figures thus calculated indicate a decrease in the average value of land per acre during three decades since 1850: 1860-69, 1890-99, and 1910-19. ${ }^{22}$

The average figure for the nation as a whole is complicated by the continuous inclusion of new land. A more significant indication of the trend is that available for Ohio by years (fig. 31). This curve

AVERAGE VALUATION PER ACRE OF FARM REAL ESTATE, UNITED STATES, 1850-1919.


Fig. 30.-The general trend of the valuation of farm real estate has been upward since 1850 , so far as it is revealed by decennial census figures. The upward movement was especially rapid from 1900 to 1920 , but from 1910 to 1920 the increase in the valuation of land was not as rapid as the upward movement of general commodity prices. Consequently the valuation of farm land expressed in dollars of the purchasing power of 1913 decreased. This decrease was largely due to the tendency for the movement of land values to lag somewhat behind the movement of general commodity prices.
shows the strong upward movement beginning about 1900, but it also shows a slight downward trend preceding 1900.

The trend in the value of farm land up to 1920 appears to confirm the conclusion, supported also by other facts, that the nation reached and passed the apogee of agricultural land supply in proportion to population about three decades ago, and that we have entered a period which will necessarily be marked by a continually increasing scarcity of land. For, although the present area of land in farms is only about one-half the total land area of the United States and the improved farm land is only about one-quarter,

[^66]nearly all of the area suitable for agricultural purposes is now in use either for crops or for pasture, or is forest and cut-over land, and was probably so employed at least three decades ago. The needs of the increased population, which are two-thirds greater than they were three decades ago, have been met in recent years by a large increase in the total though not in the per-capita area of crop land, mostly at the expense of pasture; and by a decrease in the per-capita area required to maintain livestock, principally due to reductions in the per-capita number of sheep, beef cattle, and horses and mules.

> TREND IN AVERAGE VALUATION PER ACRE OF FARM REAL ESTATE IN OHIO COMPARED WITH TREND OF PRICES OF WHOLESALE COMMODITES IN THE UNITED STATES (DEPARTMENT OF LABOR INDICES), 1877-1921.


FIG. 31.-Unlike the curve of land valuation shown for the United States as a whole in Figure 30, the curve for Ohio does not reflect the influence of the development of large areas of new farm lands within the State, for Ohio was fully settled before 1877. Instead of an upward movement in the curve of real estate prices throughout the period, as was shown for the United States as a whole, the curve for Ohio follows the downward movement of commodity prices from the eighties to about 1897. From about 1903 to the outbreak of the World War, the curve of real estate prices advanced more rapidly than the curve of commodity prices. This was apparently a period when the value, as distinguished from the price, of land was increasing, probably reflecting the growing scarcity of available farm land of good quality.

Conditions That Tend to Obscure the Increasing Scarcity of Land Resources.

The trend toward increasing scarcity of land resources available for crops, pastures, and forests has been obscured temporarily by the existing agricultural depression and by the fact that we are still cutting our timber largely from a stored crop.

## The Overdevelopment of Farm Production for Export Temporarily Disguises the Increasing Scarcity of Farm-Land Resources.

It seems incongruous to talk of the increasing scarcity of land a vailable for crops, pastures, and forest at a time when certain important farm products are almost a drug on the market. Since this

TREND OF NET EXPORTS OF 10 PRINCIPAL CROPS (COMBINED ON BASIS OF 43-YEAR AVERAGE PRICES), UNITED STATES, FISCAL YEARS 1891-1922.


Fig. 32.-The annual variation in the volume of exports is shown by the dashed line, while the solid line is a 5 -year moving average centered on the middle year, except for the last two years, which represent 4 -year and 3 -year averages, respectively. A comparison of the two curves indicates that about 1897 there began a rapid decrease in the volume of exports, which continued until 1903. While the large exports of 1906 were an exception to the downward movement, the general trend appears to have been toward lower averages until 1910. Then began a general upward movement which continued until the outbreak of the World War, followed by a downward movement, which continued until 1917, followed by another increase, which continued until 1921. In general, the level of exports from 1912 to 1922 was higher than in the period from 1902 to 1911.
depression made its appearance, public attention has associated it with the export surplus of farm products. At first the public noticed that the exports of farm products measured in dollars had

TREND OF ACREAGE, PRODUCTION, AND NET EXPORTS OF WHEAT, TOTAL AND PER CAPITA, UNITED STATES, 1909-1922.


Fig. 33.-Small percentages of change in the production of wheat (whether due to variations in acreage or in yield) result in large percentages of change in exports. The general trend of acreage, production, and exports of wheat was upward from 1910 to 1914 . There followed a decline until 1917, and then a marked upward movement culminating in 1919 for acreage and production and in 1920 for exports. From 1920 to 1922 there was but little change in wheat acreage or production, but a large decrease in exports.
decreased. There immediately resulted the impression that our exports were being dammed up in this country because the normal channels of outlet were blocked by the chaotic conditions of credit and international exchange. Subsequently, however, attention was directed to the fact that our physical exports were still much larger than in the pre-war period, and the conviction has developed that the trouble is due to an excessive production of agricultural products.

In order to make clear the fundamental conditions responsible for the development of the present depression and for its continuance, it is necessary to answer certain basic questions: (1) In what degree is the physical export volume of farm products abnormal? (2) What conditions are responsible for the expansion of our exports; is the

TREND OF ACREAGE, PRODUCTION, AND NET EXPORTS OF CORN, TOTAL AND PER CAPITA, UNITED STATES, 1909-1922.


Fig. 34.-The illustration shows the enormous relative expansion in the total and per capita exports of corn in 1921. However, the normal percentage of exports to total product is so small that a slight percentage of increase in the total volume of production, due to increase in acreage or yield, may result in a very large percentage of increase in the surplus available for export. This explains the fact that the large rise in the export curves from 1919-1921 does not coincide with a correspondingly large increase in the curves for acreage and production. For 1913 there were no net exports of corn; hence the break shown in the export curve.
expansion due to increased acreage per capita, to increased production per acre, or to decreased consumption per capita? (3) Was the sudden decrease in prices of farm products due to the enlargement of the volume of exports?

Extent to which the volume of exports is abnormal.-The United States has always had a surplus of farm products for export. The trend in volume of this surplus is shown in Figure 32.
The trend in the volume of exports was downward from about 1897 until about 1909, with a slight interruption due mainly to the large exports of 1906. About 1910 there began an upward trend. This upward movement was interrupted by a downward movement from
about 1914 to 1917, followed by another large increase, mainly due to the enlarged exports of certain cereals. The average annual exports of wheat were over twice as great from 1919-22 as in the five years, 1909-13 (fig. 33). Comparing the same periods, the exports of rye, formerly of little consequence, increased from about $1,000,000$ bushels to nearly $43,000,000$, the direct exports of corn increased from $40,000,000$ bushels to $82,000,000$ (fig. 34), and the indirect exports of corn in the form of pork products were largely increased. There was also a considerable increase in the exports of tobacco. On the other hand, the exports of cotton since 1915 have been only 50 to 75 per cent of the average exports during the 5 -year pre-war period (fig. 35).

The expansion in the volume of exports which followed the outbreak of the World War also corresponded to an increase in the crop acreage devoted to production for export ${ }^{23}$ (fig 36). On

TREND OF ACREAGE, PRODUCTION, AND NET EXPORTS OF COTTON, TOTAL AND PER CAPITA, UNITED STATES, $1909-1922$.


Fig. 35.-While there have been annual fluctuations in cotton acreage, there has been no marked trend either above or below the average for the five years just preceding the World War. However, the per capita acreage has decreased considerably. As a result of this, of the decreased yield due to the ravages of the boll weevil and of the decreased purchasing power of Europe, there has been a notable decline in exports of cotton since 1914.
the basis of 5 -year averages the acreage devoted to production for export decreased from the 5 -year period 1899-1903 through that of 1909-13, and in the latter 5 -year period was only 80 per cent of the average for the period 1899-1903, inclusive. During this period of decreasing exports, there was apprehension that our nation would soon cease to be a net exporter of farm products. However, as a result of the stimulus of war demand, the average acreage devoted to export production for 1919-22 was 40 per cent greater than for the period of 1909-13 and over 13 per cent greater than in the preceding high period 1899-1903. ${ }^{24}$

Conditions which have made possible the increase in acreage employed in producing for export.-One might suppose that the great increase in the volume of cereal exports during the decade 1913-22 was made possible by a sudden expansion of the per capita area of

[^67]land in crops. However, as already noted, in the period from 1900 to 1922 the trend of crop acreage per capita was downward. In the period 1919-22 the per capita acreage in 12 principal crops was 10 per cent less than for 1899-1903. Furthermore, as pointed out before, the increase in exports was not due to an enlargement of the average yield per crop acre.


FIG. 36.-The area devoted to these 12 principal crops has increased each decade, but the area per capita was less in the period 1919-1922 than in the period 1899-1903. The area per capita devoted to export production was less in the 1919-1922 period than in the earlier period, but in the 1919-1922 period, the export acreage per capita was a considerably larger proportion of the total per capita acreage than in any period since 1899 1903.

The expansion in the acreage devoted to export production, in spite of the downward trend of per capita crop acreage and the slight decrease in average yield per crop acre, took the form of increase in the area of the cereals, especially wheat, at the expense of other crops. Of the $23,000,000$ acres by which the average area of the five cereals for 1919-22 exceeded that of 1909-13, wheat accounted for more than $18,000,000$ acres. Most of the remainder is accounted for by increase in the acreage of rye, amounting to more than 100 per cent, together
with a slight increase in the acreage of oats. On the other hand, this is partly offset by slight decreases in the acreage of barley and of corn. ${ }^{25}$

The larger volume of exports made possible by reduction in acreage employed for domestic uses.-Since there has been neither an increase in the per capita area of crop land, nor, as compared with the average for 1903-1907, any increase in the yield per acre either of all the land devoted to crops or of the land devoted to the cereals, it is evident that the expansion in acreage devoted to production for export must have been made possible by a reduction in the acreage employed in producing for domestic uses. After subtracting the acreage devoted to direct exportation of crops from the total crop acreage, the remaining area per capita decreased from 3.15 acres in

TREND OF TOTAL ACREAGE AND PER CAPITA ACREAGE OF ALL CROPS FED TO LIVE STOCK, UNITED STATES, 1909-1922.


Fig. 37.-The per capita acreage of crops fed to livestock was steadily decreasing from 1910 to 1914. The World War resulted in considerable increase both in total and per capita acreage, but since 1917 there has been a rapid decrease in both regards.

1909-13 to 3.02 acres in 1919-22, or about 4 per cent. When the crop acreage required for the production of livestock and livestock products exported is also subtracted, the per capita area employed in producing for domestic uses decreased from 3.09 to 2.92 acres between these periods; and, finally, when allowance is made for the acreage used to support the horses and mules required to produce the crops and livestock products for export, the per capita acreage employed for domestic consumption declined from 2.99 to 2.82 , or nearly 6 per cent.

As noted above, this reduction in the per capita acreage of crops employed for domestic consumption is largely accounted for by the smaller acreage used in producing feed for livestock, made necessary by the increased pressure on the crop area. As a consequence,

[^68]the per capita acreage in crops employed in producing feed for livestock decreased from an average of 2.6 for the years 1909-13 to 2.4 for $1919-22$ (fig. 37). If the same per capita acreage had been employed in feeding livestock as in the former period, about $22,000,000$ acres more would have been required, and this acreage is practically equivalent to the expansion in the area of the cereals during this period. ${ }^{28}$

The diversion of most of the acreage thus economized to increasing the production of wheat and rye was partly the result of the stimuli of the high prices and patriotic appeal of the war period; however, with the passing of these stimuli, the acreage has not returned to normal. The wheat crop of 1920, planted before the fall of prices in the latter part of 1920 , was nearly $11,000,000$ acres less than the area employed for the wheat crop of 1919 ; but during the next three years, following the fall of prices, there was no material reduction. ${ }^{27}$ Notwithstanding the substantial decrease in wheat acreage in 1920 the acreage planted in 1923 was still 27 per cent larger than the average of the five years before the war. In spite of the discouragements of low prices and unfavorable seasons the farmers, especially in the regions of the Great Plains where there was notable expansion of the farming area mainly for wheat production, have found it difficult to effect a contraction of acreage in wheat. After the range was broken up, houses built, livestock and implements purchased, and heavy debts incurred, it has meant bankruptcy to let the land go back to pasture, and it has been difficult to shift to other crops.

Decreased demand in Europe a factor in causing the surplus of wheat.-It is important not to lose sight of the fact that there is a world market for wheat. It is well known that the war resulted in eliminating Russia temporarily as a large exporter of wheat, and in decreasing the production of other European countries. The increased supply from the United States and Canada was required to help fill this gap. After the war there was no increase in the world supply of wheat or other cereals sufficient to account for the slump in the world price. According to the world balance sheet prepared by the International Institute of Agriculture at Rome, the average annual production of wheat and rye available for the consumption of the world outside of Russia was about 8 per cent less for 1919-21 than for 1909-13. This decrease occurred in spite of an 11 per cent increase in the area devoted to the production of wheat and rye. ${ }^{28}$ Yet the price fell far below the war-time average.

The cause of this phenomenon was largely decreased ability of the people of certain European countries to buy as much wheat and rye as formerly at the level of value per bushel which prevailed during the war or even during the pre-war period. Wildly fluctuating exchange rates, unstable currencies, political uncertainties, reduced production, tremendous changes in distribution of wealth, and in

[^69]some countries protracted unemployment have forced drastic economies even in such vital essentials as the cereals. For instance, the four countries included in Figure 38 were not able to purchase enough more net imports, even at the bargain prices of the past few years, to offset the decrease in their own production.


Fig. 38.-The consumption of cereals in the four countries was far below the pre-war average, though the deficit was less for the bread cereals (wheat and rye) than for other cereals; and less for wheat than for rye. After allowing for the slight increase in population, it is evident that in the years following the war the people in these countries were eating only about 80 per cent as much bread cereals and had available for consumption only about 60 per cent as much other cereals as in the years just preceding the war. These deficits in consumption were partly made necessary by the great falling off in production and partly (except in the case of the bread cereals) to the falling off of imports. While the imports of bread grains were somewhat larger than in the pre-war period, this was not sufficient to make up for the heavy deficits in production and in the importation of other cereals.

In short, the interruption in the manifestations of the trend toward increasing scarcity of land in the United States was due partly to a gradual reduction in the per capita acreage of crop land employed for producing livestock for domestic consumption and in maintaining horses, partly to the overexpansion in the per capita acreage of wheat and rye at the expense of the per-capita area in other crops, and partly to a sudden decrease in ability of the Euro-
pean peoples to purchase the accustomed quantity of our wheat and pork at prices which permit a profit to our farmers. Temporarily these conditions have made our available crop acreage appear superabundant.

Some years may be required to restore the normal balance between acreage in cultivation and demand for farm products. The buying capacity of the nonagricultural populations of Europe, reduced by disturbed political and financial conditions and by unemployment, is still not showing signs of immediate improvement; but European agriculture has been steadily recovering and the tendency toward a greater degree of self-sufficiency increasing. Russia may shortly regain a part at least of its former importance as an exporter of wheat. The great increase of wheat acreage in Canada from an average of $9,945,000$ acres for $1909-13$ to an average of $21,155,000$ acres for 1919-23 was accomplished almost entirely by the expansion of the total acreage of land in crops. ${ }^{29}$ There has been little tendency to reduce this acreage, in spite of the discouragements of low prices, and there is reason to believe that the greater part of this new Canadian wheat acreage is permanent.
Offsetting this somewhat "bearish" outlook is the fact that the population of the world is increasing at the rate of about $20,000,000$ a year, and the population of the United States about 1,500,000 a year. ${ }^{30}$ Within a few years the increase in population is likely to bring to an end this temporary deviation from the long-time trend toward an increased pressure of population on land resources. A great war might temporarily cause higher prices, and bad crop seasons in important producing countries might also raise the price level.

## The Cutting of Forest Products From a Stored Crop Has Also Obscured the Actual Relation Between Land Supply and Land Utilization.

Since the first settlement of our country we have been cutting our timber from the stored-up product of past years. To use a now familiar expression, our timber supply has been treated as a " mine" instead of as a "crop." Since the original settlement of the country we have reduced our area of virgin timber from an estimated $822.000,000$ acres to about $138,000,000$ acres. While we have been engaged in cutting from our virgin forests, there has grown up largely spontaneously a supply of second-growth timber, amounting at present to about $122,000,000$ acres of saw-timber size and 142,000 ,000 acres below saw-timber size (suitable for cordwood, ties, posts, etc.). (See figures 1 and 41.) However, we are still cutting timber from our forests at a rate nearly four times the annual aggregate amount of growth of timber. Moreover a considerable part of the former forest area has been devoted to improved farm land; consequently the area of forest has constantly decreased (fig. 39).
The effect of this cutting of our timber mainly from a stored supply is to create while it lasts an apparent abundance of land available for crops and pasture. We are removing the timber from land at the rate of approximately $10,000,000$ acres a year, and since we are not deliberately devoting this area to reforestation the surface po-

[^70]ACREAGE OF FOREST LAND CONTRASTED WITH ACREAGE OF IMPROVED FARM LAND, UNITED STATES, 1850-1920.


Fig. 39.-The steady increase in the area of improved farm land has been accompanied by a continual but much smaller decrease in the area of forest land. However, less forest land is being cleared for crops or pasture each decade. From 1910 to 1920 only 5 per cent of the increase of "improved", and "other unimproved" land in farms, or about $5,000,000$ acres, occurred in forested areas, most of the increase being in the Great Plains region and other grassland areas of the West. (See fig. 16.) At the rate of clearing between 1910 and 1920 it would require several centuries to clear the area of forest which has been cut over during the past 20 years. The figures for improved land are from the census, but the figures of forest area are estimates.
tentially available for the other uses is being correspondingly increased. However, only a small proportion of this area annually denuded is being cleared for crops or pasture. Much of the cut-over area is of poor quality of soil, and the expenses of clearing and in

PER CAPITA ACREAGE OF FOREST LAND CONTRASTED WITH THAT OF IMPROVED FARM LAND, UNITED STATES, 1850-1920.


FOREST AND CUT-OVER LAND IMPROVED FARM LAND
Fig. 40.-The estimated per capita area of forest land in 1920 was about a sixth as large as it was in 1850. The per capita area of improved farm land was nearly the same for the two periods, but it was somewhat less in 1920 than it had been in 1880.
some cases of drainage do not at present justify its use for the production of crops. Theoretically, this land would be suitable for grazing. In some sections, notably in the Lake States, clover and other nutritious grasses thrive. However, the natural pasture is for the most part inferior in those sections of the country where the process of cutting is at present most rapid, as in the South and the Pacific coast. The trees and brush, usually growing more rapidly than the grasses, soon shade the ground, and destroy most of the herbaceous vegetation.

As long as we can depend for our timber on a stored supply, disregarding the advancing prices forced by increasing scarcity, and making no provision for growing new forests, we can get along with a much smaller forest acreage than if we were actually growing a crop of timber to supply our needs. Under this policy of denuding our timberlands we are rapidly reducing the area of land devoted to forests, even allowing for the fact that some of the cut-over forests spontaneously grow a second crop, and some, notably those in public ownership, are managed for continuous growth. The denuded land adds to the already large reserve supply of land potentially capable of being used for crops, pasture, or intensive timber growing but actually not being employed for these purposes.

Such are the conditions which seem to create for the time being a "fool's paradise" of abundance of land resources available for the three important uses under consideration. But we are unquestionably nearing the end of this phase of our economic evolution (fig. 40). If we should be willing to cut our timber supply right up to the last tree, with no provision for the future, we should reach the end of the road within a few decades at the present rate of cutting; for, even allowing for annual growth, our stock of saw timber would hold out less than 50 years, and our stock of smaller timber, only a little more than 30 years. This makes no allowance for any increase in the annual cut due to increasing population, and therefore implies a diminution in per capita consumption.

The advancing prices of timber and timber products due to the increasing scarcity and remoteness of the supply will cause us to curtail our per capita consumption much below the present amount, and will force us to devote abandoned cut-over lands to timber growing, expecially in the East. This may result in a sharp competition between timber on the one hand and crops or pasture on the other hand, at least for marginal lands. A large part of the remaining reserve is on the Pacific coast much farther from the present centers of consumption (the Northeast and Middle West) than our former main supplies (fig. 41). Much of our reserve of timber is in rough mountain regions. Long freight hauls and costly logging are resulting in higher prices for timber, and in a gradual reduction of per capita consumption.

Owing to the long time required to grow timber- 30 or 40 years for pulpwood and 40 years and up for saw timber-an unnecessarily severe reduction in per capita consumption of timber and timber products and even a near approach to almost complete deprivation can be avoided only by measures that will place our lumber industry on a basis of providing for the replacement by reforestation of timber removed. The growing national pressure toward a definite forest


FIg. 41.-In six of the eight regions, all in the East, only about 40 to 53 per cent of the forest area consists of merchantable timber. In these regions the area of virgin timber ranges from 7 to 26 per cent of the total. On the other hand, in the Rocky Mountain In these regions the area of virgin timber ranges from 7 to 26 per cent of the total. On the other hand, in the Rocky Mountain
and Pacific coast regions the area of virgin timber constitutes about two-thirds of the total. In the Pacific Coast States less than one-fourth of the area is nonmerchantable forest.
policy, and later the tendency toward private timber growing that will be stimulated by rising prices, must be relied on to bring about reforestation. Provisions for growing our timber supply, of course, will tend to reduce the area of idle cut-over land that appears to be available for crops and pasture.

The magnitude of the readjustment that is involved in the inevitable change from the present reliance on cutting from a stored crop to the basis of growing the greater part of our supply may be illustrated by a simple calculation. At the present rate of per capita consumption and waste, and rate of growth in our growing forests, $1,465,000,000$ acres would be required to grow timber for a population of $150,000,000$ people-more than three-fourths of our entire land surface and about a third more than our entire humid area.

The manifest impossibility of the conclusion emphasizes the fact that we shall shortly find it necessary to make drastic modifications in our rate of consumption of timber, in our rate of growth, or in both. The probable extent of these readjustments and the land requirements involved can best be considered at a later stage of this discussion.

## Relation of Foreign Trade to Present Land Requirements.

Before considering the effect of increasing population on our requirements of land for crops, pasture, and forest, it is desirable to determine what proportion of our productive area is employed in production for export; for it is clear that, as our need for land increases, it might be possible to divert to domestic use the products of at least some of the land now employed in producing for export. Furthermore, we may well determine to what extent the importation of agricultural and forest products reduces the amount of land that would otherwise be required to supply existing needs.

Crop Land Required to Produce the Exports of Agricultural Products.
The acreage of crop land employed in producing for export falls into three classes: (1) That which is employed in producing crops for direct export either in the original or in manufactured form, as, for instance, wheat or wheat flour; (2) the acreage used for feeding livestock the products of which are exported; (3) the land required to produce feed for work stock employed in producing for export.

Crop land required to produce the crops directly exported.Table 1 and Figure 36 show the crop area used for direct exportation, but not that employed indirectly for export production. The 12 crops included in the table occupy nearly 90 per cent of the total area used in crop production, and they represent practically all of the area devoted to the production of crops directly exported. Columns F and G show the remaining crop acreage after deducting the crop acreage employed for crops directly exported.

Table 1.-Total and per capita acreage utilized for total production, domestic consumption, and net exports of 12 important crops of the United States.

| Period. | Production acreage. |  | Acreage equivalent of net exports. ${ }^{1}$ | Acreage equivalent of direct net exports ${ }^{2}$ of surplus commodities. |  | Remaining acreage ${ }^{3}$ (employed for domestic uses, including the feeding of livestock). |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | D | E | F | G |
| Average, 1889-1893 | $\begin{aligned} & 1,000 \\ & \text { acres. } \\ & 206,668 \end{aligned}$ | Per capita acres. 3. 22 | $\begin{aligned} & 1,000 \\ & \text { acres. } \\ & 29,496 \end{aligned}$ | 1,000 acres. 30, 055 | Per capita acres. 0.47 | 1,000 acres. 177, 172 | Per capita acres. 2.76 |
| Average, 1894-1898 | 231, 884 | 3.27 | 36, 362 | 36, 921 | . 52 | 195, 522 | 2. 76 |
| Average, 1899-1903 | 258, 372 | 3.32 | 38,003 | 38,550 | . 50 | 220, 369 | 2.83 |
| A verage, 1904-1908 | 269, 269 | 3.14 | 32, 002 | 32,811 | . 38 | 237, 267 | 2.76 |
| Average, 1909-1913 | 291, 396 | 3.11 | 30, 583 | 33,158 | . 35 | 260, 813 | 2.78 |
| Average: <br> 1914-1918 | 312,080 | 3. 10 | 36,874 | 41, 102 | . 41 | 275, 206 | 2. 73 |
| 1919 | 325,463 | 3.10 | 38, 102 | 46, 460 | . 44 | 287, 361 | 2. 74 |
| 1920 | 320, 732 | 3.01 | 41, 839 | 50, 016 | . 47 | 278, 893 | 2.62 |
| 1921 | 322, 228 | 2.99 | 54, 336 | 59,325 | . 55 | 267, 892 | 2. 48 |
| 1922 | 322, 105 | 2.95 | 37,352 | 43, 295 | . 40 | 284, 753 | 2.61 |

[^71]Crop land required to produce the livestock and livestock products exported.-It is estimated that about 70 per cent of our crop area is employed in feeding livestock. Of the total crop area indicated by the census of 1920 , approximately $257,000,000$ acres, or 2.43 acres per capita, were employed for this purpose (fig. 37). ${ }^{31}$

Of the total of $257,000,000$ acres, the various classes of livestock shared in approximately the following proportions: ${ }^{32}$


In order to ascertain what proportion of the above acreage is devoted to the production of livestock for export, it is necessary to determine the proportion of the various kinds of livestock and livestock products exported in terms of live animals.

The exports of animal foodstuffs from the United States at present are practically confined to pork products and animal fats. During the half decade preceding the war our net exports of pork and pork products were about 11 per cent of the total production. The war demand caused an expansion to a maximum of about 24 per cent in 1919. In 1920 the net exports of pork products were equivalent to $9,100,000$ hogs, or about 15 per cent of the total production.

[^72]Up to and including the first years of the twentieth century the United States exported a considerable amount of beef, including live cattle. The exports of beef then steadily declined until, during the half-decade just preceding the war, they amounted to slightly more than 1 per cent of the total beef production. During the war our net exports of beef rose to 4 per cent of the production, but they have been steadily declining since the war, and allowing for net imports of live cattle into the United States, it appears that we are now net importers of beef.

The other meat products produced in the United States have little or no significance in our foreign trade. Our exports and imports of mutton and lamb have been virtually negligible in recent years. ${ }^{33}$ We are, of course, largely dependent on foreign sources of supply for wool. The production of veal is comparatively small, and the entire amount produced is consumed in the United States.

The net balance of trade for dairy products before the war showed that the United States was a net importer to the extent of about 0.05 per cent of the national production for 1909-13. Our exports of dairy products increased steadily during the half-decade 1914-18, reaching a peak in 1919. But the volume of exports has since declined, and during 1923 the United States was again a net importer of dairy products.

In brief, the United States is at present a surplus producer in only one important class of animal products. pork products including lard. Since it is estimated that the product of about $63,000,000$ crop acres annually is fed to hogs, it appears probable that our average exports of pork and lard for the years 1914-22 (about 15 per cent of the total production) required the employment of about $9,500,000$ acres of crops.

The average area from 1914-22 devoted to crops for direct exportation was $39,550,000$ acres. Adding to this the above estimate of crop acres used for producing livestock or livestock products for export, we may conclude that our export trade represented in round numbers $49,000,000$ acres of crops.

Crop land required to feed the work stock employed in producing agricultural exports.-However, allowance should also be made for the crop acreage required to maintain the horses and mules employed to produce the crops and livestock or livestock products exported. Since about 13.4 per cent of the crop acreage is required to produce the crops and livestock products exported, it would seem fair to assume that an allowance of 13.4 per cent of the $90.000,000$ acres required to feed horses and mules should be included in the acreage required to produce the agricultural exports. This would amount to about $12.100,000$ acres, making a total of $61,100,000$ acres of crop land directly or indirectly used for export production, which is nearly 17 per cent of the total crop acreage, leaving about $304,000,000$ acres employed for domestic consumption, on the basis of the acreage of harvested crops in 1919 (fig. 42).

Consequently, if we could devote our total crop acreage to production for our own use we might maintain, on the basis of the crop acreage of 1919, an increase of population amounting to about

[^73]$21,000,000$ people, and that without modifying our standard of consumption. ${ }^{34}$
However, even when the pressure of population on land resources becomes much greater than at present, it is not likely that all the


Fig. 42.-While the acreage in crops directly exported was a little less than $40,000,000$ in the period 1914-1922, inclusive, account must also be taken of'the acreage employed in producing livestock and livestock products for export and in maintaining horses employed in producing for export. Including estimates for these items, it appears that about $61,000,000$ acres of harvested crops was employed directly or indirectly in production for export, or nearly 17 per cent of the total acreage of harvested crops' in 1919 , and a little over 20 per cent of the estimated acreage employed in production for domestic consumption. Of the area used in producing for domestic consumption less than $16,000,000$ acres consists of crops not used for feed for livestock or for human food, and allowing for the horses used in producing these crops, about $21,000,000$ acres, or less than 7 per cent of the total acreage employed in producing for domestic consumption, were in crops not used for food, directly or indirectly.

[^74]acreage now employed in producing for export will be devoted to domestic uses. There are certain commodities for which we have peculiar natural advantages. For instance. we are likely for a long time to produce some cotton for export even if we find it necessary to enlarge our imports of other farm products to make up for the acreage used in producing cotton for foreign consumption. In short, during the next few decades we shall likely divert part of our export acreage to domestic uses, but undoubtedly not all of it unless we restrict severely the importation of farm products.

Relation of imports of farm products to requirements of crop land.-In general, our innports may be considered to economize acreage, but this conclusion involves certain reservations. Some of our imports, such as coffee, cocoa, rubber, and sisal, are practically incapable of being produced in our own country. If we do not import them, our alternative is to do without them. Except as they may serve to replace by substitution other commodities that we can produce, their importation can scarcely be said to economize our land requirements. Certain other articles of importation, such as coconut oil, can not well be produced in this country in considerable quantities, but we can produce close substitutes. Consequently, to all intents and purposes the imports economize the acreage employed for domestic consumption. A large volume of imports consists of commodities, such as sugar, silk, tea, flax fiber, and wool, which, so far as physical conditions are concerned, could be produced in this country, but which are produced abroad more economically. In part this is due to more favorable physical conditions in other countries; in part to more favorable economic conditions, particularly cheaper labor.

All in all, many of our imported agricultural products could be produced in the United States or are substitutes for other things that could be produced here so far as physical conditions of production are concerned. Hence, the importation of these things may be considered to economize whatever acreage of crop and pasture land would be required to produce them or their substitutes. If circumstances required us to provide for complete national self-sufficiency in agricultural production, it would be necessary to add to our percapita acreage an additional acreage sufficient to make provision for our present imports.

In the calculations of land requirements for domestic consumption attempted in this article, it appears best to assume as constant the present relative dependence on foreign imports. As our population increases, under such an assumption, the total volume of imports would increase in proportion, but the per capita quantity would remain the same.
Total and Per Capita Area of Pasture Employed in Producing Livestock
for Export and for Domestic Consumption.
Our only important class of livestock exports-pork and pork products-involves a relatively small use of pasture, and that only of humid pasture. A rough estimate indicates that probably $7,500,-$ 000 acres of humid pasture is employed in producing our net exports of livestock and livestock products. This is about 3 per cent of our total area of humid pasture. In addition to this, however,
allowance must also be made for a larger item, namely, the pasture used by horses employed in producing crops or livestock products which are exported, estimated at about 14,500,000 acres (fig. 43).


Fig. 43.-The average exports of livestock and livestock products for the period 1914-22 required only a small proportion of our pasture area, and the entire amount has been imputed to humid pasture, because the products exported were essentially the products of humid regions. The acreage of pasture employed in maintaining horses and mules used in producing for export is also imputed to humid pasture, because the semiarid pasture is essentially a limited quantity, humid pasture being the principal variable element in our supply of pasture land. Altogether, about $22,000,000$ acres, or less than 10 per cent of the area of humid pasture other than woodland, are employed in production for export.

Relation of Foreign Trade in Forest Products to Land Requirements.
As in the case of pasture, so in the case of forest land, our foreign trade makes but little difference so far as land requirements are concerned. At the present time our exports and imports of forest
products nearly balance one another, and in proportion to the total cut of the United States neither is a large amount. Consequently, it will be fair to assume that the present annual cut measures approximately our national consumption of timber products.

Furthermore, it is believed by students of forestry that we can not hope to rely to a large extent on importation as a means of meeting our needs of timber in the future. This conclusion rests partly on the great costs involved in transporting. so bulky a product long distances, and partly on the scarcity of accessible timber in the rest of the world in relation to world needs. The timber consumption of the United States is already nearly half that of the entire world. It is scarcely probable that a large proportion of this consumption could be derived from sources outside this country. ${ }^{35}$

## Land Requirements in Relation to Increasing Population.

We have become accustomed in this country to the continued increase of population. Since the decade 1850-1859, when population growth was at the rate of 35.6 per cent, there has been a general tendency toward a decrease in the percentage of increase, although up to 1910 the actual increase was larger each decade. However, from 1910 to 1920 the absolute increase in population was only $13,738,354$ as compared with $15,977,691$ from 1900 to 1910 , and the rate of increase fell from 21 per cent to 14.9 .

The restriction of immigration and the uncertainty as to the future policy have complicated the problem of estimating the increase of population. However, it has long been believed that immigration does not add to the population by the full number of immigrants, for immigration appears to retard the natural rate of increase of the native population. ${ }^{36}$

The total population increase of $13,738,354$ from 1910 to 1920 included an increase by net immigration of $3,467,000 .{ }^{37}$ If this volume of increase were continued during the next three decades, our population would be $150,000,000$ people by about the middle of the century. Even the rate of natural increase for the past few years (estimated at approximately 10 per 1,000 ), without any addition from immigration, would, if continued, result in $150,000,000$ people shortly after 1950. The employment of a mathematical formula for projecting population growth on the basis of past experience suggested by Professor Raymond Pearl would indicate a population of $150,000,000$ by 1952.
It seems probable, therefore, that we shall have that number of people dependent on our land resources within a few decades, if not exactly by the middle of the century, and it is well to estimate the land required to maintain such a population.

If we should continue to employ for a population of $150,000,000$ the same per capita amounts of crop and pasture land as are now

[^75]used for domestic consumption, the land requirements for these two uses would be as shown in Table 2.

The only items that have been varied in the following table as compared with present requirements are crop land and " other humid pasture." The present area of semiarid pasture is practically a maximum that can not be increased to any considerable extent. If anything, it will be decreased somewhat during the next few decades as a result of the encroachment of crop land; but the total reduction in acreage is not likely to be large, and the carrying capacity of this land is so low that the relative reduction in livestock maintained is a very small quantity. Consequently, throughout the subsequent estimates the item is kept constant.

Table 2.-Crop and pasture land that would be required for 150,000,000 people assuming no change in per capita consumption and production per acre, also no exports of agricultural products and no change in per capita imports.

${ }^{1}$ As a result of assuming the acreage of semiarid pasture and woodland pasture to remain constant, the area of other humid pasture is increased in greater proportion than the increase of population.

The same practice has been followed with respect to forest and cut-over pasture. If we knew what areas of land will be in forests 30 years from now it might be easier to determine the probable increase or decrease in the area of woodland pasture. According to the present trend, the area of forest land appears to be decreasing. However, most of the area of forest reduced by cutting will be either reforested or will be suitable only for grazing. In either case woodland pasture is potentially land that is likely to be continuously employed for grazing. Moreover, its carrying capacity is so low that a large increase or decrease in area does not result in a very marked modification of the number of livestock that would need to be provided for by other kinds of pasture.
It has already been noted that if the present policy continued the area of land in forests, beginning with approximately $402,000,000$ acres of standing timber, will rapidly diminish until the point of approximate exhaustion is reached. On the other hand, if we wish to provide enough forest land to grow our timber, a much larger quantity of land will be required; at the present rate of growth and of waste and consumption per capita the enormous area of $1,465,000,-$ 000 acres would be needed for a population of $150,000,000$ people. The impossibility of such an outlook is emphasized by combining this area with the $1,591,000,000$ acres of crop and pasture land which, as shown above, would be required under similar assumptions. The total resulting requirement would be $2,819,000,000$ acres after allowing for duplications, or about 48 per cent more than the present land area of the continental United States.

The result suggests that if we are to maintain our present degree of self-sufficiency, for a population of $150,000,000$ we must increase
the average production per acre of our crop, pasture, and forest land, effect marked reductions in per capita consumption of farm and forest products, or make changes in both regards. Therefore, some consideration of the probable extent of these changes is important; not only because of the significance of the changes, but also on account of their bearing on land requirements for the several uses.

## Economy in Land Requirements Through Increase of Yield Per Acre.

## Crop Land.

In the past our agricultural progress has been largely by way of economizing in the use of labor, rather than in the use of land, by substituting machinery and other labor-saving devices for man power. The great progress in productivity per man is indicated in Figure 44. Since 1870 the product per unit of man labor appears

> TRENDS OF TOTAL POPULATION, OF NUMBER OF PERSONS ENGAGED IN AGRICULTURE, AND OF AGGREGATE VOLUME OF PRODUCTION FOR 10 PRINCIPAL CROPS, UNITED STATES, 1870-1920.


Fig. 44.-The chart indicates that the ratio of population to crop production has not changed greatly since 1880 , but that since 1870 the volume of crop production has increased much more rapidly than the number of persons engaged in agriculture. In fact, in 1920 the index of crop production was more than double the index for persons engaged in agriculture. Some allowance should be made for the fact that the date of the census was changed from April 15 in 1910 to January 1 in 1920, a time of year when the number of persons reported as engaged in agriculture is likely to be a minimum. However, it seems clear that the amount of crops per capita and the amount per man engaged in agriculture were both considerably larger in 1920 than in 1870.
to have approximately doubled. It is true, we must not reckon this as an exact measure of increased efficiency. Much of the labor saved in agriculture by using machinery is offset by the employment of labor in cities in producing the machines or represents the transfer to cities of various lines of production and services formerly carried on in the country.

Some progress has also been made in yield per acre (fig. 45). Between the 5 -year periods 1883-87 and 1903-07 the average acre yield of nine important crops increased about 19 per cent; but between the latter date and the 5 -year period 1918-22 there seems to have been a decrease, so that in the last-mentioned period the average yield per acre was a little over 16 per cent above that of 1883-87. This is small compared with an apparent increase in the productivity of man labor since 1870 of about 100 per cent.

INDEX OF YIELD PER ACRE OF EACH OF SIX IMPORTANT CROPS AND COMBINED INDEX OF NINE IMPORTANT CROPS, BY 5-YEAR AVERAGES, UNITED STATES, 1883-87 TO 1918-22.



Fig. 45.-The five-year average yield per acre was higher in 1918-22 than in 1888-87 for all of the six crops except cotton. However, the average yield for 1918-22 was lower than it was in 1903-07, not only of cotton but also of wheat, oats, and hay. The composite curve for nine principal crops, shown by the heavy black line, also indicates a slightly smaller average yield in 1918-22 than in 1903-07; though about 16 per cent above the average yield for 1883-87. The composite curve was made by weighting the yield of each crop by its relative acreage in the period 1908-12.

An analysis of the changes in yield per acre of some of the crops making up the above average will be helpful in explaining the trend. The failure of the increase in yield per acre to continue after the period 1903-07 appears to be attributable mainly to cotton and wheat. In the case of cotton the result is probably owing largely to
the boll weevil. In the case of wheat the decrease in average yield is due, in part at least, to the expansion of the crop area onto the less productive lands of our semiarid region. The trend in the yield of corn and oats during the past two decades has been so erratic as to make explanation difficult.

In general, the changes in average acre yields of the several crops must be regarded as the result of a number of forces, some working toward higher yields and others in the opposite direction. On the one hand, we have scientific progress and the more widespread use of improved methods, together with the greater employment of fertilizers; but apparently there has been a tendency for these forces to be offset by the declining fertility of some of our old crop land, by the spread of plant disease and insect pests, and possibly also by the necessity of expanding our crop area by the inclusion of lands of fertility lower than the average for lands formerly employed.

It is important also to reckon with the inertia of large masses of agricultural population, partly due to innate conservatism, partly to lack of information, partly to inadequate capital, and partly to other limiting conditions. Even the development of a most elaborate system of educational extension can not be expected to raise the average yield in practice to the point theoretically possible on the basis of improved methods known to the best agriculturists. Finally, it is probable that because of the comparative abundance of land resources in this country our farmers have not as yet found it profitable to adopt methods of increasing production per acre which require an increased expenditure for labor, fertilizers, and other factors in proportion to the product.

The course of events since the beginning of the World War has appeared to intensify the tendency to economize labor rather than land. The war resulted in the withdrawal of large numbers of farmers and farm laborers for military-service or to satisfy the demands for war workers; and for about two years after the armistice the higher relative prices of industrial products, as compared with farm products, continued to place a premium on the withdrawal of labor from farming and to stimulate the employment of extensive, rather than intensive, methods of farming.

Some increase in the productiveness of our land per acre may be accomplished by methods which do not increase, but may even reduce, the cost per unit of product; but it is also possible to increase the productivity per acre largely by increasing the cost per unit of product. The experience of nations has shown that sooner or later the increasirrg pressure of population forces the employment of the latter class of methods.

Among the most important means of increasing the yields of crops are: (1) The selection of crops better adapted to the available soils; (2) the employment of suitable rotations; (3) the use of better adapted varieties; (4) the reduction or elimination of losses from the depredations of insects and diseases; (5) control of weeds; (6) better or more thorough methods of preparing the land and cultivating the crop; (7) larger or more effective use of fertilizers; and (8) the substitution of crops which give a larger yield per acre for those which give a smaller yield. The first four of these methods may not greatly
increase acre costs, but considerable additional expense is likely to be incurred in weed control, the use of better methods of cultivation, and the increased use of fertilizers.

By the application of these methods what is the outlook for the increase of yield per acre under the influence of increasing pressure of population? There are certain optimists who are fond of taking the results of some striking instances of large yields per acre achieved on a small acreage under highly favorable conditions in perhaps a single year and frequently with little regard to cost as a basis for calculating the total future productivity of the nation. The very statement of the conditions indicates the dangers of this method. It is clearly better to give a great deal of weight to the average results obtained over wide areas by countries which have been compelled by pressure of population to employ intensive methods of cultivation

AVERAGE YIELDS PER ACRE, 1909-13, OF SEVEN IMPORTANT CROPS IN FOUR EURUPEAN COUNTRIES EXPRESSED IN PERCENTAGE OF AVERAGE YIELDS IN THE UNITED STATES.


Fig. 46.-The average yield per acre for the four European countries-United Kingdom, France, Germany, and Belgium-is higher than that for the United States in the case of each of the seven crops. The combined average yield for all seven crops, weighted in each case by the relative importance as shown by acreage, is a little over 41 per cent higher for the European countries than for the United States.
and which have employed those methods intelligently and in the light of scientific experimentation, but at the same time with due regard to costs of production. This does not mean that in countries such as Germany and Great Britain, for instance, every farmer is conducting his agricultural operations in the most intelligent and scientific manner. The point is that this is not to be expected. The actual level of practice in any country, no matter how well developed the educational machinery, is certain to be far behind the ideal.

The comparative yields per acre of certain European countries (Germany, France, Belgium, Great Britain, and Ireland) and of the United States are shown in Table 3 and Figure 46.

Table 3.-Average yield per acre of various crops in certain countries, as compared with the yield per acre in the United States, 1909-13. ${ }^{1}$

| Crop. | Yields per acre. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Germany. | France. |  | Belgium. | A verage weighted by crop acreage. | United States. | Superiority in yield. |
| Wheat | Bush. 31. 8 | Bush. ${ }_{\text {19.6 }}$ | Bush. ${ }_{31}$ | Bush. ${ }_{3}$ | Bush. | Bush. | Per cent. |
| Rye. | 29.0 | 16.6 | 30.1 | 35. 2 | ${ }_{26.5}^{23.5}$ | 15.6 | 61.40 |
| Barley. | 38.5 | 25.8 | 35.3 | 51.1 | 34.7 | 24.0 | 44.96 |
| Oats | 54.9 | 36.2 | 50.7 | 66.1 | 47.4 | 30.4 | 55.96 |
| Potatoes. | 203.7 | 127.4 | 216. 2 | 277.2 | 157.2 | 97.0 | 62.12 |
| Tobacco | Pounds. | $\begin{aligned} & \text { Pounds. } \\ & 1,231.2 \end{aligned}$ | Pounds. 936.8 | Pounds. 2, 034. 2 | Pounds. $1,481.0$ | Pounds. 820.8 | 80.43 |
| Sugar beets. | Tons. $12.6$ | Tons. 10.7 | Tons. | Tons. $12.3$ | Tons. 12.0 | Tons. 10.1 | 19. 28 |

${ }^{1}$ From Annuaire International De Statistique Agricole (Rome, 1922).
The last column of the above table shows the percentage by which the average yield per acre in the four countries of Europe exceeds that of the United States. ${ }^{38}$ If France were excluded the percentages of comparison, as indicating the possibility of expanding our production per acre, would be much greater. It is believed, however, that the inclusion of France gives a figure which represents much more accurately a measure of the possibility of enlarging our production per acre than if the other three countries alone were considered. ${ }^{39}$

Two of our most important crops, corn and cotton, as well as a number of minor crops, are not extensively produced in all of the above countries. Likewise, statistics for hay have not been obtained for all these countries.

Satisfactory statistics for hay production are available for the United Kingdom. ${ }^{40}$ The average yield per acre of hay in the United Kingdom for the 5 -year period 1909-13 was 1.63 tons. For the same period, the average yield per acre in the United States was 1.34 tons, indicating a higher yield for the United Kingdom of 21.6 per cent. In view of the fact that the climate of the United Kingdom is comparatively favorable for hay production and that special attention has been given to the scientific improvement of the meadows, including a considerable use of fertilizers, it is doubtful if we could safely count on a larger percentage of increase in the American yield per acre.

[^76]With corn, it is difficult to make satisfactory comparisons. There is no extensive area of corn in the more progressive countries of western Europe. Indeed, our production is nearly two-thirds of the production for the entire world, and our average yield per acre is greater than the average yield of the world. In only a few countries is the yield per acre in the United States surpassed, and in a number of these the area involved is so small that it can scarcely be regarded as a fair basis of comparison. Although southeastern Europe is the most important corn-producing section of the world, after the United States, Hungary is the only country in that region with a considerable area in corn which shows a larger yield per acre than that of the United States. Our yield per acre is exceeded by about 40 per cent on considerable areas in Peru and Egypt, but in these countries the crop is mostly irrigated. It is most significant that on about 310,000 acres (mainly in southern Ontario) the Canadians have achieved an average approximately double our own average. It would be a mistake, however, to assume that even if similar methods of production were employed throughout the United States they would produce so high an average, for, corn is raised on large areas of light sandy soils in the Southern States and in other regions, and also under semiarid conditions in considerable areas of the Great Plains. New England, where the climate is not best adapted to corn, shows a 10 -year average product ranging from 41 to 47.5 bushels per acre for the various States, as compared with a national average of 26.4 bushels and only 37.3 bushels for Iowa. As in Canada, of course, the product in New England is on a comparatively small acreage. However, Pennsylvania, on an area more than four times that employed for corn in Canada maintained an average of 41.7 bushels.

In view of these facts and considering the great area and diverse physical as well as social conditions involved in corn production in America, it may be doubted whether we shall be able to increase our corn yield per acre above 50 per cent.

In considering cotton we encounter somewhat the same difficulty as with corn, namely, the lack of an adequate basis of comparison. India, which after the United States is the most important cottonproducing country, is characterized by comparatively crude methods of production as well as inadequate rainfall in the regions of cotton production, so that the average product per acre is less than half that of the United States. Egypt, the next largest producer, maintains an average yield of 348 pounds per acre, more than double our average product, but the Egyptian industry is confined almost entirely to irrigated alluvial land of high quality. Brazil maintains an average yield of 258.7 pounds per acre- 52.6 per cent above our average. However, the conditions of soil, climate, and types of cotton are all different from those prevailing in America.

As a result of the boll weevil, our average yield per acre for the five years 1918-22 was 22 per cent lower than the average yield for the five years 1888-92. In other words, if we should return to the average acre yield of the former period, we should increase our yield about 28 per cent above the average of 1918-22. This may be regarded as measuring roughly the probable improvement in productivity that might be achieved if we should be so fortunate
as to discover a means of completely eliminating losses due to the boll weevil.

In the absence of a comparative basis for estimating the probable increase in production per acre, and with due regard for the physical and social conditions prevailing in the Cotton Belt and for the fact that on large areas of the poorer land artificial fertilizers are already extensively employed, a further increase of more than 35 per cent would appear doubtful.

We have reached conclusions with respect to the probable increase for 10 important crops, which occupy nearly 90 per cent of our entire crop area. If we weight the percentages by the average area in each of the respective crops for the 5 -year period 1909-13, we obtain an average percentage of 46.8 , which we may regard as representing the practicable increase in production per unit of crop area when economic conditions shall justify the requisite cost of production. ${ }^{41}$
If this increase in yield of crop land could be achieved by the time our population reaches $150,000,000$, we should require for domestic consumption only $269,662,000$ acres, about $34,000,000$ acres less than we used for domestic consumption in $1920 .{ }^{42}$

This would be a somewhat roseate outlook if it were probable that so large an increase would be made in less than three decades; but when we remember that there has been no increase in average yield per crop acre in the past two decades, so large an increase seems highly improbable. Furthermore, even if it could be attained, it would probably involve a considerable increase in expense per unit of product.

## Pasture Land.

The comparison of carrying capacity of pasture in the United States with that of western Europe is beset with great difficulties, for the statistical classifications of pasture land in the various countries differ considerably. The United States is very different from western Europe, by reason of the fact that we employ so large an area of arid and semiarid land for pasturage. Spain is the only country in western Europe which even approaches the United States in this characteristic. It will be better, then, to reserve arid grazing land for separate consideration.

The areas in different classes of pasture and the ratio of livestock units to the total area of pasture are shown for various European countries in Table 4 and Figure 47.

[^77]Table 4.-Areas of land employed for pasture and the production of fodder crops and number of acres of pasture per animal unit in various European countries. ${ }^{1}$


[^78]
## AREA OF HUMID PASTURE (OTHER THAN WOODLAND) PER ANIMAL UNIT, UNITED STATES AND VARIOUS EUROPEAN COUNTRIES.



Fig. 47.-The areas of humid pasture per animal unit range from less than 1 acre for Belgium to nearly 4 acres for the United States. However, these differences are not wholly due to differences in carrying capacity, but, to a large extent, reflect differences in the degree of dependence on pasture, as contrasted with other kinds of feed, in the livestock husbandry of the several countries. In calculating the ratios the estimated number of liveseveral countries. In calculating the maintained on semiarid pasture and woodland pasture in the United States was excluded, and in all the countries the area of woodland pasture was excluded. To a small extent this makes the comparison unfair to the United States, for the number of livestock carried on woodland pasture in the European countries is not excluded from the calculation. However, because of intensive methods of forestry, the proportion of livestock maintained by woodland pasture in European countries is believed to be very small.

In the six European countries the average number of acres per animal unit is 1.81 . On the basis of the estimated acreage of humid pasture in the United States and of the estimated number of animal units in the humid as distinguished from the semiarid parts of the country, there are 4.22 acres of humid pasture per animal unit. This appears to indicate that we employ 133 per cent more acres of humid pasture per animal unit than the average of the six European countries.

The following is a summary of the percentages by which the acres of humid pasture per animal unit for the United States exceed the corresponding ratio for each of the six European countries:

| Per cent. |  |  | Per cent. |
| :---: | :---: | :---: | :---: |
| Great Britain and Ireland | 59 | Denmark | 189 |
| France | 105 | Germany | 240 |
| Netherlands | 184 | Belgium | 364 |

It will be clear that these differences do not measure differences in carrying capacity of pasture. The pastures of Great Britain and Ireland are probably not greatly inferior in carrying capacity to the pastures of the other countries shown in the table. The differences reflect largely variations in degree of dependence on pasture.

Further light is thrown on the problem by studying comparative figures on carrying capacity for the various kinds of pasture. Through the courtesy of the Prussian Ministry of Agriculture the estimates of the carrying capacity of German pastures, shown in the left-hand side of Table 5, are made available, based on the works of Professor Falke, a high authority on animal husbandry. In the right-hand side of the table are parallel estimates supplied by Professor Hansen, of the Berlin Agricultural High School, a recognized authority on pasture economy.

Table 5.-Estimated average carrying capacity of German pastures.

| Professor Falke's estimate. | Kind of stock and ages. | Professor Hansen's estimate. |
| :---: | :---: | :---: |
| Number per acre. |  | Number per acre |
| 2. 04-3. 33 | Cattle of $\frac{1}{2}$ to 1 year | 1. 61-2. 70 |
| 1.35-2. 04 | Cattle of 1 to 2 years | 1. 16-1. 61 |
| 1.16-1.61 | Cattle of 2 to 3 years | 0.90-1.35 |
| 0.81-1.61 | Cows | 0.68-1. 00 |
| 1.35-1. 62 | Horses of 1 year | 1. 16-1. 35 |
| 0.90-1. 16 | Horses of 1 to 2 years | 0. 81-1. 00 |
| 0.81-1. 01 | Horses of 2 to 3 years | 0.68-0.90 |

In commenting on these figures, officials of the German Ministry of Agriculture expressed the opinion that Professor Falke's figures apply to permanent pastures located in Schleswig-Holstein, East Friesland, Mecklenburg, Pomerania, and-East Prussia, as well as to the better pastures in the mountains of Bavaria. Most of these pastures receive some care, and fertilizer is extensively used. On the other hand, most of the mountain pastures do not have so high a carrying capacity. These officials believed Professor Hansen's estimates more nearly represent averages of carrying capacity for all German pastures.

As a result of the study of about 10,000 questionnaires concerning the carrying capacity of humid grassland pasture in the United States, the conclusion has been reached that the average carrying capacity for the usual grazing season (averaging about 6 months) is 2.3 acres per animal unit, or about 0.45 animal units per acre. This excludes woodland and also brush lands and rocky mountain tops. It is true, we have pasture land with a considerably higher carrying capacity. Here and there a township may be found where pasture will carry as much as an animal unit per acre. However, in the American States reporting the highest carrying capacity, the average is but little more than half of an animal unit per acre-that is, less than half the average for all Germany.

According to Professor Hansen's estimate, the average carrying capacity for mature horses and cows ranges from 0.85 to 1.17 animal units per acre. The mean of Professor Hansen's estimates is practically 1 acre per animal unit. On this basis, the carrying capacity of German pastures is about 122 per cent greater than the estimated average carrying capacity for the humid grassland pastures of the United States. Apparently, if we may take Germany as an indication, the superiority of European pasture in productivity as compared with that of the United States is strikingly greater than in the case of crop land.
Data for determining the amount of possible increase in the grazing capacity of our semiarid pasture lands are not yet available. Experiments have been conducted, such as those at the Jornada Range Reserve in New Mexico, where on 200,000 acres an increase of 50 per cent in carrying capacity was effected by a 5 -year period of management, ${ }^{43}$ and an average increase of 100 per cent in production for each animal unit carried resulted during an 8-year period. ${ }^{44}$ Another experiment carried on in southern Arizona resulted in an increased carrying capacity of 100 per cent from five years' management. ${ }^{45}$ However, the above were obtained under experimental conditions which are not likely to conform to the broad average of practice. On a much larger scale the experience accumulated on 100,000,000 acres of national forest ranges of the West indicates a general improvement of 25 to 30 per cent through controlled grazing. Of course, these lands are partly humid or subhumid. Nevertheless, it is probable that this experience reflects the possible increase in productivity that might shortly be attained by substituting regulated grazing for the present promiscuous use of open range. It is probable that the productivity of the national forest ranges could be increased another 25 per cent in course of time through the employment of a higher grade of livestock, better care, closer coordination of range forage and other feed, and the further extension of improved principles of range management, such as proper time and intensity of use or "deferred and rotation grazing." On the public grazing lands not now subject to regulation, a conservative estimate of increased productiveness through regulation is 50 per cent. On

[^79]privately owned range lands, it is probable that the potential increase in productivity is much less. Experience has shown that it is a slow process to bring up the average of individual practice. Probably it is not wise to count on an increase of more than 25 to 30 per cent in productivity on the semiarid range pastures not in public ownership.

It is doubtful if the future will see a considerable increase in the carrying capacity of the area of forest and woodland pasture. More than a fourth of it is in national forests already grazed under careful regulation. The remaining area consists largely of cut-over land or second-growth timber. The development of timber-growing in these areas will increase the density of timber stands and reduce the amount of forage, and in many cases may lead to the reduction or exclusion of livestock. Even in the national forests the protection and encouragement of young growth have necessitated the exclusion of livestock in some areas.

The above estimates of possible increase in carrying capacity of pasture are not intended to suggest that we shall actually achieve so high a standard of pasture management in the next three or four decades, for this is highly improbable; but it may be worth while to calculate the area of humid grassland pasture that would be needed for a population of $150,000,000$ on the assumption of an increase of 122 per cent increased carrying capacity on humid pastures other than woodland, and 50 per cent on semiarid pastures. This will give at least a conception of the minimum area that would be needed to maintain present standards of consumption. Allowing for these increases and assuming the areas of semiarid and woodland pasture to remain constant (as explained above), approximately only $120,700,000$ acres of humid grassland pasture would be required for a population of $150,000,000$, as compared with $209,000,000$ acres of this type of pasture now employed for domestic consumption. Actually, of course, for a population of $150,000,000$ we shall need an area between .this minimum of $120,700,000$ and a maximum of $336,000,000$ acres in order to maintain the present standards of consumption of livestock products. ${ }^{46}$

## Forests.

At the present time a large part of the $483,000,000$ acres classed as forest and cut-over land is not growing timber. On the 138,000,000 acres of virgin timber it is estimated that annual growth is about balanced by the loss from death and decay; these forests have reached, roughly speaking, a natural balance. About 81,000,000

[^80]acres are not restocking because of fire or other causes. On the $264,000,000$ acres of growing timber the annual rate of growth is estimated at only 24 cubic feet per annum, a rate only about half that which prevails in well-cared-for forests of certain European countries (fig. 48). As a consequence, the annual growth amounts

## RATE OF GROWTH PER ACRE IN GROWING FOREST AREA OF THE UNITED STATES CONTRASTED WITH THAT OF TOTAL FOREST AREA IN VARIOUS EUROPEAN COUNTRIES.



Fig. 48.-The rate of growth of growing forests in the United States is less than half that of Belgium, the Netkerlands, and Germany. The rate of growth for the United States is calculated only on the basis of the $\mathbf{2 6 4 , 0 0 0}, 000$ acres of actually growing forest, omitting the area of virgin forests and the denuded areas not restocking. On the other hand, for the European countries the total estimated growth is divided by the total forest area, including small areas of denuded land not yet reforested. However, this does not seriously reduce the rates.
to only about one-fourth of the present annual consumption. Our present annual consumption and wastage of forest products is $24,-$ $785,000,000$ cubic feet per annum. However, of this $2,380,000,000$ cubic feet represents estimated loss from fire, insects, diseases, and windfall (fig. 55 ). Assuming that in the next few decades we shall be able to eliminate this wastage, we should require for a population of $150,000,000$ people an annual cut of $31,793,000,000$ cubic feet per annum to maintain the present rate of consumption. If we should manage to increase the rate of growth per acre to that which prevails, say, in Germany or the Netherlands, that is, to 50 cubic feet, we should require $636,000,000$ acres of growing forest or 32 per cent more than our present forest area including the area denuded and not restocking.
The maintenance of so high a standard of productivity will involve, of course, the intensive application of labor, not only in the careful harvesting of mature timber so as to insure natural reproduction, but also in protecting, thinning, and other cultural operations in the new forest throughout its life. In these respects the cultivated forest of the future will be as different from the wild, volunteer forests of to-day as farm land is from wild land. Protection from fire and reliance chiefly on chance reproduction or on a few seed trees in the more difficult types will not assure this high
productivity; in fact, it is estimated that such measures would increase the annual growth per acre of growing forest from only about 24 to 29 cubic feet.

Owing to the fact that a large part of our forest is in private ownership, we can not expect a rapid development of the most intensive forestry in a short time. The existence of our still large reserve of virgin timber retards the economic forces that would otherwise more rapidly lead to profitable timber growing. In addition, there is much conservatism, traditional apathy, and inertia to prevent as rapid an increase in timber growing as we need. Unquestionably economic forces are being stimulated and traditional obstacles removed by the widespread awakening to the danger of future timber shortage. However, intensive forestry of the European type can not be developed rapidly enough, especially in our privately owned forest lands, during the next few decades to offiset this shortage. Even in the lands publicly owned the huge problems involved in fire protection, in administration, and in marketing the less accessible timber retard the development of the most intensive methods of forestry.

## Conditions of Increased Productivity Per Unit of Land Employed.

It has already been suggested that the experience of older countries has shown that the increased productiveness per acre required to maintain a dense population is obtained at a greater cost, partic-

## NUMBER OF PERSONS EMPLOYED IN AGRICULTURE PER THOUSAND ACRES OF CROP LAND (EXCLUDING WILD HAY), SELECTED EUROPEAN COUNTRIES AND STATES OF THE UNITED STATES.



Fig. 49.-The larger yields per acre characteristic of European nations involve a heavy cost in human labor. To some extent the contrasts reflect differences in fhe character ot the crops. Thus the large relative amount of labor in Italy is partly due to the prevalence of such intensive crops as silk, wine, olives, citrus fruits, etc., and in South Carolina to the predominance of such intensive crops as. cotton and tobacco. In part, it is due to the smaller number of horses and other work stock per thousand acres in the continental countries, as compared with Great Britain and the United States. In part, also the farm population in the continental countries is employed in domestic industries as well as in farming. However, after all these allowances are made, it is still true that the European nations employ much more labor per thousand acres of crops than is found economical in the United States. For the United States the data are from the census of 1920. For the European countries the latest official statistics were employed.
ularly of labor, not only per unit of land but also per unit of product. It is true, we may effect some increase by a more widespread adoption of improved methods of increasing the productiveness of land without correspondingly increased expense. Furthermore, our progress in saving labor by development of new mechanical devices would offset somewhat the increase in costs involved in more intensive farming; and there is always the possibility of some epochmaking discovery that will revolutionize the possibility of increasing product per acre without proportionately increasing costs.

In spite of these possibilities, it is foolish to underestimate the significance of the fact that the superiority of the agriculture of western Europe in productivity per unit of land, as compared with the United States, is attained by a considerably greater expenditure of labor (fig. 49). As compared with a population engaged in

# NUMBER OF WORK ANIMALS PER THOUSAND ACRES OF CROP LAND (EXCLUDING WILD HAY), THE UNITED STATES, SELECTED EUROPEAN COUNTRIES, AND STATES OF THE UNITED STATES. 



Fig. 50.-While the United States uses more work animals per thousand acres of crop land than the European countries, except England and Wales, the percentages by the United States exceeds the respective countries in this regard are not as large as the percentages by which they exceed the United States in the quantity of labor per thousand acres of crop land (see fig. 49). The number of work stock per thousand acres of crop land in England and Wales is larger than for the United States, but the ratio of work stock to persons engaged in agriculture is smaller. The figures for the United States are based on the census of 1920 . For the European countries the latest official statistics were employed.
agriculture, in the United States averaging 41 per thousand acres of crop land, there are nearly 6 times as many in Italy, nearly 4 times as many in Germany, over 3 times as many in France, and more than $2 \frac{1}{2}$ times as many in England and Wales in spite of the prevalence of a pasture economy in the last-mentioned country.

Of course, our agriculture is relatively more intensive than a mere comparison of proportions of persons per thousand acres of crop land would seem to indicate; for, in place of some of the persons directly engaged in farming in Europe, we employ some persons in our cities in making a greater quantity of machinery and implements per thousand acres of crop land than are used in European countries. Furthermore, we use a greater number of horses and mules per thousand acres of crop land than are employed in most European countries (fig. 50).

Not only is the superiority of western European countries in yield per acre achieved at the expense of a greater quantity of man labor per acre; but the evidence indicates that the extra expenditure is proportionately much greater than the increase of yield, so that the yield per unit of labor is much smaller than in the United States. Let us take for comparison the four countries--the United Kingdom, Germany, Belgium, and France. Their average product per acre for seven important crops was found to be about 41 per cent greater than for the United States. However, their agriculturally employed population per thousand acres of crop land was 278 per cent greater than for the United States. ${ }^{47}$ It is true, they used slightly fewer work horses and mules per thousand acres of crop land than in this country ( 78 as compared with 80), but this slight difference is almost certainly made up by the proportionately greater use in the European countries of supplementary work animals such as oxen and dogs. Moreover, it is probable that the expenditure for fertilizer per acre is much greater than in the United States.

It may be unfair, therefore, to compare the productivity of the seven crops per unit of human labor in these four countries with that of the United States. On this basis it appears that whereas the yield per acre for the four European countries was 41 per cent greater than for the United States, the yield per person directly employed in agriculture was 159 per cent greater for the United States than for the four European countries. ${ }^{48}$

It does not necessarily follow that in order to increase our average yield per acre 41 per cent, we shall have to increase our number of laborers from 41 per thousand acres of crop land to 155 per thousand acres, or 278 per cent. Our agriculture is organized on the basis of a large number of work stock in proportion to human labor. Thus, in America there are approximately two horses or mules to one agricultural worker. On the other hand, in the four European countries there are two workers to each horse or mule. In short, our present ratio of horse labor to human labor is about four times that prevailing in the four European countries.

This contrast partly grows out of our system of farm organization. Of the four European countries, all but the United Kingdom are characterized by large numbers of small peasant farms which employ horse labor very sparingly.

Our own farm organization is more similar to that of England, involving larger units than prevail on the continent. It will be noted

[^81]that in England and Wales the ratio of horses to laborers is as 118 to 100 . When we have reached the probable extreme of intensity of cultivation our figures both for man labor and for horse labor per acre of crops are likely to resemble more closely the English than the continental ratios. Even this would mean increasing man labor per acre 215 per cent and horse labor 61 per cent.

It is probable that with our aptitude for mechanical devices we shall increase our man labor in somewhat less extent and employ a somewhat greater proportion of horse labor or its equivalent in other forms of power. It is also probable that progress in science and invention will result in more efficient methods of production; but this is not predictable and, indeed, is an immeasurable factor and one that should not be too greatly relied on in making our plans for the future.

It might be said that part of the present superiority of America in productiveness per man is due to superiority in intelligence and skill of our population and that this will make it unnecessary to pay so heavy a price for increased yield per acre as the European countries have paid. However, we have no more right to assume that all or any part of our superiority in production per man is due to our superior efficiency, than the people of the above-named countries have to assume that their superiority in productiveness per acre is due to the same cause. The fact is that a high degree of skill in America is directed to the economy of labor, while in western Europe probably equally as much skill and intelligence are devoted to the problem of economizing land.

The facts point to the conclusion that after a certain average of productivity per acre is attained, probably somewhat higher than that now prevailing in this country, a marked increase in average product per acre is attained only by a much greater expenditure of labor. This may explain why our farmers in the past two decades have made so little progress in production per acre.

The above facts also point strongly to the conclusion that unless the future shall result in exceptional progress in scientific invention and discovery, making possible a larger yield per acre without the corresponding penalties in increased costs now required, we may need to increase considerably the proportion of our population engaged in agriculture; but this change is hardly likely to begin to be manifest during the next few decades.

It is also safe to count on a considerable increase in the number of work animals either made necessary by expansion of crop area or greater intensity of cultivation on old lands. Judging from the experience of the United Kingdom an increase of at least 40 per cent in number of horses per thousand acres would be necessary in order to effect an increase of 47 per cent in yield per acre. ${ }^{46}$

[^82]
## Economies in Acreage Requirements That Might be Effected by Certain Changes in Our National Standards of Consumption.

In the following estimates of the economy in acreage resulting from changes in standards of consumption, the present yields per acre have been assumed, so as not to confuse for the moment the effects of changes in productivity. Later, the possible economies in land area resulting from both causes may be considered in conjunction.

## Crop and Pasture Land.

Since livestock require so large a part of our total farm acreage, it is natural to look to this phase of our consumption as affording the principal opportunity for economy-a fact that has been demonstrated by the experience of more densely populated countries.
The food scarcities of the war period resulted in very careful estimates of per-capita consumption for two countries, the United Kingdom and Germany, which give us a basis of consideration of the problem.

In Table 6 is given the per capita consumption for the United Kingdom and the United States of food products from livestock. ${ }^{50}$

Table 6.-Per capita consumption of food products from livestock, the United Kingdom and the United States. ${ }^{1}$

| Products. | United Kingdom (pounds per capita). | United States (pounds per capita). | Per cent the British is of the American. |
| :---: | :---: | :---: | :---: |
| Beef and veal | 64.0 | 68.36 | 93.6 |
| Mutton and lamb | 29.1 | 5.34 | 544.9 |
| Pork, bacon, ham and lard | 41.6 | 83. 80 | 49.6 |
| Poultry (and game) | 2. 7 | 220.20 | 14.4 |
| Eggs | 12.5 | 28.30 | 44.2 |
| Milk (including cream and condensed milk | 246. 4 | 418. 80 | 58.8 |
| Butter ---------------------------------- | 15. 6 | 15. 23 | 102.4 |
| Cheese --.--- | 7. 2 | 3. 45 | 208.7 |
| All dairy products in terms of milk for hum | 646.0 | 773.13 | 83.6 |
| Fish---- | 41.4 | 17.00 | 243.5 |

[^83]From the standpoint of nutrition, of course, it is necessary to consider the entire diet of a people-vegetable products and fruits, as well as meats. Taking into consideration all its elements, the committee above referred to estimated the British food supply, as represented by the average for 1909-13, to be somewhat above the minimum necessary to maintain the population in an efficient working condition. The actual supply consumed was estimated to be in

[^84]excess of requirements, by 11 to 14 per cent of proteins, 25 to 30 per cent of fats, and 10 to 14 per cent of carbohydrates.

If these conclusions are correct, we should be amply nourished as a nation though not necessarily wisely nourished, if we should adopt the British standard. The most important difference, so far as livestock products are concerned consists in the much greater consumption per capita of mutton in the United Kingdom, offset in the United States by a relatively greater consumption per capita of pork and pork products, poultry, eggs, and dairy products.

For the present investigation the important question is: Would there be an economy in the requirements of crop and pasture land if we employed the British standard of consumption of livestock and livestock products? A careful estimate indicates that, in providing for a population of $150,000,000$ people, we should save about $43,000,000$ acres of crop land, compared with the requirements under our present standard of consumption. ${ }^{51}$
On the other hand, assuming that the area of semiarid pasture and woodland pasture are constant, as in previous estimates, we should find it necessary to provide about $37,000,000$ acres more of humid pasture, other than woodland, than would be required for 150,000,000 people under the American standard. ${ }^{52}$

The apparent anomaly that under the British standard we should economize in crop area but require an increase in pasture area is due to the fact that the largest economies under the British standard are in hogs and poultry, which require relatively large amounts of crop land but relatively small amounts of pasture; while, on the other hand, the British requirement for sheep is 445 per cent above our own, and sheep require comparatively little crop area but large areas of pasture.

As a matter of fact, the British standard is not a normal one for a self-sufficing nation of dense population. It is made possible by the policy of depending largely on foreign sources of supply. A much more normal example of the adjustments in consumption of

[^85]livestock and livestock products is afforded by Germany, for which country fortunately we have carefully prepared statistics. ${ }^{53}$
The pre-war food consumption of the German Empire (1912-13) comprised a much smaller use of meat per capita than that of the United Kingdom, but higher than that of France and other continental countries. Nevertheless, the German people were adequately nourished. It is estimated that the caloric value consumed each day per " average man " ${ }^{54}$ was about 15 per cent in excess of the requirement as estimated by the Inter-allied Scientific Food Commission. Allowing for the importation of food, concentrates, and fertilizers, about 85 per cent of the food supply was domestic production and 15 per cent imported. ${ }^{55}$

The contrasts in the food consumption of Germany and of the United States in terms of percentage of total energy units (calories) derived from different kinds of food are shown in Figure 51. Table 7 shows the per-capita consumption of different kinds of food in the two countries measured in pounds, and the percentage of excess and deficiency of the American as compared with the German standard.


Fig. 51.-The German diet in the years just preceding the World War was ample in nourishment, but represented certain economies made necessary partly by scarcity of land and partly by a lower per capita income as compared with the United States. The combined consumption of cereals and potatoes for Germany comprised a much larger percentage of the total than n United States, although our consumption oı wheat was a larger percentage of the total than in Germany. The percentages of energy units obtained from pork and dairy products are not greatly different for the two countries, but beef and sugar have a considerably larger place in the American than in the German diet.

[^86]Table 7.-Comparative per capita consumption of foodstuffs in Germany and the United States.

## ANIMAL PRODUCTS.

| Kind. | Germany. ${ }^{1}$ | United <br> States. ${ }^{2}$ | Per cent <br> German figure is of <br> American figure. |
| :---: | :---: | :---: | :---: |
|  | Pounds. | Pounds. |  |
| Beef and veal | 39.40 | 68.36 | 57.6 |
| Pork and pork products (including lard) | 75. 45 | 83.80 | 90.0 |
| Mutton and lamb---------------- | 2.00 | 5.34 | 37.5 |
| Poultry | 4. 82 | 20. 20 | 23.9 |
| Eggs | 15. 99 | 28. 30 | 56.5 |
| Milk | 283.30 | 418. 80 | 67.6 |
| All dairy products in terms of milk | 711.34 | 773.13 | 92.0 |
| Butter--------------------------- | 15. 44 | 15. 23 | 101. 4 |
| Cheese | 10.38 | 3.45 | 300.9 |
| Fish. | 19.56 | 17.00 | 115.1 |

VEGETABLE PRODUCTS.


[^87]On the basis of these comparative figures it is estimated that under the German standard of consumption of animal products there would be an economy of about $64,000,000$ acres in the amount of crop land that would be required under the present American standard of consumption of animal products. However, the economy in crop land under the German standard of livestock consumption is offset somewhat by the relatively larger requirements of crops employed directly for human consumption. For the crops shown in Table 7 it is estimated that there would be needed for a population of $150,000,000$ people about $27,000,000$ acres more under the German standard of consumption of vegetable products than under the American standard. Whereas the Germans have a smaller per capita consumption of wheat and sugar and eat practically no maize, this is more than offset by their much larger consumption of potatoes and the other cereals, especially rye. ${ }^{56}$ In short, the net saving in crop

[^88]acreage under the German standard is about $37,000,000$ acres. The greatest saving, however, would be in the case of pasture. It is estimated that under the German standard the requirement of humid pasture other than woodland would be $121,000,000$ acres less than under the American standard, owing to the large economies in the use of the pasture-consuming animals-sheep and beef cattle.

## Consumption of Forest Products.

As shown by Figure 52, the possibilities of reducing our per-capita consumption of forest products are very great. As between the 234 cubic feet per capita of standing timber annually used or wasted in the United States ${ }^{57}$ and the 27 cubic feet of France and Germany, or

## ANNUAL PER CAPITA CONSUMPTION OF WOOD, UNITED STATES

 COMPARED WITH VARIOUS COUNTRIES AND REGIONS.

Fig. 52.-The per capita consumption of timber is closely related to the abundance or scarcity of it in the various countries. It is especially large in countries which are still cutting from a stored-up supply, or where so large a proportion of the total area is mountainous that the population is small in propgrtion to the total land surface, as well as to the total area of forest, as in Norway. The per capita consumption tends to be small in countries of dense population, especially where it is necessary to rely on annual growth, such as Germany and France. It is also small in countries of sparse population but slight industrial development, such as Guatemala, Bolivia, and Spain. In the last two countries another factor is the considerable area of semiarid land, which tends to reduce the proportion of forest to the total area. The figure for the United States includes wastage from fire, while this loss is not included in the consumption figures of the other countries, the loss from this cause being very small for most of them. Because a large part of the supply is imported, the figure for the United Kingdom represents mainly sawed and hewed timber.
the 15 cubic feet of the United Kingdom, there is obviously a great gap which may be considered not absolutely essential to the maintenance of civilization.

However, the mere fact that some of the European nations find it physically possible to get along with from 15 to 27 cubic feet per capita, while we employ 212 no more means that a reduction to the European level is economically desirable than the fact that a certain man of limited income manages to exist on $\$ 1,000$ makes it desirable

[^89]for a man with an income of $\$ 10,000$ to reduce his expenditure to the level of the less fortunate individual.

If we were willing to reduce our living standards drastically and to curtail our industrial consumption of wood to the level of Germany or France, the present rate of growth in our growing forests would provide for a population of about $235,000,000$ people. If, on the other hand, we cared to use the intensive methods of forestry of Germany and employed only land too rough or too poor for use in crops (see p. 474), we could supply timber for about 485,000,000 people, according to the French or German standards of consumption, or more than we could probably supply with food and clothing under a reasonable standard of comfort. If our entire present forest area were in growing timber, and assuming no change in rate of growth, we could maintain for a population of $150,000,000$ a per capita consumption of 76 cubic feet, which is over one-third our present per capita consumption (fig. 53). This is merely another

```
PERCENTAGES OF PRESENT PER CAPITA CONSUMPTION OF STANDING TIMBER THAT WOULD BE AVAILABLE FOR 150,000,000 PEOPLE BY UTILIZING OUR PRESENT AREA OF FOREST LAND AT VARIOUS RATES OF GROWTH.
```



Fig. 53.-On our present forest area, including the $81,000,000$ acres denuded and not restocking, it would be possible to provide for $150,000,000$ people. at present rates of growth on the growing area only a little more than a third of our present per capita consumption. The elimination of fire would increase the supply by about one-fifth. If the average rate of growth for the German forest area could be attained, our present area could supply annually three-fourths of our present per capita consumption. However, this would involve very intensive systems of forestry on an area about fourteen times that of the forests of Germany.
way of saying that so drastic a reduction in per capita consumption is likely to be unnecessary.
Moreover, the reduction in our per capita consumption of forest products to that prevailing in Germany and France would involve costly substitutions, as well as serious deprivations in the standard of living of our population. The people of those countries have been schooled for centuries in the scanty use of wood, whereas in the United States our whole social and economic structure has been based on the use of wood in abundance. Indeed, leaving out of account the present unnecessary wastes, it would appear undesirable to make any reduction in our per capita consumption of timber that is not required by the lack of available land.

It is true, our large per capita consumption can be somewhat reduced with less real than apparent hardship, by eliminating some of the unnecessary wastes and the less important uses. Of our total annual cut of $22 \frac{1}{2}$ billion cubic feet of standing timber, only about one-third is sawed lumber, including dimension material and sawed ties •(fig. 54). Most of the remainder consists of such items as fuel wood, hewed railroad ties, pulpwood, mine timbers, and similar products. Wood used for fuel alone amounts to nearly two-fifths of our timber cut.

Moreover, in the United States large amounts of such products as fuel wood, mine timbers, pulpwood, and fence posts come from

AVERAGE ANNUAL REMOVAL OF STANDING TIMBER FROM THE FORESTS OF THE UNITED STATES ASSIGNED TO VARIOUS TYPES OF USE OR CAUSES OF DESTRUCTION.


[^90]small trees that are potential saw timber, and often indeed from trees of saw-log size. Yet, much of these materials could come from the immense quantities of wood now wasted in the form of tops, limbs, stumps, and small or crooked logs, and of small trees that, with benefit to the remaining forest, could be taken out as thinnings. Thus, Sweden has built up a large paper industry, which derives its raw material almost solely from classes of wood that we now waste in woods and factory. The salvaging of this waste would release immense quantities of young growth for ultimate use as saw timber. The annual loss to standing timber from fire, windfall, insects, and disease is estimated at $7 \frac{1}{4}$ billion board feet, most of which could be avoided by proper protective measures.

Equally conspicuous are the easily possible savings in the most valuable part of our timber supply, the saw-log material (fig. 55). Even a moderate reduction of the waste now occurring in the manufacture and use of saw timber and from fire and decay of lumber in use would add 7 billion board feet a year to our lumber supply. This is almost a fifth of our present lumber cut and is equivalent to the present growth of saw timber on $170,000,000$ acres of forest land.

If in the near future we should adopt a crude system of forestry consisting chiefly of protection against fire and the provision of seed trees where needed, we could expect by 1950 , on the area probably available for growing timber, a total annual growth of about 10 billion cubic feet, or about 4 billion more than the present annual volume of growth. This supposes that some of our forest area will still be in virgin timber, and consequently will not be available for growing timber. This growth, if relied on as our total supply,

AVERAGE ANNUAL REMOVAL OF STANDING TIMBER IN THE UNITED


Fig. 55.-It is estimated that of the $25,000,000,000$ cubic feet of standing timber annually removed from the forests of the continental United States nearly one-half represents waste. About one-tenth of the total removal is due to fire or insects and disease. The greatest volume of waste is in manufacture and use, comprising more than a third of the timber annually removed. However, most of this waste is not now avoidable without increasing considerably the cost of utilization.
wouid give a per capita consumption of about 67 cubic feet for a population of $150,000,000$. This figure, however, will be increased by reason of the reserve supply of virgin timber, which may last well into the latter half of the present century, though of course it will become increasingly scarcer and more inaccessible and consequently higher priced. It may also be increased by imports, though at present imports and exports are about balanced. Large imports are probably out of the question, because of high transportation charges and growing competition for the timber of foreign countries, particularly conifers. It may also be somewhat further increased by the use of more intensive forestry in public forests, and in the more favorably situated private forests. But that by 1950 our per capita consumption will be markedly below what it now is seems inevitable. The trend of prices in itself creates a strong economic pressure toward lower per capita consumption. Compared with 1840 the average
price of lumber is now more than five times what it was then, whereas the average prices of all commodities are less than one and one-half times as great. One of the large elements in the high prices of lumber is the cost of freight, which has increased steadily with the increasing length of haul.

The fact is our per capita consumption of lumber had been declining for some time prior to 1920. In was higher in 1870 than in 1920. It rose steadily until 1906; from 1906 to 1920 it declined steadily at an average yearly rate of 2.8 per cent. Since 1920 consumption has been increasing, partly no doubt because of the resumption of construction activity suspended during the World War.

The future trend of consumption is impossible to predict, though there are certain tendencies that will permit us to make a fair estimate. The chief limiting factors will be, as in food production, the land available and the amount of labor and capital that will be devoted to timber growing. As we shall show, it is unlikely that our present forest area of $483,000,000$ acres will need to be decreased in the next half century. If the present area were all in growing timber and were managed as intensively as the better managed forests of Germany, it could be made to produce about 28 billion cubic feet a year, which would give for a population of $150,000,000$ a per capita supply of 180 cubic feet, and for $200,000,000,135$ cubic feet.

The production of 28 billion cubic feet a year within the next four or five decades is, however, entirely impossible. Even granted the land, the labor, and the capital necessary, it would require a long time to get all our forested land, including the $138,000,000$ acres of virgin forest that still remain to be cut before growth starts, into productive condition, for most of our forests are badly understocked.

## Probable Changes in Land Requirements During the Next Few Decades.

The preceding discussion has indicated the acreage of crops, pasture, and forest land that would probably be required to provide for domestic consumption under each of three extreme assumptions: (1) No reduction in per capita consumption and no increase in rate of yield per acre; (2) increasing yield of crop land to the average now prevailing in four countries of western Europe, and of pasture and forest to the averages characteristic of Germany in the period before the World War; and (3) decreasing per capita consumption to the standard prevailing in Germany before the recent war. The areas of land required for $150,000,000$ people under each of the three assumptions may be summarized as follows:

Table 8.-Land requirements for a population of $150,000,000 .{ }^{1}$

| Type of land use. | Assuming no capita consumption, or in the averageper acre of crop land, carrying capacity per acre of pasture land, growth per acre of forest land. |  | A s suming nochanges in per capita consump-tion, but an increase to Furopean standards of crop land, carrying capacof pasture land, growth per acre of forest land. ${ }^{2}$ |  | Assuming no changes in yield per acre of crops carrying capacity of pasture, and growth of forests per acre; but a reduction in per capita consump tion of food and forest products to the standard pre vailing in Germany prior to the World War. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total (thousands of acres). | $\begin{gathered} \text { Acres } \\ \text { per } \\ \text { capita. } \end{gathered}$ | Total (thousands of acres) | Acres per capita. | Total (thousands of acres). | Acres per capita. |
| Crop land. | 431, 000 | 2.87 | 270, 000 | 1.80 | 394, 000 | 2.63 |
| Humid grass land pasture | 336, 000 | 2.24 | 121, 000 | 0.81 | 215, 000 | 1. 43 |
| Semiarid pasture (constant) | 587, 000 | 3.91 | 587, 000 | 3.91 | 587, 000 | 3. 91 |
| Woodland pasture (const | 237, 000 | 1. 58 | 237, 000 | 1. 58 | 237, 000 | 1,58 |
| Forest ${ }^{\text {- }}$ | 1,465, 000 | 9. 77 | 636, 000 | 4. 24 | 169, 000 | 1.13 |
| Provisional total | 3, 056, 000 |  | 1, 851, 000 |  | 1,602, 000 |  |
| Less duplication of forest and woodland pasture |  |  |  |  |  |  |
| Net total | 2, 819, 000 | 18.79 | 1, 614, 000 | 10.76 | 1, 433, 000 | 9.55 |

${ }^{1}$ With no allowance for exports and assuming the same proportion of our natio nal consumption of farm products obtained from imports as for the present population.
${ }_{2}$ For maximum increase in crop yields, the basis of determination was the average yields, for four European countries; in humid pasture the carrying capacity of pastures in Germany; for semiarid pasture, the results of certain experiments under public management in this country; and for forests the average annual growth in the forests of Germany (see pp. 463-475).
${ }^{3}$ Area required for growing the timber consumed instead of cutting from a stored supply.
Each of the three columns in Table 8 is based on extreme assumptions. Nevertheless, they are exceedingly useful in defining some of the limits of the problem of land utilization. The first column emphasizes the fact that without important changes in methods of production, standards of consumption, or both, we could not provide for a population of $150,000,000$ people. The second and third columns rest on the assumption that one type of adjustment will be exclusively employed-that is, either increase in production per acre or modification in standards of consumption. However, by the time a population of $150,000,000$ people is reached, it is exceedingly unlikely that we shall increase the productivity of our crop land by 47 per cent, the carrying capacity of our humid grassland pasture by 122 per cent, and of arid pasture by 50 per cent, and more than double the average annual growth of our growing forests. On the other hand, it is scarcely probable that we shall modify our consumption of food products to approximate the economies of the German standard or reduce our annual per capita consumption of timber to only one-eighth of the present requirement.
Obviously, both adjustments in some measure will be made. These extremes are useful in showing the maximum economies that might be accomplished by each method, and thus indicate the limits within which an estimate of probable requirements may be made. The essential problem is to determine to what extent we shall employ each of the two methods of economv. It is, of course, obvious that in at-
tempting to answer this question we enter a field of prediction where the elements of uncertainty are numerous. However, one fact is clear, we shall be nearer the truth by assuming any combination of the two changes which are between the two limits of no change in either respect, on the one hand, or of a full change in both respects, on the other hand.

As to the relative importance of the two methods of economy, in the case of crop and pasture land, there are certain considerations which apparently indicate roughly the probable course the nation is likely to pursue. In the first place, the element of sacrifice involved in the German standard of consumption would be very much less than that involved in increasing production to the extremes assumed above. At most, the former involves the reduction of our per-capita consumption of mutton from 5.3 pounds to 2 pounds, ${ }^{58}$ of beef and veal from 68 pounds to 39 pounds, of pork and pork products from 84 pounds to 75 pounds, of eggs from 28 pounds to 16 pounds, and of dairy products (in terms of milk) from 773 pounds to 711 . There would also be certain changes in crop consumption, such as a reduction in consumption of sugar and increase in the consumption of cereals and potatoes. This is the extreme. It is not probable that we shall need to go this far in modification of habits of consumption, for it is reasonable to expect some increase in the production per acre of crops and of livestock products. However, it appears both desirable and probable that we shall go a considerable distance in the direction of this extreme economy of consumption, a probability that is emphasized by considering the extent of the task of effecting by increased efficiency of production most of the requisite economy.

## Probable Changes in Production in Next Four Decades.

To increase our average crop production per acre 47 per cent may sound easy, but when we remember that this is an average increase to be attained for all of the crop land of the United States, the magnitude of the task that must be accomplished in perhaps little more than three decades if this method of economy alone were employed appears stupendous. Moreover, it should be noted that our record thus far indicates a very slow rate of progress in productive efficiency, so far as concerns increased yield per acre, ${ }^{59}$ whereas, on the other hand, the increasing scarcity of grazing land has already resulted in a considerable decrease in number of livestock per capita.

Furthermore, the experience of Europe has shown that the high level of yield per acre achieved in those countries has been accomplished at exceedingly heavy cost as compared with this country. It involves a quantity of human labor per acre which is several times that of the United States, together with almost an equal quantity of animal power, and probably a considerably greater expenditure for fertilizer (see p. 475). While allowance must be made for differences in agricultural organization in this country and in Europe, all things point toward the probability that a marked increase in yield per acre is likely to involve an increase in costs per acre in considerably greater proportion.

[^91]In regard to crop land another important consideration is the fact that there remains a large area of humid land of fair productivity which can be added to the existing crop area by clearing operations no more costly than have been employeü in that part of our agricultural expansion which preceded the expansion into the prairies and the Great Plains, as well as considerable areas of drainable and irrigable land of high fertility, not to mention the possibilities of expanding the crop area in the dry-farming regions. Much of the land referred to is now put to very low use. The value of the uses displaced by crops for the land needed during the next few decades, together with necessary capital charges for clearing, draining, or irrigating, are likely to be proportionately much lower than the increase in costs that would be involved in attaining by increased intensity of cultivation a degree of productivity comparable with that of Europe. It seems reasonable to believe that in the next three or four decades we may increase the yield of crop land by the use of some additional fertilizer, but probably without greatly increasing otherwise the intensity of field processes. In view of the above considerations, it would not appear wise to count on an increase in the average productivity of crop land by more than, say, 10 per cent in the next three or four decades, though unforeseen circumstances might result in a greater increase.

It has been noted that the possibilities of increase in carrying capacity of humid pasture other than woodland are very great, if we may judge by the example of Germany. The economy in the use of pasture area may take several forms: The substitution of forage and root crops for pasture is one of these. This tendency may be illustrated by the fact that in Germany the area of pasture other than woodland is a little over 60 per cent of the crop area, while in this country the area of humid pasture other than woodland, together with its equivalent in semiarid pasture, is about 118 per cent of the area of land in crops (fig. 56). It will be noted that the substitution of forage crops for pasture involves a larger labor requirement per thousand acres of both crops and pasture, although it does not necessarily imply an increase in the intensity of cultivation of crop land or an increase in its yield per acre. Again, increase of carrying capacity of pasture may be achieved by laying down permanent pasture instead of depending on spontaneous growth. This also involves a larger labor contribution in the national farm economy. The increased productivity of pasture may be achieved by better selection of pasture plants; better preparation of the land and more careful methods of laying down pasture; better adjustment of the time and intensity of use; and, in the sections where the pasture economy has become intensive, by the use of fertilizer on permanent pastures, as well as on rotation pastures. Finally, pasture economy may be furthered by more efficient methods of livestock husbandry, such as adopting high-grade livestock and employing such practices as will attain a maximum number of offspring, minimum losses, and maximum growth. These measures are especially important on the western ranges.
While the full employment of all these various methods may ultimately much more than double the carrying capacity of our humid pasture other than woodland and increase it by possibly 50
per cent on our semiarid range, it may be doubted if in the next three or four decades we shall succeed in raising the average level of productivity by more than 20 or 25 per cent throughout our enormous area of semiarid and humid pasture exclusive of woodland. Throughout large areas it is improbable that any considerable increase in productiveness will occur, for, the policy of relying on spontaneous pasture growths is likely to prevail. The use of fertilizer on permanent pastures is not likely to become general within that period, nor is it probable that the available supplies of fertilizer would make possible its general employment over so large an area. It is unlikely that the carrying capacity of woodland pasture will increase by any considerable amount.



Fig. 56.-As the density of population in a country increases there is a tendency to rely more largely on crops rather than on pasture for the maintenance of livestock. The area of crops and pastures used for the United States excludes acreage employed in producing for export. If allowance were made for the crops imported and fed to livestock, the ratios of pasture land to crop land for Germany and France would be still smaller. The area of semiarid pasture in the United States has been converted to humid pasture on the basis of relative carrying capacity. For all three countries woodland is excluded, although used to some extent for pasture. It is probable that the proportion of total livestock units maintained by woodland pasture is slightly larger for the United States than for Germany and France.

Any forecast of the probable rate ot increase in the average growth per acre of growing forest during the next few decades is complicated by numerous difficulties, particularly by the ownership of forest land. About 21 per cent of our timberland (exclusive of scrub forest) is in public ownership, and of this about 93 per cent is being handled to assure continuous growth of timber. About 79 per cent of our forests (and potentially among the most productive) is privately owned. Of this amount, 40 per cent is in farm wood lots and 60 per cent in other forms of ownership, chiefly large commercial holdings.

It may be safely predicted that all public forests will be more and more intensively managed, and will be largely added to from lands that would be much less productive if left in private ownership. Public ownership will thus add materially to the average annual growth per acre. Another factor that will probably increase our net total growth is the conversion of virgin forests, where growth is largely offset by decay, into young, growing forests. At present, however, a large proportion of the national forests consists of virgin
timber, which in many cases will not be in great demand until more accessible supplies are exhausted. Consequently, cutting off the old timber and getting a new crop started will necessarily be a gradual process.

The chief problem, then, is with respect to the private timberlands. At what rate may we expect these lands to be made more productive? Productive methods with farm woodlands, occupying some 150,000,000 acres, are hampered by the general lack of knowledge by farmers of the means to be employed. On the whole, for this important portion of our area of forest land we may perhaps expect a decrease in acreage and only a slow increase in rate of growth per acre.

For large commercial holdings the outlook is somewhat different. The increasing pressure of economic forces making for better forest management and higher yields is unmistakable. In several parts of the country, notably the Northeast, high prices of lumber and long freight hauls are making it profitable for the private land owner to grow timber as a crop. There is a well-defined movement to prevent in the public interest the denudation of private forests. Still more apparent is the trend toward public and private cooperation, on an adequate scale, for the control of forest fires. Such control is the first and most indispensable step toward making our forest land productive. Efforts are being made here and there by private industries to assure a continuous supply of timber by the careful cutting of their mature timber and by buying up lands stocked with young growth. However, the tendency toward private forest management is only in a formative stage. Only 43 per cent of our private timberlands have even partial protection from fire; and an almost negligible fraction get the benefit of more intensive measures for timber production.

Compared with the production of other crops, there is a far greater chance for increasing forest yields at a comparatively small expenditure. Under the crudest measures, chiefly protection against fire and leaving seed trees in some of the forest types, our annual growth on all forest lands, including virgin forests yet to be cut over, could be increased by 1950 from the present 6 billion cubic feet to 10 billion cubic feet. If these same crude measures should be permanently practiced, we could, on our present forest area, ultimately reach an annual growth of, something like 14 billion cubic feet, about 56 per cent of our present forest drain.

The various measures mentioned probably will gradually ameliorate the outlook for our timber supply. At what rate this amelioration will occur depends so largely on psychological factors, public policy, and other unpredictable conditions as to make a forecast impracticable. It appears unlikely that within that period there can be so marked an increase in the average rate of growth per acre in our growing forests and in our gross yield as to offset the decrease in consumption forced by forest destruction.

## Probable Changes in Consumption in Next Few Decades.

Some of the probable changes in consumption of crop products during the next 30 or 40 years should also be considered. In the first place. it is quite unlikely that we shall curtail our consumption of
sugar to the German standard. Even if we do not increase the proportion, of the supply imported, it would not require a very large addition to our crop acreage to maintain the present per-capita consumption; in other words, the acreage required is comparatively small in proportion to the consumption utility involved. Again, it is doubtful if the cereal consumption habits of the American people will be greatly modified. The pressure of population in the next four decades will not be great enough to compel so prosperous a nation to substitute potatoes largely for bread or to shift from a wheat bread to a rye bread diet, and but little economy in land would result. There may be some tendency to shift to corn bread, because of its relatively greater cheapness. It is likely that some little increase may occur in the per capita consumption of potatoes and cereals to offset some of the probable reduction in the consumption of certain livestock products.

The principal changes, therefore, are to be looked for in the consumption of livestock products. The per capita consumption of dairy products is not likely to decrease very much, if at all. We have noted that even in so densely populated a country as Germany the per capita consumption of milk and milk products is but little less than in the United States. The consumption of mutton is very small in the United States. The greater proportion of our sheep are raised principally on pasture. If we should raise the same proportion of our wool supply as at present, this would enable us to maintain approximately the present per capita consumption of mutton, since the imports and exports of mutton are negligible. If we may judge from the experience of Germany the per capita consumption of pork and pork products is likely to decrease but little. Because of their ability to thrive on various forage crops yielding a large feed product per acre, and because of their comparatively small adaptability to the ordinary types of pastures, the relative importance of hogs is likely to increase as it becomes necessary to employ forage crops more and more in order to economize pasture; and, if anything, this relative increase is likely to be at the expense of classes of livestock better adapted to a pasture economy, such as beef cattle or sheep. Even in Germany the per capita consumption of pork and pork products is only about 10 per cent less than in the United States. It is probable, then, that when our population reaches $150,000,000$ our per capita consumption of pork and pork products will be at least 95 per cent of the present consumption.
The per capita consumption of eggs in Germany is only a little more than half as great as in the United States. However, even before the World War, Germany was a relatively poor country, as compared with the United States. It is not likely to be a scarcity of land that will compel a serious curtailment in consumption of eggs and poultry, for in proportion to food produced, poultry require relatively little land and much labor, as compared with cattle and sheep. Consequently, they are especially adapted to the economy of a dense population. If the consumption of poultry and eggs per capita should seriously decrease, it is more likely to be due to the increased pressure of other food costs on the family income than because of the demands made by poultry on the supply of land.

If we approximated the German standard, we should consume only about three-fifths as much beef as at present. A population of $150,000,000$ would not be dense enough to compel a reduction to the German standard. Moreover, the people of British origin who have so largely moulded our national standards, have exhibited great tenacity in clinging to a high per capita consumption of beef. However, we have already reduced our per capita consumption of beef considerably in the last two decades, and the increasing scarcity of pasture is likely to reduce it still more. As a basis for estimating land requirements, we may not be far wrong in assuming a reduction of 20 per cent in the number of beef cattle per capita.

It seems wise to consider that the number of horses and mules per thousand acres of crop land will continue as at present. The probable increase in productivity of crop and pasture land assumed above is not likely to increase the requirement per thousand acres of crop land by more than enough to offset the continued substitution of tractors and motor vehicles.

As already noted, our stock of timber would last for several decades even at the present rate of per capita consumption. However, the increasing remoteness or undesirability of remaining supplies is likely to result in increasing values and, therefore, probably in a continuation of the tendency toward a decrease in per capita consumption. For the period following the next few decades our per capita consumption depends very largely on what measures we take by way of providing for reforestation, promoting growth of timber, and reducing waste. It has been shown that on our present forest area it would be possible by methods of production relatively not very costly to grow annually by, say, 1950 about 10 billion cubic feet. This would give for $150,000,000$ people a per capita supply of about 66 cubic feet, or more than double the per capita consumption of Germany or France. However, this presumes the early adoption of a vigorous forest policy. Moreover, while some of our stock of virgin timber will undoubtedly still remain uncut in 1950, it is likely to be in the more remote locations.

We have now made certain assumptions that will enable us to estimate roughly the probable land requirements when our population has increased to $150,000,000$ people. On the basis of the assumptions of probable modifications in per capita consumption and of increase in productiveness of crop land, and in the carrying capacity of pasture, we shall require for a population of $150,000,000$, three or four decades hence, about $373,000,000$ acres of crop land and about 222, 000,000 acres of humid pasture other than woodland, the areas of semiarid pasture and of woodland being held constant as in previous estimates. This estimate makes no allowance for exports and assumes the continuance of the present per capita imports of agricultural products. ${ }^{60}$

[^92]Although the requisite increase in crop acreage to provide for $150,000,000$ people, as compared with the acreage now employed for domestic consumption, is only a little larger than the acreage in crops now employed in producing for export (including the acreage required for maintaining work stock used in export production), it is not likely that we shall divert all of the land now used in producing for export to production for domestic consumption. Our country is especially adapted to the production of certain kinds of crops needed by the rest of the world, particularly cotton. It is not improbable, therefore, that (including the acreage required for work stock) we shall continue for several decades to devote to export production at least half the acreage we now employ for that purpose. This would add about $30,000,000$ acres to the requirement of crop land, making a total of $403,000,000$ acres. This is about $38,000,000$ acres more than the acreage of harvested crops ${ }^{61}$ in 1919, and requires the addition of about $1,000,000$ acres a year. The allowance of half the present export acreage would also make necessary an addition of about $11,000,000$ acres of humid pasture other than woodland, making a total requirement of $233: 000,000$ acres of humid pasture, or about $2,000,000$ acres more than the present area.

It therefore appears that, provided we can make the very moderate modification in standards of consumption and productive efficiency assumed as a basis of these estimates and devote to domestic production about half the area now employed in producing for export, our needs for expansion of the farming area to provide for 150,000,000 people would be satisfied by adding about $40,000,000$ acres of crop land and improved pasture to the farming area. ${ }^{62}$

The very moderate requirements for crop land and pasture will leave a very large area available for forests. It will be recalled

[^93]that after allowing for the present requirements for roads, cities, railways, farmsteads, etc., and for the land that is physically incapable of being employed for crops, pasture, or forests, there remains an area of $1,769,000,000$ acres available for the three uses. Allowing about $10,000,000$ acres of land for the expansion of the area required for cities, roads, etc., during the next few decades, there remains available, $1,759,000,000$ acres. Subtracting from this the $587,000,000$ acres of semiarid pasture, the $403,000,000$ acres of estimated requirement for crop land, an allowance of about 40,000,000 acres of crop land for annual crop failure and crop land fallow, and the $233,000,000$ acres estimated to be required for humid pasture, there remain $496.000,000$ acres of surface not required for any other use than forests. or $13,000,000$ acres more than are now included in the area of forest and of cut-over land not restocking. In other words, with the reasonable economies and changes in foreign trade assumed above, it will be possible to meet the needs of a population of $150,000,000$ for crop land and pasture and still have left an area larger than the present forest area. ${ }^{63}$

This does not mean that the $496,000,000$ acres of surface left would all be adapted to forests. Some of this land would have to be reclaimed by drainage at an expense so excessive that it probably may never be reclaimed, even when the maximum population of the nation is attained; and a little of it also is too dry for trees. Consequently, it seems probable that the land available for use as forests during the next forest cycle will not be larger than the present forest area of $483,000,000$ acres, which includes, it will be recalled, about $81,000,000$ acres of cut-over land not restocking.

## The Direction of Expansion of the Area of Farm and Forest Land During the Next Few Decades.

For the additional $38,000,000$ acres of crop land there are available a little over $600,000,000$ acres of potential crop land from which to choose, after allowing for the area of land suitable only for forest or semiarid pasture. Allowing for an area of forest land equal to the present forest area, there remain nearly $400,000,000$ acres of potential crop land. Practically all of this is either inferior in quality or requires drainage or irrigation.

It is obvious that to obtain $38,000,000$ acres from this great area should involve careful selection. Moreover, each of the several classes of potential crop land is likely to contribute toward the required amount. It will be recalled that the forested regions of the eastern half of the country are estimated to contain $220,000,000$ acres of land capable of use for crops without drainage (see figs. 9 and 11). besides $151,000,000$ acres of land so rough or so sandy that it may be considered suitable only for forests. Of the former area, $32,000,000$ acres are classed as heavy soil. This is more than the $22,000,000$ acres required for the expansion of crops during the next few decades; but a good deal of this land, while not absolutely too rough for use in

[^94]crops, is quite rolling, and some is infertile. However, it would seem possible by careful selection to obtain a large proportion of the required $38,000,000$ acres either from the heavy land of the cut-over region or from the best of the $162,000,000$ acres of medium-textured soils or from semiarid land. In view of these possibilities it would seem hardly necessary to reclaim a large area by irrigation or drainage for the expansion of agriculture during the next few decades, and certainly there would be no justification in undertaking such reclamation except in the case of projects where the economy of reclamation could be demonstrated unequivocally.

## Maximum Population That Could Be Maintained by Our Resources of Crop, Pasture, and Forest Land.

The statistics worked out in the preceding discussion also supply a basis for estimating the maximum population that may be maintained by our existing land resources, assuming no greater relative dependence on imports than at present. Starting with the per capita acreages required under the extreme economies represented by the pre-war German standard of food and timber consumption, and allowing for the maximum economies in production shown to be possible by European experience, we may estimate the minimum acreage required per capita for the several uses. The sum of the per capita areas for crops and humid pasture divided into the total area available for these purposes will indicate approximately the maximum population under these assumptions. However, it is necessary to make allowance for the fact that the area of semiarid pasture will be not only about $119,000,000$ acres less than at present, but, together with woodland, will carry proportionately a much smaller part of the total livestock units, even allowing for an increase of 50 per cent in its carrying capacity, thus throwing a somewhat greater burden on humid pasture.

When all these allowances are made a maximum population of $350,000,000$ is indicated. ${ }^{64}$
Another method of estimating maximum population is by means of the areas per capita employed for crops and pasture in Germany. Of course, Germany was more dependent on importation than we are in the United States (fig. 57). In the case of 10 principal crops largely grown in the country, a careful estimate indicates that Germany was about 79.3 per cent self-sufficient in crop production. ${ }^{65}$ No

[^95]estimate is available for the degree of self-sufficiency in pasture production; but if this be assumed to be the same as for crops, the per capita requirement for Germany was approximately 1.4 acres of crops and pasture (other than woodland) per capita. Assuming that Germany was 80 per cent self-sufficient in the years just preceding the World War, the per capita acreage required to maintain her

## PER CAPITA ACREAGE IN CROPS, HUMID PASTURES (AND EQUIVALENT), AND FORESTS USED FOR DOMESTIC CONSUMPTION, UNITED STATES, FRANCE, AND GERMANY.



Fig. 57.-The acreages of crops and humid pasture for the United States do not include land employed in producing for export. No allowance is made for the acreage in France and Germany that would be required to produce the farm products imported. The column showing pasture area per capita for the United States includes an allowance for semiarid pasture converted to terms of humid pasture on the basis of relative carrying capacity. In all of the countries some use is made of forest for pasturage of livestock. In comparing the forest area per capita of the United States with the corresponding figures for the two European countries it is important to note that the former country is cutting largely from a stored crop, while the forest acreage of the two European countries is employed mainly in growing annual crops of timber. Furthermore, nearly 17 per cent of the so-called forest area of the United States consists of cut-over land not restocking.
population under the average conditions of production prevailing in that country was about 1.75 acres. After excluding land required for cities and other nonagricultural uses, ${ }^{66}$ the area of land usable only for semiarid pasture or for forests, and waste land, there would remain a total of about $1,004,000,000$ acres. On this basis our land area available for crops or humid pasture could be made to maintain a population of $574,000,000$ people, even if no allowance be made for the additional aid supplied by our semiarid pasture.

The large difference between the two estimates is due to the fact that the first estimate was made on the basis of the assumption that the average yield per acre of crops may be increased by 46.8 per cent, which is based on averages for four European countries, with

[^96]supplemental estimates for corn, hay, and cotton. The average, however, is considerably lower than the percentage by which the average yield of crop land in Germany exceeds the average for the United States. However, on account of the large area of semiarid crop land, it is very improbable that we could attain the average yields of Germany throughout our crop area. Consequently the average yields for the four countries previously employed is a more conservative basis of estimate. If allowance be made for the differences, a maximum population of about $345,000,000$ is indicated.

This would seem to indicate that the preceding method of estimate is reasonably sound. As a matter of fact, both methods exaggerate somewhat the probable maximum population, or saturation point, for a number of reasons.
In the first place, the $1,004,000,000$ acres of land available for crops and humid pasture includes all land that is physically capable of being employed for crops and pasture (not counting semiarid pasture). About $105,000,000$ acres requires drainage or irrigation and includes large areas of land for which the expense of reclamation would be enormously costly; in other words, it is physically reclaimable but probably not economically available even under the pressing demands of a dense population. Again, the total area of $1,004,000,000$ acres includes much land of low productivity either because of the character of the soil or because of aridity. It may be granted that the pressure of population would justify the expenditure of labor necessary to make and keep the poor soils of the humid region as productive as the average soils now in use will be made when necessity compels, but the total area includes more than $120,000,000$ acres of semiarid land that probably can never by any economical expenditure of labor be made to produce on the average more than a fifth of the potential average product on the other lands of the United States. If these allowances be made and the available productive area be reduced to the equivalent in potential productivity of the area now in use under intensive agriculture, the available acreage would be about $908,000,000$ instead of $1,004,000,000$. On the former basis, the maximum population maintainable according to the first method of estimate would be about $319,000,000$, while on the basis of the German requirements in per capita acreage it would be about $519,000,000$. However, if the allowance be made, as above, for the difference in average yield of crop land for Germany as compared with the average for the four European countries, the maximum population would be about $312,000,000$. Probably, all things considered, the maximum number maintainable under the standards of consumption prevailing in pre-war Germany and of production in the four European countries previously discussed would be not far from $300,000,000$ people. ${ }^{67}$ This would involve a severe reduction in

[^97]general standard of living because of the heavy costs of utilization; and consequently the so-called saturation point, that is, the point beyond which population would no longer increase, may be reached considerably short of $300,000,000$.

## Conclusions.

## The Problem of Forest Utilization.

The data that have been presented have indicated that during the next forest cycle an area of humid land as large as the present acreage of forest and cut-over land will not be needed for crops and pasture. An area of this magnitude would include not only the lands unsuitable because of hilly conditions or rough surface for any other use than forests, but also practically all of the sandy lands in the humid portion of the country and even a few million acres of the heavier soils. Probably small portions of this great area with special advantages in access to market may be devoted to trucking and fruits, but it would appear to be the part of wisdom to regard the area as a whole as suitable only for forest land during at least the next forest cycle of, say, 50 years and to take the necessary steps for reforesting as much of it as practicable.

This task is too large to leave wholly to private initiative and too urgent to leave to economic chance. Our forest wealth has melted away before our immense agricultural and industrial development, which caught us unprepared to take this fundamentally new step in our development, the cultivated forest. Only a beginning has been made in changing the national point of view from the idea of wasteful and unrestricted use to the idea of careful forest husbandry based mainly on the principle of growing our annual supply. Still less has been the advance in better forest management itself, for, aside from the one-fifth of our forest area in public ownership, relatively minor progress has been made either in stopping forest devastation or in the elementary steps toward adequate reforestation. Meanwhile, without a drastic and immediate change in policy, there looms a sharp curtailment of timber consumption below anything our population or our industries can easily be adjusted to. It is therefore obvious that a comprehensive policy is needed, the main elements of which may be stated as follows:

The growth problem.-Some of our public forest lands have not yet been brought under management for continuous timber production. This should be done as rapidly as possible. In order to help tide over the era of timber shortage, the standard of productivity of all public forests should be increased by better protection from fire, insects, and disease; by a more adequate technical service both in forest research and in forest management; and by large-scale planting of now idle lands. As our public forests are largely in Federal ownership, this is chiefly a Federal problem.

The problem of increasing the yields on private lands is much more complex and difficult. One large part of that problem is the better handling of our $150,000,000$ acres of farm wood lots. The first essential step is to educate the farmer to apply to his wood lot the same idea of continuous cropping that he applies to his
fields. He will have to learn to use selective cutting, to exclude or restrict grazing in his woodlands, and to keep out fire. He will need assistance in marketing his timber products and in obtaining cheap nursery stock for planting. Public leadership is needed in all these ways.
Increasing the yields of private lands implies first of all that the public will step in and put a halt to forest denudation. Irrespective of who will in future own these lands or who will harvest the final crop, the present owner must be required, in cutting his timber, to leave the land in productive condition, that is, restocked or restocking with young growth. To permit him to do this, however, with a reasonable chance of profit, the public must do its share to reduce the risks. The chief risk, fire, must be met by a concerted effort by the National and State governments and by private owners to reduce fires to the point where all forests have a fair chance of escaping destruction somewhere on the road from youth to maturity. The risk to the individual may also be lessened by providing an adequate system of timber insurance. The development of systems of credit adapted to the special conditions of timber ownership by private agencies is another thing needed for encouraging private initiative, especially for small holders. It is also essential to encourage the private timber grower by supplanting the present property tax on growing timber crops with a more efficient form of taxation. The property tax is collected annually even though the crop may not be ready to sell for many years, and will be increasingly burdensome as private reforestation becomes more general. A third way in which public agencies can help increase yields is through more adequate research in methods of timber growing and forest management, and by educational efforts to get those methods into use.

The waste problem.-Public leadership is needed to reduce the large waste of merchantable timber from fire, insects, disease, and windfall. Still larger are the problems of wood waste in manufacture and use, all the way from the woods to the finished product. These problems require research and public leadership on a larger scale than we have at present.

In short, the forest problem requires rapid action on a large scale, for we are compelled within a few years to effect a veritable revolution in the point of view and methods involved in the utilization of land for forests.

The ownership problem.-It is desirable to develop private enterprise in forestry as rapidly as possible, as outlined above, but it is well to recognize that we should not rely on this as the major means of providing for the era of prospective shortage. Time is necessary to develop the requisite interest, and the potent stimulus of high values for timber and timber products is becoming influential only gradually.

To meet the need for rapid action within the next few decades to make provision against the severe shortage that is in prospect it will be necessary to rely heavily on public ownership and operation. The public forests-Federal, State, county, and municipal-now constituting only about one-fifth of our forest area should be largely in-
creased (fig. 58). Of our $483,000,000$ acres of forest and cut-over land half should be in public ownership. This would involve an increase of $150,000,000$ acres, or several million acres each year.


Fig. 58.-In the eastern forest region, which comprises 75 per cent of the total forest area of the United States, the national forests are only 1.3 per cent of the total, and all publicly owned forest land in this region is only a little more than 3 per cent. Two-fifths of the area is in farm-wood lots and the remainder consists of privately owned forests. In the western region about 70 per cent of the forest area is owned by the Federal Government, while 28 per cent consists of privately owned forests.

Land Classification Essential to the Systematic Selection of Land for Crops, Pasture, and Forests.

The above conclusion implies that the areas that are to be devoted to reforestation, as well as the areas that should be reserved during the next forest cycle for pasture and for crops, should be determined by deliberate selection. To this end it has been recognized for some time that a systematic classification of our reserve land area is requisite. Such a classification would serve not only to separate farm land from forest land in humid regions but also to distinguish farm land from range land in semiarid regions, and this would afford a basis for systematic direction to the necessary expansion of American agriculture.

## The Misdirection of Agricultural Expansion.

Land settlement no longer consists of the spontaneous migration of population to virgin public lands of high quality. At present it is largely induced by the ceaseless activity of various classes of landselling agencies seeking to profit by the sale of land. Owners of land however unsuitable for farming, are strongly impelled through the constant pressure of taxes and other carrying charges to sell it if possible. Local communities appear to benefit by the immigration of settlers even if they are unsuccessful in maintaining themselves on the land, and the unsuccessful settlers themselves are often eager to "unload" on another wave of immigrants. If outside in-
vestors or public agencies can be induced to undertake works of reclamation, there results at least a temporary increase in community prosperity as a result of the expenditure of the funds in the community. Furthermore, experience has shown that with sufficiently strong selling methods it is possible to find buyers for land entirely unsuitable for farming.

These forces and methods have resulted in the continual misdirection of land utilization and settlement. Land that should be kept in forests for at least the next forest cycle has been forced into occupation by settlers. Large areas in the West, more suitable for grazing than for crops, have been sporadically settled to the detriment of the established range industry.

The misdirection as to time and rate of settlement has been no less costly than the misdirection as to place. Settlement activity is always most extensive at times when agriculture is "booming." At such times, when land values are inflated and costs of reclamation, buildings, livestock, and machinery are at high levels, settlers in large numbers incur these high costs only to be compelled shortly to enter a period of depression under a heavy load of indebtedness.

## Tendency to Overexpansion of Agriculture.

Furthermore, as a result of the desire of settlers to benefit by increase in land values, stimulated still more by the activity of agencies striving to effect the sale of land, expansion in land area tends to run ahead of the need for land. The evil results of this tendency are manifold. The enormous losses incurred by settlers in abortive attempts to obtain a foothold on the land and the consequent disappointment and disillusionment are paralleled by the losses of financial agencies engaged directly or indirectly in promoting land settlement. But even more serious is the tendency to lower the average level of profitableness for the established farming industry.

So continuous has been this tendency to overexpansion throughout the period of our national development that there has come to be a sort of cynical resignation to the evils involved and an acceptance of them as the inevitable price of national expansion. This is reflected in the widespread belief that at least three waves of settlers are necessary in order to settle a new region. Sometimes the attempt is made to justify the costliness of our let-alone policy in land settlement by pointing to the rapid expansion and growth in national area, population, and wealth. It should be recognized, however, that our tremendous progress has been due to our unusual advantages in national and in human resources, and would not have been seriously checked by reasonable restrictions designed to give direction to the currents of expansion and to reduce somewhat the wastefulness and costliness of the process.

In order to justify a policy of expansion without reference to whether basic economic conditions are favorable or unfavorable to such expansion, much is made of the sentimental argument, "We need more farm homes." To this one might make the somewhat oracular reply, "We do not need more farm homes than farms"that is, it is useless to multiply farm homes which can not be adequately supported by the farms, and particularly to multiply them
under schemes which involve the assumption of heavy indebtedness by the farmers.

Driven from the sentimental position just described, the advocates of undue expansion sometimes resort to the suggestion that there can not be too many farm homes in which the family is fed from the farm. This is intended to justify the increase of farms on the ground that self-sufficing farmers will not compete with farmers already established. However, if the new farmers are persons now engaged in industry, their diversion to farming must result in increasing the competition of existing farmers, for a certain number of consumers are thereby brought to produce their own food. If the new farmers are immigrants from abroad, they bring their consuming power with them, it is true, but they will not long be content to remain where they get nothing but food and hard work. Moreover, the establishment of self-sufficing farm homes by any policy involving reclamation or other initial capital expenditures is practically out of the question if the costs must be assumed by the purchaser of the farm.

Some advocates of undue and ill-timed expansion of the farming area of the nation accept the assumption already mentioned that such expansion is inevitably wasteful and attended by heavy financial losses to those who undertake it, and on the basis of these assumptions boldly argue the necessity of a policy of subsidizing expansion. It should be pointed out, however, that it is the tendency toward the over-expansion of the farming area which, by reducing the profitableness of farming, makes the policy of subsidy necessary. The subsidy tends to overstimulate the expansion of the farming area, and this in turn makes the subsidy increasingly essential. Thus, like a drug addict, we must go on and on increasing the dose.

## Need for Systematic Direction to Agricultural Expansion.

In order to prevent as far as possible the evils of over-expansion and misdirected expansion it would be necessary to develop a policy of unified and systematic direction to land settlement.

Such a policy would be, in general, essentially different from the land policies of the past. For more than a century the characteristic policy was the distribution of the public domain among private individuals, with little or no reference to the need for the land or the suitability of land for settlement. Since the passing of this phase of our land policy the most important feature of our policy of land settlement has been the reclamation system. This policy has been carried out with little attempt to relate the rate of reclamation to the Nation's needs for farm land. Moreover, in its application the policy has been sectional rather than national, and in some cases the areas settled have not been best adapted to the development and maintenance of successful agriculture. This tendency has been increased by the indirect subsidy involved in the exemption of settlers from interest on construction costs, a subsidy which has been estimated at approximately $\$ 70,000,000 .{ }^{69}$

[^98]In a national policy of directing land settlement due consideration should be given to the needs; both national and local, for land to be devoted to crops, pasture, and forests, and also to the relative advantages of all parts of the Nation for the various uses of land. Another important consideration is the economic value of wild life. In addition to the value of forests for timber production, it is important to consider their value in providing a home for many kinds of useful birds and other forest-loving animals; and in deciding upon the drainage of marshes and shallow lakes, their value in the natural state as breeding places of fish, birds, and fur-bearing animals should be adequately considered. The recreational value of wild lands, as well as their direct economic value in the wild state, should not be overlooked.

Clearly, the interests involved are too great to be left to chance, for the let alone policy of the past few decades has been a source of enormous economic waste, and social misery. Nor can such interests be left entirely to the individual States, for it frequently appears to be to the interest of a particular State to attract settlers from other States, with little reference to the bearing of such action on the national needs for the various uses of land or to whether the change is for the better from the standpoint of the welfare and efficiency of the settlers.

In view of these considerations, emphasis is given to the suggestion of the National Agricultural Conference of 1922 that some Federal agency be granted authority to work, in cooperation with the States, in giving systematic direction to the expansion of American agriculture, on the basis of a scientific land classification.

## Importance of Taking Steps to Increase the Productivity of Crop and Pasture Land.

The facts presented in this article emphasize the importance of increasing somewhat the productivity of crop and pasture land, if the requirements of expanding population during the next few decades are to be met. To a large extent this progress must be achieved through the aid and stimulus afforded our farmers and ranchmen by means of research and extension activities. However, in the case of the large area of public land now used as open range, it is generally recognized that the present system of unrestricted free use of these lands is lessening the value of large areas of grazing land and is seriously crippling the range stock industry. The effect of the enlarged homestead and grazing homestead acts was to still further demoralize the industry. It is believed that by creating grazing districts operated under a permit system of regulated grazing, as in the national forests, an increase in the carrying capacity such as has been accomplished in the national forests could be achieved.

## Need for Administrative Unification of National Land Policy.

A consideration of the group of programs that have been suggested above indicates that they can not be regarded as isolated policies, each of which can be effectively carried out by separate agencies. On the contrary these policies are closely interrelated, and
the essential need is for a unification in the future development of our national land policies. Unfortunately during the past 100 years the different functions connected with land policy have been distributed among various governmental agencies. As one looks into the future, however, it becomes apparent that we are entering an economic era in which the various functions involved in working out the new policies are vitally interrelated, requiring unification in administration. Only by such unity of policy and of execution can ill-considered and excessive expansion and rapid but wasteful utilization be supplanted by deliberate selection, careful economy, and constructive development with due reference to the long-time requirements of the nation.


By L. C. Gray, Charles L. Stewart, Howard A. Turner, J. T. Sanders, and W. J. Spillman, Bureau of Agricultural Economics.

THE general attitude toward the subject of land ownership and tenancy in this country has been determined by our very recent emergence from the pioneer stage of agricultural development. In that stage farm land was superabundant and its ownership easily acquired. There was little necessity for farmers to obtain the use of land by renting it from others, and those who continued long as tenants were largely of the less efficient and enterprising class. As land in the older communities became scarce, the more enterprising of the younger generation who were unlikely to inherit land pushed on to new regions where farm ownership could be easily acquired. The competition of the newer areas of virgin soil prevented an abnormal increase in the value of land in the older regions and made it relatively easy to achieve land ownership.

Largely as a result of these earlier conditions farm ownership by the farmer has come to be regarded as normal, and tenancy as abnormal. The increase of tenancy has been "viewed with alarm" by many people, and there has been a tendency to attribute in an indiscriminate manner to institutions of tenancy nearly all of the economic and social ills that manifest themselves in the rural community. Now that we have passed beyond the pioneer stage and have entered upon a more mature phase of national development, it is desirable to attempt to get a well-rounded conception of the significance of farm tenancy, which is by no means peculiar to the United States, but is found to some extent in all civilized nations, and particularly in English-speaking countries (fig. 1). Endeavoring, then, to approach the subject with an open mind, let us first take stock of the present extent and relative importance of the different classes of land tenure ${ }^{1}$ and trace briefly the recent trends with reference to land ownership and tenancy as shown by census and farm-survey statistics.

[^99]PERCENTAGE OF FARMS AND FARM ACREAGE OPERATED BY TENANTS, SELECTED COUNTRIES; INCLUDING PART OWNERS IN UNITED STATES, FRANCE, CHINA, AND CANADA.


Fig. 1.-Farming by tenants and other lessees is less prevalent in the United States than in England, Australia, New Zealand, or Belgium ; is of about the same prevalence as in Japan, France, or China; and is more prevalent than in Germany, Canada, or Denmark from the standpeint of the proportion of farmers who are tenants and also from that of the proportion of acreage rented. The information shown is the latest available. In France and Canada the acreage shown as rented includes that of part owners as well as that of tenants. The percentages for the Tnited States include only land in farms. The proportion of the land operated by those farmers who do not own it is probably higher than shown above. (See pp. 521-52.2.)

## Relative Extent of Different Classes of Tenure-The United States as a Whole.

Land is either owned by the farmer or rented under one or more of the various methods of leasing used in this country. There is some variation in the different States as to the legal rights and privileges involved in ownership, but these differences are incidental rather than of basic economic significance. There are also some differences as to the legal status of tenancy. But for the most part, the great contrast in the forms of tenure in different parts of the United States are economic rather than legal.

Some farm operators own all of the land they operate (owner farmers), others own none of it (tenants or croppèrs), and still others own part and rent part (part owners or owners additional). Sometimes farm operators employ managers to direct the business of

TENURE OF FARM REAL ESTATE MEASURED IN FOUR WAYS, UNITED STATES, CENSUS OF 1920.


Fig. 2.-More than half the farms in the United States are operated by full owners, but somewhat less than half of the land or of the value of farm real estate. Although tenants who rent all the land they operate constitute over 38 per cent of all farmers, they operate less than 28 per cent of the farm land, only about 35 per cent of the improved land, and about 36 per cent of the value of farm real estate. Manager-operated farms average five times as large in total acreage as other farms, have about $2 \frac{1}{2}$ times as much improved land, and are valued, on the average, at nearly four times as much.
farming. Our census statistics classify farmers into these four groups, and in the census of 1920 croppers in the Southern States, who supply no work animals and in most cases are laborers paid by a part of the crop rather than in cash, were separated as a subgroup under tenants.

The relative importance of these four classes of farmers may be measured not only in terms of the proportion of farms operated by each class, but also from the standpoint of the proportion of the acreage of all farm land, of improved land, and of the valuation of farm real estate operated by each of these tenure classes. These four methods of measuring the relative importance of the four tenure classes give somewhat different results (fig. 2).

## Relative Importance of the Tenure Classes at Present.

Although over half the farms in 1920 were operated by farmers who own all the land, less than half the farm land was in these full-owner farms, and an even smaller proportion of the improved
land and of the valuation of the farm real estate. But if part owners be included, whose farms are much larger than those of full owners, the percentage of the total farm land operated by these two classes rises to 66.6 , as compared with 60.8 per cent of the number of farms. On the other hand, tenants constituted over 38 per cent of

PERCENTAGE OF FARM HOMES RENTED COMPARED WITH OTHER HOMES, UNITED STATES, CENSUS OF 1920.


Fig. 3.-The proportion of the farm homes rented is only about two-thirds as large as the proportion of city and village homes rented. The proportion of farm homes free of mortgage encumbrance and occupied by the owners is also larger than in the case of other homes. Farm homes comprise the homes of persons engaged in farming and located on farms. Homes occupied by farm managers are included under farm homes rented.
the farmers of the United States, but operated less than 28 per cent of the improved land and of the valuation of farm real estate. As shown in Figure 3, the proportion of farm homes rented by the occupants is smaller than in the case of urban homes. Moreover, some of these farm tenants own other farms. While no census statistics bearing on this point are available, local surveys in 15 States indicate that about 10 per cent of the tenants owned farm land.

The relative importance of manager-operated farms, like those of part owners, is greater than their number would indicate, for such farms are not only larger in average area and valuation than other

OWNERS, PART OWNERS, MANAGERS, AND TENANTS; $\underset{\text { OF }}{\text { POTAL }}$ PERCENTAGE


Fig. 4.-In 1880 and 1890 owners, part owners, and managers were not separated in the census statistics. The increase in percentage of tenancy between 1880 and 1900 was $3 \frac{1}{2}$ times the increase between 1900 and 1920 .
classes of farms, but also in the South there are many plantations worked by croppers and tenants, under the close supervision and direction of a manager. Even though the entire plantation is so operated, each tenant or cropper holding would be reported in the census as a farm, but the estate as a whole would not be reported as operated by a manager.

The same condition tends to exaggerate the relative importance of tenant farming as compared with owner farming, for many of the plantations of the South, as well as a considerable number of large farms in other parts of the country, although divided up into socalled farms worked by tenants and croppers, are actually under the close supervision and management of the owners. Excluding croppers classified in Southern States only, tenant farms in the country as a whole comprised only 32.2 per cent of the total number of farms in 1920 and white tenant farms only 28.7 per cent of the farms operated by whites. ${ }^{2}$

## The Trend in Relative Importance of the Tenure Classes.

In 1880, when census statistics of tenure first became available, about one-fourth of the farms in the United States were operated by


Fig. 5.-On account of changes in the time of year of taking the census, the percentages shown above, particularly those showing the number of farm laborers, are not exactly comparable. The first three census enumerations were taken as of June 1, and indicate that the rapid increase in the percentage of tenant farms' was partly at the expense of the proportion of owner farmers and partly at the expense of farm-wage laborers. The census of 1920 was taken as of January 1, and as a result a much smaller number .of laborers were reported than would have been reported if it had been taken June 1. On the other hand, the figures as of April 15, 1910, may have resulted in exaggerating the number of farm laborers.
tenants. The proportion has increased in each decade since that time, but the increase in the proportion of tenants from 1900 to 1910

[^100]was not marked, and from 1910 to 1920 was still smaller (fig. 4). Moreover, when the percentages are calculated on the basis of persons engaged in agriculture, instead of on the basis of number of farms operated, it appears that the increase in the percentage of tenant farms was not entirely at the expense of the proportion of owner farmers, but may have been partly at the expense of farm wage laborers (fig. 5).

The geographic distribution of this increase in percentage of tenant farmers is significant (fig. 6). In New England and the North Atlantic States tenants have decreased in relative numbers, whereas in the Cotton Belt States and the Corn Belt there has been a notable increase, particularly in the earlier decades. During the decade preceding 1920 the greatest increase occurred in the Great Plains and Rocky Mountain States. As will be shown later, in newly developed regions such as these, it is to be expected that the proportion of tenants will rapidly increase as the pioneer farmers retire or pass away.

Figure 7 shows the counties in which the percentage tenants constituted of all farmers increased or decreased between 1910 and 1920. It is evident that the number of tenant farmers has, in general, ceased to increase in most of the longer-settled sections of the East, in much of the Cotton Belt outside the Coastal Plain, in Missouri, eastern Kansas and Oklahoma, and in many counties of California.

From 1910 to 1920 the relative importance of tenant farming in the United States as a whole increased somewhat more from the point of view of farm area, either total or improved, or valuation of real estate, than from the point of view of number of farms: and the relative importance of farming by full owners decreased correspondingly. The relative importance of farming by part owners decreased slightly when measured in terms of number of farms, acreage of improved land, and valuation of real estate, but from the standpoint of total area of land in farms there was a considerable increase in the relative importance of farming by this class, owing largely to the rapid increase of part-owner farms in the Great Plains region; where the average area of farms is comparatively large (fig. 14).

By adding the land rented by part owners to that rented by tenants it is possible to obtain as far back as 1900 approximate figures of the acreage of farm land and of improved land, and also of the valuation of farm real estate operated under rent contracts. ${ }^{3}$ The change in the proportion of the valuation of farm real estate operated by the four tenure classes between 1910 and 1920 is shown in Figure 8. Between 1900 and 1920 the acreage of rented land increased from 34.2 per cent of all farm land (excluding land operated by managers) to 39.3 per cent, while the proportion of the improved land rented increased from 37.5 to 43.8 per cent and the proportion of the valuation of the rented real estate increased from 35.4 to 43.6 per cent of the total valuation of farm real estate (Table 1).

[^101]

Fig. 6.-In all the States north of North Carolina and east of Ohio and Kentucky, with the exceptions of New York and Pennsylvania, the percentages of farms operated by tenants were smaller in 1920 than in 1880 . In most of these States the maximum percentages were attained about 1900. In Kentucky and Tennessee there was little change after 1900 . In the other Southern States, except Louisiana, the increase in the percentage of farms operated by tenants continued up to 1910 . In the next decade the increase was less marked in some of the States of this group, while in others a decrease occurred. In most of the newly developed States of the West the increase of tenancy, which normally has followed the early years of settlement, was still continuing in 1920 . The increase

 eastern Washington, and Arizona. There was a notable increase in certain parts of the Corn Belt, especially northern Iowa. There Was also some increase in those parts of the South where there has been a comparatively recent agricultural development. In short, expanding, or where such oxpansion is of comparatively recent occurrence.

Table 1.-Percentages of total farm area, improved land, and valuation of farm real estate (excluding that controlled by managers) operated under rent contracts, U'nited States, 1920, 1910, and 1900. ${ }^{1}$

|  | Date. | Acreage. |  | Value of real estate. |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Total. | Improved. |  |
| 1920 |  | 39.3 | 43.8 | 43.6 |
| 1910 |  | 35. 6 | 41.0 | 39.5 |
| 1900 |  | 34.2 | 37.5 | 35.4 |

${ }^{1}$ Since it is not known what proportion of manager-operated land is owned by the person employing the manager and what proportion is rented by him, this class is excluded from the basis in calculating the above percentages. The figures for 1920 are based in part on estimates.

VALUE OF FARM REAL ESTATE CLASSIFIED BY TENURE, UNITED STATES, 1910 AND 1920.


Fig. 8.-The proportion of all farm real estate rented by tenants and part owners in 1920 was 42 per cent, and the proportion of all farm land, excepting that in farms of managers, was nearly 44 per cent. Less than half the farm real estate was owned by full owners in 1920, and but little more than half was owned by full owners and part owners combined. A marked increase of land renting between 1910 and 1920 is shown when the real estate is classified in terms of valuation. The ratio of rented land to all land in the farms of part owners is assumed to be the same in 1920 as in 1910.

## Geographic Distribution of the Various Classes of Tenure.

Farms operated by tenants and croppers are most numerous, absolutely and relatively, in the Cotton Belt (fig. 9). Practically all of the cotton-producing region formerly operated by negro slaves under the plantation system is now occupied very largely by negro farmers classed as tenants or croppers (fig. 10). Adjacent to this old plantation region are certain extensions of the cotton-producing area, made for the most part since the close of the Civil War and now operated largely by white tenants and owners (figs. 11 and 13), with a considerable sprinkling of negro tenants and owners (figs. 10 and 12). Taken altogether, the region of cotton production contains approximately half the tenant farmers in the United States.

There is no other large region in the United States where tenant farmers are in the majority, but there are certain counties in the Corn Belt where this is the case. In the greater part of Iowa, north central Illinois, eastern South Dakota, and Nebraska, and central Kansas, tenant farmers are nearly half the total number of farmers. Outside the Cotton Belt, the Corn Belt, and the wheat areas of the eastern plains, tenant farmers constitute, in general, fewer than 25 per cent of the number of farmers (fig. 9). Where tenants are found, they commonly occupy land well adapted to crop production, and they are especially numerous in regions where the farming systems consist largely in the production of staple crops. In dairy-


Fig. 9.-The percentage of farms rented is highest in the Cotton Belt, where tenant farms constitute usually from one-half to nine-tenths of the number of all farms. In the Corn Belt and the eastern portions of the winter wheat and spring wheat regions tenant farms comprise from one-fourth to three-fourths of the number of farms. Measured by acreage, tenancy in these regions is relatively more important and in the South less important than when measured by number of farms. Outside these areas tenants, in generai, constitute less than one-fourth of all farmers.


Fig. 10.-The Negro tenant and cropper farms or holdings are located mostly in the Yazoo-Mississippi Delta, in the Black Prairie of Alabama, and in the upper Coastal Plain and Piedmont of Georgia and the Carolinas-districts having the richest soils in the old South. Many of these "farms" are merely allotments to croppers on plantations, the owner of the plantation furnishing the cropper with his mule, his farm implements, and sometimes even with food until the crop is " made " in the fall añd the proceeds divided between them. The dots shown in California represent mostly Japanese and Chinese tenant farmers.
ing and other forms of livestock husbandry, tenant farming is relatively less prevalent.
Owner farmers (compare fig. 9 with figs. 12 and 13) predominate (1) in New England; (2) in areas of dairy farming, notably in New York and in the southern portions of the Lake States; (3) in rough lands of the Appalachian and Ozark Mountain regions, where a relatively small proportion of the land is in crops; (4) in many areas of cut-over land, particularly in the northern Lake States, where land settlement has been recent; (5) in certain areas where farming is characterized by specialty products requiring a high


Fig. 11.-The regions of greatest density for farms operated by white tenants are the upper Piedmont of the Carolinas, Georgia, and Alabama, and the Black Waxy Prairie of Texas. In these districts negroes are less numerous than to the south and east, and the cotton is grown mostly by white farmers. A large number of white tenants are shown in Kentucky and western Ohio, especially in the tobacco districts and throughout the corn Belt.


Fig 12.-The regions of greatest density for farms operated by Negro owners are eastern Virginia, southeastern South Carolina, and northeastern Texasall of them areas of cheap land. In Virginia there are almost twice as many farms operated by Negro owners as by Negro tenants, and in Florida the numbers are about equal: but in the Cotton Belt tenants greatly exceed owners in number (see fig. 10). There are very few Negro farmers in the Northern States, but nearly three-fourths of these farmers own their farms. as compared with one-fourth in the South. This high percentage of ownership is striking proof of the tenure progress of the Negro race in the past half century. The dots in the Western States represent mostly farms owned and operated by Indians, Chinese, and Japanese.
degree of skill in production and marketing. such as the fruit regions of the Pacific States and Florida, and trucking districts in various parts of the United States; (6) on much of the cheap sandy lands of the Atlantic and Gulf coastal plains; (7) in the rolling and less fertile parts of Tennessee and Kentucky, and southern portions of Ohio, Indiana, and Illinois: (8) in the marginal portions of the


Fig. 13.-The regions of greatest density for farms operated by white owners are those occupied by the Germans of southeastern Pennsylvania and eastern Wisconsin, the mountaineers of western Pennsylvania, eastern Tennessee, and western North Carolina. by the farmers of Kentucky, Indiana. Ohio, and southern Michigan, and by the pioneers in the West. The fewer number of owner farmers in the prairie portion of the Corn Belt, as compared with the originally forested portion, is noteworthy. This is due. in part, to the larger, consequently fewer, farms, and in part to the larger proportion of tenants (see fig. 9). The thinner distribution in northern New England, the upper Lakes region, and the West is owing to fewer farms and not to a smaller proportion of farms operated by owners.


Fig. 14.-More than a half million farms were operated by part owners in 1920. They were most numerous in the States of the Middle West, especially in the marginal portions of the Corn Belt and in the wheat-growing areas of the eastern plains.

Corn Belt; (9) in the spring wheat and winter wheat areas of the plains, but with a strong tendency to decrease in relative importance in these areas (fig. 6), and (10) throughout the livestock ranching regions of the West.

Part owners are farm owners who rent additional land. Their farms are usually larger than those of owners who rent no additional land. The regions of greatest density for farms of part owners include Indiana and adjacent portions of Ohio, southern Michigan, and southern Illinois, as well as northern and western Missouri and eastern Kansas. Part owners farm a much larger proportion of the land in the West than in the East, especially in the Great Plains region, where, owing largely to failure to adapt the homestead policy to


FIG. 15.-The relative importance of part owners in the western half of the country, expressed in terms of farm acreage, is much greater than is shown in Figure 14. In the Western States part owners operate from a sixth to nearly two-fifths of the farm area; in the eastern and central Corn Belt from a sixth to a tenth; and in the Eastern and Southern States less than one-tenth.


Fig. 16.-In New England and some of the Middie Atlantic States a good many of the farms operated by managers are country estates of wealthy men in the cities. Others are large truck farms. flower farms, and fruit farms.
the semiarid lands of this region, the farms as taken up were ton small and many farmers have had to rent additional land (fig. 15).

Managers operate mostly large farms, notably large estates in the East and livestock ranches in the West. These farms are most numerous along the Atlantic coast from Massachusetts to Maryland, in the Corn Belt, and in California (fig. 16). However, the percentage of the total farm acreage operated by managers is largest in the Southwest where such farms comprise from one-eighth to one-third of the total farm area (fig. 17).
Statistics of land ownership and tenancy require special interpretation in the western half of the country. In this area much of the improved land is in irrigated districts, and in these districts tenancy


Fig. 17.-In nearly all parts of the country the percentage of the farm acreage operated by managers is much larger than the percentage of the number of farms so operated, because manager-operated farms are larger than other farms. This is especially the case in some of the New England and Middle Atlantic States: in Florida. Louisiana. and Texas; and in most of the Mountain and Pacific States. In fact, the relative importance of manager-operated farms in the West is probably greater than the map indicates because of the inclusion of land not reported in the census. (See pp. 521-522.)
has developed with notable rapidity during the last few years. However, most of the rented land in this section is unimproved grazing land.

In the Rocky Mountain and Pacific States, part owners in 1920 rented about 1 acre of improved land to every 3 acres rented by tenants. Part owners operated under lease almost as much improved land as did full tenants in Montana, Wyoming, and Utah. Part owners and tenants rented over half the improved acreage in Washington and over a third in California, Oregon, and Colorado. These two classes of operators rented over 95 million acres of unimproved land in farms in the 17 Western States, and in 10 of these States part owners rented more than did tenants (fig. 18). Managers operated about 7 per cent of the improved land in the two western divisions referred to, but the area of both improved and unimproved farm land operated by managers in 1920 was 11 per cent of the re-


Fig. 18.-Over two-thirds of the unimproved farm acreage under lease is in the 17 Western States, the 6 stretching from North Dakota to Texas containing two-fifths of all such land. In the half of the United States lying west of meridian 100 nearly all of the unimproved farm land under lease is used for grazing. In the North Central States unimproved land is rented in about the same percentage as improved land. In the Southern States, however, the proportion of unimproved acreage that is under lease is much less than the corresponding proportion for improved land. It should be noted that the rented acreage includes that rented by part owners.
ported area of farm land and was as high as one-third of the total farm area in Nevada (fig. 17).

The tenure of unimproved land in the West is not shown adequately by census reports. The census definition of a farm appears to have been so applied as to leave out of account much of the land leased for grazing by Indians under the guardianship of the United States Government, by State governments and institutions, and probably by railways and other large owners (figs. 21, 22, and 23). Statistics from other than census sources as to the amount of land leased by Indians, railways, and States indicate in at least one State an acreage over three times that which the census classifies as leased farm land.

When allowance is made for these factors in the land tenure of the Western States, for upwards of 150 million acres of Federal public land used as free range, and for large areas of national and State
forests used under permit systems or otherwise (figs. 19 and 20), it is apparent that the proportion of farm and ranch land in the Western States which is owned by the operators is much smaller than is indicated by census statistics.

North Dakota, South Dakota, Nebraska, and Kansas are semiarid in their western portions and humid in their eastern portions. Ten-


Fig. 19.-About $186,000,000$ acres of unappropriated and unreserved land remained in the Federal public domain on July 1. 1923. Over 185,000,000 acres were in the States shown above. In some counties of Wyoming. Nevada, and Oregon over 60 per cent of the land area is still in the Federal domain and open to homesteading. However, there is but little remaining land in the public domain that is suitable for crop production. The greater part is used for grazing, though without the regulation exercised in the national forests. Owing to this lack of control the land is overgrazed and the carrying capacity is deteriorating rapidly. In Texas all public lands were reserved to the State at the time of its admission to the Union.
ure conditions in the western counties of these States are not widely different from those existing in the semiarid portions of the Rocky Mountain and Pacific regions.

## Causes of the Development of Tenant Farming-I. The Conditions That Cause Land to be Owned by Landlords.

The amount of farm land rented at any time is a result of conditions in what we may call the rent market. Our problem is to explain why land is offered in this market for rent, and why men, either


Fig. 20.-Out of $156.000,000$ acres in national forests, about $110,000,000$ acres, practically all in the Western States, is included in the grazing allowances. practically all in the western States, is in lise livestock, excluding work stock. in the West is grazed during the pasture season. The percentage of grazed land is lowest where the forests are densest. The map does not take account of the animals grazed free, which are 10 per cent as numerous as the animal units paid for and shown here. Permits issued by the Forest Service for grazing livestock on national forest lands do not grant the permittees a tenure in the land. They allow many farmers, however, to extend mittees a tencre grazing operations in much the sime way as if owning or renting this land.


FIG. 21.-In 1920 approximately $17.000,000$ acres of Indian land, mainly in the western half of the country, were leased for cultivation and grazing under the auspices of the Federal Government. The amount of such land reported for the year ended June 30,1923 was about $15.000,000$ acres. Of reported for the year ended June 30,1923 , was about 15 . the area thus under lease in 1923 about 60 per cent consisted of unallotted or tribal lands. Seven-eighths or more of the total area leased was used for grazing. Practically all of the leases were for cash. This information is made available through the courtesy of the Commissioner of Indian Affairs.
$85813^{\circ}$ - YKK $1923-34$
through necessity or from preference, are willing to rent land for the purpose of farming it. Briefly, who are the landlords ${ }^{4}$ and who are the tenants? What conditions determine the supply of land offered for rent in the rent market and the extent of the demand for such land?


Fig. 22.-Practically all of the State-owned lands leased for cultivation and grazing are in the 17 Western States, amounting to about $30,000,000$ acres. In Texas, New Mexico, and California the available information does not admit of the location of the land by counties. In Texas the $2,000,000$ acres shown belong to the State university. The information shown in the map was obtained partly from published reports and partly through the courtesy of State officials.

## Public Ownership and Leasing of Land.

A good deal of leased land in the United States is owned by public agencies. Broadly speaking, it has not been the policy of the Federal Government to lease its land to the users. At present practically all of the public land suitable for farming has been disposed of, but there still remains an area of about 186 million acres, largely consisting of arid land in the Southwest and Inter-Mountain regions, most of which is used free of rent as a grazing commons by cattle and sheep graziers ${ }^{5}$ (fig. 19). The privilege of grazing livestock on approximately 110 million acres in the national forests is granted to

[^102]private individuals under the permit system (fig. 20). Since the permit technically is not a lease, these lands naturally do not appear in our census statistics of rented land. ${ }^{6}$

As trustee for its Indian wards the Federal Government also acts as landlord for a large number of tenant farmers. Land in the Western States administered by the United States in behalf of Indians amounted in 1923 to 15 million acres leased for agricultural and grazing purposes (fig. 21).


Fig. 23.-Approximately $17,000,000$ acres of land leased for cultivation and grazing is owned by the principal landowning railroads in the 17 Western Srazing is owned by the principas leased for grazing. The information was states. Nearly all of this area irteased for grazing. of the railroads conmade available through the courtesy of the officials of the railroads concerned. Outside of the area shown ar grazing by other railroads in the ''nited States. For location see Farmers' Bulletin No. 1271, page 43.
The States, particularly those in the western part of the country, as noted above, are large landlords, renting approximately 30 million acres (fig. 22). West of meridian 100 these lands are leased mostly for grazing and haying purposes.

## Private Ownership and Leasing of Land.

Some of the railroads, particularly in the western half of the country, are also large landed proprietors, principally as a result of railway land grants. It has been their policy to use their holdings to

[^103]induce settlement and to await the increment in value that comes with settlement. Pending this development, they have been leasing in recent years approximately 17 million acres of their land, mostly to stockmen (fig. 23).
With the exception of the West, most of the land leased for agricultural use in the United States is privately owned. This land is rearly all in farms and is used for the production of crops more largely than for grazing. The reasons which cause farm owners to let part or all of their land deserve brief notice.

## TEMPORARY INABIITY OF PRIVATE OWNERS TO OPERATE THEIR LAND.

Even if we suppose a newly settled region in which every farmer owns his land, it is clear that this condition could scarcely continue. Some operators might desire a vacation or be compelled on account of illness or business to leave home for more or less prolonged absences, during which they would be likely to offer their land for rent pending their return. In other cases, operating owners who have recently acquired new tracts might prefer to allow the former operators to remain in charge for a time under rent arrangements while the new purchasers adjust their business affairs.

Still other circumstances may make it necessary for a farm operator to reduce the size of the area operated. It may be impaired health; the fact that his sons have left home and can not adequately be replaced by hired laborers; or the pressure of other business interests. It is not always practicable to sell the excess acreage, for it may be an important part of a definite farm unit or it may be that none of the adjacent farmers is ready or able to purchase the tract. It is probable that a good deal of the land rented by the class of part owners is made available by some of these or similar conditions.

CONDITIONS WHICH CAUSE LANDOWNING FARMERS TO LEAVE THEIR FARMS PERMANENTLY.
All farmers must ultimately leave their farms permanently through change to other business, retirement, or death. A certain amount of renting will inevitably result from such changes.
Let us consider first the circumstances arising from death. The settlement of estates sometimes involves long periods due to litigation, to the fact that all of the heirs are not yet of age, and to other causes. During such intervals the executors may rent the estate, frequently to one of the heirs. Similarly, it often happens that it would be necessary to divide a farm into several uneconomic units in order to make a fair division among the various heirs. The problem is frequently solved by arranging for one of the heirs to rent the farm from the others or by letting the farm to a third party and dividing the rental among the heirs.

Even when an estate passes to a widow or heir who desires to sell it, immediate sale is not always feasible for some of the reasons hereafter mentioned (page 528), and temporary renting is likely to result.

It is clear that the larger the percentage of native, farm-born population in cities the larger will be the proportion of cases in which the change in the ownership of farm land necessitated by death will result in the title passing by inheritance, marriage, or otherwise, to non-farmers. The large increase in proportion of urban
population in the United States has greatly increased the chances that the heirs of deceased farm owners will be persons engaged in non-farming occupations, and this probably has been intensified by the movement of the children of farmers into other occupations.
In periods of agricultural depression considerable areas of farm land pass into the ownership of creditors. The laws of many States give the debtor a privilege of redemption lasting from four months to two years, and during this interval of uncertainty the land is. likely to be offered for rent, éven though the ultimate purpose of the creditor is to dispose of it by sale.
Many farmers retire more or less from active farming in later life (fig. 24). Sometimes the severance from active connection with farming is sudden and complete, but more generally it is gradual, and justifies the expression, "the retreat from the land." With the approach of age or infirmity the experienced farmer is likely to rent part or all of his land to a tenant, retaining supervision over the

AGE OF MORTGAGE-FREE OWNER FARMERS; UNITED STATES, 1920; AND AGE AT WHICH LANDLORDS 40 YEARS OLD AND OVER IN 1920 RETIRED FROM FARMING, CENSUS OF 1920.


Fig. 24.-Death and retirement combined reduce the proportion of ownerfarmers in age groups above 55 years. The number of farmers retiring increases with each successive age group. The left-hand portion of the graph is based on the 1920 census, while the right-hand portion is based on reports from 7.583 landlords received by the Bureau of Agricultural Economics, Division of Land Economics.
details of the business. If his holdings are large he is likely to cease direct operation gradually by increasing from time to time the area rented. This is suggested by Figure 25, which indicates that in the regions where the process of gradual retirement is characteristic the percentage of farms operated by men of 55 years and over decreases with the increase in the size of farms. This kind of landlordism is a very large factor in most of the important farming regions of the United States where tenancy is prevalent. (Fig. 34).

Frequently retiring farmers rent their farms to sons or other relatives who will ultimately inherit all or part of the property. This method of associating a prospective heir with the original owner of the business under the nominal and temporary status of a tenant accounts for a good deal of renting of farm land in some sections of the country. In a recent study of nearly 57,000 tenants widely distributed throughout the country it was found that 23 per cent were
related to landlords, the percentage ranging from 12 in nine Southern States to 36 in five States of the North Central group. (Fig. 26).

CONDITIONS WHICH CAUSE OWNERS OF LAND TO RETAIN OWNERSHIP WHEN THEY DO NOT OPERATE IT.

It is important to determine why owners of farms, when they cease to be active operators, retain the ownership of their land and let it to tenants rather than sell it. Closely related to this is the


Fig. 25.-Men who are not beyond middle age usually prefer the larger-sized farms, and rent such farms if they can not buy. Elderly farmers who own the larger farms find it possible to retire and live on the rent which younger farmers are willing to pay for the use of the larger farms. A phase of the retreat of elderly farmers from the land is their more general occupancy of the smaller farms, these farms making less demand on their bodily vigor than farms of the larger sizes.
explanation of why others buy farm land which they do not intend to operate.

In the first place, it is not always possible to sell land immediately on favorable terms. The land market may be sluggish. In many rural communities opportunities for sale at satisfactory prices are infrequent. In parts of the South the land market is rather narrowly restricted to the landlord class, for most of the tenant farmers have neither the means nor the credit to purchase a farm.

There are also motives which may cause the farmer or his heirs to retain ownership from preference. These motives may be senti-
mental, as, for instance, attachment to an old homestead and to the associations of the community: they may be social, as, for instance, the desire to acquire the social prestige attached to land ownership; they may be economic or financial: or there may be some combination of the several classes of motives. In this country economic motives are by far the most important, and later will require more detailed consideration.

 to approximately 57,000 tenants. For the Tnited States as a whole about 23 per cent of the tenants were related by blood or marriage to the landlord, most of them being sons or sons-in-law. The proportion is lowest in the South and highest in the North Central States, in some of which it is as much as 40 per cent.

## Concentration of Land Ownership.

The concentration of land ownership in large holdings is favorable to landlordism and tenancy. It is true, the owner may operate the entire farm by means of hired labor, but such operation has many economic disadvantages. The most important of these are the uncertainty of the labor supply; the large element of risk involved in incurring heavy wage expenditures in anticipation of a return so precarious and uncertain as that from farming; and the difficulties of directing adequately a large labor force in an industry so ill adapted to standardization and routine.

The landlord may solve the problem by finding tenants capable of supplying the operating capital and the ability to conduct farm operations without supervision. However, if the tenants are unable to supply the necessary capital or direction, it will be necessary for the landlord or some other agency to furnish one or both of these important factors; and, very generally, if operating capital or means of subsistence must be advanced, the advancer considers it desirable to maintain more or less supervision over the business.

```
CONCENTRATION OF OWNERSHIP OF FARM LAND IN THE SOUTH.
```

The conditions just described prevailed in the former plantation regions of the South at the close of the War between the States. The land was owned in holdings considerably larger than would be

THE PLANTATION REGION OF THE UNITED STATES.


Fig. 27.-For the most part the plantation area of the South is identical in location with the area of the antebellum plantation system. The plantation system occupies the regions of more fertile soils. The typical plantation is operated as a comparatively large farming unit, mostly by means of hired laborers and croppers under close supervision. However, not infrequently share tenants proper, standing renters, and cash renters, under more or less supervision, are found on plantations. In the alluvial lands of the Mississippi River the plantation units are, in general, larger than in other parts of the South, and are also characterized by the most intensive supervision. The regular decennial census does not recognize plantations as statistical units, but a special census in 1910 , on which the above map is largely based, showed 39,073 plantation organizations.
needed for a " family farm." The newly emancipated laborers not only lacked operating capital but even the means of livelihood while growing the crop. Furthermore, they were without experience and unaccustomed to self-direction. There was no banking system to supply the needed capital and many of the planters were lacking in

> PERCENTAGE OF RENTED FARMS OWNED BY LANDLORDS HOLDING TITLE TO SPECIFIED NUMBERS OF RENTED FARMS; UNITED STATES, SOUTHERN STATES, AND NORTH CENTRAL STATES, CENSUS OF 1900 .


Fig. 28.-In the above graph concentration of ownership is shown in terms of number of farms, with evidence of heavier concentration in the Southern States, due to the plantation system. The concentration of ownership measured by acreage and valuation was less than when measured by number of farms. The census of 1900 affords the only complete information for the country as a whole concerning the concentration of ownership of rented farms.


Fig. 29.-Landlords owning two or more rented farms each comprised a fifth of all landlords, but owned a little over half of all the rented farms in 1920. The graph is based on a special study of 275,000 rented farms in selected counties of 24 States made by the Bureau of Agricultural Economics, Division of Land Economics. In the case of this figure and the four figures immediately following, the word "farms" is used in place of the words "ownership parcels." As shown by a study of 106,000 of the above parcels, all but 7 per cent are in themselves complete farms.
money capital, making it difficult to set up a wage system. The system of marketing had largely developed to serve the needs of large plantations rather than small farms. Moreover, the freedmen were restless and unstable as hired laborers.

The large landowners resorted to the policy of giving the laborers a share of the crop instead of a fixed money wage, supplying operating capital, the means of livelihood during the making of the crop, and a degree of supervision almost as close as that which they had formerly exercised over the slaves. When the landowner was unable, to supply operating and subsistence capital, this function was assumed by local merchants, who also supplied supervision through hired managers or riding bosses. This post-bellum plantation system has continued in most of the old plantation regions until the present (fig. 27). Each decennial census has shown a decrease in the average size of Southern farms, owing in part to the division of large plantations into groups of cropper or tenant farms, frequently without any change in the actual operation of the whole; and, correspondingly, each decade up to 1910 has shown a large increase of socalled tenant farms. The results of the census of 1920 seem to indicate that these tremendous changes have either reached their approximate completion or else have temporarily been suspended.


Fig. 30.-The special study of the ownership of 275,000 rented farms, mentioned in Figure 29 . showed that in 1920 a little more than one-fourth of all the rented farms were owned by a little less than one-thirtieth of the landlords. Most of this concentration of ownership was in the southern plantation region.

In certain respects these changes have tended to emphasize unduly the national problem of tenancy. One result has been the numbering as tenants of over a half million persons who are not independent farm operators and to class as their landlords persons who are the actual operators of the so-called tenant farms. Furthermore, the nominal increase in the number of tenants really represents what in many respects comprises a higher status for the so-called tenants under the plantation system than they formerly occupied as hired laborers, and in still earlier times as slaves.

```
PROPORTION OF RENTED FARMS OWNED BY LANDLORDS HOLDING
    FIVE OR MORE RENTED FARMS; AREAS IN NORTHERN AND SOUTH-
    ERN STATES COMPARED, }1920
```



Fig. 31.-Outside of the South, rarely more than 5 per cent of the rented farms belong to landlords who own five or more rented farms each. In the South the concentration of ownership is much greater, ranging as high as 80 per cent in the Yazoo Delta. The source of the information is the same as for Figure 29.
The plantation system in the South is largely responsible for the concentration in ownership of farm land for the nation as a whole (figs. 28 and 31).

TREND IN CONCENTRATION OF OWNERSHIP.
There has been no census report showing the concentration of farm ownership since 1900. However, a study of the ownership of 275,000 farm parcels, based on reports from tenants listed in the census schedules for 1920 , affords more recent information for selected regions where tenancy is prevalent. In general, a comparative study of the 1900 and 1920 statistics does not indicate any great change in the degree of concentration for the nation as a whole. (Compare fig. 28 with figs. 29 and 30.) In both periods about half the rented farms were owned by landlords owning only one farm. In 1900 nearly 15 per cent of the total rented farm acreage and 22 per cent of the farms were owned by landlords who held title to five or more rented farms. In 1920 about 25 per cent of the farms in selected regions studied were thus owned.
There are several reasons why there has been no pronounced trend toward increased concentration of farm-land ownership. The rapid development of American industrialism has tended to attract large capitalists to the cities and to prevent them from acquiring large
farming estates for investment. The laws of inheritance in American States are based on the principle of equal partition among children, as in France, subject to the rights of the widow; and the practice of bequests appears to have been strongly influenced by the laws of inheritance. Up to the present time there has been no widespread tendency for farm land to be excessively subdivided, as in France, because of the practice of probate courts in this country to effect various kinds of settlements that pass property to successors in units suitable for economic operation. On the other hand, as available farm land becomes scarcer and the demand for it more intense these inheritance laws might tend toward excessive subdivision, as in France. To be sure, other forces might give rise to increased concentration.

## CONCENTRATION OF OWNERSHIP OF LAND NOT IN FARMS.

The greatest concentration of land ownership in the United States occurs in the case of land not in farms and consists of large holdings by railways, acquired through earlier grants in aid of construction, and the large holdings of timber and mining companies. Most of these lands are not greatly in demand for farming. Except for the tendency, already noted, to rent temporarily to stockmen for grazing purposes, the policy of these large holders, for the most part, is to hold their lands for ultimate sale in small tracts to settlers, or to other concerns which intend to market the land to small purchasers.

> RESIDENCE OF LANDLORDS.

To what extent do American landlords live sufficiently near their farms to exercise adequate control over the property? For the country as a whole information on this point is available only for 1900. At that time 78.8 per cent of rented farms were owned by landlords who resided in the same county in which the rented


Fig. 32.-Only 9 per cent of 275.000 tenant farms in 24 States were owned by landlords who resided neither in the same county nor in an adjoining county. It is probable that this 9 per cent measures approximately what we may call absentee landlordism; that is, the cases where the owner's residence is too remote to permit frequent visits to the property, although in some of these cases the owner is adequately represented by a resident manager or local agent. Source of data is the same as for Figure $\mathbf{2 9}$.
farms were located. ${ }^{7}$ In the special study of 275,000 tenant farms in 1920 , previously mentioned, it was found that 80 per cent of the rented farms were owned by landlords who resided in the same county, and an additional 11 per cent by landlords residing in

[^104]counties adjoining the one in which their farms were located. This leaves only 9 per cent of the rented farms owned by landlords living at greater distances (fig. 32).

The proportion of cases in which landlords were remote from their farms is found to be considerably greater in the North and

PLACE OF RESIDENCE OF LANDLORDS OF RENTED FARMS.


Fig. 33.-In the Northern States more than a third of the landlords reside on farms, while in the South the proportion is more than two-thirds. In the North about half of the landlords living in cities and villages are retired farmers (fig. 34). The graph is based on returns from 23,000 landlords in 24 States to a special inquiry made by the Bureau of Agricultural Economics, Division of Land Economics.

West than in the South. For instance, in a group of counties in Illinois 25 per cent of the rented farms were owned by landlords who lived outside of the same counties, while 10 per cent were owned by landlords who lived outside of the same or adjoining counties,

OCCUPATIONS OF LANDLORDS OF RENTED FARMS.


Eig. 34.-The proportion of landiords still classed as farmers is much larger in the South than in the North, but if retired farmers, many of whom in the South than in the North, but if retired farmers, mapere farmers, the difference is not so great. About a third of the farm landlords of the two regions appear to be engaged in nonagricultural occupations. This figure is based on reports from 23,000 landlords, mentioned in Figure 33.
whereas in the Yazoo Delta the corresponding percentages were 12 and 5. Furthermore, the percentage of cases in which landlords were remote from their farms is higher in some of the more recently developed farming regions than in some of the older farming regions. Thus, in eastern North Dakota 40 per cent of the tenant farms were owned by landlords not residing in the same county, and the proportion is nearly as large in central Kansas and in Oklahoma. In the Middle Atlantic States the percentages for six groups of counties varied from 13 to 26 ; in southern Wisconsin, the percentage was 19 ; in western Ohio, 21; in Illinois, 25 ; and in Iowa 28.

The larger proportion of landlords remote from their farms in the newly developed regions of the West is related to the Federal land policy in the distribution of the public domain and explains in part why States so recently settled quickly develop high percentages of tenancy. The throwing open of large tracts of farm land to homesteading attracted many people whose principal concern was to acquire a valuable farm property but with no intention of permanent residence on the farm. For instance, Oklahoma was settled by homesteaders little more than two decades ago, yet, in 1910 and 1920, tenant farms were over 50 per cent of the total number of farms. ${ }^{8}$
In the North and West a much larger proportion of the landlords reside in cities and villages, nearly two-thirds in fact, whereas in the South about two-thirds of the landlords live on farms (fig. 33).

## OCCUPATIONS OF LANDLORDS.

The proportion of landlords who reported farming as their regular occupation was smaller than the proportion residing on farms (fig. 34). The proportion actively engaged in farming was more than twice as large in the South as in the North, emphasizing the conclusion that in the South landlordism is largely a phase of plantation operation, while in the North it is more largely a phase of retirement or retreat from the land. Among northern landlords considerable difference is indicated between those in the Corn Belt and Middle Atlantic States and those in the Dakotas and Kansas. In the latter areas the landlords are engaged in farming operations in a larger proportion of cases than in the States farther east.

FARMING EXPERIENCE OF LANDLORDS.
To what extent are landlords men of farming experience? Inquiry on this point from upwards of 20,000 male landlords revealed the fact that only 8 per cent of them had never been engaged in any kind of farming occupation (fig. 35).

## METHODS BY WHICH LANDLORDS ACQUIRED THE OWNERSHIP OF THEIR FARMS.

Apparently, the great majority of landlords acquired the ownership of their farms by purchase. Direct acquisition by inheritance or by marriage was responsible for only 14 per cent of the acreage acquired by the male landlords (page 536). but for 38 per cent in the

[^105]
## TENURE EXPERIENCE OF LANDLORDS OF RENTED FARMS, 1920.



Fig. 35.-The figure shows the previous tenure experience of about 20,000 male landlords who replied on this point. Nearly three-fourths had been operating owners and two-fifths had been both tenants and owner-farmers. Source of data is the same as for Figure 33.
case of female landlords. The female landlords, however, constituted only 15 per cent of the 24,000 landlords who replied to the inquiry (fig. 36 ).

## TENURE OF FARM LAND BY CORPORATIONS.

Corporate land tenure is shown by about 7,700 replies to a special inquiry by the Bureau of Agricultural Economics to have become more prevalent in 1923 than in 1913 in most parts of the country. Where diminished, however, this decrease is probably due partly to high Federal and State corporation and income taxes as well as increasing local taxes on real estate, and partly to State laws using other methods than taxation to prohibit corporate ownership or leasing of farm land. Farming corporations in 1921, the latest year for which Federal income-tax statistics are now available, were reported from every State (fig. 37). Marked variation exists between States in the number of corporations thus reporting, and this variation apparently bears little relation to the legal position corporations owning farm land occupy in the various States.


Fig. 36.-Fourteen per cent of the male owners and 58 per cent of the female owners of rented farms had acquired their lands by inheritance or marriage and 2 per cent of each class by homesteading, the remainder having purchased their lands. It should be noted, however, that these figures made no allowance for the fact that a considerable part of the wealth used to purchase farms was acquired by inheritance, marriage, or gift (see p. 563). Source of data is the same as for Figure 33.

A certain amount of farm real estate is held by corporations whose agricultural activities are incidental to their operations, as in the case of canneries, refineries, or manufactories of other kinds.

There are numerous corporations having a temporary tenure relationship to particular areas of farm land. These include lumber companies, land development companies, and money-lending corporations. Institutions of the last-mentioned variety have appar-


Fig. 37.-A classification of 1,689 of the 7.428 farming corporations is as follows: Cotton farming, 11, or 0.7 per cent; grain farming, 23, or 1.4 per ment; stock farming, 711, or 42.1 per cent; and fruit farming. 944, or 55.9 per cent. Of the 7,428 farming corporations, 2,684 reported net income. the aggregate being $\$ 34,266,175$, and 4,744 reported net deficits in an aggregate of $\$ 63.334 .248$ for the year 1921. However, this year was less productive of income for farmers than the years immediately preceding. Corporations are distributed among the States according to the location of the internal revenue offices in which their income tax returns are filed. Corporations reporting from New Jersey, for example. may have owned or leased property located in several States, and in some cases may have owned or leased no property in that State except to maintain an office.
ently increased their holdings in some sections, presumably because of taking farm land in satisfaction of debt.

OWNERSHIP OF LAND BY PERSONS OF FOREIGN bIrth.
Under the common law aliens are not permitted to own land. However, this rule has been modified by statutory enactments in all of the States. In 18 States aliens are given the unrestricted right to the ownership of land. In others the right is limited. In a number of States aliens are permitted to acquire landownership by inheritance, but are compelled to dispose of the title within a specified number of years. In some States the restrictions are made to turn on the question of residence or nonresidence. By treaties with certain countries the Federal Government has accorded the rights of ownership to their nationals for limited periods and purposes. Through its definition of citizenship and determination of requirements for naturalization, the Federal Government has also exerted an indirect influence, which, by existing legislation in a number of States, has been directed against the tenure of land by certain
classes of aliens. This has been a factor of large importance on the Pacific coast.

According to the census of 1900 , there were only 699 nonresident aliens owning rented farms in the United States. They owned 1,093 farms. No more recent statistics are available for the United States as a whole concerning the ownership of land by nonresident aliens. In 1920, however, 10.6 per cent of all white farm operators in the United States were of foreign birth, including those naturalized and unnaturalized. Of these foreign-born operators, 79.9 per cent were either owners or part owners, while only 65.6 per cent of the nativeborn operators were owners and part owners.

> SUMMARY OF THE CHARACTERISTICS OF LANDLORDISM IN THE UNITED STATES.

We may now summarize the characteristics of farm landlordism in America. All but a small proportion of the landlords have grown up from the soil and possess direct experience with farming. More than a third are engaged in agricultural occupations, nearly another third are retired farmers, and the remaining third are in nonagricultural occupations, mostly country bankers, merchants, and professional men in the country towns and villages who have either come into farm ownership through inheritance or marriage, or have purchased farms for purposes of investment or speculation. Fifteen per cent of the owners of rented farms are women, for the most part widows or daughters of deceased farmers. Corporations do not comprise an important class of landlords. Probably not more than 10 per cent of the rented farms are owned by absentee landlords, and apparently there has been little change in this regard since 1900. There is but little concentration of ownership, except in the plantation region of the South, and apparently for the country as a whole there has been no increase in concentration. However, there is enough both of absenteeism and concentration of ownership to justify real concern. There is comparatively little ownership of farm land by nonresident aliens.

## Causes of the Development of Tenant Farming-II. Conditions Which Determine That Persons Will Become Tenants.

temporary conditions causing men to prefer to rent rather than to own the land they operate.

Under certain conditions men prefer to rent temporarily rather than to own the land they operate. For instance, the farm owner expecting shortly to retire from farming or to engage in another business may have a favorable opportunity to sell the farm he owns before he is quite ready to quit farming, and may prefer to rent a farm rather than to purchase for the short remaining period. Others who propose to buy farms, especially in new regions, may desire to become acquainted with the neighborhood and its opportunities or to acquire more experience as farm operators before venturing to purchase. This latter motive for renting operates particularly in the case of sons or sons-in-law who will ultimately inherit the ownership of the farms.

While some farmers remain tenants deliberately, even though they have sufficient capital to purchase a farm, the great majority become tenants and many continue as tenants because they do not command sufficient capital and credit to purchase a farm and provide the requisite operating capital. Therefore, tenancy is closely connected with the valuation of farm real estate.

## Relation of Tenancy to the Valuation of Farm Real Estate.

It has sometimes been said that tenancy and high farm real estate valuation "go together," with the suggestion that the latter is largely responsible for the former, but the matter is not quite so simple as this. It is true that a high percentage of tenancy is frequently associated with high land valuations, but the exceptions are quite numerous (compare figs. 9 and 38). A mathematical coefficient of correlation calculated for each of the States of the Union on the basis of the relationship of percentage of tenancy to average value of farm real estate per acre, by counties, shows that in at least a score of States the coefficient is either negative or too low to indicate a significant correlation. In only about a dozen States is the relationship well marked.
One assumption that sometimes underlies the idea that high farm real estate valuations are likely to result in a high percentage of tenancy is that it must be harder, or else take longer, to pay for a farm consisting of high-valued land than for one consisting of lowvalued land. If the farm is to be paid for out of the earnings attributable to the farm real estate, however, and if these earnings are proportionate to the valuation of the land, it should not be more difficult to pay for a fạrm in a section where valuations and earnings are high than in a section where both are low. The valuation of farm real estate does not always vary in exact proportion to income attributable to it, as will be shown later, but that the relationship is very close is indicated by the results of more than a score of local farm surveys. Moreover, a study of the average number of years spent as farm wage earners and as tenants by those who passed through both stages before becoming farm owners indicates that the period is not longer in the sections of high land valuations than in those of low land valuations.
In general, the greatest difficulty in acquiring a farm is in securing a sum sufficient for the initial payment, and it is sometimes argued that the higher valuation of farm real estate compels the farmer to accumulate a larger sum for initial payment, thus forcing him to remain a longer time as a tenant before attempting to buy a farm and also to command a larger volume of credit in order to finance the remaining indebtedness. There is a considerable degree of truth in this, but it is possible to give the point exaggerated importance. As between different periods the change in the valuation of farm real estate measured in terms of the current purchasing power of money may reflect largely a change in the value of the money itself. Temporarily, this may or may not increase the period of waiting before buying, depending on a number of circumstances, such as the effect of the change in the value of money on the power of tenants and other prospective owners to accumulate and on the amount and value of their savings. As between areas of high-


Fig. 38.-The average valuation of farms, including buildings, machinery, and livestock, in the prairie portion of the Corn Belt and the southern part of the spring wheat region was about $\$ 40,000$ in 1920 . The high valuations shown in western Texas and northern Nevada are mostly of cattle ranches, which are few in number and large in area, often including thousands of acres of arid range sist of expensive orchards or of bean or surar-beet land rhe very low-priced farms shown in the erstern cotton belt ire in larg part, small cropper or tenant holdings in plantations. The light areas in Kentucky and Tennessee represent poor mountain farms In most parts of the [nited States there has been a marked decrease since 1920 in the prices of farms and equipment. especially of land.
valued and those of low-valued real estate, high valuations are frequently associated with high net worth on the part of tenants. Thus, an Iowa survey in 1918 showed the average net worth of farm tenants in a selected region of high land valuation to be $\$ 9,552$, which was more than the average total farm capital of owner farmers in many other parts of the United States. While the census since 1900 has not classified farms in accordance with their valuation, except mortgaged farms of owner farmers in 1920, the relative diversity of valuations, when livestock, implements and machinery are included with land and buildings, is indicated in Table 2, derived from the census of 1920 .

Table 2.-Classification of counties by average valuation of farm property,
including real estate, livestock, implements, and machinery, 1920.

| Range of average total valuation of farm property per farm, by counties. | Number and percentage of counties. |  | Range of average total valuation of farm property per farm, by counties. | Number and percentage of counties. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Per cent. |  | umber. | Per cent. |
| Under \$5,000 | 821 | 26.7 | \$35,000 to \$39,999. | 80 | 2.6 |
| \$5,000 to \$9,999 | 747 | 24.3 | \$40,000 to \$44,999 | 56 | 1.8 |
| \$10,000 to \$14,999 | 435 | 14.2 | \$45,000 to \$49,999 | 51 | 1.7 |
| \$15,000 to \$19,999. | 329 | 10.7 | \$50,000 to \$54,999 | 35 | 1.9 |
| \$20,000 to \$24,999 | $193^{*}$ | 6. 3 | \$55,000 and over | 60 | 1.2 |
| \$25,000 to \$29,999 | 162 | 5.3 |  |  |  |
| \$30,000 to \$34,999 | 102 | 3. 3 | Total | 3, 071 | 100.0 |

${ }^{1}$ Based on census statistics.
Although it is possible to give exaggerated importance to real estate valuations as an influence toward the development of tenancy, there are a number of regions in the United States of very low land valuations where tenancy is conspicuous for its absence, as for instance, in some of the sandy lands of the Atlantic and Gulf coastal plains and in the Appalachian and Ozark plateaus. Frequently, the high percentage of landowning farmers in these regions is an expression of the fact that agriculture still continues more or less in the self-sufficing stage, yielding too small a money income to permit the farm owner to retire and lease the farm to another.
Influence of the Ratio of the Income to the Capital Valuation of Farm Real Estate.
It appears probable that a marked increase in the valuation of farm real estate is a more significant influence than the high farm real estate valuations themselves, and that where high real estate valuations and a high percentage of tenancy are associated, this association is largely due to the influence of the increases in valuation more than to the high valuations in themselves.

The rapid increase in the valuation of farm real estate since 1850 is shown in Figure 39. How large a factor this increase has been from the standpoint of an investor may be more clearly shown by expressing the increase in investment terms. Thus, the average increase in the valuation per acre of farm real estate in the United States from 1900 to 1920 (fig. 40) is equivalent to an annual interest rate of 6.47 per cent compounded annually on the average valuation in 1900, and this is in addition to the annual rental earned by the property during the interval. In the case of Iowa, the increment from 1850 to 1920 is equivalent to an interest rate of 5.31 per cent compounded annually, while the increment from 1900 to

CHANGES IN THE AVERAGE VALUATION OF FARM REAL ESTATE PER ACRE AND PER FARM, AND OF AVERAGE ACREAGE PER FARM; UNITED STATES, IOWA, PENNSYLVANIA, AND GEORGIA, CENSUS 1850-1920.











Fig. 39.-For the United States as a whole the average valuation of farm real estate increased from $\$ 11$ an acre in 1850 to $\$ 20$ an acre in 1900 , but in the next 20 years it increased to $\$ 69$. During these two decades the increase in the valuation of land was closely related to the upward novement of general prices, which characterized the period and which was greatly accelerated in the last fow years by the inflation that developed during the World Wrar. Since 1920 land valuations have declined in most parts of the Cnited States.


Fig. 40.-The percentage of increase in the census valuation of farm real estate per acre between 1900 and 1910 was large in the Great Plains region and in many of the irrigated areas of the West. In the East the greatest percentage increases in valuation were in the South Atlantic and Gulf coastal plain, but the greatest absolute increases in valuation were in the Corn Belt. Only 16 counties
out of nearly 3,000 in the United States showed a decrease in valuation. The increase in the New England and Middle Atlantic States, however, was small as well as in many counties of the Lake States and of Kentucky, Tennessee, and eastern Texas. The average increase in valuation for the United States as a whole was 100 per cent. The percentage of increase exceeded that in the wholesale price of all commodities (Bureau of Labor statistics), and consequently it represented an increase in the purchasing powe of farm real estate. For corresponding map showing changes from 1910 to 1920, see page 119 (fig. 16 in The Wheat Situation).

1920 is equivalent to an interest rate of 8.64 per cent compounded annually.

Part of the increment in valuation was due to improvements made by the owners, such as buildings, clearing and drainage of land, and contributions indirectly through taxation toward the building of roads and other community improvements. Even allowing for all this, the increment was large in many parts of the country.

With the exception of a few scattered grazing areas of the West, increases in the valuation per acre of farm real estate occurred in practically all parts of the United States from 1910 to 1920. In the greater part of the general farming region of the North and Northeast the increase was less than the increase in the general price level of commodities during the same period, except in a region centering in the corner where the boundaries of Iowa, Minnesota, and South Dakota meet. In portions of the South, particularly where the boll weevil infestation was either not serious or became serious late in the period, there were percentages of increase greater than those for commodity prices. The decreases in the West are notable and are to be explained in part, at least, by the expansion of the farm area to include large amounts of low-priced semiarid lands. For the United States as a whole the valuation of farm land, as measured by the purchasing power of money, was less in 1920 than in 1910.

This rapid increase in the valuation of farm real estate per acre, based largely on anticipation of increasing income from the real estate, has disturbed to a marked extent the relationship between the present income from real estate and its valuation in some parts of the United States. When a man buys a farm, whether for purposes of renting it to others or of operating it himself, it is because he expects it to yield him income. The price he is willing to pay depends on the expected income and on the percentage of return which he is willing to take on an investment of this character. If the income does not remain constant but is expected to increase for some time, many buyers will undoubtedly take this expected increment into account and will be willing to pay more accordingly. As a result, present income frequently will be a smaller percentage of the average valuation of farm real estate than the percentages of return ordinarily obtained from alternative investments having reasonable security.

Recent studies have shown that this condition developed in some of the most important farming sections of the United States, as indicated by the low ratios of cash rent to real estate valuations ${ }^{10}$ (fig. 41).

[^106]

Fig. 41.-In many counties in the Corn Belt cash rents averaged about 3 per cent of the valuation of farm real estate on January $1,1920$. In most of the remainder of that region, as well as in parts of the winter wheat and spring wheat regions, it was under 4.5 per cent. The return was 6 to 8 per cent in much of New England, eastern New York, and the South. It reached the highest ratio, 10 per cent and over, in the Yazoo Delta and adjacent bottom lands of Arkansas. On the Pacific coast cash rents returned in general from 3 to 6 per cent. Out of these cash rents taxes and repairs had to be paid. The map is based on a special study made by the Bureau of Agricultural Economics, Division of Land Economics, based on the census schedules of tenant farms of 10 acres or more rented for cash in the counties snown.

When allowance is made for taxes and costs of repairs and depreciation the ratios of net cash rent to the valuations of farm real estate are found to be considerably lower than the corresponding ratios for gross cash rents. Special studies to determine the net ratios, made by areas as numbered in Figure 41, gave the results shown in Table 3.

Table 3.-Ratios of net cash reint to farm real estate raluations for selected cash-rented farms in groups of counties as shoun in Figure , 思.


In so far as net cash rent may be regarded as measuring the net earning power of the real estate for the farmer of average managerial ability, it will be apparent that buying farm real estate by borrowing money at regular interest rates with the purpose of paying for the real estate out of the earnings must be difficult for the tenant farmer of average resources and ability in regions where net returns from the real estate average only 3 to 4 per cent. It is true, if the expected increments in incomes materialize, they will tend

AVERAGE CASH RENT PER ACRE; SELECTED AREAS IN NORTH CENTRAL STATES, 1905-1920.


Fig. 42.-The upward trend of rentals on these farms in the Corn Belt and on the margins of the Corn Belt throughout the period shown is remarkable. Exactly comparable figures are not available for the years since 1920, but undoubtedly cash rents have declined in the past three years. Although undoubtedly cash rents have declined in the past three years. 16 years shown, land valuations increased even more rapidly. The graph is based on reports from landlords in the States named to the Bureau of Agricultural Economics, Division of Land Economics.

RATIO OF CASH RENT TO FARM REAL ESTATE VALUATION, OHIO, 1900-1920.


Fig. 43.-A ratio high to begin with and markedly advancing is shown for gross cash rents in relation to the valuation of real estate that prevailed in 1900. A ratio high to begin with but persistently declining is shown when these rents are measured against very rapidly rising real estate valuations. Persons buying farm real estate early enough in the present century to get the advantage of both rising rents and rising valuations were in a much more favorable position than those buying after the valuations had not only reached high absolute figures but figures especially high in relation to the rents.
to ease the situation for the purchaser, but it is obviously a very uncertain foundation on which to build a business if the farmer must depend in large part on borrowed money (figs. 42 and 43). Many a tenant, of course, was bold enough to take the plunge, and after surviving the difficulties of the earlier years, was carried upward by the tide of increments in incomes and valuations to a secure financial position. But many others, especially those of poor credit ratings or conservative dispositions, were undoubtedly deterred from embarking on a venture involving so large an element of speculation. In fact, local studies have revealed many cases of tenants with sufficient capital to buy land who rented land from preference. Still other tenants ventured too late, and were wiped out in the decline of prices which began in 1920.

An increase in the valuation of farm real estate may also tend to increase tenancy by hastening the process of retirement of landowning farmers, enabling them to retire earlier than would have been possible if the increase had not occurred. The rising valuation of farm real estate has probably also tended to encourage the holding of this form of property by those who came into possession by inheritance, marriage, or foreclosure, and who are not in a position to operate it.

In short, for a number of reasons it is probable that the increase in realty valuations and the passing of large areas out of the stage of pioneer development, which have been especially notable during the last three decades, have been conditions favorable to the increase of tenancy.

## The Tenure Ladder.

It has been found convenient to regard working as a wage-earner, as a tenant, and as an owner farmer as successive rungs on a ladder
of individual progress in agriculture. The comparison is useful in some regards, for it suggests a movement from stage to stage which constitutes an important fact in the economic life of the farming classes.

We may recognize at least the following important steps, arranged in the usual order of progress: (1) farm wage laborers; (2) croppers, especially in the South; (3) tenants other than croppers; (4) part owners, mortgaged; (5) part owners, free of mortgage; (6) owner farmers, mortgaged; (7) owner farmers, free of mortgage.

In applying the analogy of a ladder to such an artificial scheme, there must be a number of reservations. In the first place, the various successive stages may not always represent progress. It is probable that the various stages do represent some progress in independence of control, although not always, for an owner under heavy mortgage may be less independent than a tenant who is out of debt. Moreover, progress in independence does not always mean progress in well-being. Many a tenant who is subject to the supervision of a capable and honest landlord may be better off than a farm owner who has not sufficient experience or capital to operate his farm efficiently.

## Wealth of Persons in the Tenure Stages.

Those who employ the ladder analogy frequently have in mind that each succeeding step indicates higher financial standing, or net worth. It is obvious, however, that a mortgaged owner farmer may have a smaller equity in the farm capital than a tenant or part owner free of mortgage. Moreover, a tenant in some parts of the United States possesses more property on the average than an owner in other parts. For instance, in Iowa the average valuation per farm of machinery and livestock (usually owned by the tenant) was $\$ 4,212$ in 1920, which is more than the average value of land, buildings, implements, and livestock for farms operated by their owners in certain other States (fig. 44).

However, in a given area the average net worth of the individual is likely to approximate the order of stages in the tenure ladder. An estimate of the per capita net worth of persons actively engaged in farming in the United States, as of January 1, 1920, showed the following division of wealth between four of the classes mentioned above ${ }^{11}$ : Croppers, $\$ 354$; tenants (other than croppers), $\$ 4,315$; part owners, 12,829 ; owner farmers, $\$ 13,476$.

## AGE OF PERSONS IN THE TENURE STAGES.

Each of the different stages of the agricultural ladder has its peculiar age distribution. Owner farmers, for instance, show an age grouping more advanced than that of tenants (fig. 45). The relation of the several stages to age is shown in Table 4.

[^107]AVERAGE VALUATION PER FARM OF LAND AND BUILDINGS AND OF MACHINERY AND LIVESTOCK; UNITED STATES AND SELECTED STATES, CENSUS OF 1920.


FIg. 44.-The average investment in machinery and livestock per farm required to become a tenant in Iowa is larger than the valuation of the entire farm in much of the South and in parts of New England and the upper Lakes region (fig. 38). The valuation of machinery and livestock per farm, much of which is usually supplied by the tenant, ranged from $\$ 2,000$ to $\$ 4,000$ in 1920 in the Northern and Western States and from $\$ 500$ to $\$ 1,000$ in the Southern States. The valuation of the land and buildings owned by the landlord is five to ten times as large. In the North and West the tenant farms usually have higher average valuations than those farmed by their owners, but in the South, where many of the so-called tenant farms are merely cropper holdings, the reverse is true.

Table 4.-Percentage of farmers in each age group, by tenure, United States, 1920. (Figures in heavy type represent the age group in each tenure clas. which shows the highest percentage).'

| Age group. | Share and sharecash tenants. | $\begin{gathered} \text { Cash } \\ \text { and } \\ \text { unspeci- } \\ \text { fied ten- } \\ \text { ants. } \end{gathered}$ | Part owners. | Full owners mortgaged. | Full <br> owners not mortgaged. | Total (excluding managers). |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Under 25 years | 63.4 | 12.4 | 5. 0 | 7.6 | 10. 2 | 98.6 |
| 25 to 34 years. | 42. 7 | 13.8 | 8.9 | 17.1 | 16. 2 | 98.7 |
| 35 to 44 years. | 28.7 | 11.1 | 10.5 | 22.0 | 26. 6 | 98.9 |
| 45 to 54 years. | 21.1 | 9.0 | 9.8 | 21.6 | 37.6 | 99.1 |
| 55 to 64 years. | 14. 2 | 6. 5 | 7.7 | 19.7 | 51.2 | 99.3 |
| 65 and over. | 10.8 | 5. 7 | 4. 7 | 14.1 | 64.1 | 99.4 |

[^108]Table 4 tends to exaggerate somewhat the impression of movement from group to group. For instance, the steady increase in the percentage of each age group found in the class of full owners not mortgaged is by no means due entirely to the rise of farmers from preceding tenure stages. It is undoubtedly due in considerable part to the fact that heirs who have been working on their fathers' farms without wages or as hired laborers have become full owners free from mortgage directly, without passing through the other stages. These accessions to the numbers in this class from outside classes tend to reduce the percentages of the farmers in corresponding age groups in the other tenure classes even if the actual numbers in each group were not diminished. However, in spite of these limitations the table does indicate strongly (a) that the attainment of farm ownership is connected with relatively advanced age, and (b) that from age group to age group there is a movement which follows somewhat the order of stages from left to right in the table, although particular individuals need not necessarily pass through all the tenure stages consecutively.

It is interesting to note that in the case of colored farm tenants the percentage in each age group does not diminish from the 25-35 age group onward, as with white tenants, but reaches a maximum in the 35-45 age group, and that each older age group is relatively larger than with white tenants (fig. 46).

## RELATION OF THE TENVRE STAGES TO AVAILABLE CDPITAI.

The preceding indication of a connection between progress in wealth and progress up the tenure ladder, on the one hand, and advancing age, on the other hand, suggests two tentative interpretations: (1) The several stages represent economic adjustment to the farmer's equipment in wealth and experience; and (2) since experience can be acquired in a comparatively short period, movement up the tenure ladder is largely dependent on progress in wealth. Each of these two interpretations requires further consideration.

Obviously, farm workers who have no capital must usually remain either as laborers or as croppers until a sufficient amount has been accumulated or otherwise acquired to enable them to purchase the livestock, implements, and other materials necessary to become tenants. As already noted, the average requirement may vary from a

WHITE TENANTS COMPARED WITH WHITE OWNER FARMERS, PERCENTAGES IN SPECIFIED AGE GROUPS; UNITED STATES, CENSUS OF 1920.


Fig. 45.-The graph shows a larger proportion of white tenants in the younger age groups and of owners in the older age groups. Nearly a third of the tenants are between 25 and 35 years of age and nearly nine-tenths are under 55 years of age. On the other hand, nearly a third of the owners are over 55 years old.
few hundred dollars for some of the small cotton farms of the South to $\$ 5,000$ or more for some farms in the Corn Belt (fig. 44).

Generally, it is poor management to purchase a farm when the result is to leave inadequate operating capital. ${ }^{12}$ Frequently, it is a


Fig. 46.-A much larger percentage of colored tenants are in the older age groups than of white tenants (see fig. 45). The percentage of owners in the older age groups is likewise somewhat larger. In other words, a relatively large proportion of colored tenants attain ownership at an advanced age or not at all.

[^109]mistake for a farmer to buy a farm when he must assume a heary hurden of indebtedness. Farming is a business involving many risks, and a mortgage may prove a millstone around the farmer's neck. Furthermore the farmer has less freedom of movement if he has bought a farm than if he is a tenant.

TENANT FARMERS CLASSIFIED BY PREVIOUS FARMING EXPERIENCE AS REPORTED IN THE CENSUS OF 1920.


Fig. 47.- Nearly half of the tenant farmers (including croppers) in the United States have never had experience either ans farm-wage laborers or as farm owners, although they may have worked without wages on their parents' farms. The class who become tenants directly without previous farm experience is especially large in the South because of the large number of farmers who are croppers or who rent land involving but small contributions of capital.


Fig. 48.-Forty-six per cent of the farmers who became tenants from 1915 to 1920 had previously been farm-wage hands. The percentage was much lower in the South than in the North and West, largely because of the small amounts of capital required in many parts of the South to become tenants or croppers, making it comparatively easy in that section to become a tenant without previously working as a hired laborer.

It may also be a mistake to purchase a farm when, because of limited capital, the farmer buys a farm too small for economical operation. If, however, there is rentable land adjacent, part ownership may be an alternative, and therefore, a definite stage in the progress of the farmer toward full ownership of an adequate farm.

```
EXTENT OF MOVEMENT FROM STAGE TO STAGE OF THE TENURE LADDER.
```

According to the 1920 census, 47 per cent of the tenant farmers in the United States had had no farm experience as wage hands or


Fig. 49.-The average age at which farmers who were tenants in January, 1920, and who had been farm-wage earners during the preceding five years, became tenant farmers shows a range of about 10 years in the State averages. The averages for the States in the East and in the West are higher than for the States more centrally located. The inclusion of croppers as tenants in the South and the small amount of capital required to become a tenant apparently account in some considerable measure for the low figures in those States.
owner farmers (fig. 4 $\overline{7}$ ). The proportion varied from 25 to 55 per cent in the different States. Another large proportion of tenant farmers, varying from 40 to 70 per cent in the several States, had previously worked on farms for wages (fig. 48). The average age of becoming tenants for those farmers who made the transition from the status of farm laborer to that of tenant between 1915 and 1920 was about 29 years for the country as a whole, but varied widely between the various sections (fig. 49). A small part of this group. ranging from 2 to 20 per cent of the total number of farmers, had been both wage hands and owner farmers before becoming tenants: while a similar proportion reported that they had had previous farm experience only as owner farmers.

In the United States as a whole 11 per cent of the farm tenants had once been owner farmers. For various States the proportion ranges from as low as one-twentieth to as high as one-third of all tenants.


Fig. 50 .-Although some of this group of tenants are persons who have been compelled through inefficiency ov misfortune to revert to the tenant class, the heavy concentration in the West suggests that some are men who have sold their farms elsewhere and on migrating have become tenants for a season until they are better acquainted with the new conditions. The small proportion in the South reflects the fact that tenancy is a less important stage in the progress of farmers to farm ownership than in the North ond west.

This class of tenants includes, of course, a considerable number of persons who have attempted to rise into the class of owners, but who on account of inefficiency or misfortune have been forced to revert again to the tenant class. However, a study of the geographic distribution of this class indicates at once that other important factors are involved (fig. 50).

In the United States as a whore, 42 per cent of the owner farmers reported no previous farm experience as wage hands or tenants (fig. 51). Probably the great majority of these were sons or sons-inlaw of farm owners and most of them had worked on their parents' farms without wages ${ }^{13}$. The percentage is high in New England, where tenancy is an unimportant step in the tenure ladder, and is also

[^110]high in the South, where few owner farmers have worked as wage hands, owing, doubtless, in large part to the plantation system.

In the United States as a whole only 14 per cent of the owner farmers reported farm experience as wage hands only. In the South-

OWNER FARMERS CLASSIFIED BY PREVIOUS FARMING EXPERIENCE
PER CENT OF OWNER FARMERS


Fig. 51.-A large proportion of owner farmers became owners direct without having worked previously as farm-wage laborers or as tenants. Probably the majority of this group had worked without wages on parents' farms. Only a fifth of the farmers in the United States passed through both stages. The proportion is somewhat higher in some of the North Central States and lower in the New England States and the South. In New England many have stepped directly from wage hand to ownership, but in the South very
few.
S5813 ${ }^{\circ}$ - IBK 1923—— $\mathbf{3 6}$
ern States the percentage belonging to this group falls as low as 5 or 6 ; on the other hand, it is well above the national average in New England, the Middle Atlantic States, and most of the States in the western half of the country.

About a fourth of the owner farmers in the United States reported farm experience as tenants only, and a fifth reported farm experience both as tenants and as laborers, making about 45 per cent altogether who had passed through the tenant stage. Outside the South, the


Fig. 52.-The percentage of owner farmers who had once been farm tenants is lowest in New England, only 15 per cent, and reaches a maximum, about 75 per cent, in the tier of States from South Dakota to Texas, inclusive, and in Iowa and Arkansas. In practically all the other States of the Middle West, as well as in the South, half or more of the owner farmers had once been tenants. Probably migration of tenant farmers to regions where farms were to be obtained at comparatively low prices has been a factor in causing high percentages in the tier of States from the Dakotas to Texas.

States of high average farm real estate valuations were those in which a large percentage of owner operators reported previous tenant farm experience (fig. 52 ).

## RATE OF MOVEMENT ON THE TENURE LADDER.

It is probable that the group of owner farmers who have previously been both farm wage laborers and farm tenants will most closely approximate a group of persons who, starting with little or no capital, have succeeded in acquiring the ownership of one or more farms; for the acquisition of wealth from inheritance, gift, or marriage is undoubtedly of less significance in this group than in the groups of farm owners without previous farm experience or with experience as farm tenants only.

The average number of years spent in each stage by persons who became farm owners between 1915 and 1920 is shown for several States in Figure 53. In the United States as a whole, owner farmers who had previously been both farm wage laborers and tenants had spent an average of 5.8 years in the first stage, and 8.9 years in the second, a total of nearly 15 years. The average age at which farmers who had been both farm laborers and tenants became owners is shown by States in Figure 54. The earlier age in the northwestern
portion of the country is doubtless due in part to the migration of young farmers into this region (fig. 55).

The mere increase in the percentage of farmers who are tenants does not in itself demonstrate that the rate of progress to farm ownership has become lower or attended with greater difficulty. It might be due to a number of other causes which have little relation to the economic difficulty involved in acquiring the ownership of a farm. Thus, it has been noted that a large percentage of tenants in the United States are persons who make no effort to climb to farm ownership, and that their number has increased through the process of converting farm laborers into croppers. Again, it has been noted that tenancy is closely related to the process of retirement or retreat of owner farmers from the land, a trend which might increase the percentage of tenancy without implying necessarily that the acquisition of farm ownership had increased in difficilty. Furthermore, the last three decades have witnessed the settlement of large areas of new farm land. On the one hand, this process may tend to reduce the percentage of tenancy in the Nation as a whole, but it has been noted that after the pioneer period of operation by owners there is almost certain to be a trend toward an increase of tenancy in a newly developed region.

Indeed, even if it could be shown that the farmers who start with little or no capital and achieve unmortgaged ownership require


Fig. 53.-The average age of attaining ownership is shown to be 38 years, preceded by an average farm experience of about 15 years as wage laborer and tenant. but varying in different States. It should be noted that the years spent in childhood or nonagricultural work included in most cases work on parents' farms without wages.


Fig. 54.-The map shows no wide range of difference in the averages for the several States, the lowest being 32 years for Utah and the highest 43 for Rhode Island. The average age of acquisition cends to be lowest in the group of States in the northwestern third of the United States. That this is partly due to the influence of migration of young farmers toward the Northwest is indicated by Figure 55.
a longer period than formerly, one might still be in doubt as to the significance of this fact, because of changes in the amount of wealth represented by the average farm. If an average of 15 years were required to rise to full ownership when the average price of a farm is $\$ 10,000$, and an average of 20 years were similarly required when the average price has increased to $\$ 20,000$, the change would not necessarily imply retrogression in the opportunity for individual financial progress in the farming industry.

Attempts have been made to determine whether the rate of progress up the tenure ladder is changing by comparing the age grouping of owner farmers or of tenants in different census years. This is illustrated by Figure 56. Apparently the decrease from 1890


Fig. 55.-The influence of migration from the old-established regions of the Northeast to the newer regions of the Northwest is suggested in this map. In the South the practice of classing croppers as tenants and the small amount of capital required to become a tenant in many parts of the region are responsible for the large proportion of farmers under 35 years of age.
to 1920 for the first three age groups, and particularly for the youngest group, was relatively much greater than for the two oldest age groups. However, this might be due to a large relative increase in the number of tenants in the younger age groups through the

PERCENTAGE OF OWNER FARMERS IN SPECIFIED AGE GROUPS; UNITED STATES, CENSUS 1890-1920.


Fig. 56.-Apparently for every age group the percentage of owner farmers was less in 1920 than in any preceding decade. However, when it is recalled that the percentage of owner farmers (including part owners and those operating through managers) declined from 71.6 in 1890 to 61.9 in 1920 , it is clear that the tendency indicated was due largely to the fact that the declining percentage of ownership is distributed throughout every age group in successive decades. It should be noted that in the first two census enumerations the percentages are for farm homes, while for the last two decades they are for farms.
process of converting laborers into tenants, especially in the South. Again, it might reflect a retardation in the rate of retirement of the owner farmers in the older age groups.

Other attempts have been made to show the changes at different periods in the arerage length of time required to attain ownership,
ILLUSTRATION OF EFFECTS OF DOUBLE CLASSIFICATION OF FARM-
EXPERIENCE STATISTICS WITHOUT ALLOWANCE FOR REMOVAL BY
DEATH, CHANGE TO OTHER INDUSTRIES, OR RETIREMENT. BASED
ON SURVE REPORTS FOR 269 OWNER FARMERS IN KENTUCKY,
TENNESSEE, AND TEXAS, 1919.


Fig. 57.-The graph shows that because of ignoring the influence of mortality, change to other occupations, and retirement, exactly opposite conclusions are obtained according as one groups the farmers in the order of the decades when ownership was acquired or in the order of the decades when they began the upward climb to ownership. The first system of grouping makes it appear that the period of acquiring ownership has increased nearly threefold. This is due largely to the fact that of those who became owner farmers several decades ago all who required a long time to acquire ownership have died or retired, while those who have recently acquired ownership include a much larger proportion of the slow climbers. On the other hand, when the farmers are grouped in the order of the dates of beginning their earning life, it is made to appear that the average period needed to acquire ownership has steadily decreased. This is due to the fact that in the case of those who began the climb to ownership at an early date the slow, as well as the fast, climbers have had time to achieve ownership, while in the case of those who have recently begun their climb to ownership only the rapid climbers are included in the group, for only these have had time to achieve ownership. Only owner farmers who had received no gratuitous assistance by inheritance, gift, or marriage are included in the graph.
by classifying the owner farmers who have formerly been farm wage laborers and tenants in accordance with the length of time they have been owners and by determining the length of time spent in the preownership stages (fig. 57). However, unless allowance be made for mortality, and change to other industries or retirement, the method is inconclusive.

Figure 58 illustrates a possible method of allowing for the influence of mortality. However, the method employed and any other method which involves allowance for mortality only is necessarily defective because it makes no allowance for retirement or change to other occupations. Theoretically, retirement tends to warp the figures in the same direction as does mortality, namely, by eliminating
the slow climbers, leaving a larger proportion of fast climbers among the survivors. ${ }^{14}$

SOME FACTORS THAT INFLCENCE THE RATE OF PROGRESS IN CLIMBING TO FARM OW NERSHIP.

Studies in methods of acquiring farm ownership have usually accounted only for the direct acquisition of farms by purchase, inheritance, gift, or marriage. The results of a number of such studies are summarized in Table 5. The surveys show a good deal of variation in results. The most extensive survey was that of 24,000 landlords in 24 States. This showed that 79 per cent of the acquired acreage owned was by purchase, 15.3 per cent by inheritance, 3.3 per cent by marriage, and 2.4 per cent in other ways, principally by comesteading. In all the surveys, except the middle western, the percentages of acquisition by inheritance range from 9 to 15.3, but in this survey both inheritance and marriage are relatively more important. Omitting the cases of acquisition by homestead, which were of considerable importance in Nebraska, the farms acquired by owners through inheritance, gift, or marriage range from about 12 to 19

```
AVERAGE YEARS OF FARM EXPERIENCE AS WAGE EARNERS AND TENANTS REPORTED IN 1920 BY OWNER FARMERS IN KENTUCKY, TENNESSEE, AND TEXAS, CLASSIFIED BY NUMBER OF YEARS THEY HAD BEEN OWNER FARMERS BEFORE 1920, WITH CORRECTION FOR REMOVAL BY DEATH AND REPLACEMENT BY YOUNGER FARMERS.
```



Fig. 58.-The black portion of the column is based on census statistics of the amount of preownership firm experience of owner farmers who before attaining this stage had been both farm-wage earners and farm tenants. Those who had become owner farmers in recent years reported longer terms of preownership farm experience than those who had become owner farmers several decades before. From this fact it might seem that there had been an extension of the apprentice period ordinarily required of those becoming owner farmers. Such a conclusion can not be drawn with confidence from reports given in at any single date, however, because the reports come only from survivors whose experience is less typical of their fellows of past decades the more remote the point of time for which it is sought to make a statistical showing. Allowance must be made for removals and replacements associated with retirements from the occupation, migrations from areas surveyed, and deaths. The probable effect is shown here only for the mortality factor. To allow for this, differences between slow, rapid, and fast climbers, and the proportion of owner farmers in each proup were ascertained for at least one survey area in each of the three States and standard mortality statistics applied to the several groups.

[^111]per cent, except for the five North Central States (No. VII), where 33.2 per cent of the farms were reported as acquired by inheritance or marriage. In general, from two-thirds to five-sixths of the farms are shown to have been purchased.

Table 5.-Method of acquisition of farm land as reported in various local
surveys.

| Survey or source. | Bases of computation. | Per cent acquired by- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Purchase. | Inheri- <br> tance. | Gift. | Marriage. | Other ways, principally home-steading. |
| I. Wisconsin ${ }^{1}$ | 2,051 farms | 80.6 | 9.0 | 3.5 | 1.4 | 5. 5 |
|  | 8,122,828 acres .-.-- | 79.0 | 15.3 | ${ }^{3}$ ) | 3.3 | 2.4 |
| III. Kentucky and Tennessee: ${ }^{4}$ |  |  |  |  |  |  |
| 1. Owners, 845 transactions - | 71,495 acres. | 81.2 96.8 | 12.3 2.7 | ${ }_{0}^{0.6}$ | 5.9 0.5 | 0 |
|  | 17,999 acres | 96.8 | 2.7 22.8 | 0 2.5 | 0.5 1.4 | 0 0 |
| IV. Massachusetts ${ }^{5}$---------------------- | 710 land transfers. | 73.2 | 22.8 | 2.5 | 1. 4 | 0 |
| - 1. Owned by tenant farmers .-.-. | 60 farms | 6<. 9 | 12.3 | 0 | 3.5 | 19.3 |
| 2. Rented farms owned by owner farmes. | 384 farms------------ | 82.6 | 11.4 | 3.4 | 0.8 | 1. 8 |
| VI. Texas: ${ }^{7}$ |  |  |  |  |  |  |
| 1. 109 owners | 18,544 acres------- | 88.2 | 5.7 | 0 | 6. 1 |  |
| VII 2. 29 tenants | 2,867 acres------- | 91. 6 | $\begin{array}{r}7.7 \\ \hline 8\end{array}$ | 0 | 0.7 | 0 |
| VII. Five Nortt. Central States ${ }^{8}$ | Reports of 2,112 farmers. | 64.5 | 24.8 | 0 | 8.4 | 2.1 |

${ }^{1}$ First farm acquired; questionnaires sent to owner farmers. U. S. Bureau of Agricultural Economics, Division Land Economics, and Wisconsin Agricultural Experiment Station cooperating, 1922; data unpublished.
${ }^{2}$ From questionnaires answered by farm landlords, about three-fourths in the Northern States. Bureau of Agricultural Economics, Division Land Economics, 1920; data unpublished.
${ }^{3}$ Included under "Inheritance."
${ }^{4}$ Local surveys by Bureau of Agricultural Economics, Division Land Economics, in cooperation with agricultural experiment stations in respective States, 1919 and 1920; data unpublished.
5 Local surveys by Massachusetts Agricultural College. Results published in Journal of Farm Economics, Vol. 5, No. 4, October, 1923.
${ }^{6}$ Local surveys by Bureau of Agricultural Economics, Divisions Land Economics and Farm Population, and Nebraska Agricultural Experiment Station cooperating, 1923; data unpublished.
${ }^{7}$ Local survey by United States Department of Agriculture, 1919. See Department Bulletin 1068, Farm Ownership and Tenancy in the Black Prairie of Texas.
${ }^{8}$ Local surveys by United States Department of Agriculture, summarized in American Economic Reviex, Vol. IX, No. 1, December, 1918.

Since many of the farms reported as acquired by inheritance, gift, or marriage were encumbered with debt, the actual equities acquired by the farmers were considerably less. Averages for 10 local surveys in various parts of the United States ${ }^{15}$ indicate that the actual equities in farm real estate obtained directly by inheritance, gift, or marriage were about 12 per cent of the net worth of owner farmers, and 8 per cent of the net worth of tenants. By far the largest source of gratuitously acquired wealth was increase of land valuations, which amounted to 43 per cent for owner farmors and 11 per cent for tenants. Operating owners had "earned" 45 per cent of their net worth and tenants, 76 per cent.

These figures take into account only the proportion of the farms or of the net worth of the farmers represented by the equities in farms owned at the time of the surveys. Such a cross-section does not give a complete history of the farmers' financial progress. In

[^112]local surveys made in Texas, Tennessee, and Kentucky, figures were obtained concerning every farm that had ever been acquired by the farmers interviewed and concerning all wealth gratuitously acquired by them and the extent to which this wealth had contributed to farm ownership.

Of the 968 acquisitions of farm land, much of which had been resold, only 15.7 per cent of the total acreage was reported as acquired directly by inheritance, gift, or marriage ; but of the total valuation of the 968 farms at the time they were acquired, 32.5 per cent was wealth received by inheritance, gift, or marriage. However, many of these farms were obtained by means of wealth gratuitously acquired, the land having been held for a time and then sold at a large advance in price, and the original amount plus its net increase again invested in land. The original amount of wealth gratuitously acquired, plus its net increase when used for purchasing land, amounted to 47.1 per cent of the total acquisition valuation of these 968 farms. ${ }^{16}$ This is approximately three times the percentage of acreage shown to be directly acquired by inheritance, gift, or marriage.

The receipt of wealth gratuitously also enhances the individual's power of accumulation. The studies in Texas, Tennessee, and Kentucky show that 64 per cent of the farmers succeeded in acquiring the ownership of their first farms without the assistance of wealth acquired gratuitously. There were 141 farmers who received gratuitous assistance and who at the time of beginning as owner farmers controlled an average wealth of $\$ 8,050$. They had obtained an average of $\$ 3,847$ gratuitously and had borrowed $\$ 2,180$, leaving $\$ 2,023$ which is to be accounted for by accumulation. There were 255 farmers who climbed to ownership without gratuitous assistance and who at the time of beginning as owner farmers controlled an average wealth of $\$ 4,311$. These had borrowed an average of $\$ 2,049$ and had accumulated an average of $\$ 2,262$. But the first group had been 10 years in the process, while the latter group had required nearly 15 years. Stated in another way, the receipt of the gratuitous wealth increased the rate of accumulation 31 per cent.

## The Possibilities of Acquiring Farms Out of the Income from Farming.

By analyzing the incomes of farmers, as indicated by local surveys, some students of the subject have reached the conclusion that climbing to farm ownership without the aid of wealth gratuitously acquired has become a protracted and difficult process. ${ }^{17}$ Table 6 summarizes the results of a large number of local surveys. The surveys cover a period of about eight years, but it is probable that taken as a whole they indicate the nature of the financial problem of acquiring a farm in the United States. ${ }^{18}$ The table shows the average amount of initial payment that would be necessary in order that the entire valuation of the farm may be amortized in given periods of time, allowing for interest on indebtedness at the rate prevailing on farm mortgages in the particular regions, and deducting certain amounts for family living expenses.

[^113]Table 6.-Size of initial payment that would be necessary at time of purchase in order to amortize debt on farm in 10, 20, or 30 years, when family uses $\$ 300$ or $\$ 600$ annually from farm income for expenses. ${ }^{1}$

| Regions studied. | Date of survey. | A verage capital per farm. | Farm income. | ```Mort- gage interest rate (per cent).``` | Initial payments required to amortize debt in the following number of years with the indicated annual allowance for expenses. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 10 years. |  | 20 years. |  | 30 years. |  |
|  |  |  |  |  | \$300 | \$600 | \$300 | \$600 | \$300 | \$600 |
| New Hampshire, Hillsborough County | 1918 | \$8, 054 | \$879 | 5. 5 | \$3, 689 | \$5,951 | \$1,134 |  |  |  |
| New York, Tompkins County | 1911 |  | \$879 | 5. 5 | $\$ 3,089$ 2,115 | $\$ 5,951$ 4,365 | $\$ 1,134$ 107 | $\$ 4,720$ 3,661 | $\$ 1,092$ 0 | $\$ 3,999$ 3,275 |
| New Jersey, Monmouth County | 1916 | 19,165 | 1,699 | 5. 8 | 8,774 | 11,003 | 2, 856 | 3, ${ }^{3}, 253$ | 0 | 3,275 3,712 |
| Pennsylvania, Chester County | 1916 | 10,486 | 1,313 | 5. 8 | 2,964 | 5, 193 | 2, 0 | 2,180 | 0 | 3, 605 |
| Ohio, Washington County .-- | 1919 <br> 1919 | 27, 885 | 3,049 | 6.0 | 7,652 | 9,860 | 0 | 0 | 0 | 0 |
| Do..---------........ | ${ }_{1920}^{\text {1912-1916 }}$ | 5,652 11,049 | 443 778 | 6. 1 | 4, 607 | ${ }^{(2)}$ | 4,027 | ${ }^{(2)}$ | 3, 716 | $\left.{ }^{2}\right)$ |
| Indiana: | 1920 | 11,049 | 778 | 6.1 | 7,546 | 9,745 | 5, 611 | 9, 024 | 4, 539 | 8, 625 |
| Clinton and Tipton Counties | 1914 | 17,535 | 1,187 | 6.2 | 11, 233 | 13,419 | 7,535 |  | 5, 588 |  |
| Clinton County. | 1918 | 25, 958 | 1,856 | 6.2 | 14, 612 | 15, 799 | 8,398 | 11, 783 | 5, <br> 4,988 <br> , 990 | 9, 627 9,032 |
| Case and Menard Counties | 1914 | 51,091 | 3,176 | 6.0 | 29,918 | 32, 126 | 18,100 | 21, 542 | 11,493 |  |
| Kane County | 1918 | 37, 896 | 2,766 | 6. 0 | 19, 747 | -31,955 | 18,100 9,578 | 21, 13,019 | 11,493 3,950 | 15,623 8,080 |
| Green and Guthrie Counties. | 1914 | 23, 193 |  |  |  |  |  |  |  |  |
| Tama, Blackhawk, and Grundy Counties | 1918 | 63, 926 | 1,450 4,578 | 5.9 7.5 | 14,686 34,562 | 16,904 36,621 | 9,897 18,957 | 13,366 23,350 | 7,192 13,400 | 11, 364 |
| Nebraska, Madison, Platte, Merrick, and Rich | 1916 | 26, 646 | 1,717 | 7.1 | 34, 748 | 36, 621 18,846 | 18,957 11,781 | 23, 14,931 | 13,400 9,283 | 18,277 12,961 |
| Kentucky, Blue Grass Counties | 1917 | 37, 793 | 2, 576 | 7.1 | 21, 892 | 23, 988 | 13, 902 | 14,931 17,052 | 9, 988 | 12,961 13,562 |
| Michigan, Lenawee County | 1918 | 9,033 11,756 | 822 1,068 1 | 6. 8 | 5,335 | 7, 461 | 3,429 | 6,653 | 2,427 | 6, 218 |
| Wisconsin, Green County | 1918 | 11, 036 | 1,068 | 6.6 5.8 | 6,322 18,848 | 8,468 21,077 | 3,374 | 6, 650 | 1,845 | 5,716 |
| Minnesota, Rice County. | 1907 | 14, 636 | 1,940 1,170 | 5. 6.8 6.8 | 18,848 8,467 | 21,077 10,593 | 11,924 5,288 | 15, 421 | 7,999 | 12, 217 |
| Georgia, Sumter County | 1917 | 15, 781 | 1, 712 | 6.8 8.7 | 8, 605 | 10,593 8,555 | 5, 288 2,619 | 8,512 5,415 | 3,640 946 | 7,432 4,097 |
| Deorgia, Brooks County | 1918 | 27, 118 | 3,711 | 8.7 | 4,939 | 6,889 | 2, 0 | 5,415 | 946 0 | 4,097 0 |
| South Carolina, Anderson County | 1918 | 8, 992 | 952 404 | 8.7 | 4,752 | 6, 703 | 2,917 | 5,713 | 2,038 | 5,190 |
| Florida: | 1918 | 5,529 | 404 | 8.4 | 4,843 | $\left.{ }^{2}\right)$ | 4,535 | $\left.{ }^{2}\right)$ | 4,402 | (2) |
| Hillsborough County | 1921 | 7,475 | 1,221 | 9.0 | 1,562 | 3,488 | 0 |  |  |  |
| Polk County | 1921 | 44, 813 | 5,845 | 9.0 | 9, 214 | 11,140 | 0 | 1,806 | 0 | 1,095 0 |
| Texas, Ellis County Montana: | 1918 | 16, 019 | 1,457 | 9.0 | 8,596 | 10,521 | 5,472 | 8, 209 | 4,208 | 7, 273 |
| Gallatin Valley | 1914 | 27, 173 | 2, 185 | 10.0 | 16, 205 |  |  |  |  |  |
| Billings area | 1915 | 14,904 | 1,653 | 10.0 | 16,205 6,590 | 18,048 8,433 | 11,120 3,385 | 13,674 5,939 | 9,554 2,151 | 12,395 4,979 |
|  | 1918 | 11, 688 | 1, 1 , 312 | 10.0 9.0 | 6,590 5,196 | 8,431 | 3, 385 | 5,939 5,354 | 2,151 1,348 | 4,979 4,413 |
| Arizona, Salt River Valley | 1918 1918 | 20, 706 22,699 | 2, 370 1,322 1, | 9.4 | 5,196 7,647 15 | $\begin{array}{r}7,121 \\ 9,593 \\ \hline 17855\end{array}$ | 2,453 2,270 12,697 | $\begin{array}{r}5,354 \\ 4,931 \\ \hline 15,613\end{array}$ | $\begin{array}{r}1,348 \\ 315 \\ \hline\end{array}$ | 4,413 3,270 |
| Washington and Idaho, Palouse area | 1920 | 22, 45978 | 1, 1,766 | 8.0 8.0 | 15,842 36,141 | 17,855 38,154 | 12,667 31,684 | 15,613 34,529 | 11,190 | 14,567 |

1 This table is reprinted from Farmers' Bulletin 1385, "Buying a Farm in an Undeveloped Region."

[^114]In a sense, the deduction of a fixed amount of income for family living places some of the low-ralued farms at a disadvantage as compared with high-valued farms. This is shown by comparing the Illinois farms averaging $\$ 51,091$ with the South Carolina farms a veraging $\$ \check{5}, 529$. In the first case, $\$ 600$ is less than one-fifth of the total farm income, while in the second case $\$ 600$ a year is really more than the average farm can afford, being larger than the average farm income.

In none of the survey areas, except the Pennsylvania area, is it possible, on the average, to employ $\$ 600$ for living expense and to pay for the farm in 10 years without a much larger initial payment than usually is possible. Farmers in the two Georgia areas could probably pay out in 10 years by initial payments of approximately 50 per cent, if the interest on indebtedness were, say, 6 per cent instead of approximately 9 per cent.

In the Illinois areas an initial payment amounting to only a third of the purchase price would be required in order to pay out in 20 years, but eren so, the initial payment is very large, amounting to $\$ 21,542$. On the other hand, in the Nebraska area, an initial payment of more than 50 per cent would be required (partly due to the somewhat higher interest rate), but because of the lower price of the real estate the initial payment would amount to only $\$ 14,931$. Various other surveys in the northern portions of the Middle West indicate that, on the average, farms could be paid for in 20 years by making initial payments varying from 35 to 60 per cent of the purchase price and in amounts varying from $\$ 7,000$ to $\$ 15,000$. In some portions of the South and West employment of the lower rates made possible by the land banks of the Federal farm loan system should make a more favorable showing.

It is true that the above figures assume a deduction of only $\$ 600$ for family expenses, but in practically all of the cases this would be in addition to the living furnished by the farm. Furthermore, the value of labor of members of the farm family other than the operator was deducted as an expense in arriving at farm income. This amount would be available either to increase the allowance for family living or to augment accumulations.

It must be noted also that the figures given in Table 6 are averages. Undoubtedly many farmers, more efficient than the average, were capable of paying for a farm more rapidly than the rate shown in the table. Others below the average in efficiency probably were unable to make more than living expenses.

The figures in Table 6 may arouse either optimism or pessimism according to the point of view. On the one hand, it may be a good showing that in most of the districts surveyed it is possible to accumulate from two-fifths to four-fifths of the valuation of a farm within a period of 20 years, provided one has the remaining fraction of the purchase price to deposit as an initial payment. But it should be noted that for the man who starts without capital there is also to be added the long period required to accumulate the initial payment; and the rate of accumulation in this period is necessarily much slower than it is after the initial payment has been accumulated.

The largest and most difficult step in the land tenure ladder has been that from tenant to mortgaged owner (fig. 59). After two IOWA COUNTIES, 1918.


FIG. 59.-In both counties there is an increase in the average amount of operator's equity in farm capital in each successive stage of the tenure ladder with the exception that the equity of full owners in debt is no larger than that of part owners out of debt. The large difference between the average equity of tenants and that of owner farmers suggests the magnitude of the problem of accumulation of wealth prior to the attainment of farm ownership. Statistics are from a survey in 1918 made by United States Department of Agriculture (Office of Farm Management and Farm. Economics) cooperating with the Iowa Agricultural Experiment Station.
decades or more of rising prices of farm products and real estate it is not surprising, however, that in 1920 many farmers were owners of farms which they had purchased under encumbrance (figs. 60 and 61). Let us assume that tenants earn the average farm incomes shown in Table 6 and start without capital, but agree to pay rentals at the same rates as the mortgage rates of interests shown in Table


Fig. 60.-In 1920 about 40 per cent of the farms of full owners reporting were mortgaged. The mortgage indebtedness averaged $\$ 3,356$, or 29.1 per cent of the average valuation of these mortgaged farms. Mortgage indebtedness may be an indication either of adversity or of activity in climbing to ownership, in improving farm real estate, and in acquiring more efficient forms of operating capital. The greatest percentages in 1920 are found in newer sections or in sections where the valuation of farm real estate had increased rapidly.

6 for the respective districts. How long a period would be required to accumulate the initial payment necessary to make it possible to pay for the remainder of the farm capital in 20 years? An analysis of the figures shows that in only one district, the Pennsylvania area, would it have been possible under these assumptions to accumulate anything at all. In all the other districts there would be deficits averaging from $\$ 13$ to $\$ 1,132$ per annum, after deducting the mortgage rate of interest on the total farm capital and $\$ 600$ per year for family living. In five of the districts the deficit would be more than $\$ 600$; in the others, less, indicating the possibility in the latter districts of making something toward family living after deducting interest on the farm capital, but not deducting as much as $\$ 600$ per year.

It may be alleged that tenants do not have to pay rental rates as high as the prevailing rates on mortgage indebtedness. This is true


Fig. 61.-In 1920 about half of all part owners reporting were operating farms of which the parts owned by them were mortgaged: No information is available in the census as to the mortgages on the rented portion of such farms or concerning mortgages on farms operated by tenants. A comparison of the above map with Figure 61 shows that the regions where mortgages are most prevalent are much the same for part-owner farms as for farms operated by full owners.
of cash rentals in some of the regions. Figure 41 indicates that in most of the North Central districts the ratios of cash rents to real estate valuations average only about half or less than half the mortgage rates shown for the same districts in Table 6. Although the figures on average cash rents are not available for the precise areas covered in the above surveys, a verage cash rents in the North Atlantic States, the South, and the Western States do not appear to be much, if any, lower than the mortgage rates shown for the corresponding districts. Furthermore, it is probable that even in the Corn Belt average ratios of share rents to real estate valuations are at least as high as the mortgage rates of interest shown in the table.

The above facts seem to point to the following conclusions. If tenants are to accumulate enough to make the initial payment on a farm under the conditions shown in Table 6, they must do so by one or more of the following means: (1) Make their farms earn higher incomes than the averages shown in Table 6; (2) obtain the use of
the farm real estate at rental rates lower than the mortgage rates of interest prevailing in the respective regions; (3) own part or all of their operating capital when they become tenants-a condition characteristic of the majority of tenants; (4) live on less than $\$ 600$ per year in addition to what the farm supplies in kind; ${ }^{19}$ (5) reduce the expenses of production below those given in Table 6 by employing the labor of members of the family without wages. This last is a possibility of considerable importance, for, as noted, the farm incomes shown in the table were calculated by deducting an estimated wage for the unpaid labor of the farm family (not including that of the operator) as an expense of production. Studies of the labor contributed by members of the families show that over a series of years such labor had an average annual valuation of $\$ 211$ on a group of 60 Wisconsin farms. This is 21 per cent of the expenses on these farms. On a group of 25 Ohio farms the average was $\$ 96$, or 20 per cent of all expenses, and on a group of 100 Indiana farms it was $\$ 81$, or 9 per cent of all expenses.

That by some of the above means tenants in large numbers have succeeded without gratuitous assistance in accumulating the necessary funds for making the initial payments required for the purchase of farms is shown abundantly by the statistics as to progress on the agricultural ladder. On the other hand, the analysis of the income figures have demonstrated that under average conditions the process has become one of no small difficulty in many parts of the United States. In fact, there is reason to believe that increase in the valuation of land has been a large factor in enabling purchasers of farms to refund or repay the indebtedness incurred, even though it may have tended to discourage many from attempting to buy and to increase the difficulty of the purchaser in the early stages of repayment.

## Summary of Classes of Tenants in the United States.

The preceding discussion has indicated that the farm tenants of the United States include a number of quite different classes:

1. Persons who are statistically classed as tenants, but who generally are not tenants at all in law and who from an economic point of view are probably more logically considered as laborers than as tenants. This class (croppers) comprised in 1920 nearly 23 per cent of all so-called tenants.
2. A large group of farmers, including probably the majority of the croppers, who may never rise to ownership largely because of personal limitations, such as lack of adequate education and training, thriftlessness, inertia, instability, and unwillingness to assume risks.
3. A large group for whom tenancy is either an initial or an intermediate step toward ownership.
4. A smaller group who, having become operating owners, have reverted to tenancy through inability to maintain the position of owners.
5. A comparatively small group, who, although financially able to purchase farms, prefer to be tenants either because of certain tem-

[^115]porary circumstances mentioned above or because they prefer other forms of investment for their capital.

## Relation of Types of Tenure to Efficiency in Farm Operations.

In considering the financial problem which confronts the tenant farmer in accumulating the means of paying for a farm, it was assumed for illustrative purposes that, on a given class of farms, tenants could earn, on the average, as large a farm income, that is, income from both the owned and rented capital as owner farmers earn on the corresponding capital. This raises a question on which a certain amount of information is available. At the outset we are confronted by the fact that in certain parts of the country the kinds of farms operated by the various tenure classes differ considerably.

## Differences in Acreage.

First, there are differences in size of farms operated by tenants as companed with owners (fig. 62). In the South, the average size


Fig. 62.-The larger average acreage both of improved and of unimproved land operated by owners in the south as compared with tenants is partly due to the practice of counting as farms the various subdivisions of plantations worked by croppers and partly to the continuance in the South of large farms and plantations worked by hired laborers. In the North and West the larger acreage, both total and improved, operated by tenants and part owners is owing partly to the fact that they need less capital to increase the acreage farmed than do full owners and partly to the fact that the larger farms provide the larger incomes. The unusually large average size of partowner farms is also due partly to the prevalence of such farms in subhumid regions and other regions where the average size of all classes of farms is larger than for the country as a wholc.
of tenant farms is much smaller than that of owner farms, while the opposite condition generally prevails in the North and West. The census of 1920 showed that in 20 States the average size of tenant farms was less than that of farms operated by full owners. Fifteen of these were Southern States, three were in New England, and the other two were Missouri and Utah. On the basis of the average improved acreage per farm the tenant farms were smaller only in the South and in Maine.

The average size of so-called tenant farms in the South is to be traced in part to the anomalous statistical results occasioned by the plantation system. Thus, if a Southern planter operates a thousand acres by wage labor-and there are many such large units in the South-the entire area is counted a single farm; but if the planter operates the same thousand acres by means of 30 croppers, even though he controls and directs the management of the whole as before, the entire unit is counted as 30 farms. If the assumed plantation is composed of 400 acres of crop land and 600 acres in timber or suitable only for grazing or crops other than cotton, the planter is likely to let only the cotton land to croppers and tenants, retaining the remainder under direct operation. In short, the great contrast between North and South in size of farms operated by owners and tenants is owing in large part to the practice of counting as separate farms small tracts of crop land which are integral parts of large cotton plantations or tobacco farms.

In the North the tendency for tenant farms and those operated by part owners to be larger, on the average, than those of owning operators reflects several factors. In the first place, a larger proportion of owner farmers are old men who are gradually retiring from farming and reducing the size of their holdings or selling out and buying smaller farms. Also, many owners have been prevented, from lack of capital or through inertia, from acquiring by purchase holdings as large as they could operate effectively. On the other hand, the fact that a man rents additional land shows that he is attempting to expand his holding to a more efficient size, and in renting land both tenants and part owners are less hampered by lack of capital in expanding their holdings than are owner farmers.

Figure 62 also indicates the tendency, characteristic of all but 3 of the 48 States, for tenant farms to contain a larger proportion of improved land than those of other classes of operators. This reflects the fact that a combination of circumstances causes tenancy to predominate in sections of the country where a large proportion of the land is adapted to crop production. However, in a number of good farming regions of the North, as shown by local surveys, the difference between tenants and owner farmers in this regard is not important.

## Differences in Importance of Livestock.

Livestock is a smaller factor in the organization of tenant farms than in that of farms operated by owners. This difference is the occasion for a great deal of the concern with which tenancy is viewed in this country. In 1920 for the United States as a whole the valuation of livestock on tenant farms per acre of improved land was only 79 per cent of the corresponding figure for farms operated by owners, while the valuation of livestock on tenant farms per $\$ 100$ worth of farm real estate was only 74 per cent of the corresponding figure for owner farms. Viewing the matter by States the same tendencies generally prevail. The valuation of livestock per acre of improved land was notably greater for tenant farms only in some of the New England States where tenant farms are but a small proportion of the total number. However, in several of the Middle Atlantic States, and in Ohio, Kentucky, Michigan, and Wisconsin, the two classes


Fig. 63.-Eleven Western States are excluded from this graph because a large acreage of the pasture land is not in farms and is consequently not reported by the census. In the States shown here it is apparent that while owner farmers usually show higher average valuations of livestock per acre than do tenants, a few of the State averages show the reverse. Excluding work stock reduces the relative favorableness of the tenant showing. Much of the apparent disadvantage under which tenants stand in State averages used in comparisons of this sort lies in the fact that tenants are more prevalent in those parts of the States in which neither tenants nor owner farms engage in livestock production than in those parts where livestock is an important fictor in farm economy.
are nearly equal in the valuation of livestock per acre of improved land. In most of the other Northern States east of the Rocky Mountains the valuation of livestock per acre of improved land on tenant farms ranges from 80 to 90 per cent of the corresponding figure for the farms of operating owners. In some of the Southern

PROPORTION OF TOTAL FARM INVESTMENT IN LIVESTOCK OTHER THAN
WORK STOCK, OWNER FARMERS COMPARED WITH TENANTS; FOUR
FARM SURVEY AREAS.


Fig. 64.-The relative place occupied by dairy cattle and meat animals is not always smaller in the case of farms operated by tenants than for farms operated by owners in the same localities. Moreover, tenants in some local ies employ such livestock much more extensively than do owner farmers in other localities. The results shown are for a single year in each survey.

States and the western range States the valuation of all livestock per acre on tenant farms is less than on farms operated by owners (fig. 63). When work animals are deducted, the tendency in some States for the valuation of livestock per acre to be greater on tenant farms than on farms operated by owners is less evident. Results of a number of surveys also show that in some of the districts surveyed the proportion of total farm capital invested in livestock other than work animals is larger for the tenant farms, or at least for certain classes of tenant farms than for farms operated by owners (fig. 64).

The statistics by States reflect the disproportionate distribution of owners and tenants in parts of the country where livestock are numerous in proportion to the acreage of improved land. Thus, tenants are a comparatively small percentage of farm operators in the great range areas of the West, in the pasture lands of the Appalachian and Ozark regions, and in the dairy regions of New England, New York, and Lake States. The predominance of farming by owners in regions of livestock production tends to weight the average valuation of live stock per acre of improved land unduly in favor of this class of farms. When the two tenure classes are compared in regions where livestock husbandry prevails, as, for instance, in the dairy States, the disparity indicated above is not necessarily shown. In the South, so-called tenant farming is frequently an arrangement by which a plantation operator employs croppers to work the crop land under the planter's direction, while he maintains the livestock by employing wage laborers. In short, the fact that men rent land instead of owning it is not in itself a fundamental reason why they can not engage extensively in livestock husbandry. In England, for instance, a country where livestock is a large factor in farm economy, nearly 90 per cent of the farms are operated by tenants.

## Differences in Diversification of Crops.

It is frequently assumed that tenant farming results in less diversification of crops than does farming by owners. Averages for the United States as a whole or for particular sections appear to sustain such a conclusion. However, this is largely due to the fact that tenant farms predominate in regions where the so-called one-crop system of farming prevails and to the tendency on Southern plantations to work the cotton or tobacco land by means of croppers and tenants. In the general farming regions of the North local surveys do not indicate that tenant farmers uniformly practice less crop diversification than is practiced by owner farmers in the same localities (fig. 65).

## Differences in Yields per Acre.

The comparative efficiency of tenants and owners may be partly reflected in yield per acre of crop land. It is clear that general comparisons for large statistical units such as States may result in misleading conclusions for the reason already mentioned, namely, the unequal distribution of the tenants and owners on land of different character and quality. Even for local surveys it is not always clear that the two classes of farmers occupy farm land of the same average quality. However, comparisons of yield per acre for a number of surveys do not point to definite conclusions. In some surveys tenant farms show a higher average yield, while in other
surveys the advantage is with owner farmers (fig. 66). In short, it appears that the question whether tenants or owner farmers are the

CROP DIVERSITY AS INDICATED BY PERCENTAGE OF CROP LAND IN
DIFFERENT CROPS, OWNERS COMPARED WITH TENANTS; FIVE FARM
SURVEY AREAS.


Fig. 65.-In the Pennsylvania and Iowa surveys no important differences are shown in crop selection as between tenants and owner farmers, except that cash tenants place a little more emphasis on corn than do other classes of operators. In the three regions characterized by the one-crop system-that is, wheat in the Palouse area and cotton in the two Southern areas-there is slightly more concentration by tenants on the principal money crop. In the South this frequently represents a deliberate division of enterprises on plantations operated as units, the croppers and tenants being employed in the production of cotton, while the plantation operator carries on by hired labor such crop diversification, as well as livestock production, as he considers economically desirable from the standpoint of the plantation as a whole. The results shown are only for a single year in each survey.
more efficient as measured by crop production per acre can not be conclusively answered except with reference to the particular locality under consideration.

YIELD PER ACRE OF CORN, OATS, HAY, AND COTTON, OWNER FARMERS COMPARED WITH TENANTS; FIVE FARM SURVEY AREAS.


Fig. 66.-This graph shows the danger of generalizing as to yields per acre on rented as compared with owner-operated land even within the same localities. Just as tenants usually occupy a proportion of the highly productive land in a State or geographic division that is larger than their numbers alone might indicate, so also they often lease a disproportionately large amount of the more productive land in local areas. When showing higher average yields than owners, little proof is afforded that the tenants themselves are better farmers than the owner farmers. The reverse holds in like manner: The results shown are only for a single year in each survey.

## Differences in Farm Income.

The relative efficiency of the several classes of farmers may also be compared in terms of ability to make the farm yield farm income, that is, net income for the business as a whole without reference to its distribution in the form of rent and interest among the several classes who furnish the farm capital or in the form of wages for the farmer's time. In order to allow for possible differences in the size of the business as between the several classes, farm income is expressed as a percentage of farm capital (fig. 67). The results of the surveys shown in this graph, as well as the results of other surveys, indicate that in the northern areas tenants are not notably inferior to owner farmers in their ability to make their farms yield farm income, and in a number of surveys are shown to be slightly superior. In the southern surveys tenants earned larger average farm incomes than did owner farmers employing croppers, and share or share-cash tenants earned farm incomes approximately equal to or exceeding those of owner farmers operating without croppers.

In general, the available statistics indicate that efficiency is less a matter of the class of tenure than it is of the personal qualities of the farmer, the character of the land, and the adequacy of farm equipment and operating capital.

## Interrelation of Form of Tenure With Progress in Accumulation, Education, and Standard of Living.

Various local tenure surveys have supplied a steadily increasing body of statistics which show contrasts in the educational advantages, and standard of living of tenants as compared with owner farmers.

## Comparative Educational Advantages.

The interdependence of success in accumulating wealth with the educational advantages of various classes of farm operators and their children is shown in Table 7.
Table 7.-The relation of education to tenure and ability to accumulate wealth from earnings, 1,066 farm operators and their families, in Texas, Tennessee, and Kentucky, 1919-1920 ${ }^{1}$.

| Farmers classified by tenure and by rank as accumulators of wealth. ${ }^{2}$ | Average grade in school attained by farmers. |  | A verage grade in school attained by wives of farmers. |  | A verage grade in school attained by children above 21 years. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Average grade. | Number. | Average grade. | Number. | Average grade. |
| Croppers: | 70 | 3. 3 | 63 | 4.2 | 79 | 5. 6 |
| Poorest.- | 76 | 3. 6 | 75 | 4. 9 | 40 | 4.1 |
| Best.---- | 76 | 4.6 | 68 | 5.2 | 18 | 4.3 |
| Tenants: |  |  |  |  |  | - 6.7 |
| Poorest. | 132 | 5. 0 | 126 | 5. 6 | 79 | 6. 7 |
| Medium | 128 | 5. 0 | 122 | 5. 4 | 77 | 7.1 |
| Best..-.- | 132 | 6.2 | 120 | 7.1 | 41 | 8.1 |
| Owners: |  |  |  |  |  |  |
| Poorest.- | 151 | 5. 7 | 137 | 6. 4 | 178 | 8.9 |
| Medium | 152 | 6. 3 | 143 | 7.0 | 170 | 8.3 |
| Best.---- | 149 | 7, 4 | 139 | 8.0 | 110 | 10.7 |

Each class of owner farmers had attained a higher grade in school than the corresponding class of tenants, and each class of tenants had attained a higher grade than the corresponding class

RATIO OF FARM INCOME TO TOTAL FARM CAPITAL AND PERCENTAGE LANDLORDS RECEIVED ON THEIR RENTED PROPERTY; FIVE FARM SURVEY AREAS.


FIG. 67.-The percentage of farm income to farm capital in an area is a rough measure of the comparative efficiency of the several tenure classes. In the northern areas the percentages of farm income to farm capital for the various classes of tenants are higher than for full owners, but somewhat less than for part owners. In the southern areas owners working with croppers made a much poorer showing than did owners without croppers. The results, of course, are only for a single year, and therefore are not conclusive.
of croppers. Within each tenure class the average school grade reached was found to be directly related to efficiency in accumulation, the best accumulators having previously attained the highest grade; the medium accumulators the next highest; and the poorest accumulators the lowest. However, progress in accumulation may be due in part to the superior educational advantages, and in part to the greater facility of accumulation made possible by gratuitous receipt of wealth. Moreover, the results shown may reflect to some extent a selective process which causes the more intelligent to profit by the opportunity for education afforded by progress in accumulation, while the latter is in a sense a result of superior intelligence. The school advantages of the wives of the various members of the groups paralleled those of the husbands. Moreover, for each accumulator group, the children over 21 years of age of owner farmers had attained a higher grade in school than was the case for the corresponding group of tenants, and the children of 21 years of age and over belonging to tenant families had enjoyed greater school advantages than the corresponding group of croppers. One hopeful indication is the fact that the children, except those of the best and medium croppers, had attained a higher average grade in school than their parents.
The comparative educational advantages of various classes of farm operators and of their children are shown from a somewhat different point of view for both southern and other areas in Table 8.

Table 8.-Percentage of farmers and farmers' children, excluding children still in school, who reported high school or college education, $1919{ }^{1}$.

|  | Total. | Owners. |  | Tenants. |  | Croppers. | Hired men. | Managers. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Full. | Part. | $\underset{\text { lated. }}{\mathrm{Re}-}$ | Unrelated. |  |  |  |
| Farmers: |  |  |  |  |  |  |  |  |
| Southern areas (5) | 13. 0 | 20.0 | 13. 9 | 27.8 | 9.5 | 11.1 | 4. 5 | 50.0 |
| Other areas (9) | 22.8 | 20.2 | 34.6 | 37.0 | 14.8 |  | 31.3 | 92.3 |
| Farmers' children who had left school: |  |  |  |  |  |  |  |  |
| Southern areas (5). | 25.6 | 40.8 | 31.8 | 43.3 | 19.5 | 10.0 | 5. 6 |  |
| Other areas (9) --- | 47.0 | 48.5 | 51.5 | 35. 7 | 43.7 |  | 33.3 | 66.7 |

[^116]As shown in Table 8, the proportion of farmers having high school or college education is 13 per cent in the southern areas and 23 per cent in areas in the States of the North and West. In the southern areas a larger proportion of the full-owner farmers ( 20 per cent) reported high school and college education than of the part-owner farmers ( 14 per cent); but in the other areas the reverse was the case, part owners reporting high school and college education more generally than did full owners ( 35 per cent, as compared with 20 per cent). In both the southern areas and the other areas a larger proportion of the tenants who were related to their landlords reported high school and college education (28 and 37 per cent, respectively) than of tenants not so related ( 9 and 15 per cent, respectively). Croppers, found only in the southern areas, reported high school and college education in 11 per cent of the cases,
thereby exceeding the corresponding percentages for hired men in southern areas ( 4 per cent) but not for hired men in other areas ( 31 per cent).
Excluding children still in school, the proportion of children having high school or college education is shown in Table 8 to be 26 per cent in southern areas and 47 per cent in areas in the States of the North and West; or almost exactly twice as high in the case of each group of areas as shown for the farmers themselves. The proportion of children with completed schooling who had high school and college education was above average in both groups of areas in the case of children of both full owners and part owners and children of related tenants in southern areas. The proportion in the case of unrelated tenants in areas in the North and West ( 44 per cent) was over twice the corresponding proportion ( 20 per cent) in the case of unrelated tenants in southern areas, and exceeded the proportions shown for hired men in both groups of areas ( 33 per cent in northern and western areas and 5.6 per cent in southern areas).

## Magazines and Newspapers.

Somewhat similar contrasts are revealed by statistics concerning periodicals and newspapers taken by various classes of farm operators, as shown in Table 9. The percentage for owner farmers is higher than for tenants in the case of every class of periodicals. The differences are much greater in the southern than in the northern surveys.

Table 9.-Percentages of owner farmers and of tenant farmers taking various classes of periodicals; 10 surveys.

WHITE OWNER FARMERS.
[See end of table for footnotes ]

| Survey and date. ${ }^{1}$ | Number of farmers in survey. | Percentage of all farmers taking- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dailies. | Agricultural <br> papers. | Weeklies. ${ }^{2}$ | $\begin{aligned} & \text { Maga- } \\ & \text { zines. } \end{aligned}$ | Others. |
| Southwestern Ohio, 1912 | 273 | ${ }^{3} 94.9$ | 57.9 | ${ }^{3} 13.2$ | $\left\{\begin{array}{l}427.1 \\ 513.6\end{array}\right.$ | ${ }^{6} 14.3$ |
| North Carolina, 1922 | 436 | 40.1 | 45.6 | 69.0 | 48.1 | 72.8 |
| Nebraska, 1920 | 406 | 84.0 | 77.8 | 38.9 | 518.7 | ${ }^{7} 3.2$ |
| Texas, 1919 | 106 | 867.9 | 59.0 | 62.1 | 53.3 | -------- |
| Kentucky, 1919 | 122 | 91.8 | 61.5 | 57.4 | 41.8 | ------- |
| Madison County, Tenn., 1919 | 63 | 74.6 | 69.8 | 47.6 | 38. 1 |  |
| Montgomery County, Tenn., 1920 | 87 | 59.8 | 57.5 | 36. 8 | 42. 5 |  |
| Williamson County, Tenn., 1919 | 100 | 70.0 | 66.0 | 72.0 | 37.0 |  |
| Total or average.---------- | 1,593 | 70.8 | 60.9 | 59.8 | 43.2 | 5.7 |

NEGRO OWNER FARMERS.

| North Carolina, 1922 <br> Virginia, 1921 <br> Total or average | 54 149 | 1.9 816.8 | 37.0 69.8 | 31.5 | 5. 6 2.0 | 73.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 12.8 | 61.1 | 31.5 | 3.0 | 3.7 |

Table 9.-Percentages of owner farmers and of tenant farmers, etc.-Contd. WHITE TENANT FARMERS.

| Survey and date. | Number of farmersin survey. | Percentage of all farmers taking- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dallies. | Agricultural papers. | Weeklies. | Magazines. | Others. |
| Southwestern Ohio, 1912. | 203 | ${ }^{3} 89.7$ | 42.8 | ${ }^{3} 4.9$ | $\left\{\begin{array}{r}421.7 \\ 54.4\end{array}\right.$ | ${ }^{6} 11.8$ |
| North Carolina, 1922 | 297 | 10.1 | 25.6 | 16.2 | - 27.6 | ${ }^{7} 1.3$ |
| Nebraska, 1920. | 384 | 82.6 | 72.7 | 29.2 | $\left\{\begin{array}{l}419.8 \\ 5,16.1\end{array}\right.$ | ${ }^{7} 2.1$ |
| Texas, 1919. | 248 | ${ }^{8} 52.0$ | 46.3 | 54.5 | 42.4 |  |
| Kentucky, 1919 | 148 | 84.2 | 43. 9 | 33.1 | 12. 2 |  |
| Montgomery County, Tenn., 1919 | 77 | 9.1 | 22.1 | 18. 2 | 18. 2 |  |
| Madison County, Tenn., 1920 | 84 | 17. 9 | 41.7 | 17. 9 | 11.9 |  |
| Williamson County, Tenn., 1919 | 52 | 38. 5 | 46. 2 | 44. 2 | 17.3 |  |
| Total or average | 1,493 | 55.1 | 46.7 | 29.9 | 28.8 | 4.1 |

NEGRO TENANT FARMERS.

| North Carolina, 1922 | $\begin{aligned} & 227 \\ & 112 \end{aligned}$ | 2.2 82.7 | $\begin{aligned} & \text { 13. } 7 \\ & 36.9 \end{aligned}$ | $\begin{array}{r} 5.7 \\ 11.4 \end{array}$ | 3.1 1.8 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total or averag | 339 | 2.4 | 21. 3 | 7.9 | 2. 7 |  |

[^117]
## Expenditures for Family Living.

Although amount of expenditure is not an adequate measure of standard of living, it furnishes a partial basis for comparison. Some statistics available from local surveys are summarized in Table 10.
Table 10.-Average family living expenses for white farm families in New York, Kentucky, Texas, and Tennessee, 1919-1921. ${ }^{1}$

| Survey and tenure. | Average of total family living values. | Per cent of all family living furnished by farm. | Value of food. | Per cent of all food values furnished by farm. | A verage amounts spent for- |  |  |  |  | $\begin{gathered} \text { Miscel- } \\ \text { lane- } \\ \text { ous. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Clothing | Health. | Ad-vancement. | Insurance. | Personal items. |  |
| New York, 1921: Tenant | \$2, 098 | 35 | \$839 | 47 | \$293 | \$102 | \$327 | \$46 | \$25 | \$466 |
| Owner....... | 1,983 | 37 | 778 | 51 | 273 | 76 | 318 | 41 | 23 | 474 |
| Kentucky, 1919: Cropper | 1,290 | 31 | 666 | 42 | 230 | 72 | 27 | 14 | 10 | 271 |
| Tenant | 1, 732 | 38 | 839 | 58 | 255 | 87 | 75 | 37 | 15 | 424 |
| Owner | 2,003 | 41 | 840 | 63 | 284 | 91 | 156 | 47 | 14 | 571 |
| Texas, 1919: Cropper |  | 30 |  |  | 243 | 45 | - 24 | 17 | 22 | 197 |
| Cropper------------ | 1,111 | 30 34 | 633 | 58 | 264 | 70 | 37 | 41 | 21 | 268 |
| Owner. | 1, 809 | 34 | 750 | 64 | 381 | 69 | 113 | 48 | 21 | 427 |
| $\begin{aligned} & \text { Tennessee, } 1919- \\ & 1920 \text { : } \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |
| Cropper. | 591 | 44 | 341 | 56 | 98 | 23 | 15 | 7 | 7 | 100 |
| Tenant.--------- | 899 | 44 | 436 | 66 | 174 | 19 | 55 | 24 | 14 | 177 |
| Owner. | 1,325 | 40 | 489 | 70 | 232 | 68 | 124 | 42 | 17 | 353 |

[^118]In the southern districts the total a verage living expenses of tenant families are considerably less than those of owners. In the New York surveys the expenses of tenants exceed those of owners by more than $\$ 100$ per year. In the New York and Kentucky surveys the proportion of the family living furnished by the farm is higher for owner farmers than for tenants, and in the Texas survey the proportions are equal. The proportions of the total expenditures used for food and for clothing are somewhat greater for croppers and tenants than for owners, but the actual expenditure is less, except in New York. In the southern districts the proportions devoted to advancement expenditures (books, magazines, music, education, social life, etc.) are much larger for owners than for croppers and tenants. The proportions devoted to the personal expenditures of the operator (mainly tobacco) are much the same in New York and Texas.

## Housing Conditions and Home Conveniences.

As would be expected, housing facilities for tenants are generally less adequate than for owner farmers. The average valuation of dwellings of owner farmers in Texas, Tennessee, Kentucky, and Nebraska was found to be nearly twice that for tenants. ${ }^{20}$

Reports from several thousand owner farmers and tenants in various parts of the United States indicate that owners occupy houses that are somewhat older than those occupied by tenants. Information on the state of repair of houses derived from surveys in three Southern States previously referred to, indicate that 69 per cent of the houses occupied by owners were in good repair, 22.6 per cent in medium repair, and 8.4 per cent in poor repair; while of the tenant houses 37.5 per cent were in good repair, 31.8 per cent in medium repair, and 30.7 per cent in poor repair.
On the basis of averages from a considerable number of surveys (Table 11) it does not appear that overcrowding is, in general, a serious evil either for owners or for tenants. The average number of rooms for owner farmers was found to be 6.3 and for tenants 5.6 . However, in certain parts of the areas surveyed as well as in other parts of the country, it is known that there is not enough room in farm tenant houses. As shown in Table 11 small percentages of tenants, and from a fifth to a tenth of the owner farmers, enjoy the conveniences that are taken for granted even in the poorer class of city houses.

Various surveys made between 1919 and 1921 show that in the North an average of about 70 per cent of the owner farmers and about two-thirds of the tenants had telephones. In the South conditions were more variable. In the Black Prairie of Texas and the bluegrass region of Kentucky about two-thirds of the owner farmers and from a third to two-fifths of the tenants had telephones. On the other hand, among white farmers of North Carolina only 14 per cent of the owner farmers and less than 2 per cent of the tenants had telephones. Similarly low percentages for tenants were ob-

[^119]tained in surveys made in the tobacco and cotton-producing sections of Tennessee. Of 112 negro tenants included in a Virginia survey not 1 had a telephone.

Table 11.-Percentages of homes of owner farmers and of tenants provided with certain conveniences. ${ }^{1}$

| Kinds of conveniences. | $\begin{gathered} \text { 2,871 } \\ \text { owner } \\ \text { farmers. } \end{gathered}$ | 1,973 <br> tenant farmers. |
| :---: | :---: | :---: |
| Ranning water in houses.. | 19.6 | 7.4 |
| Bath rooms | 18.0 | 5.7 |
| Indoor toilets. | 12.9 | 4.4 |
| Electric or gas lighting systems. | 17.7 | 8.0 |
| Central heating systems.. | 8.1 | 4.1 |
| Refrigerators...-......- | 20.7 | 6.7 |
| Oil stoves for cooking. | 41.9 | 28.8 |
| Vacuum cleaners. | 11.7 | 6.7 |

${ }^{1}$ Surveys in Tennessee, North Carolina, Nebraska, Iowa, and various local studies made under the auspices of the Inter-Church World Movement. (Citations given under Table 8.). The bases of the percentages are not the same for all the items, as not all of the persons surveyed reported on every item.

The various contrasts in educational advantages and standard of living that have been considered above appear generally, though not invariably, unfavorable to tenants. However, such contrasts can not be adequately explained as due merely to difference in form of tenure. If tenants as a class are characterized by less literacy, are less adequately housed, read fewer books and magazines, have poorer sanitary facilities, and enjoy fewer household conveniences, as compared with owner farmers in a given region, it is not merely because they are tenants.

Generally, the disabilities and disadvantages which, on the average, characterize the class of tenants to a greater extent than the owner farmers grow out of the fact that tenants as a class are financially less advanced than owner farmers, partly because they include a large percentage of young men who will ultimately acquire more adequate financial resources, partly because a smaller proportion of tenants have benefited by receipt of wealth through inheritance, gift, or marriage, and partly because in the processes of economic and social selection the group contains a larger proportion of those who through various forms of personal inadequacy or misfortune, either fail to rise into ownership or to maintain their position as owners.

## Principal Kinds of Contracts Between Landlordș and Tenants.

Up to this point we have generally spoken of tenancy as if it were a uniform system of land tenure. As a matter of fact, there are a number of kinds of tenancy involving numerous differences in detail.

## Relative Statistical Prevalence of Different Kinds of Tenant Contracts.

For statistical purposes the different types of tenancy are divided into two great groups, share tenancy and cash tenancy. However, a number of statistical subgroups have come to be distinguished, which,


Fig. 68.-In 1920 share tenancy was the principal form of tenancy in four-fifths of the counties and five-sixths of the States. Cash tenancy predominated in New England, western Pennsylvania, and the northern parts of the Lake States, but in none of these areas was there a large percentage of tenants, and therefore cash tenants were not numerous. Three of the most important regions of cash tenancy
were Iowa, southwestern Alabama, and the Pacific coast. Croppers are more numerous than other tenants in southeastern Arkansas. were Iowa, southwestern Alabama, and the Pacific coast. Croppers are more numerous than other tenants in southeastern Arkansas,
northeastern Louisiana, and western Mississippi, in southeastern Alabama, and southern Georgia. In several counties of Georgia and northeastern Louisiana, and western Mississippi, in


Fig. 69.-Cash tenancy is the system second in importance in New York, much of Pennsylvania, and in most portions of the North Central States, where it is not first in importance (see fig. 69). In parts of Illinois, Iowa, the I)akotas, Nebraska, and Kansas share-cash renting either predominates or is second in importance. in the Rocky Mountain and Pacific States cash renting is second where it is not first, and is relatively an important system in this part of the country. In the South cropper farms, where
not first are generally second in number.
to designate them by the terms applied to the persons renting, include share-cash tenants, standing renters, and croppers (figs. 68 and 69).

In 1920, three-fourths of the farm tenants ( 73.6 per cent of all and 75.5 per cent of those of known status) worked their land on shares, including share-cash tenants and croppers (fig. 70). Though outnumbered by share tenants in each census report from 1880 to 1920, the proportion of cash tenants increased from 1880 to 1900. Since 1900 the proportion has decreased. ${ }^{21}$

In some of our States there are considerable numbers of tenants who pay as rent a stated amount of farm commodities, usually cotton. The payment of standing rent, to use the census term, is especially prevalent in Georgia and South Carolina, largely because all classes of share tenants in those States are legally held to be


Fig. 70.-Only in five New England States and in Iowa, California, and Nevada are share tenants (including croppers) less than half of all tenants. In many States they are over three-fourths of all tenants, and they are also slightly over threc-fourths for the Nation as a whole.
laborers and are not accorded the legal rights of tenants; but in none of the other States are standing renters as important relatively as cash tenants paying a money rent.

Farms rented partly on shares and partly for cash (share-cash) comprise one of the important subclasses included statistically under share tenancy, and are most prevalent in parts of the North Central States. Where cash rent is paid on farms partly rented on shares, the acreage leased for money rent is usually pasture and hay land, the sharing basis being applied generally to the grain land.

Sharing by croppers is sufficiently different from other types of sharing to justify special consideration. As pointed out previously, croppers are ordinarily quite destitute of capital, owning neither land, buildings, work animals, nor farming tools, and must be furnished with these requisites and usually with subsistence for the

[^120]family during the months preceding harvest. ${ }^{22}$ The majority of croppers work under the close supervision of the plantation operators. Furnishing only human labor and sometimes a share of the fertilizer and seed, they commonly receive half of the cotton or tobacco, but in some districts the'share is only one-third.

## Conditions Influencing the Kind of Tenant Contract Employed.

The form of the tenant contract is determined largely by the ability or willingness of the respective parties to supply capital, provide supervision, or assume risks. When tenants are able to pay cash in advance or can be trusted for subsequent payment of cash, landlords are more likely to be willing to rent for cash than when the opposite conditions prevail. When the element of risk is large and the tenant is inexperienced or incompetent as a manager, share renting is likely to prove to the interest of both parties, especially if the landlord is able to provide advice or supervision. This is particularly the case when the tenant has but little capital or credit. Under such conditions when crops are poor or prices low, the landlord might be unable to collect a cash rent, but in favorable periods would find his rent limited to the stipulated amount. Under a share system the landlord's risk with such a tenant is no greater in unfavorable periods than under a system of cash renting, but in favorable periods he enjoys a share of the increased returns. Moreover, if the landlord is compelled to supply the more perishable forms of operating capital, such as machinery and livestock, he will usually find it necessary to maintain close supervision and control. If this is the case he is not likely to be willing to accept a fixed cash rent. In general, landlords who rent on shares. live near their farms and keep a watchful eye on the methods of farming and also on the amount and division of the crops.

Other things equal, the relations of landlords to tenants may be classified by the relative amount of risk assumed by the respective parties under the various classes of renting contracts. Viewing the matter from the standpoint of the landlord, cash renting involves the least amount of risk. In the North, the cash tenant usually has sufficient capital and credit so that the landlord does not ordinarily incur great risk of not receiving his rent, even in unfavorable years (fig. 71). In fact, in a number of States the landlord's rent is legally protected by provision giving him a statutory lien on the crops. Similar rights are sometimes provided for in the case of livestock and other personal property. Somewhat greater risk for the landlord is involved in standing rent, for, although the amount of the crop to be received is fixed in the agreement, he is subject to the variations in the price received for his part. In the ordinary cropshare lease, when the landlord supplies only the land and buildings but does not furnish any of the working capital, he is subject to the variations in yield and prices as reflected in the fractional share of the crop agreed upon as rent. In the case of the cropper arrange-

[^121]

Fig. 71.-Cash tenants are relatively though not absolutely numerous in New England and eastern New York, in the cut-over areas of the Lake States, in western Pennsylvania and West Virginia, and in much of the West, especially along the Pacific coast. These are areas in which dairying or cattle ranching are generally predominant. Cash tenants are both relatively and absolutely numerous in Iowa, northern Illinois, and northeastern Nebraska; also in the south Atlantic and Gulf coastal plain, especially in Florida and southern Alabama.
ment, the landlord's risk is very much greater, for, in addition to furnishing the real estate, he incurs heavy expenses for supplying and maintaining the operating equipment, furnishing part of the seed and fertilizer, and supervision. Indeed, the risk of the landlord is scarcely less than if he were operating the farm with hired labor, for he must advance the croppers their living while making the crop.

## Returns to Landlord in Different Forms of Tenancy.

Inasmuch as the risk and responsibility of the landlord vary so greatly under the different systems mentioned above, it is inevitable that the terms will be such normally as to make the return correspond more or less closely with the landlord's risk and responsibility. Theoretically, the landlord should receive a higher percentage of return in share renting than in cash renting, and a higher percentage of return from croppers than for other forms of share tenancy. Local surveys generally confirm these conclusions (see the right-hand part of Figure 67).

To some extent landlords supply not only the use of the real estate but also part or all of the operating capital. As already noted, under the cropper system the landlord furnishes the working capital as well as the land, with occasional exceptions in the case of fertilizing and ginning expense. In the North the tenant, who may be a son or other relative of the landlord, may arrange to buy the operating equipment largely on credit from the landlord. In other cases, the tenant may agree to pay the landlord a correspondingly larger share, commonly two-thirds of the crop, for the use of operating equipment as well as the real estate. There are also systems of tenancy, especially prevalent where livestock husbandry is an important element in the system of farming, which involve the landlord in a large share of responsibility for operating capital, current expenses, and supervision. Very frequently such arrangements, commonly known as "stock share " or "crop and livestock share " leases, provide for a half-and-half division of all receipts, and an equal division of all expenses, except for land and labor.

To a considerable extent in the North, and to a large extent in the South, the landlord furnishes little, if any, capital, other than the real estate. Under these circumstances the share paid as rent is largely determined by custom in the community, but differs in accordance with the kind of crop which constitutes the principal basis of farming. Very intensive crops, like cotton and tobacco, for example, involve usually a smaller share rent than less intensive crops, such as corn and small grain.

In regions where corn and small grain predominate as the principal basis of the farming system, it is customary in most districts for the tenant furnishing labor and work stock to pay from onethird to one-half of the grain. The share depends not only on such considerations as the location of the farm, the quality of the land, the character of the improvements, and the amount of pasture and hay land available, but also on the arrangements with respect to furnishing seed, threshing expense, binder twine, and other items.

If the landlord pays half of the threshing bill and contributes the seed it is not uncommon for him to receive half the grain. In some sections a rent share of two-fifths is customary. Where land is poor or rainfall scanty, the landlord's share may be as little as one-fourth, if he does not furnish the seed grain.

Although hay is one of the most important crops in the United States, it is commonly not a money crop in most of the important general-farming regions. Where other crops and livestock are the main sources of money income, especially in the region east of the Appalachians, the share tenant may not be required to share the hay unless he sells it. As already noted, however, especially in the Corn Belt, it is frequently customary to pay cash for the hay land while sharing the grain crops. In sections where hay is an important money crop, as in the irrigated districts of the West, a share of the hay up to one-half or more may be paid as rent.

In considerable areas of the Middle Atlantic States the farming system is extremely diversified, involving not only the production of grain and hay and the keeping of livestock, but also the raising of specialty crops such as beans, potatoes, tomatoes, sweet corn, peas, and considerable fruit, as well as dairy and poultry products. Not infrequently the renting contract is expressed in terms of a single fractional share of certain specified crops, such as half, but there is the utmost diversity in the contributions of landlord and tenant with regard to fertilizers, spraying materials, twine, threshing bills, the use of hay and pasture, the landlord's receipt of milk, eggs, vegetables, and many other items.
In fact, various local studies have shown that there is much greater flexibility in share systems of renting than the uniformity of the fractional share customary over wide areas might suggest. This is illustrated by the analysis of the respective contributions of landlords and tenants in the case of 30 farms in Clinton County, Indiana, nearly all rented in 1918 for a half share of the receipts (Table 12). This flexibility is involved in some of the items of expense or special privileges, and not infrequently is the basis for the free play of bargaining. However, when all allowance is made, custom has undoubtedly prevented that precision of adjustment in the rental contract which is justified by differences in quality of land, proportion of land improved, kind of buildings and other improvements, the experience and ability of the tenant and other factors.

Relation of Tenure to the Shifting of Farm Operators From Farm to Farm.

Most of the evils attributed to tenancy in the United States are connected in one way and another with the instability of tenant farmers or with their insecurity of tenure.

## Extent of Shifting.

It is estimated that in the United States 27 per cent of the tenant farms and 6 per cent of the farms operated by owners changed occupants in 1922 (figs. 72 and 73). The average for all farms


Fig. 72.-It is estimated that during the year ended December 1, 1922, 27 per cent of the tenant farms had changed tenants. It will be noted that the proportion was much larger in the South than in the North and was smallest in New England and the West. The proportion may have been somewhat higher than normal in the North Central and some of the Western States because of the agricultural depression. The map is based on information supplied by about 11,000 crop reporters of the Bureau of Agricultural Economics.
was 19 per cent. The nine States in which more than a fourth of the farms, including those both of owners and tenants, were operated by new occupants are all in the South, and the six States in which fewer than 10 per cent of the farms had new occupants are those of the New England group. In most of the Corn Belt and Western States the percentages fall between 10 and 15. Much the same sectional contrasts are reflected in the census statistics of 1910 showing period of occupancy and those of 1920 showing period of operation (figs. 74 and 75 ).


Fig. 73.-In the year ended December 1, 1922, less than one-fourth as many farms changed owners as changed tenants. Undoubtedly the agricultural depression, especially in the northern plains and Rocky Mountain States, caused more sales of farms than usual. Hased on reports from about 11,000 crop reporters of the Bureau of Agricultural Economics.

Table 12.-Variations of the landlora-tenant contracts on farms rented on shares
(mostly half-share orop leases), 30 farms, Clinton County, Ind., 1918.


${ }^{1}$ Where the proportion is between none and half, it is recorded in the column headed "One-third," and where it is between half and all it is recorded in the column headed "Twothirds." See subsequent foot-
notes for details of these cases.
${ }^{2}$ One tenant kept one-third of the clover and one-half of other crops; another tenant kept half of the corn and one-third of the hay; and the third tenant kept one-third of all crops.
${ }^{3}$ Tenant kept half the corn and three-fifths of the other crops.
${ }^{4}$ Tenant furnished half the feeders and all of the other livestock designated.
${ }^{5}$ Some tenants furnished half of the feed raised and all of the purchased feed and some other tenants furnished half of the small grain fed but more than half of the corn.


Fig. 74.- Both the census of 1910 and that of 1920 afford information indicating that both tenants and owner farmers in the South and West occupied their farms for shorter periods than was the case in the northeastern section of the country. In the West the process of settlement has much to do with explaining the short periods of occupancy. In the South a good deal of the apparent instability of farm operators is accounted for by the practice of shifting croppers and other tenants from tract to tract on the plantation. If the plantation were regarded as the farm unit instead of the particular tract assigned the cropper, much of this apparent shifting in the South would be eliminated from the statistical results.

The reported average period of occupancy for 1910 was 8.4 years, and the estimated average for 1920, 9.2 years. The figures are not strictly comparable, partly because of differences in method of enumeration and partly because of differences in time of year when the


Fig. 75.-The map indicates that the percentage of tenants who had operated the same farms for five years or more was highest in the Corn Belt, the New England States, the Middle Atlantic States, Maryland, Virginia, West Virginia, and Michigan. In 1920, for the United States as a whole, 18.4 per cent of tenant farmers reporting period of occupancy had operated the same farms less than 1 year; 25 per cent, 1 year; 31.2 per cent, 2 to 4 years; 14.6 per cent, 5 to 9 years; and 10.8 per cent, 10 years and over.
respective enumerations were made. ${ }^{23}$ In spite of these difficulties of measurement, the conclusion appears to be justified that the average period of occupancy was longer in 1920 than in 1910.

The averages in the preceding discussion refer only to periods of occupancy or operation up to the time the census was taken. Operators were due to continue their occupancy for periods ranging from days to decades. The uncompleted periods of occupancy reported in the census may have accounted for less than half of the full period of occupancy for the operators in the short-occupancy groups, but probably exceeded half of the full period for operators reporting in the longer-occupancy groups. Owing to the predominance of the latter in the aggregates and averages, it is probable that complete periods of both past and future occupancy were less than twice the terms reported in the census. The estimates of the full average period of occupancy in 1920 might thus be placed between 12 and 14 years instead of 9.2 years. ${ }^{24}$

The average number of years of occupancy by farmers reported when the census of 1910 was taken varied widely between tenure classes. The averages for the five tenure classes reported are as follows: Owners free of mortgage, 14 years; mortgaged owners, 9.2; part owners, 8.6 ; managers, 4.4 ; cash tenants, 3.8 ; and share tenants, 2.6. The variations in period of occupancy in different parts of the United States are shown in Figure 76.

## Relation of Color to Shifting of Farm Operators.

In 1910, except in the case of owners free of mortgage debt, colored farmers had periods of past occupancy exceeding those of white farmers for corresponding tenure classes from a third of a year to a year and a half. ${ }^{25}$ Although averages are not available for 1920, approximately similar conclusions are indicated. While the differences in methods of enumeration and in time of year when the enumeration is made render it very difficult to ascertain whether colored farmers had been in occupancy longer in 1920 than in 1910, the statistics strongly point in that direction in the case of tenants, and less conclusively in the case of owner farmers. The distribution of croppers by periods of occupancy shows a larger proportion in the short periods and a much smaller proportion in the long periods than is the case with other classes of colored share tenants. However, the white croppers reported much shorter average periods of occupancy than the colored croppers.

## Causes and Significance of Shifting.

Some of the conditions responsible for the relatively short periods of occupancy of all classes of farmers in the United States, as com-

[^122]pared with those of European countries, ${ }^{26}$ also account in part for the comparatively short periods of occupancy by tenant farmers in this country. The general causes are given on the following page.

AVERAGE YEARS OF FARM OCCUPANCY, TENANTS COMPARED WITH OWNER FARMERS, CENSUS OF 1910.


Fig. 76.-In the United States as a whole and in each of the 48 States the average period of occupancy for owner farmers is higher than for tenants. The period for cash tenants is longer than for share tenants, but the differences outside of the South are not very great. The period of occupancy of both owners and tenants is longer in the Northern and Eastern States than in the West.
${ }^{28}$ In some of the countries of central and eastern Furope recent extensive agrarian changes have probably altered considerably the average periods of occupancy.
(1) The attractiveness of new areas of virgin agricultural land successively made available for development and the habits of migration formed in the process of expansion of an agricultural area across the continent. In some regions these tendencies have been connected with farming practices resulting in soil depletion, thus intensifying the tendency toward migration to regions of virgin soil.
(2) The greater extent to which farm land has been an object of purchase and sale for speculative and investment motives as compared with European countries where social and traditional considerations and the habits formed by centuries of relatively unchanging conditions have caused farms to be looked upon as permanently attached to particular families, whether of large landlords or of peasants.
(3) The rapid industrialization of different parts of the United States, resulting not only in a steady movement of farm population into other industries, but also in constant changes in market opportunities and, therefore, in necessary readjustment in systems of farming and size of farms.
(4) The greater extent to which different tenure groups in this country represent stages in an agricultural ladder than is the case in many European countries.

In short, the great fluidity of American economic and social life is largely responsible for the relative instability of our tenure classes. It should also be noted that this greater fluidity tends to create conditions favorable to its continuance. As contrasted with farmers in European countries where shifts are comparatively infrequent, a farmer in this country who is dissatisfied with the farm he occupies or with the community need not be deterred from moving because of uncertainty of finding another farm available for occupancy. Moreover, the shifts themselves may lead to other shifts. The movement of relatives and friends to a district neighborhood may constitute a reason why a particular family will wish to follow them in order to maintain long-established social relations.

Consequently, while some of the shifting in this country is more or less aimless, and some of it largely habitual, much of the fluidity of American farm life represents desirable economic and social readjustments.

## Reasons Assigned for Shifts.

The fact that shifting represents economic and social readjustments is reflected in the reasons for shifting given by operators themselves, as obtained in certain local surveys made in the South. The number of operators included was 1,093 , of whom 882 , or 80.7 per cent, had changed farm locations at some time since they began to earn money for themselves. The total number of shifts made was 3,360 . The number of reasons reported was $3,528 .{ }^{27}$ Some of the classes of reasons given are not mutuallý exclusive, and some-as, for instance, migration from another section-are not reasons at all. However, the classification of reasons has considerable significance. In the first place, an overwhelming predominance of economic motives is indicated. In the case of tenants and croppers, progress up the tenure ladder is indicated as a primary reason in nearly 20 per

[^123]cent of the cases. A combination of several classes of replies indicates that either partial or complete failure was responsible for moves in at least 14 per cent of the cases for croppers, 9 per cent for tenants, and 12 per cent for owner farmers. To obtain a farm which was better adapted in size, quality of land, or character of improvements to the requirements of the farmer was a very prevalent class of reasons, amounting to 25 per cent of the reasons for moves of croppers, 31 per cent for tenants, and 40 per cent for owner farmers.
The greater instability of tenants as compared with owner farmers may be explained as follows:
(1) Since tenancy is an intermediate stage for farmers climbing the ladder, the tenant class is composed partly of laborers or young farmers who have just entered that stage, while tenants are constantly terminating their occupancy as tenants in order to ascend into the class of owner farmers.
(2) In the tenant class is included a large proportion of the incompetent, the thriftless, the restless and migratory elements, who are unable to climb to farm ownership or to maintain themselves in that status. Naturally, such elements are characterized by instability.
(3) In the case of tenancy two parties have to be satisfied, the tenant and the landowner. The probability that there will be dissatisfaction on the part of at least one of the parties, and consequently termination of the period of occupancy is naturally greater than in the case of owner farmers.
(4) Having a smaller stake in the land, it is easier for tenants than for owner farmers to change to other industries or farms.

## Social and Economic Consequences of Shifting.

The evil consequences commonly attributed to the short period of occupancy of tenant farmers are partly social and partly economic. As to the first, it is alleged that tenants remain in the community so short a time that they fail to identify themselves with its social activities and institutions. It should be noted, however, that a majority of the moves made by farmers are from farm to farm within the community and do not necessarily involve breaking their social connections (fig. 77). On the whole, it is probable that to a considerable extent the shorter periods of occupancy of tenants reduce somewhat the degree of social integration in communities where tenants are a large proportion of the farm population.

It is not clear to what extent the relatively more frequent shifts by* tenants are responsible tor undesirable economic consequences. It is observable that in many parts of the country tenant farming is inefficient and characterized by methods which impair fertility of the soil. Without doubt, where such conditions prevail a large part of the responsibility is attributable to the short periods of occupancy, the uncertainty of the tenant as to his period of occupancy, and the lack of interest which he has in the maintenance of soil fertility. In England, where nearly 90 per cent of all farm operators are tenants, as well as in other European countries, the systems of tenant farming are characterized by a considerable degree of efficiency and permanence.

Even the insecurity and short duration of tenant occupancy in America can not be blamed with all the undesirable consequences sometimes associated with tenant farming. Sometimes, inefficient and wasteful systems of farming are characteristic of owner farmers, as well as of tenants, and represent exploitative methods or habits of farming which have grown up by reason of the earlier abundance of virgin land. The fault lies sometimes with the tenant himself and not with the system of tenure; that is, sometimes the tenant is the kind of man who would employ inefficient methods under any system of tenure.

Such conditions can not be removed in great degree by legislation and will be eliminated only through gradual changes in basic economic conditions and gradual progress in intelligence on the part of


Fig. 77.-From 56 to 67 per cent of the moves made by farmers in the districts surveyed were within the same community. Owners appear to shift more widely than do tenants, and therefore a larger percentage of the moves by owners result in breaking their established community relations.
certain classes. One of the basic difficulties, the great fluidity of American farm life, is likely to be gradually reduced with the passage of time.

## Conclusions.

The preceding discussion has not been directed to the purpose of indicating that tenancy is a superior form of tenure. If this should appear to be the case, it is owing to the necessity of submitting facts to disprove the all too general assumption that tenancy is always, in itself, an inferior and undesirable form, and to attribute to it a great many evil conditions which are really due to other causes. These conditions include unequal distribution of wealth, habits of land exploitation and instability of occupancy largely the outgrowth of the comparative abundance of land resources in our recent past, the persistence in certain sections of a one-crop system of farming, and the personal illiteracy, inexperience, thriftlessness, and inertia
of certain individuals. To assume that some artificial plan for converting tenants into landowning farmers would remove all of these conditions is to follow an illusion.

Farm tenancy, considered as a method of acquiring the use of land, is adapted to the special circumstances of a large proportion of farmers, because of their lack of experience and available capital. However, this point of view does not imply that all existing forms of tenancy in this country are ideal, or that a do-nothing policy is justified. In fact, there is need for the development of a positive and constructive policy with respect to American land tenure, a policy that would necessarily involve the cooperation of the Federal Government and the States. Such a policy would not consist of any single panacea, but would involve a number of coordinated measures, which can here be considered only in brief outline.

## Facilitating Progress to Farm Ownership.

It would be unfortunate to make the road to farm ownership so easy that farm ownership could be achieved by those who are unready. However, it is widely recognized that it would be good public policy to remove unnecessary obstacles to the achievement of ownership by employing methods such as the following:

## CREDIT FACLIITIES FOR TENANTS.

By reason of its low rate of interest and arrangements for amortization the Federal farm loan system is unquestionably of material assistance in facilitating the progress to ownership by tenants and other persons, especially in certain parts of the country. However, there is need for a measure more specifically adapted to the special requirements of tenants in purchasing land. A few States have gone somewhat farther than the Federal Government, but it is probable that comprehensive measures providing for the extension of credit to tenants purchasing farms would be an important phase of a constructive policy for land tenure.

> A POLICY OF LAND SETTLEMENT.

Because of the future necessity of expansion in our crop area, a constructive policy of land settlement would go far toward smoothing the road to ownership for those attempting to establish themselves in new regions. Such a policy would involve suitable guidance and direction by public authorities and protection against unwise and ill-considered projects on the part of private land-settlement agencies. A constructive policy of land settlement might well involve also measures for the reorganization of agriculture in regions where changed economic conditions emphasize the need for extensive readjustments in size of farms, the farming personnel, and the system of farm organization.

STANDARDIZATION OF LAND TITLES.
About 19 or 20 States have passed special measures for simplifying and standardizing land titles and insuring their validity. An extension of such measures to other parts of the country would ren-
der somewhat easier the purchase of farm land, especially in the case of small tracts or land of low value.

> IMPROVED METHODS OF LAAND VALUATION.

No small part of the hazard in purchasing land, or in lending money on land as security, consists in the inadequacy of existing systems of land valuation. Much is still obscure as to the forces that determine the price of farm real estate, but progress is being made through systematic research. In Great Britain and other European countries the valuation of farm real estate has become an established profession for which extensive training of a specialized character is required. The increasing complexity of agricultural economic relations in this country will justify similar measures for standardizing methods and facilities for the valuation of farm real estate.

## MODIFYING THE SPECULATIVE ELEMENT IN FARM LAND VALUATIONS.

From time to time there spring up periods of frenzied speculation in farm land which are a serious detriment to the agricultural industry. It has been suggested that in part at least a tax on resales within a short period after purchase might prevent such manifestations.

It may also be noted that the practice of making the property tax one of the variable elements in State and local finance serves to increase the uncertainty of the purchase of farm land. It has been suggested that if the land tax were transformed into a fixed or cadastral levy, with certain special exceptions, and other sources of revenue were employed to give elasticity to the fiscal system, the hazards of the farming industry and of farm ownership would be somewhat diminished.

## Improvement of the Tenant Contract and the Relations of Landlord and

 Tenant.As already indicated, in many parts of the country the prevalence of customary methods of renting has prevented the precision of adjustment in landlord-tenant relations that is desirable under modern competitive conditions. Individual farms and farmers in the same community may differ so greatly that there is need for modifications in existing renting agreements. Careful study of the operations of renting agreements by means of accounting is important, and in some states this is being promoted by experiment stations and extension agencies.

## ORGANIZATIONS OF LANDLORDS AND OF TENANTS.

It is probable also that under proper conditions organizations of landlords and of tenants may be beneficial. In the receat past a considerable number of such organizations varying widely in character have sprung up in different parts of the United States. These include such widely different types as the following: (1) Local organizations of tenants aiming to compel a reduction of rent by employing the methods of labor unions; (2) counter organizations of landlords; (3) organizations catering to small farmers, especially
tenant farmers, and attempting to influence legislation under the impulse of ideals that would be classed as radical; (4) temporary organizations to promote a single piece of legislation; (5) land-lord-tenant conferences for improving the tenant contract. ${ }^{28}$

The first four kinds are largely class-conscious in character. The fifth class has been developed mainly in the Corn Belt under the leadership of county agricultural agents. Separate meetings of landlords and of tenants are held to consider and formulate the points of view of the respective groups. Then one or more joint meetings are held. The general tone of these meetings is that of rational discussion for mutual understanding. It is too early to judge of their merits, but in so far as they can be made to operate in a spirit of mutual fairness, cooperating with public extension agencies in the effort to attain a better understanding of local renting arrangements, they may help to focus local public opinion on the problem of improving landlord-tenant relations, particularly in the interest of better systems of farming.

## LEGISLATIVE METHODS OF STANDARDIZING AND IMPROVING THE TENANT CONTRACT.

As noted above, the Federal Government, the States and quasipublic institutions are large landlords and the responsibility rests upon them for developing model leasing arrangements for the land they control. However, it may be found desirable to establish by legislation arrangements for guaranteeing to tenants reimbursement for improvements made by them, and for insuring landlords against dilapidations by tenants. It may also be desirable to provide for protecting tenants against arbitrary and unwarranted disturbance as well as to compensate landlords for unwarranted desertion by tenants.

[^124]
# AGRICULTURAL STATISTICS. 

UNITED STATES DEPARTMENT OF AGRICULTURE YEARBOOK-1923.
Prepared under the direction of the Statistical Committee, Joseph A. Becker, Lewis B. Flohr, G. B. L. Arner, W. F. Callander, and O. A. Juve.

## INTRODUCTION.

Statistics of acreage, yield per acre, and production in the United States are estimates made by the Division of Crop and Livestock Estimates. For the years 1879, 1889, 1899, and 1909, acreages are as reported by the Bureau of the Census; acreages in 1919 are based upon the census, supplemented by State enumerations. In the intercensal years previous to 1909, and from 1911 to 1915, estimated acreages were obtained by applying estimated percentages of decrease or increase to the published acreage in the preceding year, except that a revised base was used for applying percentage estimates whenever new census data were available. For the years 1890 to 1908, acreages have been revised to be consistent with the preceding and succeeding censuses. The estimates from 1915 to 1918, and from 1919 to date are based upon acreage changes from year to year as shown by a sample of approximately 2 per cent of the crop acreages in each year, supplemented by State enumerations. Yields per acre are estimates based upon reports of one or more farmers in each agricultural township, on the average yield per acre in their localities. Production is acreage times yield per acre. Production estimates are in some cases revised in the following year on the basis of State enumerations and records of shipments.

Estimates of farm stocks, shipments, quality, crop condition, and miscellaneous information concerning crops are based either upon sample data or upon estimates of crop reporters for their localities. The sources of these data are indicated in the notes accompanying the tables.

Farm prices on the specified dates are based upon reports of farmers and country dealers on the average price paid to farmers, and do not relate to any specified grade. Farm value as shown is computed by applying the December 1 farm price to the total production. The average price received for the portion of the crop sold may be greater or less than this price, depending on the price changes previous and subsequent to December 1 and the amount of the crop sold in the corresponding periods.

Numbers of livestock on farms on January 1 in 1870, 1880, 1890, and 1900, correspond to the census enumerations on June 1 of those years; in 1910, the enumeration as of April 15. The number on January 1, 1920, is based upon the census enumeration as of that date, supplemented by enumerations by State agencies, such as assessors and brand inspection boards. In the intercensal years prior to 1910, and from 1911 to 1916, the numbers of livestock were obtained by methods identical with those used for crop acreages. Estimates from 1917 to 1919, and from 1920 to date are based upon a sample of approximately 2 per cent, supplemented by trends derived from assessors' enumerations, reports of brand inspection boards, market movements, and stockyard receipts. The census bases are not always comparable from one decade to another through both changes of dates and classifications.

The average price per head on January 1 is estimated from reports of correspondents relating to livestock in their vicinity. The farm value on January 1 is computed by applying the average price per head to the number of head on farms.

Certain statistics represent enumerations made by the department in connection with the administration of regulatory and inspection laws. Certain other statistics represent enumerations made by the department in compliance with general legislation authorizing the collection and dissemination of information on agricultural products.

Statistics relating to supplies, movements, and market prices of agricultural products in the United States are derived from official sources as far as available; otherwise from reliable unofficial sources. In all cases wherein the data presented did not cover the field or a major sample thereof, data mest representative of the various commodities, movements, and markets have been selected.

With some crops marketing and movement into consumptive channels takes place entirely within the calendar year in which the crop was produced. For many crops marketing takes place during portions of two calendar years. For a few crops, as potatoes, marketing extends beyond a 12 -month period. In order that the movement and prices of the particular crop may be followed through, the months in which the crop moved have been used as the "year."

Weighted averages of prices are shown in all cases where a weighting factor was available. For instance, the weighted price of wheat in Chicago is based on the number of carload sales reported, which ranges from 42 to 55 per cent of all receipts on that market. In the case of hogs at Chicago, the weighted average price is based on total sales of butcher hogs to slaughterers. With many commodities, however, data as to quantities sold are unobtainable; in all such cases average prices are based on price quotations without reference to quantity.

It should be remembered that, due to changes in market conditions or quality of delivery in different years on or under the same grade description or specifications, prices derived from different sources may not be strictly comparable, although for most general purposes they are entirely satisfactory. For instance, the changes in the description of many kinds of livestock which were made July 1, 1923, while not affecting certain price series, made others only fairly comparable and made comparison impossible in other cases. The data as to commercial stocks and movements of various commodities are as nearly complete as practicable and feasible, and are considered fairly representative.

Data originating with other departments and agencies are included because of their general interest to the agricultural industry. The sources of such data are given in connection with the tables. Care has been taken to quote only such sources as are generally considered reliable.

Statistics of acreage and production in foreign countries are compiled as far as possible from official sources and are therefore subject to whatever errors may result from shortcomings in the reporting and statistical services of the various countries. Inaccuracies also result from differences in nomenclature and classification in foreign countries, and through the conversion of foreign units into domestic equivalents. Except where otherwise stated, pre-war data refer to pre-war boundaries. Yields per acre are calculated from acreage and production, both rounded to thousand units, and are therefore subject to a greater possibility of error when calculated for countries with small acreage.
The tables of international trade cover substantially the international trade of the world. The total imports and the total exports in any one year can not be expected to balance, although disagreements tend to be compensated over a series of years. Among the sources of disagreement are: The different periods covered by the "year" of various countries; imports received in the year subsequent to the year of export; lack of uniformity in classification of goods as among countries; different trade practices and varying degrees of failure in recording countries of origin and ultimate destination; different practices in recording reexported goods; and different methods of treating free ports. The exports given are domestic exports and the imports given are imports for consumption, whenever it is possible to distinguish such imports from general imports. While there are some inevitable omissions, there may be some duplication because of reshipments which do not appear as such in the official reports. In the trade tables, figures for the United States include Alaska, Porto Rico, and Hawaii, but not the Philippine Islands.
Since the statistics for the current year are in many cases preliminary and subject to revision on the basis of later and fuller information, the reader is cautioned to use always the figures as they appear in the latest issue of the Yearbook.

## WHEAT．

Table 1．－Wheat：Acreage，production，value，exports，etc．，in the United States， 1869－1923．

| $\begin{aligned} & \text { Calen- } \\ & \text { dar } \\ & \text { year. } \end{aligned}$ | Acre－ age har－ vest－ ed． | Aver－ age yield per acre． | Produc－ tion． | Aver－agefarmpriceperbush－elDec．1． | Farm value Dec． 1 | $\begin{gathered} \text { Value } \\ \text { per } \\ \text { acre. } \end{gathered}$ | Chicago cash price per bushel No． 2 Northern spring．${ }^{2}$ |  |  |  | Domestic exports， including flour，fis－ cal year beginning July $1 .{ }^{8}$ | Imports， including flour，fis－ cal year beginning July $1 .{ }^{3}$ | Per cent of crop port－ ed． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Decem－ ber． |  | Following May． |  |  |  |  |
|  |  |  |  |  |  |  | $\underset{\sim}{8}$ | $\begin{aligned} & \text { 品 } \\ & \text { 保 } \end{aligned}$ |  | $\begin{aligned} & \text {. } \\ & \text { 葡 } \end{aligned}$ |  |  |  |
|  | 1，000 | Bush．of |  |  |  |  |  |  |  |  |  |  |  |
|  | $a c$ | lbs． | bushels． | Cents． | dollars． |  | Cts. | Cts. | Cts. | Cts. | Bushels． | Bushels． | $e^{e n t} .7$ |
| 1870 | 18， 993 | 12． 4 | 235， 885 |  | 222， 767 | 11．73 | 91 | 98 | 113 | 120 |  |  | 22.3 |
| 1871 | 19， 944 | 11.6 | 230， 722 | 114.5 | 264， 076 | 13． 24 | 107 | 111 | 120 | 143 | 38，995， 755 | 2，410， 738 | 16.9 |
| 1872 | 20， 858 | 12.0 | 249， 997 | 111.4 | 278， 522 | 13． 35 | 97 | 108 | 112 | 122 | 52，014， 715 | 1，841， 049 | 20.8 |
| 1873 | 22， 172 | 12.7 | 281， 255 | 106．9 | 300， 670 | 13． 56 | 96 | 106 | 105 | 114 | 91，510， 398 | 2，116， 777 | 32.5 |
| 1874 | 24， 967 | 12.3 | 308， 103 | 86.3 | 265， 881 | 10．65 | 78 | 83 | 78 | 94 | 72，912， 817 | 367， 987 | 23． 7 |
| 1875 | 26， 382 | 11.1 | 292， 136 | 89.5 | 261， 397 | 9． 91 | 82 | 91 | 89 | 100 | 74，750， 682 | 1，664， 138 | 25．6 |
| 1876 | 27， 627 | 10.5 | 289， 356 | 97.0 | 280， 743 | 10． 16 | 104 | 117 | 130 | 172 | 57，043， 936 | 366， 061 | 19.7 |
| 1877 | 26， 278 | 13.9 | 364， 194 | 105． 7 | 385， 089 | 14． 65 | 103 | 108 | 98 | 113 | 92，141， 626 | 1，390， 713 | 25.3 |
| 1878 | 32， 109 | 13.1 | 420． 122 | 77.6 | 325． 814 | 10． 15 | 81 | 84 | 91 | 102 | 150，502， 506 | 2， 074,321 | 35． 8 |
| 1879 | 35， 430 | 14．1 | 499， 893 | 110.6 | 552， 884 | 15． 60 | 122 | $133 \frac{3}{3}$ | $112 \frac{1}{2}$ | 119 | 180，304， 181 | 488， 687 | 36． 1 |
| 1880 | 37， 987 | 13． 1 | 498， 550 | 95． 1 | 474， 202 | 12． 48 | 933 | $109{ }^{10}$ | 101 | $1122^{\frac{5}{8}}$ | 186，321， 514 | 212， 600 | 37.4 |
| 1881 | 37， 709 | 10．2 | 383， 280 | 119.2 | 456， 880 | 12． 12 | 124 ${ }^{\frac{3}{1}}$ | 129 | 123 | 140 | 121，892， 389 | 865， 467 | 31．8 |
| 1882 | 37，067 | 13.6 | 504， 185 | 88.4 | 445， 602 | 12． 02 | $91{ }^{\frac{1}{3}}$ | $94{ }^{3}$ | 108 | $113 \frac{3}{3}$ | 147，811， 316 | 1，087， 011 | 29．3 |
| 1883 | 36， 456 | 11.6 | 421， 086 | 91.1 | 383， 649 | 10． 52 | $94 \frac{5}{8}$ | 99 | 85 | 943 | 111，534， 182 | 32， 474 | 26.5 |
| 1884 | 39，476 | 13．0 | 512， 765 | 64． 5 | 330， 862 | 8． 38 | $69{ }^{6}$ | $76{ }^{7}$ | $8{ }^{85}$ | $90 \frac{3}{4}$ 7 | 132，570， 366 | 212， 312 | 25.9 |
| 1885 | 34， 189 | 10.4 | 357， 112 | 77． 1 | 275， 320 | 8． 05 | $82 \frac{1}{8}$ | 89 | $72{ }^{\frac{1}{3}}$ | 79 | 94，565， 793 | 388， 415 | 26． 5 |
| 1886 | 36， 806 | 12.4 | 457， 218 | 68.7 | 314， 226 | 8.54 | $75 \frac{1}{8}$ | $79 \frac{1}{2}$ | $80 \frac{3}{4}$ | 883 | 153，804， 969 | 282， 400 | 33． 6 |
| 1887 | 37， 642 | 12.1 | 456， 329 | 68.1 | 310， 613 | 8． 25 | $75 \frac{1}{1}$ | $79{ }_{1}^{1}$ | $81{ }^{1}$ | 89 | 119，625， 344 | 594， 860 | 26． 2 |
| 1888 | 37， 336 | 11.1 | 415， 868 | 92.6 | 385， 248 | 10． 32 | $96 \frac{5}{8}$ | $105 \frac{1}{2}$ | ${ }_{89}{ }^{1}$ | $95 \frac{1}{2}$ | 88，600， 743 | 135， 851 | 21.3 |
| 1889 | 38，580 | 12.9 | 434， 383 | 69．5 | 301， 869 | 8． 99 | $76{ }^{3}$ | ${ }^{80}$ | ${ }^{89}$ | 100 | 109，430， 467 | 162， 546 | 25． 2 |
| 1890 | 34， 048 | 11． 1 | 378， 097 | 83． 3 | 315， 112 | 9． 25 | $87 \frac{1}{3}$ | $92{ }^{\frac{3}{4}}$ | ${ }_{80}^{98}$ | $108 \frac{1}{2}$ | 106，181， 316 | 583,826 2462,365 | 28． 1 |
| 1891 | 37， 826 | 15.5 | 584， 504 | 83.4 | 487， 463 | 12． 89 | $89 \frac{3}{8}$ | 93 ${ }^{\frac{1}{4}}$ | 80 | 85 | 225，665， 811 | 2，${ }_{962} \mathbf{9 6 8 , 1 2 5}$ | 38.6 36.3 |
| 1892 | 39， 552 | 13． 3 | 527， 985 | 62． 2 | 328， 331 | $\begin{aligned} & 8.30 \\ & 603 \end{aligned}$ | $\begin{aligned} & 69 \frac{1}{2} \\ & 59 \mathbf{x}_{0}^{2} \end{aligned}$ | 73 | 681 50 51 | 764 <br> 601 <br>  | 191，912， 635 |  | 36.3 <br> 38.4 |
| 1893 | 37， 934 | 11.3 | 427,553 516,485 | 53.5 48.9 | 228， 599 | 6.03 6.41 7 | ${ }_{59}^{59}$ | 6431 |  | ${ }_{80}^{60}$ | 164，283， 129 | 1，182， 864 | 38.4 28.0 |
| 1894 | 39， 42 | 13. | 516， 485 | 48．9 | 252， 2809 | 6． 71 | $53{ }^{3}$ | ${ }_{64}{ }^{\frac{3}{7}}$ | $57 \frac{1}{8}$ | 678 | 126，443， 968 | 2，116， 303 | 22.2 |
| 1896 | 43， 916 | 12.4 | 544， 193 | 71.7 | 390， 346 | 8． 89 | $74{ }^{\frac{3}{8}}$ | $93 \frac{1}{8}$ | $68 \frac{3}{4}$ | $97 \frac{7}{8}$ | 145，124， 972 | 1，544， 242 | 26.7 |
| 1897. | 46， 04 | 13.3 | 610， 254 | 80.9 | 493， 683 | 10．72 | 92 | 109 | 117 | 185 | 217，306， 005 | 2，058， 938 | 35． 8 |
| 1898. | 51， 007 | 15.1 | 772， 163 | 58.2 | 449， 022 | 8． 80 | 623 | 70 | 68 | $79 \frac{1}{2}$ | 222，618， 420 | 1，875， 173 | 28.8 |
| 1899－－ | 52， 58 | 12.1 | 636， 051 | 58.6 | 372， 982 | 7.09 | 64 | $69 \frac{1}{2}$ | $63 \frac{5}{8}$ | $67 \frac{1}{2}$ | 186，096， 762 | 320， 194 | 29.3 |
| 1900 | 51，387 | 11.7 | 602， 708 | 62.0 | 373， 578 | 7.27 | $69 \frac{1}{4}$ | $74 \frac{5}{8}$ | 70 | $75 \frac{1}{1}$ | 215，990， 073 | 603， 101 | 35．8 |
| 1901 | 52， 473 | 15．0 | 788， 638 | 62． 6 | 493， 766 | 9． 41 | 73 | 79 | $72{ }^{3}$ | 761 80 8 | 234，772， 516 | 120，502 | 29．8 |
| 1902 | 49,649 51,632 | 14．6 | 724， 808 | 63.0 69.5 | 456,851 461,439 | 9． 20 |  |  |  | 80흥 | 202，905， 598 | 1，${ }_{2170,682}$ | 28．0 |
| 1903 | 51， 632 | 12.9 | 663， 923 596,911 | 69．5 9 | 461,439 551,788 | 11． 54 | $115{ }^{7}$ | 122 | $8{ }_{8}^{87}$ | $113{ }^{\frac{3}{4}}$ | $120,727,613$ $44,112,910$ | 3，286， 189 | 18.4 7.4 |
| 1905 | 49， 38 | 14.7 | 726， 819 | 74.6 | 542， 543 | 10.99 | $82 \frac{1}{2}$ | 90 | $80^{\frac{1}{4}}$ | $87 \frac{1}{4}$ | 97，609， 007 | 261， 908 | 13． 4 |
| 1906 | 47， 800 | 15.8 | 756， 775 | 66.2 | 501， 316 | 10． 49 |  |  | 84 | 106 | 146，700， 425 | 590， 092 | 19．4 |
| 1907 | 45， 116 | 14.1 | 637， 981 | 86.5 | 552， 074 | 12． 24 |  |  |  |  | 163，043， 669 | 519， 785 | 25.6 |
| 1908－－ | 45， 970 | 14.0 | 644， 656 | 92.2 | 594， 128 | 12． 92 | $106 \frac{1}{2}$ | 12 | 126⿺𠃊⿳亠丷厂犬 | 137 | 114，268， 468 | 456， 940 | 17.7 |
| 1909 |  | 15. |  | 98.4 |  |  | 106 | 1193 | 100 | 1191 ${ }^{\frac{1}{4}}$ | 87，364， 318 | 815， 617 | 12.5 |
| 1910 | 45， 681 | 13.9 | 635， 121 | 88.3 | 561， 051 | 12． 28 | 104 | $110^{4}$ | 98 | 106 | 69，311， 760 | 1，146， 558 | 10.9 |
| 1911 | 49，543 | 12.5 | 621， 338 | 87.4 | 543， 063 | 10． 96 | 105 | 110 | 115 | 122 | 79，689， 404 | 3，413， 626 | 12.8 |
| 1912 | 45， 814 | 15．9 | 730， 267 | 76．0 | 555， 280 | 12． 12 | 85 | $90{ }^{\frac{3}{4}}$ | $90 \frac{1}{2}$ | 96 | 142，879， 596 | 1，282， 039 | 19．6 |
| 1913 | 50， 184 | 15． 2 | 763， 380 | 79.9 | 610， 122 | 12． 16 | $89 \frac{1}{2}$ | 93 | 96 | 100 | 145，590， 349 | 2，383， 537 | 19.1 |
| Aver | 47， 097 | 14．7 | 690， 108 | 85.7 | 591， 725 | 12．56 | 97. | 104.7 | 99. | 108. | 104，967， 085 | 1，808， 27 | 15．2 |
| 1914 | 53， 541 | 16.6 | 891， 017 | 98.6 | 878， 680 | 16． 41 | 115 | 131 | 141 | $164 \frac{1}{2}$ | 332，464， 975 | 715,369 | 37． 3 |
| 1915 | 60， 469 | 17．0 | 1，025， 801 | 91.9 | 942， 303 | 15． 58 | 106 | 1282 | 116 | 126 | 243，117， 026 | 7，187， 650 | 23.7 |
| 1916 | 52， 316 | 12． 2 | 636， 318 | 160.3 | 1， 019,968 | 19．50 | 1551 | 190 | 258 | 340 | 203，573， 928 | 24，924， 985 | 32.0 |
| 1917 | 45， 089 | 14．1 | 636， 655 | 200.8 | 1，278， 112 | 28.35 | 220 | 220 | 220 | 220 | 132，578， 633 | 31，215， 213 | 20．8 |
| 1918－－ | 59， 181 | 15.6 | 921， 438 | 204.2 | 1， 881,826 | 31.80 | 220 | 220 | 245 | 280 | 287，401， 579 | 11，288， 591 | 31.2 |
| 1919－－ | 75， 694 | 12.8 | 967， 979 | 214.9 | 2，080， 056 | 27.48 | 280 | 325 | 295 | 345 | 219，864， 548 | 5，495， 516 | 22．7 |
| 1920－－ | 61， 143 | 13.6 | 833， 027 | 143.7 | 1，197， 263 | 19.5 | 164 | 18 | 142 | 178 | 366，077， 439 | 57，398， 002 | 43．9 |
| Aver． | 58， 205 | 14.5 | 844， 605 | 156. | 1，325， 458 | 22.77 | 80. | 200.2 | 202. | 236. | 255，011， 161 | 19，746， 47 | 30.2 |
| 1921 | 63， 696 | 12.8 | 814， 905 | 92.6 | 754， 834 | 11． 85 | $118 \frac{1}{2}$ | 138 | 127 | 173 | 279，406， 799 | 17，251， 482 | 3． 3 |
| 1922 | 62， 317 | 13．9 | 867， 598 | 100.7 | 873， 412 | 14． 02 | 121 | 1393 | $120 \frac{1}{4}$ | $129{ }_{4}^{1}$ | 221，923， 18 | 19，944， 934 | 6 |
| $1923{ }^{4}$－ | 58，308 | 13. | 785，741 | 3 | 725， 501 | 12． 44 | 110 | 1191 |  |  |  |  |  |

[^125]Table 2.-Winter and spring wheat: Acreage sown and harvested, production, and farm value, United States, 1910-1923.

| Calendar year. | Winter wheat. |  |  |  |  |  | Spring wheat. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Acreage sown in preceding fall. | Acreage harvested. | Aver age yield per acre. | Production. | Average farm price Dec. 1. | Total farm value Dec. 1. | Acreage. | $\begin{gathered} \text { A ver- } \\ \text { age } \\ \text { yield } \\ \text { per } \\ \text { acre. } \end{gathered}$ | Production. | Aver- <br> age <br> farm <br> price <br> Dec. <br> 1. | Total farm value Dec. 1. |
|  | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | Bush. | 1,000 bushels. | Cents. | 1,000 dollars. | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | Bush. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | Cents. | $\begin{aligned} & \text { 1,000 } \\ & \text { dollars. } \end{aligned}$ |
| 1910 | 31, 659 | 27, 329 | 15. 9 | 434, 142 | 88.1 | 382, 318 | 18, 352. | 11. 0 | 200, 979 | 88.9 | 178, 733 |
| 1911 | 32, 648 | 29, 162 | 14.8 | 430, 656 | 88.0 | 379, 151 | 20,381 | 9.4 | 190, 682 | 86.0 | 163, 912 |
| 1912 | 33, 229 | 26, 571 | 15. 1 | 399, 919 | 80.9 | 323, 572 | 19, 243 | 17. 2 | 330, 348 | 70.1 | 231, 708 |
| 1913 | 33, 124 | 31, 699 | 16. 5 | 523, 561 | 82.9 | 433, 995 | 18, 485 | 13. 0 | 239, 819 | 73.4 | 176, 127 |
| 1914 | 37, 248 | 36, 008 | 19.0 | 684, 990 | 98.6 | 675, 623 | 17, 533 | 11.8 | 206, 027 | 98.6 | 203, 057 |
| 1915 | 42, 431 | 41, 308 | 16. 3 | 673, 947 | 94.7 | 638, 149 | 19, 161 | 18. 4 | 351, 854 | 86.4 | 304, 154 |
| 1916 | 39, 245 | 34, 709 | 13.8 | 480, 553 | 162.7 | 781, 906 | 17, 607 | 8. 8 | 155, 765 | 152.8 | 238, 062 |
| 1917 | 38, 359 | 27, 257 | 15. 1 | 412, 901 | 202. 8 | 837, 237 | 17, 832 | 12.5 | 223, 754 | 197. 0 | 440, 875 |
| 1918 | 43, 126 | 37, 130 | 15. 2 | 565, 099 | 206. 3 | 1, 165, 995 | 22, 051 | 16. 2 | 356, 339 | 200. 9 | 715, 831 |
| 1919 | 51, 051 | 50, 494 | 15. 1 | 760, 377 | 210.5 | 1,600, 805 | 25, 200 | 8. 2 | 207, 602 | 230.9 | 479, 251 |
| 1920 | 44, 861 | 40, 016 | 15.3 | 610, 597 | 148.6 | 907, 291 | 21, 127 | 10.5 | 222, 430 | 130.4 | 289, 972 |
| 1921 | 45, 625 | 43, 414 | 13.8 | 600, 316 | 95.1 | 571, 044 | 20, 282 | 10.6 | 214, 589 | 85.6 | 183, 790 |
| 1922 | 49, 787 | 42, 358 | 13.8 | 586, 878 | 104. 7 | 614, 399 | 19, 959 | 14. 1 | 280, 720 | 92.3 | 259, 013 |
| 1923 | 46, 100 | 39, 522 | 14.5 | 572, 340 | 95. 0 | 543, 825 | 18, 786 | 11.4 | 213,401 | 85.1 | 181, 676 |

Division of Crop and Livestock Estimates.
Table 3.-Wheat: Acreage, production, and total farm value, by States, calendar years, 1921-1923:

| State. | Thousands of acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 19231 | 921 | 1922 | 19231 | 1921 | 1922 | 19231 |
| M | 11 |  |  | 187 | 100 | ${ }^{56}$ | 327 | 170 | 184 |
| Vermon | 9 | 矿 | $\stackrel{4}{4}$ |  | 84 8,966 | $\begin{array}{r}84 \\ 159 \\ \hline 1\end{array}$ | 158 9.868 | 122 10 1880 | 118 8.974 |
| New Jorse | 81 | 77 | 74 | 1,539 | 1,540 | 1,480 | 1,739 |  | 1,628 |
| Pennsylì | 1,365 | 1,339 | 1,233 | 23,850 | 24,722 | 24, 338 | 24, 266 | 27, 194 | 24, 338 |
| elaw | 13 | 109 | 106 | 1, 300 |  | 1, 1,908 | +1,274 | 10,907 | 1,908 |
| Marylan | $\begin{array}{r}159 \\ 847 \\ \hline\end{array}$ | 578 <br> 838 | ${ }^{543} 8$ | 8,301 | 10,375 | 11, 145 | ${ }_{9}^{8,629}$ | 12,658 | 12,260 |
| West Virgi | 250 | 240 | 228 | 3,125 | 2,760 | 2,964 | 3,656 | - 3,367 | - $\begin{aligned} & \text { 3, } \\ & 7 \\ & 7\end{aligned}$ |
| orth Car | 600 | ${ }^{600}$ | 544 | 4, 500 | 5, ${ }^{5} 100$ | 6,038 | 6,480 2,700 |  | 29 |
| South Carol | 118 | 190 | 189 | ${ }_{1}^{1,449}$ | 1, 520 | 1,739 | 2, 536 | $\stackrel{2,280}{2,}$ | ${ }_{2}^{2,556}$ |
| Ohio. | 2,434 | 2,526 | 2,350 | 30, 185 | 35, 374 | 42,783 | 32,600 | 41,388 | 42,355 |
| Indiana | 2,016 | 1,996 | $2,077$. | 24, 192 | 28, ${ }_{5128}$ | 34, 248 | 25, 844 | 32, 399 | 33, 563 58,756 |
| ${ }_{\text {Mi }}$ Ilinois | 2,909 | ${ }^{3} 1,196$ | 3, ${ }^{\text {9776 }}$ | 46, 4 , 840 | 14,326 | 16,576 | 15,433 | 16,475 | 15,913 |
| ${ }_{\text {Wisconsin }}$ | ${ }_{214}$ | ${ }_{1}^{1,176}$ | 119 | 2,812 | 3,006 | 1,970 |  | 3,096 |  |
| Minnesota | 2,371 | 1, 889 | 1,728 | 22, 838 | ${ }_{17}^{27,276}$ | 20,785 | 22, 249 | 27, 448 | 19,746 |
| Mowa | 3,206 | 731 3,105 | 2,919 | 34,952 | 16,452 | - | 34, 602 | - 40,759 | 36,809 |
| North | 9,500 | 8,980 | 8,262 | 80,750 | 126, 618 | 58,660 | 68,638 | 113, 956 | 50, |
| South Dak | 2,845 | 2,989 | ${ }_{2}^{2,812}$ | 25, 980 | -40,012 |  | 22, 680 | +36,811 | -21, ${ }^{293}$ |
| Nebrask | -3,967 | ${ }_{9}^{4,756}$ | 8, ${ }_{89}$ | 128, 695 | 122,861 | 83,804 | 119, 687 | 120, 404 | 76,202 |
| Kansas |  |  | ${ }_{620}$ | 6,340 | 7,475 | 7,688 | 7,291 |  |  |
| Tennessee | 450 | 472 | 42 | 4,500 | 4,484 | 4,508 | 5,400 | 5, 515 | 84 |
| Alabama | ${ }^{20}$ | 20 5 | ${ }_{4}^{20}$ | 84 | 218 60 | 60 | 109 | 87 | 6 |
| Mississip | ${ }^{2}{ }^{6}$ | 1,249 | 1,559 | 20,810 | 9,992 | 16,370 | 20,810 | 10,991 | 16,861 |
| Oklahoma | 3,786 | 3,300 | 3,300 | 47, 325 | 31,350 | 36, 770 | 40, 700 | 30, 723 | 3,759 |
| Arkansas |  | 78 | 70 |  | 52,714 | 52,486 | 28,416 | 46,916 | 43, 039 |
| Montana | 2, 193 | ${ }^{3,618}$ | 3, 175 | ${ }_{3,316}$ | 2,506 | 2,785 | 2,620 | 2,055 | 2, 228 |
| Coborado | 1,719 | 1, 105 | 1,390 |  | 21,776 | 18,000 <br> 1,300 | - $\begin{array}{r}17,662 \\ 3,242 \\ \hline\end{array}$ | - | - |
| New M | 40 | 49 | 42 | ${ }^{3} 840$ | 1,274 | 1,092 | 1,050 | 1,465 | ${ }^{1,529}$ |
| Utah | ${ }_{2}^{276}$ | ${ }_{91}^{294}$ | ${ }_{20}^{272}$ | 6, ${ }^{693}$ | 5, 585 | 507 | ${ }^{4}, 7425$ | , 176 | ${ }^{\text {5, }} 588$ |
| Nevad | 1,123 | 1, 123 | 1,052 | 26,952 | 24,275 | 30, 115 | 19; 405 | ${ }^{21,847}$ | ${ }^{24,092}$ |
|  | 2,550 | 2, 186 | 2,470 | 58, ${ }_{\text {che }}$ |  |  | 50,091 <br> 21 <br> 15050 | 20,412 |  |
| Oregan- | 1, ${ }_{557}$ | 1,712 |  | 28, 355 | 15, 308 | 16, 157 | 8,940 | 17,604 | 17,450 |
| United S | 63, 696 | 62, 317 | 58,308 | 814, 005 | 887, 598 | 785, 741 | 754, 834 | 873, 412 | 725, 501 |

[^126]${ }^{1}$ Preliminary.

Table 4.-Winter and spring wheat: Aerbage sown and harvested, production, and farm value December 1, by States, in catendiar year 1923.

| State. | Winter wheat. ${ }^{1}$ |  |  |  |  |  | Spring wheat. ${ }^{1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Acreage sown in preceding fall. | $\begin{gathered} \text { Aere- } \\ \text { age } \\ \text { hast- } \\ \text { vested. } \end{gathered}$ | Aver age yield per acre. | Pro-duction. | $\begin{array}{\|c\|} \hline \text { Aver- } \\ \text { age } \\ \text { farm } \\ \text { price } \\ \text { Dee. } \\ 1 . \end{array}$ | Total farm value Dec. 1. | Acreage. | Average yield per acre | Pro-daction. | Average farm price Dec. 1. | Total farm Dec. 1. |
| Maine. | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | $\begin{aligned} & \text { t,000 } \\ & \text { acres. } \end{aligned}$ | Bush. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | Cents. | $\begin{gathered} 1,00 \theta \\ \text { doltars. } \end{gathered}$ | $\begin{array}{r} 1,000 \\ \text { acres. } \\ 6 \end{array}$ | $\begin{aligned} & \text { Bursh. } \\ & 26.0 \end{aligned}$ | $\begin{gathered} 1, \theta \theta \theta \\ \text { bushels. } \\ 156 . \end{gathered}$ | $\begin{gathered} \text { Cents. } \\ 1118 . \end{gathered}$ | 1,000 dollars. 184 |
| Vermont |  |  |  |  |  |  | 4 | 21. 0 | 84 | 140 | 118 |
| New York | 400 | 387 | 20: 4 | 7,895 | 110 | 8,684 | 16 | 18. 5 | 264 | 110 | 290 |
| New Jersey | 76 | 74 | 20.0 | 1,480 | 110 | 1,628 |  |  |  |  |  |
| Penmsylvania | 1,305. | 1,272 | 19.0 | 24, 168 | 100 | 24,168 | 11 | 15.5 | 170 | 100 | 170 |
| Debaware | 109 | 106 | 18.0 | 1,908 | 109 | 1,908 |  |  |  |  |  |
| Maryland | 581 | 543 | 19. 2 | 10, 426 | 100 | 10,426 |  |  |  |  |  |
| Virgimia. | 859 | 838 | 13: 3 | 11, 145 | 110 | 12, 260 |  |  |  |  |  |
| West Virgima | 236 | 228 | 13. 0 | 2,964 | 116 | 3,438 |  |  |  |  |  |
| North Carolina | 555 | 544 | 11. 1 | 6, 038 | 128 | 7, 729 |  |  |  |  |  |
| South Carolina | 179: | 175 | 11. 0 | 1,925 | 154 | 2,984 |  |  |  |  |  |
| Georgia | 199 | 189 | 9.2 | 1, 739 | 147 | 2,556 |  |  |  |  |  |
| Ohio--- | 2, 674 | 2,340 | 18. 2 | 42, 588 | 99 | 42, 162 | 10 | 19.5 | 195 | 99 | 193 |
| Indiana | 2, 204 | 2, 072 | 16.5 | 34, 188 | 98 | 33, 504 | 4 | 15.0 | 60 | 98 | 59 |
| Illinois | 3, 559 | 3, 363 | 18.0 | 60, 534 | 94 | 56, 902 | 116 | 17.0 | 1,972 | 94 | 1, 854 |
| Michigan | 1, 014 | 968 | 17.0 | 16, 456 | 96 | 15,798 | 8 | 15.0 | 120 | 96 | 115 |
| W isconsin | 69 | 66 | 17. 0 | 1, 122 | 98 | 1, 100 | 53. | 16.0 | 848 | 98 | 831 |
| Minnesota | 111 | 94 | 16. 0 | 1,504 | 95 | 1, 429 | 1,634 | 11.8 | 19, 281 | 95 | 18,317 |
| Iowa-- | 780 | 741 | 18.5 | 13,708 | 89 | 12, 200 | 46 | 14. 0 | 644 | 89 | 573 |
| Missouri | 2,967 | 2, 914 | 13.0 | 37, 882 | 97 | 36,746 |  | 13. 0 | 65 | 97 | 63 |
| North Dakota |  |  |  |  |  |  | 8, 252 | 7.1 | 58, 660 | 86 | 50, 448 |
| South Dakota. | 128 | 77 | 12.0 | 924 | 81 | 748 | 2,735 | 9. 5 | 25, 892 | 81 | 21, 015 |
| Nebraska | 3, 763 | 2, 822 | 10. 0 | 28, 220 | 83 | 23,423 | 352 | 9. 0 | 3, 168 | 83 | 2, 629 |
| Kansas. | 11,507 | 8, 285 | 10. 1 | 83, 678 | 91 | 76, 147 | 14 | 9.0 | 126 | 91 | 115 |
| Kentueky | 842 | 620 | 12.4 | 7, 688 | 108 | 8, 303 |  |  |  |  |  |
| Tennessee | 453 | 442 | 10. 2 | 4,508 | 115 | 5, 184 |  |  |  |  |  |
| Akzbama | 22 | 20 | 10.0 | 200 | 130 | 260 |  |  |  |  |  |
| Mississippi | 4 | 4 | 15. 0 | 60 | 110 | 66 |  |  |  |  |  |
| Texas | 1,695 | 1,559 | 10.5 | 16, 370 | 103 | 16, 861 |  |  |  |  |  |
| Oxlahoma | 3, 626 | 3, 300 | 11.0 | 36, 300 | 93 | 33, 759 |  |  |  |  |  |
| Arkansas | 73 | 79 | 11.0 | 770 | 108 | 832 |  |  |  |  |  |
| Mentana | $9{ }^{90}$ | 738 | 17.0 | 12,543 | 82 | 10, 288 | 2, 793 | 143 | 39,340 | 82 | 32,751 |
| Wroming | 18 | 15 | 15. 0 | 225 | 80 | 180 | 160 | 18. 0 | 2, 560 | 80 | 2,048 |
| Colorado. | 1, 582 | 1,060 | 12.0 | 12,729 | 83 | 10, 558 | 330 | 16. 0 | 5,280 | 83 | 4,382 |
| New Mexi | 94 | 47 | 9.5 | 446 | 108 | 482 | 61 | 14.0 | 854 | 108 | 928 |
| Arizona | 46 | 42 | 26: 0 | 1, 092 | 140 | 1,529 |  |  |  |  |  |
| Utah. | 152 | 148 | 19.9 | 2,945 | 91 | 2,680 | 124 | 29.2 | 3,621 | 91 | 3,298 |
| Nevada | 3 | 5 | 25.7 | 77 | 115 | 89 | 17 | 25. 3 | 430 | 115 | 494 |
| Idaho | 409 | 393 | 28.0 | 11, 004 | 80 | 8,803 | 659 | 29.0 | 19, 111 | 80 | 15,289 |
| Wastingt | 1,417 | 1,346 | 27.5 | 37, 015 | 85 | 31, 463 | 1, 124 | 220 | 24, 728 | 85 | 21, 019\% |
| Oregon | 808 | 869 | 25.0 | 21, 725 |  | 19,118 | 242 | 22.0 | 5, 082 | 88 | 4,472 |
| Californ | 813 | 748 | 21.6 | 16, 157 | 108 | 17, 450 |  |  |  |  |  |
| United States_ | 46, 100 | 39, 522 | 14.5 | 572, 340 | 95.0 | 543, 825 | 18, 786 | 11.4 | 213, 401 | 85.1 | 181,676 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 5.-Durumb wheat ${ }^{1}$ : Estimated yield per acre and production in four States.

| Calendar year. | Yield per acre. |  |  |  |  | Production. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Minnesota. | North <br> Dakota. | South Dakota. | Montana. | Four States. | $\begin{aligned} & \text { Minne- } \\ & \text { Sota. } \end{aligned}$ | North Dakota. | South Dakota. | Montana. | Four States. |
|  | ${ }^{\text {Bu }}$. | Bu. | ${ }^{B u}$. | Bu. | Bu. | 1,000 bu. | 1,000 but. | 1,000 bu. | 1,000 bu. | $1,000 \mathrm{~b} u$ |
| 1918 | 120.0 20.0 | 14.0 | 19.5 | 9.09 | 10.9 15.2 | 1,560 | 14,168 30 | 12, 403 | 1,343 | 50, 235 |
| 1919 | 11.9 | 7.9 | 9.8 | 4.5 | 8.2 | 1,485 | 21, 720 | 6, 848 | 943 | 30, 996 |
| 1929 | 12.0 | 10. 5 | 12.4 | 11.5 | 10.9 . | 1,383 | 29, 209 | 7, 131 | 4, 231 | 41,954 |
| 1921 | 11.9 | 9. 7 | 11. 0 | 11. 2 | 10.1 | 1,754 | 36, 741 | 10, 570 | 4, 259 | 53, 324 |
| 1922 | 16. 0 | 15. 0 | 15. 5 | 147 | 15.2 | 3, 960 | 56, 978 | 21,979 | 4,106 | 87, 023 |
| 1923 | 11.5 | 8.8 | 12. 0 | 10.5 | 9.8 | 2, 438 | 27, 627 | 15,096 | 1,457 | 46, 618 |

## Division of Crop and Eivestock Estimates.

${ }^{1}$ Also included in spring wheat, table 4.

Table 6.-Wheat: Yield per acre, calendar years, 1908-1923.

| State |  |  |  |  |  | 13 | $\begin{aligned} & \mathrm{AV} . \\ & 1909 . \\ & 1913 . \end{aligned}$ |  |  |  |  |  |  |  | $\begin{array}{\|l} \text { A } \bar{\prime} . \\ 191- \\ 1920 . \end{array}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bu. |  |  | Bu. | $B u$. | Bu. | $B u$. | Bu. | $B u$. | $B u$. | Bu | Bu. | Bu. | . | $B u$. |  | Bu |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rm |  |  |  |  |  | 0 |  |  |  |  |  |  | 16 | 9. |  | 14.0 | 19 |  |
| W Yo |  |  |  |  |  | ${ }^{2} 17$ |  | 22. |  |  |  |  |  |  |  |  |  |  |
| New Jers |  |  |  |  | 8. 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Delaware |  | 4. 0 | 17 |  |  |  |  | 20.5 | 15.0 | 15.0 | 16.5 | 513.01 | 12 |  |  |  |  |  |
| Mar |  |  |  |  |  | 13.3 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 11.6 | 13.6 |  | 514.5 | 13.8 | 12.7 | 713.0 | 12.01 | 11 |  |  |  |  |  |
| West V |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| North C |  |  |  |  |  |  |  | , |  |  |  |  |  |  |  |  |  |  |
| South |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Georg |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| In |  |  |  |  |  |  |  | 17.4 |  |  |  |  |  |  |  |  |  |  |
| III |  | 0.17 .4 |  |  |  |  |  | 718.5 | 13.0 | 11.0 | 18.7 |  |  |  |  |  |  |  |
| Michig |  |  | 18.0 |  | 10.0 | 5. 3 |  | 619.7 | 22.3 | 16.6 | ${ }^{1}$ | 4. 2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 19. | 22 | 17.6 |  |  |  |  |  |  |  |  |
| Minne |  |  |  |  |  |  |  | 10.6 |  |  |  |  |  |  |  |  |  |  |
| Iowa |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| orth D |  | 14.7 | 13.8 |  | 125 |  | $11.8$ | 11 | 18.3 |  | 8.0 | 17. | 6 |  |  |  |  |  |
| South D |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nebrask |  |  |  | 13. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Kans | 12 | 14. | 14.1 | 10. | 15. |  |  | 2.5 | 12.5 | 120 | 12. | 14.1 | 12. |  |  | 12.2 | , |  |
| Kentuck |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 5 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 13.0 |  |  |  |  |  |  |  |  | ${ }^{0}$ |  |
| Mississip |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {O }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ar |  |  |  |  |  | 13.0 |  | 13. |  |  |  |  |  |  |  |  |  |  |
| Montana | 24 | 30. | 22.0 | 28. | 24.1 | 123.8 |  | 22.2 | 26.5 | 19.3 | 10. |  |  |  |  | 12. 3 | 14 |  |
|  |  | 28. | 25.0 | 26. | 28.7 | 725.0 |  | 822.9 | 26.5 | 21.6 | 621.2 | 25.4 | 14. |  | $21.7$ | 17. 2 | $2140$ |  |
|  |  |  | 22.3 | 318.92 |  |  |  | 23. | 23.81 | 19.8 | ${ }^{22}$ |  |  |  |  |  | $\begin{array}{r} 13.4 \\ 8.4 \end{array}$ |  |
| Newr |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | ${ }^{22} 2.3$ | 122 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Neva |  |  |  |  |  |  |  | ${ }_{2}^{29 .}$ | 29.6 | 28.9 | 27. 8 | 25. | 21. 2 |  |  | 23. | 20 |  |
| Idaho |  | 27. | 22.6 | 630. | 28. | $6{ }^{27 .}$ |  | ${ }^{26}$ | 28 | 23. | 20. |  |  |  |  |  |  |  |
|  |  |  | 6. 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 17 |  |
| Californi |  | 6.14 .0 |  | 18.01 |  |  |  |  |  |  |  | 815.0 |  |  |  |  |  |  |
| Unite |  |  | 13.91 | 912.51 | 15.9 | \|15.2 |  | \|16.6| |  |  | 214.1 |  | 12.8 | 813.6 | 14. | 12.8 |  |  |

Division of Crop and Livestock Estimates.
Table 7.-Winter wheat: Yield per acre in States producing both winter and spring wheat, calendar years, 1908-1923.

State.

| State. |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\left\lvert\, \begin{array}{c\|c\|} \hline \text { Avi } \end{array}\right.$ |  |  | 23 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | 1913 |  |  |  |  |  |  |  | 20 |  |  |  |
|  |  | B | $B u$. | Bu | Bu. | Bu. Bu. | Bu. | Bu. | n. $B u$. | a. Bu. | t. Bu. |  |  | Bu. | $B u$. | $B u$. | Bu. | u. |
| New Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pennsy |  |  |  | 13.5 | 518.0 0 8.0 | 8. 01818.0 | $\begin{array}{\|} 16.7 \\ 14.8 \end{array}$ | $\begin{aligned} & 18.18 \\ & 18 \end{aligned}$ |  | $: 5113.0$ |  | $50177.0$ | $017$ | $\begin{array}{l\|l\|l\|} 5 & 16.6 \\ 0 & 12.7 \end{array}$ |  | $17.5$ |  |  |
|  |  |  | 15.6 | 14.7 |  |  |  |  | 17.2 | 212.0 | 018.5 | 521.0 | 015.0 | 012.0 |  | 12.0 |  |  |
|  |  | 17 | 15. |  |  | 8.318.7 |  | 118.5 |  |  | 018.5 |  |  | 5.1 |  | 16. 2 |  |  |
| Michigan |  | 18.8 | 18.0 | 18.0 | 010. | 8. 0115 | 16.0 | 019.7 | 721.3 | 316.6 | 618.0 | 014.0 | 020.3 | 315.6 |  | 16.0 | 014. |  |
| W isconsin | 19.5 |  |  | 17. |  |  |  |  |  | 019.0 | 024. |  | 19.6 | 622 |  | 16.0 | 018. 6 |  |
| Minnes |  |  |  |  |  |  |  |  | 519.5 | 514.0 | 018 |  | 15. |  |  |  |  |  |
| Iowa | 21. |  | 21.2 |  | 23.0 | 3. 023.4 |  | 821.6 | 621.5 | 518 | 517.5 |  | 18.3 | 3 |  |  |  |  |
| M issour |  |  |  |  | 712.5 |  |  |  | 2 | . | S |  | $2{ }^{13} 5$ | 512.5 |  |  |  |  |
| South D |  |  |  |  |  | 9.0 |  |  | $02051$ | 5185 | 514.0 | 017.0 | 013.0 | 014.5 |  | 5 |  |  |
| Nebrask |  |  |  |  |  | . 5118.6 |  | ${ }_{6} 112.318$ | ${ }_{512}^{318.518}$ | ${ }_{512.0}^{520} 0$ | ${ }_{0}^{012.0}$ | ${ }_{2}^{0} 11.1$ | ${ }_{1}^{134.8} 8$ | 817.4 |  | 2. 2 | 14.5 |  |
| Kansas-- |  |  |  |  | 15.5 | 5.513 .0 |  | ${ }_{3} 20.5$ | 5125 | 512.0 | 012 | $2{ }_{0}^{14.1}$ | ${ }_{7}^{13.8}{ }^{13}$ |  |  |  |  |  |
|  |  |  |  | 361.7 | 724 | . $0^{255} 6$ |  | 324.0 | ${ }_{26}^{27}$ | ${ }^{21.5}$ | ${ }^{5} 2130$ | $0{ }^{124} 0$ | ${ }_{0}{ }_{12}^{5.0}$ | ${ }_{0}^{2120.0} 0$ |  | 18.0 |  |  |
| Colorado |  |  |  | 18.0 | 024.5 | 521.1 |  | 325.0 | 0220 | 020. | 023. |  | 513.2 | 217 |  | 12.0 | 013. |  |
| New |  |  |  | 25.0 | 020 | 0.18 |  |  | 022.0 | 0,18. 5 | , | 010.0 | 0 19.1 |  |  |  |  |  |
| Utah | 23.0 |  |  | 20. | 24.0 | 4. 023. | 22.3 | 3250 | 025.0 | 022. | 014.0 | 116 | 6127 | 715. |  | 519.9 | 914.0 |  |
| Nevada |  |  | 24.0 | 23.0 | 027.5 | 7. 523.0 |  |  | 026.0 | 024.5 | 526.0 | 29. | 019.7 |  |  | 720.2 | 219 |  |
|  | 30. |  | 23 | 31.5 | 528.7 | 727.4 |  | i 27.5 | 529. | 024.0 | 018.0 | 022.0 | 0.18 .5 | 520.0 |  | 24.0 | 019. 5 | 528.0 |
|  |  |  | 2. | 27. 3 | 327.6 | 7.627.0 |  | ${ }_{6} 220.5$ | 5 27. 6 | 622.5 | 51.5 | 523.5 | 52.1 | 124.0 |  | 27.9 | 915.6 | ${ }^{6} 27.5$ |
| Oregon |  |  | 23.7 |  | 226 | 6.8 21.4 |  | 022.0 | 024.0 | 023.0 | 017.5 | 517.0 | O21.2 |  |  |  |  |  |
| Unite | 14.4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table 8.-Spring. wheat: Yield per acre in States producing both winter and spring wheat, calendar years, 1908-1923.

| State. | 1908 | $1909$ | 1910 | 911 | 1912 | 1913 | $1909$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | A v: <br> 1914 <br> 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 920 |  |  |  |
|  | $B u$. | Bu. | Bu. | Bu. | $B u$. | Bu. | Bu. | $B u$. | Bu. | Bu. | $\left.\begin{array}{\|c\|} \hline B u \\ 21.0 \end{array} \right\rvert\,$ |  |  | $\begin{gathered} B u . \\ \hline 18.0 \\ \hline \end{gathered}$ | $B u$. | $\begin{array}{\|c\|} B u \\ 14.5 \end{array}$ | $\left\lvert\, \begin{aligned} & B u \\ & 16.0 \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & B u . \\ & 16.5 \end{aligned}\right.$ |
| W York |  |  |  |  |  |  |  |  |  |  |  | 17.0 | 15. $0^{1}$ | 16. |  | 15.0 | 15.0 | 15.5 |
| Ohio |  |  |  |  |  |  |  |  |  |  |  | 23.5 | 16. 0 | 13. |  | 12.51 | 15.0 | 19. 5 |
| Indiana |  |  |  |  |  |  |  |  |  |  | 20.0 | ${ }^{23 .} 0$ |  | 12.0 |  | 12.0 | 0 | 17.0 |
| Illinois |  |  |  |  |  |  |  |  |  |  |  |  |  | 16. 5 |  |  | 14. 5 |  |
| Michigan |  |  |  |  |  | 18.6 | 17.9 |  |  |  |  |  |  |  |  |  |  |  |
| Wisconsin |  | 8 | 18.7 | 14.5 | 15.5 | 18.6 | 14.9 | 10. |  |  |  |  |  |  | $\begin{aligned} & 18.1 \\ & 13.2 \end{aligned}$ | ${ }_{9} 5$ | 13.7 | 11.8 |
| Minne | $-\begin{gathered} 12.8 \\ 15.51 \end{gathered}$ | 14.8 | 16.9 | 13 | 17.5 | 17.0 |  |  |  |  |  |  |  | 11.3 | 14.8 | 10.3 | 14.3 | 14.0 |
|  | 15.5 |  |  |  |  |  |  |  |  |  | 9. 0 | 15.6 | 8. 5 | 13.0 |  | 12.0 | 3. 5 | 13.0 |
| South Dak | 12. |  | 12.8 | 4.0 | 14.2-2 | 9.0 | 10.8 | 9.0 | 17.0 |  | 14.0 | 19.0 | 8. 0 |  |  |  |  | 9. 5 |
| Nebraska | 13. | 14.0 | 13. 9 | 10.0 | 14.1 | 12.0 | 12.8 | 11.5 | 16.0 | 12.5 |  | 11. 9 |  |  |  |  |  | 9. 0 |
| Kansas |  | ${ }^{11.5}$ |  |  | 15.0 | 8. 5 | 9.5 | 15.0 | 12.0 | 10.5 |  |  |  |  |  |  |  | 9. <br> 4 |
| Monta | 24.2 |  |  | 25.2 |  | 25.5 | 24. 21 |  |  |  |  |  |  | 20.0 | 22.0 |  | 4. 0 | 16.0 |
| W yomin | 21. | 29. | 21.9 | 19.5 | 24.0 | 21.0 | 23.2 |  |  | 19.5 | 22.0 | 17.5 | 15.4 | 19.4 | 19.6 | 19.0 | 15. | 16.0 |
| New ${ }^{\text {M }}$ | 25.0 | 24.5 | 20. | 20.5 | 22.0 | 19.0 | 21.2 | 23. | 22. | 21.5 | 18. 0 | 24.0 | 18.7 | 18. 5 |  |  |  | 14.0 |
| Utah | 27.5 | 28.5 | 25.3 | 27.0 | 29.2 | 28. 0 |  | 25. | 28. | 25. 0 |  | 23. |  | 23.7 |  |  |  |  |
| Nevada | 30.0 | ${ }^{28 .} 7$ | 29. 0 | 32.5 | 30.2 | ${ }^{31.0}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Idaho- |  |  | 20.4 | ${ }^{29 .} 0$ | ${ }^{28.3}$ |  |  |  |  |  |  |  | 13.0 | 11.9 | 16.0 | 15.0 | 9.3 | 22.0 |
| Washingt Oregon. | 16.5 | ${ }^{20.6}$ | 14.5 | 17.7 | 19.5 | 19.5 | 18.7 | 16. | 17. | 23.0 | 11.0 | 11.0 | 13.0 | 17. | 15 | 17.0 | 11.5 | 21.0 |
|  |  |  | 11.0 | 9.4 | 17.2 | 13.0 | 13. | 11.8 | 18.4 | 8.8 | 12.5 | 16.2 | 8.2 | 10.5 | 12. | 10.6 | 14. | 11.4 |

## Division of Crop and Livestock Estimates .

Table 9.-Winter and spring wheat: Condition of crop, United States, 1 st of month, yield per acre, and per cent of winter wheat area abandoned, calendar years, 1890-1923.

| Calendar year. | Winter wheat. |  |  |  |  |  |  | Spring wheat. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | De-cember of previous year. | Apr. | Area abandoned. | May. | June. | July. ${ }^{1}$ | Yield per are. | June. | July. | Aug. | Sept. ${ }^{1}$ | Yield per acre. |
|  |  | $P$. ct. | $P$ ct. | $P$. ct. | P. ct. | $P$. ct. | Bush. | $P . c t$. | $P . c t$. | $P$. ct. | $P$ Pt. | Bush. |
| 1890 | P. ${ }_{95.3}$ ct. | P. 81.0 | $P$. ct. | 80.0 | 78.1 | 76. 2 | 10.9 | 91. 3 | 94. 4 | 83.2 | 79.7 | 11.4 |
| 1891 | 98.4 | 96.9 |  | 97.9 | 96. 6 | 96.2 | 14.7 | 92.6 | 94.1 | 95.5 | 97.2 | 16. 7 |
| 1892 | 85.3 | 81.2 |  | 84.0 | 88.3 | 89.6 | 13. 7 | 92.3 | 90.9 | 86.7 | 81.2 | 2. 7 |
| 1893 | 87.4 | 77.4 |  | 75.4 | 75.5 | 77.7 | 12. 0 | 86. 4 | 74.1 | 67.0 | 68.9 | 112 |
| 1894 | 91.5 | 86.7 |  | 81.4 | 83.2 | 83.9 | 14. 0 | 88.0 | 68.4 | 1 | 69.9 | 1.5 |
| 1895 | 89.0 | 81.4 |  | 82. 9 | 71.1 | 65.8 | 11.6 | 97.8 | 102. 2 | 9 | 94.9 | 18. 0 |
| 1896 | 81.4 | 77.1 |  | 82.7 | 77.9 | 75.6 | 11.8 | 99.9 | 93.3 | 78. 9 | 73.8 | 5 |
| 1897 | 99.5 | 81.4 |  | 80.2 | 78.5 | 81.2 | 14.1 | 89.6 100.9 | 91.2 95.0 | 86.7 | 80.8 91.7 | 12.0 |
| 1898 |  | 86.7 |  | 86.5 | 90.8 | 85.7 65.6 | 14.9 | 100.9 91.4 | 91.7 | 83. 6 | 77.2 | 13.3 |
| 189 | 92.6 | 77.9 |  | 76. 2 | 67.3 | 65.6 80.8 | 13. 3 | 87.3 | 55.2 | 56.4 | 56.1 | 10.6 |
| 1900 | 97.1 | 82.1 |  | 88.9 | 82.7 | 80.8 88.3 | 13. 3 | 87.3 92.0 | 95. <br> 9 | 88.3 | 78.4 | 14.7 |
| 1901 | 97.1 | 91.7 | 6.3 | 94.1 | 87.8 | 88.3 | 15.2 | 92.0 | 92.4 | 89.7 | 87.2 | 14.7 |
| 1902 | 86.7 | 78.7 | 15. 1 | 76.4 | 76.1 | 77.0 | 14.4 | 95.4 95.9 | 82.5 | 77.1 | 78.1 | 14.0 |
| 1903 | 99.7 | 97.3 | 2.8 | 92.6 | 82.2 | 78.8 | 12. 3 | 95.9 93.4 | 82.5 93.7 | 87.5 | 66.2 | 12.8 |
| 1904 | 86.6 | 76.5 | 15.4 | 76.5 | 77.7 | 78.7 | 12.4 | 93.4 | 93.7 91.0 | 87.5 | 87.3 | 14.7 |
| 1905 | 82.9 | 91.6 | 4.6 | 92.5 | 85.5 | 82 | 14. | 93. 7 | 91.4 | 86.9 | 83.4 | 13.7 |
| 1906 | 94.1 | 89.1 | 5. 5 | 90.9 | 82.7 | 85.6 | 16. ${ }^{14.6}$ | 88.7 | 87.2 | 79.4 | 77.1 | 13.2 |
| 1907 | 94.1 | 89.9 | 11. 2 | 82.9 89.0 | 77.4 86.0 | 78. 3 80.6 | 14.6 | 95. 0 | 89.4 | 80.7 | 77.6 | 13.2 |
| 1908 | 91.1 | 91.3 | 3.9 | 89.0 | 86.0 | 80.6 |  |  |  | 91.6 | 88.6 |  |
| 1909 | 85.3 | 82.2 | 7.4 | 83.5 | 80.7 | 82.4 | 15.8 | 95.2 | 92.7 61 | 61.0 | 63.1 | 11.0 |
| 1910 | 95.8 | 80.8 | 13.7 | 82.1 | 80.0 | 81.5 | 15.9 14.8 | 92.8 94.6 | 61.6 73.8 | 61.0 59.8 | 68.7 56.7 | 9.4 |
| 1911 | 82.5 | 83.3 | 10.7 | 86.1 | 80.4 | 76.8 | 14.8 | 94.6 95.8 | 79.8 89.3 | 90.4 | 90.8 | 17.2 |
| 1912 | 86.6 | 80.6 | 20.0 | 79.7 91.9 | 74.3 83.5 | 73.3 81.6 | 16. 5 | 95.8 93.5 | 73.8 | 74.1 | 75.3 | 13.0 |
| 1913. | 93.2 | 91.6 | 4.3 | 91.9 | 83.5 | 81.6 |  | 4 | 78.2 | 75.4 | 74.9 | 13.3 |
| Av. 1909-1913 | 88.7 | 83.7 | 11.2 | 84.7 | 79.8 | 79.1 | 15.6 | 94.4 |  |  |  |  |
| 1914 | 97.2 | 95.6 | 3.3 | 96.0 | 92.7 | 94.1 | 19.0 | 95.5 | 92.1 | 75.5 | 68.0 | 11.8 |
| 1915 | 88.3 | 88.8 | 2.6 | 92.9 | 85.8 | 84.4 | 16. 3 | 94.9 | 93.3 | 93.4 | 94.6 48.6 | 18.4 8.8 |
| 1916 | 87.7 | 78. 3 | 11.6 | 82.4 | 73.2 | 75.7 | 13.8 | 88.2 91.6 | 83.6 | 68.7 | 71.2 | 12.5 |
| 1917 | 85.7 | 63.4 | 28.9 | 73.2 | 70.9 83.8 | 75.9 79.5 | 15. 2 | 91.6 | 88.1 | 79.6 | 82.1 | 16.2 |
| 1918 | 79. 3 | 78.6 | 13.9 | 86.4 | 83.8 94.9 | 79.5 89.0 | 15. 1 | 95.2 91.2 | 80.9 | 53.9 | 48.5 | 8.2 |
| 1919 | 98.5 | 99.8 | 1.1 | 100.5 | 94.9 78.2 | 89.0 79.7 | 15. 3. | 88.1 | 88.0 | 73.4 | 64.1 | 10.5 |
| 1920 | 85.2 | 75.6 | 10.8 | 79.1 | 78.2 | 79.7 | 15.3 | 8.1 |  |  |  |  |
| 14 | 88.8 | 82.9 | 10.3 | 87.2 | 82.8 | 82.6 | 15.7 | 92.2 | 87.6 | 72.6 | 68.2 | 12.3 |
|  |  |  |  | 88.8 | 77.9 | 77.2 | 13.8 | 93.4 | 80.8 | 66.6 | 62.5 | 10.6 |
| 1921 | 76. 0 | 91.0 78.4 | 4.8 14.9 | 83.5 | 81.9 | 77.0 | 13.8 | 90.7 | 83.7 | 80.4 | 80.1 | 14.1 |
| 1923 | 79.5 | 75.2 | 14.3 | 80.1 | 76.3 | 76.8 | 14.5 | 90.2 | 82.4 | 69.6 | 65.1 | 11.4 |
| 1924 | 88.0 |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 10.-Wheat: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1923.

| - Calendar year. | Deficient moisture. | $\begin{array}{\|c\|} \text { Ex- } \\ \text { cess- } \\ \text { iye } \\ \text { mois- } \\ \text { ture. } \end{array}$ | Floods. | $\left\lvert\, \begin{aligned} & \text { Frost } \\ & \text { or } \\ & \text { reeze. } \end{aligned}\right.$ | Hail. | Hot winds | Storms. | Total cli-matic. | Plant disease. | Insect pests. | Animal. pests. | De-fective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | $\boldsymbol{P} . c t$. | P.ct. | P. ct. | P.ct. | P.ct. | P.ct. | P. ct. |
| 1909 | 8.5 | 3.2 | 0.7 | 2.4 | 2.0 | 1.2 | 0.6 | 18.9 | 1.6 | 1.1 | 0.2 | 0.3 | 22.8 |
| 1910 | 18.9 | . 9 | . 2 | 6. 6 | . 5 | 2.6 | . 2 | 30.0 | . 9 | 1.9 | . 4 | . 4 | 33.8 |
| 1911 | 25.5 | . 8 | ${ }^{(2)}$ | 1.5 | . 4 | 3. 8 | .1 | 32.3 | 1.9 | 1. 9 | . 2 | . 2 | 37.8 |
| 1912 | 8. 1 | 1. 8 | . 3 | 9.5 | 1. 5 | 1. 8 | . 4 | 24.0 | 1. 8 | 2.3 | . 3 | . 2 | 29.5 |
| 1913 | 14.2 | . 4 | . 2 | 1.9 | . 7 | 1. 7 | . 3 | 20.0 | . 3 | 2. 2 | . 1 | . 1 | 23.5 |
| 1914 | 6. 7 | 1. 4 | . 1 | 1. 1 | 1.0 | 2.7 | . 2 | 13.4 | 3.0 | 2.6 | . 1 | . 1 | 19.8 |
| 1915 | 1. 3 | 7. 3 | 1. 0 | 1. 2 | 1.6 | . 1 | . 4 | 13.0 | 2. 4 | 3. 6 | . 1 | . 1 | 19.7 |
| 1916 | 6. 9 | 3. 8 | . 6 | 5.1 | 1. 3 | 2. 7 | . 2 | 21.2 | 12.6 | 4.0 | . 1 | . 1 | 38.7 |
| 1917 | 19.1 | . 4 | . 1 | 11.8 | 1. 0 | 1. 6 | . 2 | 34.4 | . 7 | . 7 | . 1 | . 1 | 38.3 |
| 1918 | 14.6 | . 3 | . 1 | 3. 8 | 1. 1 | 2. 0 | . 2 | 22.4 | 1.5 | 1.1 | . 3 | . 1 | 25.7 |
| 1919 | 12.3 | 6. 2 | . 4 | 1. 3 | . 8 | 2.9 | . 3 | 24.3 | 10. 2 | 2.5 | . 1 | ${ }^{(2)}$ | 37.6 |
| 1920 | 8. 1 | 2. 3 | . 2 | 1. 0 | 1. 0 | 1. 5 | 4 | 17. 6 | 9.5 | 4. 4 | . 1 | . 1 | 32. 2 |
| 1921 | 13.3 | 2. 0 | 2 | 1. 8 | 1. 4 | 3.6 | . 3 | 23.9 | 5. 2 | 3. 6 | . 1 | . 1 | 33.1 |
| 1922. | 13.1 | 2.0 | .4 | . 6 | 2.0 | 1.4 | 1.2 | 21.4 | 3.4 | 3.4 | . 1 | . 1 | 28.7 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Includes all other causes.
${ }^{2}$ Less than 0.05 per cent.
Table 11.-Winter wheat: Percentage of acreage abandoned, ${ }^{1}$ calendar years, 1908-1923.


## Division of Crop and Livestock Estimates.

${ }^{2}$ Based on percentages reported abandoned to May 1 by crop reporters.

Table 12.-Wheat: Acreage and yield per acre in undermentioned countries.
NORTHERN HEMISPHERE.


Table 12.-Wheat: Acreage and yiedd per acre in undermentioned countries-Con. SOUTHERN HEMIBPHERE.

| Cauntry. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ 1909- \\ 1913 . \end{gathered}$ | 1920-21 | 1921-22 | 1922-23 | 1923-24 | $\begin{gathered} \text { Aver- } \\ \text { age } \\ 1909- \\ 1913 . \end{gathered}$ | 1920-21 | 1922-22 | 1922-23 | 1923-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Peru | 1192 | 232 |  | 230 |  | 114.9 | 12.9 |  |  |  |
| Chile | 1., 003 | 1,258 | 1,314 | 1,285 | 1,379 | 20.0 | 18.4 | 18.0 | 18.5 |  |
| Uruguay | \% 791 | 700 | 812 | 1663 | 979 | 98. 2 | 11.1 | 12. 2 | 5.5 |  |
|  | 16, 051 | 15, 014 | 13, 927 | 16, 081 | 17, 216 | 9. 2 | 10.4 | 13. 7 | 11.8 | 14.4 |
| Union of Bouth Africa.---.--- | ${ }^{2} 803$ | 875 | 839 |  |  | ${ }^{2} 7.5$ | 8. 4 | 10.0 |  |  |
|  | 7, 603 | 9, 072 | 9, 719 | 9,781 | 10,000 | 11.9 | 16.1 | 13.3 | 11.2 | 120 |
| New Zealand | 241 | 220 | 353 | 276 | 183 | 28.7 | 31.2 | 29.9 | 30.4 |  |
| Total comparable 19091913 | 26, 684 | 27, 371 |  |  |  |  |  |  |  |  |
| Total comparable 1923.- | 25, 689 | 26, 264 | 26,125 | 28,086 | 29, 757 |  |  |  |  |  |
| World total, comparable 1909-1013 | 270, 316 |  |  |  |  |  |  |  |  |  |
| World total, comparable 1923 | 192, 196 | 204, 708 | 211, 675 | 214, 204 | 216, 470 |  |  |  |  |  |

Division of Statistical and Fistorical Research. Compiled from official sources and International Institute of Agriculture. Five-year averages are of the crops harvested during the calendar years 1909-1913 in the northern bemisphere, and during the crop seasons 1909-10 through 1913-14 in the southern hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }^{1}$ Two-year average.
One year only.
${ }^{3}$ Old boundaries.
4 Three-year average.
5 Territory of former Kingdom of Serbia.

6 Includes Bessarabia.
7 Preliminary estimate of former Russian territory within 1923 boundaries.
${ }^{3}$ Estimate of U.S. Dept. of Agriculture.

- Four-year average.

Table 13.-Wheat: Production in undermentioned countries.
NORTHERN HEMISPHERE.

| Country. | Production. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A verage 1009-1913 1909-1913. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923, preliminary. |
| NORTH AMERICA. | $\begin{gathered} \text { 1,000 } \\ \text { bushels. } \\ \text { 197, } 119 \end{gathered}$ | $\left.\begin{gathered} 1,000 \\ \text { bushels. } \\ 233,743 \end{gathered} \right\rvert\,$ | $\begin{gathered} 1,000 \\ \text { bashels. } \\ \text { 189, } 185 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 193,200 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 263,189 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 300,888 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 399,786 \end{gathered}$ | 1,000 bushels. 469, 761 |
| United States | ${ }_{1}^{690} 1108$ | 638, 655 | 921, 438 | 987,979 214,239 | 833,027 214,951 | 814, 905 | 867,598 | 785, 741 |
| Mexieo.- | ${ }^{1} 11,481$ |  |  | 2 14, 239 | 214,951 |  |  |  |
| Total comparable 1909 | 898, 708 |  |  | 1, 175, 478 | 1,111,167 |  | 1,281, 10 |  |
| Total comparable 1923 - | 887, 227 | 870,398 | 1, 110,513 | 1, 161, 239 | 1, 096,216 | $\underline{1,115,763}$ | 1, 267, 384 | 1,255,851 |
| EO |  |  |  |  |  |  |  |  |
| United Kingdom: |  |  |  |  |  | 69,776 |  |  |
| England and Wales <br> Scotland | 55,770 2,273 | 57, 2,432 | 84,249 3,216 | 63,808 3,064 | 53, 258 | 2, 568 | 2, 520 | 2 2,368 |
| Ireland. | 1,597 | 4, 573 | 5,690 | 2,452 | 1,403 | 1,451 | 1,417 |  |
| Norway | 307 | 430 | 1,087 | 1,071 | 999 | 972 | 643 | 49 |
| Sweden. | 8,103 | 6,929 | 8,888 | 9,351 | 10, 322 | 12,335 | 9, 381 | 11, 648 |
| Denmark | ${ }^{3} 5,117$ | ${ }^{2}$ | ${ }^{3} 6,330$ | ${ }^{2} 59838$ |  | 11, 145 |  |  |
| Netherlands | 4,976 | 3,949 | 5,431 4,919 | 5,856 10,585 | $\begin{array}{r}5,993 \\ 10 \\ \hline\end{array}$ | 8,562 $\mathbf{1 4 , 4 9 5}$ | 6, 10 10 615 |  |
| Belgium-.- | 14,894 | 5, ${ }_{345}$ | 4,919 509 | 10, ${ }_{466}$ | 10, 274 | 14,495 621. | 10,615 | 12,590 |
| Fraxemburg | 2 317,615 61 | ${ }^{4} 137,096$ | 4228,688 | ${ }^{187} 18.091$ | 236,829 | 323, 467 | 243, 315 | 290,474 |
| Spain | 130,446 | 142, 674 | 135, 709 | 129, 250 | 138, 605 | 145, 150 | 125, 460 | 157, 110 |
| Portugal | ${ }^{5} 11,850$ | 8 7,429 | 9,584 ${ }_{\text {9, }}$ | 8, 8178 | 1810,376 | ${ }_{6}{ }^{9,418}$ |  |  |
| Italy-..-.- | $\begin{array}{r} 8183,334 \\ 3,314 \end{array}$ | 8 139,999 ${ }^{\mathbf{3}, 031}$ | 3183,294 5 5 | ' ${ }^{\text {\% }} 169,769$ | 3 141, 337 3,586 | ' ${ }^{6} 194,071$ | 161,641 2,348 | 224,838 3,593 |
| Switzeriand | ${ }^{3} 152,118$ | ${ }^{7} 81,791$ | ${ }^{7} 85,865$ | 779,701 | 82,583 | 107, 798 | 69, 725 | 103, 604 |
| Austria. | 60,841 | 5, 983 | 5,158 | 5, 114 | 5, 434 | 6,530 | 7, 722 | 8\%,826 |
| Czechoslovakia |  |  |  |  | 26, 38 | 38,682 <br> 52 | (34,720, | 67, 67 |
| Yugoslavia | 8,9 14, ${ }^{164}$ |  |  |  | 43, 011 | 51, 809 | 44, 472 | 61, 893 |
| Greece. - | ${ }^{5} 12,620$ | 11, 505 | 13.722 | 9, 808 | 11, 188 | 11, 170 | 9, 553 | 13,506 |

[^127]- Includes 1,235,000 bushels grown in Venezia Tridentina and Venezia Giulia.
7 Excludes Alsace-Lorraine.
8 Three-year average
Territory of former Kingdom of Serbia.

Table 13.-Wheat: Production in undermentioned countries-Continued. NORTHERN HEMISPHERE-Continued.

| Country. | Production. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { A verage } \\ 1909-1913 . \end{gathered}$ | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | $\begin{aligned} & \text { 1923, } \\ & \text { prelim- } \\ & \text { inary. } \end{aligned}$ |
| EUROPE-continued. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ ${ }^{3} 42,174$ | 1,000 bushels. 29, 067 | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ $29,775$ | $1,000$ <br> bushels. $30,003$ | 1,000 bushels. 29, 239 | 1,000 bushels. 37, 704 | 1,000 bushels. 38, 783 |
| Rumania | 10 108, 212 |  | 21, 460 | 66,020 | 61, 309 | 78, 563 | 92, 008 | 102,514 |
| Poland | $11(28,629)$ |  |  |  | 22, 741 | 37, 409 | 42,378 | 53, 351 |
| Lithuania | $11(2,857)$ |  |  | 2,646 | 2,199 | 2,840 | 3,274 | 3, 166 |
| Latvia | $11(1,455)$ |  |  |  | 389 | 784 | 958 | 1,273 |
| Esthonia | 11 (344) |  |  | 472 |  | 427 | 761 |  |
| Finland. | 137 | 228 | 218 | 262 | 267 | 280 | 296 | 472 |
| Russia, including Ukraine and Northern Caucasia_ | ${ }^{11}(609,078)$ |  |  |  |  |  | 158, 418 |  |
| Total comparable 1909- $1913$ | 1,943, 086 |  |  |  |  |  | 1, 199, 345 |  |
| Total comparable 1923. | 1,326, 950 |  |  |  | 938, 084 | 1,202,828 | 1,029,500 | 1,269, 752 |
| Morocco | $12(17,000)$ | 15,656 | 22,697 | 16,391 | 17,947 | 23, 241 | 12, 894 | 23,549 |
| Algeria | 35, 161 | 28, 979 | 49, 236 | 21, 003 | 8,433 | 34, 906 | 18, 233 | 35, 611 |
| Tunis. | 6,224 | 7,312 | 11, 944 | 6,981 | 5,229 | 10,619 | 3, 674 | 9, 921 |
| Egypt | 33, 662 | 29,834 | 32, 140 | 30, 137 | 31, 710 | 37,010 | 36, 648 | 40,654 |
| Total comparable 1923_ | 92, 047 | 81, 781 | 116,017 | 74,512 | 63,319 | 105, 776 | 71,449 | 109,735 |
| ASIA. |  |  |  |  | 2, 266 | 2,425 | 2, 563 |  |
| India | 351, 841 | 382, 144 | 370, 421 | 280, 261 | 377,888 | 250,357 | 366, 987 | 369, 204 |
| Russia (Asiatic) | 151, 113 |  |  |  |  |  | 45, 359 |  |
| Japanese Empire: | 25,088 | 34,745 | 32,923 | 32, 561. | 30, 155 | 28,575 | 27,617 | 26,483 |
| Chosen | 6,898 | 9,153 | 9,897 | 8, 8 , 53 | 10, 984 | 10, 705 | 9,922 | 9, 204 |
| Formosa | 169 | 125 | 152 | 150 | 141 | 110 |  |  |
| Kwantung | 40 | 27 | 52 | 31 | 30 | 62 |  |  |
| Total comparable 1909- $1913$ | 537, 365 |  |  |  |  |  |  |  |
| Total comparable 1923. | 383, 827 | 426, 042 | 413,250 | 321, 375 | 419,027 | 289, 637 | 403, 526 | 404,951 |
| Total Northern Hemisphere comparable 1909-1913 | 3, 471, 206 |  |  |  |  |  |  |  |
| Total Northern Hemisphere, comparable 1923. $\qquad$ | 2,690, 051 |  |  |  | 2, 516, 646 | 2, 714, 042 | 2, 771, 859 | 3, 040, 289 |

SOUTHERN HEMISPHERE.

| Country. | Average, 1909-1913. | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Peru | ${ }^{5} 2,866$ | 2, 621 | 2,282 | 2, 357 | 3, 001 | 2,800 |  |  |
| Chile | 20, 062 | 23, 120 | 20,280 | 19,920 | 23, 190 | 23, 636 | 23, 815 |  |
| Uruguay | 16,519 | 13, 061 | 6,890 | 5,948 | 7,768 | 9,944 | 3, 674 |  |
| Argentina | 147, 059 | 223, 636 | 180, 182 | 216, 954 | 156, 133 | 191, 012 | 189, 046 | 248, 752 |
| Union of South Africa ${ }^{13}$ | 6 6, 034 | 9,790 | 7,979 | $\begin{array}{r}5,129 \\ 45 \\ \hline\end{array}$ | 7,323 145,874 | 8,419 129,089 | 6,696 109,261 |  |
| Australia--- | 90,497 6,925 | 114,734 6,808 | 75,638 6,568 | 45,975 4,560 | 145,874 6,872 | 129,089 10,565 | $\begin{array}{r} 109,261 \\ 8,395 \\ \hline \end{array}$ | 120,000 |
| Total comparable 1909 1913 | 279, 962 | 393, 770 | 299, 819 | 300, 843 | 350, 161 | $375,465$ |  |  |
| Total comparable 1923. | 237, 556 | 338, 370 | 255, 820 | 262, 929 | 302, 007 | $320,101$ | 298, 307 | 368, 752 |
| World total, comparable 1909-1913. | 3, 751, 168 |  |  |  |  |  |  |  |
| World total, comparable 1923 | 2, 927, 607 |  |  |  | 2, 818, 653 | 3, 034, 105 | 3; 070, 166 | , 409, 041 |

Division of Statistical and Historical Research. Compiled from official sources and International Institute. Parenthesis denote interpolated figures. Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[^128]Table 14.-Wheat: Area and production, prairie Provinces of Canada.

|  |  |  |  |  |  |  | Per Canadia | of total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - Province. | $1909-$ 1913. | 1919 | 1920 | 1921 | 1922 | 1923 | $\begin{gathered} \text { Average } \\ 1909- \\ 1913 . \end{gathered}$ | 1923 |
| AREA. |  |  |  |  |  |  |  |  |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |
|  | acres. | acres. | acres. | acres. | acres. | acres. |  |  |
| Manitoba. | 2, 861 | 2, 880 | 2,706 | 3, 501 | 3,126 | 2,916 | 28.8 | 12.9 |
| Saskatchewan | 4,894 | 10,587 | 10,061 | 13, 557 | 12, 332 | 12,791 | 49. 2 | 56.4 |
| Alberta....- | 1,201 | 4, 283 | 4, 074 | 5,123 | 5,766 | 5,959 | 12.1 | 26.3 |
| Total | 8,956 | 17,750 | 16, 841 | 22, 181 | 21, 224 | 21, 666 | 90.1 | 95.6 |

PRODUCTION.

|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. |  |  |
| Manitoba | 53, 174 | 40,975 | 37, 542 | 39, 054 | 60,051 | 36, 481 | 27.0 | 7.8 |
| Saskatchewan | 97, 954 | 89,994 | 113, 135. | 188, 000 | 250, 167 | . 252,622 | 49.7 | 53.8 |
| Alberta. | 24, 783 | 34, 575 | 83, 461 | 53, 044 | 64, 976 | 157, 467 | 12. 5 | 33.5 |
| Total | 175, 911 | 165, 544 | 234, 138 | 280,098 | 375, 194 | 446, 570 | 89. 2 | 95.1 |

Table 15.-Wheat: World production, 1894-1923.

| Year. | Produc-tion incountriesreport-ing allyears$1894-1923$. | Production as reported. | Estimated world totals. | Selected countries. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Russia. ${ }^{1}$ | Italy. | France. | India. | Argentina: | Australia. | Canada. |
|  | $1,000$ <br> bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. | 1,000 bushels. | 1,000 bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ |
| 18 | 1,730, 605 | 2,357, 727 | 2, 515, 616 | 477, 199 | 121, 595 | 344, 180 | 271, 375 | 61, 361 | 27, 856 |  |
| 1895 | 1,574, 080 | 1, 276, 811 | 2, 440, 445 | 309, 660 | 117, 762 | 339, 595 | 261, 293 | 46, 407 | 18, 270 |  |
| 1896 | 1, 628, 012 | 2, 328, 627 | 2, 468, 629 | 412, 038 | 145, 233 | 340, 268 | 200, 866 | 31,599 | 20, 880 |  |
| 1897 | 1, 561, 792 | 2, 112, 010 | 2, 233, 593 | 340, 170 | 86, 919 | 242, 227 | 200, 229 | 53, 388 | 28, 241 |  |
| 1898. | 2, 113, 124 | 2, 867, 948 | 3, 012, 350 | 459,289 | 137, 345 | 364, 905 | 269, 113 | 104, 981 | 41, 428 |  |
| 1899 | 1,929, 387 | 2, 643, 177 | 2,773, 061 | 454, 145 | 137, 912 | 365, 449 |  | 2 | 48, 353 |  |
| 1900 | 1,787, 154 | 2, 478, 739 | 2, 633, 405 | 422, 994 | 147, 341 | 325,542 310,913 | 264, 825 | 56,379 | 38, 562 |  |
| 1901 | 2, 017, 031 | 2, 701, 163 | 2, $9,117,721$ | 427, 782 | 181, 512 | 310, 898 | 227, 380 | -103, 758 | 12, 378 |  |
| 1902 | 1, 983, 191 | 2, 913, 652 | 3, 1272,721 | 607, 6270 | 100, 2048 | 362, 968 | 2297, 601 | 129, 671 | 74, 150 |  |
| 1903 | 2, $236,017,180$ | 3, 0006,388 | 3, 144,436 | 666, 752 | 184, 819 | 299, 639 | 359, 936 | 150, 743 | 54, 536 |  |
| 1905 | 2, 110, 003 | 3,130, 443 | 3, 309, 345 | 636, 287 | 176, 735 | 334, 838 | 283, 076 | 134, 930 | 68, 521 |  |
| 1906 | 2, 279, 413 | 3, 253, 930 | 3, 493, 206 | 543, 481 | 194, 372 | 328, 697 | 317, 950 | 155, 991 | 66, 421 |  |
| 1907 | 2, 158, 965 | 3, 012, 480 | 3, 189, 191 | 570,570 | 195, 475 |  |  | 156, 162 | 62, 591 | 112,434 |
| 1908 | 2, 000,064 | 3, 077, 785 | 3, 171, 263 | 627, 6988 | 167,917 | 316,684 <br> 359,174 | 228, 197 | 131, 010 | 90,414 | 166,744 |
| 1909 | 2, 216, 491 | $3,551,056$ $3,477,180$ | $3,625,128$ $3,575,891$ | 846, 168 | 190, 378 | 252, 963 | 359, 647 | 145, 981 | 95, 112 | 132, 049 |
| 1910 | 2, 091,735 | 3, 477, 180 | $3,575,891$ $3,570,369$ | 836,242 563,485 | 193, 493 | 222, 339 | 375, 629 | 166, 190 | 71, 636 | 230,924 |
| 1911 | 2, 232, 3278 | 3, 382,788 | 3, 3 , 857,488 | 801, 497 | 165, 720 | 324, 333 | 370, 515 | 187, 391 | 91, 981 | 224, 159 |
| 1913 | 2, 334, 362 | 4, 011, 754 | 4, 087, 654 | 1, 027, 662 | 214, 772 | 319, 370 | 368, 219 | 104, 723 | 103, 344 | 231,717 |
| 1914 | 2,267, 111 | 3, 588, 988 | 3, 625, 388 | ${ }^{2} 827$ 82, 756 | 169, 582 | 282, 689 | 312,368 376,992 | 169, 174 | 179, 036 | 169, 284 |
| 1915 | 2, 579, 924 | 4, 267, 983 | 4, 289, 583 | 2826,784 | 170, 541 | 2204,908 | 376, 9945 | 169,015 80 | 152, 420 | 262, 781 |
| 1916 | 1,968, 736 | $2,515,591$ $2,426,838$ | $3,288,291$ $3,133,838$ |  | 139, 999 | 3 137, 096 | 382, 144 | 223, 636 | 114, 734 | 233, 743 |
| 1917 | 1,965, 624 | 2, 774, 877 | 3, 147, 677 |  | 183, 294 | ${ }^{3} 228,688$ | 370, 421 | 180, 182 | 75, 638 | 189, 074 |
| 1919 | 2, 190, 147 | 2, 668, 701 | 2, 997, 051 |  | 169, 769 | 3187,091 | 280, 261 | 216, 954 | 45, 975 | 193, 260 |
| 1920 | 2, 202, 538 | 2, 892, 988 | 3, 033, 438 |  | 141, 337 | ${ }^{3} 236,929$ | 377,-888 | 156, 133 | 145, 8 | 263, 189 |
| 1921 | 2, 296, 739 | 3, 105, 089 | 3, 258, 689 |  | 31 | ${ }^{3} 323,467$ | 250, 387 | 191, 012 | 109, 261 | 399, 786 |
| 1922 | 2, 242, 821 | 3, 345, 362 | 3, 348, 099 |  | 3 <br> 3 <br> 3 <br> 3 <br> 224,839 |  | 369, 264 | 248, 752 | 120, 000 | 469, 761 |
| 1923 | 2, 426, 115 | 3, 409, 041 | 3, 691, 761 |  | 224, 839 | 290, 474 | 369, 204 | 248, 75 | 120, 00 | -2, |

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }^{1}$ Includes all Russian territory reporting far years named. Further information of the territory included is given in Notes 3 and 6 on Table 16.
${ }_{2}$ Excludes Poland.
3 New boundaries.

Table 16.-Wheat: Productian in selected foreign countries, 1899-1923.


[^129]Table 16.-Wheat: Production in selected foreign countries, 1899-1923-Contd.


Division of Statistical and Historical Research. Compiled from official sources and International Institute of Agriculture. For each year is shown the production in the Northern Hemisphere during the calendar year and the succeeding harvest in the Southern Hemisphere.
${ }^{4}$ Excludes Poland.
$\boldsymbol{E}_{\text {Asiatic R }}$ Russiz during 1899 to 1905 included statistics from 4 govermments of Siberia, 4 provinces in Central Asia, and the small government of the Black Beain Transcaueasia. In 1906 no statistics were available for Akmolinsk, one of the 4 provinces of Central Asia which had been previously reported but to the other gavernments and provinces reporting were added statistics for Ural, 3 provinces of Turkestan, and 10 governments and provinces of Transcaucasia. Subsequently Asiatic Russia included 8 governments. and provinces of Siberia; 4 provinces of the Steppes, 4 provinees of Turkestan, and Ural in Central Asia; and 11 governments and provinces of Transcaucasia. The territory supplying statistical data remained the same after 1906 although in the annual publication of the Division of Rural Economics and Agricultural Statisties of the Ministry of Agrieulture for 1915 (published in 1917) the Central Statistical Committee departed from its usual grouping of the provinces of the Steppes and of Turkestan.

Ircludes estimates for all governments and provinces of Russia for which statistics are available.
Table 17.-Wheat: Monthly marketings by farmers, 1917-1923.


[^130]Table 18.-Wheat: Farm stocks, shipments, and quality, 1895-1923.

| Year beginning July 1. | Stocks in mills and elevators July $1 .{ }^{1}$ | Old stocks on farms July $1 .^{2}$ | Crop. |  |  | Total supplies (except visible). | Stocks on farms following. ${ }^{2}$ | $\|$Stocks in <br> mills and <br> elevators <br> Mar. 1, <br> follow- <br> ing. 1 | Shipped out of county where grown. ${ }^{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & \text { Quan- } \\ & \text { tity. } \end{aligned}$ | $\left\|\begin{array}{c} \text { Weight } \\ \text { per } \\ \text { bushel. } \end{array}\right\|$ | Quality. ${ }^{4}$ |  |  |  |  |
|  |  | 1,000 | 1,000 |  | Per | 1,000 |  | 0 |  |
|  | bushels. | bushels. | bushels. | Pounds. | cent. | bushels. | bushels. | bushels. | bushels. |
|  |  | 29, 007 | 569, 456 |  | 85.7 | 598, 463 | 151, 395 |  | 334, 557 |
| 1896- |  | 48, 524 | 544, 193 | 57.6 | 84.4 | 592, 717 | 113, 139 |  | 284, 315 |
| 1897 |  | 29, 239 | 610, 254 | 57.1 |  | 639, 493 | 138, 068 |  | 308, 298 |
| 1898-99 |  | 20, 196 | 772, 163 | 57.7 | 87.9 | 792, 359 | 224, 575 |  | 453,675 |
| 1899-190 |  | 71, 861 | 636, 051 | 56.9 | 83.7 | 707, 912 | 183, 286 |  | 351, 062 |
| 1900-1 |  | 58, 363 | 602, 708 | 56.3 | 87.8 | 661, 071 | 147, 674 |  | 322, 982 |
| 1901 |  | 35, 140 | 788, 638 | 87.5 | 88.8 | 823, 778 | 181, 673 |  | 389, 275 |
| 1902 |  | 54, 616 | 724, 808 | 57.6 |  | 779, 424 | 174, 664 |  | 420, 279 |
| 1903 |  | 45, 262 | 663, 923 | 57.3 |  | 709, 185 | 136, 811 |  | 386, 589 |
| 1904 |  | 37, 422 | 596, 911 | 57.4 |  | 634, 333 | 111, 072 |  | 327, 960 |
| 1905 |  | 25,545 | 726, 819 | 57.5 |  | 752, 364 | 163, 866 |  | 428, 000 |
| 1906 |  | 47, 393 | 756, 775 | 58.3 |  | 804, 168 | 211, 910 |  | 447, 589 |
| 1907 |  | 55, 438 | 637, 981 | 58. 2 | 89.9 | 693, 419 | 148, 392 |  | 379, 999 |
| 1908 |  | 33, 188 | 644, 656 | 58.3 | 89.4 | 677,844 | 137, 628 |  | 392, 441 |
| 1903 |  | 14, 171 | 700, 434 | 57.9 | 90.4 | 714, 605 | 163, 371 |  | 428, 262 |
| 1910-11 |  | 36,725 | 635,121 | 58.5 | 93. ${ }^{1}$ | 671,846 | 162, 705 | 98,597 | 352,906 |
| 1911-12 |  | 34, 071 | 621, 338 | 57.8 | 88.3 | 655, 409 | 122, 041 | 95, 710 | 348, 739 |
| 1912-13 |  | ${ }^{23,876}$ | 730, 267 | 58. 3 | ${ }_{90}^{90} 0$ | 754, 143 | 156, 471 | 118,400 | 449, 881 |
| 1913- |  | 35, 515 | 763, 380 | 58.7 | 93.2 | 798, 895 | 151, 795 | 93, 627 | 411, 733 |
| 191 |  | 32, 236 | 891, 017 | 58.0 | 89.7 | 923, 253 | 152, 903 | 85, 955 | 541, 198 |
| 1915-16 |  | 28, 972 | 1, 025,801 | 57.9 | 88.4 | 1, 054,773 | 244, 448 | 155, 027 | 633, 380 |
| 1916-17 |  | 74, 731 | 636, 318 | 57.1 | 87.0 | 711, 049 | 100, 650 | 89, 173 | 361, 088 |
| 1917-18 |  | 15, 611 | 636,655 | 58. 5 | 92.4 | 652, 266 | 107, 745 | 66, 138 | 325, 500 |
| 1918-19 |  | 8, 063 | 921, 438 | 58.8 | 93.1 | 929, 501 | 128, 703 | 107, 037 | 541, 666 |
| 1919-20 | 19,672 | 19, 261 | 967, 979 | 56.3 | 82.1 | 1, 006, 912 | 169,904 | 123, 233 | 591, 552 |
| 1920-21 | 37,304 | 49,546 | 833, 027 | 57.4 | 88.9 | 919, 877 | 217, 037 | 87, 075 | 491, 035 |
| 1921-22 | 27, 167 | 56,707 | 814, 905 | 57.0 | 85.8 | 898, 779 | 134, 253 | 75, 071 | 502, 470 |
| 1922-23. | 28, 756 | 32,359 | 867, 598 | 57.7 | 87.6 | 928, 713 | 155, 474 | 92, 538 | 584, 089 |
| 1923-24 ${ }^{6}$ | 36,458 | 35;894 | 785, 741 | 57.4 | 87.5 | 858, 093 | 133,871 | 90,396 | 498,215 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on percentage of crop as estimated by about 3,500 mill and elevator operators.
${ }_{2}^{2}$ Based on percentage of crop on farms as estimated by crop reporters.
a Based on estimates of crop reporters on Nov. 1.
${ }^{4}$ Percentage of "a high medium grade" as estimated by crop reporters at time of harvest.
${ }^{5}$ Based on percentage shipped out as estimated by crop reporters.
${ }^{6}$ Preliminary.
Table 19.-Wheat: Supply and distribution and per capita disappearance in the United States.

| Item. | Year beginning July 1. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average 1899-1908. | Average 1909-1913. | Average 1914-1920 | 1921-22 | 1922-23 | 1923-24 |
| Supply | $\begin{gathered} \text { 1,000 } \\ \text { bushels. } \\ \cdot 43,608 \end{gathered}$ | 1,000 bushels. 28, 841 | 1,000 bushels. 32, 631 | $\begin{aligned} & 1,000 \\ & \text { bushels. } \\ & 56,707 \end{aligned}$ | $\begin{gathered} \text { 1,000 } \\ \text { bushels. } \\ 32,359 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ |
| - Stocks on farms July 1 . |  |  |  |  |  |  |
| Stocks in country mills and elevators July 1 | 27,000 | 29,000 | 24, 854 | 26,767 | 28,756 | 36,458 |
| Commercial visible (Bradstreet's) July 1 |  | 24, 168 | 19,290 | 9,966 | 20,342 | 29,403 |
| Stocks of flour (in terms of wheat) | 32, 194 |  |  |  |  |  |
| July 1 - | $\begin{array}{r} 7,114 \\ 677,927 \end{array}$ | $\begin{array}{r} 7,960 \\ 690,108 \end{array}$ | $\begin{array}{r} 8,251 \\ 844,605 \end{array}$ | $\begin{array}{r} 6,808 \\ 814,905 \end{array}$ | $\begin{array}{r} 7,461 \\ 867,598 \end{array}$ | $\begin{array}{r} 10,049 \\ 785,741 \end{array}$ |
| New crop |  |  |  |  |  |  |
| June 30 | 746 | 1,808 | 19, 746 | 17,252 | 19,945 | 119,945 |
| Total supply | 788, 589 | 781,885 | 949, 377 | 932,405 | 976,461 | 917,230 |
| Distribution: <br> Exports July 1 to June 30 (flour in- <br> cluded) <br> Estimated seed requirements | $\begin{array}{r} 152,623 \\ 68,995 \end{array}$ | $\begin{array}{r} 104,967 \\ 72,383 \end{array}$ | $\begin{array}{r} 255,011 \\ 88,600 \end{array}$ | $\begin{array}{r} 279,407 \\ 93,247 \end{array}$ | $\begin{array}{r} 221,923 \\ 89,336 \end{array}$ | ---------- |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Carryover on June 30- | $\begin{aligned} & 38,709 \\ & 25,300 \end{aligned}$ | $\begin{aligned} & 32,276 \\ & 31,000 \end{aligned}$ | $\begin{aligned} & 36,127 \\ & 24,678 \end{aligned}$ | $\begin{aligned} & 32,359 \\ & 28,756 \end{aligned}$ | $\begin{aligned} & 35,634 \\ & 36,458 \end{aligned}$ | ----- |
|  |  |  |  |  |  |  |
| In country mills and elevators Commercial visible (Bradstreet's) |  | 31,0025,0418,555 | $\begin{array}{r}18,265 \\ \mathbf{1 8}, 972 \\ \hline\end{array}$ |  |  |  |
| Commercial visible (in terms of wheat) -.-.----- | $\begin{array}{r} 28,476 \\ 6,990 \end{array}$ |  |  | 20, 342 | $29,403$ |  |
| Total distribution | 321, 093 | 274, 222 | 430,653 | 461, 572 | 422, 803 | ------- |
| Disappearance for food and feed | $\begin{array}{r} 468,403 \\ 82,614 \end{array}$ | $\begin{array}{r} \hline 507,663 \\ 94,378 \end{array}$ | $\begin{aligned} & \hline 518,724 \\ & 102,880 \end{aligned}$ | $\begin{aligned} & 470,833 \\ & 108,541 \end{aligned}$ | $\begin{aligned} & \hline 553,658 \\ & 109,956 \end{aligned}$ | 111,371 |
| Population---.--- |  |  |  |  |  |  |
| Per capita disappearance, food and feed, bushels | 5. 67 | 5.38 | 5.04 | 4.34 | 5. 04 |  |

Division of Statistical and Historical Research. ${ }^{1}$ The same amount as in 1922, supplied to balance.

Table 20.-Wheat: Receipts and shipments, 11 primary markets, 1909-1922.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 \text {. } \end{aligned}$ | Chicago. |  | Milwaukee. |  | Minneapolis. |  | Duluth. |  | St. Louis. |  | Toledo. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\text { ceipts. }}{\mathrm{Re}-}$ | Shị̀pments. | $\begin{gathered} \mathrm{Re}- \\ \text { ceipts. } \end{gathered}$ | Shipments. | Receipts, | $\left\lvert\, \begin{gathered} \text { Ship- } \\ \text { ments. } \end{gathered}\right.$ | $\xrightarrow[\text { ceipts. }]{\mathrm{Re}}$ | Shipments | $\xrightarrow[\text { Re- }]{\text { Reipts }}$ ceipts. | Shipments. | $\underset{\text { Re- }}{\mathrm{Re}-}$ | Shipments. |
|  | 1,0 | 1,0 |  |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bush. | bush. | bush. | bush. | bush. | bush. |  |  |  |  |  |  |
| 1909-10 | 27, 542 | 20, 586 | 8, 482 | 2,757 | 92, 833 | 20, 546 | 54, 687 | 50, 280 | 22, 064 | 19, 622 | 4,426 | 1,474 |
| 1910-11 | 27, 400 | 17, 259 | 10, 062 | 7, 875 | 90, 774 | 20, 866 | 28, 628 | 25, 352 | 20, 127 | 20,082 | 4, 122 | 1,556 |
| 1911-12 | 35, 563 | 30,003 <br> 43 | 8,497 | 3,411 | -96,889 | $\begin{aligned} & 52,745 \\ & 32,761 \end{aligned}$ | $\left\|\begin{array}{\|c\|c\|} \hline 30,598 \\ 83,530 \end{array}\right\|$ | $25,571$ | $\begin{gathered} 15 ; 336 \\ 38 \\ \hline 102 \end{gathered}$ | 12, 790 | 6,930 4,734 | $\begin{array}{r}\text { 4, } \\ 2 \\ 2,474 \\ \hline\end{array}$ |
| $\begin{aligned} & 1912-13 . \\ & 1913-14 . \end{aligned}$ | $\begin{aligned} & 44,168 \\ & 50,884 \end{aligned}$ | $\begin{aligned} & 43,325 \\ & 47,905 \end{aligned}$ | $\begin{array}{r} 10,337 \\ 6,372 \end{array}$ | 5,685 | 126, 181 | $\begin{aligned} & 32,761 \\ & 28,994 \end{aligned}$ | $\left.\begin{aligned} & 83,530 \\ & 62,799 \end{aligned} \right\rvert\,$ | $\begin{aligned} & 75 ; 435 \\ & 64,799 \end{aligned}$ | 38,792 27,244 | 27, 2742 | 4,734 | 2,475 <br> 3,704 |
| $\begin{gathered} \text { A verage 1909- } \\ 1913 \text { - } \end{gathered}$ | 37,111 | 31,816 | 8,750 | 4,634 | 02, 067 | 31, 182 | 52,048 | 48, 287 | 24, 713 | 20,38 | 5,203 | 2,771 |
| 14 | 107, 70 | 91, 11 | 9,5 | 7,010 | 12,716 | 39,510 | 62, 268 | 59, 867 | 34, 19 | 26,913 | 7,081 | 4,168 |
| 15-16 | 85, 81 | 61, 53 | 7,337 | 3, 505 | 163, 202 | 54,932 | 95, 674 | 82, 540 | 42, 22 | 31,046 | 9,9 | 5,571 |
| 16-17 | 56, 708 | 47, 342 | 10, 595 | 8,099 | 119, 701 | 39, 689 | 30, 978 | 36, 789 | 41, 02 | 33, 080 | 5, 719 | 2, 590 |
| 1917-18 | 13,735 | 8,118 | 13, 138 | 1,336 | 82, 229 | 19, 072 | 16,602 | 13, 646 | 17, 02 | 13, 234 | 4 | 1,379 |
| 1918-19 | 54, 533 | 67, 122 | 15, 535 | 12, 575 | 117, 787 | 38, 174 | 88,383 | 86, 932 | 42, 54 | 25, 621 | 5, 94 | 1,348 |
| 1919-20 | 74, 167 | 57, 215 | 7,006 | 3, 674 | 119, 419 | 37, 468 | 18,317 | 13, 664 | 45, 266 | 32, 956 | 8, 046 | 2,285 |
| 1920-21 | 30,615 | 27, 886 | 4, 424 | 2.556 | 18,57 | 50,724 | 45,083 | 43, 272 | 45,316 | 31,479 | 5, 052 | 1,400 |
| $\begin{aligned} & \text { Average } \\ & 1920 . \end{aligned}$ | 60, 469 | 51, 475 | 9,655 | 5,536 | 19,090 | 39,938 | 51, 044 | 48, 101 | 38, 228 | 27,761 | 6,628 | 2,677 |
| 1921-22 | 51,548 | 45,80 | 9,676 | 7,464 | 105, 3 | 43, | 49, 226 | 49,8 | 39,009 | 29, 404 | 6,75 | , 622 |
| 192 | 51, 60 | 44, 203 | 3,681 | 3,145 | 133,830 | 48, 648 | 65, 541 | 55, 03 | 40, 60 | 33, 561 | 10,472 | 5,524 |
| $\text { July } 1922 .$ | 8,780 | 4, | 141 | 3 | 5, |  | 2, 266 | 2, 92 | 5, 013 | 3, 464 | 1,076 | 122 |
| August | 16,574 | 18,629 | 502 | 281 | 10, 993 | 4, 61 | 3,004 | 1,48 | 7,060 | 6, 335 | 975 | 22 |
| Septemb | 4,743 | 5,078 | 491 | 296 | 18, 865 | 6, 80 | 16, 225 | 9,689 | 3, 461 | 2, 539 | 785 | 14 |
| October | 4, 492 | 2,640 | 419 | 203 | 17, 002 | 4, 820 | 9, 8381 | ${ }_{8}^{9,458}$ |  |  |  | 482 |
| November | 3, 203 | 2, 623 | ${ }_{227}^{416}$ | ${ }_{220}^{266}$ | 17, 683 | 4,942 4,271 | 7,451 6,314 | 8, 8 , 979 | 4, 279 3,174 | $\stackrel{3}{2,641}$ | 2, 417 | 804 |
| December 1923. | 2,890 | 1,735 | 227 | 220 | 17, 663 | 4,271 | 6,314 | 6,979 | 3,174 3,469 | 2, 712 | 2,412 | 70 |
| January | 2, 844 | 1,611 | 463 277 | 290 | 15, ${ }^{\text {6, } 292}$ | 5, ${ }^{\text {2, } 632}$ | 3, 3292 | 672 | 3,469 2,301 | 2,772 | 283 | 296 |
| March | 1,629 | 1, 341 | 213 | 203 | ${ }_{9}, 568$ | 3, 846 | 2,206 | 229 | 2, 104 | 1,874 | 302 | 612 |
| April | 1,956 | 1,197 | 201 | 325 | 7,372 | 3, 748 | 3, 495 | 209 | 2, 024 | 1,994 | 316 | 122 |
| May | 1, 320 | 1,132 | 193 | 25 | 5,135 | 2, 950 | 3, 474 | 8,391 | 2,216 | 2,187 <br> 1,760 | 415 | 813 |
| ane | 1,078 | 1,847 | 138 | 199 | 5,947 | 2,51 | 4,277 | 6,307 | 1,631 | 1,760 | 415 | $\underline{ }$ |


| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 . \end{aligned}$ | Detroit. |  | Kansas City. |  | Peoria. |  | Omaha. |  | Indianapolis. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\text { ceipts. }}{\mathrm{Re}-}$ | Shipments. | $\begin{gathered} \mathrm{Re}- \\ \text { ceipts. } \end{gathered}$ | Shipments. | Re ceipts. | Shipments. | Receipts. | Shipments | $\begin{gathered} \text { Re- } \\ \text { ceipts. } \end{gathered}$ | Shipments. | $\begin{gathered} \mathrm{Re}- \\ \text { ceipts } \end{gathered}$ | ship- |
|  | 1,000 |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bush. | bush. | bush. | bush. |  |  |  |  |  | bush. | bush. | bush. |
| 1909-10 | 1, 821 | 167 | 34, 092 | 22, 057 | 1,304 | 1,002 | ${ }_{(1)}^{1}$ | (1) | (1) | ${ }^{(1)}$ | 247, 2541 | 138,491 |
| 1910-11 | 2,003 | 105 | 40, 537 | 26, 709 | $\xrightarrow{1,225}$ | 1,074 | 11, 030 | 9,690 | 176 |  | 233, 025 |  |
| 1911-12 | 2,861 | 401 | 23, 627 | ${ }^{16,970}$ | $\xrightarrow{1,518}$ | 1, 106 | ${ }_{20,193}^{11,030}$ | -9,690 | 1, 560 |  | 380, 777 | 236, 201 |
| $\begin{aligned} & 1912-13 \\ & 1913-14 . \end{aligned}$ |  | 715 | $\begin{array}{\|} 48,374 \\ 32,152 \end{array}$ | $\begin{aligned} & 33,415 \\ & 23,70 \end{aligned}$ | 1,951 | 1, 424 | 16,453 | 11,958 | 1,898 | 812 | 310, 354 | 209, 852 |
| $\begin{aligned} & \text { A verage 1909- } \\ & 1913 \end{aligned}$ | 1,821 | 446 | 35, 756 | 24, 576 | 1,525 | 1,244 | 15, 892 | 11, 594 | 1,211 | 82 | 279, 257 | 172,585 |
| 1914-15 | 2,763 | 2,012 | 77,745 | 65, 65 | 3,786 | 3, 527 | 17,767 | 11, 639 | 3,028 | 916 | 438, 616 | 312,324 |
| 1915-16 | 2,809 | 1, 580 | 70, 442 | 51,632 | 4, 503 | 5,336 | 25, 613 | 16, 215 | 4,851 | 1,967 | 512, 4411 | 315, 855 |
| 1916-17 | 2,724 | 1,082 | 68, 720 | 62, 878 | 2, 870 | 2, 468 | 31, 194 | 29, 221 | 2, 890 |  | 373, 123 | 264, 167 |
| 1917-18 | 1,597 | 260 | 22, 226 | 8,255 | ${ }^{2}, 195$ | 1,422 |  | - ${ }^{6,096}$ | 6, 477 | 2, 1980 | 184, 883 | 288, 340 |
| 1918-19 | 1,608 | 306 | 54, 106 | $\underset{\varepsilon}{35}, 696$ | $\begin{aligned} & 3,405 \\ & 2, ~ \end{aligned}$ | 3,371 4,285 | 19,730 | 151, 992 | 7, ${ }^{6}, 471$ | 1, 340 | 403, 843 | 230, 841 |
| $\begin{aligned} & 1919-20 \\ & 1920-21 \end{aligned}$ | 1,688 1,656 | 289 149 | $\left.\begin{array}{\|} 92,215 \\ 87,148 \end{array} \right\rvert\,$ | $\begin{aligned} & 55,677 \\ & 64,637 \end{aligned}$ | $\begin{aligned} & 3,663 \\ & 2,199 \end{aligned}$ | 2,011 | 28, 192 | 24,372 | 4,491 | 458 | 372, 755 | 248,944 |
| $\begin{aligned} & \text { A verage 1914- } \\ & 1920 \end{aligned}$ | 2,121 | 811 | 67,515 | 49,203 | 2,232 | 3,203 | 22, 521 | 17,807 | 4,600 | 1,269 | 385, 102 | 247,783 |
| 19 | 578 | 234 | 90,574 | 69,085 | 2, 564 | 1,709 | 25,310 | 25, 559 | 4,056 | 890 | 385, 637 | 276, 850 |
| 1922-23 | 1,797 | 80 | 77,684 | 52, 464 | 4,355 | 4,070 | 25,356 | 19, 505 | 5,185 | 909 | 420, 166 | 267, 145 |
| $\begin{array}{r} 1922 . \end{array}$ |  | 14 | 11,089 | 5,156 |  | 57 | 3,099 | 1,595 | 1,414 | 95 | 39,449 | 21, 401 |
| August | 226 | 9 | 11, 605 | 10,686 | 1,303 | 1,338 | 4, 413 | 3, 512 |  | 43 | 57, 348 | 47, 351 |
| September | 120 | 7 | 8,230 | 5,419 | 400 | 556 | $\stackrel{2}{2} \mathbf{7} 20$ | 1,901 | 401 | 143 | 56, 4 | 32,490 |
| October | 188 | 10 | ${ }^{6,834}$ | 4, 432 | 383 | 379 | 2, 455 |  | 397 | 149 | 40, 290 | 26, 851 |
| November | 189 | 10 | ${ }_{8,965}^{6,546}$ | 4,411 4,818 | 305 206 | 197 | 2, 2,441 | 2, 1,531 | 288 | ${ }_{35}^{99}$ | 44, 743 | 23, 423 |
|  | 158 | 2 | 8,965 | 4,818 4 4 4 | 206 | 197 | 2, 441 |  | 480 |  |  | 17, 299 |
| January | 163 | 6 | 7,010 3,980 | 4,475 <br> 2,458 | 182 | 149 | 1,960 |  | 249 | 50 | 20,77 | 10, 385 |
| February | $\begin{array}{r}97 \\ 160 \\ \hline\end{array}$ | 4 | 3, 388 | 3,458 | 114 | 146 | 1, 297 | 1,126 | 233 | 26 | 21, 312 | 12,479 |
| April | 121 |  | 3,906 | 2,529 | 91 | 92 | 1, 365 | 1,490 | 209 | 31 | 21, 056 | 12,341 |
| May | 123 | 11 | 2,983 | 3, 052 | 59 | 4 | 806 | 1,187 | 271 | -18 | 16, 88 |  |
| une- | 93 | 1 | 3, 050 | 1,954 | 90 | 90 | 769 | 824 | 240 | 9 | 17,7 | 15,874 |

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the Annual Reports of the Chicago Board of Trade.
${ }^{1}$ No report.

Table 21.-Wheat: Estimated requirements, surplus and deficiency, by States, 1923-24.

| Geographic division and Btate. | ```Popula- tion Jan. 1, 1924.``` | Estimated per capita consumption. |  | Estimated requirements for food and feed. |  | Estimated seed re-quirements. ${ }^{(3)}$ | Total requirements. |  | Dec. 1 1923, pro-duction estimate. | Surplus ( + ) or deficiency (-) for export and increased feeding, 1923-24. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 1911 food and feed basis plus seed. | Average, 19181922 food and feed basis. plus seed. |  |  |  |  |
|  |  |  |  |  |  |  |  | Aver- |  |  |  |
|  |  |  | Aver |  |  |  | 1911 |  |  | $\begin{gathered} 1911 \\ \text { per } \\ \text { capita } \\ \text { basis. } \end{gathered}$ | $\begin{gathered} \text { A verage, } \\ \text { 1918-1922 } \\ \text { per } \\ \text { capita } \\ \text { basis. } \end{gathered}$ |
|  |  |  | age |  |  |  | per | ${ }_{1922}^{19}$ |  |  |  |
|  |  | 11 | $\begin{aligned} & 1918 \\ & 1922 . \end{aligned}$ |  |  |  | capita | 1922 |  |  |  |
|  |  |  | ${ }^{1922}$ |  |  |  | basis. |  |  |  |  |
|  |  |  |  |  |  |  |  | basis |  |  |  |
| New England: Maine | 778, 579 | $\begin{aligned} & B u . \\ & \text { 4. } 7 \\ & 5.0 \end{aligned}$ | $\begin{aligned} & B u . \\ & 4.2 \end{aligned}$ | 1,000 | 1,000 | $1,000$ <br> bush. | 1,000 | 1,000 |  | 1,000 |  |
|  |  |  |  |  | bush. |  | bush. | bush.$3,290$ |  | bushels. <br> $-3,523$ |  |
|  |  |  |  | 3,659 | 3, 270 | 20 |  |  | bush. 158 |  | bushets. |
| New Hampshi | 448, 237 |  | 4.5 | 2,241 | 2,017 |  | - $\begin{aligned} & 2,24 \\ & 1,94\end{aligned}$ | $\begin{aligned} & 3,290 \\ & 2,017 \end{aligned}$ | 17 ------- | - 2, 241 | - 2, 017 |
| Vermont. | 357, 357 | 5. 4 | 4.8 | 1,930 | 1, 7.15 | 16 |  | 1,731 | ${ }^{-\cdots--78}$ | - 1, 862 | - 1,647 |
| Massachusett | 4, 052, 572 | 5. 0 | 4. 5 | 20, 263 | 18, 237 |  | 20,263 | 18, 237 |  | -20, 263 | -18, 237 |
| Rhode Island | 629, 854 | 4.3 | 3.8 | 2,708 | 2, 393 |  | 2,708 | 2,393 | --- | - 2,708 | - 2,393 |
| Connecticut | 1,490, 176 | 4.5 | 4.0 | 6,706 | 5,961 |  | 6,706 | 5,961 |  | - 6,706 | $-5,961$ |
|  |  |  |  |  |  |  |  |  |  |  |  |
| New York | 10,909, 152 | 54 | 4.8 | 58,908 | 52,364 | 845 | 59, 754 | 53, 209 | $\begin{aligned} & 8,159 \\ & 1,480 \end{aligned}$ | $\left\lvert\, \begin{aligned} & -51,595 \\ & -15,700 \end{aligned}\right.$ | $-45,060$$-13,995$ |
| New Jersey | 3, 410, 829 | 5. 0 | 4. 5 | 17, 054 | 15, 349 | 126 | 17, 180 | 15, 475 |  |  |  |
| Pennsylvania | 9, 154, 657 | 5.8 | 5.2 | 53, 097 | 47, 604 | 2, 381 | 55, 478 | 49,985 | 24, 338 | -31, 140 | $-25,647$ |
| E. North Central: | 0,154, | 6.2 | 5. 5 | 38, 243 | 33, 925 | 4,213 | 42, 456 | 38,138 | 42,783 | $+327$ | + 4,645 |
| Indian | 3, 024, 955 | 5. 7 | 5.1 | 17,242 15,427 |  | 2,770 | $20,012$ |  | 44, 248 | $+14,236$ | $+16,051$$+24,521$ |
| Illinois | 6,834, 129 | 5. 6 | 5. 0 | 38,271 34 |  | 3,814 | $42,085$ | $37,985$ | 34,248 62,506 | $+20,421$ |  |
| Michigan | 4,022,021 | 5. 05.2 | 4. 5 | 20, 110 | 18, 099 | 1,648 | $\begin{aligned} & 21,758 \\ & 14,563 \end{aligned}$ | $\begin{aligned} & 19,747 \\ & 12,910 \end{aligned}$ | $\begin{array}{r} 16,576 \\ 1,970 \end{array}$ | $\begin{aligned} & -5,182 \\ & -12,593 \end{aligned}$ | $\begin{array}{r} +24,521 \\ -3,171 \end{array}$ |
| Wisconsin | 2, 754, 932 |  | 5.2 4.6 |  | 14,326 | 12, 673 |  |  |  |  | 1,237 | $-10,940$ |
| W. North Central: |  |  |  |  |  |  |  |  |  |  |  |
| Iowa - | 2, 477,434 | 5.3 |  |  | 4.7 | 13, 133 | $11,646$ | 1,057 | 14, 190 | 12,703 | 20,785 14,352 | + $162+1,649$ |  |
| Missouri | $\begin{array}{r} 3,449,673 \\ 675,637 \end{array}$ | 5. 2 4. 6 |  | 17, 938 | 3,107 | $\begin{aligned} & 14,190 \\ & 21,045 \end{aligned}$ |  | $18,975$ | 37, 947 | $\begin{aligned} & +16,902+1,049 \\ & +18,972 \end{aligned}$ |  |
| North Dakota |  | 7. 2 |  | 4,865 4, 324 |  | 10, 737 | $15,602$ | 15, 061 | 58, 660 | $+43,058+43,599$ |  |
| South Dakota. | 658, 244 | 6. 5 5. |  | 4,279 3, 818 |  | 3,8203,928 | $8,099$ | 7, 638 | 26, 306 |  |  |
| Nebraska | 1,339, 286 | 5.8 | $\begin{aligned} & 5.2 \\ & 5.2 \end{aligned}$ | $\begin{array}{r} 7,768 \\ 10,449 \end{array}$ | $\begin{aligned} & 6,964 \\ & 9,368 \end{aligned}$ |  | $\begin{aligned} & 11,896 \\ & 22,161 \end{aligned}$ | $\begin{aligned} & 10,892 \\ & 21,080 \end{aligned}$ |  | +19,692 | +20,498 |
| Kansas | 1,801, 522 |  |  |  |  | $\begin{array}{r} 3,928 \\ 11,712 \end{array}$ |  |  | 83, 804 | +61, 643 | +62,724 |
| South Atlantic: |  |  |  |  |  |  |  |  |  |  |  |
| Delaware | 231, 524 | 5. 0 | 4. 5 | 1,158 | 1,042 | 208 | 1,366 | 1,250 | 1,908 | $+542$ | $+658$ |
| Maryland | 1, 513, 242 | 5.0 | 4.5 | 7, 566 | 6,810 | 815 | 8,381 | 7,625 | 10, 426 | + 2,045 | + 2,801 |
| District of $\mathbf{C o}$ lumbia |  |  |  |  |  |  |  |  |  |  |  |
| Virginia. | 2,411, 192 | 4. 5 | 4. 7 | 10, 2550 | 2,087 | 1,084 | 11, 934 | 10,729 | 11, 145 | - 2, 78 | + 2,0876 |
| West Virgi | 1,563, 650 | 5. 7 | 5. 1 | 8, 913 | 7, 975 | 323 | 9, 236 | 8, 298 | 2,964 | - 6,272 | - 5, 334 |
| North Garolina | 2, 704, 497 | 4. 5 | 4. 0 | 12, 170 | 10, 818 | 756 | 12, 926 | 11, 574 | 6, 038 | -6,888 | $-5,536$ |
| South Carolina | 1, 753, 077 | 4. 3 | 3. 8 | 7,538 | 6, 662 | 238 | 7,776 | 6,900 | 1,925 | $-5,851$ | - 4,975 |
| Georgia | 3,013, 961 | 4.0 | 3. 6 | 12,056 | 10, 850 | 251 | 12,307 | 11, 101 | 1,739 | -10,568 | - 9, 360 |
| Florida | 1, 057, 403 | 4.5 | 4.0 | 4,758 | 4, 230 |  | 4,758 | 4,230 |  | - 4,758 | - 4,230 |
| E. South Central: |  | 4.5 | 4.0 | 11,110 | 75 |  |  |  |  | - |  |
| Tennessee | 2, 400, 962 | 4.1 | 3.7 | 9,844 | 8,884 | 454 | 10, 298 | 9,338 | 4,508 | - 5,790 | - 4,830 |
| Alabama | 2, 434, 731 | 4.0 | 3.6 | 9, 739 | 8, 765 | 56 | 9,795 | 8,821 | 200 | - 9,595 | $-8,621$ |
| Mississippi | 1, 816, 021 | 4.0 | 3.6 | 7,264 | 6, 538 | 10 | 7,274 | 6,548 | 60 | - 7,214 | - 6, 488 |
| W. South Cen |  |  |  |  |  |  |  |  |  |  |  |
| Arkansas | 1, 825, 441 | 4.0 4.5 | 3.6 4.0 | 7,302 | 6, 572 | 99 | 7,401 | 6,671 <br> 7,428 | 770 | - 6, 631 | $-5,901$ $-7,428$ |
| Oklahoma | 2, 181, 194 | 6. 0 | 5.4 | 13, 087 | 11,778 | 3,756 | 16,843 | 15, 534 | 36,300 | +19,457 | $+20,766$ |
| Texas | 4, 979, 117 | 5.4 | 4.8 | 26,887 | 23,900 | 1,543 | 28,430 | 25, 443 | 16,370 | $-12,060$ | $-9,073$ |
| Mountain: |  |  |  |  |  |  |  |  |  |  |  |
| Montana. | 620, 101 | 5. 8 | 5. 2 | 3,597 | 3, 225 | 4,600 | 8,206 | 7, 834 | 52,486 | +44, 280 | +44,652 |
| Idaho. | 475, 651 | 6. 5 | 5.8 | 3,002 | 2,759 | 1,232 | 4,324 | 3,991 | 30, 115 | +25,791 | +26, 124 |
| W yoming | 214,358 | 6. 3 | 5. 6 | 1,350 | 1,200 | 276 | 1,626 | 1, 476 | 2,785 | + 1,159 | + 1,309 |
| Colorado. | 997, 561 | 6. 0 | 5.4 | 5,985 | 5,387 | 2, 530 | 8,515 | 7,917 | 18,000 | +9,485 | +10,083 |
| New Mex | 373, 967 | 7. 9 | 7. 1 | 2,954 | 2,655 | 122. | 3, 076. | 2,777 | 1,300 | - 1,776 | - 1,477 |
| Arizon | 387, 645 | 7.2 | 6. 4 | 2,791 | 2,481 | 57 | 2,848 | 2, 538 | 1,092 | $-1,756$ | - 1,446 |
| Utah | 480, 729 | 6. 1 | 5. 4 | 2, 932 | 2,596 | 433 | 3, 365 | 3, 029 | 6,566 | + 3,201 | $+3,537$ |
| Nevada | 78, 544 | 6.1 | 5.4 | 479 | 424 | 32 | 511 | 456 | 507 |  |  |
| Pacific: |  |  |  |  |  |  |  |  |  |  |  |
| Washington | 1,445, 054 | 6. 0 | 5.4 | 8,670 | 7,803 | 2,987 | 11, 657 | 10,790 | 61,743 | +50,086 | +50,953 |
| Oregon | 828,967 | 6. 1 | 5. 4 | 5, 057 | 4,476 | 1,702 | 6,759. | 6, 178 | 26,807 | +20,048 | +20,629 |
| Califor | 3,859, 194 | 5. 6 | 5. 0 | 21,611 | 19,296 | 1,220 | 22,831 | 20,516 | 16, 157 | -6,674 | - 4, 359 |
| United States | 111,371, 056 | 5.31 | 4.74 | 590,772 | 527, 453 | 78,440 | 69,212 | 605, 893 | 785, 741 | +116,529 | +179,848 |

## Division of Statistical and Historical Research.

${ }^{1}$ The consumption figures in this column were obtained by a survey in 1911 by the Bureau of Crop Estimates.
${ }^{2}$ Years beginning July 1. The figures in this column shown for the individual states were computed on the ratio between the United States consumption in 1911 ( 5.31 bushels) and the per capita disappearance during the five years 1918-19 to 1923-24 (4.74 bushels). The average disappearance for the latter period was 89.27 per cent of the 1911 disappearance.
${ }^{3}$ The seed requirements are based on the spring acreage of 1923 and the 1923 fall sowing according to the "Intention to plant" release of August 15, 1923. Therate of seeding in each State was applied to the acreage in that State.

Table 22.-Wheat: Visible supply in the United States, 1889-1923. ${ }^{1}$

| Year beginning July 1. | July. | ug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Ap | May. | June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,00 |  |  |  |  | 1,00 | 1.000 | 1,000 | 1,000 | 1,000 |  |  |
|  |  |  |  |  |  |  |  |  |  | bush. | bush. |  |
| 1890-9 | 20, 174 | 18,363 | 17, 840 | 17.059 | 21, 235 | 24, 529 | 25, 603 | 23, 592 | 22,928 | 22,484 | 20, |  |
| ${ }^{18991-92}$ |  | 16.76 |  |  | 36, 232 | 43, |  | 43, | 41, 111 |  |  |  |
| 1803-94- | - ${ }_{\text {24, } 316}$ | 59, 349 | 56,881 | 60, 528 | ${ }_{71,388}^{61,69}$ | 78, 091 | 80, 228 | 79,8 | 75, 568 | 71,458 | 66, 5 | 94 |
| 18 |  | 60,0 | 66, 9 | 13 | 80,027 | 85, |  | $83,376$ | 78,7 |  |  |  |
| 189 | 44 |  | 35, 438 | 40, 768 | 52, 990 | 63, 903 | 69, 8 | 66, | 64, | 60 |  |  |
|  |  | ${ }^{46}$ |  | 50,116 |  |  | 54, 651 | 49, | 43,797 | 38, | 34, 412 |  |
| 1898-99- | 14, | 9, ${ }^{1783}$ | 7,147 | 263 | 15,476 | 24, ${ }_{\text {24, }}^{34}$ | 26,893 | 28, ${ }^{3684}$ | -34,088 | - ${ }_{29,987}$ | 28, 28.28 | 87 |
| 1899-19 | 33, 587 | 36, 019 | 34,768 | 42,143 | 51,001 |  | 5§, 291 | 54, 3és |  |  |  |  |
| 1900-1 | 46, 442 | 47, 594 | 50, 294 | 55,409 | 60, 032 | 62, | 61, | 59. | 57, 234 |  |  |  |
| - $19002-3$ | 30, 793 | ${ }^{30,369}$ | ${ }^{27,796}$ | - 35, | 41, 322 | 45, ${ }^{52}$, | $\stackrel{58,}{49}$ |  |  |  |  |  |
| 1903-4. | 15,970 | 13, 414 | 13, 203 | 19,489 | 22, 216 | 30, 140 | 38, 204 | 39, 76 | 135,599 | 31,7 | 30, 35. | 3 |
| 1994-5 | 14,0 | 13, 093 | 12,814 | 17,576 | ${ }_{8}^{28,495}$ |  | 40,619 | 38, | 35,565 | 32, | 28, |  |
|  | 14, | 13, 354 | 12, 140 | 17, 898 | 29, 975 |  | 42. 95 | 48, |  | 46 |  |  |
| ${ }_{1}^{19966-7}$ | 25,8, | 48, 318 | 30, 49,459 | -33, 750 | 37,972 43,683 |  |  | ${ }_{46}^{44}$ | ${ }_{42}^{44,}$ |  |  |  |
|  | 13, 832 | 16, 174 | 16, 297 | 34, 281 | 48,0 | 48, 9 | 31,759 | 44, 875 | 38, 2 | 36, | 29, | 19,786 |
| $1909-10$ | ${ }^{\text {9, }}$, 756 | 7. 709 | 9,166 | 19, | 27, 001 |  |  | 26, 463 | 25, 5 | 29, 8 |  |  |
| 1910-1 | ${ }_{23,}^{12,034}$ | 11, | 26,457 | 52, ${ }^{34}$, | ${ }^{45} 519$ |  | 70 | 43, 6 | 37, | 34, $\begin{aligned} & 34, \\ & 51\end{aligned}$ |  |  |
| - |  |  |  |  | 41, | 5, | , | , | 17,80 | 51,0 |  |  |
| 191 | 30, 163 | 37,67 | 44,530 | 52, 061 | 55, 10 | 58,8 | 63, 743 | 60,8 | 57,02 | 51, 6 | 43 , | 75 |
| 1909 | 19,833 | 23.564 | 29, 55 | 168 | 45,827 | 51, 638 | 54,319 | 51, 172 | 48, 554 | 45,013 | 3i, 215 | 28,809 |
| 1914 |  |  | 31, 534 | 51, 586 | 65, 92 | 74, | 72. 861 | 60, | 49,6 | 39, |  |  |
| 1915-16 | 7,948 | 6. | 7, 767 | 57, 100 | 22, 63 | 48, 79 | E7, 31 | 68,4 | 63, 53 | 57, 38 | 48, | 44,463 |
| (19:6-17 | 14, 4209 | 40, ${ }^{\text {c }} 819$ |  | 57,789 |  |  |  |  | ${ }_{9}^{44,7}$ |  |  |  |
| 1918-19 | 785 | 17. 155 | 48, 821 | 90,623 | 122, 6 | 121, 5 | 119.71 | 130, | 18,2 | 92, 5 |  |  |
| 1919-20 |  |  |  | 84,909 | 96, 35 | 89, 74 |  | 60, 35 |  |  |  |  |
| 192 | 19, 799 | 17.48 | 20, 75 | 27, 391 | 35, 50 | 43, 127 | +3,063 | 34, 212 | 28, 1 | 18, |  | 8,334 |
| 1314 | 15, 328 | 19,797 | 32, $20+$ | 47, 945; | 59, 804 | 65, 767 | ¢5. 254 | 59, 498 | ¿2, 164 | 42, 4 | 29, 8.3 | 23, 246 |
|  |  |  | 741 | 52, 79, | 54, |  |  | 42, 280 |  | 5,8 |  |  |
| 1423-24 | 26,312 | 19,663 | 26,541 | 63,93 | 69, 189 |  | 3r,673 |  | 47, | 45, |  |  |
| 23-24. |  |  |  |  |  | 7, 8 |  |  |  |  |  |  |

Compiled from the annual reports of the Chicago Board of Trade to December, 1922. January, 1923, to date from the Chicago Daily Trade Bulletin. Reported on the Saturday nearest the first of the month.
${ }^{\text {i }}$ From 1889 to November 28,1908 stocks at the principal points in Canada were included. The Chicago Board of Trade "risible"'includes grain stored east of the Rockies only. It covers 22 interior and seaboard points of large accumulation and grain in transit by canals and lakes.
${ }_{2}$ From the Chicago Daily Trade Bulletin.

| 1909-10 | 12, 771 | 12,611 | 15,514 | 28, 589 | 37, 820 | 41,688 | 37, 949 | 36,638 | 34.461 | 37, 558 | 33, 77 | 24,795 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 16,396 | 17, 053 | 38, 352 | 48, 437 | 53, 420 | 57, 002 | 59, 369 | 56, 357 | 50, 566 | 42, 697 | 34, 65゙5. | 32, 769 |
| 1911-12 | 29,639 | 46, 389 | 54, 581 | 61,500 | 73, 792 | 81, 215 | 81,501 | 70, 748 | 66, 982 | 59, 826 | 48, $0=2$ | 35, 994 |
| 1912-13 | 27,615 | 23, 595 | 26,862 | 40,958 | 52, 494 | 67,575 | 77, 471 | 76, 131 | 78, 895 | 69, 000 | 53, 50 | 43, 697 |
| 1913-14 | 34,420 | 43, 198 | 51, 989 | 61, 485 | 66, 663 | 72, 061 | 74, 854 | 71, 264 | 66, 191 | 59, 931 | 49, 327 | 33, 662 |
| Av. 1909-1913. | 24, 168 | 28,569 | 37,458 | 48,202, | 56,838 | 63,908 | 66, 229 | 62, 228 | 58, 419 | 53, 802 | 43, $85{ }^{\circ}$ | 34, 183 |
| 1914-15 | 17, 136 | 36,456 | 39, 964 | 61,784 | 76, 262 | 86, 332 | 85.957 | 81, 776 | 58, 923 | 46, 287 | 31, 40 . | 22, 871 |
| 1915-16 | 10, 734 | 9,361 | 12,679 | 22, 498 | 33, 338 | 60,678 | 80, 150 | 77, 834 | 73, 748 | 66, 691 | 57, 635 | 52, 512 |
| 1916-17 | 50, 515 | 49,591 | 65, 754 | 70, 420 | 75, 455 | 76, 191 | 73,584 | 59, 477 | 54, 160 | 48, 525 | 32, 831 | 34, 876 |
| 1917-18 | 19,901 | 11, 692 | 10,315 | 13, 072 | 22, 855 | 29, 633 | 26, 476 | 20, 436 | 15,484 | 10, 180 | 6, 656 | 4,379 |
| 1918-19 | 2,465 | 20, 462 | 54, 236 | 98, 155 | 131,852 | 131, 584 | 129,627 | 140, 607 | 127, 207 | 100, 505 | 55, 24. | 27, 626 |
| 1919-20 | 10, 873 | 25, 968 | 65, 479 | 95,550 | 107,783 | 101, 058 | 85,117 | 68, 494 | 58,632 | 51, 909 | 47, 755 | 41, 233 |
| 1920-21 | 23, 404 | 20,226 | 24, 195 | 32, 169 | 41, 506 | 48,273 | 47,797 | 38, 475 | 31,945 | 22, 229 | 17, 581 | 10,598 |
| Av. 1914-1920 | 19,290 | 24, 822 | 38, 946 | 56,235 | 69,877 | 76,250 | -5, 530 | 62, 586 | 60, 014 | 49,475 | 35, 59 | 27, 728 |
| 1921-22 | 9, 966 | 28,727 | 47,159 | 62, 758 | 62, 767 | 53, 507 | E6, 776 | 48, 802 | 46, 714 | 42, 287 | 36, ¢ 44 | 31, 497 |
| 1922-23 | 20,342 | 23, 077 | 32,479 | 33, 025 | 39, 023 | 39, 764 | 43, 850 | 53,823 | 54, 562 | 51, 862 | 49,521 | 37, 203 |
| 1923-24 | 29, 403 | 40,526 | 63, 922 | 72, 930 | 79,034 | 82, 269 |  |  |  |  |  |  |

[^131]Table 23.-Wheat, flour included: "World" visible supply 1 st of each month, 1892-1923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 \text {. } \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | Мау. | June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1, 1 buo | 1, 1000 | 1,000 | 1,000 | 1,000 bush. | 1,000 | 1,090 | l, $\begin{aligned} & \text { 1,000 } \\ & \text { bugh }\end{aligned}$ | 1,000 | 1,000 bush. | 1.000 |
| 189 | 132, 060 | 122, 968 | 145, 738 | 166, 331 | 1196, 271 | 1231,575 | 5 237.42 | 234, | 229, | ${ }_{321,696}$ | 215, 500 | - ${ }_{\text {bush, }} \mathbf{0 3 9}$ |
| 1893 | 183, 744 | 178, 073 | ; 183,845 | 5 195, 713 | 220, 724 | 235,389 | 1232065 | 232, 978 | [222, 391 | 1216,545 | 5.206, 914 | 195, 763 |
| 1894-95 | 173, 012 | 2174, 492 | [189, 549 | , 205, 151 | 220, 788 | 218, 857 | 7227.975 | 5: 223, | 6212, 446 | 61188,047 | 7186,523 | 171, 169 |
| 1899-96 | 160,331 | 1158, 043 | 1152, 268 | 176, 638 | 219, 858 | 218, 787 | 224. 798 | 8202, 83 | 191, 887 | 7180,630 | 161, 111 | 147, 563 |
| 1896 | 136, 456 | 124, 293 | 126, 487 | [152, 972 | 190, 761 | 202, 330 | 184, 618 | 8173,49 | 1155. 505 | 139, 011 | 121, 490 | 107, 338 |
| 1897-98 | 88, 740 | 77,900 | 87, 073 | 119,635 | 139,313 | 156, 516 | 6.157 | 152, 042 | 2 140, 571 | 1132,038 | 111, 229 | 109, 845 |
| 1898-99 | 86, 774 | 70, 103 | 66, 511 | 1 83, 090 | 106, 886 | 135, 852 | [147, 197 | 7145,62 | 151, 124 | 4144, 938 | [139, 909 | 136, 952 |
| 1899-1900 | 140, 300 | 134, 975 | 142, 577 | 162, 877 | 191, 191 | 1203, 478 | 200, 306 | 6 189, 35 | 181, 607 | 7184, 141 | 1175,766 | 157, 709 |
| 1900-1 | 149, 841 | 150, 193 | 1164, 629 | 188, 200 | 200, 715 | 203, 237 | 211.06 | 4201, 161 | 204, 353 | [197, 013 | 135, 43 | 160, 498 |
| 190 | 142, 417 | 138, 201 | 146, 030 | $0,165,149$ | $9_{j} 1 i 7,395$ | 210, 024; |  |  |  | 183, 323 | 158, 732 | 133, 173 |
| 1002 | 105, 827 | 94, 973 | 103. 484 | 135,540 | 174, 035 | 185, 729 | 175, 482 | 173, 678 | 170, 558 | 1155, 562 | 135, 126 | 120, 373 |
|  | 103, 531 | 93, 266 | 105, 837 | 140, 934 | 164, 389 | 174, 085 | 175. 274 | 169, 718 | 163, 361 | 1157, 453 | 154, 537 | 142, 706 |
| 190 | 123, 327 | 111, 152 | 124.977 | 56, 869 | 185, 161 | 99, 881 | 89. 21 | 179, 47 | 181, 576 | 1172, 9 | 155, 655 | 135, 811 |
|  | 126,610 | [115, 533 | 122, 394 | $4150,015$ | $5170,679$ | 201, 855 | 205, 909 | 203, 769 |  |  | 172, 840 | 151, 119 |
| 1906 | 133, 702 | 131, 780 | 6, 473 | 182, 924 | 207, 959 | 19,048 | 220. 457 | 208, | 214, 7 | 207, | 8 | 90, 351 |
| 140 | 164, 849 | 155, 351 | $1{ }^{161,038}$ | 163, 814 | 181, 549 | 181, 342 | 181. 938 | 186, 00 | 193, 837 | 7189, 08 | 162, 620 | 128.899 |
| 1908 | 99, 331 | 97, 821 | 108, 430 | 149, 789 | 176, 246 | 182, 040 | 181.147 | 177.651 | 180,377 | 170,585 | 136,844 | 116, 695 |
| 1909 | 90,470 | 79,38 | 93, $7 \times 3$ | 139, 286 | 176,969 | 184, 68 | 177.881 | 184, 193 | '201, 836 | 202,430 | 179,003 | 156, 841 |
| 1910-11 | 188,942 | 111, 015 | 154, 399 | 214, 52f; | 237, 5.58 | 237,60 | 234. 057 | 236,0 | 235, 5 | 226,883 | 193, 983 | 172843 |
| 1911-12 | 151, 664 | 164, 547! | 172,913 | 191, 474 | 227, 889 | 240,490 | 243. 399 | 229, 09 | 190. 189 | :234, 157 | 214, 721 | 187.416 |
| 1912-13 | 152, 266 | 129,007 | -132. 38 | 165, 37 | 213, 0 | 239, 7 | 245. 093 | 251, 665 | 273, 077 | 207, 502 | 224, 642 | 13¢ 773 |
| 1913-14 | 158, 376 | 148, 710 | 164, 764 | 162, 378 | 228, 792 | 242, 58 | 252. 632 | 261, 961 | 259, 06 | 243, 97 | 159, 524 | 129. 219 |
| Av., 1909-1913 | 134, 344 | 126, 532 | 144.648 | 174, 60: | 216.827 | 229, 022 | 230.614 | 232, 589 | 231, 935 | 222, 99 | 194, 375 | 157. 018 |
| 1914-15 | 130, 878 | 144, 884 | 147, 713 | 204, 74 | 34. 041 | 242, 22 | 242, 915 | 218, 723 | 216, 7 | 203, 805 | 184, | 152977 |
| 1915-16 | 118, 046 | 93, 401: | 93, 972 | 127, 207 | 900. 56.5 | 246, 105 | 291.145 | 1319, 341 | 281, 758 | 356, 797 | 326,41 | 31+,096 |
| 1916-17 | 280, 461 | 249, $90 \cdot{ }^{\text {a }}$ | 249, 539 | 251, 204 | 2\%6, 71.5 | 292, 5963 | 315. 880 | 308, 490 | 288, 093 | 269,031 | 291, 164 | 236. 985 |
| 1917-18 | 213, 968 | 240, 841 | 232, 676 | 235, 874 | 2fi, 823 | 289, 10' | 271.008 | 255,882 | 248, 101 | 321, 675 | 303, 351 | 27-398 |
| 1918-19 | 252, 8! | 267, 09: | 329, 364 | 383, $6 \times 8$ | 490, 009 | 439, 052 |  | 474, 609 | 453, 99 | 414, 270 | 363, 423 |  |
| 1919 | 287, 278 | 306, 600 | 345. 630 | 380, 93.5 | 3:8, 392 | 360, 972 | 322. 739 | 280, 324 | 280, 305 | 248, 870 | 239, 908 | 238, 791 |
| 1920-2 | 192, 310 | 175, 14 | 155, 4633 | 183, 0.12 | 214, 569 | 221, 177 | 226: 287 | 251, 169 | 286, 83 | 270, 615 | 215, 590 | 199,992 |
| A - .,1914-1920 | 210, 833 | 211, 126 | 222, 0.52 | 252, 385 | 24, 172 | 298, 734 | 301. 442 | 301, 220 | 293, 689 | '297, 866 | 274, 934 | 242, 779 |
| 1921-22 | 163, 0662 | 377 | 6, 738 | 221, 749 | -54, 683 | 247, 365 | 233. 412 | 212, 190 | 272, 921 | 260, 248 | 223, 488 | 190.133 |
| 1922-23 | 141, 9831 | 124, 321' | 126, 607 | 176, 57 s | 244, 359 | 288, 336 | 301, 138 | 341, 339 | 341, 24 | 310, 173 | 273, 062 | 206, 912 |
| $1923-24$ | $171,996$ | $16 i, 278$ | $161,916$ | $214,511 \frac{2}{2}$ | $27 i, 713$ | 313, 226 |  |  |  |  |  |  |

Division of statistical and Historical Researet. Compiled frem Bartels Red Book and Chicago Daily Trade Bulletin. Includes "afoat" for United Kingdom, for Continent, and for orders; "in store" in United Kingdom, France, Germany, Belgium, Iolland, Russie, Canala, and United States, 1892, through Decenber, 1900. Argentina added in Jenuary, 1901; Australia in March, 1905. Beginning with March, 1916, France, Germany, Belginmi, Holland, and Russia omitted.
${ }^{1}$ Australia not included February, 1914, to January, 1915.
Table 24.-Wheat crop chessified by grades, ${ }^{1}$ crops of 1921-1923.
SPRING WHEAT.

| State. | No. 1. | No. 2. |  | No. 3. |  |  | No. 4. |  |  | No. 5. |  |  | Below No. 5. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 1922:1923 | 1921 | 1922'1923 | 1921 | 1922 | 1923 | 1921 | 1922 | 1923 | 1921 |  | 1923 | 1921 | 19221923 |
|  | P.ct P.ct P.ct | P.ct | P.ct P.ct | P.ct | P.ct | P.ci |  | P.ct | P.ct | P.ct | P.ct | P.ct | P.ct | $P . c t P . c t$ |
| Minnesota | 5.6 49.414 .7 | 12.32 | 24.222 .1 |  | 14.5 ${ }^{1}$ | 28.0 |  |  | 18. 5 | 17.0 | 3.1 |  | 5. 3 | 1. 14.9 |
| North Dakota | 14. 053.510 .5 | 22. 2 | 26.418 .9 | 29.7 | 12.9 | 29. 4 | 20.5 | 4.8 | 22. ${ }^{\text {c }}$ | 10.0 |  | 12.1 | 3.6 | . 56.4 |
| South Dakota | 15. 751.8 6. 2 | 22. 72 | 25. 217.7 | 30.5 | 15.330 | 30. 9 | 17.0 |  | 23.9 | 9.9 |  | 14.9 | 4.2 | . 4 G. 4 |
| Nebraska | 11.210 .14 .0 | 29.6 | 37. S'14. 4 | 26. 9 | 37. 71 | 19. 1 | 17.4 |  | 26.8 | 9.4 |  | 18.7 | 5.5 | 1.517 .1 |
| Montana | $74.784 .063 .2$ | $18.2$ | $12.120 .6$ | $5.6$ | 3.1 | 12. 1 | 1.4 | . 5 | 3.8 |  | . 3 |  |  |  |
| Colorado. | $38.335 .925 .5$ | $37.3$ | $33.227 .5$ | $13.8$ | 22.0 | 18. | 7.2 | 6.1 | 10.7 | 1. 5 | 1.4 | 8.2 | 1.9 | 1. 410.1 |
| Utah | 33.631.0:27.2 | 40.1 | 44.948.2 | 17. 1 | 18.3 1 | 17. 3 | 5.6 |  | 5.9 | 3.4 |  |  | . 2 | . 4.4 |
| Idaho.-. | 37. 3, 35. 5, 37.6 | 41. 5 | 49.543 .1 | 13. 5 | 10.91 | 14.3 | 3. 8 | 2. 0 | 2. 3 | 2.7 | ${ }_{9}^{9}$ |  | 1.2 | $\begin{array}{lll}1.0 & 1.7\end{array}$ |
| W ashingto | 22. 0 7. 2, 39. 2 | 44. 2 | 24.644.2 | 25.9, | 30. 71 | 12.4 | 5. 9 | 20.0 | 3. 3 | 1.2 | 9.2 | . 4 | 8 | 3.3 . 5 |
| Oregon... | 50.0 27. 6'60.6 | 37.6 | 38. 5.26 .9 | 9.6 | 23.2 | 9. 3 | 2.3 | 6.2 | 2. 1 | . 5 | 2.5 |  |  | 2. 0.6 |
| United States. | 24.1 52.118 .8 | 25. 6 | $\|$20.4 | 24. 2 |  |  | $i 5.1$ |  | 16.3 | 7.9 | 2.0 | 8.8 | 3.1 | .7:5.6 |

## Division of Crop and Livestock Estimates

${ }^{1}$ Based on percentage estimates oi about 3,501 mill and elevator operators.

Table 24.-Wheat crop classified by grades, ${ }^{1}$ crops of 1921-1923-Continued. WINTER WHEAT.


Division of Crop and Livestock Estimates.
${ }^{1}$ Based on percentage estimates of about 3,500 mill and elevator operators.
Table 25.-Dockage assessed on wheat at Minnesota markets, 1859-1922.

| Year beginning Sept. 1. | Number of cars on which dockage is assessed. | Amount of wheat in cars. ${ }^{1}$ | Amount of dockage assessed. ${ }^{2}$ | Per-centage of docksessed. | Year beginning Sept. 1. | Number of cars on which dockage is assessed. | Amount of wheat in cars. ${ }^{1}$ | Amount of dockage assessed. ${ }^{2}$ | Per-centage of dockage assessed. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Bushels. | Per cent. |  |  | Bushel | Bushels. | Per cent. |
| 1899-1900 | 163, 824 | $\begin{aligned} & \text { Busnels. } \\ & 212,971,200 \end{aligned}$ | 4, 365, 909. 4 | 2.0 | 1911-12 | 103, 399 | 134,418, 700 | 4,054, 964.1 | 3.0 |
| 1900-1. | 111, 742 | 145, 264, 600 | 3, 558, 982.7 | 2.4 | 1912-13 | 182, 800 | 237, 440,000 | 6, 495, 493.3 | 2.7 |
| 1901-2 |  |  |  |  | 1913-14 | 137, 4837 | 178, 727, 900 | 6, 553, 356. 3 | 3. 7 |
| 1902- | 129, 154 | 167, 900, 200 | 3, 190, 103.8 | 1.9 | 1914-15- | 126, 897 | 164, 966, 100 |  | 3. 8 |
| 1903-4 | 111, 0150 | 144, 319, 500 | 3, 175, 029.0 | 2.2 | 1915-16- | 219, 164 | 284, 914, 500 | 10, 8266, 093.1 | 3.8 |
| 1904 | 109, 160 | 141, 908, 000 | 2, 743, 554.6 | 1.9 2.9 | 1916-17- | -94,942 | 115, 479, 000 | 4, 041, 765. 0 | 3. 5 |
| ${ }_{1906-7}$ | 140,546 134,298 | 174, 887 , 400 | 5, 2988, 5877.9 | 3.3 | 1918-19. | 157, 452 | 204, 687, 600 | 4,776, 044.0 | 2.3 |
| 1907-8 | 95, 917 | 124, 692, 100 | 4, 218, 749.4 | 3.4 | 1919-20 - | 85, 657 | 111, 354, 100 | 5, 010, 934. 5 | 4.5 |
| 1908-9 | 117, 909 | 153, 281, 700 | 3, $525,479.1$ | 2.3 | 1920-21- | 127, 976 | 166, 368, 800 | 7, 486, 596.0 | 4. 8 |
| 1909-10-- | 150, 699 | 195, 908, 700 | 5, 354, 837.8 $2,272,276.5$ | 1. 1.9 | 1922-23. | 137, 668 | 180, 268, 400 | 7, 589, 299. 6 | 4.2 |
| 1910-11 | 91, 995 | 119, 593, 500 | 2, 272, 276. 5 | 1.9 | 1922-23 - | 138, 688 | 180, 208, 400 | 7, 58, 29.6 |  |

Division of Statistical and Historical Research. Compiled from Minnesota State Grain Inspection Department data.

$$
{ }^{1} \text { Based on } 1,300 \text { bushels to the car. }
$$

${ }^{2}$ Based on 60 pounds to bushel.

Table 26.-Wheat: Classification of cars graded by licensed inspectors, all inspection points.

| Year beginning July 1. | Total of all classes and subclasses under each grade, annual inspections 1917-1922. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Receipts. |  |  |  |  |  |  | Shipments. |  |  |  |  |  |  |
|  | No. 1. | No. 2. | No. 3. | No. 4. | No. 5. | Sample. | Total. | No. 1 | No. 2. | No. 3. | No. 4. | No. 5. | Sample. | Total. |
| 1917-18. | Cars. 60, 848 | Cars. 91, 143 | Cars. 59, 421 | $\begin{aligned} & \text { Cars. } \\ & 23,435 \end{aligned}$ | Cars. <br> 15, 766 | $\begin{aligned} & \text { Cars. } \\ & 15,402 \end{aligned}$ | $\begin{gathered} \text { Cars. } \\ \text { 266, } 015 \end{gathered}$ | $\begin{aligned} & \text { Cars. } \\ & 17,926 \end{aligned}$ | $\begin{aligned} & \text { Cars. } \\ & 26,559 \end{aligned}$ | Cars. <br> 17, 833 | $\begin{gathered} \text { Cars. } \\ 6,503 \end{gathered}$ | Cars. | Cars. | $\begin{aligned} & \text { Cars. } \\ & 76,745 \end{aligned}$ |
| 1918-19. | 300, 264 | 203, 965 | 63, 827 | 26,660 | 10, 017 | 18,247 | 622,980 | 246, 577 | 87,173 | 17, 106 | -6, 496 | 1,519 <br> 1,59 | -3, ${ }_{3}^{3,181}$ | 357, 052 |
| 1919-20. | 45, 427 | 192, 003 | 187, 533 | 101, 279 | 49, 423 | 28,799 | 604, 464 | 16,602 | 143, 770 | 86,744 | 18,460 | 6,335 | 4,648 | 276, 559 |
| 1920-21. | 153, 069 | 241, 339 | 124, 184 | 49, 703 | 38,367 | 49,675 | 656, 337 | 44, 837 | 268, 752 | 44, 407 | 18,889 7 | 8,930 | 7,724 | 384, 539 |
| 1921-22 | 91, 844 | 269, 250 | 147,537 | 51,763 | 27, 690 | 59, 290 | 647, 374 | 21, 414 | 255, 512 | 34, 243 | 7,864 | 4, 753 | 11, 662 | 335, 448 |
| 1922-23. | 138, 020 | 210, 527 | 131, 368 | 48, 466 | 15, 626 | 38, 998 | 583, 005 | 28,387 | 226, 008 | 37,610 | 6, 421 | 2,823 | 6,495 | 307, 744 |
| Class. | Total inspections, by grade and class, July 1, 1922, to June 30, 1923. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hard Red Spring | 85, 187 | 21,703 | 11, 584 | 5,380 | 2,276 | 1,324 | 127, 454 | 20,067 | 14,753 | 2,189 | 641 | 265 | 288 | 38, 203 |
| Durum. | 9,776 | 28, 983 | 9, 213 | 4,646 | 1,290 | 1,016 | 54, 924 | 2,076 | 26, 660 | 1,534 | 710 | 233 | 162 | 31, 375 |
| Hard Red Winter. | 21,302 | 94, 155 | 66, 412 | 20, 271 | 6,282 | 19, 087 | 227, 509 | 4, 189 | 103, 827 | 21,673 | 2, 513 | 1,021 | 3,077 | 136, 300 |
| Soft Red Winter | 2,779 | 22, 965. | 22, 224 | 9, 621 | 2, 962 | 12, 231 | 72, 782 | 608 | 28, 511 | 8,523 | 1,413 | 698 | 1,434 | 41, 187 |
| White Wheat | 5,695 | 10, 860 | 6, 416 | 1,786 | ${ }^{4} 406$ | 1253 | 25, 516 | 319 | 11, 319 | ${ }^{8} 516$ | ${ }^{1} 4$ | 2 | 1, 2 | 12, 162 |
| Mixed. | 13,281 | 31,861 | 15, 509 | 6,762 | 2,410 | 4,987 | 74, 810 | 1,128 | 40, 938 | 3,175 | 1,140 | 604 | 1,532 | 48, 517 |
| Year beginning July 1. | Total of all classes and subclasses under each grade, annual inspections 1917-1922. |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. |
| 1917-18. | 22.9 | 34.3 | 22.3 |  |  |  |  |  | 34.6 |  | 8.5 | 5. 6 | 4.7 | 100 |
| 1918-19- | 48.2 | 32.7 31.8 | 10.2 31.0 | 4.3 16.7 | 1.6 8.2 | 3.0 4.8 | 100 | 69.1 | 24.4 | 3.9 | 1.3 | 0.4 | 0.8 | 100 |
| 1920-21. | 23. 3 | 36.8 | 18.9 | 7.6 | 5. 8 | 4.8 7.6 | 100 | 11.7 | 52.0 69.9 | 31.3 11.5 | 6.7 2.8 | ${ }_{2}^{2.3}$ | ${ }_{2}^{1.7}$ | 100 100 |
| 1921-22- | 14.2 | 41.6 | 22.8 | 8.0 | 4.3 | 9.1 | 100 | 6. 4 | 76.2 | 11. 2 | 2.6 2.3 | 1.4 | 3.5 | 100 |
| 1922-23 | 23.7 | 36.1 | 22.5 | 8.3 | 2.7 | 6.7 | 100 | 9.2 | 73.5 | 12.2 | 2.1 | 0.9 | 2.1 | 100 |
| Class. | Total inspections, by grade and class, July 1; 1922, to June 30, 1923. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hard Red Spring. | 66.8 | 17.0 | 9.1 | 4. 2 | 1.8 | 1.1 | 100 | 52.5 | 38.6 | 5.7 | 1.7 | 0.7 | 0.8 | 100 |
| Durum-1.... | ${ }_{9}^{17.8}$ | 52.8 | 16.8 | 8.5 | 2.3 | 1.8 | 100 | 6.6 | 85.0 | 4.9 | 2.3 | 0.7 | 0.5 | 100 |
| Soft Red Winter.- | 3.8 | 31.6 | 29.2 30.5 | 13. 29 | 4.1 | $\begin{array}{r}8.4 \\ 16.8 \\ \hline\end{array}$ | 100 | 3. 1.5 | 76.2 69.2 | 15.9 20.7 | 1.8 3.4 | 0.7 1.7 | 2.3 3 | 100 |
| White Wheat | 22.3 | 42.6 | 25.1 | 7.0 | 1. 6 | 16.4 1.4 | 100 | 1. 2.6 | ${ }_{93.1}^{69.2}$ | 4.3 | 3.4 | 1.7 | 3.5 | 100 100 |
| Mixed. | 17.8 | 42.6 | 20.7 | 9.0 | 3.2 | 6.7 | 100 | 2.3 | 84.4 | 6.5 | 2.4 | 1.2 | 3. 2 | 100 |

Grain Division

Table 27.-Wheat: Exports from United States, 1910-1924. plourincluded.

| Year ending June 30. | July. | Aug. | Sept. | Oct. | Nov. | Dee. | n. | b. | Mar. | Apr. | May. | June. | Total: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | beg |  |  |  |  |  |  |  |  |  |  |
|  | $\begin{aligned} & b u s h . \\ & 4.629 \end{aligned}$ | butsh. | 12, 472 | bersh. | brish. | bush. | bush. | ${ }_{\text {3,527 }}^{\text {bush. }}$ |  | 5,330 | 4,977 | bush. $2,864$ | bush. $87,364$ |
| 1910 | 3, 130 |  | 6, 186 |  |  |  | 7,000 | 5,120 |  | 5, 244 |  | 3,960 | 69,315 |
| 1911-12 |  | 0, 177 | 10, 700 | 8,820 | 6, 574 | 7,980 | 5, 814 | 5, 0334 | 5, 852 | 4,923 | 4,388 | 3,146 |  |
| 1912-13 | 12,996 | 28, 3461 | 16, 178 | 20, 745 | $\stackrel{1}{6,155}$ | 14, 62 | ${ }^{13,445}$ | 9,194 7,556 | 6,799 | 10,820 | 11, 178 | $\begin{array}{r} 9,148 \\ 11,247 \end{array}$ | $\begin{aligned} & 142,867 \\ & 145,593 \end{aligned}$ |
| A verage 1910 | 6,000 | 12, 243 | 12,771 | 12,805 | 10,419 | 10,053 | 8,18 | 6,088 | 6,192 | 6,671 | 7,462 | 6,073 | 104, 964 |
| 1914-15---........- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 |  | , |  | 23, 768 | 9, 26 | 2, 4 | 20,805 | 21,066 | 4, | 22, 424 | 20, 59 | 2, | 43, 119 |
| 1916-17 | 10, 38 | 14, 921 | 8, | 16, | 9, | , | 2, 00 | 13, 561 | , | 8,50 | 16, 21 | , | 203, 576 |
| 1917-18 |  |  | 718 | 11, 522 | 10, 618 | 5, 300 | 12, 448 | 10, 494 | 12, 2 | 12, 384 | 10, 91 | 1,375 | 32, 580 |
| 1918 | 11, 156 | 19, 494 | 8, 348 | 24, 532 | 1, 99 | 33, 540 | 22, 107 | 15, 84 | 20, 31 | 31, 130 | 26, 30 | , | 05 |
| 1939 |  |  | , 28 | 2,977 | 23,396 | 5, | 12.27 | 10,581 | 16,88 | 2,720 | 25, 80 | 21, 752 | 222, 562 |
| 1920-2 | 34,656 | 32, 678 | 34, 996 | 43,034 | 30,990 | 30, 18 | 27, 105 | 23, 077 | 20,766 | 24,800 | 31, 62 | 32, 19 | 366, 103 |
| A verage 1915-1921. | 17,553 | 20,910 | 24,339 | 23, 661 | 21,594 | 24,384 | 21,551 | 18,007 | 19,261 | 21,738 | 21,690 | 20, 714 | 255,402 |
| 1921-2 | 3, |  |  | 25, 21 |  | 15, 014 | 14,982 | 10,991 | 14,371 | 10,244 | 14,267 | 18,200 | $\overline{279,169}$ |
| 1922 | 19, 124 | 38, | 1, | 25, 0 | 17, 579 | 16, 428 | 12, 519 | 12, 197 | 10,725 | 10, 195 | 14, 396 | 12, 881 | 221,906 |
| 1923-24 ${ }^{1}$ | 12, 822 | 19, 929, | 22, 465 | 18,60 | 12, 147 | 12,9 | 12, | 10,019 |  |  |  |  |  |

FLOUR NOT INCLUDED.

| 1909-10 | 2,783 | 6,157 | 7,156 | 8,566 | 8, 427 | 3,727 | 1,428 | 1,166 | 1,204 | 2,953 | 2,487 | 626 46, 680 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 2, 862 | 2,131 | 2, 226 | 3,261 | 2,505 | 3,409 | 2,802 | 1,347 | 1,883 | 1,315 | 1,371 | 617 23, 731 |
| 1911-12 | 3, 260 | 6,253 | 5, 088 | 3,350 | 2, 299 | 3,084 | 2,043 | 1,244 | 1,352 | 1,386 | 603 | 199 30, 161 |
| 1912-13 | 535 | 5, 800 | 13, 153 | 15, 255 | 10,584 | 9,490 | 8,441 | 4, 357 | 4,569 | 6,590 | 7,159 | 5,661 91, 594 |
| 1913-14 | 9, 404 | 24,346 | 11,971 | 7, 434 | 3, 851 | 5,727 | 4,985 | 3,947 | 3, 457 | 3, 066 | 6,810 | 7,395 92,393 |
| A verage 19 | 3, 369 | 8,937 | 7,919 | 7,573 | 5,533 | 5,087 | 3,940 | 2,413 | 2,493 | 3,062 | 3,686 | 2,900 56,912 |
| 1914-15 | 26, 357 | 24, 341 | 25,867 | 19,578 | 19, 182 | 28,876 | 24, 008 | 24, 332 | 20,541 | 22,758 | 14,227 | 9,396 259, 563 |
| 1915-16 | 7,956 | 16, 838 | 21, 526 | 18, 040 | 13, 500 | 12, 624 | 13, 461, | 15, 054 | 17, 294 | 16,506 | 14, 571 | 5, 905173,275 |
| 1916-17 | 6,355 | 11, 060 | 13, 108 | 11,985 | 14, 279 | 14, 473 | 18, 906 | 10, 384 | 7, 885 | 14, 233 | 11, 359 | 15,804 149, 831 |
| 1917-18 | 5, 059 | 5,170 | 2, 613 | 5, 415 | 4, 878 | 4,491 | 1,914 | 1,048 | 1, 688 | 17, 024 | 1453 | .467 34, 120 |
| 1918-19 | 5 225 | 15, 120 | 26, 848 | 21,319 | 16, 087 | 25, 084 | 9,943 | 5,992 | 10,208 | 17, 338 | 14, 028 | $16,390178,582$ |
| 1919-20 | 5, 834 | 12, 941 | 17, 090 | 13, 687 | 15, 116 | 9,520 | 8, 480 | 4,938 | 6, 939 | 4, 176 | 10, 864 | $12,846122,431$ |
| 1920-21 | 23,838 | 27,694 | 30, 771 | 35, 803 | 26, 035 | 25,903 | 21,345 | 18,469 | 14,601 | 17, 641 | 25, 932 | 25, 235293,267 |
| A verage 1915-1921. | 10,803 | 16,166 | 19,689 | 17,975 | 15,582 | 17, 282 | 14,008 | 11, 474 | 11,308 | 13,382 | 13, 048 | 12, 292173,010 |
| 1921-22 | 24,842 | 58,537 | 30,842 | $\overline{18,206}$ | 13,955 | 10,451 | 10,038 | 5, 577 | 7,645 | 4.856 | 9,366 | 14,006 208,321 |
| 1922-23 1 | 14,979 | 33, 703 | 25,987 | 18,282 | 16,577 | 9, 676 | 7,296 | 5,991 | 4,291 | 4,943 | 9, 973 | 9, 252 154,950 |
| 1923-24 1 | 8, 843 | 14, 198 | 15, 408 | 9, 239 | 4, 148 | 4,941 |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Monthly Summary of Foreign Commerce, Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Preliminary.
Table 28.-Wheat: Production and exports; inspection for export, by classes, July 1, 1920-December 31, 1923; and production, 1920-192s.

| Class. | July 1, 1920, to June 30, 1921. |  | July 1, 1921, to June 30, 1922. |  | July 1, 1922, to June 30, 1923. |  | July 1, 1920, to June 30, 1923. ${ }^{1}$ |  | July 1, 1923, to Dec. 31, 1923. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\left\|\begin{array}{c} \text { Esti- } \\ \text { mated } \\ \text { produe- } \\ \text { tion. } \end{array}\right\|$ | Exports, gross. |  | $\underset{\text { Ex- }}{\text { ports, }}$ gross. | Estimated produc- tion. 2 | $\underset{\text { ports, }}{\text { Ex- }}$ gross. | Estimated produt ${ }^{2}$ tion. ${ }^{2}$ | Exgross. | Estimated produc- tion. |  |
| Reported inspec- | 1,000 | $\begin{gathered} 1,000 \\ \text { bughels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { brishels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushets. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { buthels. } \end{gathered}$ | $1,000$ <br> butshels. | $\left.\begin{gathered} 1,000 \\ \text { bushels } \end{gathered} \right\rvert\,$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. |
| Hard red spring. | 153,878 | 10, 081 | 140, 163 | 20, 145 | 180, 975 | 8,718 | 158, 339 | 12,982 | 136,973 | 765 |
| Darum. | 41, 954 | 4, 872 | 53, 324 | 8, 697 | 87, 023 | 12, 271 | 60, 767 | 8,613 | 46, 618 | 400 |
| Harà red winter | 294, 536 | 132, 701 | 276, 629 | 78; 477 | 206, 222 | 51, 654 | 278, 929 | 87, 810 | 219, 785 | 15,568 |
| Soft red | 247, 102 | 34, 281 | 257, 818 | 18, 758 | $\begin{array}{r}243,438 \\ 89 \\ \hline\end{array}$ | 20,848 | 242 97,689 | $\begin{array}{r}24,708 \\ 5 \\ 5 \\ \hline 182\end{array}$ | 117,419 | 10,054 |
| White | 95, 557 | 68, 618 | 107, 371 | 18,963 |  | 25, 047 | 97, | 37, 542 | 17, | 3, 154 |
| Typesample |  | 26, 546 |  | 42, 894 |  |  |  | 23, 146 |  |  |
| Not classified |  | 87,798 |  | 90, 475 |  | 89, 785 |  | 89, 352 |  |  |
| Tota | 833,027 | 366, 077 | 814, | 279, 407 | 867, 598 | 221,923 | 838, 510 | 289, 13 | 785, 7 | 99, 005 |

## Division of Statistical and Historical Res earch. <br> ${ }^{1}$ Three-year average.

${ }^{2}$ Based on estimate of percentage classification by States as reported in 1921, Division Crop and Livestock Estimates.
${ }^{9}$ From July 1, 1921, to Jume 30, 1923, 70 per cent of the exports of mixed wheat is estimated as durum. Mixed wheat exports in 1920-21 were largely soft and hard winter wheats shipped through Calf ports: $20,030,000$ bushels of durum were estimated mixed with spring wheat in 1920-21.
+Prior to July 1; 1922, practically all wheat exported from Pacific coast was shipped on basis of "Portland (Oreg:) Chamber of Commerce type sample." Since July 1, 1922, all wheat exported from Pacific coast has been inspected on the basis of Federal grades and classes.
Exports of wheat other than reported as "Federal inspected" and flour in terms of wheat.

Table 29.-Wheat, including flour: Exports from the United States by customs districts, 1921-1923.

| District. | Year ending June 30. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wheat. |  |  | Wheat flour. |  |  | Wheat, including flour. |  |  |
|  | 1920-21 | 1921-22 | 1922-23 | 1920-21 | 1921-22 | 1922-23 | 1920-21 | 1921-22 | 1922-23 |
|  | 1,000 bushels. | 1,000 bushels. | 1,000 bushels. | 1,000 barrels. | 1,000 | 1,000 barrels. | 1,000 bushels. | 1,000 bushels. | 1,000 bushels. |
| Canadian and Lake ports $\qquad$ | bushels. | bushels. | bushels. | barrels. 16 | barrels. | barrels. | bushels. $12,419$ | bushels. | bushels. $32,571$ |
| Atlantic coast. | 87, 636 | 45, 294 | 53, 790 | 10,353 | 7,782 | 6, 935 | 134, 225 | 80,314 | 84,998 |
| Gulf coast | 163, 096 | 86, 091 | 48, 239 | 2,717 | 3,757 | 3,439 | 175, 324 | 102,999 | 63,716 |
| Mexican border | , 519 | 1,111 | 726 | 141 | 81 | 92 | 1, 152 | 1, 474 | 1,140 |
| Pacific coast. | 29, 670 | 44,466 | 19,825 | 2,953 | 4,093 | 4,372 | 42,857 | 62, 883 | 39, 498 |
| Total | 293, 268 | 208, 321 | 154, 951 | 16, 180 | 15,797 | 14,883 | 365, 977 | 279,407 | 221, 923 |

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

Table 30.-Wheat, flour not included: Imports into the United States from Canada, 1918-1923.

| Year beginning July 1- | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. |
| 1913 |  | ${ }^{(1)}$ | $\left.{ }^{2}\right)$ | 231 | 104 | 127 | 885 | 175 | 235 | 13 | 73 | 43 | 1,890 |
| 1914-15 | 35 | 69 | 7 | 3 | 102 | 5 | 14 | 47 | 35 | 13 | 19 | 21 | 270 |
| 1915-16 | 60 | 441 | 348 | 1,755 | 796 | 470 | 386 | 218 | 194 | 258 | 504 | 243 | 5,673 |
| 1916-17 | 128 | 394 | 943 | 1,507 | 2, 606 | 838 | 805 | 1,337 | 2,993 | 3,125 | 5,459 | 3,574 | 23, 709 |
| 1917-18 | 1,954 | 1,398 | 840 | 1,712 | 5,674 | 3,732 | 7,339 | 27 | 218 | 71 | 958 | . 761 | 24,684 |
| 1918-19 | 508 | 24 | 27 | 55 | 176 | 168 | 39 | 42 | 44 | 281 | 1,474 | 1, 893 | 4,731 |
| 1919-20 | 118 | 28 | 143 | 564 | 404 | 309 | 753 | 534 | 526 | 50 | 410 | 124 | 3, 963 |
| 1920-21 | 36 | 170 | 1,842 | 9,800 | 9, 522 | 11, 185 | 4,504 | 4, 403 | 2, 671 | 4,564 | 1,902 | 89 | 50, 688 |
| 1921-22 | 713 | 239 | 81 | 878 | 1, 184 | 2, 052 | 3, 120 | 199 | 2, 673 | 483 | 1,231 | 1,610 | 14, 463 |
| 1922-23 | 3, 070 | 1,152 | 782 | 2, 566 | 3, 176 | 2,616 | 252 | 211 | 345 | 2, 812 | 946 | 122 | 18, 050 |
| 1923-24 | 1,836 | 596 | 1,234 | 2, 832 | 5, 264 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Monthly Summary of Foreign Commerce, Bureau of Foreign and Domestic Commerce.

$$
{ }^{1} 37 \text { bushels. } \quad 2297 \text { bushels. }
$$

Table 31.-Wheat, Canadian: Shipments through the United States in transit for export, 1908-1923.

| Year ending June 30. | July. | August. | September. | October. | November. | December. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. | Bushel |
| 1907-8. | 2, 008, 348 | 2, 374, 791 | 1, 354, 539 | 746, 356 | 596, 582 | 2, 323, 690 |
| 1908-9 | 196, 948 | 375, 220 | 293, 334 | 1,411,966 | 4, 976, 070 | 5, 661, 697 |
| 1909-10 | 149, 079 | 47, 072 | 128, 461 | 2, 271, 026 | 3, 936, 849 | 6, 815, 713 |
| 1910-11 | 405, 777 | 369, 879 | 169, 202 | 2, 454, 251 | 4, 103,756 | 2, 853, 058 |
| 1911-12 | 1,245, 123 | 1,556,059 | 1,843, 632 | 2, 850, 293 | 6, 817, 884 | 5,741,686 |
| 1912-13. | 4, 798, 849 | 3, 267, 057 | 1,103, 581 | 822, 445 | 5,791,397 | 6,947, 147 |
| 1913-14 | 3, 022, 204 | 1,607,918 | 576, 187 | 8, 394, 434 | 12,742, 195 | 10, 300, 988 |
| 1914-15 | 1,970, 116 | 693, 347 | 847, 479 | 2, 587, 898 | 2, 664, 700 | 3, 649,473 |
| 1915-16 | 1,786, 025 | 1,196, 921 | 2,094, 792 | 14, 156, 283 | 24,039,780 | 22, 034, 619 |
| 1916-17 | 17, 214, 550 | 13, 420, 235 | 7, 912, 271 | 3, 382, 021 | 6, 814, 761 | 4, 790, 585 |
| 1917-18. | 4, 937, 699 | 3, 238, 134 | 45, 032 | 747, 333 | 3,772,431 | 5, 479,905 |
| 1918-19 | 206, 896 |  |  | 351,714 | 61,783 | 3, 541, 148 |
| 1919-20. |  |  |  |  | 2, 532, 429 | 2, 023, 286 |
| 1920-21. |  |  |  | 398, 482 | 7, 384, 934 | 11, 984, 856 |
| 1921-22. | 185, 320 | 472, 937 | 1, 261, 641 | 8, 552,416 | 10,745, 169 | 14, 060, 184 |
| 1922-23. | 4, 680,890 | 2, 994, 596 | 2, 299, 062 | 3, 911, 564 | 17,618, 609 | 17, 895, 393 |

Table 31.-Wheat, Canadian: Shipments through the United States in transit for export, 1908-1923-Continued.

| Year ending June 30. | January. | February. | March. | A pril. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1907-8 | Bushels. <br> 3, 388, 139 | Bushels. $2,292,873$ | Bushels. <br> 1, 432, 209 | Bushels. $630,401$ | Bushels. $1,434,751$ | Bushels. $1,180,066$ | Bushels. <br> 19, 762, 745 |
| 1908 | 3, 3689,982 | 1, 923, 038 | 1, 849, 464 | 1, 058, 552 | 1, 469, 758 | 1, 701, 459 | 23, 487, 488 |
| 1909-10 | 4, 114, 828 | 2, 260, 732 | 1, 539, 623 | 1, 407, 327 | 3, 367, 419 | 1, 091, 342 | 27, 129, 471 |
| 1910-11 | 1,380, 745 | 1, 847, 176 | 2,932, 295 | 1, 790, 647 | 3, 280, 249 | 2, 425, 193 | $24,192,228$ |
| 1911-12 | 4,962, 375 | 3, 766, 567 | 3, 606, 272 | 5, 092, 380 | 7, 645, 257 | 10, 290, 325 | 55, 417, 853 |
| 1912-13 | 9, 224, 642 | 5, 134, 431 | 3, 660, 099 | 3, 243, 337 | 5, 513, 141. | 7,243, 576 | 56, 749, 702 |
| 1913-14 | 9, 618, 935 | 6, 675, 743 | 6, 499, 831 | 3, 605, 203 | 5, 766, 809 | 2, 832, 951 | 71, 643, 398 |
| 1914-15 | 3,493, 415 | 3, 615, 553 | 3, 654, 029 | 3, 540, 711 | 2, 927, 745 | 2, 513, 660 | 32, 158, 217 |
| 1915-16 | 17, 440, 067 | 13, 483, 801 | 12, 426, 937 | 9, 449, 951 | $18,511,435$ $8,008,279$ | $2,095,577$ $17,087,040$ | $138,716,188$ $104,953,682$ |
| 1916-17 | 8, 474, 752 | 4, 557, 824 | 7,512, 190 | 5,779, 174 | 8, 008, 279 | $17,087,040$ 96,248 | $104,953,682$ $38,207,776$ |
| 1917-18 | 6, 372, 455 | 3, 239, 331 | 4, 854, 521 | $3,856,696$ $4,107,282$ | $1,567,991$ $3,158,907$ | 96, 248 | $\begin{aligned} & 38,207,776 \\ & 16,961,663 \end{aligned}$ |
| 1918-19 | $1,862,786$ <br> $1,552,458$ | $1,587,948$ 174,000 | 2, 083, 199. | 4, 107, 282 $1,428,718$ | $3,158,907$ 10,330 |  | 16, 961, 603 |
| 1920-21 | 10, 423, 280 | 6, 642, 019 | 5, 609, 961 | 3,747, 239 | 2, 180, 544 | 1, 136, 199 | 49, 507, 524 |
| 1921-22 | 15, 439, 396 | 6, 498, 342 | 9,362, 172 | 4, 240, 705 | 8, 113, 753 | 4, 255, 370 | 83, 187, 405 |
| 1922-23 | 15, 552, 317 | 13, 772, 838 | 8,038, 450 | 11, 521, 340 | 5, 498, 122 | 6,906, 186 | 110, 689, 367 |

Division of Statistical and Historical Research. Compiled from data of Bureau of Foreign and Domestic Commerce.

Table 32.-Wheat, including flour: International trade, 1910-1923.

| Country. | Year ending July 31. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average, 1910-1914. |  | 1920-21 |  | 1921-22 |  | 1922-23, preliminary. |  |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. | $\begin{array}{r} 1,000 \\ \text { bushels. } \\ 639 \\ 3 \\ 7 \\ 208 \end{array}$ | 1,000 <br> bushels. | 1,000 bushels. 6, 530 | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 985 \end{gathered}$ | 1,000 bushels. 1, 698 | $1,000$ <br> bushels: 5, 884 | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 14,167 \end{gathered}$ | 1,000 bushels. 22,542 |
| Algeria---- |  | $\begin{array}{r} 5,936 \\ 95,243 \end{array}$ |  | 193, 099 |  | 62, 399 | ----- | $\begin{array}{r} 141,930 \\ 49,625 \end{array}$ |
| Argentina ${ }^{3}$ |  | 49, 732 |  | 87, 340 | ---72- | 116, 466 | ------777- |  |
| Australia ${ }^{\text {British Indi }}$ |  | 49, 488 | $\begin{array}{r}5 \\ 3 \\ \hline\end{array}$ | -14,945 | 16, 728 | 2, 810 |  | 28, 8.5 |
| Bulgaria.- |  | 11, 182 | ${ }^{(5)}{ }_{455}$ | 1,758167,217 | ${ }^{(6)} 372$ | 4,477 185,768 | ------781- | 4274, 886 |
| Canada. | 448 | 95, 828 | 455 |  |  | 185, 768 | 4381 |  |
| Chile ${ }^{3}$ |  | $\begin{array}{r} 2,593 \\ 49,116 \end{array}$ | 44 241 | 1, 368 | 6 5 | 2, 150 | ----1224 | 5,154 |
| Hungary |  |  | 241 | 235 3,692 | 5 | 9, 2,793 | 1224 |  |
| Yugoslavia | $\begin{array}{r} 196 \\ 556 \\ 1,607 \end{array}$ | $\begin{array}{r} 54,630 \\ 164,862 \\ 110,076 \end{array}$ | 16 | $\begin{aligned} & 3,692 \\ & 1,400 \end{aligned}$ | ${ }^{5}$ ) | $\begin{aligned} & 2,793 \\ & 3,494 \end{aligned}$ | -------- | 1,595 |
| Russia. |  |  | ---75,754 | 361,839 | 19,425 | -267, 855 | ${ }^{4} 19,945$ | 4221,923 |
| United States |  |  |  |  |  |  |  |  |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Austria. | $\begin{aligned} & 11,402 \\ & 73,398 \\ & 20,495 \end{aligned}$ | $\begin{array}{r} 871 \\ 23,045 \end{array}$ | 14,348  <br> 34,056 1,895 |  | 18,739 70 <br> 45,289 4,783 |  | $\begin{array}{r} 12,986 \\ 441,025 \end{array}$ | $\begin{array}{r} 199 \\ \times 1,766 \end{array}$ |
| Belgium |  |  |  |  |  |  |  |  |  |  |
| Brazil ${ }^{3}$ |  | $\begin{aligned} & 15,879 \\ & 18 \\ & \hline 197 \end{aligned}$ |  | $\begin{array}{r} 250 \\ 22 \\ 481 \end{array}$ | $17,230$ |  | -11,947 | --11,592 |
| Czechoslova | $\begin{aligned} & 7,155 \\ & 8,244 \end{aligned}$ | ---- 597 | 18, 027 |  | 1,408 4,191 | 275 | 4 6, 249 | $\begin{array}{r} 1313 \\ +20 \end{array}$ |
| Egypt. |  |  | 11, 348 |  | 6,918 | (5) 328 | 4 7, 326 |  |
| Finland |  |  | 2,69446949 |  | 19, 779 | 2, 632 | 444,016 | $\begin{array}{r} 2,779 \\ 623 \end{array}$ |
| France. | $\begin{aligned} & 44,822 \\ & 91,338 \end{aligned}$ | 1,20323,264 |  | 1,134 |  |  |  |  |
| Germany |  |  | 60,378 10,673 | 6604 137 | $\begin{aligned} & 70,681 \\ & 13,233 \end{aligned}$ | $\begin{array}{r} 1,176 \\ 5 \end{array}$ | $\begin{aligned} & 42,676 \\ & 418,479 \end{aligned}$ | - 41,776 |
| Greece | $\begin{array}{r} 56,784 \\ 4,116 \end{array}$ | $-7,-782$28 |  | 134 <br> 128 | 101, 030 | 51251 | $\begin{array}{r} 112,003 \\ 14,092 \end{array}$ |  |
| Italy |  |  | 99,621 5,887 |  | 101, 24,815 |  |  | $\begin{array}{r} 1488 \\ 15 \\ 43,365 \end{array}$ |
| Japan. |  |  | 5, 868 |  | 24,815 |  | 1871 |  |
| Netherlands | $\begin{array}{r} 80,702 \\ 3,674 \end{array}$ | -58, 435 | 21,5333,822 | 2,7286 | $\begin{array}{r} 22,974 \\ 5,090 \\ 1,270 \end{array}$ | 3,286 | 25,93546,43372,474 |  |
| Norway. |  |  |  |  |  | 3 94 |  | $129$ |
| Poland. |  | -------219- |  |  |  | 94 | 72,474 |  |
| Portugal------------ | 2,630 |  |  |  | -7,282 | 257 |  |  |
| Spain --. | 6,262 | 70 23 | 20,558 6,863 | 299 | 4, 547 | 699 | 48,976 | 4703 |
| Sweden-------------- | 7,080 16,937 | 23 14 | $\begin{array}{r} 12,883 \\ 1,930 \end{array}$ | 299 | 4, 13,216 | ${ }^{(5)}$ | ${ }^{8} 16,017$ | 11 |
| Switzerland.--------- | 1,746 | 960 |  | 618 | 13, 645 | 2, 266 | 12,001 | 1308 |
| Unionof South Africa ${ }^{3}$ | $\begin{array}{r} 6,274 \\ 220,570 \end{array}$ | $\begin{array}{r} 253 \\ 3,768 \end{array}$ | $\begin{array}{r} 8,533 \\ 201,824 \end{array}$ | $\begin{array}{r} 114 \\ 2,843 \end{array}$ | $\begin{array}{r} 1,863 \\ 212,186 \end{array}$ | $\begin{array}{r} 81 \\ 5,214 \end{array}$ | $\begin{array}{r} 2,920 \\ 4209,290 \end{array}$ | $\begin{array}{r} 17 \\ 46,465 \end{array}$ |
| United Kingdom.-.-- |  |  |  |  |  |  |  |  |
| Total countries reported | 674, 677 | 805, 578 | 673, 984 | 846, 144 | 645, 611 | 685, 133 | 615, 372 | 746, 866 |

Division of Statistical and Historical Research. Compiled from International Institute of Agriculture, except figures with footnotes (3) and (4), which are compiled from official sources.

[^132]Table 33.-Wheat, including four: Net imports and net exports of principal countries, 1907-1923.

| Year ending July 31. | Imports. |  |  |  |  |  | Exports. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | United Kingdom. | Belgium. | France. | Germany. | Italy. |  | United States. ${ }^{1}$ | Canada. ${ }^{1}$ | Argentina. ${ }^{2}$ | Australia. ${ }^{3}$ |  | $\begin{aligned} & \text { Rus- } \\ & \text { sia. } \end{aligned}$ |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | butsh. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. |
| 1906-7 | 208, 504 | 49, 446 | 13, 404 | 71, 380 | 44, 601 | 18, 989 | 146, 110 | 40, 894 | 89, 128 | 37, 884 | 31,930 | 97, 655 |
| 1907 | 206, 300 | 41, 172 | 6,850 | 74, 667 | 91, 804 | 18,767 | 162, 524 | 51, 274 | 104, 955 | 36, 270 | 20, 089 | 59, 945 |
| 1908-9 | 189, 657 | 45, 772 | 18 | 60, 178 | 44, 933 | 17, 062 | 113,812 | 56, 449 | 139, 354 | 20, 381 | 26, 819 | 102, 789 |
| 1909-10 | 217, 317 | 41, 926 | 4, 278 | 75, 737 | 40, 230 | 22, 010 | 86, 549 | 67, 797 | 98, 273 | 37, 514 | 34, 170 | 236, 876 |
| 1910-11 | 209, 555 | 56, 051 | 88, 046 | 70, 276 | 59, 541 | 22, 474 | 68, 165 | 61, 582 | 75, 050 | 54, 180 | 57, 502 | 230, 122 |
| 1911-12 | 209, 531 | 55, 359 | 26, 684 | 58, 550 | 47, 226 | 18, 942 | 76, 276 | 92, 800 | 89,986 | 63, 213 | 56, 579 | 79, 460 |
| 1912-13 | 237, 498 | 48, 077 | 44, 800 | 68,950 | 72, 760 | 23, 092 | 141, 598 | 114,927 | 103, 253 | 40,316 | 66, 922 | 105, 954 |
| 1913-14 | 210, 115 | 49, 104 | 54,503 | 66, 860 | 45, 745 | 24, 818 | 143, 207 | 132, 291 | 109, 634 | 53, 099 | 33, 214 | 169, 116 |
| 1914-15 | 204, 749 | ${ }^{4}$ ) | 61, 779 | ${ }^{4}$ | 59,671 | 30, 119 | 331, 750 | 93, 265 | 39, 278 | 5, 022 | 37, 053 | 7, 576 |
| 1915-16 | 211, 983 | (4) | 100, 375 | (4) | 77, 687 | 22,848 | 235, 929 | 244, 299 | 98, 155 | 29, 737 | 8,545 | 13, 774 |
| 1916-17 | 1207,206 | (4) | 117, 649 | $\left.{ }^{4}\right)$ | ${ }^{1} 156,128$ | 124,783 | 178, 649 | 192, 522 | 91, 625 | 68, 621 | 147,305 | ${ }^{4}$ ) |
| 1917-18 | 1175,486 | (4) | 74, 141 | ${ }^{4}$ ) | ${ }^{1}$ 194,104 | 1 1, 806 | 101, 363 | 174, 105 | 40, 043 | 40, 158 | 147,416 | $\left.{ }^{4}\right)$ |
| 1918-19 | 1 166,869 | (4) | 73, 189 | (4) | 1264,645 | 14, 198 | 276, 113 | 88, 256 | 119, 026 | 66, 758 | 15,885 | (4) |
| 1919-20 | 211, 692 | 29,786 | 87, 606 | (4) | 79, 535 | 18, 648 | 214, 369 | 98, 051 | 137, 351 | 106, 243 | 2, 142 | (1) |
| 1920-21 | 198,981 | 32, 161 | 68, 316 | 59,773 | 99, 378 | 18, 805 | 308, 679 | 168, 922 | 193, 098 | 87, 336 | 14, 942 | $\left({ }^{4}\right)$ |
| 1921-22 | 206, 972 | 40,506 | 17,147 | 69,505 | 100, 518 | 19,689 | 262, 155 | 179, 448 | 62, 399 | 116, 464 | 13,938 | (4) |
| 1922-23 | 167, 543 | 39, 771 | 45, 896 | 38, 020 | 117, 687 | 27, 245 | 201, 978 | 274, 505 | 141, 930 | 49, 594 | 28, 862 | ( ${ }^{4}$ |

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1915-16, 1922, and from official sources.
1 Year ending June 30.
${ }^{2}$ Calendar years 1906-1922.
${ }^{3}$ Calendar years 1906-1913; years ending June 30, 1915-1923.
Table 34.-Wheat: Farm price per bushel, 1si of month, United Siates, 1908-1923.

| Year begining July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908 | $\begin{gathered} \text { Cts. } \\ 89.5 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 90.4 \end{gathered}$ | $\begin{gathered} C t s . \\ 88.7 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 90.4 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 91.5 \end{gathered}$ | $\begin{aligned} & \text { Cts. } \\ & 92.8 \end{aligned}$ | Cts. $93.5$ | $\begin{gathered} C t s . \\ 95.2 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 103.9 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ \text { 107. } 0 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 115.9 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ \text { 123. } 5 \end{gathered}$ | Cts. 94.8 |
| 1909-10 | 120.8 | 107. 1 | 95.2 | 94. 6 | 99.9 | 98.6 | 103. 4 | 105. 0 | 105. 1 | 104.5 | 99.9 | 97.6 | 100.9 |
| 1910-11 | 95.3 | 98.9 | 95.8 | 93. 7 | 90.5 | 88.3 | 88.6 | 89.8 | 85.4 | 83.8 | 84.6 | 86.3 | 91.6 |
| 1911-12 | 84.3 | 82.7 | 84. 8 | 88. 4 | 91.5 | 87.4 | 88.6 | 90.4 | 90. 7 | 92.5 | 99.7 | 102.8 | 88.8 |
| 1912-13. | 99.0 | 89.7 | 85.8 | 83.4 | 83.8 | 76. 0 | 70. 2 | 79.9 | 80. 6 | 79.1 | 80.9 | 82.7 | 83.2 |
| 1913-14 | 81.4 | 77. 1 | 77.1 | 77.9 | 77.0 | 79.9 | 81.0 | 81.6 | 83. 1 | 84.2 | 83.9 | 84.4 | 79.4 |
| Av. 1909-1914 | 96.2 | 91.1. | 87.7 | 87.6 | 88.5 | 6.08 | 86.4 | 89.3 | 89.0 | 88.8 | 89.8 | 90.8 | 88.8 |
| 1914-15 | 76.9 | 76. 5 | 93.3 | 93.5 | 97.2 | 98.6 | 107.8 | 129.9 | 133.6 | 131.7 | 139.6 | 131.5 | 102.0 |
| 1915-16 | 102.8 | 106. 5 | 95.0 | 90.9 | 93.1 | 91.9 | 102.8 | 113.9 | 102.9 | 98.6 | 102.5 | 100. 0 | 98.3 |
| 1916-17 | 93.0 | 107.1 | 131.2 | 136. 3 | 158. 4 | 160.3 | 150.3 | 164. 8 | 164. 4 | 180. 0 | 245.9 | 248. 5 | 150.8 |
| 1917-18 | 220.1 | 228.9 | 209.7 | 200. 6 | 200. 0 | 200. 8 | 201.9 | 201. 2 | 202. 7 | 202. 6 | 203.6 | 202. 5 | 206.4 |
| 1918-19 | 203.2 | 204. 5 | 205. 6 | 205. 8 | 206. 0 | 204. 2 | 204.8 | 207.5 | 208. 0 | 214.2 | 231.1 | 228. 4 | 207.8 |
| 1919-20 | 222.0 | 217.2 | 205. 7 | 209. 6 | 213. 2 | 214.9 | 231.8 | 235.7 | 226.6 | 234.0 | 251.3 | 258.3 | 222.3 |
| 1920-21 | 253.6 | 232. 2 | 218. 7 | 214. 3 | 188.0 | 143. 7 | 149.2 | 149.3 | 147.2 | 133.5 | 110.7 | 127.4 | 184.5 |
| Av.1914-1921 | 167.4 | 167.6 | 165. 6 | 164. 4 | 165.1 | 159.2 | 164. 1 | 171.8 | 169.3 | 170.7 | 183.5 | 185. 2 | 167.4 |
| 1921-22 | 112. 2 | 104. 8 | 101. 2 | 105. 6 | 94.2 | 92.6 | 93.3 | 97.0 | 116.9 | 117.0 | 121.0 | 116.5 | 102.9 |
| 1922-23 | 102. 6 | 97.1 | 88.1 | 90.4 | 97.8 | 100. 7 | 105.6 | 103. 7 | 105. 1 | 106.9 | 109.8 | 106.6 | 98.3 |
| 1923-24 | 95.1 | 84.2 | 88.7 | 93. 2 | 95. 1 | 92.3 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 35.-Wheat: Farm price per bushel, December 1, calendar years, 1908-1925, and value per acre 1923.

| State. | 1808 | 1909 | 1910 | 1911 | 1912 | [1913 | $\begin{aligned} & \text { AV. } \\ & 1909- \\ & 1913 . \end{aligned}$ | $-1914$ | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{gathered} \text { Av. } \\ 1914- \\ 1920 . \end{gathered}$ | 1921 | 1922 | 1923 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Dolls. |
|  | 104 | 110 | 102 | 110 | 103 | 101 | 105 | 109 | 112 | 187 | 235 | 237 | 220 | 230 | 190 | 175 | 170 | 118 | 30. 68 |
| Vt | 99 | 120 | 103 | 99 | 98 | 100 | 104 | 100 | 107 | 165 | 236 | 231 | 227 | 200 | 181 | 125 | 145 | 140 | 29. 49 |
| N. | 99 | 111 | 96 | 95 | 99. | 93 | 99 | 108 | 101 | 168 | 210 | 215 | 215 | 175 | 170 | 108 | 118 | 110 | 22.22 |
| N. | 101 | 109 | 98 | 95 | 98 | 96 | 99 | 109 | 106 | 164 | 213 | 215 | 220 | 205 | 176 | 113 | 110 | 110 | 22.00 |
| Pa | 99 | 169 | -92 | 92 | 95 | 91 | 96 | 104 | 104 | 162 | 205 | 214 | 216 | 170 | 168 | 103 | 110 | 100 | 19.00 |
| De | 100 | 104 | 90 | 90 | 96 | 88 | 94 | 109 | 109 | 162 | 208 | 222 | 213 | 171 | 171 | 98 | 108 | 100 | 18.00 |
| M | 98 | 110 | 92 | 91 | 95 | 89 | 95 | 106 | 105 | 171 | 207 | 219 | 215 | 165 | 170 | 103 | 112 | 109 | 19.20 |
| Va | 101 | 115 | 97 | 96 | 101 | 96 | 101 | 108 | 108 | 165 | 216 | 219 | 224 | 180 | 174 | 116 | 122 | 110 | 14. 63 |
| W. | 103 | 113 | 102 | 102 | 101 | 100 | 104 | 108 | 108 | 160 | 217 | 221 | 220 | 190 | 175 | 117 | 122 | 116 | 15. 08 |
| N. C | 107 | 127 | 110 | 102 | 111 | 106 | 111 | 117 | 120 | 176 | 234 | 230 | 233 | 210 | 189 | 144 | 136 | 128 | 14. 21 |
| S. | 130 | 146 | 126 | 123 | 119 | 130 | 129 | 145 | 138 | 189 | 290 | 260 | 258 | 255 | 219 | 208 | 157 | 154 | 16. 94 |
| Ga | 121 | 145 | 130 | 114 | 122 | 120 | 126 | 134 | 129 | 186 | 290 | 266 | 263 | 240 | 215 | 175 | 150 | 147 | 13. 53 |
| Ohio | 99 | 112 | 90 | 91 | 98. | 90 | 96 | 105 | 104 | 169 | 204 | 212 | 212 | 165 | 167 | 108 | 117 | 99 | 18. 02 |
| Ind. | 98 | 110 | 87 | 89 | 93 | 88 | 93 | 103 | 102 | 169 | 203 | 208 | 210 | 167 | 166 | 106 | 112 | 98 | 16. 17 |
|  | 97 | 104 | 88 | 89 | 88 | 86 | 91 | 101 | 100 | 165 | 201 | 208 | 210 | 161 | 164 | 100 | 107 | 94 | 16. 92 |
| Mich | 97 | 112 | 89 | 88 | 96 | 89 | 95 | 103 | 101 | 167 | 204 | 209 | 210 | 168 | 166 | 104 | 115 | 96 | 16. 32 |
| Wis. | 92 | 96 | 92 | 90 | 83 | 82 | 89 | 109 | 95 | 160 | 202 | 205 | 215 | 154 | 162 | 97 | 103 | 98 | 16. 27 |
| Minn | 94 | 96 | 94 | 92 | 73 | 76 | 86 | 102 | 90 | 162 | 202 | 204 | 250 | 130 | 163 | 97 | 101 | 95 | 11. 40 |
| Iowa. | 88 | 93 | 85 | 88 | 78 | 76 | 84 | 96 | 87 | 156 | 199 | 200 | 200 | 140 | 154 | 88 | 99 | 89 | 16. 20 |
| Mo | 93 | 105 | 87 | 88 | 90 | 84 | 91 | 98 | 98 | 165 | 195 | 205 | 209 | 160 | 161 | 99 | 105 | 97 | 12,61 |
| N. Dak | 92 | 92 | 90 | 89 | 69 | 73 | 83 | 101 | 87 | 152 | 200 | 203 | 241 | 130 | 159 | 85 | 90 | 86 | 6.11 |
| S. Dak | 92 | 90 | 89 | 91 | 69 | 71 | 82 | 94 | 86 | 150 | 196 | 199 | 240 | 115 | 154 | 87 | 92 | 81 | 7.78 |
| Nebr | 84 | 89 | 80 | 87 | 69 | 71 | 79 | 95 | 84 | 160 | 195 | 197 | 202 | 131 | 152 | 83 | 98 | 83 | 8. 22 |
| Kans | 88 | 96 | 84 | 91 | 74 | 79. | 85 | 95 | 89 | 164 | 198 | 199 | 215 | 130 | 156 | 93 | 98 | 91 | 9.19 |
| Ky | 98 | 111 | 93 | 92 | 99 | 96 | 98 | 103 | 105 | 166 | 212 | 214 | 211 | 191 | 172 | 115 | 118 | 108 | 13. 39 |
| Tenn | 98 | 115 | 98 | 96 | 100 | 98 | 101 | 105 | 108 | 169 | 222 | 214 | 222 | 195 | 176 | 120 | 123 | 115 | 11. 73 |
| Ala | 107 | 130 | 113 | 120 | 113 | 115 | 118 | 126 | 125 | 185 | 270 | 245 | 245 | 230 | 204 | 153 | 160 | 130 | 13. 00 |
| Miss | 103 | 121 | 116 | 100 | 97 | 95 | 106 | 125 | 105 | 175 | 300 | 250 | 250 | 213 | 203 | 130 | 145 | 110 | 16. 50 |
| Tex | 98 | 118 | 98 | 100 | 93. | 94 | 101 | 99 | 107 | 173 | 210 | 215 | 200 | 172 | 168 | 100 | 110 | 103 | 10. 82 |
| Okla | 88 | 101 | 87 | 92 | 75 | 82 | 87 | 92 | 89 | 167 | 194 | 201 | 205 | 135 | 155 | 86 | 98 | 93 | 10. 23 |
| Ark | 95 | 110 | 94 | 90 | 94 | 90 | 96 | 99 | 101 | 163 | 201 | 207 | 202 | 190 | 166 | 100 | 106 | 108 | 11. 88 |
| Mont | 86 | 87 | 86 | 77 | 64 | 68 | 76 | 01 | 78 | 161 | 192 | 194 | 235 | 128 | 154 | 85 | 89 | 82 | 12. 22 |
| Wyo | 85 | 99 | 95 | 94 | 80 | 72 | 88 | 89 | 78 | 145 | 200 | 189 | 212 | 135 | 150 | 79 | 82 | 80 | 12.72 |
| Colo | 88 | 93 | 82 | 84 | 73 | 78 | 82 | 87 | 80 | 100 | 193 | 195 | 202 | 135 | 140 | 76 | 89 | 83 | 10. 71 |
| N. M | 94 | 117 | 100 | 100 | 90 | 97 | 101 | 90 | 90 | 150 | 215 | 210 | 200 | 140 | 156 | 105 | 120 | 108 | 12.96 |
| Ariz | 120 | 139 | 120 | 95 | 110 | 110 | 115 | 125 | 115 | 150 | 210 | 240 | 225 | 282 | 190 | 125 | 115 | 140 | 36. 40 |
| Utah | 85 | 90 | 84 | 70 | 75 | 73 | 78 | 86 | 86 | 152 | 178 | 188 | 210 | 153 | 150 | 75 | 90 | 91 | 12.93 |
| Nev. | 113 | 104 | 109 | 95 | 100 | 82 | 98 | 95 | 95 | 140 | 180 | 206 | 214 | 180 | 159 | 130 | 120 | 115 | 29.21 |
| Idah | 74 | 87 | 72 | 66 | 66 | 63 | 71 | 87 | 80 | 146 | 182 | 192 | 205 | 125 | 145 | 72 | 90 | 80 | 22.88 |
| Wash | 82 | 93 | 78 | 71 | 68 | 73 | 77 | 100 | 82 | 143 | 193 | 196 | 214 | 135 | 152 | 86 | 104 | 85 | 21. 25 |
| Oreg | 84 | 93 | 84 | 75 | 72 | 75 | 80 | 102 | 84 | 145 | 182 | 201 | 212 | 130 | 151 | 85 | 108 | 88 | 21. 21 |
| Calif | 102 | 111 | 94 | 88 | 93 | 95 | 96 | 104 | 95 | 152 | 200 | 216 | 204 | 180 | 164 | 107 | 115 | 108 | 23.33 |


Division of Crop and Livestock Estimates.
${ }^{1}$ Based upon farm price Dec. 1.
Table 36.-Wheat: Weighted average price per bushel of reported cash sales.
NO. 1 DARK NORTHERN SPRING, MINNEAPOLIS, 1917-1923.1

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | N0\%. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917-18. |  | \$2. 50 | \$2. 21 | \$2. 21 | \$2. 21 | \$2. 21 | \$2. 21 | \$2. 21 | \$2. 21 | \$2. 21 | \$2, 21 | \$2. 21 |  |
| 1918-19 | \$2. 21 | 2. 29 | 2. 24 | 2. 23 | 2. 25 | 2.25 | 2.25 | 2. 29 | 2.41 | 2. 63 | 2. 68 | 2.56 | 2.36 |
| 1919-20 | 2.72 | 2. 71 | 2. 77 | 2.84 | 3.00 | 3. 25 | 3. 34 | 2. 90 | 2. 97 | 3. 23 | 3. 26 | 3.01 | 3. 00 |
| 1920-21 | 2. 94 | 2.59 | 2. 65 | 2. 21 | 1.82 | 1. 72 | 1. 81 | 1.74 | 1.72 | 1.57 | 1. 67 | 1. 74 | 2.08 |
| 1921-22 | 1.81 | 1. 57 | 1. 56 | 1. 37 | 1. 30 | 1.33 | 1. 39 | 1. 58 | 1. 59 | 1. 66 | 1.71 | 1. 53 | 1. 48 |
| 1922-23 | 1. 57 | 1. 22 | 1. 20 | 1.21 | 1. 28 | 1. 31 | 1. 28 | 1. 31 | 1. 29 | 1.35 | 1. 32 | 1. 22 | 1. 30 |
| 1923-24 | 1. 18 | 1. 22 | 1. 26 | 1. 26 | 1. 19 | 1. 19 |  |  |  |  |  |  |  |

Table 36.-Wheat: Weighted average price per bushel of reported cash sales-Con.
NO. 1 NORTHERN SPRING, MINNEAPOLIS, 1899-1923. ${ }^{1}$

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 . \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1899-190 | \$0.70 | \$0. 70 | \$0.69 | \$0. 69 | \$0. 65 | \$0. 65 | \$0. 65 | \$0. 65 | \$0. 65 | \$0. 66 | \$0.66 | \$0.71 | \$0. 67 |
| 1900-1. | . 78 | . 74 | . 76 | . 76 | . 74 | . 73 | . 75 | . 74 | . 74 | . 72 | . 73 | . 69 | . 74 |
| 1901-2 | . 65 | . 69 | . 68 | . 62 | . 70 | . 74 | . 76 | . 74 | . 72 | . 73 | . 75 | . 75 | . 71 |
| 1902-3 | . 78 | . 72 | . 67 | . 70 | . 72 | . 73 | . 76 | . 77 | . 76 | . 76 | . 78 | . 84 | . 75 |
| 1903-4 | . 86 | . 93 | 85 | . 82 - | . 80 | . 82 | . 88 | . 97 | . 97 | 93 | . 94 | 94 | 89 |
| 1904-5 | . 97 | 1. 14 | 1.17 | 1.15 | 1. 07 | 1.09 | 1.14 | 1. 13 | 1. 11 | 1. 02 | 1. 13 | 1. 10 | 1. 10 |
| 1905 | 1. 08 | . 98 | . 81 | . 86 | . 84 | . 85 | . 83 | . 81 | . 77 | . 79 | . 83 | . 84 | . 86 |
| 1906- | . 79 | 75 | . 74 | . 76 | 80 | 80 | . 80 | . 82 | . 80 | 84 | 96 | 1.01 | 82 |
| 1907 | 1.02 | 1. 00 | 1.08 | 1.12 | 1.03 | 1. 07 | 1.10 | 1.06 | 1. 07 | 1.03 | 1. 09 | 1.08 | 1.06 |
| 1908 | 1. 14 | 1. 12 | 1.03 | 1.04 | 1.06 | 1. 10 | 1.09 | 1.13 | 1.15 | 1. 24 | 1.31 | 1. 34 | 1. 15 |
| 1909-10 | 1. 29 | 1.06 | 1. 04 | 1. 04 | 1.05 | 1. 12 | 1. 14 | 1. 14 | 1.15 | 1.11 | 1.10 | 1.09 | 1.09 |
| 1910-11 | 1. 21 | 1. 13 | 1.09 | 1. 08 | 1.04 | 1.03 | 1. 06 | 1. 02 | . 98 | . 96 | . 99 | . 97 | 1.05 |
| 1911-12 | . 99 | 1.05 | 1. 09 | 1. 10 | 1. 05 | 1.02 | 1. 06 | 1. 06 | 1. 08 | 1. 10 | 1. 16 | 1.13 | 1.07 |
| 1912-13 | 1.09 | . 98 | . 89 | . 90 | . 84 | . 82 | . 89 | . 87 | . 85 | . 88 | . 91 | . 92 | . 87 |
| 1913-14 | . 91 | . 88 | . 87 | . 84 | . 85 | . 86 | . 87 | . 93 | . 92 | . 91 | . 94 | . 92 | . 88 |
| Av. 1909-1913 | 1. 10 | 1. 02 | 1.00 | . 99 | . 97 | . 97 | 1.00 | 1.00 | 1.00 | . 99 | 1.02 | 1.01 | . 99 |
| 1914-15 | 92 | 1.10 | 1.12 | 1.11 | 1.18 | 1.20 | 1.38 | 1. 52 | 1. 49 | 1. 58 | 1. 58 | 1.35 | 1.20 |
| 1915-16 | 1. 44 | 1. 18 | . 97 | 1. 02 | 1.02 | 1. 14 | 1. 29 | 1. 26 | 1. 14 | 1. 22 | 1. 22 | 1. 11 | 1.09 |
| 1916-17 | 1. 21 | 1. 64 | 1. 64 | 1. 79 | 1. 95 | 1. 79 | 1. 93 | 1. 86 | 2. 03 | 2. 38 | 2. 96 | 2. 73 | 1. 76 |
| 1917-18 | 2. 66 | 2. 47 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 20 |
| 1918-19 | 2. 17 | 2. 23 | 2. 23 | 2. 19 | 2. 22 | 2.22 | 2. 21 | 2. 24 | 2. 36 | 2. 56 | 2. 59 | 2. 48 | 2.25 |
| 1919-20 | 2. 66 | 2. 59 | 2. 56 | 2. 67 | 2.85 | 3. 07 | 3. 01 | 2. 67 | 2.84 | 3. 06 | 3. 09 | 2. 93 | 2.72. |
| 1920-21 | 2. 89 | 2.56 | 2.54 | 2. 16 | 1.80 | 1. 68 | 1.79 | 1. 72 | 1.66 | 1. 53 | 1.55 | 1. 69 | 2.07 |
| Av. 1914-1920 | 1.99 | 1.97 | 1.89 | 1.87 | 1. 88 | 1.90 | 1.97 | 1.92 | 1.96 | 2.07 | 2. 17 | 2.07 | 1. 90 |
| 1921-22 | 1. 67 | 1. 48 | 1. 51 | 1.34 | 1. 25 | 1. 30 | 1. 34 | 1. 51 | 1. 51 | 1. 58 | 1. 56 | 1. 46 | 1.43 |
| 1922-23 | 1. 49 | 1. 11 | 1. 10 | 1. 15 | 1. 23 | 1. 25 | 1. 23 | 1. 26 | 1. 24 | 1. 30 | 1. 28 | 1. 17 | 1. 20 |
| 1923-24. | 1.12 | 1. 18 | 1. 21 | 1. 20 | 1. 14 | 1. 16 |  |  |  |  |  |  |  |

NO. 2 RED WINTER, CHICAGO, 1899-1923. ${ }^{2}$

| 1899-1900 | \$0. 72 | \$0.72 | \$0.71 | \$0. 72 | \$0.69 |  | \$0.67 | \$0.69 | \$0.69 | \$0. 70 | \$0. 70 | \$0.75 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900-1 | . 77 | . 77 | . 76 | . 77 | . 74 | \$0.74 | . 76 | . 75 | . 75 | . 75 | . 74 | . 72 | \$0.76 |
| 1901-2 | . 68 | . 71 | . 70 | . 72 | . 75 | . 82 | . 85 | . 83 | . 82 | . 82 | . 81 | . 79 | . 72 |
| 1902-3 | . 73 | . 71 | . 81 | . 82 | . 76 | . 75 | . 75 | . 76 | . 74 | . 78 | . 78 | . 80 | . 75 |
| 1903-4 | . 78 | . 82 | . 82 | . 82 | . 84 | . 88 | . 94 | 1. 04 | 1. 03 | 1.05 | 1.07 | 1. 05 | 83 |
| 1904-5 | . 97 | 1.01 | 1.10 | 1.19 | 1.16 |  | 1. 20 |  | 1.15 | 1.07 | . 92 | 1. 04 |  |
| 1905-6 | . 90 | . 85 | . 85 | . 88 | . 87 |  | . 88 | . 84 | . 82 | . 87 | . 89 | . 86 |  |
| 1906-7 | . 78 | . 73 | . 72 | . 74 | . 74 | . 74 | . 74 | . 76 | . 77 | . 79 | . 93 | . 95 | . 77 |
| 1907-8 | . 92 | . 87 | . 97 | 1.01 | . 95 | . 99 | 1. 01 | . 94 | . 98 | . 95 | 1.03 | . 92 | . 90 |
| 1908-9 | . 92 | . 96 | 1.00 | 1. 01 | 1.05 | 1. 05 | 1. 07 | 1. 20 | 1. 22 | 1.33 | 1. 48 | 1. 60 | . 96 |
| 1909-10 | 1. 10 | 1. 04 | 1.07 | 1. 20 | 1. 18 | 1.25 | 1. 26 | 1. 23 | 1.18 | 1.11 | 1.11 | 1.01 | 1.10 |
| 1910-11 | 1.07 | 1. 02 | . 99 | . 96 | . 93 | . 94 | . 98 | . 91 | . 90 | . 90 | . 96 | . 91 | 1.02 |
| 1911-12 | . 86 | . 90 | . 93 | 1.00 | . 96 | . 96 | . 97 | 1. 01 | 1.03 | 1. 09 | 1. 16 | 1. 10 | . 90 |
| 1912-13 | 1.05 | 1. 03 | 1.03 | 1.06 | . 99 | . 86 | 1. 09 | . 99 | . 95 | 1. 02 | 1. 03 | 1. 00 | 1.03 |
| 1913-14 | . 87 | . 88 | . 93 | . 92 | . 92 | . 94 | . 97 | . 97 | . 95 | . 95 | . 99 | . 82 | . 88 |
| Av. 1909-1913. | . 99 | . 97 | . 99 | 1. 03 | 1. 00 | . 99 | 1.05 | 1. 02 | 1.00 | 1, 01 | 1. 05 | . 97 | . 99 |
| 1914-15 | 82 | . 92 | 1.11 | 1. 12 | 1.15 | 1. 20 | 1. 39 | 1. 57 | 1. 52 | 1. 59 | 1. 55 | 1. 24 | 1.08 |
| 1915-16 | 1. 13 | 1. 11 | 1. 08 | 1.12 | 1.12 | 1. 23 | 1. 30 | 1.23 | 1.13 | 1. 22 | 1.15 | 1. 05 | 1.13 |
| 1016-17 | 1. 23 | 1. 43 | 1. 53 | 1. 66 | 1. 85 | 1. 76 | 1.89 | 1. 74 | 1.99 | 2. 43 | 2. 94 | 2. 76 | 1. 68 |
| 1917-18 | 2. 50 | 2. 30 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2. 17 | 2.17 | 2. 17 | 2.16 | 2. 17 | 2.25 |
| 1918-19 | 2.22 | 2.21 | 2. 25 | 2.25 | 2. 24 | 2.29 | 2. 34 | 2. 28 | 2. 36 | 2.52 | 2.76 | 2. 32 | 2.22 |
| 1919-20 | 2. 23 | 2. 24 | 2. 24 | 2. 24 | 2.29 | 2. 44 | 2. 64 | 2.42 | 2. 55 | 2.63 | 3.10 | 2. 89 | 2.24 |
| 1920-21 | 2. 59 | 2. 50 | 2. 53 | 2. 20 | 2.01 | 2. 02 | 1.94 | 1.85 | 1.65 | 1.41 | 1. 67 | 1.47 | 2. 22 |
| Av. 1914-1920 | 1.82 | 1.82 | 1. 84 | 1.82 | 1.83 | 1. 87 | 1.95 | 1.89 | 1.91 | 2. 00 | 2.19 | 1. 99 | 1.83 |
| 1921-22 | 124 | 1. 22 | 1. 29 | 1.18 | 1. 23 | 1.18 | 1. 21 | 1. 34 | 1.38 | 1.40 | 1. 34 | 1.18 | 1. 25 |
| 1922-23 | 1. 14 | 1. 07 | 1.06 | 1.18 | 1. 27 | 1.33 | 1.30 | 1.35 | 1.31 | 1.32 | 1.28 | 1.16 | 1. 14 |
| 1923-24 | 1.00 | 1.00 | 1.05 | 1. 11 | 1.06 | 1.09 |  |  |  |  |  |  |  |

[^133]$\mathrm{T}_{\text {able }}$ 36.-Wheat: Weighted average price per bushel of reported cash sales-Con.
NO. 2 RED WINTER, STT. LOUIS, 1899-1923.8

| Year beginning July. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1899-1900 | \$0. 71 | \$0. 71 | \$0. 70 | \$0. 72 | \$0. 70 | \$0.71 | \$0. 71 | \$0. 72 | \$0. 72 | \$0. 72 | \$0.71 | \$0. 77 | \$0.72 |
| 1900-1 | . 75 | . 73 | . 76 | . 74 | . 73 | . 72 | . 74 | . 74 | . 75 | . 74 | . 75 | . 69 | . 74 |
| 1901-2 | . 66 | . 71 | . 71 | . 72 | . 74 | . 84 | 89 | . 86 | . 82 | . 80 | . 81 | . 78 | . 73 |
| 1902-3 | . 71 | . 66 | . 67 | . 70 | . 69 | . 72 | . 75 | . 76 | . 73 | . 72 | . 75 | . 79 | . 71 |
| 1903-4 | . 80 | . 81 | . 85 | . 87 | . 87 | . 92 | . 93 | 1. 04 | 1. 05 | 1.06 | 1.08 | 1. 07 | 86 |
| 1904-5 | . 97 | 1.01 | 1.15 | 1. 18 | 1.15 | 1. 15 | 1. 18 | 1. 18 | 1.15 | 1.09 | 1.08 | 1. 05 | 1.04 |
| 1905 | . 89 | . 85 | . 80 | . 92 | . 92 | . 93 | . 94 | . 92 | . 91 | . 95 | . 94 | . 88 | . 90 |
| 1906-7 | . 75 | . 70 | . 72 | . 76 | . 75 | . 76 | . 77 | . 78 | . 77 | . 78 | . 89 | . 94 | . 76 |
| 1907-8 | . 89 | . 87 | . 95 | 1.03 | . 96 | 1.00 | 1.03 | 1. 12 | 1.02 | . 99 | 1.02 | . 96 | . 96 |
| 1908-9 | . 92 | . 95 | 1.02 | 1.03 | 1.07 | 1.08 | 1.11 | 1. 24 | 1.30 | 1. 36 | 1. 39 | 1. 57 | 1.04 |
| 1909-10 | 1.13 | 1.12 | 1.14 | 1. 23 | 1. 22 | 1. 28 | 1.30 | 1. 27 | 1. 23 | 1. 12 | 1.16 | 1.02 | 1. 13 |
| 1910-11 | 1.07 | 1.02 | 1.02 | 1.00 | . 96 | . 98 | 1. 03 | . 96 | . 93 | . 90 | . 94 | . 88 | . 99 |
| 1911-12 | . 84 | . 88 | . 94 | 1. 00 | . 96 | . 97 | 1. 02 | 1.01 | 1.04 | 1.13 | 1. 21 | 1.11 | 94 |
| 1912-13 | 1.03 | 1.04 | 1.03 | 1.09 | 1. 04 | 1. 07 | 1.11 | 1.09 | 1.08 | 1.09 | 1.04 | . 99 | 1.05 |
| 1913-14 | . 85 | . 88 | . 94 | . 93 | . 94 | . 95 | . 96 | . 95 | . 95 | . 94 | . 96 | . 84 | . 89 |
| Av. 1909 | . 98 | . 99 | 1.01 | 1. 05 | 1. 02 | 1.05 | 1.08 | 1.06 | 1.05 | 1.04 | 1.08 | . 97 | 1.00 |
| 1914-15 | 87 | . 93 | 1.10 | -1.10 | 1.11 | 1.18 | 1.40 | 1. 57 | 1. 50 | 1.54 | 1. 50 | 1. 19 | 1.10 |
| 1915-16 | 1.17 | 1.14 | 1.14 | 1. 21 | 1.16 | 1. 23 | 1.34 | 1.30 | 1. 17 | 1. 22 | 1. 20 | 1. 10 | 1.20 |
| 1916-17 | 1. 25 | 1. 45 | 1. 60 | 1.73 | 1.87 | 1. 83 | 1.96 | 1.88 | 2. 05 | 2.66 | 3.04 | 2.65 | 1. 63 |
| 1917-18 | 2. 36 | 2. 32 | 2. 15 | 2. 15 | 2.15 | 2.15 | 2.15 | 2.15 | 2. 15 | 2.15 | 2.15 | 2.15 | 2.23 |
| 1918-19 | 2. 21 | 2.21 | 2. 19 | 2. 22 | 2. 22 | 2. 32 | 2.41 | 2.38 | 2. 55 | 2. 71 | 2.60 | 2.41 | 2.23 |
| 1919-20 | 2.22 | 2. 20 | 2. 21 | 2. 24 | 2. 29 | 2.48 | 2. 70 | 2.55 | 2. 58 | 2.76 | 2.99 | 2.89 | 2.30 |
| 1920-21 | 2. 70 | 2. 47 | 2. 56 | 2. 25 | 2. 03 | 1.99 | 2. 02 | 1.90 | 1.66 | 1. 41 | 1. 58 | 1. 50 | 2.18 |
| Av. 1914-1920 | 1.83 | 1. 82 | 1.85 | 1. 84 | 1.83 | 1.88 | 2.00 | 1.96 | 1.95 | 2.06 | 2.15 | 1.98 | 1.84 |
| 1921-22 | 1. 23. | 1. 23 | 1.36 | 1. 26 | 1. 20 | 1.21 | 1.16 | 1.32 | 1.35 | 1. 44 | 1.38 | 1. 18 | 1.27 |
| 1922-23 | 1.12 | 1.08 | 1.14 | 1.23 | 1. 29 | 1.36 | 1.36 | 1. 39 | 1.36 | 1. 41 | 1.33 | 1. 23 | 1. 28 |
| 1923-24 | . 97 | . 99 | 1.09 | 1.16 | 1. 12 | 1. 14 |  |  |  |  |  |  |  |

NO. 2 HARD WINTER, KANSAS CITY, 1899-1923. ${ }^{4}$


[^134]Table 36.-Wheat: Weighted average price per bushel of reported cash sales-Con. NO. 2 HARD WINTER, NEW YORK, 1900-1923. ${ }^{6}$

| Year beginning July. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weight ed average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$1. 31 | \$1.12 | \$1.12 | \$1. 20 | \$1. 19 | \$1. 24 | \$1. 26 | \$1.33 | \$1. 27 | \$1. 19 | \$1. 14 | \$1.05 | \$1. 20 |
| 1910-11 | 1.14 | 1. 10 | 1.06 | 1.04 | 1. 02 | 1. 02 | 1.08 | 1. 03 | 1.00 | . 98 | 1.03 | . 97 | 1.04 |
| 1911-12 | . 98 | . 98 | 1.04 | 1.10 | 1. 05 | 1.07 | 1.11 | 1.13 | 1. 13 | 1. 19 | 1. 24 | 1. 20 | 1. 10 |
| 1912-13 | 1. 10 | 1. 03 | 1.01 | 1.02 | . 98 | . 99 | 1.06 | 1. 04 | 1. 00 | 1.03 | 1. 02 | 1. 04 | 1.03 |
| 1913-14 | . 99 | . 97 | . 98 | . 95 | . 98 | 1.00 | . 93 | 1. 02 | 1. 02 | 1. 02 | 1.05 | 1. 00 | . 99 |
| Av. 1909-1913 | 1. 10 | 1.04 | 1. 04 | 1.06 | 1. 04 | 1.06 | 1.09 | 1.11 | 1.08 | 1.08 | 1.10 | 1.05 | 1. 07 |
| 1914-15 | . 92 | 1.01 | 1. 13 | 1. 12 | 1. 23 | 1.31 | 1. 52 | 1. 72 | 1.66 | 1.67 | 1.65 | 1. 37 | 1. 36 |
| 1915-16 | 1. 36 | 1. 22 | 1. 20 | 1. 24 | (7) | ${ }^{7}$ ) | 1. 40 | 1. 42 | 1. 25 | 1. 29 | 1.24 | 1.15 | 1. 28 |
| 191¢-17 | 1. 26 | 1. 57 | 1. 68 | 1. 84 | 2. 00 | 1.87 | 2. 09 | 2. 00 | 2. 16 | 2.63 | 3. 07 | ${ }^{(7)}$ | 2. 02 |
| 1917-18 | 2. 44 | 2.46 | 2. 28 | 2. 64 | 2.81 | 2. 62 | 2. 26 | 2. 26 | 2. 26 | 2. 26 | 2. 26 | 2. 26 | 2. 40 |
| 1918-19 | 2. 31 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 37 |
| 1919-20 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 38 | 2. 37 | 2. 37 | 2.51 | 3. 02 | 3.09 | 2. 98 | 2. 55 |
| 1920-21 | 2. 92 | 2. 62 | 2.65 | 2.33 | 2. 06 | 1.95 | 2. 00 | 1.90 | 1.81 | 1. 59 | 1. 75 | 1. 67 | 2. 10 |
| Av. 1914-1920. | 1. 94 | 1.95 | 1. 96 | 1. 99 |  |  | 2. 00 | 2. 01 | 2. 00 | 2. 12 | 2. 21 | 1. 97 | 2.01 |
| 1021-22 | 1.46 | 1.36 | 1.38 | 1. 20 | 1.16 | 1. 25 | 1. 23 | 1.43 | 1.45 | 1.51 | 1.49 | 1.30 | 1.35 |
| 1922-23 | 1.32 | 1.23 | 1.19 | 1.33 | 1. 36 | 1. 37 | 1.32 | 1.30 | 1.33 | 1. 37 | 1. 34 | 1. 25 | 1.31 |
| 1923-24. | 1.16 | 1. 14 | 1.16 | 1. 22 | 1.19 | 1. 22 |  |  |  |  |  |  |  |

NO. 1 NORTHERN SPRING, WINNIPEG, 1909-1923. ${ }^{8}$

| 1909-10 | \$1. 31 | \$1. 19 | \$1.00 | \$0.97 | \$0.97 | \$0.98 | \$1. 03 | \$1. 03 | \$1.04 | \$1.03 | \$0.98 | \$0.93 | \$0. 96 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 1.08 | 1.07 | 1. 03 | . 98 | . 92 | . 90 | . 94 | 93 | 90 | . 90 | . 95 | . 97 | . 96 |
| 1911-12 | . 95 | 1.01 | 1.01 | 1. 00 | . 99 | . 95 | . 95 | . 97 | . 98 | 1. 01 | 1. 04 | 1.06 | 99 |
| 1912-13 | 1.07 | 1.06 | 1.00 | . 91 | . 85 | . 80 | . 82 | . 84 | . 85 | . 89 | . 93 | . 96 | 92 |
| 1913-14 | 97 | . 95 | . 89 | . 81 | . 83 | . 84 | . 85 | . 88 | . 90 | . 90 | . 93 | . 94 | 89 |
| Av. 1909-1913 | 1.08 | 1.06 | . 99 | . 93 | . 91 | . 89 | . 92 | . 93 | . 93 | . 95 | . 97 | . 97 | 94 |
| 1914 | . 90 | 1.04 | 1.13 | 1.11 | 1.18 | 1.18 | 1.32 | 1.51 | 1.49 | 1. 54 | 1.61 | 1.32 | 1. 28 |
| 1915-16 | 1.35 | 1.25 | . 95 | . 96 | 1.02 | 1. 07 | 1.18 | 1. 26 | 1.10 | 1. 04 | 1. 17 | 1. 11 | 1.12 |
| 1916-17 | 1. 14 | 1. 42 | 1. 59 | 1. 68 | 1.93 | 1. 76 | 1.80 | 1. 68 | 1. 85 | 2. 11 | 2.75 | 2. 49 | 1.85 |
| 1917-18 | 2. 34 | 2.40 | 2. 25 | 2.21 | 2. 21 | 2. 21 | 2.21 | 2. 21 | 2. 21 | 2. 21 | 2.21 | 2. 21 | 2. 24 |
| 1918-19 | 2. 21 | 2. 21 | 2. 24 | 2. 24 | 2. 24 | 2.24 | 2.24 | 2. 24 | 2. 24 | 2. 24 | 2.24 | 2. 24 | 2. 24 |
| 1919-20 | 2. 24 | 2. 24 | 2.15 | 2. 15 | 2. 16 | 2.15 | 2.15 | 2.15 | 2.15 | 2.15 | 2.15 | 2. 15 | 2.17 |
| 1920-21 | 2.15 | 2.15 | 2. 72 | 2. 32 | 2. 03 | 1.94 | 1.94 | 1.88 | 1.91 | 1. 76 | 1. 86 | 1.89 | 2. 05 |
| Av. 1914-1920. | 1. 76 | 1.82 | 1.86 | 1.81 | 1. 82 | 1. 79 | 1.83 | 1.85 | 1.86 | 1.86 | 2.00 | 1. 92 | 1.85 |
| 1021-22 | 1.86 | 1. 74 | 1.46 | 1. 14 | 1.11 | 1. 13 | 1. 14 | 1. 36 | 4. 41 | 1. 43 | 1.46 | 1. 33 | 1.38 |
| 1922-23 | 1. 35 | 1.17 | . 99 | 1. 01 | 1. 10 | 1.08 | 1. 07 | 1. 10 | 1.10 | 1. 19 | 1.15 | 1. 12 | 1. 12 |
| 1923-24 | 1.05 | 1.10 | 1. 94 | . 96 | 96 | . 91 |  | ---- |  |  |  |  |  |

Division of Statistical and Historical Research.
${ }^{6}$ Compiled from New York Journal of Commerce; not weighted; average of daily quotations.
${ }^{7}$ Nominal.
${ }^{8}$ Compiled from Winnipeg Farmers' Advocate; not weighted; average of the daily cash close.

Table 37.-Wheat: Weighted average price ${ }^{1}$ per bushel of reported cash sales of all classes and grades combined at markets named, 1918-1923.

## MINNEAPOLIS.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighs ed average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1918-19 | 212.8 | 221.3 | 219.0 | 218.6 | 220.5 | 220.0 | 218.9 | 221.2 | 230.5 | 245.3 | 251.8 | 239.8 | 222.4 |
| 1919-20 | 248.9 | 230.1 | 234.0 | 240.9 | 261.6 | 278. 5 | 276. 5 | 245. 6 | 254.8 | 285. 3 | 297.0 | 278. 7 | 257.6 |
| 1920-21 | 274. 6 | 247.1 | 244.9 | 203. 9 | 172.4 | 163. 0 | 167.8 | 156. 3 | 151. 5 | 135.1 | 144. 5 | 146. 0 | 187. |
| 1921-22 | 145.3 | 132.2 | 138.6 | 121. 5 | 117.3 | 117.7 | 120.2 | 138.9 | 141.3. | 148.2 | 149.7 | 136. 5 | 131. |
| 1922-23 | 140.5 | 114.2 | 111.0 | 113.8 | 122.3 | 123. 1 | 119.2 | 120.8 | 121.2 | 126.5 | 124. 8 | 115.8 | 119.2 |
| 1923-24 | 110. 7 | 111.2 | 114. 6 | 115.3 | 109.4 | 108.9 |  |  |  |  |  |  |  |

KANSAS CITY.

| 1918-19 | 220.2 | 215.5 | 214. 0 | 213. 2 | 212.4 | 217.5 | 223.1 | 218.6 | 227.1 | 252.0 | 248.0 | 233.8 | 218. 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20. | 219.3 | 264.4 | 215.9 | 221.2 | 235. 9 | 252. 2 | 266. 3 | 233.4 | 241.5 | 263. 5 | 286.3 | 273.5 | 244.9 |
| 1920-21 | 267.4 | 245.6 | 246. 0 | 206.6 | 176. 3 | 170.2 | 173.0 | 164.6 | 154.6 | 133. 5 | 147. 5 | 139. 7 | 190.2 |
| 1921-22 | 117.0 | 115. 0 | 120.4 | 109.8 | 107.6 | 108. 2 | 111.1 | 127.4 | 131.4 | 132.3 | 125.9 | 113. 2 | 118.2 |
| 1922-23 | 111.0 | 103.2 | 104.1 | 111. 1 | 114. 5 | 116.3 | 114.0 | 115.1 | 115. 4 | 119.7 | 115.9 | 104. 1 | 110.8 |
| 1923-24. | 94. 9 | 98.2 | 102.6 | 107. 1 | 101. 3 | 90. 9 |  |  |  |  |  |  |  |

CHICAGO.

| 1918-19 | 225.0 | 223.0 | 220.6 | 220.6 | 220.6 | 223.2 | 222. 3 | 220.1 | 230.8 | 250. 0 | 252.5 | 232.8 | 223.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20 | 223.9 | 222. 2 | 221.9 | 225. 7 | 242. 0 | 249.5 | 272. 2 | 235. 5 | 242.0 | 289. 8 | 295. 8 | 280.5 | 228.1 |
| 1980-21 | 264.9 | 248.8 | 249.8 | 209.9 | 280.7 | 173.4 | 178.6 | 171.9 | 157.3 | 139.7 | 156. 5 | 142.7 | 216.3 |
| 1921-22 | 124. 1 | 119.8 | 124. 4 | 112.0 | 107.9 | 110.5 | 112.7 | 128.6 | 129.7 | 132.4 | 1327 | 115.9 | 121. 6 |
| 1922-23 | 113.4 | 107.0 | 104. 5 | 113.4 | 119.0 | 123. 6 | 117.6 | 120.6 | 120.0 | 124.8 | 119.3 | 109.3 | 112.2 |
| 1923-24 | 99.1 | 99.6 | 101. 0 , | 106. 8 | 103. 1 | 105.3 |  |  |  |  |  |  |  |

ST. LOUIS.

|  | 221.6 | 221.0 | 221. 2 | 222.0 | 221. 7 | 230.5 | 230. 2 | 231. 2 | 252. 3 | 282. 3 | 257.8 | 239.5 | 223.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20 | 220.7 | 218. 6 | 218. 3 | 220.9 | 224. 8 | 224. 9 | 252. 5 | 247.4 | 253.5 | 275.8 | 293.1 | 283. 0 | 225. 2 |
| 1920-21 | 273.3 | 249.9 | 253. 1 | 219.2 | 197. 2 | 191. 2 | 194. 7 | 183.7 | 163.8 | 139.8 | 155.0 | 148. 2 | 210.1 |
| 1921-22 | 120. 3 | 116. 3 | 122. 6 | 111.6 | 107. 7 | 109.0 | 115.3 | 131. 3 | 133.1 | 133.3 | 130.6 | 113.1 | 120.4 |
| 1922-23 | 107.4 | 103. 4 | 107. 2 | 116.7 | 121.6 | 126. 0 | 124. 5 | 128.0 | 125.8 | 129.6 | 124.8 | 114.3 | 115.8 |
| 1923-24 | 96. 6 | 97. 1 | 102.6 | 111.4. | 106. 9 | 108.6 |  |  |  |  |  |  |  |

## FOUR MARKETS COMBINED.

| 1918-19 | 221.2 | 219.9 | 248. 5 | 218. 3 | 219.4 | 220.6 | 220. 7 | 221.3 | 232.4 | 249.2 | 251. 7 | 238. 2 | 221.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20 | 223.1 | 235.9 | 223. 6 | 229.3 | 246. 5 | 256.8 | 267. 0 | 240.1 | 248.6 | 278. 2 | 292.3 | 277.0 | .241.8 |
| 1920-21 | 270.6 | 247. 3 | 246. 6 | 205.8 | 175. 1 | 167. 2 | 172. 4 | 183. 2 | 154.3 | 135. 3 | 147.6 | 144. 1 | 193.3 |
| 1921-22 | 122.9 | 121. 7 | 128. 5 | 117.3 | 113.1 | 113.8 | 115. 8 | 131. 4 | 136. 1 | 138.5 | 135.0 | 122.5 | 123.7 |
| 1922-23 | 117. 1 | 107. 6 | 108. 6 | 113.4 | 120. 0 | 121.3 | 118.3 | 120.0 | 120.4 | 125.0 | 122. 2 | 112.6 | 118.0 |
| 1923-24 | 99.8 | 102. 7 | 109.5 | 112.6 | 107.3 | 108.4 |  |  |  |  |  | ----- |  |

Division of Statistical and Historieal Research. Compiled from daily trade papers of markets named.
1 The prices in this table are comparable with the farm prices. The farm prices are averages of the several prices reported which covered all ciasses and grades sold from the farm.

Table 38.-Wheat: Good average quality imported red, average spot prices per bushel of 60 pounds at Liverpool, 1879-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver. | High. | Low. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1879 | 1.29 | 1.29 | 1. 36 | 1. 32 | 1.35 | 1. 32 | 1.38 | 1.35 | 1. 46 | 1.68 | 1.64 | 1.69 | 1.43 | 1. 75 | 1.64 |
| 1880 | 1. 57 | 1.59 | 1.63 | 1. 53 | 1. 43 | 1.38 | 1.35 | 1.31 | 1. 28 | 1.34 | 1. 40 | 1.40 | 1. 43 | 1. 64 | 1. 26 |
| 1881 | 1.41 | 1.37 | 1.42 | 1. 43 | 1.38 | 1.42 | 1. 44 | 1.55 | 1. 64 | 1.65 | 1. 61 | 1. 57 | 1. 49 | 1. 68 | 1. 35 |
| 1882 | 1. 59 | 1. 58 | 1. 50 | 1.55 | 1. 52 | 1. 52 | 1. 52 | 1.37 | 1. 25 | 1. 25 | 1. 26 | 1. 29 | 1. 43 | 1. 61 | 1.20 |
| 1883 | 1.33 | 1.39 | 1.35 | 1.32 | 1.32 | 1.31 | 1. 30 | 1.36 | 1. 33 | 1.28 | 1. 28 | 1. 28 | 1.32 | 1.40 | 1. 26 |
| 1884 | 1. 24 | 1.24 | 1. 24 | 1.14 | 1. 14 | 1.16 | 1. 14 | 1.15 | 1.00 | . 97 | . 97 | 1.02 | 1.12 | 1. 26 | . 95 |
| 1885 | 1. 08 | 1.03 | 1. 06 | 1.16 | 1. 12 | 1.06 | 1. 06 | 1.07 | 1.06 | 1.09 | 1. 06 | 1.05 | 1.08 | 1. 20 | 1. 02 |
| 1886 | 1. 07 | 1. 06 | 1. 01 | 1. 03 | 1.03 | . 97 | . 97 | . 99 | . 99 | . 98 | 1. 02 | 1. 08 | 1. 02 | 1. 09 | . 95 |
| 1887 | 1.09 | 1.07 | 1.06 | 1.03 | 1. 06 | 1.02 | . 95 | . 90 | . 88 | . 94 | . 98 | 1. 00 | 1.00 | 1. 13 | . 86 |
| 1888 | . 99 | . 98 | . 98 | . 99 | 1.00 | . 99 | 1.00 | 1.10 | 1.15 | 1. 22 | 1. 25 | 1. 21 | 1.07 | 1.26 | . 97 |
| 1889 | 1.16 | 1.14 | 1.12 | 1. 04 | . 95 | 94 | 1.00 | 1.03 | 1.02 | 1.03 | 1.02 | 1. 02 | 1.04 | 1.17 | . 93 |
| 1890 | 1.03 | 1. 03 | 1.03 | 1.05 | 1.06 | 1.03 | 1.04 | 1.05 | 1.04 | 1.04 | 1.03 | 1. 03 | 1. 04 | 1.07 | 1. 02 |
| 1891 | 1.12 | 1.12 | 1. 19 | 1. 24 | 1. 25 | 1.19 | 1. 14 | 1.23 | 1. 19 | 1. 20 | 1. 26 | 1. 23 | 1. 20 | 1. 30 | 1.11 |
| 1892 | 1.16 | 1.14 | 1.14 | 1. 09 | 1. 02 | 1. 04 | 1. 02 | . 91 | . 86 | . 88 | . 86 | . 83 | 1. 00 | 1.20 | 80 |
| 1893 | . 85 | . 85 | . 81 | . 81 | . 84 | . 82 | . 82 | . 79 | . 80 | . 78 | . 76 | . 78 | . 81 | . 89 | 73 |
| 1894. | . 76 | . 74 | . 71 | . 70 | . 67 | . 64 | . 65 | . 61 | . 61 | . 60 | . 67 | 73 | . 67 | . 78 | . 58 |
| 1895 | . 67 | . 64 | . 68 | . 73 | . 81 | . 82 | . 77 | . 79 | . 72 | . 74 | . 75 | . 75 | . 74 | . 86 | . 63 |
| 1896 | . 80 | . 83 | . 80 | . 80 | . 81 | . 79 | . 76 | . 75 | . 81 | . 95 | . 99 | . 99 | . 84 | 1.03 | . 73 |
| 1897 | . 96 | . 91 | . 89 | . 86 | . 86 | . 83 | . 90 | 1.10 | 1. 15 | 1. 10 | 1.09 | 1. 09 | . 98 | 1. 22 | . 81 |
| 1898 | 1.08 | 1.18 | 1. 14 | 1. 28 | 1. 57 | 1. 28 | . 96 | . 89 | . 84 | . 89 | . 89 | . 87 | 1.07 | 1.71 | . 78 |
| 1899 | . 86 | . 83 | . 79 | . 81 | . 86 | . 87 | . 82 | . 80 | . 84 | . 86 | . 83 | . 81 | . 83 | . 89 | . 77 |
| 1900 | . 86 | . 87 | . 86 | . 93 | . 95 | . 91. | . 91 | . 86 | . 91 | . 86 | . 87 | . 86 | . 89 | . 95 | . 84 |
| 1901 | . 89 | . 87 | . 87 | . 86 | . 86 | . 84 | . 82 | . 83 | . 81 | . 83 | . 84 | . 90 | . 85 | . 94 | . 78 |
| 1902 | . 90 | . 89 | . 89 | . 90 | . 92 | . 89 | . 91 | . 91 | . 86 | . 85 | . 85 | . 88 | . 89 | . 94 | . 83 |
| 1903 | . 90 | . 91 | . 90 | . 89 | . 90 | . 91 | . 89 | . 91 | . 90 | . 89 | . 88 | . 88 | . 90 | . 94 | . 86 |
| 1904 | . 89 | . 90 | . 95 | . 95 | . 92 | . 89 | . 89 | . 90 |  |  |  |  | . 91 | . 98 | . 85 |
| 1905 |  |  | 1. 01 | . 99 | . 97 |  |  |  | . 94 | . 96 | . 97 | .96 | . 97 | 1.01 | . 93 |
| 1906 | 1. 03 | 1. 03 | 1. 04 | . 99 | . 95 | $\begin{array}{r}.95 \\ \hline 1.04\end{array}$ | .96 <br> 1.04 | .92 | . 91 | . 91 | . 90 | $\begin{array}{r}.90 \\ \hline 18\end{array}$ | $\begin{array}{r}.96 \\ \hline 102\end{array}$ | 1.04 | . 89 |
| 1907 | . 89 | . 92 | . 92 | . 92 | $\begin{array}{r}.98 \\ \hline\end{array}$ | 1.04 | 1.04 1.09 | 1.05 1.08 | 1.11 | 1.14 1.12 | 1.12 1.15 | 1.13 1.16 | 1.02 1.10 | 1.23 1.20 | .87 1.02 |
| 1908. | 1.16 | 1.07 | 1.04 | 1.11 | 1.09 | 1.08 | 1.09 | 1.08 | 1.11 | 1.12 | 1.15 | 1. 16 | 1.10 | 1.20 | 1.02 |
| 1909 | 1.16 | 1.21 | 1. 23 | 1.32 | 1.38 | 1. 34 | 1.37 | 1.30 | 1.10 | 1.15 | 1.21 | 1.21 | 1.25 | 1.42 | 1.07 |
| 1910 | 1.24 | 1.23 | 1.21 | 1.18 | 1.10 | 1. 04 | 1.08 | 1.15 | 1.12 | 1.08 | 1.04 | 1.04 | 1.13 | 1.25 | . 98 |
| 1911 | 1. 07 | 1. 07 |  |  | 1. 03 | 1.04 | 1.04 | 1.04 | 1.07 | 1.08 | 1.05 | 1. 07 | 1.06 | 1.10 | 1.03 |
| 1912 | 1.11 | 1.15 | 1. 20 | 1. 23 | 1. 23 | 1. 22 | 1. 24 | 1.15 | 1.16 | 1. 16 | 1.11 | 1.09 | 1. 17 | 1. 27 | 1. 07 |
| 1913 | 1.11 | 1.12 | 1. 12 | 1.13 | 1.12 | 1.11 | 1.10 | 1. 07 | 1.04 | 1.02 | 1. 04 | 1. 05 | 1. 09 | 1.15 | 1.02 |
| Av. 19091913. | 1.14 | 1.16 | 1.19 | 1.22 | 1.17 | 1.15 | 1.17 | 1.14 | 1.10 | 1.10 | 1.09 | 1.09 | 1.14 |  |  |
| 1914 | 1. 02 | 1. 04 | 1.07 | 1. 07 | 1.11 | 1. 09 | 1.05 | 1. 28 | 1.29 | 1.28 | 1.38 | 1. 47 | 1.18 |  |  |
| 1915 | 1.67 | 1.95 | 1.91 | 1. 94 | 1.98 | 1. 65 | 1. 63 | 1. 61 | 1. 67 | 1. 71 | 1. 59 | 1.73 | 1. 75 |  |  |
| 1916 | 1. 94 | 1. 90 | 2. 00 | 1. 93 | 1. 71 | 1. 55 | 1. 58 | 1. 96 | 2. 00 | 2. 15 | 2. 22 | 2. 39 | 1. 94 |  |  |
| 1917---- | 2. 39 | 2. 43 | 2.42 | 2. 46 | 2. 46 | 2.46 | 2. 50 | 2. 50 | 2. 38 | 2. 26 | 2.26 | 2.26 | 2.40 |  |  |
| 1918 | 2. 32 | 2. 32 | 2. 39 | 2. 32 | 2.32 | 2. 32 | 2. 32 | 2.32 | 2.32 | 2. 39 | 2.46 | 2.46 | 2. 36 |  |  |
| 1919 | 2. 46 | 2. 46 | 2. 43 | 2. 41 | 2.41 | 2. 39 | 2.29 | 2.21 | 2. 16 | 2. 16 | 2. 11 | 1.95 | 2. 29 |  |  |
| 1920 | 1. 90 | 1.75 | 2. 11 | 2. 37 | 2.34 | 2. 40 | 2. 34 | 2.20 | 2. 13 | 2. 34 | 2. 53 | 2. 39 | 2. 23 |  |  |
| Av. <br> 1914- <br> 1920 | 1.96 | 1.98 | 2. 05 | 2.07 | 2.05 | 1.98 | 1.96 | 2.01 | 1.99 | 2. 04 | 2.08 | 2. 09 | 2. 02 |  |  |
| 1921 | 2. 33 | 2. 14 | 2. 14 | 2. 13 | 2. 18 | 1.96 | 1.71 | 1. 59 | 1.56 | 1.31 | 1. 26 | 1.37 | 1.81 |  |  |
| 1922 | 1.37 |  | 1. 58 | 1. 58 | 1.59 | 1. 44 | 1.49 | 1.35 | 1. 29 | 1. 44 | 1. 52 | 1.54 | 1.47 |  |  |
| 1923 | 1. 42 | 1.41 | 1.40 | 1.46 |  |  |  | 1. 26 | 1. 22 | 1. 23 | 1.25 |  |  |  |  |

Division of Statistical and Historical Research. 1879-1903, compiled from Broomhall's 1904 Year Book, p. 144; 1914-1920 from Broomhall's 1921 Year Book. Remainder of table from Corn Trade News. High and low not given 1914-1923. Conversions at par 1879-1912; current exchange rate for remainder of period.

Table 39.-Wheat, Barletta: ${ }^{1}$ Average prices per bushel of 60 pounds at Buenos Aires, 1912-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | \$1.01 | \$1.00 | \$1.00 | \$1. 03 | \$0.96 | \$0. 99 | \$0.99 | \$1.01 | \$1.02 | \$1. 01 | \$0. 96 | \$0.92 | \$0.99 |
| 1913 | . 91 | 1.00 | . 93 | . 99 | . 95 | 1.02 | 1.02 | 1.01 | ${ }^{2} 1.07$ | ${ }^{\text {s }} 1.03$ | ${ }^{3} 1.08$ | . 95 | 1.00 |
| 1914 | 95 | 99 | 98 | 95 | 1.01 | 99 | 1.01 | 1.22 | 1.23 | ${ }^{4} 1.12$ | ${ }^{4} 1.24$ | ${ }^{4} 1.22$ | 1.08 |
| 1915 | 1.26 | 1.42 | 1. 39 | 1.44 | 1. 48 | 1.35 | 1.33 | 1.29 | 1.31 | 1.36 | 1.31 | 1. 20 | 1.34 |
| 1916 | 1.05 | 1.06 | . 96 | . 95 | . 85 | . 83 | . 84 | 1.06 | 1.19 | 1.49 | 1.74 | 1. 48 | 1.12 |
| 1917 | 1. 65 | 1. 64 | 1.67 | 1.72 | 2.00 | 2.21 | 2. 23 | 2. 02 | 2.00 | 2.02 | 2. 10 | 1.79 | 1.92 |
| 1918 | 1.56 | 1.55 | 1.58 | 1. 59 | 1.57 | 1.56 | 1.50 | 1.41 | 1.42 | 1.41 | 1.46 | 1. 49 | 1.51 |
| 1919 | 1.31 | 1.31 | 1. 27 | 1.27 | 1.33 | 1.34 | 1.82 | 1. 94 | 1.85 | 1.66 | 1.71 | 1.63 | 1.54 |
| 1920 | 1.65 | 1.75 | 2.02 | 2.55 | 2.79 | 2. 58 | 2.85 | 2.43 | 2.48 | 2. 58 | ${ }^{3} 2.75$ | 1.86 | 2.36 |
| Av. 1914-1920 | 1.35 | 1. 39 | 1.41 | 1.50 | 1.58 | 1.55 | 1.65 | 1.62 | 1.64 | 1.66 | 1.76 | 1.52 | 1. 55 |
| 1921. | 1.76 | 1.58 | 1. 62 | 1.46 | 1.48 | 1.50 | 1.45 | 1.43 | 1.50 | 1.22 | 1.05 | 1.05 | 1.42 |
| 1922 | 1.04 | 1.26 | 1.32 | 1.30 | 1.32 | 1.22 | 1.27 | 1.20 | 1.16 | 1.22 | 1.20 | 1. 22 | 1. 23 |
| 1923 | 1. 20 | 1. 22 | 1.20 | 1.21 | 1. 17 | 1. 13 | 1.05 | 1.00 | 1.05 | 1.09 | 1.13 | 1.04 | 1.12 |

Division of Statistical and Historical Research.
Prices and monthly exchange rates from International Yearbook of Agricultural Statistics, 1922. Exchange after July, 1921, from Federal Reserve Bulletin, supplemented by Review of the River Plate.
${ }^{1}$ Barletta is a semihard wheat. ${ }^{2}$ No. 1 Rosario wheat. ${ }^{3}$ Description "Pan." (New crop.
Table 40.-Wheat, white: Spot prices per bushel of 60 pounds at Karachi, India, 1912-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | \$0.90 | \$0.94 | \$0.94 | \$0. 96 | \$0. 93 | \$0. 89 | \$0. 88 | \$0.89 | \$0. 88 | \$0. 89 | \$0. 89 | \$0.89 | \$0. 91 |
| 1913 | . 92 | . 97 | . 97 | . 93 | . 92 | . 90 | . 90 | . 87 | . 87 | . 86 | . 88 | . 88 | . 91 |
| 1914 | 91 | . 93 | . 91 | 92 | . 94 | . 91 | . 90 | . 96 | 1.08 | 1. 09 | 1. 22 | 1. 23 | 1. 00 |
| 1915 | 1. 27 | 1.43 | 1. 22 | 1. 21 | 1.07 | 1. 02 | 1. 02 | 1. 06 | 1. 12 | 1. 10 | 1.09 | 1. 07 | 1.14 |
| 1916 | 1. 09 | 1.03 | . 97 | . 89 | . 88 | . 86 | . 95 | 1. 05 | 1.03 | 1. 04 | 1. 10 | 1.15 | 1. 00 |
| 1917 | 1. 19 | 1. 14 | 1.13 | 1. 12 | 1. 04 | 1. 05 | 1.08 | 1. 07 | 1.14 | 1. 13 | 1.22 | 1. 26 | 1.13 |
| 1918 | 1. 22 | 1. 23 | 1. 24 | 1. 24 | 1. 25 | 1. 23 | 1. 26 | 1. 31 | 1.41 | 1. 57 | 1. 61 | 1. 63 | 1. 35 |
| 1919 | 1. 82 | 1. 82 | 1.91 | 1. 78 | 2. 07 | 2.01 | 2. 06 | 2. 16 | 2. 14 | 1.93 | 2.04 | 2. 16 | 1. 99 |
| 1920 | 2.12 | 2. 09 | 1.91 | 1.90 | 1. 74 | 1. 62 | 11.49 | ${ }^{1} 1.35$ | 1. 34 | 1.36 | 1.32 | 1. 22 | 1. 62 |
| Av. 1914-1920 | 1. 37 | 1.38 | 1. 33 | 1. 29 | 1. 28 | 1. 24 | 1. 25 | 1. 28 | 1. 32 | 1.32 | 1. 37 | 1. 39 | 1. 32 |
| 1921 | 1. 28 | 1. 29 | 1. 26 | 1. 26 | 1.33 | 1.31 | 1. 29 | 1. 52 | 1. 86 | 1.73 | 1. 57 | 1. 60 | 1.44 |
| 1922 | 1. 50 | (2) | ${ }^{(2)}$ | ${ }^{2}$ ) | 1. 36 | 1.36 | 1. 25 | 1. 22 | 1.11 | . 89 | . 91 | 1.17 | 1.20 |
| 1923 | 1. 20 | 1.12 | 1.12 | 1. 17 | 1.13 | 1.07 | 1. 03 | . 91 | . 96 | . 97 | . 99 | 1.01 | 1.06 |

Division of Statistical and Historical Research. Compiled from Indian Trade Journal. Converted at par of $\$ 0.3244$ per rupee to 1919, and current exchange rate as given by Federal Reserve Bulletins 1919 to date.
${ }^{1}$ First week of month, from Review of the Trade of India.
${ }^{2}$ Not quoted.
Table 41.-Wheat: Average price per bushel of 60 pounds at Port Adelaide, Australia, 1912-1922.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | \$0.88 | \$0.87 | \$0. 88 | \$0.96 | \$0.96 | \$0. 98 | \$0.96 | \$0.96 | \$0.99 | \$1.00 | \$0.96 | \$0. 86 | \$0.94 |
| 1913 | . 85 | . 86 | . 86 | 89 | . 88 | . 87 | . 86 | . 87 | . 86 | . 84 | . 84 | . 84 | . 86 |
| 1914 | 86 | 87 | . 90 | 90 | . 92 | 93 | 93 | 1.00 | 1.12 | 1. 14 | 1.21 | 1.40 | 1.02 |
| 1915 | 1.48 | 1.65 | 1.74 | 1.76 | 1.80 | 1.81 | 1. 82 | 1. 79 | 1. 78 | 1. 41 | 1. 05 | 1. 23 | 1.61 |
| 19161 | 1. 13 | 1.14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 |
| 19171 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1.14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 |
| 19181 | 1.14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14. | 1. 14 | 1. 14 | 1. 14 | 1. 14 | 1. 14 |
| 19191 | 1. 14 | 1.19 | 1. 18 | 1.16 | 1.16 | 1. 15 | 1.11 | 1.07 | 1.05 | 1.15 | 1.12 | 1.13 | 1. 13 |
| 1920 | 1. 19 | 1. 29 | 1. 45 | 1.50 | 1. 48 | 1.51 | 1. 48 | 1.39 | 1.35 | 1.33 | 1.31 | 1.34 | 1.38 |
| Av. 1914-1920 | 1.15 | 1.20 | 1. 24 | 1.25 | 1.25 | 1.26 | 1.25 | 1. 24 | 1.25 | 1.21 | 1.16 | 1.22 | 1.22 |
| $1921{ }^{1}$ | 1.69 | 1.74 | 1.76 | 1.77 | 1.79 | 1.70 | 1.63 | 1. 64 | 1.68 | 1.74 | ${ }^{21.70}$ | 1.87 | 1.73 |
| 1922 | . 99 | 1.07 | 1.18 | 1.15 | 1.27 | 1. 20 | 1.19 | 1.15 | 1.14 | 1.15 | 1.15 | 1.17 | 1.15 |

Division of Statistical and Historical Research. Compiled from Statistical Register of South Australia, 1920-21 and 1921-22.
${ }^{1}$ The prices from 1916-1921 are those fixed for home consumption, the average prices on the whole transaction of the Wheat Harvest Board during each year being: 1916, $\$ 1.13 ; 1917, \$ 1.14 ; 1918, \$ 1.14 ; 1919$, \$1.31; 1920, \$1.70; and 1921, \$1.52.
${ }^{2}$ These prices for old wheat; new wheat price; November, \$0.93; December, \$1. 02.

## WHEAT FLOUR.

Table 42.-Flour, wheat: Average wholesale price per barrel at markets named, 1909-1923.
MINNEAPOLIS-SPRING PATENTS. ${ }^{1}$

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$6. 21 | \$5.89 | \$5. 14 | \$5. 29 | \$5. 22 | \$5. 48 | \$5. 58 | \$5. 45 | \$5. 52 | \$5. 38 | \$5. 42 | \$5. 33 | \$5. 49 |
| 1910-11 | 6. 20 | 5. 79 | 5. 75 | 5. 21 | 5. 03 | 5.01 | 5. 28 | 4.91 | 4. 75 | 4. 64 | 4. 89 | 4.81 | 5.19 |
| 1911-12 | 4. 88 | 4.88 | 4. 98 | 5. 25 | 5.05 | 5.05 | 5. 00 | 5. 10 | 5. 10 | 5.10 | 5. 43 | 5. 60 | 5. 12 |
| 1912-13 | 5. 43 | 5. 24 | 4.68 | 4. 63 | 4. 59 | 4.13 | 4. 26 | 4.43 | 4.43 | 4. 43 | 4. 43 | 4.63 | 4. 61 |
| 1913-14 | 4.66 | 4. 57 | 4. 45 | 4. 33 | 4. 18 | 4.15 | 4. 26 | 4. 52 | 4. 54 | 4.51 | 4.51 | 4. 51 | 4.43 |
| Av. 1909-1913 | 5. 48 | 5. 27 | 5. 00 | 4. 94 | 4.81 | 4. 76 | 4.88 | 4.88 | 4. 87 | 4.81 | 4. 94 | 4. 98 | 4. 97 |
| 1914-15 | 4. 62 | 5.78 | 6.02 | 5. 58 | 5.79 | 6.01 | 6.86 | 7. 54 | 7. 16 | 7.61 | 7. 41 | 6. 78 | 6. 43 |
| 1915-16 | 6. 78 | 6. 42 | 5. 13 | 5.23 | 5.28 | 5.98 | 6.23 | 6.13 | 5. 70 | 5. 90 | 5. 79 | 5. 29 | 5.82 |
| 1916-17 | 5. 68 | 7.69 | 8. 26 | 9.08 | 9.56 | 8. 60 | 9.00 | 8.45 | 9. 44 | 11. 33 | 14. 09 | 13.08 | 9. 52 |
| 1917-18 | 12.86 | 13.22 | 11. 15 | 10.84 | 10. 24 | 10.07 | 9.85 | 10. 05 | 9.89 | 9. 90 | 9. 42 | 9. 89 | 10. 62 |
| 1918-19 | 10. 45 | 10.53 | 10.49 | 10. 44 | 10. 41 | 10. 44 | 10. 42 | 10. 69 | 11.22 | 12.09 | 12. 52 | 12. 00 | 10.98 |
| 1919-20 | 12.15 | 12.13 | 11. 54 | 12.03 | 13. 20 | 14. 48 | 1497 | 13. 73 | 13.41 | 14. 69 | 15.49 | 14.64 | 13. 54 |
| 1920-21 | 14.12 | 13.33 | 13.02 | 11.45 | 9. 74 | 9. 28 | 9.94 | 9. 38 | 9.10 | 8.30 | 9.04 | 9.40 | 10. 51 |
| Av. 1914-1920. | 9. 52 | 9.87 | 9.37 | 9. 24 | 9.17 | 9.27 | 9.51 | 9.42 | 9.42 | 9.97 | 10.54 | 10.15 | 9.63 |
| 1921-22 | 9. 27 | 8.34 | 8. 62 | 7. 67 | 7.39 | 7. 26 | 7.33 | 8. 17 | 8.27 | 8.46 | 8. 32 | 7. 71 | 8. 07 |
| 1922-23 | 7.95 | 7. 22 | 6. 68 | 6. 76 | 6. 88 | 6. 86 | 6.71 | 6. 72 | 6. 72 | 7.00 | 6.8 | 6.35 | 9 |
| 1923-24 | 6.21 | 6.37 | 6. 45 | 6. 43 | 6.21 | 6.30 |  |  |  |  |  |  |  |

ST. LOUIS-SOFT WINTER PATENTS. ${ }^{2}$

| 1909-10 | \$5. 80 | \$4. 92 | \$5. 14 | \$5. 75 | \$5.68 | \$5. 82 | \$5.77 | \$5.80 | \$5. 75 | \$5.40 | \$5. 29 | \$5.11 | \$5. 52 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 5. 20 | 4.85 | 4.76 | 4. 68 | 4. 58 | 4.58 | 4.86 | 4. 64 | 4.52 | 4. 38 | 4. 39 | 4. 36 | 4.65 |
| 1911-12 | 4.17 | 4.25 | 4.40 | 4. 69 | 4.68 | 4. 62 | 4. 74 | 4. 70 | 4. 72 | 5. 07 | 5. 54 | 5. 43 | 4. 75 |
| 1912-13 | 5. 26 | 4. 49 | 4. 54 | 4. 70 | 4. 67 | 4.70 | 4.84 | 4.86 | 4.68 | 4. 59 | 4. 52 | 4. 45 | 4. 69 |
| 1913-14 | 4. 12 | 3.88 | 3.98 | 3. 95 | 4.08 | 4.14 | 4. 20 | 4.11 | 4.02 | 3.85 | 3. 92 | 3. 74 | 4.00 |
| Av. 1909-1913 | 4.91 | 4.48 | 4.55 | 4. 75 | 4. 74 | 4. 77 | 4.88 | 4. 82 | 4.74 | 4. 66 | 4. 73 | 4.62 | 4. 72 |
| 1914-15 | 3. 47 | 4.16 | 5.04 | 4.86 | 4. 91 | 5. 03 | 6.18 | 6. 98 | 6. 57 | 6. 65 | 6. 66 | 5.56 | 5. 51 |
| 1915-i6 | 5. 56 | 4.87 | -4.83 | 5. 08 | 5. 18 | 5. 39 | 5. 60 | 5. 79 | 5. 24 | 5. 32 | 5. 20 | 4. 91 | 5. 25 |
| 1916-17 | 5. 24 | 6.85 | 7.31 | 7.84 | 8. 72 | 8.31 | 8. 67 | 8. 44 | 8. 83 | 11. 29 | 13.91 | 12. 53 | 9. 00 |
| 1917-18 | 10.64 | 10.78 | 10.36 | 10.33 | 10.26 | 10.28 | 10.46 | 10. 74 | 11. 40 | 11. 39 | 10.94 | 10. 72 | 10.69 |
| 1918-19 | 10. 25 | 10. 25 | 10. 25 | 10. 25 | 10. 25 | 10. 25 | 11. 22 | 11.65 | 10.71 | 11. 45 | 11. 41 | 10. 28 | 10.68 |
| 1919-20 | 10.80 | 10.13 | 9.90 | 9.95 | 10.12 | 11.31 | 12.08 | 11. 49 | 11. 59 | 12. 34 | 13.93 | 13. 18 | 11. 40 |
| 1920-21 | 11.98 | 11.99 | 12. 09 | 11.38 | 10.13 | 9.44 | 9.73 | 9.71 | 8. 76 | 7.10 | 7.81 | 7. 98 | 9.84 |
| Av. 1914-1920. | 8.28 | 8.43 | 8. 54 | 8. 53 | 8.51 | 8. 57 | 9.13 | 9. 26 | 9.01 | 9.36 | 9.98 | 9.31 | 8.91 |
| 1921-22 | 6. 61 | 6.63 | 6. 94 | 6.60 | 6. 25 | 6. 25 | 5. 99 | 6. 69 | 7.05 | 6. 79 | 7.07 | 6.48 | 6. 61 |
| 1922-23 | 5. 94 | 5. 75 | 5.86 | 6. 29 | 6. 50 | 6. 62 | 6.50 | 6.62 | 6.50 | 6. 66 | 6. 53 | 6.05 | 6.32 |
| 1923-24. | 5. 59 | 5. 71 | 5.39 | 5. 71 | 5.75 | 5.75 |  |  |  |  |  |  |  |

CHICAGO-WINTER PATENTS. ${ }^{3}$

| 1909-10 | \$6. 08 | \$5. 07 | \$4. 72. | \$5. 28 | \$5. 41 | \$5.40 | \$5. 48 | \$5. 42 | \$5.48 | \$5. 27 | \$5.05 | \$4. 75 | \$5. 28 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 4.92 | 4.87 | 4. 72 | 4. 57 | 4. 40 | 4.41 | 4. 53 | 4.31 | 4. 09 | 4. 06 | 4.20 | 4. 16 | 4.44 |
| 1911-12 | 4. 08 | 4.12 | 4. 32 | 4. 64 | 4. 61 | 4. 85 | 4. 40 | 4. 58 | 4. 58 | 4. 76 | 5.21 | 5. 17 | 4. 61 |
| 1912-13 | 4. 86 | 4. 52 | 4. 69 | 4. 52 | 4. 56 | 4.59 | 4. 62 | 4. 67 | 4. 50 | 4. 48 | 4. 48 | 4. 41 | 4. 58 |
| 1913-14 | 4.25 | 4.12 | 4.16 | 4.21 | 4.21 | 4. 22 | 4.25 | 4. 25 | 4. 25 | 4. 22 | 4.21 | 4.24 | 4. 22 |
| Av. 1809-1913 | 4.84 | 4.54 | 4. 52 | 4. 64 | 4.64 | 4.68 | 4. 66 | 4.65 | 4.58 | 4. 56 | 4. 63 | 4. 55 | 4.63 |
| 1914 | 3. 80 | 4. 54 | 5. 36 | 5. 16 | 5. 23 | 5.22 | 6. 28 | 7. 42 | 7. 01 | 7.18 | 7. 19 | 5. 69 | 5. 84 |
| 1915-16 | 5. 16 | 5. 24 | 5. 10 | 5. 26 | 5. 23 | 5. 39 | 5. 92 | 6. 11 | 5.38 | 5.76 | 5. 54 | 5. 37 | 5. 46 |
| 1916-17 | 5. 23 | 6. 55 | 7. 30 | 7.78 | 8. 82 | 8. 20 | 9. 08 | 8.44 | 9.10 | 11. 20 | 14.91 | 13.80 | 9. 20 |
| 1917-18 | 11. 77 | 12. 25 | 11.74 | 10.68 | 10.38 | 10.44 | 9.92 | 10.45 | 11.00 | 10.95 | 10.82 | 10.88 | 10.94 |
| 1918-19 | 10. 88 | 10.68 | 10. 20 | 10.08 | 9. 58 | 10. 22 | 10. 55 | 10.42 | 10. 36 | 11. 44 | 12.99 | 11. 82 | 10. 77 |
| 1919-20 | 11.02 | 10. 54 | 10.80 | 11.35 | 11.81 | 13.00 | 13. 68 | 12.88 | 12. 08 | 12. 30 | 13.68 | 13. 42 | 12. 22 |
| 1920-21 | 12.48 | 11. 79 | 12. 22 | 11. 60 | 10.40 | 8. 78 | 10.19 | 9. 26 | 9.05 | 7.91 | 7. 84 | 8. 76 | 10.02 |
| Av. 1914-1920 | 8.69 | 8.80 | 8. 96 | 8. 76 | 8.79 | 8. 75 | 9.38 | 9. 28 | 9.14 | 9.53 | 10.42 | 9.96 | 9.21 |
| 1921-22 | 7. 12 | 7.00 | 7.01 | 6. 95 | 6. 51 | 6. 44 | 6. 01 | 6.97 | 6.81 | 6. 95 | 7. 54 | 7.11 | 6.87 |
| 1922-23 | 6. 76 | 6.10 | 6. 24 | 6. 48 | 6. 44 | 6.67 | 6.39 | 6. 20 | 6. 26 | 6.19 | 6. 02 | 5.80 | 6.30 |
| 1923-24 | 5. 31 | 5.39 | 5. 75 | 5. 74 | 5. 30 | 5.30 |  |  |  |  |  |  |  |

[^135]${ }^{1}$ Compiled from the Minneapolis. Daily Market Record.
Compiled from St. Louis Annual Statements of Trade and Commerce and St. Louis Market Reporter.
${ }^{3}$ Compiled from Chicago Board of Trade and Daily Trade Bulletin.

Table 42.-Flour, wheat: Average wholesale price per barrel at markets named, 1909 to 1983-Continued.
CHICAGO-SPRING PATENTS. ${ }^{3}$

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10. | \$6. 17 | \$5. 31 | \$6. 08 | \$5. 92 | \$6. 13 | \$6. 45 | \$6. 41 | \$6. 35 | \$6. 46 | \$6. 28 | \$6. 27 | \$6. 18 | \$6. 21 |
| 1910-11 | 6. 76 | 6. 65 | 6. 37 | 6.31 | 6. 18 | 6. 28 | 6. 42 | 6. 05 | 5. 56 | 5. 36 | 5. 62 | 5.44 | 6.08 |
| 1911-12 | 5. 53 | 5.83 | 5.89 | 6. 12 | 5. 95 | 5. 80 | 5. 82 | 5. 86 | 5.80 | 5. 88 | 6. 38 | 6. 40 | 5. 94 |
| 1912-13 | 6. 10 | 5.78 | 5. 65 | 5. 36 | 5.14 | 4.84 | 4.60 | 4.66 | 4. 64 | 4.71 | 4. 88 | 4.81 | 5. 10 |
| 1913-14 | 4.89 | 4.80 | 4.73 | 4.62 | 4. 58 | 4.65 | 4. 68 | 4.80 | 4.86 | 4.71 | 4.74 | 4.72 | 4.73 |
| Av. 1909-1913 | 5. 89 | 5.78 | 5. 74 | 5. 67 | 5. 60 | 5.60 | 5. 59 | 5. 54 | 5. 46 | 5. 39 | 5.58 | 5.5 | 5. 61 |
| 1914-15 | 4. 58 | 5. 62 | 18 | 5. 71 | 5.79 | 5. 90 | 6. 97 | 7.62 | 7. 41 | 7.62 | 7.85 | 6. 62 | 6.49 |
| 1915- | 6. 66 | 6.76 | 5. 40 | 5.60 | 5. 69 | 5.84 | 6. 51 | 6.74 | 5. 87 | 6. 16 | 6. 11 | 5. 99 | 6. 11 |
| 1916-17 | 5.96 | 7.63 | 8.15 | 9.84 | 9.79 | 9.02 | 9. 54 | 9.01 | 9.75 | 12.02 | 15.34 | 17.46 | 10. 29 |
| 1917-18 | 12.53 | 13.03 | 11. 46 | 10.89 | 10.55 | 10.45 | 10.08 | 10.75 | 11.25 | 11.50 | 11.15 | 10.88 | 11.21 |
| 1918-19 | 10. 65 | 11. 00 | 10. 62 | 10.40 | 9.58 | 10.50 | 10. 42 | 10. 28 | 10. 20 | 11.45 | 13. 10 | 11. 25 | 10.79 |
| 1919-20 | 11. 62 | 12.25 | 11.40 | 11.52 | 13. 00 | 13. 95 | 13.88 | 14.42 | 13.18 | 13.75 | 15.40 | 14.50 | 13. 24 |
| 1920-21 | 13.35 | 13.10 | 12. 42 | 11.75 | 10.75 | 8.32 | 10.00 | 8.82 | 8.75 | 8. 48 | 8.42 | 9.60 | 10.31 |
| Av. 1914-1920 | 9.34 | 9.91 | 9. 38 | 9.39 | 9.31 | 9.14 | 9.63 | 9.6 | 9.49 | 10.14 | 11.05 | 10.90 | 9.78 |
| 1921-22 | 8.82 | 9.00 | 8.10 | 7.75 | 7.38 | 7.32 | 6.78 | 7.84 | 7.55 | 7.60 | 8. 00 | 7.65 | 7.82 |
| 1922-23 | 7.73 | 7. 25 | 6. 99 | 6.86 | 6.78 | 7.00 | 6.85 | 6. 68 | 6. 68 | 6. 64 | 6. 69 | 6. 22 | 6.88 |
| 19 | 5.80 | 5. 97 | 6. 15 |  | 5. 99 |  |  |  |  |  |  |  |  |

NEW YORK-WINTER PATENTS.4

| 1009-10 | \$6.52 | \$6. 28 | \$5.43 | \$5. 77 | \$5. 78 | \$5. 74 | \$5.96 | \$5. 95 | \$5.96 | \$5. 82 | \$5. 74 | \$5.40 | \$5.86 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 5. 44 | 5.36 | 5.07 | 4. 92 | 4.81 | 4.88 | 5.02 | 4.92 | 4.78 | 4.63 | 4. 67 | 4.65 | 4.93 |
| 1911-12 | 4.68 | 4. 67 | 4. 71 | 4.90 | 4.90 | 4. 90 | 4. 96 | 5. 06 | 5. 08 | 5. 32 | 6. 00 | 6. 00 | 5. 10 |
| 1912-13 | 5. 79 | 5. 28 | 5.34 | 5.33 | 5.33 | 5. 33 | 5.55 | 5.75 | 5. 44 | 5.50 | 5. 50 | 5. 54 | 5.47 |
| 1913-14 | 5. 58 | 5. 42 | 4. 39 | 4.91 | 4.90 | 4.90 | 4. 92 | 4.97 | 5.00 | 4.88 | 5.00 | 4.98 | 5.03 |
| Av. 1909-1913 | 5.60 | 5. 40 | 5. 09 | 5.17 | 5.14 | 5. 15 | 5.28 | 5.33 | 5. 25 | 5.23 | 5.38 | 5.31 | 5.28 |
| 1914-15 | 4. 90 | 5. 22 | 5.81 | 5. 80 | 5. 80 | 5.86 | 6.79 | 7.88 | 7.56 | 7.39 | 7.55 | 6.64 | 6.43 |
| 1915-16 | 6. 48 | 6. 62 | 5. 68 | 5.89 | 5. 90 | 6. 20 | 6. 70 | 6.62 | 6.28 | 6. 24 | 5.91 | 5.48 | 6.17 |
| 1916-1 | 5.63 | 7.34 | 7.86 | 8. 30 | 8. 90 | 8.60 | 9.09 | 8.87 | 9.53 | 11.41 | 14.57 | 12.98 | 9.42 |
| 1917-18 | 11.72 | 11.12 | 10.94 | 10.64 | 10. 51 | 10.45 | 10.44 | 10.43 | 10.91 | 11.00 | 10.98 | 10.98 | 10.84 |
| 1918-19 | 11.35 | 10.71 | 10. 40 | 10.28 | 10.25 | 10.53 | 10.48 | 10.25 | 10.55 | 11.40 | 11.38 | 11.19 | 10. 73 |
| 1919-20 | 11.11 | 10.53 | 10.52 | 10. 22 | 10.18 | 10.68 | 10. 99 | 10.98 | 10.91 | 11.47 | 12.90 | 13.67 | 11.18 |
| 1920-21 | 12.46 | 11. 20 | 11. 22 | 10.14 | 9.38 | 8.82 | 8.87 | 8.36 | 8.15 | 7.00 | 7.09 | 7.39 | 9.17 |
| Av. 1914-1920 | 9.09 | 8.96 | 8.92 | 8.75 | 8. 70 | 8. 73 | 9.05 | 9.06 | 9.13 | 9.42 | 10.05 | 9.76 | 9.13 |
| 1921-22 | 6. 50 | 6. 24 | 6. 32 | 6.02 | 5.73 | 5. 68 | 6.00 | 6. 66 | 6. 99 | 6. 57 | 6.32 | 5.93 | 6.25 |
| 1922-23 | 7. 10 | 6. 49 | 6. 57 | 6. 76 | 6. 98 | 6. 79 | 6. 67 | 6. 63 | 6. 56 | 6.72 | 6.45 | 6. 34 | 6. 67 |
| 1923-24 | 5.69 | 5.93 | 6.31 | 6.33 | 6. 20 | 6.18 |  |  |  |  |  |  |  |

NEW YORK-SPRING PATENTS. 4

| 1909-10 | \$6. 45 | \$6. 31 | \$5. 62 | \$5.51 | \$5. 56 | \$5. 63 | \$5. 80 | \$5. 76 | \$5.82 | \$5. 66 | \$5.62 | \$5. 42 | \$5. 76 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 6.05 | 5.78 | 5. 71 | 5. 52 | 5.33 | 5.40 | 5. 46 | 5. 25 | 5.08 | 5. 02 | 5. 23 | 5. 10 | 5.41 |
| 1911-12 | 5. 13 | 5.36 | 5. 44 | 5. 42 | 5. 45 | 5. 22 | 5.42 | 5.43 | 5.40 | 5. 54 | 5.88 | 5.73 | 5.45 |
| 1912-13 | 5.51 | 5.37 | 5.11 | 4.87 | 4.80 | 4. 60 | 4.66 | 4. 70 | 4.80 | 4. 66 | 4.89 | 4.95 | 4.91 |
| 1913-14 | 4.98 | 4. 98 | 4. 75 | 4.50 | 4.52 | 4.56 | 4.61 | 4.76 | 4.90 | 4.66 | 4. 72 | 4.79 | 4.73 |
| Av. 1999-1913 | 5. 62 | 5. 56 | 5. 33 | 5. 16 | 5. 13 | 5. 08 | 5. 19 | 5. 18 | 5. 20 | 5.11 | 5.27 | 5. 20 | 5.25 |
| 1914 | 4. 59 | 5. 78 | 6. 09 | 5. 78 | 5.83 | 6. 02 | 7.03 | 7.78 | 7.41 | 7.63 | 7.79 | 6. 50 | 6.52 |
| 1915-16 | 6.82 | 6. 91 | 6. 44 | 5. 58 | 5. 62 | 6. 10 | 6. 69 | 6. 64 | 5.99 | 6.32 | 6. 27 | 5. 78 | 6. 26 |
| 1916-17 | 6.09 | 7.80 | 8.36 | 8.94 | 9.69 | 8.99 | 9.49 | 9. 06 | 9.80 | 11.66 | 14. 99 | 13. 68 | 9. 88 |
| 1917-18 | 12. 32 | 12.46 | 11. 69 | 11.31 | 10.93 | 10.86 | 10.63 | 10.63 | 10.94 | 11.00 | 10.98 | 10.98 | 11. 23 |
| 1918-19 | 11.41 | 11.26 | 11.07 | 10.92 | 10.82 | 10.90 | 10.64 | 10.69 | 11.27 | 12.09 | 12.51 | 11.93 | 11. 29 |
| 1919-20 | 12.12 | 12. 35 | 11.73 | 12.20 | 13.11 | 14. 25 | 14.49 | 13. 25 | 13.07 | 13.88 | 14.83 | 14.20 | 13. 29 |
| 1920-21 | 13.93 | 13. 06 | 12.82 | 11.34 | 9.77 | 9.12 | 9.58 | 8.98 | 8.82 | 8.12 | 8.61 | 9.07 | 10. 27 |
| Av. 1914-1920 | 9.61 | 9. 95 | 9. 74 | 9.44 | 9.40 | 9.46 | 9. 79 | 9. 58 | 9.61 | 10. 10 | 10.85 | 10.31 | 9.82 |
| 1921-22 | 9.03 | 8.48 | 8.31 | 7.50 | 6. 97 | 6. 94 | 6. 85 | 8. 05 | 7.95 | 7.96 | 8.18 | 7.63 | 7.82 |
| 1922-23 | 7.69 | 7.00 | 6.64 | 6.85 | 6. 99 | 6.93 | 6.68 | 6. 62 | 6. 56 | 6. 79 | 6.68 | 6.37 | 6.82 |
| 1923-24 | 6. 07 | 6. 38 | 6. 40 | 6. 36 | 6. 17 | 6. 20 |  |  |  |  |  |  |  |

[^136]Table 42.-Flour, wheat: Average wholesale price per barrel at markets named, 1909 to 1923-Continued.
KANSAS CITY-HARD WINTER PATENTS. ${ }^{5}$

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } \overline{1} \text {, } \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$5. 42 | \$4. 72 | \$4. 68 | \$4. 88 | \$4.68 | \$4. 77 | \$4. 78 | \$4. 78 | \$4. 83 | \$4. 84 | \$4. 84 | \$4. 60 | \$4. 82 |
| 1910-11 | 4.85 | 4.70 | 4.70 | 4. 54 | 4. 46 | 4. 46 | 4. 52 | 4.30 | 4. 20 | 4. 05 | 4. 26 | 4.18 | 4.44 |
| 1911-12 | 4.06 | 4.19 | 4. 30 | 4.65 | 4. 60 | 4. 54 | 4.80 | 4. 72 | 4. 69 | 4. 79 | 4. 90 | 4.90 | 4.60 |
| 1912-13 | 4.50 | 4.10 | 4.10 | 4.03 | 3.90 | 3.86 | 3. 92 | 3. 94 | 3. 88 | 3.99 | 4. 02 | 4.15 | 4.03 |
| 1913-14 | 4.10 | 4.07 | 4.19 | 4.01 | 3.95 | 3.95 | 3.95 | 3.95 | 3.98 | 4.00 | 4.00 | 3.98 | 4.01 |
| Av. 1909-1913 | 4.59 | 4.36 | 4.39 | 4.42 | 4.32 | 4.32 | 4.39 | 4.34 | 4.32 | 4.33 | 4.40 | 4.36 | 4.38 |
| 1914-15 | 3. 58 | 4. 23 | 5. 37 | 5. 08 | 4.98 | 5.19 | 6. 24 | 7.02 | 6.78 | 6. 80 | 6. 68 | 5.81 | 5.65 |
| 1915-16 | 5. 58 | 5. 38 | 4.91 | 4.90 | 4.98 | 5. 18 | 5. 75 | 5. 74 | 5. 12 | 5. 20 | 5. 08 | 4.81 | 5. 22 |
| 1916-17 | 5.14 | 6. 90 | 7.40 | 8.08 | 9. 07 | 8. 02 | 8. 82 | 8. 38 | 9.30 | 11.91 | 14. 44 | 12. 84 | 9. 19 |
| 1917-18 | 11.95 | 12. 41 | 10.74 | 10. 50 | 10.31 | 10. 02 | 10. 10 | 10. 25 | 10.31 | 10.31 | 10. 38 | 10. 38 | 10. 64 |
| 1918-19 | 10. 59 | 10. 27 | 10.15 | 10. 14 | 10.25 | 9.93 | 9. 83 | 10. 06 | 10. 49 | 11.94 | 12.99 | 12.01 | 10. 72 |
| 1919-20 | 11. 11 | 10. 70 | 10.98 | 11.56 | 12. 02 | 13. 52 | 14. 08 | 12. 64 | 12. 26 | 13. 09 | 14. 23 | 13.37 | 12.46 |
| 1920-21 | 12.98 | 12. 25 | 11.88 | 10.69 | 9.15 | 8. 81 | 9.06 | 8. 65 | 8. 60 | 7.54 | 8. 15 | 7.88 | 9.64 |
| Av. 1914-1920. | 8. 70 | 8.88 | 8.78 | 8. 71 | 8.68 | 8.67 | 9.13 | 8. 96 | 8.98 | 9.54 | 10.28 | 9.59 | 9.08 |
| 1921-22 | 7.15 | 6.61 | 7.08 | 6. 57 | 6.05 | 6. 15 | 6. 13 | 6. 85 | 7.14 | 7. 28 | 7.44 | 6.81 | 6.77 |
| 1922-23 | 6. 71 | 6. 02 | 6. 00 | 6.14 | 6. 38 | 6. 40 | 6. 20 | 6. 20 | 6. 20 | 6. 33 | 6. 21 | 5. 72 | 6. 21 |
| 1923-24 | 5. 39 | 5. 59 | 5.66 | 5.89 | 5. 68 | 5. 68 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research.
${ }^{6}$ Compiled from Northwestern Miller, Kansas City Daily Price Current, and Kansas ${ }^{\circ}$ City Grain Market Review.
Table 43.-Bread: Average retail price per pound (baked weight), 1913-1923. NEW YORK.

| - Calendar year. | $\begin{gathered} \text { Jan. } \\ 15 . \end{gathered}$ | Fèb. $15 .$ | Mar. 15. | Apr. $15$ | $\begin{array}{\|c} \text { May } \\ 15 . \end{array}$ | June 15. | July $15 .$ | $\begin{gathered} \text { Aug. } \\ 15 . \end{gathered}$ | Sept. 15. | Oct. 15. | Nov. 15. | Dec. 15. | $\begin{array}{\|c} \text { A ver- } \\ \text { age. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
|  | 6. 0 | 6.0 | 6. 0 | 6.0 | 6.0 | 6.2 | 6. 4 | 6.1 | 6.0 | 6.0 | 6.0 | 6.1 | 6.1 |
| 1914 | 6.1 | 6.1 | 6. 2 | 6.1 | 6. 1 | 6. 1 | 6. 1 | 6.4 | 6. 2 | 6.2 | 6. 3 | 6. 3 | 6. 2 |
| 1915 | 6.4 | 7. 2 | 6.6 | 6. 6 | 6. 6 | 6.8 | 6. 9 | 6.9 | 6. 6 | 6.6 | 6. 6 | 6. 6 | 6.7 |
| 1916 | 6. 6 | 6.8 | 6. 6 | 6. 6 | 6. 6 | 6. 6 | 6. 6 | 6. 6 | 7. 1 | 7. 7 | 7.8 | 8. 1 | 7.0 |
| 1917 | 8. 0 | 8.1 | 8. 7 | 8. 9 | 9.8 | 9.9 | 9. 9 | 9.9 | 9.9 | 9. 9 | 9.9 | 8.8 | 9.3 |
| 1918 | 9.1 | 8.9 | 8.9 | 10.0 | 10. 0 | 9.9 | 10. 0 | 9. 9 | 9.9 | 10.0 | 9.9 | 9.9 | 9.7 |
| 1919 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10. 0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 1920 | 10.5 | 11.1 | 11.1 | 11.6 | 11.8 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.6 | 11.6 |
| Av. 1914-1920. | 8.1 | 8.3 | 8. 3 | 8.5 | 8.7 | 8.7 | 8.8 | 8.8 | 8.8 | 8.9 | 8.9 | 8.8 | 8.6 |
| 1921 | 11.0 | 10.7 | 10.8 | 10.6 | 9.9 | 10.0 | 10. 1 | 10.2 | 10.1 | 10. 1 | 10.0 | 9.9 | 10.3 |
| 1922 | 9.8 | 9.0 | 8.9 | 8. 9 | 8. 9 | 9.7 | 9.7 | 9.7 | 9.8 | 9.8 | 9.8 | 9.7 | 9.5 |
| 1923 | 9. 7 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 |

CHICAGO.

| 1913 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.2 | 6.2 | 6.2 | 6.3 | 6.1 |
| 1915 | 6.4 | 7.2 | 7.2 | 6.5 | 6.5 | 6. 5 | 6. 5 | 6. 5 | 6. 5 | 6.5 | 6.5 | 6.5 | 6.6 |
| 1916 | 6. 5 | 6.5 | 6.5 | 6.5 | 6. 6 | 6. 6 | 6. 6 | 6. 6 | 6. 6 | 7.3 | 7.9 | 8. 0 | 6.8 |
| 1917 | 8.1 | 8. 2 | 8.2 | 8.6 | 9.6 | 10. 5 | 10.5 | 10. 5 | 10. 5 | 10.5 | 10.1 | 9.0 | 9.5 |
| 1918 | 9.2 | 9.6 | 10. 1 | 10.2 | 10.2 | 10. 2 | 10. 2 | 10.2 | 10. 2 | 10.2 | 10. 2 | 10.2 | 10.1 |
| 1919 | 10.2 | 10.2 | 10.2 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.7 | 10. 6 | 10.7 | 10.2 |
| 1920. | 10. 6 | 11.6 | 11.6 | 11.6 | 12.3 | 12.4 | 12. 4 | 12.4 | 12.4 | 12.4 | 12. 4 | 11. 5 | 12.0 |
| Av. 1914-1920. | 8. 2 | 8.5 | 8.6 | 8.5 | 8.8 | 8.9 | 8.9 | 8.9 | 8.9 | 9.1 | 9.1 | 8.9 | 8.8 |
| 1921 | 11.3 | 11.3 | 11.3 | 11.2 | 9.9 | 9.9 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 10.3 |
| 1922 | 9.9 | 8. 9 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.6 |
| 1923. | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.8 | 9.8 | 9.7 | 9.7 |

MINNEAPOLIS.


Table 43.-Bread: Average retail price per pound (baked weight), 1913-1929— Continued.
UNITED STATES (AVERAGE OF LEADING CITIES).

| Calendar year. | Jan. 15. | Feb. 15. | Mar. $15 .$ | Apr. | $\begin{gathered} \text { May } \\ 15 . \end{gathered}$ | June 15. | July $15$ | $\begin{gathered} \text { Aug. } \\ 15 . \end{gathered}$ | Sept. 15. | Oct. $15 .$ | Nov. 15. | Dec. 15. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1913 | 5. 6 | B. 6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 |
| 1914 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.3 | 6.4 | 6.4 | 6.4 | 6.5 | 6.3 |
| 1915 | 6.8 | 7.1 | 7.1 | 7.1 | 7.2 | 7.2 | 7.1 | 7.1 | 7.0 | 7.0 | 6.9 | 6.9 | 7.0 |
| 1916 | 6.9 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.1 | 7.7 | 8.1 | 8. 4 | 7.8 | 7.3 |
| 1917 | 7.9 | 8.0 | 8.1 | 8.4 | 9.5 | 9.6 | 9.9 | 10.2 | 9.9 | 9.9 | 9.9 | 9.3 | 9.2 |
| 1918 | 9.4 | 9.5 | 9.6 | 9.8 | 9.9 | 10.0 | 10.0 | 9.9 | 9.9 | 9.8 | 9.8 | 9.8 | 9.8 |
| 1919 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.9 | 10.0 | 10.1 | 10. 1 | 10.1 | 10.2 | 10.2 | 10.0 |
| 1920 | 10.9 | 11.1 | 11.2 | 11. 2 | 11.5 | 11.8 | 11.9 | 11.9 | 11.9 | 11.8 | 11.6 | 10.8 | 11.5 |
| Av. 1914-1920 | 8.3 | 8.4 | 8.4 | 8.5 | 8.7 | 8.8 | 8.9 | 8.9 | 9.0 | 9.0 | 9.0 | 8.8 | 8.7 |
| 1921 | 10.8 | 10.6 | 10.5 | 10.3 | 9.9 | 9.8 | 9.7 | 9.7 | 9.6 | 9.5 | 9.3 | 9.1 | 9.9 |
| 1922 | 8.8 | 8.6 | 8.7 | 8.7 | 8. 8 | 8.8 | 8.8 | 8. 7 | 8.7 | 8. 7 | 8.7 | 8. 6 | 8.7 |
| 1923 | 8.7 | 8.7 | 8. 7 | 8. 7 | 8. 7 | 8.7 | 8.8 | 8. 7 | 8. 7 | 8.7 | 8. 7 | 8. 7 | 8. 7 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.
Table 44.-Daily milling capacity, flour output, wheat milled and wheat production, by States.

| State. | Daily capacity. ${ }^{1}$ |  | Output. ${ }^{2}$ |  | Wheat ground. ${ }^{2}$ |  | Wheat production. ${ }^{3}$ |  | Wheat <br> ground as <br> a percent- <br> age of <br> wheat <br> produc- <br> tion. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \mathrm{Jan} .1, \\ & 1920 . \end{aligned}$ | $\begin{gathered} \text { Jan. 1, } \\ 1923 . \end{gathered}$ | 1919 | 1921 | 1919 | 1921 | 1919 | 1921 | 1919 | 1921 |
|  |  |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |  |
| Alabama | Barrels. | $\begin{gathered} \text { Barrels. } \\ 600 \end{gathered}$ | barrels. | barrels. |  | bushels. |  | bushels. | P.ct. | P. cit |
| Arizona. | 1,925 | 825 | 150 | 132 | 669 | 619 | 950 | 840 | 70 | 74 |
| Arkansas | 7,235 | 7,200 | 355 | 180 | 1,644 | 887 | 2, 432 | 958 | 68 | 93 |
| California | 17, 525 | 16,475 | 3,383 | 1,974 | 15, 701 | 9,582 | 16, 848 | 8,355 | 93 | 115 |
| Colorado | 11, 975 | 12,300 | 1,481 | 1,481 | 6,943 | 6,645 | 18, 196 | 23, 239 | 38 | 29 |
| Delaware | 1,975 | 1,700 | 111 | 90 | 576 | 455 | 1,512 | 1,300 | 38 | 35 |
| Georgia | 5,575 | 5,550 | 491 | 542 | 2, 209 | 2,468 | 1,480 | 1,449 | 149 | 178 |
| Idaho. | 9,625 | 9,850 | 1,105 | 787 | 5,119 | 3,676 | 20,775 | 26, 952 | 25 | 14 |
| Illinois. | 55, 250 | 49,300 | 7,262 | 5,215 | 33, 430 | 23,992 | 70, 170 | 46, 822 | 48 | 51 |
| Indiana | 48,650 | 46, 200 | 4, 305 | 3,254 | 20,042 | 15, 749 | 41,751 | 24, 192 | 48 | 65 |
| Iowa | 22,750 | 22, 650 | 1,252 | 912 | 5,925 | 4, 898 | 21, 245 | 9,944 | 28 | 49 |
| Kansas | 85, 800 | 96, 300 | 16, 157 | 17, 337 | 73, 942 | 82, 390 | 160, 276 | 128, 695 | 46 | 64 |
| Kentucky | 28, 725 | 26,550 | 2, 690 | 2, 033 | 12, 450 | 9,490 | 9, 660 | 6, 340 | 129 | 150 |
| Maryland | 12, 025 | 11,975 | 1,282 | 936 | 5,706 | 4,453 | 8, 964 | 8,260 | 64 59 | ${ }_{68}^{54}$ |
| Michiga | 36,775 | 30,925 | 2,537 | 2, 122 | 12, 021 | 10, 119 | 20, 445 | 14, 840 | 59 | 68 |
| Minnesota | 178, 825 | 182, 875 | 28,505 | 23,733 | 130, 865 | 111, 620 | 35,731 | 22,938 | 366 | 487 |
| Missouri | 91, 275. | '99, 600 | 7,132 | 6,270 | 32, 739 | 28, 945 | 61, 568 | 34, 952 | 53 | 83 |
| Montana | 13,875 | 13,850 | 1,272 | 1,276 | 5,730 | 5,634 | 9,889 | 33, 430 | 58 | 17 |
| Nebraska | 25,850 | 26, 275 | 3, 416 | 2, 342 | 15, 947 | 11, 151 | 60, 675 | 59, 878 | 8 | 17 |
| Nevada | 725 | 00 | 88 | 17 | 397 | 83 | 466 | 493 | 85 | 17 |
| New Jersey | 2,925 | 2,925 | 123 | 145 | 594 | 727 | 1,530 | 1,539 | 39 | 47 |
| New Mexico | 1,625 | 1,175 | 94 | 72 | 4354 | 357 37 880 |  |  | 17 | 12 |
| New Y ork | 60,900 12 | 59, 875 15,100 | 9,053 | 8,394 1,341 | $\begin{array}{r}43,337 \\ 6,228 \\ \hline\end{array}$ | 37,880 6,580 | 9,753 5,570 | 9,137 4,500 | 444 112 | 415 146 |
| North Carolin | 12,425 17,375 | 15,100 | 2, 225 | 1, 1,994 | 6,228 10,089 | 6, 427 | 62, ${ }^{\text {5, }} 776$ | 80, 850 | 16 | 12 |
| Ohio | 64, 875 | 60, 150 | 5,790 | 3, 844 | 27, 348 | 18, 514 | 58, 196 | 30, 185 | 47 | 61 |
| Oklaho | 20, 850 | 22, 250 | 3, 464 | 2,781 | 15,787 | 12, 705 | 66, 052 | 47, 325 | 24 | 27 |
| Oregon | 26,100 | 28,400 | 3, 342 | 2, 528 | 14,991 | 11, 538 | 20,739 | 25,364 | 72 | 45 |
| Pennsylvania | 37, 825 | 38,950 | 3, 313 | 3, 007 | 15, 947 | 14, 801 | 24, 898 | 23,850 | 64 | 62 |
| South Carolina | 1,125 | 1,000 | 50 | 62 | 299 | 313 | 1,250 | 1,298 | 22 | 42 |
| South Dakot | 9,865 | 6,500 | 630 | 354 | 3,005 | 1,764 | 31,793 | 25, 980 | 6 | 40 |
| Tennes | 31,850 | 30,625 | 3,085 | 2,233 | 13, 122 | 10,794 | 6,370 | 4,500 | 206 | 240 |
| Texas | 33,950 | 36,625 | 4,584 | 4, 009 | 21, 338 | 18, 541 | 40,178 | 20, 810 | ${ }^{53}$ | 89 |
| Utah | 9,425 | 12,075 | 545 | 742 | 2, 6887 | 3,478 8,373 | 4, ${ }_{\text {4, }}^{13} \mathbf{1 3 0}$ | 6, 299 | 65 90 | ${ }^{55}$ |
| Virginia | 21,700 | 24, 025 | 2,208 | 1,761 | 10,468 | 8,373 | 11,694 | 8,301 | 90 | 101 |
| Washington | 36,475 | 36,800 | 5,911 | 4,470 | 26,836 | 21, 021 | 41, 888 | 58, 245 | 64 | 36 |
| West Virginia | 10,000 | 10,725 | 5886 | , 376 | 2, ${ }_{\text {2, }}$ | 1,678 | 4,023 | 3,125 2,812 | 73 176 | $\begin{array}{r}54 \\ 284 \\ \hline\end{array}$ |
| W isconsin. | 26,100 2,800 | 27,850 2,575 | 2,809 104 | 1,702 217 | 13,337 487 | 7,988 | 7, 2,613 | 2, 812 | 176 19 | 284 30 |
| Wyoming | 2, 800 | 2,575 1,150 | 104 | 2178 | 1,015 | 1,003 | 2,643 | -397 | 108 | 222 |
| Tota | 84,985 | 98, 100 | 32, 466 | 10,846 | 612,562 | 521,234 | 967, 979 | 814,905 | 63 | 64 |

[^137]Table 45.-Rye: Acreage, production, value, exports, etc., in the United States, 1869-1923.

| Calendar year. | $\begin{gathered} \text { Acreage } \\ \text { harvest- } \\ \text { ed. } \end{gathered}$ | A verage yield per acre. | Production | Aver- <br> age <br> farm price per bushel Dec. 1. | Farm value Dec. 1. | Value per acre. ${ }^{1}$ | Chicago cash price per bushel No. 2. ${ }^{2}$ |  |  |  | Domestic exports incfuding rye flour, fiscal year beginning July $1 .{ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | December. |  | Following May. |  |  |
|  |  |  |  |  |  |  | Low. | High. | Low. | High. |  |
|  | 1,000 | Bush.of | $1,000$ | Cents. | $\begin{gathered} \text { 1,000 } \\ \text { dallars. } \end{gathered}$ | Dollars. | Cts. | Cts. | Cts. | Cts. | Bushels. |
|  | acres. |  |  | Cents. |  | Dollars. | Cts. | 771 | 78 | 831 | Bushels. |
| 1869 | 1, 658 | 13.6 | 22, | 77.0 | 17,342 | 10.46 | 6 | $74{ }^{2}$ | 81 | 91 | 199, 87 |
| 1879 | 1,176 | 13.2 | 15, 474 | 73.2 | 11,327 | 9. 63 | 67 | 74 | 75 | 93 | 174 |
| 1871 | 1,070 | 14, 4 | 15, 366 | 71.1 | 10,928 | 10. 21 | 62 | $63 \frac{3}{4}$ | 681 | 7 | 832, 689 |
| 1872 | 1,049 | 14.2 | 14, 889 | 67.6 | 10,071 | 9. 60 | $57 \frac{1}{2}$ | \%10 | $68 \frac{1}{2}$ | 70 | 611, 749 |
| 1873 | 1,150 | 13. 2 | 15, 142 | 70.3 | 10,638 | 9.25 | 70 | 81 | 91 | 102 | 1,923,404 |
| 1874 | 1,117 | 13.4 | 14, 991 | 77.4 | 11, 610 | 10.39 | 93 | $99 \frac{1}{2}$ | 103 | $107 \frac{1}{3}$ | 267, 058 |
| 1875 | 1,360 | 13.0 | 17,722 | 67.1 | 11, 894 | 8.75 | 67 | 683 | $61 \frac{1}{2}$ | $70 \frac{1}{2}$ | 589, 159 |
| 1876 | 1,468 | 13.9 | 20,375 | 61.4 | 12,505 | 8.52 | $65 \frac{1}{2}$ | 73 | 70 | - $92 \frac{1}{2}$ | 2, 234, 856 |
| 1877 | 1, 413 | 15.0 | 21, 170 | 57.6 | 12, 202 | 8. 64 | $55 \frac{1}{2}$ | $56 \frac{1}{2}$ | 54 | 60 | 4, 249, 684 |
| 1878 | 1,623 | 15.9 | 25, 843 | 52.5 | 13, 566 | 8.36 | 44 | $44 \frac{1}{2}$ | 47 | 52 | 4, 877,821 |
| 1879 | 1,842 | 13.7 | 25, 201 | 67.6 | 17, 040 | 9. 25 | $73 \frac{1}{2}$ | 81 | $73 \frac{1}{2}$ | 85 | 2, 943, 894 |
| 1880 | 1,768 | 13.9 | 24, 541 | 75.6 | 18, 565 | 10. 50 | 82 | ${ }_{98}{ }^{1}$ | 115 | 118 | 1,955, 155 |
| 1881 | 1, 789 | 11.6 | 20, 705 | 93.3 | 19,327 | 10. 80 | 961 ${ }^{\frac{1}{2}}$ | 98 | 77 | 83 | 1, 003, 609 |
| 1882 | 2, 228 | 13.4 | 29, 960 | 61.5 | 18,439 | 8.28 | 57 | $58 \frac{1}{2}$ 60 | ${ }_{601}^{62}$ | ${ }_{67}^{67}$ | 2, 206, 212 |
| 1883 | 2,315 | 12.1 | 28,059 | 58.1 | 16, 301 | 7.04 | $56 \frac{1}{2}$ | 60 | $60 \frac{1}{2}$ | $62 \frac{1}{2}$ | 6,247, 590 |
| 1884 | 2, 344 | 12. 2 | 28, 640 | 51.9 | 14, 857 | 6. 34 | 51 | 52 | 68 | 73 | 2, 974, 390 |
| 1885 | 2,129 | 10.2 | 21, 756 | 57.9 | 12, 595 | 5. 92 | $58 \frac{1}{2}$ | 61 | 58 | 61 | 216, 699 |
| 1886 | 2,130 | 11.5 | 24, 489 | 53. 8 | 13, 181 | 6. 19 | 53 | 541 | ${ }_{63}{ }^{24}$ | $56 \frac{1}{2}$ | 377, 302 |
| 1887 | 2, 053 | 10. 1 | 20, 693 | 54. 5 | 11, 283 | 5. 50 | 551 | ${ }_{52}{ }^{\frac{1}{2}}$ | 63 39 | 68 411 | 94,827 309,266 |
| 1888 | 2,365 | 12.0 | 28,415 | 58.8 | 16,722 | 7.07 | 50 | 52 | 39 | $41 \frac{1}{2}$ | 309, 266 |
| 1889 | 2,172 | 13.1 | 28, 378 | 42.3 | 11, 991 | 5.52 | 44 | $45 \frac{1}{3}$ | $49 \frac{1}{2}$ | 54 | 2, 280, 975 |
| 1890 | 2, 184 | 12.1 | 26,414 | 62.6 | 18, 536 | 7. 57 | ${ }^{64}{ }^{2}$ | $68 \frac{1}{2}$ | 83 | 92 | 358, 263 |
| 1891 | 2,234 | 14.7 | 32, 761 | 77.1 | 25, 264 | 11.31 | 86 | 92 51 | 701 | 69 | $12,068,628$ 1, 493, 924 |
| 1822 | 2,251 | 13. 0 | 29, 253 | 53.6 | 15, 674 | 6.96 | 46 45 | 51 $47 \frac{1}{2}$ | 442 | 48 | $1,493,924$ 249,152 |
| 1893 | 2,178 | 13.1 | 28,592 | 50. 2 | 14, 360 | 6.59 | 45 | $47 \frac{1}{2}$ | $4{ }^{2}$ | 48 | 249, 152 |
| 1894 | 2, 164 | 13. 7 | 29,613 | 49.4 | 14, 622 | 6. 76 | 471 ${ }^{2}$ | $\stackrel{49}{353}$ | ${ }_{32}{ }^{2}$ | 67 361 | 32,045 1, 011,128 |
| 1895 | 2, 153 | 14.5 | 31, 139 | 42. 2 | 13, 151 | 6. 11 | 32 37 | 353 | 33 | 361 351 | 1, 011, 128 |
| 1896 | 2,126 | 13. 6 | 28,913 | 38.8 | 11. 231 | 5. 28 | 37 | $42 \frac{1}{2}$ | $32{ }^{3}$ | $35 \frac{1}{2}$ | 8, 575, 663 |
| 1897 | 2,077 | 16. 1 | 33, 433 | 43. 2 | 14,454 | 6. 96 | 453 | ${ }_{5}^{47}$ | 48 | 75 | $15,562,035$ $10,169,822$ |
| 1898. | 2,071 | 15. 9 | 32, 888 | 44.5 | 14,640 | 7.07 | $52 \frac{1}{2}$ | $55 \frac{1}{2}$ | $56 \frac{1}{2}$ | 62 | 10, 169, 822 |
| 1899 | 2,054 | 14.8 | 30, 334 | 49. 6 | 15, 046 | 7.33 | 49 | 52 | 53 | $56 \frac{1}{4}$ | 2, 382, 012 |
| 1900 | 2,042 | 15. 1 | 30,791 | 49.8 | 15,341 | 7. 51 | $45 \frac{3}{4}$ | 493 | $51 \frac{1}{2}$ | 54 | 2, 345, 512 |
| 1901 | 2,033 | 15. 3 | 21, 103 | 55.4 | 17,220 | 8.47 | 59 | 65 年 | $54 \frac{1}{2}$ | ${ }_{501}$ | 2,712, 077 |
| 1902 | 2, 051 | 17. 2 | 35, 255 | 50.5 | 17,798 | 8. 68 | 48 | 493 52 52 |  | ${ }_{78}$ | $5,445,273$ 784,088 |
| 1903 | 2,074 | 15.4 | 31, 990 | 54.0 | 17, 272 | 8. 33 | $50 \frac{1}{2}$ | $52 \frac{1}{2}$ | $69 \frac{3}{4}$ | 78 | 784,068 |
| 1904 | 2, 085 | 15. 3 | 31,805 | 68.9 | 21, 923 | 10.51 | 73 | 75 | 70 | 84 | 29,749 |
| 1905 | 2, 141 | 16. 4 | 35, 168 | 60.4 | 21, 241 | 9.92 | 64 | 68 | 58 | 62 | 769, 717 |
| 1906 | 2, 186 | 16.7 | 36, 559 | 58.5 | 21, 381 | 9.78 | 61 | 65 | 69 79 | $87 \frac{1}{2}$ | 769,717 |
| 1907 | 2, 187 | 16.4 | 35, 455 | 72. 5 | 25,709 | 11. 86 | 75 | 82 | 79 83 | 86 90 | 2, 444, 588 |
| 1908 | 2, 175 | 16.4 | 35, 768 | 72.8 | 26, 023 | 11. 96 | 75 | 771 | 83 | 90 | 1, 295, 701 |
| 1909 | 2,196 | 16. 1 | 35, 406 | 72. 2 | 25,548 | 11. 63 | 72 | 80 | 74 90 | 80 113 | 242,262 40,123 |
| 1910 | 2,185 | 16. 0 | 34, 897 | 71.5 | 24, 953 | 11. 42 | 80 | 82 94 | 90 | 113 | 㐌, 31,384 |
| 1911 | 2,127 | 15. 6 | 33, 119 | 83.2 | 27, 557 | 12. 96 | 91 58 | 94 64 | 60 | $94^{4}$ | $1,854,738$ |
| 1912 | 2,117 | 16.8 | 35, 664 | 66.3 | 23,636 28,220 | 11.16 10.25 | 58 61 | 64 | 62 | 67 | $\begin{aligned} & 1,854,738 \\ & 2,272,492 \end{aligned}$ |
| 1913 | 2, 557 | 16.2 | 41,381 | 63.4 | 28, 220 | 10. 25 | 61 | 65 | 62 | 67 | 2,262, 492 |
| A $\overline{\text { a }}$ 1900-1913. | 2,236 | 16.1 | 36, 093 | 70.9 | 25, 583 | 11.44 | 72.4 | 77.0 | 75.2 | 83.9 | 888, 200 |
| 1914 | 2, 541 | 16.8 | 42,779 | 86.5 | 37, 018 | 14. 57 | 1071 | 1121 ${ }^{\frac{1}{3}}$ | 115 | 122 | 13, 026, 778 |
| 1915 | 3, 129 | 17.3 | 54, 050 | 83.4 | 45, 083 | 14. 41 | $94 \frac{1}{2}$ | $98 \frac{1}{2}$ | $96 \frac{1}{2}$ | 993 | 15, 250, 151 |
| 1916 | 3,213 | 15.2 | 48,862 | 122.1 | 59, 676 | 18. 57 | 130 | 151 | 200 | 240 | 13,703, 499 |
| 1917 | 4,317 | 14.6 | 62,933 | 166.0 | 104, 447 | 24. 19 | 179 | 185 | 180 | 260 | 17, 186, 417 |
| 1918 | 6,391 | 14.2 | 91, 041 | 151.6 | 138, 038 | 21. 60 | 154 | 164 | $145 \frac{1}{2}$ | 173 | 36,467, 450 |
| 1919 | 6,307 | 12.0 | 75, 483 | 133.2 | 100, 573 | 15. 95 | 150 | 182 | 198 | 229 | 41,530,961 |
| 1920 | 4,409 | 13.7 | 60, 490 | 126.8 | 76, 693 | 17.39 | 144 | 167 | $135 \frac{1}{2}$ | 167 | 47,337,466 |
| A.7.1914-1920. | 4,330 | 14.4 | 62, 234 | 128.9 | 80,218 | 18.53 | 136.4 | 151.3 | 152.9 | 184.4 | 26, 357, 532 |
| 1921 | 4,528 | 13.6 | 61,675 | 69.7 | 43, 014 | 9. $50{ }^{\circ}$ | 84 | 90 | 971 ${ }^{2}$ | 111 | 29, 943, 852 |
| 1922 | 6,672 | 15.5 | 103, 362 | 68. 5 | 70, 841 | 10.62 | 837 | 924 | 72 | 83 | 51,662,968 |
| 1923 4 | 5, 157 | 12. 2 | 63, 023 | 64.7 | 40,804 | 7.91 | 695 | 724 |  |  |  |

Division of Crop and Livestock Estimates; figures in italics are census returns.

[^138]Table 46.-Rye: Acreage, production, and total farm value, by. States, calendar years, 1921-1923.

| State. | Thousands of acres. |  |  | Production, thousands: of bushels. |  |  | Total value, Basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 1 | 1921 | 1922 | 19231 | 1921 | 1922 | $1923{ }^{1}$ |
| Massachusetts_ | 2 | 3 | 3 | 30 | 57. | 54 | 52 | 80 | 73 |
| Connecticut. | 5 | 5 | 5 | 95 | 100 | 90 | 142 | 150 | 112 |
| New York | 52 | 55 | 58 | 806 | 880 | 945 | 798 | 854 | 860 |
| New Jersey | 57 | 61 | 65 | 998 | 1,159 | 1,157 | 1,018 | 985 | 1,088 |
| Pennsylvania | 200 | 220 | 215 | 3,200 | 3, 740 | 3, 655 | 3, 040 | 3,254 | 3, 326 |
| Delamare | 4 | 6 | 6 | 44 | 85 | 86. | 44 | 89 | 83 |
| Maryland | 17 | 17 | 17 | 238 | 258 | 269 | 219 | 284 | ${ }^{261}$ |
| Vinginia | 38 | 40 | 42 | 418 | 460 | 504 | 397 | 414 | 539 |
| West Virginia | 10 | 10 | 10 | 120 | 120 | 100 | 114 | 114 | 103 |
| Nonth Carolina | 39 | 60 | 58 | 273 | 480 | 603 | 341 | 576 | 814 |
| South Carolina | 5 | 6 | 7 | 50 | 60 | 74 | 125 | 108 | 128 |
| Georgia. | 12 | 18 | 20 | 108 | 171 | 180 | 189 | 231 | 342 |
| Ohio- | 83 | 87 | 84 | 1,079 | 1,235 | 1,302 | 906 | 1, 025 | 1,016 |
| Indiana. | 306 | 350 | 299 | 3, 978 | 4, 200 | 4, 186 | 2,904 | 3,318 | 3,056 |
| Hilinois. | 197 | 256 | 230 | 3,349 | 4, 096 | 3,450 | 2, 679 | 3, 072 | 2,588 |
| Michigan | 642 | 642 | 467 | 8,346 | 8,218 | 6,538 | 5, 842 | 6,246 | 4, 054 |
| Wisconsin | 371 | 489 | 342 | 5, 046 | 7,139 | 5,062 | 3, 583 | 5,140 | 3, 290 |
| Minnesota | 640 | 1,154 | 912 | 11,209 | 21, 926 | 12,312. | 6,944 | 14, 910 | 6, 525 |
| Iowa. | 35. | 55 | 54 | 564 | 1,084 | 923 | 412 | 759 | 609 |
| Missouri. | 30 | 28 | 26 | 336 | 336 | 325 | 289 | 312 | 286 |
| North Dakota. | 930 | 1,800 | 1,288 | 10, 230 | 28,980 | 10, 046 | 5,933 | 17, 388 | 4,822 |
| South Dakota | 191 | 506 | 304 | 3, 056 | 9, 108 | 3, 496 | 1,772 | 5, 283 | 1,713 |
| Nebraska. | 151 | 188 | 132 | 1, 918 | 2,106 | 1,584 | 1,151 | 1, 369 |  |
| Kansas | 101 | 71 | 41 | 1,141 | 788 230 |  | 776 202 | 552 253 | 241 |
| Kentucky. | 18. | 20 | 20 | 180 | 230 | 234 | 202 | 253 | 241 |
| Tentressee | $19:$ | 20 | 20 | 152 | 180 | 200 : | 205 | 214 | 232 |
| Alabiama | 1 | 1 | 1 | 12 | ${ }^{5}$ | 12 | 19 | 8 | 19 |
| Texas.. | $13:$ | 13. | 17 | 158 | 117. | 204. | 156 | 146 | 200 |
| Otimama | 34 | 35 | 37 | 408 | 350 | 444 | 269 | 280 | 400 |
| Arkanses | 1 | 1 | 1 | 9 | 12 | 9 | 12 | 12 | 11 |
| Mortana | 116 | 240 | 192 | 1,299 | 3,380 | 2,112 | 688 | 1, 814 | 1,077 |
| W yoming. | 24 | 35 | 24 | 504 | 490 | 312 | 292 | 255 | 206 |
| Colorado | 92 | 97. | 73 | 1,058 | 873 | 876 | 635 | 576 | 491 |
| New Mexico. | 5 | 2 | 2 | 70 | 10 | 24 | 49 | 10 | 22 |
| U'tah | 15. | 12 | 11 | 140 | 120 | 125 | 98 | 72 | 112 |
| Idaho | 12. | 13 | 14 | 216 | 195 | 266 | 151 | 131. | 181 |
| W ashington | 21. | 19 | 23 | 294 | 190 | 361 | 191 | 180 |  |
| Oregon.-. | 39 | 37 | 37. | 554 | 444 | 555 | 37. | 37. | 516 |
| United State | 4,528 | 6, 672 | 5,157 | 61,675 | 103, 362 | 63, 023 | 43, 014 | 70,841 | 40,804 |

Division of Crop and Livestock Estimates.
${ }_{1}$ Preliminary.

Table 47.-Rye: Yield per acre, by States, calendar years, 1908-1923.

| Stat | 1908 | 1909 | 1910 | 1911 | 1912 | 19131 | $\begin{aligned} & \text { Av. } \\ & 1909 \end{aligned}$ | 1914 | 1915 | 1916 | 19171 | 1918 | 1919 | 1920 | $1914$ | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| State | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1913 |  |  |  |  |  |  |  | 1920 |  |  |  |
|  | Bu. | $B u$. | Bu. | Bu. | Bu. | Bu. | Bu. | $B u$. | $B u$. | $B u$. | $B u$. | $B u$. | Bu. | Bu. | $B u$. | Bu. | Bu | $B u$. |
| Massachuse | 16. 5 | 16.2 | 17.0 | 16. 0 | 18. 51 | 18.5 | 17.2 | 19. 0 | 20.01 | 18. 51 | 19.0 | 20.0 | 23.0 | 18. 0 | 19.6 | 15.0 | 19.0 | 18.0 |
| Connecticut | 18.5 | 18.7 | 20. 01 | 18. 5 | 17.51 | 19.3 | 18. 8 | 19.0 | 21. 51 | 19.6 | 20. 5 | 22. 0 | 20.0 | 18.0 | 20. | 9.0 | 20.0 |  |
| New York | 16.5 | 17.0 | 18. 31 | 16. 71 | 16. 5 | 17. 2 | 17.11 | 17. 7 | 18. 7 | 18. 01 | 19.0 | 16.5 | 16. 0 | 17.5 | 17. | 15. 5 | 16. 0 | 3 |
| New Jerse | 16.2 | 16.3 | 18.0 | 16. 41 | 17.51 | 18.0 | 17.2 | 18. 5 | 20. 0 | 19.0 | 18. 51 | 18. 5 | 16. 0 | 17.5 | 18.3 | 17. | 17. | 8 |
| Pennsylvan | 16. 5 | 15.3 | 17.0 | 15.1 1 | 17.5 | 17. 5 | 16.5 | 18.0 | 18.0 | 17.01 | 17.01 | 17.0 | 16.0 | 16.0 | 17.0 | 16.0 | 17. | 17.0 |
|  |  | 14.0 | 15.5 | 15.0 | 14.0 | 14.0 | . 5 |  | 15.5 | 15.0 | 16.01 | 14.5 | 13.0 | 15.0 | 15. 2 | 11.0 | 14.1 | 14.4 |
| Maryla | 15.0 | 14.1 | 16.1 | 14.51 | 15.5 | 14.4 | 14.9 | 17.0 | 16.5 | 15.51 | 16.0 ${ }^{1}$ | 15. 0 | 14. 0 | 15.4 | 15. 6 | 14.0 | 15.2 | 15.8 |
| Virginia | 12.5 | 12.3 | 13.51 | 11.5 | 12. 5 | 12.3 | 12.4 | 13.0 | 14.5 | 12.5 1 | 15. 0 | 12. 0 | 11. 51 | 12.0 | 12.9 | 11.0 | 1. | 12.0 |
| West Virg | 13. 0 | 13.5 | 12.9 | 11.0 | 13. 0 | 13.5 | 12.8 | 14.5 | 14.0 | 16. 0 | 13. 51 | 13. 7 | 13. 0 | 11. 0 | 13.7 | 12.0 | 12. 0 | 0.0 |
| North Caroli | 8.9 | 9.4 | 10.0 | 10.0 | 9.3 | 10.3 | 9.8 | 10.0 | 11.5 | 9.71 | 10.0 | 9.0 | 8.9 | 9.5 | 9.8 | 7.0 | 8.0 | 4 |
|  | 9. | 9.8 |  | 10.0 | 9.5 | 10.5 | 10.0 | 11.5 | 10.0 | 9.8 | 10. 01 | 11. 2 | 10.0 | 11.0 | 10.5 | 10.0 | 10.0 | 10.5 |
| Georg | 8. 7 | 9.0 | 10. 4 | 9.5 | 9. 2 | 9.5 | 9. 5 | 9.3 | 9. 2 | 9.5 | 8. 3 | 8.8 | 8.9 | 10.0 | 9.11 |  |  | . 0 |
| Ohio | 16.5 | 17.2 | 16. 5 | 15.51 | 15. 5 | 16.5 | 16. 2 | 17. 0 | 17. 5 | 14.5 | 18. 01 | 17.0 | 16. | 14. 4 | 16. | 13 |  | . 5 |
| Indiana | 15.0 | 16.5 | 15. 8 | 13.71 | 14.5 | 15. 2 | 15.1 | 16.3 | 16. 0 | 14.0 | 15. 01 | 16.5 | 14.0 1 | 14.0 | 15.1 | 13.0 | 1 | 0 |
| Illinois | 17.1 | 17.8 |  | 16.818 | 16.0 | 16.5 14.3 |  |  |  |  | 17.5 | 19.0 14.3 | 16.5 | 15.6 14.7 | 16.9 | 17.0 13.0 | 16.0 | 15.0 14.0 |
| Michiga |  | 16. |  | 17.0 | 18.3 | 17. 5 | 17.0 | 16.5 | 18. 5 | 16. 2 | 18. 51 | 17.6 | 15. 8 | 16.0 | 17.0 | 13. 6 | 14.6 | 14.8 |
| Minneso | 18.5 | 19.0 | 17.0 | 18.7 | 23.0 | 19.0 | 19.3 | 18.8 | 19.5 | 15. 0 | 18. 5 | 20.0 | 15.0 | 17.0 | 17. 7 | 17.5 | 19.0 | 13.5 |
| Iowa. | 20. 0 | 17.8 | 18. 5 | 18.0 | 19.0 | 18. 2 | 18.3 | 19.0 | 18. 5 | 17.0 | 18. 01 | 19. 0 | 15. 9 | 17.0 | 17.8 | 16.1 | 19.7 | . 1 |
| Missouri-- | 12.8 | ( $\left\lvert\, \begin{aligned} & 15.0 \\ & 18.4\end{aligned}\right.$ |  | 14.1 | 14.8 | 15.0 |  |  |  |  | 14. 71 | 14.0 |  | 12. | 13.0 | $\left[\begin{array}{l}11.2 \\ 11.0\end{array}\right.$ | 1 | 2.5 7.8 |
| North Dakota | 18.0 | 18.4 | 8.5 | 16.6 | 18.0 | 14.4 | 15. 2 | 17.1 |  |  |  |  |  | 13. 5 |  |  |  | 7.8 |
| South Dakota | 17. 5 | 17. 5 | 17.0 | 10. | 19. | 13.2 | 15.4 | 17.0 | 19. | 18.0 | 16. 0 | 12 | 13. | 13.5 <br> 14.1 |  | 16.0 | 11. | 5 |
| Nebraska.- | 16. 0 | 16. 5 | 16. 0 | 13. | 16 | 14.5 | 15. 2 | 16.0 | 17.5 | 16. 0 | 15.6 | 12.9 ${ }^{14.3}$ | 16. 3 | 14. 1 | 14.5 | 12.7 | 11. | 8. 5 |
| Kansas. | 13.3 | 14. 2 | 14.0 | 11.0 | 15. 9 | 12. 4 |  |  |  |  | 12. 5 | 13.6 | 12.0 | 12.0 | 12.4 | 10.0 | 11.5 | 11.7 |
| Kentucky |  |  |  | 12.0 |  | 12.4 |  |  | $\left(\begin{array}{l}12.0 \\ 10.5\end{array}\right.$ | (11.2 | 12.5 | 13.6 | 12.0 | 12.0 <br> 9.0 | 12.4 10.0 | 10.0 8.0 | 1.5 | 11.7 10.0 |
|  | 10.0 | 11.3 | 12.0 | 10. 0 | 11. | 11.0 | 11.2 | 13.0 | 10.0 | 13.0 | 9.5 | 11.0 | 9.5 | 10.9 | 11.0 | 12.0 | 5. | 12.0 |
| Texas | 15.5 | 11.2 | 11.5 | 10.0 | 16.6 | 15. 0 | 12.9 | 14.8 | 17.0 | 10.0 | 10.0 | 5. 4 | 17.0 | 16.0 | 12.9 | 12. 0 | 9.0 | 12.0 |
| Oklahoma | 13.5 | 513.5 | 13.7 | 9.5 | 12. 0 | 9.5 | 11. 6 | 16.0 | 13.5 | 10.0 | 10.0 | 11.0 | 14. 0 | 15.0 | 12. 8 | 12.0 | 10. 0 | 12.0 |
| Arkansas. | 10.0 | 10.5 | 512.0 | 10.0 | 10.5 | 11.5 | 10.9 | 10.5 | 10. 5 | 10.0 | 13.5 | 10.5 | 9.5 | 10.0 | 10.6 | 9.0 | 12.0 | 9.0 |
|  |  |  |  |  |  |  |  |  |  | 20.5 | 12.7 | 12.0 | 3.0 |  | 14.2 | 11.2 | 14.0 | 11.0 |
| Wontana |  |  |  |  | 19.0 | 19.0 | 20. 5 | 17.0 | 20.0 | 15. 5 | 14.0 | 18.0 | 9. 0 | 18.0 | 15.9 | 21.0 | 14.0 | 13.0 |
| W yoming | 15.5 | $5{ }^{22.0}$ | ${ }^{18.5} 14$ | 12.0 | 19.5 | 17.0 | 16.9 | 17.5 | 17.5 | 14.0 | 16.0 | 7.0 | 8.8 | 11.8 | 13. 2 | 11. | 9.0 | 12.0 |
| Colorado | 15.5 | 22.0 | 14.0 | 12.0 | 19.5 | 17.0 | 16. | 17.5 | 17.5 |  | 1.0 |  |  |  |  | 14.0 | 4.8 | 12.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 11.4 |
| Utah | 15.5 | 522.0 | 018.5 | 15. 5 | 15.0 | 17.0 | 17.6 | 17.5 | 15. 5 | 12.0 | 8. 0 | 13.0 | 7. |  | 16.5 |  |  | 19.0 |
| Idaho | 20.0 | 21. 5 | 520.0 | 22. 5 | 22.0 | 22.0 | 21.6 | 20.0 | 18. | 14.5 |  |  |  |  | 13.8 |  |  | 15. 7 |
| Washingto | 19.5 | $5{ }^{21.0}$ | 20.5 <br> 15.1 | 22. 0 | 20.0 | 21.0 | 20.9 17.0 | 16. 0 | 18. ${ }^{18}$ | 14.5 <br> 17.0 | 12.7 | 11.0 | 12. 4 | 12.0 | 13.6 | 14.2 | 12.0 | 15.0 |
| Oregon.- | 18.0 | 17.0 | 015.1 | 19.5 | 16.0 | 17.5 | 17.0 | 16.0 | 18. | 17.0 | 12.7 | 11.0 | 8.4 | 12.0 | 13.6 | 14. | 12. | 15.0 |
| United St | 16. 4 | 416.1 | 116.0 | 15.6 | 16.8 | 16.2 | \|16.1 | 16.8 | $\left.\right\|^{17.3}$ | 15.2 | 14.6 | 14.2 | $12.0$ | 13.7 |  | 13.6 | 15.5 | $12.2$ |

[^139]Table 48.-Rye: Condition of crop, United States, 1 st of month, and yield per acre, calendar years, 1866-1923.

| Year. | De-cember of previous year. | Apr. | May | June. | July. ${ }^{1}$ | Yield per acre. | Year. | De-cember of previous year. | Apr. | May. | June. | July. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. ct. | $P . c t$. | $P . c t$. | P. ct. | $P . c t$. | Bush. |  | P. ct. | P.ct. | P.ct. | $P$. ct. | P.ct. | Bush. |
| 1866 |  |  |  | 87.8 | 93.7 | 13.5 | 1901 - | 99.1 | 93.1 | 94.6 | 93.9 | 93.0 | 15. 3 |
| 1867.- | 103.5 |  |  | 117.6 | 115.6 | 13.7 | 1902-- | 89.9 | 85.4 | 83.4 | 88.1 | 90.2 | 17.2 |
| 1868.- | 97.8 |  |  | 103.0 | 104. 1 | 13. 6 | 1903 -- | 98.1 | 97.9 | 93.3 | 90.6 | 89.5 | 15. 4 |
| 1869.- | 100.2 |  |  | 101.9 | 103.9 | 13. 6 | 1904-- | 92.7 | 82.3 | 81.2 | 86.3 | 88.9 | 15.3 |
| 1870.- | 99.4 |  |  | 90.8 | 91.8 | 13.2 | 1905-- | 90.5 | 92.1 | 93.5 | 94.0 | 93.2 | 16.4 |
| 1871-- | 102. 2 |  |  | 102.7 | 102. 3 | 14.4 | 1906 | 95.4 | 90.9 | 92.9 | 89.9 | 91.3 | 16. 7 |
| 1872-- | 94.7 |  |  | 88.0 | 95.0 | 14.2 | 1907-- | 96.2 | 92.0 | 88.0 | 88.1 | 89.7 | 16. 4 |
| 1873-- | 99.5 |  |  | 95.6 | 95.2 | 13.2 | 1908.- | 91.4 | 89.1 | 90.3 | 91.3 | 91.2 | 16.4 |
| 1874-- | 99.9 |  |  | 97.6 | 99.3 | 13.4 |  |  |  |  |  |  |  |
| 1875.- | 101.9 |  |  | 87.7 | 92.2 | 13.0 | 1909.- | 87.6 | 87.2 | 88.1 | 89.6 | 91.4 | 16.1 |
|  |  |  |  |  |  |  | 1910-- | 94.1 | 92.3 | 91.3 | 90.6 | 87.5 | 16. 0 |
| 1876.- | 99.0 |  |  | 94.8 | 97.6 | 13.9 | 1911-- | 92.6 | 89.3 | 90.0 | 88.6 | 85.0 | 15.6 |
| 1877-- |  |  |  | 101. 1 | 103.3 | 15.0 | 1912-- | 93.3 | 87.9 | 87.5 | 87.7 | 88.2 | 16.8 |
| 1878-- |  |  |  | 102.0 | 101. 0 | 15.9 | 1913.- | 93.5 | 89.3 | 91.0 | 90.9 | 88.6 | 16.2 |
| 1879-- |  | 96.0 |  | 91.0 | 92.3 | 13.7 |  |  |  |  |  |  |  |
| 1880.- | 99.3 | 97.6 |  | 95.0 | 93.4 | 13.9 | Aver. | 92.2 | 89.2 | 89.6 | 89.5 | 88.1 | 16.1 |
| 1881-- | 98.5 | 97.0 |  | 93.0 | 95.2 | 11.6 | 1914.- | 95.3 | 91.3 | 93.4 | 93.6 | 92.9 | 16.8 |
| 1882- |  | 100.0 | 96. 0 | 99.8 | 99.9 | 13.4 |  |  |  |  |  |  |  |
| 1883.- | 99.5 | 93.1 | 95.3 | 95.2 | 97.3 | 12.1 | 1915 | 93.6 | 89.5 | 93.3 | 92.0 | 92.0 | 17.3 |
| 1884-- | 100.3 | 98.0 | 96.0 | 97.0 | 97.0 | 12.2 | 1916.- | 91.5 | 87.8 | 88.7 | 86. 9 | 87.0 | 15. 2 |
| 1885-- | 94.9 | 86. 5 | 86.0 | 83.0 | 87.0 | 10.2 | 1917-- | 88.8 | 86.0 | 88.8 | 84.3 | 79.4 | 14.6 |
|  |  |  |  |  |  |  | 1918-- | 84.1 | 85.8 | 85.8 | 83.6 | 80.8 | 14. 2 |
| 1886-- |  | 96. 0 | 95.7 | 94.4 | 95.6 | 11.5 | 1919-- | 89.0 | 90.6 | 95.4 | 93.5 | 85.7 | 12.0 |
| 1887-- | 95.1 | 92.0 | 90.8 | 88. 9 | 88.0 | 10. 1 |  |  |  |  |  |  |  |
| 1888-- | 96.0 | 93.5 | 92.9 | 93.9 | 95.1 | 12. 0 | 1920-- | 89.8 | 86.8 | 85.1 | 84.4 | 83.5 | 13.7 |
| 1889-- | 97.2 | 93.9 | 96. 5 | 95. 2 | 96.7 | 13. 1 |  |  |  |  |  |  |  |
| 1890-- | 96.4 | 92.8 | 93.5 | 92.3 | 92.0 | 12.1 | Aver. | 90.3 | 88.3 | 90.1 | 88.3 | 85.9 | 14.8 |
| 1891- | 99.0 | 95.4 | 97.2 | 95.4 | 97.0 | 14. 7 | 1921-- | 90.5 | 90.3 | 92.5 | 90.3 | 86.9 | 13.6 |
| 1892-- | 88.8 | 87.0 | 88.9 | 91.0 | 92.9 | 13.0 | 1922.- | 92.2 | 89.0 | 91.7 | 92.5 | 89.9 | 15.5 |
| 1893-- | 89.4 | 85.7 | 82.7 | 84.6 | 83.8 | 13. 1 | 1923-- | 84.3 | 81.8 | 85.1 | 81.1 | 75.0 | 12.2 |
| 1894-- | 94.6 | 94.4 | -90.7 | 93.2 | 93.9 | 13.7 | 1924.- | 89.9 |  |  |  |  |  |
| 1895-- | 96.2 | 87.0 | 88.7 | 85.7 | 82.2 | 14.5 |  |  |  |  |  |  |  |
| 1896-- | 94.9 | 82.9 | 87.7 | 85.2 | 83.8 | 13. 6 |  |  |  |  |  |  |  |
| 1897-- | 99.8 | 88.9 | 88.0 | 89.9 | 95.0 | 16. 1 |  |  |  |  |  |  |  |
| 1898- | 91.0 | 92.1 | 94.5 | 97.1 | 93.8 | 15.9 |  |  |  |  |  |  |  |
| 1899.- | 98.9 | 84.9 | 85.2 | 84.5 | 85.6 | 14.8 |  |  |  |  |  |  |  |
| 1900-- | 98.2 | 84.8 | 88.5 | 87.6 | 80.4 | 15.1 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
1 Condition at time of harvest.

Table 49.-Rye: Aereage and yield per acré in undermentioned countries. NORTHERN HEMISPEERE.

| Country. | Acreage. |  |  |  |  | Yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Aver- } \\ \text { age } \\ 1999- \\ 1913 . \end{gathered}$ | 1920 | 1921 | 1922 | $\begin{array}{\|c\|} \hline 1923, \\ \text { pre- } \\ \text { lim- } \\ \text { inary. } \\ \hline \end{array}$ | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { 1909- } \\ 1913 . \end{gathered}$ | 1920 | 1921 | 1922 | $\begin{gathered} 1923, \\ \text { pre- } \\ \text { lime } \\ \text { inary } \\ \hline \end{gathered}$ |
| NORTH AMERICA. | 1,000 acres. 117 | 1,000 acres. 650 4,409 | 1,000 acres. 1,842 4,528 | 1,000 acres. 2,105 6,672 | 1,000 acres. 1,448 5,157 | Bushels. 17. 9 1.6. 1 | Bushels. <br> 17. 4 <br> 13. 7 | Bushels. <br> 11.6 <br> 13. 6 | Bushels. <br> 15.4 <br> 15. 5 | Bushels. 18. 6 12.2 |
| United States. | 2,236 | 4,409 | 4,528 | 6,672 | 5,157 | 16. 1 | 13.7 | 13.6 | 15. 5 | 12. 2 |
| Total eomparable 1923 | 2, 353 | 5, 059 | 6,370 | 8, 777 | 6,605 |  |  |  | ---- |  |
| EUROPE. <br> Ereland | 8 | 6 | 6 | 19 |  | 29.9 | 22.7 | 23.5 | 25.6 |  |
| Norway | 37 | 36 | 36 | 30 | 30 | 26. 3 | 26.9 | 29.0 | 28. 7 | 27.7 |
| Sweden. | 977 | 914 | 913 | 872 | 869 | 25.5 | 24. 5 | 29.1 | 25.9 | 29.2 |
| Denmark | 1,2607 | 560 | 559 | 547 | 574 | ${ }^{1} 27.1$ | 23. 6 | 21.8 | 26.1 |  |
| Netherlands | , 557 | 492 | 499 | 500 | 515 | 29. 5 | 30. 1 | 36. 0 | 34.3 | 29.9 |
| Belgium | 648 | 523 | 559 | 531 | 558 | 35.3 | 34.7 | 38.1 | 34. 6 | 35.0 |
| Luxemburg | 26 | 19 | 21 | 20 | 20 | 25.0 | 17.8 | 21.0 | 12.5 | 20.4 |
| France. | 22,960 | 2, 148 | 2, 227 | 2, 195 | 2,171 | 16. 6 | 16. 1 | 19.9 | 17.5 | 17.0 |
| Spain | 1,988. | 1,799 | 1,786 | 1,757 | 1, 801 | 13.9 | 15. 5 | 15. 7 | 14.9 | 15. 6 |
| Portugal | 3271 | 532 | 573 | 665 | 665 |  | 9.7 | 8. 0 | 8. 0 | 8. 1 |
| Italy | 2303 | 2282 | 2287 | 320 | 311 | 17.6 | 16. 1 | 22.7 | 17.4 | 20.7 |
| Switzerian | 60. | 50 | 57 | 48 | 48 | 29.7 | 32.4 | 27.4 | 31.0 | 34.3 |
| Germany | ${ }^{2} 15,387$ | 10, 589 | 10,539 | 10,236 | 10,785 | 28.9 | 18. 3 | 25.4 | 20.5 | 26.2 |
| Austria | ${ }^{2} 5,019$ | 714 | 758 | 834 | 921 | 22.0 | 14. 1 | 17.4 | 16. 3 | 17.0 |
| Czechoslovakia |  | 2, 238 | 2,181 | 2, 174 | 2, 125 |  | 14.7 | 24.6 | 23.5 | 24.4 |
| Hungary | ${ }^{2} 2,749$ | 1,475 | 1,341 | 1, 663 | 1,650 | 18. 6 | 13. 9 | 17.3 | 15. 1 | 19.5 |
| Yugoslavia-.------------ | ${ }^{3},{ }^{4} 124$ | 489 | 461 | 498 | 395 | ${ }^{3} 13.0$ | 12. 5 | 12.6 | 9.1 | 15.0 |
| Greece ------------------------ | ${ }^{1} 13$ | 73 |  |  |  | 116.8 | 14. 2 |  |  |  |
| Bulgaria | ${ }^{2} 523$ | 464 | 466 | 442 | 457 | 15.9 | 13. 5 | 13.1 | 16. 8 | 18.6 |
| Rumania | 5833 | 780 | 807 | 659 | 650 | 14.7 | 12.1 | 11.3 | 14.0 | 15.7 |
| Poland | ${ }^{6}(8,077)$ | 7, 236 | 8,866 | 11, 225 | 11, 380 | 15. 6 | 10. 2 | 18. 9 | 17.6 | 22.6 |
| Lithuania | 6 (1,259) | 1, 227 | 1,248 | 1,369 | 1,442 | 14. 6 | 13. 6 | 16. 9 | 17.7 | 17.3 |
| Latvia | ${ }^{6}$ (770) | 486 | 561 | 590 | 630 | 15. 5 | 9. 6 | 17. 5 | 11. 6 | 16.7 |
| Esthonia | 6 (365) | 351 | 353 | 392 | 388 | 18. 4 | 17.6 | 16.7 | 14.8 | 17.6 |
| Finland. | 589 | 576 | 606 | 578 | 583 | 17.8 | 12.3 | 17.1 | 13.5 | 16.2 |
| Russia, including Ukraine and Northern Caucasia $\qquad$ | ${ }^{6}(59,396)$ |  |  | 44,482 |  | 12.1 |  |  | 10.6 |  |
| Total comparable 1909-1913 | 103, 546 |  |  |  |  |  |  |  |  |  |
| Total comparable $1923$ | 44,129 | 33, 980 | 35,704 | 38, 145 | 38,988 |  |  | - |  |  |
| AFRECA AND ASIA. <br> Algeria <br> Russia (Asiatic) | 3 3,309 | ${ }^{7}$ ) | ${ }^{7}$ ) | $\begin{gathered} \stackrel{(7)}{()^{2}} \\ 1,649 \end{gathered}$ | 1 |  |  |  |  |  |
| Total Northern Hemisphere, comparable 1909 1913. | 109,211 |  |  |  |  |  |  |  |  |  |
| Total Northern Hemisphere, comparable 1923. | 46, 482 | 39, 039 | 42,074 | 46,922 | 45,603 | ------- | ------ | ----- | ---- | - |

SOUTHERN HEMISPHERE.

| Country. | $\begin{gathered} \text { Average } \\ 1909- \\ 1913 . \end{gathered}$ | 1920-21 | 1921-22 | 1922-23 | 1923-24 | $\begin{gathered} \text { Aver- } \\ \text { age } \\ 1909- \\ 1913 . \end{gathered}$ | $1920-$ 21 | $\begin{gathered} 1921- \\ 22 \end{gathered}$ | $\begin{gathered} 1922- \\ 23 \end{gathered}$ | $\begin{gathered} 1923- \\ 24 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chile...- |  | (7) 4 | (7) $^{3}$ | (7) 3 | ${ }_{(7)} 3$ | 22.2 | 18.5 | 19.3 | 21.0 |  |
| Uruguay | (7) | ${ }^{(7)}{ }_{218}$ | ${ }^{(7)}{ }_{242}$ | ${ }^{(7)}{ }_{215}$ | ${ }^{(7)} 315$ | 814.1 | 3. 8 | 7.0 | 10.0 | 11.7 |
| Union of South Africa | 1108 | 133 |  |  |  | 16.7 | 5. 9 |  |  |  |
| Australia | 9 | 6 | 4 |  |  | 12.7 | 13. 5 | 12.5 |  |  |
| New Zealand | 14 | 1 | 1 | 1 |  | ${ }^{1} 28.5$ | 16.0 | 32.0 | 18.0 |  |
| Total comparable 1909-1913 | 211 |  |  |  |  |  |  |  |  |  |
| Total comparable $1923 .$ | 90 | 222 | 245 | 218 | 318 |  |  |  |  |  |
| World total comparable 1909-1913 | 109, 422 |  |  |  |  |  |  |  |  |  |
| World total comparable 1923 | 46, 572 | 39,261 | 42,319 | 47, 140 | 45,921 | ------ |  | --- |  | --- |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Parentheses denote interpolated figures. Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the southern hemisphere.
${ }^{1}$ One year only. ${ }_{6}^{2}$ Old boundaries. ${ }^{2}$ 'Three-year average. ${ }^{4}$ Former Kingdom of Serbia.
O Pressarainary estimate for former Russian territory within 1923 boundaries.
${ }^{7}$ Leess than 500. ${ }^{8}$ Four-year average.

Table 50.-Rye: Production in undermentioned countries. NORTHERN HEMISPHERE.

| Country. | Production. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { A verage, } \\ 1909 \\ 1913 . \end{gathered}$ | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | $\begin{gathered} \text { 1923, } \\ \text { preimim- } \\ \text { nary. } \end{gathered}$ |
| NORTH AMERICA. |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,009 |  |
| Canada | 2,094 |  |  |  |  |  |  | bushels. |
| United Stat | 36,093 |  |  |  | 11, 306 | 21,455 | 32, 373 | 6,937 |
| Total comparable 1923 |  |  |  |  |  |  |  |  |
|  | -38,187 | 66,790 | 99,545 | 85, 690 | 71,796 | 83, 130 | 135, 735 | 89,960 |
|  | 23997424,900 | 2231,159 | 1,242 | 143 | 136 |  | 179 |  |
| Norway |  |  |  |  | $\begin{array}{r} 130 \\ 970 \\ 22,434 \end{array}$ | ${ }_{1,043}^{141}$ |  | $\begin{array}{r} 832 \\ 25,353 \end{array}$ |
| Sweden- |  | 18,870 | 19,292 |  |  | $26,558$ | 22, 628 |  |
| Denmark | ${ }^{1} 17,772$ |  | ${ }^{12} 12,726$ | 114, 908 | $\begin{aligned} & 22,434 \\ & 13,242 \end{aligned}$ |  |  |  |
| Belgium |  | 15, 050 | 13,445 | 14,714 | 13, 79 | $\begin{aligned} & 12,204 \\ & 17,987 \end{aligned}$ | 14, 284 | 15,393 |
| Laxembur | 22,847 |  |  | $14,505$ | $\begin{aligned} & 18,168 \\ & 338 \end{aligned}$ | $\begin{array}{r} 21,273 \\ 441 \end{array}$ | $18,384$ | 19,538 409 |
| France | $\begin{array}{r} 651 \\ 149,025 \end{array}$ | $\begin{array}{r} 2566 \\ 25669 \end{array}$ | $\begin{array}{r} 387 \\ 230,100 \end{array}$ | $\begin{array}{r} 230,577 \\ 23,296 \end{array}$ | $\begin{aligned} & 34,492 \\ & 27,830 \end{aligned}$ | $\begin{array}{\|} 44,392 \\ 28,118 \end{array}$ | 38, 412 | 38,91428,075 |
| Spain | 27, 636 | $\begin{array}{r} 225,669 \\ 24,203 \\ 3,548 \end{array}$ | 30, 445 |  |  |  |  |  |
| Portug |  |  | 4, 4 , 838 | $\begin{array}{r} 23,296 \\ 3,856 \end{array}$ | $\begin{aligned} & 27,830 \\ & 5,154 \end{aligned}$ | $\begin{array}{r} 28,118 \\ 4,564 \end{array}$ | 26,252 | - 5, 372 |
| Italy-- | 15,329 | $\begin{array}{r} 3,548 \\ 14,460 \\ 4,400 \end{array}$ | ${ }^{1} 5,232$ | $\begin{gathered} 14,571 \\ 1,747 \\ \operatorname{cosin} \end{gathered}$ | $\begin{aligned} & 14,539 \\ & 1,622 \end{aligned}$ | $\left\lvert\, \begin{array}{r} 8 \\ \mathbf{6}, 519 \\ 1,559 \end{array}\right.$ | $\begin{aligned} & 5,563 \\ & \mathbf{1 , 4 8 8} \end{aligned}$ | $\begin{array}{r}6,449 \\ 1,646 \\ \hline\end{array}$ |
| Switzerlan | 1,7831445,2221110,213 | $\left.\begin{array}{r} 1,283 \\ 427,677 \\ 10 ; 922 \end{array} \right\rvert\,$ | 1262,832 |  |  |  |  |  |
| Germany |  |  |  | $\begin{array}{r} +240,161 \\ 9,035 \end{array}$ | 194,25510,098 | $\begin{array}{r} 1,559 \\ 267,648 \end{array}$ | - $\begin{array}{r}1,488 \\ 209,519\end{array}$ | 282,452 |
| Austria- |  |  | 10,604 |  |  | 13, 161 | 13,589 | 15,63451,813 |
| Creehoslov | 1110, 213 | $\begin{array}{r} 10 ; 922 \\ 10 \end{array}$ |  |  | 10,0981 |  | 51, 097 |  |
| Hungary |  |  |  |  | 20, 564 | 23, 177 |  | 32,5,911 |
| Yugoslavi | $\begin{array}{r} 151,051 \\ 801,613 \\ 7219 \end{array}$ | 6955,379 |  |  | 6,091 | 5,816 | 4,523 |  |
| Greede- |  |  | 1, 012 | 6,123 |  |  |  |  |
| Bulgaria | 18,290812,277 |  | $\begin{aligned} & 4,018 \\ & \mathbf{4}, \mathbf{3 1 8} \end{aligned}$ |  | $\begin{aligned} & 6,277 \\ & 9,445 \end{aligned}$ |  | 7,4539,206197,372 |  |
| Rumania |  | 5,379 |  | 10,046 |  | $\begin{array}{r} 9,081 \\ 167,558 \end{array}$ |  | $\begin{array}{r} 10,190 \\ 257,545 \end{array}$ |
| ${ }_{\text {Poland }}$ | - ${ }^{\circ}(12,700)$ | ---- | 1,0.- |  | $\begin{array}{r} 9,445 \\ 73,659 \end{array}$ |  |  |  |
| Lithuani |  |  |  | 17,273 | $\begin{array}{r} 16,688 \\ 4,689 \end{array}$ | 21, $\begin{array}{r}\text { 9, } 808 \\ \hline\end{array}$ | $\begin{array}{r}24,249 \\ 6,845 \\ \hline 8\end{array}$ | 24,92410,992 |
| Latvia-- | (18, 382) |  |  |  |  |  |  |  |
| Esthonia | ${ }^{\bullet}(6,732)$ |  | 8,648 | $\begin{aligned} & 5,058 \\ & 8,656 \end{aligned}$ | $\begin{aligned} & 6,165 \\ & 7,098 \end{aligned}$ | $\begin{array}{r} 5,908 \\ 10,385 \end{array}$ | $\begin{aligned} & 5,797 \\ & 7,775 \end{aligned}$ | 6,8479 |
| Finland, including Ukraine and | 10,490 | $\xrightarrow{-1,914}$ |  |  |  |  |  |  |
| Russia, including Ukraine and Northern Caucasia | ${ }^{\circ}(718,905)$ |  |  |  |  |  | 473,382 | - |
| Total comparable 1900 | 1, 688, 569 | --- |  | --- | 518, 312 |  | 698, 845 | 856, 334 |
| Total comparable |  |  |  |  |  | 7-75, $87 \mathbf{7}$ |  |  |
|  | $\begin{array}{r} 39 \\ 32,677 \\ \hline \end{array}$ | - 3 | - 6 | 5$-\cdots---1$ | 4 | 5 | $\begin{array}{r} 4 \\ 16,634 \end{array}$ | 17$\cdots$ |
| Russia, Asiatie |  |  |  |  |  |  |  |  |
| Total eomparable 1909-1913.Total comparable 1923. | $\begin{array}{r} 32,716 \\ 39 \\ 1,759,472 \end{array}$ | $3$ |  | ----------------- |  | - 5 | $\begin{array}{r} 16,638 \\ 4 \end{array}$ | -----17 |
| Total Northern Hemisphere comparable 1909-1913 |  |  |  |  |  |  |  |  |
| Total Northern Hemisphere, comparable 1923. |  |  |  |  | 590, 112 | 829, 008 | 834, 584 | 946,311 |

## SOUTHERN HEMISPHERE.

| Country. | $\begin{array}{c\|} \hline \text { Average, } \\ 19093 . \\ 1913 . \end{array}$ | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chile | 111 | 176 | 53 |  |  |  | 63 |  |
| Uruguay--- | ${ }_{10} 11389$ |  |  | ${ }_{(1)}^{868}$ | ${ }_{821}$ | (11) 69 | 2147 | 3.701 |
| Union of South Africa | ${ }^{1} 724$ | 931 |  | 596 | ${ }_{788}$ | 1,677 |  |  |
| Australia--- |  | 49 | 35 | 35 | 81 | 50 |  |  |
| New Zealand. | 714 |  |  |  | 16 | 32 | 18 |  |
| Total comparable 1909-1913 |  |  |  |  |  |  |  |  |
| Total comparable 1923--1--3- | 1,398 |  |  | 868 | 821 | 1,692 | 2,147 | 3,703 |
| Worfd total comparable 1909 |  |  |  |  |  |  |  |  |
| W orld total comparame 1923-- |  |  |  |  | 590,933 | 830,698 | 836,731 | 950.012 |

## Division of Statistical and Historical Research.

Official sources and International Institute of Agriculture unless otherwise stated. Parentheses denote interpolated figures. Five-year averages are of the crops harvested during the calemdar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

1 Old boundaries.
${ }^{2}$ Includes production in Alsace-Lorraine.
${ }^{8}$ Includes 886,000 bushels grown in Venezia Tridentina and Venezia Guilia.
Excludes production in Alsace-Lorraine.
${ }^{5}$ Three-year average.

- Former Kingdom of Serbia.
${ }^{7}$ One year only.
${ }^{8}$ Includes Bessarabia.
- Preliminary estimate for former Russian territory within 1923 boundaries.
${ }^{10}$ Four-year average.
${ }^{11}$ Less than 500 bushels.

Table 51.-Rye: World production, 1894-1923.

| Year. | Production in countries reporting all years 1894-1923. | Production as reported. | Estimated world totals preliminary. | Selected countries. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Russian Empire. | Germany. | Austria. | France. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. |
| 1894 | 598, 680 | 1, 615, 256 | 1,630, 057 | 931, 156 | 328,447 | 82, 872 | 74,926 |
| 1895 | 555, 602 | 1,407, 233 | 1,422, 636 | 772, 711 | 304, 113 | 64,889 | 71, 833 |
| 1896 | 599, 039 | 1,472, 487 | 1,492,092 | 789, 562 | 335, 967 | 73, 781 | 69,766 |
| 1897 | 553,480 | 1,277, 277 | 1,289, 029 | 654, 281 | 321, 656 | 63, 051 | 47, 737 |
| 1898 | 623, 328 | 1,437,887 | 1,450, 476 | 737, 501 | 355, 577 | 79,686 | 66, 921 |
| 1899 | 607, 429 | 1,595, 285 | 1,607, 186 | 911, 633 | 341,547 | 85, 267 | 67,223 |
| 1900 | 574, 361 | 1, 563, 841 | 1, 579,937 | 920, 134 | 336, 621 | 54, 792 | 59,397 |
| 1901 | 584, 998 | 1,412, 160 | 1, 431, 740 | 754, 927 | 321, 346 | 75, 514 | 58, 386 |
| 1902 | 620, 234 | 1,619, 875 | 1, 638, 557 | 919, 019 | 373, 764 | 82, 481 | 45, 660 |
| 1903 | 654, 390 | 1, 653, 933 | 1,665, 588 | 911, 944 | 389, 919 | 81, 129 | 58, 127 |
| 1904 | 656, 528 | 1,744, 033 | 1,750,938 | 1,008,440 | 396, 071 | 91, 684 | 52,669 |
| 1905 | 668, 874 | 1, 499, 862 | 1, 507, 134 | 737, 443 | 378, 200 | 98, 185 | 58,586 |
| 1906 | 669, 999 | 1,429, 513 | 1,440, 852 | 667, 605 | 378, 945 | 99, 245 | 50,888 |
| 1907 | 659, 599 | 1,541, 662 | 1,553, 063 | 815, 086 | 384, 146 | 86, 451 | 56,462 |
| 1908. | 725, 304 | 1,597, 515 | 1, 605, 055 | 790, 098 | 422, 688 | 113, 308 | 51, 691 |
| 1909 | 765, 781 | 1,758, 609 | 1,762, 744 | 903, 622 | 446, 763 | 114, 433 | 55,689 |
| 1910 | 701, 725 | 1,676, 414 | 1,680, 193 | 875, 135 | 413, 802 | 108, 938 | 43, 883 |
| 1911 | 714, 883 | 1,579,536 | 1, 582, 591 | 768, 650 | 427, 776 | 104, 114 | 46,749 |
| 1912 | 747, 850 | 1,898, 177 | 1,900, 437 | 1,050, 837 | 456, 600 | 117, 112 | 48,746 |
| 1913 | 779, 689 | 1,889,313 | 1, 892, 513 | 1,011, 316 | 481, 169 | 106, 469 | 50,055 |
| 1914 | 670, 362 | 1, 618, 879 | 1, 624, 341 | ${ }^{2} 869,657$ | 410, 478 | 74, 555 | 43, 884 |
| 1915 | 591, 387 | 1, 585, 620 | 1,590. 294 | 2 909, 943 | 360, 310 | 60, 674 | 33, 148 |
| 1916 | 561, 476 | 593, 750 | 1, 494, 975 |  | 351, 826 | 50, 233 | 33, 351 |
| 1917 | 439, 541 | 470, 433 | 1, 228, 503 |  | ${ }^{3} 274,677$ | ${ }^{8} 10,922$ | ${ }^{3} \mathbf{2 5 , 6 6 9}$ |
| 1918 | 471, 435 | 513, 509 | 1, 170, 187 |  | ${ }^{3} 262,832$ | ${ }^{3} 10,604$ | ${ }^{3} 30,100$ |
| 1919. | 439, 039 | 517, 015 | 1,057, 894 |  | ${ }^{3} 240,161$ | ${ }^{3} 9,035$ | ${ }^{3} 30,577$ |
| 1920 | 389, 664 | 615, 305 | 1, 970, 356 |  | ${ }^{3} 194,255$ | ${ }^{3} 10,098$ | ${ }^{3} 34,492$ |
| 1921 | 491, 202 | 847, 011 | 1, 211, 062 |  | ${ }^{\text {a }} 267$, 648 | ${ }^{3} 13,161$ | ${ }^{3} 44,392$ |
| 1922 | 457, 065 | 1,343, 653 | 1, 344,469 |  | ${ }^{3} 209,519$ | ${ }^{3} 13,589$ | ${ }^{3} 388,412$ |
| 1923 | 495, 845 | 952, 674 | 1, 431, 748 |  | ${ }^{3} \mathbf{2 8 2 , 4 5 2}$ | ${ }^{3} 15,634$ | ${ }^{3} 36,914$ |

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }^{1}$ Includes all Russian territory reporting for years named. Further information of the territory included is given in notes 3 and 6 on Table 16.
${ }^{2}$ Excludes Poland.
${ }^{3}$ New boundaries.
Table 52.-Rye: Monthly marketings by farmers, 1917-1923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 \end{aligned}$ | Percentage of year's receipts as reported by about 3,500 mills and elevators. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Season. |
| 1917-18. | 2.8 | 14.8 | 20.5 | 17.1 | 11.3 | 7.6 | 5.8 | 6.4 | 7.6 | 3.4 | 1.7 | 1.0 | 100.0 |
| 1919-20 | 8.2 | -15.0 | 13. ${ }^{-1}$ | 12.4 | 7.8 | 9.1 | 8.5 | 4.7 | 6.2 | 6.4 | 4.3 | 4.1 | 100.0 |
| 1920-21 | 7.3 | 20.7 | 18.1 | 12.2 | 8.8 | 7.0 | 6.6 | 4.7 | 4.3 | 3.7 | 3. 3 | 3.3 | 100.0 |
| 1921-22 | 13.9 | 20.8 | 17.6 | 10.6 | 6. 3 | 5.9 | 4.5 | 4.8 | 4.9 | 4.0 | 4.2 | 2.5 | 100.0 |
| 1922-23. | 10.7 | 20.5 | 14.8 | 12.3 | 10.2 | 8.7 | 6.5 | 5.3 | 4.0 | 2.9 | 2.2 | 1.9 | 100.0 |

Division of Crop and Livestock Estimates.

Table 53.-Rye: Receipts at markets named, 1909-1922.

| Year beginning July 1. | Minneapolis. | Duluth. | Chicago. | Milwaukee. | Omaha. | Ft. William and Port Arthur. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. |
| 1909-10. | 2,444 | 902 | 1,362 | 965 |  |  |
| 1910-11 | 1,518 | 134 | 1, 121 | 1,033 |  |  |
| 1911-12 | 2,453 | 759 | 2,077 | 2, 582 |  |  |
| 1912-13 | 5,943 | 2, 341 | 3, 299 | 2, 336 |  |  |
| 1913-14 | 5,538 | 1,357 | 3,206 | 2,836 |  |  |
| A verage 1909-1913 | 3,579 | 1,099 | 2,213 | 1,950 | --------- | ----1.----- |
| 1914-15 | 5,737 | 4,323 | 3,274 | 3,608 |  |  |
| 1915-16. | 6,774 | 4, 216 | 5,651 | 3, 872 |  |  |
| 1916-17. | 7,118 | 2,812 | 5,459 | 3, 050 | 1,048 |  |
| 1917-18. | 11, 923 | 3, 482 | 3, 766 | 2, 947 | 1,121 | 212 |
| 1918-19 | 16, 467 | 16; 115 | 8,467 | 4,472 | 1,782 | 970 |
| 1919-20 | 9,325 5,428 | 17,027 | 6,119 4,132 | 4, 4,604 | 1,630 | 1,172 2,832 |
| Average 1914-1920 | 8,967 | 8,944 | 5,267 | 3, 664 |  |  |
| 1921-22 | 4,754 | 17,446 | 4,235 | 2,282 | 2,048 | 5,297 |
| 1922-23. | 15,111 | 42,619 | 7,585 | 3, 241 | 1,916 | 11, 552 |
| 1922-23. |  |  |  |  |  |  |
| July-... | 1,711 | 9, ${ }_{\text {913 }}$ | 353 1,068 | 263 | 263 |  |
| September | 1,174 | 9,882 | 1,272 | 194 | 186 | 3, 064 |
| October- | 1, 875 | 4,611 | 410 | 327 | 251 | 2,124 |
| November. | 1, 168 | 3, 688 | 1,392 | 406 | 279 | 1,766 |
| December-- | 2, 071 | 3,412 | 567 | 488 | 215 | 1,106 |
| January | 2,610 | 2, 636 | 1,020 | 521 | 286 | 663 |
| February | 1,303 | 1,893 | 948 | 371 | 186 | 212 |
| March | 863 | 1,890 | 382 | 252 | 102 | 384 |
| April. | 724 | 2, 069 | ${ }^{545}$ | 229 78 |  | 493 593 |
| May | 416 598 | 1, 1324 | 153 475 | 78 | 34 24 | $\stackrel{378}{278}$ |
| July. |  |  |  |  |  | 347 |
| August--- |  |  |  |  |  | 552 |

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record Chicago Daily Trade Bulletin, Grain Dealers Journal, and Canadian statistics.
${ }^{1}$ Crop year begins in September.
Table 54.-Rye, including flour: Net imports and net exports of principal countries, 1907-1922.

| Year ending July 31. | Imports. |  |  |  |  | Exports. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Belgium. | Denmark. | France. | Netherlands. | Norway. | Germany. | $\xrightarrow[\text { Ru- }]{\text { Rania }}$ | Russia. | $\begin{aligned} & \text { Can- } \\ & \text { ada. } \end{aligned}$ | United States |
|  |  |  |  |  |  | 1,000 | 1,000 | 1,000 | 1,000 | $1,000$ |
|  | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. |
| 1906-7 | 1,725 | 5, 941 | 925 | 8, 509 | 10, 427 | 9,426 | (1) | 36, 954 | 238 249 248 | 770 2.445 |
| 1907-8 | , 97 | 5,781 | 4 ${ }^{1}, 574$ | 6,416 | 8,799 10 | 4,912 29 | (1) | 35, 999 | ${ }_{2}^{249}$ | 2,445 1,296 |
| 1908-9 | 1,371 | 6,751 8,624 | 1182 86 | 8, 288 8,760 | 10, 103 | 22,988 | (1) | 25, 322 | 30 | 242 |
| 1910-11 | 6,467 | 7, 910 | 6,808 | 13,802 | 10,879 | 13, 136 | (1) | 51, 179 | 51 | 40 |
| 1911-12. | 4, 241 | 7, 274 | 2,372 | 11, 914 | 9, 897 | 28, 180 | 4,132 | 17,080 | ${ }^{2} 37$ | 31 |
| 1912-13 | 4,944 | 7,676 | 4, 625 | 10, 835 | 10,758 | 37, 496 | 2, 472 | 22, 458 | ${ }^{1} 100$ | 1,855 |
| 1913-14 | 6,630 | 8,443 | 2,696 | 13, 029 | 10,699 | 36,209 | 2, 296 | 26, 950 | 179 | 1,273 $13 ; 027$ |
| 1914-15 | (1) | 2,988 | 25 | 1,380 | 7,414 | ${ }^{(1)}$ | 734 | 9,430 | 179 | 13,027 |
| 1915-16 | (1) | 2, 302 | 47 | 2,126 | 7,699 | ${ }^{1}$ | 2,112 | 13,442 | 782 | 15, 250 |
| 1916-17 | (1) | 1, 038 | ${ }_{4} 16$ | 763 | 7,400 | (1) | (1) | ${ }^{2} 2,655$ | ${ }^{3} 1,047$ | 13,703 |
| 1917-18 | (1) | 49 | 1,286 | 20 | 2,152 | (1) | (1) | (1) | - ${ }^{3} 1,045$ | 17,186 |
| 1918-19. | (1) | ${ }^{4} 160$ | 712 | 956 | 4, 865 | ${ }^{(1)}$ | ${ }^{(1)}$ | ${ }^{(1)}$ | ${ }^{3} 586$ | 36, 437 |
| 1919-20. | 5,135 | 4 1,086 | 8,347 | 4 1,087 | 5,802 | (1) | ${ }^{2} 20$ | (1) | 2, 524 | 41,531 |
| 1920-21 | 753 | 4318 | 9, 615 | 67 | 6,293 | ${ }^{2} 23,668$ | 5,211 | (1) | 3, 205 | 47,337 |
| 1921-22 | 251 | 2, 297 | 41,275 | 125 | 7,110 | 5,967 | 1,212 20 | (1) | 4, ${ }^{4,211}$ | 29, 51,663 |
| 1922-23 | 275 | 4,641 | 627 | 3,729 | 6,866 | 243,430 | 20 | () | 9,811 | 51,603 |

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural, Statistics 1915-16, 1922 and from official sources.

[^140]Table 55.-Rye, including four: International trade, 1910-1923.


Division of Statistical and Historical Research. Compiled from International Institute of Agriculture, except figures with foot-notes $\left(^{(3)}\right.$ and ( ${ }^{4}$, which are compiled from official sources.

$$
\begin{array}{ll}
1 \text { Less than } 500 \text { bushels. } & 6 \text { The month of July, 1914, is not comprised in the average. } \\
\text { 2 Ten months ending May 31. } & 7 \text { Eight months, August-December, 1920, and May-July, } 1921 . \\
\text { Calendar years 1900-1922. } & 8 \text { Eleven months. } \\
\text { 'Years ending June } 30 . & 9 \text { 1914 only. }
\end{array}
$$

Table 56.-Rye: Farm price per bushel, 1st of month, United States, 1908-1923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908-9 | Cts. 75. 4 | $\begin{aligned} & \text { Cts. } \\ & 74.2 \end{aligned}$ | Cts. 22.8 | $\begin{aligned} & \text { Cts. } \\ & 74.1 \end{aligned}$ | $\begin{gathered} \text { Cts. } \\ -73.7 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 73.6 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 73.4 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Cts. } \\ & 73.8 \\ & \hline \end{aligned}$ | Cts. $75.0$ | Cts. <br> 77.3 | $\begin{gathered} \text { Cts. } \\ 78.8 \end{gathered}$ | $\begin{aligned} & \text { Cts. } \\ & 81.2 \end{aligned}$ | Cts. 74.3 |
| 1909-10 | 81.7 | 78.5 | 72.4 | 72.8 | 73.6 | 71.8 | 74.8 | 76.1 | 76.5 | 76.6 | 74.9 | 74.8 | 74.8 |
| 1910-11 | 74.6 | 74.4 | 74.1 | 72.8 | 71. 6 | 71.5 | 73.3 | 73.1 | 71.9 | 75. 4 | 75.8 | 77.9 | 73.1 |
| 1911-12 | 76.9 | 75. 5 | 76.9 | 79.7 | 83.1 | 83.2 | 82. 7 | 84.4 | 84.0 | 85.1 | 84.6 | 86.1 | 81.4 |
| 1912-13 | 83.6 | 77.9 | 70.8 | 70.1 | 68.8 | 66.3 | 63.8 | 68. 9 | 63.2 | 62.9 | 62.4 | 64.1 | 68.5 |
| 1913-14 | 63.2 | 60.7 | 63.0 | 64.8 | 63. 2 | 63.4 | 62.5 | 61.7 | 61.9 | 63.0 | 62.9 | 64.4 | 63.1 |
| Av. 1909-1913 | 76.0 | 73.4 | 71.4 | 72.0 | 72.1 | 71.2 | 71.4 | 72.8 | 71.5 | 72.6 | 72.1 | 73.5 | 72.1 |
| 1914-15 | 63. 1 | 61.0 | 75. 4 | 79.0 | 80.1 | 86.5 | 90.2 | 100.6 | 105.4 | 100.4 | 101.9 | 98.1 | 84.6 85.0 |
| 1915-16 | 93.7 | 89.0 | 85.5 | 81.7 | 85.7 | 83. 4 | 85. 3 | 88.31 | 85. 6 | 83. 6 | 83.7 | 83.8 | 85.9 115.4 |
| 1916-17 | 83.3 | 83. 4 | 99.7 | 104. 1 | 115.3. | 122.1 | 118. 5 | 123. 5 | 126.0 | 135.6 | 164.1 221.1 | 187. 0 | 115.4 175.6 |
| 1917-18 | 177.1 | 178.1 | 161.9 | 169.8 | 168. 8 | 166.0 | 170.3 | 174.8 | 201.0 | 235. 14 | 221. 15. | 187.6 | 175.6 152.0 |
| 1918-19 | 169.9 | 163. 9 | 159.3 | 154. 0 | 152. 6 | 151. 6 | 150.7 | 140. 4 | 132.2 | 145.8 | 155.5 | 143.7 183.9 | 152.0 1429 |
| 1919-20 | 138.6 | 149.7 | 138.3 | 13.5 .8 | 129.8 | 133. 2 | 152.3 | 154.5 131.5 | 126. 0 | 158.1 118.7 | 183.1 105.3 | 183.9 | 142.9 143.6 |
| 1920-21 | 189.0 | 168.6 | 168.9 | 162.3 | 142.1 | 126.8 | 124. 7 | 131.5 | 126. 1 | 118.7 | 105.3 | 112.2 | 143.6 |
| A 7. 1914-1920 | 130.7 | 127.7 | 127.0 | 126.7 | 124.9 | 124. 2 | 127.4 | 130.5 | 131.6 | 139.3 | 145. 0 | 141.8 | 128.4 |
| 1921-22 | 103.8 | 98.1 | 80.9 | 88.6 | 74.6 | 60.7 | 69.6 | 70.4 | 83.5 | 84.2 | 87.6 | 88.0 | 81.5 |
| 1922-23 | 77. 6 | 70.5 | 63.3 | 63.2 | 67.2 | 68.5 | 72. 2 | 71. 2 | 70.8 | 69.4 | 72.1 | 66.3 | 67.8 |
| 1923-24 | 58.2 | 54.4 | 66.2 | 58.2 | 59.5 | 64.7 |  |  |  |  |  |  |  |

[^141]Table 5/--Rye: Farm price per bushel, December 1, calendar years, 1908-1923, and value per acre, 1923.

| State. |  |  |  |  |  |  | $\left\lvert\, \begin{aligned} & 1909-1 \\ & 1913 \end{aligned}\right.$ |  |  | 1916 | 1917 | 1918 | 1919 | 1920 | $\left\|\begin{array}{c} \text { AV. } \\ 1914- \\ 1920 \end{array}\right\|$ |  |  |  | $\left\lvert\, \begin{gathered} \text { Value } \\ \text { par } \\ \text { pare } \\ 1923, \end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ass | Cts |  |  | ${ }_{95}{ }^{\text {cts }}$ | $\begin{gathered} C t s, \\ 100 \\ \hline 00 \end{gathered}$ |  |  | $\begin{aligned} & \text { Cts. } \\ & 101 \end{aligned}$ | $\begin{gathered} C t s \\ i=102 \\ 1020 \end{gathered}$ | ${ }_{12}{ }_{12}$ | ${ }_{220}$ | $\begin{gathered} c \\ 227 \\ 278 \end{gathered}$ | ${ }_{175}{ }^{7}$ |  | ${ }_{16 i} 1$ |  | 140 |  | 30 |
| Y | $\begin{aligned} & 90 \\ & 81 \end{aligned}$ | 80 | 74 |  |  | ${ }_{75}^{92}$ | $\stackrel{91}{99}$ |  |  |  | 184 | ${ }_{172}$ | 150 | 174 | 139 |  |  |  | 14. 83 |
|  | 8 | 79. |  |  | 79 |  | ${ }_{80} 8$ |  |  | 碞 | 175 | 173 | 5 | 170 |  |  |  |  | ${ }_{16.73}^{15}$ |
| Pa | 77 | 80 | 73 |  | 77 | 74 | ${ }^{77}$ | 83 | 84 | 103 | 170 | 165 | 157 | 140 | 130 | 5 | 87 |  |  |
| Del | 82 | 75 | 5 | 8 | 81 | 79 |  | 88 | ${ }_{88}^{99}$ | 123 | 178 | 171 | 160 | $\begin{gathered} 136 \\ 156 \end{gathered}$ | ${ }_{134}^{137}$ | ${ }_{92}^{100}$ |  |  | 13.82 |
|  |  | 84 | 75 | 89 |  | 81 | 84 | ${ }_{90}$ | ${ }_{93}^{88}$ | 107 | 175 | 175 | 170 | 155 | 帾 |  | 90 | 107 | 12.84 |
| W. V |  | 90 | 90 | 90 | 84 | 87 |  | 105 | 205 | 119 | 208 | 198 |  | 190 | 163 | 125 |  | 135 | 14.04 |
| N: C | 98 | 103 | 101 | 100 | 105 |  | 101 | 105 | 105 | 130 |  |  |  |  |  | 125 |  |  |  |
| S.C | 137 | 141 | 146 | 145 | 145 | 150 | 145 | 150 | 140 | 180 | 270 |  |  |  |  |  |  |  | 16 |
| ${ }_{\text {Gab }}$ | 125 | 150 | 142 | 85 | 140 |  |  |  | 140 |  | 161 | 210 | 172 | ${ }_{135}^{211}$ | 202. | 175 |  |  | ${ }_{12.09}$ |
| Ind | 74 | 74 | 2 |  | ${ }^{68}$ | 62 | 70 | 85 | ${ }^{82}$ | 119 | 185 | 150 | 140 | 130 | 124 |  | ${ }^{79} 7$ | ${ }_{75}^{73}$ | 10. 22 |
|  | 73 | ${ }^{7}$ | 71 | 81 | 7 |  | ${ }^{72}$ |  |  |  |  |  | 130 |  |  |  |  |  |  |
| Mich | 71 | ${ }^{68} 8$ | ${ }_{77}^{68}$ | 84 | $\begin{aligned} & 65 \\ & 65 \\ & 6 . \end{aligned}$ |  | $\begin{gathered} 70 \\ 68 \end{gathered}$ |  |  |  |  |  | 123 | 130 | 127 | 77 |  |  | ${ }_{9}{ }^{\text {8. } 22}$ |
| Minn | 63 | 60 |  | 78 |  |  |  |  |  | 127 | 187 | 150 | 132 | 122 | 24. |  |  |  | 7.16: |
| Mowa | ${ }_{76}^{64}$ | ${ }_{82}^{63}$ | 75 | 88 | 80 | 75 | $79 .$ | ${ }_{87} 7$ | 86 | 123 | 165 | 163 | 150 | 125 | 128 | 86 | 93 | 88 | 11.00 |
|  | 65 |  | 63 | 76 | 47 | 45 |  | 84 | 79 | 125 | 164 | 145 | ${ }^{122}$ | 119 | 120 | 58 | 68 |  | 4 |
| Nebr | ${ }_{60}^{59}$ | ${ }^{*}$ | ${ }_{60}^{61}$ | 75 | 5 | 50 | ${ }^{60}$ | 74 | ${ }_{73}^{76}$ | ${ }_{116}$ | 155 | 13 | 115 | 103 | 110 |  | 65 | 56 | 6.72 |
| Kans | 71 | 75 | 73 | 81 |  | 75 | ${ }^{74}$ | 80 |  | 110 | 175 | 170 | 175 | 100 |  | 12 |  | 703 | ${ }^{6.28}$ |
| Ky. | 85 |  |  |  |  |  | 88 |  | ${ }^{4}$ |  |  |  |  |  |  |  |  |  |  |
| Tenn | ${ }_{123} 9$ | 136 | 2 | 125 |  | 140 | ${ }_{131}^{97}$ |  | ${ }_{135}^{103}$ | 175 | ${ }_{268}^{195}$ | ${ }_{261}^{192}$ | 200 | 1200 | 159 | 160 |  | 1160 |  |
| ${ }_{\text {Texas }}$ |  | ${ }_{123}^{136}$ | ${ }_{103}^{120}$ | ${ }_{107}^{125}$ | 110 |  | 109 |  |  | 120 | 196 | ${ }^{23}$ | 150 | 115 | 129 | ${ }_{66}^{100}$ |  |  | 11.76 |
| Ork Ark | $\begin{aligned} & 80 \\ & 90 \end{aligned}$ | ${ }^{93} 105$ | ${ }_{98}^{81}$ | ${ }_{90}^{104}$ | ${ }^{87} 105$ | ${ }_{95}^{86}$ | 93 | ${ }^{95}$ | 100 | 115 | 170 | ${ }_{210}^{181}$ | 1500 | 220 | 157 | 130 | 100 | 120 | 10:80 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 51 |  |
| yo | 71 | 90 |  | 90 |  |  |  |  |  | 108 | 156 |  | 180 | 115 | ${ }_{109}^{128}$ |  |  |  | 8. ${ }^{\text {c }} 72$ |
| C | 70 |  |  | 70 |  |  |  |  |  | 105 | 146 |  |  | 105 | 109 |  |  |  | 10:80 |
| Utah. |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 31 |  |  | $90$ | 26 |
|  | 68 | 70 |  | 67 | 60 |  |  |  |  |  |  |  | 175 |  | 15 |  | 67 | 68 | 92 |
| Wash |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 95 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{7.91}$ |

## Division of Crap and Livestock Estimates.

${ }^{1}$ Based upon farm price Dec. 1.
Table 58.-Rye No. 2: Weighted average price: per bushel, Chicago, 1909-1923.

| Year beginning July 1- | July. | Aug. | Sept | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Fune | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$0. 79 | \$0. 71 | \$0.72 | \$0. 73 | \$0.74 | \$0.77 | \$0.81 | \$0. 81 | \$0.79 | \$0.79. | \$0.77 | \$0.76 | \$0. 76 |
| 1910-11 | + 67 | . 7.5 | . 74 | . 76 | . 79 | . 81 | . 84 | . 82 | . 89 | . 95 | 1. 02 | . 90 | . 84 |
| 1911-12 | . 84 | . 85 | . 91 | . 97 | . 95 | . 93 | . $94{ }^{\text {²}}$ | . 92 | . 91 | . 94 | . 93 | . 83. | . 91 |
| 1912-13 | . 74 | . 72 | . 69 | . 69 | . 64 | . 61 | . 64 | . 62 | . 60 | . 62 | . 62 | . 62 | . 63 |
| 1913-14 | . 63 | . 66 | . 67 | . 65 | . 64 | . 63 | . 61 | . 62 | . 61 | . 62 | . 65 | . 63 | . 64 |
| Av. 1900-1913 | . 75 | . 24 | . 75 | . 76 | . 75 | . 75 | . 77 | . 76 | . 76 | . 78 | . 80 | . 75 | . 76 |
| 1914-15 | 64 | . 84 | . 95 | . 92 | 1.02 | 1. 10 | 1.19 | 1. 23 | 1.17 | 1.17 | 1.19 | 1. 17 | 1. 05 |
| 1915-16 | 1.08 | 1.00 | . 96 | 1. 01 | . 99 | . 97 | 1.01 | $\begin{array}{r}.97 \\ \hline 1\end{array}$ | ${ }^{\text {. } 93}$ | . 96 | -98 | $\begin{array}{r}1.17 \\ +.98 \\ \hline\end{array}$ | 1.99 |
| 1916-17 | . 98 | 1.13 | 1.20 | 1.33 | 1.47 | 1.41 | 1.43 | 1.46 | 1. 61 | 1. 87 | 2. 20 | 2.40 | 1.54 |
| 1917-18 | 2.27 | 1.90 | 1.86 | 1.84 | 1.78 | 1.82 | 2.01 | 2.39 | 2.84 | 2.64 | 2.20 | 1.80 | 2.11 |
| 1918-19 | 1. 73 | 1.67 | 1.63 | 1.63 | 1.68 | 1.59 | 1.61 | 1.38 | 1.61 | 1.73 | 1. 59 | 1.46 | 1.61 |
| 1919-20 | 1.55 | 1.54 | 1.40 | 1.38 | 1.42 | 1.66 | 1.76 | 1.56 | 1. 72 | 1. 99 | 2.13 | 2. 27 | 1.70 |
| 1920-21 | 2. 04 | 1.90 | 1.99 | 1.69 | 1.59 | 1.61 | 1.63 | 1. 47 | 1.46 | 1.35 | 1.47 | 1.32 | 1.62 |
| Av. 1914-1920 | 1.47 | 1.43 | 1.43 | 1.40 | 1.42 | 1.45 | 1.52 | 1.49 | 1.62 | 1.67 | 1.68 | 1. 63 | 1.52 |
| 1921-22 | 1. 27 | 1.07 | 1.04 | . 86 | . 79 | . 86 | . 81 | . 97 | 1.02 | 1. 04 | 1.06 | .90 | . 97 |
| 1922-23 | . 82 | 1.73 . | . 72 | . 78 | . 87 | . 88 | . 87 | . 86 | . 83 | . 86 | . 78 | . 70 | . 81 |
| 1923-24 | . 65 | . 67 | . 70 | . 72 | . 71 | . 70 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Chicago Daily Trade Bulletin.

## THE WHEAT SITUATION.

Tables 59 to 91 reprinted from Secretary's report to the President on "The Wheat Situation," the text of which appears on pages 95 to 150 of the 1923 Yearbook. Other statistical data of that report are covered by tables appearing regularly in the Yearbook.
Table 59.-Total winter wheat acreage, production, and percentage of acreage abandoned in represeñtative counties of high and low crop risk in Kansas, 1912-1923.

| Year. | Ford County (area high crop risk). |  |  |  |  | McPherson County (arca low crop risk). |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Arca seeded. | Area harvested. | Total production. | Average yield per seeded acre. | Percentage of seeded acreage abandoned. | Area seeded. | Area harvested. | Total production. | Average yield per seeded acre. | Per- centage of seeded acreage abandoned. |
|  | Acres. | Acres. | Bushels. | Bushels. | Per cent. | Acres. | Acres. | Bushels. | Bushels. | Per cent. |
| 1912. | 237, 907 | 223, 633 | 3, 130, 862 | 13. 2 | 6.0 | 141, 184 | 76, 239 | 914, 868 | 6. 5 | 46.0 |
| 1913 | 243, 943 | 134, 169 | 670, 845 | 2.8 | 45.0 | 163, 041 | 158, 150 | 2, 214, 100 | 13.6 | 3.0 |
| 1914 | 270, 668 | 270, 668 | 5, 142, 692 | 19.0 | 0. 0 | 192, 368 | 192, 368 | 4, 424, 464 | 23.0 | 0.0 |
| 1915 | 252, 583 | 212, 170 | 2, 546, 040 | 10. 1 | 16.0 | 193, 282 | 164, 290 | $2,135,770$ | 11.0 8.8 | 15.0 |
| 1916--- | 249, 690 | 222, 224 | 3, 111, 136 | 12.5 | 11.0 | 186, 138 | 163, 801 | 1, 638, 010 | 8. 8 | 12.0 |
| 1917. | 317, 739 | 25, 419 | 127, 095 | . 4 | 92.0 | 177, 394 | 127, 724 | $1,915,860$ | 10.8 | 28.0 |
| 1918. | 284, 261 | 28, 426 | 85, 278 | . 3 | 90.0 | 204, 051 | 193, 848 | 3, 489, 264 | 17. 1 | 5.0 |
| 1919 | 297, 800 | 297, 800 | 3, 275, 800 | 11.0 | 0.0 | 223, 250 | 223, 250 | 2, 679, 000 | 12. 0 | 0.0 |
| 1920 | 320, 239 | 237, 043 | 1, 896, 344 | 5.9 | 26.0 | 204, 236 | 181, 770 | 2, 544, 780 | 12.5 | 11.0 |
| 1921. | 306, 398 | 240, 737 | 2, 648, 107 | 8. 6 | 21.4 | 223, 774 | 210, 348 | 2, 734, 524 | 12.2 | 6.0 |
| 1922 | 320, 100 | 192, 000 | 1, 728, 000 | 5.4 | 40.0 | 245, 000 | 245, 000 | 4, 410, 000 | 18.0 | 0.0 |
| 1923. | 314, 200 | 62, 800 | 251, 200 | . 8 | 80.0 | 232, 500 | 225, 500 | 2, 255, 000 | 9.7 | 3.0 |
| All | 3, 415, 528 | 2, 147, 089 | 24, 613, 399 | 7.2 | 37.1 | 2, 386, 218 | 2, 162, 288 | 31, 355, 640 | 13.1 | 9.4 |

Division of Cost of Production. Compiled from Biennial Reports, Kansas State Board of Agriculture.
Table 60.-Hours of man and horse labor prior to harvest, and amount of seed wheat required per bushel of production in representative counties of high and low crop risk in Kansas, 1912-1923.

| Year. | Man labor prior to harvest. |  | Horse labor prior to harvest. |  | Seed. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ford County (area high crop risk). | McPherson County (area low crop risk). | Ford County (area high crop risk). | McPherson County (area low crop risk). | Ford County (area high crop risk). | McPherson County (area low crop risk). |
| 1912. | Hours. | Hours. $1.01$ | Hours. | Hours. <br> 4.22 | Bushels. 0.06 | Bushels. 0.24 |
| 1913. | 1.45 | . 34 | 6.21 | 1.42 | . 40 | . 08 |
| 1914. | . 15 | . 20 | . 63 | . 82 | . 04 | . 05 |
| 1915. | . 32 | . 47 | 1.38 | 1.97 | . 09 | .11 |
| 1916. | ${ }_{13} .25$ | . 57 | 1.07 57.60 | 2.39 2.23 | 3.70 | . 13 |
| 1917. | 13.44 | . 53 | 57.60 76.00 | 1.15 | 4.88 4.87 | . 07 |
| 1918. | 17.73 .25 | . 38 | 1.09 | 1.57 | . 07 | . 09 |
| 1920. | . 59 | . 40 | 2.56 | 1.67 | . 16 | . 09 |
| 1921. | . 70 | . 39 | 1.69 | 1.63 | . 11 | . 09 |
| 1922.. | .73 6.30 | . 25 | 1.11 27.00 | 1.04 2.00 | .20 1.73 | . 11 |
| 1923. | 6.30 | . 48 | 27.00 |  |  |  |

[^142]Table 61.-Cost of producing wheat, 1902-1921. ${ }^{1}$

| Region. | Year. | Cost per acre. |  | Yield per acre. | Cost per bushel. |  | $\begin{aligned} & \text { Average } \\ & \text { farm } \\ & \text { price per } \\ & \text { bushel. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Excluding land rent. | Includ- ing land rent. |  | Excludrent. | Includ- <br> ing land rent. |  |
| Minnesota: |  | Dollars. | Dollars. | Bushel. |  |  | Dollars. |
| Rice County ${ }^{8}$. | 1902-1907 | ${ }^{6.36}$ | 9.86 | 15.0 | $0.42$ | $0.66$ | 0.74 |
| Lyon County ${ }^{8}$ | 1902-1907 | 5.39 | 8.39 | 12.6 | . 43 | . 67 | . 74 |
| Norman County | 1902-1907 | 4.88 | 6. 98 | 12.4 | . 39 | . 56 | . 74 |
| Rice County County ${ }^{1}$ i. | 1908-1912 | 8.54 8.59 | 12.60 12.04 | 15.9 22.0 | -. 39 | . 87 | 90 |
| Norman County ${ }^{4}$ | 1908-1912 | 7.37 | 10.37 | 16.6 | . 44 | . 62 | . 90 |
| Wisconsin ${ }^{5}$. | 1909-1918 | 8.62 | 12.10 | 17.0 | . 51 | . 71 | 1.35 |
| North Dakota ${ }^{\text {S }}$ | 1911-1916 | 8.89 | 11.22 | 13.2 | . 67 | . 85 | . 87 |
|  | 1917 | 13.40 | 15.75 | 13.2 | 1.02 | 1.19 | 2.00 |
| New York ${ }^{6}$. | 1913 | 24. 92 | 28.88 | 27.4 | . 91 | 1.05 | . 93 |
| New York ${ }^{6}$. | 1914 | 18.20 | 23.19 | 23.0 | . 79 | 1.01 | 1.08 |
| Missouri ${ }^{7}$.. | 1910-13 | 7.28 | 12.30 |  |  |  | . 87 |
| 1919 Winter wheat: ${ }^{8}$ |  |  |  |  |  |  |  |
| Ford County. | 1919 | 18.03 | 24.30 | 13.3 | 1.36 | 1.82 | 1.99 |
| Pawnee.County........ | 1919 | 15.11 | 23.06 | 13.9 | 1.09 | 1.65 | 2.01 |
| McPherson County ..... | 1919 | 21.55 | 30.20 | 12.7 | 1.70 | 2.38 | 1.94 |
| Saline County | 1919 | 20.93 | 35.28 | 16.3 | 1.28 | 2.17 | 2.01 |
| Jasper County.......... | 1819 | 24.10 | 34.64 | 19.2 | 1.26 | 1.80 | 1.89 |
| St. Charles County..... | 1919 | 22.49 | 34.13 | 19.6 | 1.15 | 1.74 | 2.10 |
| Nebraska- <br> Phelps County | 1919 | 16.72 | 23.84 | 10.8 | 1.55 | 2.20 | 1.89 |
| Saline County............ | 1919 | 25:66 | 39.54 | 18.1 | 1.42 | 2.19 | 2.09 |
| Keith County............. | 1919 | 18.83 | 28.52 | 18.1 | 1.04 | 1.57 | 1.95 |
| Average. | 1919 | 18.99 | 27.80 | 14.9 | 1.27 | 1.87 | 1.99 |
| 1919 Spring wheat: 8 Minnesota- |  |  |  |  |  |  |  |
| Clay County.. | 1919 | 16. 29 | 22.91 | 8.1 | 2.01 | 2.82 | 2.09 |
| Traverse County. | 1919 | 17.21 | 23.61 | 8.4 | 2.05 | 2.80 | 2.21 |
| Grand Forks County... | 1919 | 17.37 | 21.88 | 9.8 | 1.77 | 2.24 | 2.17 |
| Morton County......... | 1919 | 16.47 | 18.83 | 4.4 | 3.74 | 4.26 | 2.47 |
| South DakotaSpink County. | 1919 | 15.80 | 23.70 | 9.9 | 1.60 | 2.40 | 2.13 |
| Average. | 1919 | 16.61 | 22.40 | 8.4 | 1.98 | 2.65 | 2.17 |
| 1920 Winter wheat: ${ }^{9}$ Missouri- |  |  |  |  |  |  |  |
| Missouri- Pike County. | 1920 | 24.46 | 32.56 | 13.5 | 1.81 | 2.42 | 2.46 |
| Carroll County. | 1920 | 24.30 | 35.37 | 17.6 | 1.38 | 2.01 | 2.35 |
| Nebraska- |  |  |  |  |  |  |  |
| Gage County. | 1920 | 22.28 | 37.24 | 21.5 | 1.04 | 1.73 2.57 | 2.17 |
| Clay County...... | 1920 | 19.76 | ${ }^{33.60}$ | 13.1 | 1.51 | 1.5 1.43 |  |
| Kansas- Chenne County. | 1920 | 18.87 | 27.25 | 19.0 | . 99 | 1.43 | 1.90 |
| Thomas Gounty. | 1920 | 12.85 | 17.83 | 14.1 | . 91 | 1.20 | 1.95 |
| McPherson County | 1920 | 18.59 | 29.62 | 14.6 | 1.27 | 2.03 | 2.22 |
| Oklahoma- |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Woodward County | 1920 | 18.67 | 21.82 | 9.5 | 1.97 | 2.30 | 2.12 |
| Average. | 1920 | 18.72 | 26.30 | 14.9 | 1.26 | 1.80 | 2.09 |
|  | 1919 | 34.69 | 53.72 | 31.6 | 1.10 | 1.70 | 2.09 |
| Washington: Whitman County | 1920 | 34.42 | 54.32 | 36.6 | . 94 | 1.48 | 1.29 |
| Washiggton. Whitman County | 1921 | 29.65 | 47.29 | 31.6 | . 11 | 1.50 | 1.90 |
| Oregon: ${ }^{\text {a }}$ Sherman County...... | 1920 1921 | 23.26 21.13 | 32.92 30.55 | 20.9 27.8 | 1.11 .76 | 1.58 1.10 | 1.65 1.00 |

Division of Cost of Production.
${ }^{1}$ Gross costs are shown prior to 1919. From 1919 through 1921 a deduction has been made for the value of straw and pasture, resulting in a net cost per bushel and per acre.
${ }_{2} 1902$-1913, State averages as reported by the United States Department of Agriculture; 1919-1921 prices recelved on farms studied.
${ }_{8}$ United States Department o 1 Agriculture, Bureau of Statistics, Bulletin No. 73.
4 Minnesota Agricultural Experiment Station, Bulletin No. 145.
6 Unpublished data in the files of the United States Department of Agriculture.
6 New York Department of Agriculture, Bulletin No. 86.
7 Missouri Agricultural Experiment Station, Bulletin No. 125.
8 United States Department of Agriculture, Bulletin No. 943.

- Preliminary reports on cost of producing wheat, United States Department of Agriculture. Winter wheat after summer fallow.

Table 62.-Cost of producing wheat, 1922.


Division of Cost of Production. Based on returns to mail questionnaires sent to crop reporters.
${ }^{1}$ Average yields on farms reporting.
${ }^{2}$ A.verage for all farms reporting.
${ }^{5}$ New York, Pennsy.lvania, Maryland, Virginia, and West Virginia.
4 Ohio, Indiana, Mlinois, and Iowa.
${ }^{5}$ Min

- Missouri, Kansas, Nebraska, Ozlahoma, and Texas.
$r$ Idaho, Washington, and Oregon.
Table 63.-Cost of production, excluding land rent, and farm price of spring wheat, 1913-1923.

| Year. | North Dakota, South Dakota, Minnesota. ${ }^{\text {P }}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Net cost per acre (excluding land rent). | Farm value of wheat per.acre. | Difference between farm value and cost per: acre (excluding land rent). | Value per scre of all land with improvements. | Yield per acre. | Net cost per bushel (excluđing land rent). | Farm price per bushel. |
| 1913. | Dollars. 8.4 | Dollars. 8.89 8. che | Bollars. | Dollars. ${ }_{49}$ | Bushels. $11.7$ | Dollars. 0.72 | Dollars. ${ }^{\text {a }}$. 6 |
| 1914. | 8.31 | 10.60 | $+2.29$ | 52 | 10.5 | . 79 | 1.01 |
| 1915. | 10. 42 | 16. 54 | +6.12 | 54 | 17.0 | . 59 | - 94 |
| 1916 | 8.76 | 88.87 | +.11 +10.35 | 57 62 | 11.8 | 1.41 | 1.43 |
| 1917. | 13. 25 | 23.60 33.46 | +10.35 +16.69 | ${ }_{65}^{62}$ | 11.8. ${ }^{18}$ | 1.122. | 2.00 |
| 1919. | 17.12 | 17.94 | +.82 | 72 | 7.8 | 2.19 | 2.30 |
| 1920. | 18: 22 | 15. 65 | -3. 27. | 95 | 9.1 | 2.08 | 1. 72 |
| 1921. | 12.36 | 8. 94 | -3:42 | 94 | 8.8 | 1. 44. | 1.04 |
| 1922. | 11.64 | 11. 54 | -. 10 | 81 | 13.9 | $1.84{ }^{1}$ | . 81 |
| 1923 3... | 10.76 | 8.10 | -2.66 | 73 | 8.9 | 1. 21. | . 91 |

[^143]Table 64.-Cost of production, excluding land rent, and farm price of winter wheat, 1913-1923.

| Year. | Kansas, Nebraska, Missouri. 1 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Net cost per acre (excluding land rent). | Farm value of wheat per acre. | Difference between farm value and cost per acre (excluding land rent). | Value per acre of land with improvements. | Yield per acre. | Net cost per bushel (excluding land rent). | Farm price per bushè. |
| 1913. | Dollars. 9.62: | Dollars. <br> 11.70 | Dollars. $+2.08$ | Dollars. 60 | Bushets. 15.2 | Dollars. 0.68 | Dollars. $0.77$ |
| 1914. | 10.18 | 18. 03 | $+7.85$ | 61 | 19.6 | . 52 | . 92 |
| 1915. | 9.98 | 13. 34 | +3.36 | 61 | 13.9 | . 72 | . 96 |
| 1946. | 10.19 | 18.36 | +8.17 | 66 | 13.4 | . 76 | 1.37 |
| 1917. ..... | 13.50 | 27.72 | $+14.22$ | 70 | 13.2 | 1.02 | 2.10 |
| 1918. | 17.12 | 28.34 | +11.22 | 77 | 14.1 | 1.21 | 2.01 |
| 1919. | 19.47 | 28.76 | +9.29 | 85 | 13.5 | 1.44 | 2.13 |
| 1920. | 20.48 | 26.93 | +6.45 | 106 | 15.3 | 1.34 | 1.76 |
| 1921. | 15.02 | 12.85 | -2.17 | 99 | 12.6 | 1.19 | 1.02 |
| 1922. | 12.01 | 11.31 | $-.70$ | 79 | 13.0 | . 92 | . 87 |
| 1923 ². | 12.09 | 9.49 | -2.60 | 77 | 10.1 | 1.20 | . 94 |

## Division of Cost of Production.

1 Costs computed from basic requirements as shown in Bulketin Ne. 943; 1913-1921 prices are averages of prices from July to June; 1922-1923 prices are for Oct. 1.

21923 figures subject to revision.
Table 65.-Index numbers of cost of production, excluding land rent, and farm price of spring wheat, 191s-192s.

| Year. | North Dakota, South Dakota, Minnesota. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Net cost per acre (excluding land rent). | Farm value of wheat per acre. | Value per acre of all land with improvements. | Yield per acre. | Net cost per bushel (excluding land ront). | Farm price per bushol. |
| 1913. | Per cent. 100 | Per cent. 100 | Per cent. 100 | Per cent. 100 | Per cent. 100 | Per cent 100 |
| 1914. | 98 | 119 | 106 | 90 | 110 | 133 |
| 1915. | 123 | 186 | 110 | 150 | 82 | 124 |
| 1916. | 104 | 100 | 116 | 53 | 198 | 188 |
| 1917. | 157 | 265 | 128 | 101 | 156 | 263 |
| 1918. | 199 | 376 | 133 | 140 | 142 | 268 |
| 1919. | 203 | 202 | 147 | 67 | 304 | 303 |
| 1920. | 224 | 176 | 194 | 78 | 289 | 226 |
| 1921. | 146 | 101 | 192 | 74 | 200 | 132 |
| 1922. | 138 | 130 | 165 | 119 | 117 | 109 |
| 1923... | 127 | 91 | 149 | 76 | 168 | 129 |

Division of Cost of Production.
Table 66.-Index numbers of eost of production, excluding land rent, and farm price of winter wheat, 1913-1923.

| Year. | Kansas, Nebraska, Missouri. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Net cost per acre (exeluding land rent). | Farm value of wheat per acre. | Value per acre of land with improve ments. | Yield per acre. | Net cost per bushel (exeluding land rent). | Farm price per bushel. |
|  | Per cent. | Per cent. | Per cent. | Per cent. 100 | Per cent. | Per cent. 100 |
| 1914. | 106 | 154 | 102 | 129 | 83 | 120 |
| 1915... | 104 | 114 | 102 | 91 | 114 | 125 |
| 1916. | 106 | 157 | 110 | 88 | 124 | 178 |
| 1917. | 140 | 237 | 117 | 87 | 182 | 278 |
| 1918. | 178 | 242 | 128 | 93 | 192 | 231 |
| 1919.. | 202 | 246 | 142 | $8{ }^{89}$ | 229 | 278 |
| 1929. | 213 | 230 | 177 | 101 | 213 | 220 |
| 1927.... | 156 | 110 | 165 138 | ${ }_{86}^{83}$ | 189 | 118 |
| 1922...... | 125 | 81 81 | ${ }_{128}^{138}$ | ${ }_{68}^{86}$ | 190 | 12 |

[^144]Table 67.-Value of farm land per acre, United States and Canada, 1914-1922.

| Country and subdivision. | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| United States ${ }^{1}$. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. 94 | Dollars. $79$ |
| Minnesota.... | 66 | 70 | 75 | 83 | 87 | 94 | 124 | 126 | 110 |
| North Dakota.. | 33 | 34 | 37 | 39 | 41 | 43 | 50 | 50 | 46 |
| South Dakota.. | 57 | 58 | 60 | 63 | 66 | 80 | 110 | 106 | 87 |
| Montana........ | 38 | 35 | 34 | 35 | 37 | 39 | 42 | 35 | 25 |
| Idaho............ | 63 | 66 | 64 | 71 | 87 | 97 | 125 | 125 | 105 |
| Washington.... | 110 | 99 | 102 | 100 | 115 | 115 | 150 | 145 | 100 |
| Oregon..... | 80 | 75 | 70 | 82 | 104 | 95 | 120 | 135 | 100 |
| - Nebraska. | 74 | 71 | 76 | 80 | 92 | 105 | 135 | 120 | 90 |
| Kansas. | 51 | 53 | 58 | 60 | 64 | 69 | 80 | 80 | 69 |
| Colorado. | 65 | 65 | 60 | 62 | 64 | 66 | 75 | 75 | 70 |
| Oklahoma. | 30 | 29 | 31 | 35 | 41 | 43 | 55 | 55 | 48 |
| Texas.... | 39 | 39 | 39 | 45 | 52 | 55 | 69 | 65 | 56 |
| Canada ${ }^{2}$........... | 37 | 35 | 36 | 38 | 41 | 46 | 48 | 40 | 40 |
| Manitoba........ | 32 | 30 | 32 | 31 | 32 | 35 | 39 | 35 | 32 |
| Saskatchewan.. | 24 | 24 | 23 | 26 | 29 | 32 | 32 | 29 | 28 |
| Alberta......... | 21 | 23 | 22 | 27 | 28 | 29 | 32 | 28 | 24 |

Division of Statistical and Historical Research.
${ }^{1}$ Based on estimated value per acre of "all land with improvements" as reported by crop reporters to Division of Crop and Livestock Estimates.
2 "All occupied farm land with improvements" as reported by Dominion Bureau of Statistics.
Table 68.-Index numbers of farm price of wheat and of costs of important factors of production and marketing in the United States, 1913-1923.


Division of Cost of Prodnction.
Implement prices from International Harvester Co. of America.
${ }^{1}$ 1913-1921: Average of prices from July to June: 1922-23 prices for October 1.
1923 wage index: January 133, April 140, July 159, October 154.
Table 69.-Index numbers of farm price of wheat and costs of important factors of production and marketing in Kansas and North Dakota, 1913-1923.

| Year. | Winter wheat (Kansas). |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average farm price of wheat. ${ }^{1}$ | Monthly wages of farm labor without board. | Wholesale prices 13 representative farm implements. | Binder twine average, United prices. | Threshing rate (shock threshing bundle grain). | Value of all land with im-provements. | Freight rates from McPherson, to Kansas City, Mo. |
|  | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. 100 | Per cent. | Per cent. 100 |
| 1914. | 118 | 104 | 101 | 102 | 100 | 102 | 100 |
| 1915. | 124 | 107 | 105 | 105 | 100 | 106 | 100 |
| 1916. | 177 | 113 | 110 | 132 | 100 | 116 | 100 |
| 1917. | ${ }^{273}$ | 136 | 131 | 193 | 150 150 | 120 | 100 125 |
| 1918. | 256 276 | 167 | 178 | 222 | 150 200 | 128 <br> 138 | 125 125 |
| 19192. | 222 | ${ }_{230}$ | 196 | 175 | 200 | 160 | 169 |
| 1921. | 132 | 150 | 185 | 140 | 160 | 160 | 169 |
| 1922. | 110 | ${ }^{139}$ | 152 | 114 | 150 150 | 138 | 149 |
| 1923.... | 122 |  | 154 | 123 | 150 | 136 |  |

[^145]Table 69.-Index numbers of farm price of wheat and costs of important factors of production and marketing in Kansas and North Dakota, 1913-1923-Continued.

| Year. | Spring wheat (North Dakota). |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average farm price of wheat. 1 | Monthly wages of farm labor without board. | Wholesale prices 13 representative farm implements. | Binder twine average Stated prices. | Threshing rate (shock threshing bundle grain). | Value of all land with im-provements. | Freight rates froma Larimore, N. Dak., to Minneapolis, Minn. |
|  | Per cent. | Per cent. | Per cent. ${ }^{100}$ | Per cent. | Per cent. 100 | Per cent. | Per cent. 100 |
| 1914. | 136 | 106 | 101 | 102 | 100 | 106 | 109 |
| 1915. | 124 | 107 | 105 | 105 | 100 | 110 | 100 |
| 1916. | 189 | 111 | 110 | 132 | 100 | 119 | 100 |
| 1917. | 265 | 141 | 131 | 193 | 150 | 126 | 100 |
| 1918. | 273 | 169 | 178 | 232 | 150 | 132 | 125 |
| 1919. | 311 | 187 | 188 | 226 | 200 | 139 | 125 |
| 1920. | 240 | 228 | 196 | 175 | 200 | 161 | 174 |
| 1921. | 137 | 142 | 185 | 140 114 | 160 150 | 161 | 171 146 |
| 1922. | 111 | (2) 131 | 152 154 | 114 123 | 150 150 | 148 135 | 146 |

Division of Cost of Production.
Implement prices from International Harvester Co. of America.
1913-1921 indices are averages of prices from July to June; 1922-1923 are for Oct. 1.
:1923 wage index, Kansas: January, 132; April, 142; July, 146; October, 151. North Dakota: January, 101; A pril, 125; July, 144; October, 147.
Table 70.-Wheat, hard spring-margins between the prices in the United States and Canada, 1921-1923. ${ }^{1}$

| Year and month. |  | Winnipeg No. 2 Northern. ${ }^{2}$ | Duluth No. 1 Dark Northern. | Minneapolis No. 1 Dark Northern. | Margins American over Canadian prices. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Duluth. |  |  | Minneapolis. |
|  | 1921. |  | Cents. | Cents. ${ }_{178}$ | Cents. ${ }_{179}$ | Cents. | Cents. 11 |
| January... |  | 168 | 178 <br> 170 | 179 | 10 | 7 |
| March.... |  | 165 | 169 | 166 | 4. | 1. |
| April..... |  | 152 | 151 | 148 | -1 | -8 |
| May....... |  | 164 | 158 | 156 | -6 | -8 |
| June...... |  | 165 | 162 | 161 | -3 | - |
| July..... |  | 159 135 | 154 148 | 165 | -5 13 | 6 18 |
| August |  | 135 | 148 <br> 154 | 148 | 13 26 | ${ }_{24}^{13}$ |
| October.. |  | 103 | 134 | 134 | 31 | 31 |
| November. |  | 99 | 128 | 128 | 29 | 29 |
| December. . |  | 99 | 130 | 130 | 31 | 31 |
|  | 1922. |  |  |  |  |  |
| January... |  | 104 | $\begin{array}{r}131 \\ 153 \\ \hline 1\end{array}$ | 153 |  | 228 |
| Mabruary... |  | 132 | 157 | 155 | 25 | 28 |
| April..... |  | 135 | 164 | 161 | 29 | 28 |
| May...... |  | 137 | 162 | 161 | 25 | 2 |
| June........ |  | 128 | 147 | 147 |  | 18 |
| August... |  | 112 | 122 | 124 | $10^{\circ}$ | 12 |
| September |  | 99 | 113 | 113 | 14 | 14 |
| October.. |  | 100 | 115 | 116 | 15 | ${ }_{15}^{18}$ |
| November. |  | 108 | 123 128 | 123 | 15 22 | ${ }_{23}^{16}$ |
| December.. | .................. | 106 | 128 | 127 |  |  |
|  | 1923. |  |  | 124 | 16 | 18 |
| January... | ... | 108 | 123 | 126 | 15 | 18 |
| March.... |  | 109 | 123 | 125 | 14 | 16 |
| April... |  | 118 | 129 | 130 | 11 | 12 |
| May.... |  | 114 | 126 | 128 | 12 | 12 |
| June..... |  | 111 |  |  |  | 6 |
| July...... |  | 103 | 116 | 116 | 10 | 10 |
| August... |  | 109 99 | 123 | 118 | 24 | 19 |
| October... |  | 94 | 124 | 126 | 30 | 32 |
| November. |  | 93 | 120 | 119 | ${ }^{27}$ | 26 |
| December.. | . | 88 | 118 | 119 | 30 | 31 |

[^146]Table 71.-Wheat-Average spot prices in Liverpool, June, 1921-December, 1923. ${ }^{1}$

|  | Year and month. | No. 1 Northern Manitoba per bushel. | No. 2 Hard Winter (American) per bushel. | Margin of Canadian over American winter wheat, perbushel. |
| :---: | :---: | :---: | :---: | :---: |
| June | 1921. | Cents. | Cents. | Cents. |
| October. |  | 136.4 | 125.4 | 10.0 |
| November. |  | 134.6 | 124.8 | 9.8 |
| December. |  | 146.8 | 135.2 | 11.6 |
|  | 1922. |  |  |  |
| January.. |  | 145.1 |  |  |
| March..... |  | 179.1 |  |  |
| April.... |  | 171.1 | 157.4 | 13.7 |
| May.... |  | 170.9 | 158.3 | 12.6 |
| Jone... |  | 157.7 | 143.3 | 14.4 |
| July.. |  | 165.5 | 148.9 | 16.6 |
| August. |  | 159.3 | 141.3 | 18.0 |
| Septembe |  | 148.3 | 130.0 | 18.3 |
| October... |  | 154.2 | 140.2 | 14.0 |
| December. |  | 144.9 148.1 | 152.4 | -7.5 |
|  | 1923. |  |  |  |
| January.. |  | 143.6 | 141.8 | 1.8 |
| February. |  | 143.7 | 142.0 | 1.7 |
| April. |  | 146.0 | 145.3 | 1.7 |
| May... |  | 150.4 |  |  |
| June... |  | 142.1 |  |  |
| July... |  | 138.9 |  |  |
| August. |  | 135.4 | 126.0 | 9.4 |
| September. |  | 141.8 |  |  |
| November. |  | 140.1 |  |  |
| December . |  | 128. 0 |  |  |

Division of Statistical and Historical Research. Compiled from Broomhall's Corn 'frade News.
${ }^{1}$ Monthly averages for days on which prices for both classes of wheat were quoted. Quotations converted at exchange for the month.

Table 72.-Chicaga prices to dealers for five representative farm implements, 1913-1923. ${ }^{1}$

| Implement. | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 192 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dol- | Dol- | Dol- |  | Dol- | Dol- | Dot- | Dol- | Dol- | Dal- | Dol- |
| Grain binder (6-foot with bundle carrier) | $\begin{array}{\|l\|l\|} \text { lars } \\ 95.43 \end{array}$ | $\begin{aligned} & \text { lars. } \\ & 95.43 \end{aligned}$ | $\begin{aligned} & \text { lars. } \\ & 95.43 \end{aligned}$ | $\begin{aligned} & \text { lars. } \\ & 100.09 \end{aligned}$ | $\begin{aligned} & l a r s . \\ & 120.25 \end{aligned}$ | $166.25$ | $\begin{aligned} & \text { lars. } \\ & 1.25 .25 \end{aligned}$ | $\begin{gathered} \text { lars. } \\ 156.75 \end{gathered}$ | $\begin{aligned} & \text { lars. } \\ & 163.40 \end{aligned}$ | $\begin{aligned} & \text { Zars. } \\ & 138.70 \end{aligned}$ |  |
| Grain drill (12 by 7, singie disk) | 54 | 54.40 | 0 | 55.33 |  | 5 |  | 5 |  | 79.80 | 79.56 |
| Corn planter(with 80 rod wire) | 31.62 | . 62 | 15 | 33.72 |  |  |  |  |  | 49.40 | 49.64 |
| Corn binder (with bundle carrier) |  |  |  |  |  |  |  |  | 163.40 | 138.70 | 138.70 |
| Mower (5-foot, plain lift).. | 33. 52 | 34.45 | 34.45 | 36.31 | 44.40 | 61.75 | 61.75 | 58.90 | 62.46 | 53.20 | 53.20 |

Bureau of Agricultural Economics. Implement prices from International Harvester Co. of America. ${ }^{17}$ F.o.b.

Table 73.-Index numbers of Chicago prices to dealers for representative farm implements, 1913-192s. ${ }^{1}$

| Implement. | 1913. | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Per | Per | Per | Per | Per | Per | Per | Per | Per | Per |
| Group of 13 representative farm implements ${ }^{2}$ | $\begin{gathered} \text { cent } \\ 100 \end{gathered}$ | cent. | $\begin{gathered} \text { cent. } \\ 105 \end{gathered}$ | cent. <br> 110 | cent. | cent. | cent. | cent. | cent. <br> 185 | cent. <br> 152 | ${ }_{154}$ |
| Grain binder (6-foot with bandle |  |  |  |  |  |  |  |  |  |  |  |
| carrier)..................... | 100 | 100 | 100 | 105 | 126 | 174 169 | 174 169 | 164 169 | 171 173 | 145 | 145 148 |
| Grain drill (12 by 7, single disk).. | 109 | 100 100 | 109 99 | 102 | 126 | 169 176 | 169 176 | 169 | 173 173 | 147. | 148 |
| Corn planter (with 80 rods wire).- | 100 100 | 100 100 | 99 100 | 107 105 | 135 126 | 176 174 | 176 174 | 176 | 173 171 | 156 145 | 157 145 |
| Mowers (5-foot, plain lift).......... | 100 | 103 | 103 | 108 | 132 | 184 | 184 | 176 | 186 | 159 | 159 |

Bureau of Agricultural Economics. Price data furnished by International Harvester Co. of America. 1F.o.b.
${ }^{2}$ The group includes one each of the following implements: grain binder, mower, self-dump hay rake, hay loader, corn planter, corn binder, ensilage cutter, grain drill, disk harrow, spring-toeth harrow, spiketooth harrow, cream separator, standard 3 \}-inch wagen.

Table 74.-Some factors influeneing the price of wheat (hard winter wheat at Kansas City).

AUGUST 26, 1922.


OCTOBER 29, 1923.

| Dark hard..No. 4.............. | 1.18 | 13.72 per cent protein; Colorado. |
| :---: | :---: | :---: |
|  | 1.12 | 12.60 per cent protein; Colorado. |
| Hard.........No. 1. | 1.18 | 12.64 per cent protein; Kansas; 611 ${ }^{\text {d }}$ pounds. |
| No. 2.............. | 1. 20-1. 22 | 12.90-13.50 per cent protein; near dark. |
|  | 1.18 | 12.42-12.58 per cent protein; good territory, Kansas. |
|  | 1.12-1.15 | 12.30-12.60 per cent protein; intermediate character. |
|  | 1. 05-1.09 | 12.25 per cent or less protein; medium to ordinary quality. |
| No.3.. | 1.19-1.21 | 12.90-13.75 per cent protein; choice. |
|  | 1.12-1. 16 | 12.50-13 per cent protein; medium to fair character. |
|  | 1.05-1.09 | 12-12.40 per cent protein; medium quality. |
|  | 1. 03-1. 05 | 12 per cent or less protein; ordinary. |
| No. 4.. | 1.14-1.16 | 12.90-13.73 per cent protein; fair to good. |
|  | 1.08-1.11 | 12.45-12.85 per cent protein; intermediate. |
|  | 1.03-1.07 | 12-12.40 per cent protein. |
|  | . .98-1.03 | Under 12 per cent protein. |
|  | .98-1.00 | Extremely common. |
| No. 5.. | 1.19 | 14 per cent protein; fancy; $53 \frac{1}{2}$ pounds. |
|  | 1.12 | 13.12 per cent protein. |
|  | 1.07 | Near 13 per cent protein. |
|  | 1. 03-1.04 | 12.70 per cent protein. |
|  | 1.00 | 12 per cent protein; 53 ponnds. |
|  | .92-.96 |  |

Division of Statistical and Historical Research. Compiled from Kansas City Grain Market Review.

Table 75.-Wheat, estimated prices of No. 1 Northern Spring if pre-war price ratios were established at price levels of 1921, 1922, 1923.

| Month. | Index wholesale prices, all commodities, Bureau Labor Statistics, $1909-1913=100 .{ }^{1}$ |  |  | Minneapolis prices per bushel. ${ }^{2}$ | 1909-1913 prices per bushel raised with index wholesale prices. ${ }^{8}$ |  |  | Prices received per bushel. 4 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 | $\begin{gathered} 1909- \\ 1913 \end{gathered}$ | 1921 | 1922 | 1923 | 1921 | 1922 | 1923 |
|  | Perct. | Perct. | Per ct. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| January. | 177.5 | 144.1 | 162.8 | 1.048 | 1. 860 | 1. 510 | 1. 706 | 1.81 | 1.39 | 1.28 |
| February | 167.0 | 147.2 | 163.9 | 1. 044 | 1.743 | 1. 537 | 1.711 | 1.74 | 1. 58 | 1.31 |
| March. | 161. 8 | 148.2 | 166.0 | 1. 042 | 1.686 | 1. 544 | 1. 730 | 1.72 | 1. 50 | 1.29 |
| April. | -154.5 | 149.3 | 166. 0 | 1.058 | 1.635 | 1.580 | 1.756 | 1. 57 | 1.66 | 1.34 |
| May. | 151.4 | -154.5 | 162.8 | 1. 094 | 1. 656 | 1.690 | 1.781 | 1.67 | 1.71 | 1.32 |
| June. | 148.2 | 156.6 | 159.7 | 1. 090 | 1. 615 | 1.707 | 1.741 | 1.74 | 1.53 | 1.22 |
| July. | 147.2 | 161. 8 | 157.6 | 1. 098 | 1. 616 | 1.777 | 1. 730 | 1.81 | 1. 57 | 1.18 |
| August | 148.2 | 161. 8 | 156.6 | 1. 020 | 1. 512 | 1.650 | 1.597 | 1. 57 | 1.22 | 1.22 |
| Septembe | 147. 2 | 159.7 | 160.8 | . 996 | 1. 466 | 1. 595 | 1. 602 | 1. 56 | 1. 20 | 1.23 |
| October. | 148.2 | 160.8 | 159.7 | . 992 | 1.470 | 1. 591 | 1. 584 | 1.37 | 1. 21 | 1.26 |
| November | 147.2 | 162.8 | 158.7 | . 966 | 1. 422 | 1. 573 | 1. 533 | 1.30 | 1.28 | 1.19 |
| December | 146.1 | 162.8 | 157.6 | . 970 | 1.417 | 1. 579 | 1. 529 | 1.33 | 1.31 | 1.19 |
| Year | 153.4 | 155.5 | 160.8 | 1.035 | 1.588 | 1.609 | 1.664 | 1.60 | 1.43 | 1.26 |

Division of Statistical and Historical Research.
${ }^{1}$ Bureau of Labor Statistics index converted to 1909-1913 base.
${ }^{2}$ A verage cash price.
${ }_{3}$ A The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.
${ }^{4}$ A verage of reported sales No. 1 Dark Northern, Minneapolis.
Table 76.-Wheat, estimated prices of No. 2 Hard Winter if pre-war price ratios were established at price levels of 1921, 1922, 1923.

| Month. | Index wholesale prices, all commodities, Bureau Labor Statistics, $1909-1913=100 .{ }^{3}$ |  |  | $\begin{array}{\|c} \text { Kansas } \\ \text { City } \\ \text { prices } \\ \text { per } \\ \text { bushel. } 2 \end{array}$ | 1909-1913 prices per bushel raised with index wholesale prices. ${ }^{8}$ |  |  | Prices received per bushel. 4 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 | $\begin{gathered} 1909- \\ 1913 \end{gathered}$ | 1921 | 1922 | 1923 | 1921 | 1922 | 1923 |
|  | Per ct. | Per ct. | Per ct. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| January | 177.5 | 144.1 | 162.8 | 1.008 | 1.789 | 1.453 | 1.641 | 1.72 | 1.13 | 1.14 |
| Februar | 167.0 | 147.2 | 163. 9 | 1.000 | 1. 670 | 1.472 | 1.639 | 1.62 | 1.29 | 1.15 |
| March. | 161.8 | 148.2 | 166.0 | 1.008 | 1.631 | 1.494 | 1.673 | 1.55 | 1.34 | 1.16 |
| April. | 154.5 | 149.3 | 166.0 | 1.046 | 1.616 | 1.562 | 1.736 | 1.33 | 1.35 | 1.29 |
| May | 151.4 | 154.5 | 162.8 | 1.066 | 1.614 | 1.647 | 1. 735 | 1.47 | 1.34 | 1.16 |
| June | 148.2 | 156.6 | 159.7 | 1.060 | 1.571 | 1.660 | 1.693 | 1.38 | 1.17 | 1.01 |
| July.. | 147.2 | 161.8 | 157.6 | . 958 | 1.410 | 1. 550 | 1.510 | 1.14 | 1.13 | . 96 |
| August | 148.2 | 161.8 | 156. 6 | . 934 | 1.384 | 1.511 | 1.463 | 1.15 | 1.04 | 1.01 |
| September | 147.2 | 159.7 | 160. 8 | . 942 | 1.387 | 1.504 | 1.515 | 1.22 | 1.04 | 1.09 |
| October. | 148.2 | 160.8 | 159.7 | . 954 | 1.414 | 1.534 | 1.524 | 1.10 | 1.13 | 1.12 |
| November | 147.2 | 162. 8 | 158.7 | . 922 | 1.357 | 1.501 | 1.463 | 1.10 | 1.17 | 1.09 |
| December. | 146.1 | 162.8 | 157.6 | . 942 | 1.376 | 1.534 | 1.485 | 1.09 | 1.17 | 1.09 |
| Year | 153.4 | 155.5 | 160.8 | . 987 | 1.514 | 1.535 | 1.587 | 1.32 | 1.19 | 1.10 |

Division of Statistical and Historical Research.
${ }^{1}$ Bureau of Labor Statistics index converted to 1909-1913 base.
${ }^{2}$ Average cash price.
${ }^{2}$ Average cash price. the corresponding month.
${ }^{4}$ Average of reported sales, Kansas City

Table 77.-Wheat, estimated prices of No. 2 Red Winter if pre-war price ratios were established at price levels of 1921, 1922, 1923.

| Month. | Index wholesale prices, all commodities, Bureat of Labor Statistics, $1909-1913=100.1$ |  |  | Chicago prices per bushel. ${ }^{2}$ | 1909-1913 prices per bushel raised with index wholesale prices. ${ }^{3}$ |  |  | Prices received per bushel. 4 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 | $\begin{gathered} 1909- \\ 1913 \end{gathered}$ | 1921 | 1922 | 1923 | 1921 | 1922 | 1923 |
|  | Perct. | Per ct. | Per ct. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| January.. | 177.5 | 144.1 | 162.8 | 1.074 | 1.906 | 1. 548 | 1.748 | 1.94 | 1.21 | 1.30 |
| February | 167.0 | 147. 2 | 163.9 | 1. 068 | 1. 784 | 1. 572 | 1.750 | 1.85 | 1.34 | 1.35 |
| March. | 161.8 | 148. 2 | 166.0 | 1. 056 | 1. 709 | 1.565 | 1. 753 | 1.65 | 1.38 | 1. 31 |
| April. | 154.5 | 149.3 | 166. 0 | 1. 090 | 1. 684 | 1. 627 | 1. 809 | 1.41 | 1. 40 | 1.32 |
| May. | 151.4 | 154. 5 | 162.8 | 1.148 | 1. 738 | 1.774 | 1. 869 | 1.67 | 1.34 | 1. 28 |
| June | 148.2 | 156.6 | 159. 7 | 1.124 | 1. 666 | 1.760 | 1.795 | 1.47 | 1.18 | 1.16 |
| July. | 147.2 | 161.8 | 157.6 | . 990 | 1.457 | 1.602 | 1.560 | 1.24 | 1.14 | 1.00 |
| August | 148. 2 | 161.8 | 156.6 | . 974 | 1.443 | 1.576 | 1. 525 | 1.22 | 1.07 | 1.00 |
| September | 147.2 | 159.7 | 160.8 | . 990 | 1. 457 | 1. 581 | 1.592 | 1.29 | 1.06 | 1. 05 |
| October. | 148.2 | 160.8 | 159.7 | 1. 028 | 1. 523 | 1.653 | 1. 642 | 1.18 | 1.18. | 1.11 |
| November | 147.2 | 162.8 | 158.7 | . 996 | 1. 466 | 1.621 | 1.581 | 1.23 | 1.27 | 1.06 |
| December. | 146.1 | 162.8 | 157.6 | . 990 | 1.446 | 1.612 | 1. 560 | 1.18 | 1.33 | 1.09 |
| Year | 153.4 | 155.5 | 160.8 | 1.044 | 1.601 | 1.623 | 1.679 | 1.44 | 1. 24 | 1.17 |

Division of Statistical and Historical Research.
${ }^{1}$ Bureau of Labor Statistics index converted to 1909-1913 base.
${ }^{2}$ Average cash price.
${ }^{3}$ The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.
${ }^{4}$ A verage of reported sales, Chicago.
Table 78.-Estimated prices of contract grades of corn, if pre-war price ratios were established at price levels of 1921, 1922, 1923.

| Month. | Index wholesalc prices, all commodities, Bureau of Labor Statistics, 1909-1913 $=100.1$ |  |  | Chicago prices per bushel. ${ }^{2}$ | 1909-1913 prices raised with index wholesale prices. ${ }^{8}$ |  |  | Prices received per bushel. 4 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 | $1909-$ 1913 | 1921 | 1922 | 1923 | 1921 | 1922 | 1923 |
|  | Per ct. | Per ct. | Perct. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| January. | 177.5 | 144.1 | 162.8 | 0.574 | 1.019 | 0.827 | 0.934 | 0.682 | 0.484 | 0.711 |
| February | 167.0 | 147. 2 | 163.9 | . 577 | . 964 | . 849 | . 946 | . 665 | . 572 | . 737 |
| March. | 161.8 | 148. 2 | 166.0 | . 590 | . 955 | . 874 | . 979 | . 649 | . 575 | . 740 |
| April. | 154.5 | 149.3 | 166.0 | . 622 | . 961 | . 929 | 1. 033 | . 578 | . 588 | . 793 |
| May. | 151.4 | 154. 5 | 162.8 | . 652 | . 987 | 1.007 | 1.061 | . 616 | . 618 | . 809 |
| June | 148.2 | 156.6 | 159.7 | . 645 | . 956 | 1.010 | 1. 030 | . 614 | . 609 | . 839 |
| July.. | 147.2 | 161. 8 | 157.6 | . 664 | . 977 | 1. 074 | 1.046 | . 614 | . 643 | . 857 |
| August | 148. 2 | 161. 8 | 156.6 | . 692 | 1. 026 | 1.120 | 1.084 | . 570 | . 622 | . 876 |
| Septembe | 147.2 | 159.7 | 160.8 | . 678 | . 998 | 1.083 | 1. 090 | . 539 | . 635 | . 884 |
| October. | 148.2 | 160.8 | 159.7 | . 634 | . 940 | 1.019 | 1.012 | . 478 | . 691 | 1.011 |
| November | 147.2 | 162.8 | 158.7 | . 625 | . 920 | 1.018 | . 992 | . 482 | . 722 | . 842 |
| Decomber | 146.1 | 162.8 | 157.6 | . 600 | . 877 | . 977 | . 946 | . 482 | . 734 | . 730 |
| Year | 153.4 | 155.5 | 160.8 | . 629 | . 965 | . 978 | 1.011 | . 580 | . 624 | . 821 |

Division of Statistical and Historical Research.
${ }^{1}$ Bureau of Labor Statistics index converted to 1909-1913 base.
${ }^{2}$ Bureau of Labor Statistics.
a The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.
${ }^{4}$ Chicago; from Bureau of Labor Statistics.

Table 79:-Estimated prices of hogs, if pre-war price ratios were established at price levels of 1921, 1922, 1923.

| Month. | Index wholesale prices, all commodities, Bureau of Labor Statistics, $1909-1913=100.1$ |  |  | Chicago prices per hun-dredweight. ${ }^{2}$ | 1909-1913 prices per hundredweight raised with index wholesale prices. ${ }^{3}$ |  |  | Prices received per hundredweight. ${ }^{4}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 | $\begin{gathered} 1909- \\ 1913 \end{gathered}$ | 1921 | 1922 | 1923 | 1921 | 1922 | 1923 |
|  | Per ct. | Per ct. | Per ct. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Jamuary | 177.5 | 144.1 | 162.8 | 7.26 | 12.89 | 10.46 | 11.82 | 9.41 | 8.02 | 8.29 |
| February | 167.0 | 147.2 | 163.9 | 7.43 | 12.41 | 10.94 | 12.18 | 9. 42 | 9.90 | 8.02 |
| March. | 161.8 | 148.2 | 166.0 | 8.02 | 12.98 | 11.89 | 13. 31 | 10.00 | 10.43 | 8.18 |
| April. | 154.5 | 149.3 | 166.0 | 8.04 | 12.42 | 12. 00 | 13. 35 | 8.50 | 10.31 | 8.08 |
| May. | 151. 4 | 154.5 | 162.8 | 7.81 | 11.82 | 12. 07 | 12.71 | 8.35 | 10.48 | 7.53 |
| June. | 148.2 | 156.6 | 159.7 | 7.90 | 11.71 | 12. 37 | 12.62 | 8.19 | 10.33 | 6.92 |
| July. | 147.2 | 161.8 | 157.6 | 8.00 | 11.78 | 12.94 | 12. 61 | 9.69 | 9.70 | 7.04 |
| August. | 148.2 | 161.8 | 156.6 | 8.00 | 11. 86 | 12.94 | 12. 53 | 9.26 | 8.01 | 7.65 |
| September | 147.2 | 159.7 | 160.8 | 8.15 | 12.00 | 13. 02 | 13.11 | 7.61 | 8.75 | 8.35 |
| October. | 148.2 | 160.8 | 159.7 | . 7.93 | 11.75 | 12. 75 | 12.66 | 7.72 | 8.80 | 7.42 |
| November | 147.2 | 162.8 | 158.7 | 7.48 | 11.01 | 12. 18 | 11.87 | 7.01 | 8.07 | 6.85 |
| December | 146.1 | 162.8 | 157.6 | 7.50 | 10.96 | 12. 21 | 11.82 | 6.92 | 8.18 | 6.87 |
| Year | 153.4 | 155.5 | 160.8 | 7.77 | 11.92 | 12.08 | 11.49 | 8.51 | 9.22 | 7.55 |

Division of Statistical and Historical Research.
${ }^{1}$ Bureau of Labor Statistics index converted to 1909-1913 base.
Average cash price.
${ }^{3}$ The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for corresponding month.
${ }^{4}$ A verage cost of packer and shipper purchases, Chicago.
Table 80.-Estimated prices of lard, if pre-war price ratios were established at price levels of 1921, 1922, 1923.

| Month. | Index wholesale prices, all commodities, Burean of Labor Statistics, $1909-1913=100 .{ }^{1}$ |  |  | Chicago <br> prices per hun-dredweight. ${ }^{2}$ | 1909-1913 prices per hundredweight raised with index wholesale prices. ${ }^{3}$ |  |  | Prices received per hundredweight. ${ }^{2}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 | $\begin{gathered} 1909- \\ 1913 \end{gathered}$ | 1921 | 1922 | 1923 | 1921 | 1922 | 1923 |
|  | Per ct. | Per ct. | Per ct. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollafs. |
| January | 177.5 | 144.1 | 162.8 | 10.29 | 18.26 | 14.83 | 16.75 | 16. 03 | 11.19 | 13.20 |
| February | 167.0 | 147.2 | 163.9 | 10.18 | 17.00 | 14.98 | 16.69 | 14.91 | 12.59 | 13. 25 |
| March. | 161.8 | 148.2 | 166.0 | 10. 60 | 17.15 | 15. 71 | 17.60 | 14.48 | 13.50 | 13.87 |
| April. | 154.5 | 149.3 | 168.0 | 10. 33 | 15.96 | 15.42 | 17.15 | 13.07 | 12. 62 | 13. 42 |
| May. | 151.4 | 154.5 | 162.8 | 10.68 | 16. 17 | 16. 50 | 17.39 | 11.88 | 13.15 | 13. 12 |
| June. | 148. 2 | 156.6 | 159.7 | 10.77 | 15.96 | 16. 87 | 17.20 | 12. 03 | 13.22 | 13.18 |
| July.. | 147.2 | 161.8 | 157.6 | 10.75 | 15. 82 | 17.39 | 16.94 | 13.94 | 13. 06 | 12. 84 |
| August. | 148.2 | 161.8 | 158.6 | 10.89 | 16. 14 | 17.62 | 17.05 | 13.65 | 13.30 | 12.83 |
| September | 147.2 | 159.7 | 160.8 | 11.24 | 16. 55 | 17.95 | 18.07 | 13.51 | 13.00 | 15.06 |
| October. | 148.2 | 160.8 | 159.7 | 11.20 | 16.60 | 18. 01 | 17.88 | 12.16 | 14.12 | 15.22 |
| November | 147.2 | 162.8 | 158.7 | 10.92 | 16. 07 | 17.78 | 17.33 | 11.62 | 13. 78 | 15. 72 |
| December. | 146.1 | 162.8 | 157.6 | 10.71 | 15.65 | 17.44 | 16.88 | 11.25 | 13.31 | 15.04 |
| Year | 153.4 | 155.5 | 160.8 | 10.72 | 16. 44 | 16. 67 | 17.24 | 13.21 | 13.07 | 13.90 |

[^147]Table 81.-Tax per acre and percentage increase on agricultural land outside of incorporated places in South Dakota for 1913, 1919, and 1921. (General property tax.)

| Area. | Tax per acre. ${ }^{1}$ |  |  | Increase. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1913 | 1919 | 1921 | 1913-1919 | 1913-1921 | 1919-1921 |
|  | Dollars. | Dollars. | Dollars. | Per cent. | Per cent. | Per cent. |
| 32 western counties ${ }^{3}$ | 0.30 .15 | 0.79 .33 | 0.73 .33 | 120 | 120 | - 0 |
| All counties.. | .24 | . 54 | .35 | 125 | 129 | 2 |

Division of Agricultural Finance. Compiled from 1914 State Auditor's Report, vol. 2, and the Annual Reports of State Tar Commission for the years 1914, 1920, and 1921-22.
${ }_{2}{ }^{T}$ Tax levies of 1913, 1919, and 1921 for psyment in 1914, 1920, and 1922, respectively.
${ }^{2}$ The counties included in the eastern division are: Aurora., Beadle, Bon Homme, Brookings, Brown, Charles Mix, Clark, Clay, Codington, Davison, Day, Deuel, Douglas, Edmunds, Faulk, Grant, Gregory, Hamlin, Hand, Hanson, Hutehinson, Jerauld, Kingsbury, Lake, Lincoln, McCook, McPherson, Marshall, Miner, Minnehaha, Moody, Roberts, Sanborn, Spink, Turner, Union, and Yankton.
${ }^{3}$ All counties not listed in note 2 are included in the western division.
Table 82.-Analysis of taxes levied on agricultural land outside incorporated places in South Dakota, 1913, 1919, and 1921. (General property tax.)

| Area. | Year. | Distribution. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | State. | County. | Township. | School. | Miscellaneous. | Total. |
| 37 eastern counties ............. $\{$ | $\left\{\begin{array}{l}1913 \\ 1919 \\ 1921\end{array}\right.$ |  | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. 100. |
|  |  | 13.4 16.9 | $\begin{aligned} & 33.0 \\ & 37.0 \end{aligned}$ | $\begin{aligned} & 14.2 \\ & 11.1 \end{aligned}$ | $\begin{aligned} & 38.4 \\ & 35.0 \end{aligned}$ | 1.0 .0 | $\begin{aligned} & 100.0 \\ & 100.0 \end{aligned}$ |
|  |  | 12.9 | 27.0 | 10.4 | 49.7 | . 0 | 100.0 |
|  | ${ }_{1919}^{1912}$ | 8.1 | 43.3 | 7.0 | 40.6 | 1.0 | 100.0 |
|  |  | 11.2 | 41.5 | 5.7 | 41.6 | . $\theta$ | 100.0 |
| 32 western counties ............. | 1919 1921 | 7.6 | 38.9 | 5. 6. | 47.9 | . 0 | 100.0 |
| All counties | 1913 1919 | 11.8 | 36.2 | 12.0 | 39.0 | 1.0 | 100.0 |
|  | All counties......................... $\left\{\begin{array}{r}1919 \\ 192 \mathrm{I}\end{array}\right.$ | 15.3 11.3 | 38.3 30.7 | 9.6 9.0 | 3998 49.0 | . 0 | 100.0 100.0 |

Division of Agricultural Finance. (See notes to Table 81.)
Table 83.-Estimated tax per acre and percentage increase on improved farm land for the east-side counties of Washington, by drstricts, 1914 and 1921. (General property tax.)

| Areas. | Tax per acre. ${ }^{1}$ |  | Increase, 1914-1921. |
| :---: | :---: | :---: | :---: |
|  | 1914 | 1921 |  |
|  | Dollars. | Dollars. | Per cent. |
| Big Bend ( 5 counties) ${ }^{2} \ldots \ldots .$. | 0.19 .49 | 0.63 1.36 | 232 178 |
| Palouse area ( 6 counties) ${ }^{4}$...... | . 37 | 1.24 | 235 |
| Central counties ( 5 counties) ${ }^{\text {b }}$ | . 92 | 3.88 | 322 |
| Average east-side ( 20 counties). | . 35 | 1.18 | 237 |

Division of Agricultural Finance. Compiled from Third Biennial Report of State Tax Commission of Washington.
1 Owing to the lack of complete data, the assessed value of improved agricultural land reported in 1920 was used as the basis of calculations for 1921 .
${ }_{2}$ Counties of Lincoln, Adams, Franklin, Grant, and Douglas.
${ }^{8}$ Counties of Pend Oreille, Stevens, Ferry, and Okanogan.
4 Counties of Spokane, Whitman, Garfield, Asotin, Columbia, and Walla Walla.
${ }^{5}$ Counties of Chelan, Kittitas, Yakima, Klickitat, and Benton.

Table 84.-Increase in delinquent taxes, Kansas, 1917-1922.
[1917 delinquent taxes $=100$ per cent.]


Table 85.-Tax per acre and percentage increase on farn land in Kansas for 1913, 1919, and 1921. (General property tax.)

| Area. | Tax per acre. ${ }^{1}$ |  |  | Increase. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1913 | 1919 | 1921 | 1913-1919 | 1913-1921 | 1919-1921 |
| 84 eastern counties ${ }^{2}$. | Dollars. 0.24 | Dollars. $0.39$ | Dollars. $0.54$ | Per cent. | Per cent. | Per cent. |
| 21 western counties ${ }^{3}$. | . 04 | . 12 | . 21 | 200 | 425 | 75 |
| All counties....... | . 17 | . 33 | . 46 | 94 | 171 | 39 |
| McPherson County. | . 22 | . 55 | . 57 | 150 | 159 | 4 |
| Thomas County.. | . 08 | . 14 | . 17 | 75 | 113 | 21 |

Division of Agricultural Finance. Compiled from the Fourth, Seventh, and Eighth Biennial Reports of the State Tax Commission of Kansas.
${ }^{1}$ Tax levies of 1913, 1919, and 1921 for payment in 1914, 1920, and 1922; respectively.
${ }^{2}$ All counties not listed in note 3 are included in the eastern division.
: The counties included in the western division are: Cheyenne, Finney, Gove, Grant, Gray, Greeley, Hamilton, Haskell, Kearney, Lane, Logan, Morton, Rawlins, Scott, Seward, Sherman, Stanton, Stevens, Thomas, Wallace, Wichita.

Table 86.-Analysis of taxes levied on farm land in Kansas for 1913, 1919, and 1921. (General property tax.)

| Area. | Year. | Distribution. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | State. | County. | Town- ship. | School. | $\begin{aligned} & \text { Drain- } \\ & \text { age. } \end{aligned}$ | Total. |
| 84 eastern counties |  | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. <br> 0.8 | Per cent. <br> 100. |
|  | 1919 | 16.8 | 41.6 | 16.0 | 25.0 | . 6 | 100.0 |
|  | 1921 | 18.0 | 38.5 | 14.4 | 28.6 | . 5 | 100.0 |
|  | 1913 | 13.4 | 40.1 | 8.5 | 38.0 | . 0 | 100.0 |
| 21 western counties | 1919 | 12.1 | 45.0 | 8.5 | 34.4 | . 0 | 100.0 |
|  | 1921 | 12.5 | 35.9 | 9.1 | 42.5 | . 0 | 100.0 |
| All counties | 1913 | 16.9 | 35.3 | 18.1 | 28.9 | . 8 | 100.0 |
|  | 1919 1921 | 16.5 17.6 | 41.8 <br>  <br> 8.3 | 15.5 14.0 | 25.6 29.6 | . 6 | 100.0 100.0 |

Division of Agricultural Finance. (See notes to Table 85.)

Table 87.-Financial condition of farmers in 15 States of the Middle West, January, 1920, to March, 1923.

| State and Division. | Percentage of farmers who lost farms or property. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Owner farmers. |  |  |  |  | Tenant farmers. |  |  |  | Owner and tenant farmers. |  |  |  |  |
|  | Lost farms through foreclosure or bankruptcy. |  |  | Retained farms through leniency of creditors. |  |  | Lost property without foreclosure or bankruptcy. |  |  | Lost farms or property through foreclosure or bankruptcy. | Lost farms or property without foreclosure or bankruptcy. |  |  |  |
|  | P.ct. | P.ct. | $P . c t$. | P.ct. | $P . c t$. | $P . c t$. | P. ct. | P.ct. | $P . c t$. | $P . c t$. | P.ct. | $P$. ct. | $P . c t$. | P.ct. |
| Ohio | 2.29 | 2.97 | 5. 26 | 6. 68 | 1. 52 | 3. 73 | 5.81 | 9.54 | 11. 36 | 2. 72 | 3.82 | 6. 54 | 8. 08 | 0.60 |
| Indiana | 2. 20 | 3.26 | 5.46 | 10. 57 | 2.01 | 5. 44 | 6.29 | 11. 72 | 18.90 | 3.25 | 4. 24 | 7. 49 | 13. 26 | . 36 |
| Illinois | 2.34 | 3.16 | 5. 50 | 13. 42 | 1.64 | 4.30 | 5. 22 | 9.52 | 21. 38 | 3. 19 | 4. 05 | 7.24 | 16. 87 | 38 |
| Michigan | 2. 60 | 4. 07 | 6.67 | 13.12 | 1.37 | 7. 74 | 15.47 | 23. 21 | 15. 28 | 3. 52 | 6.11 | 9.63 | 13.51 | . 19 |
| W isconsin | 2. 13 | 3.42 | 5. 55 | 9.80 | 2.19 | 10.62 | 12. 05 | 22.67 | 13.34 | 3.37 | 4.68 | 8.05 | 10. 32 | 19 |
| East North Central ${ }^{1}$ | 2.31 | 3. 38 | 5. 69 | 10.53 | 1. 74 | 5. 36 | 7. 38 | 12.74 | 16. 94 | 3.18 | 4.51 | 7.69 | 12. 35 | . 36 |
| Minnesota | 4. 43 | 3.69 | 8.12 | 13. 12 | 4.35 | 12. 37 | 7.16 | 19.53 | 24.47 | 6.41 | 4. 56 | 10. 97 | 15.95 | . 28 |
| Iowa-- | 3. 84 | 5. 30 | 9.14 | 12. 18 | 5. 71 | 6. 24 | 6.79 | 13.03 | 18. 69 | 4.85 | 5. 93 | 10. 78 | 14.93 | . 62 |
| Missouri | 2. 90 | 4.69 | 7. 59 | 16. 76 | 3. 12 | 6.02 | 9.04 | 15.06 | 28. 13 | 3.81 | 5. 95 | 9.76 | 20. 06 | . 41 |
| North Dakota- | 9.78 | 5. 80 | 15. 58 | 32.50 | 1. 82 | 12. 01 | 10.63 | 22. 64 | 34. 94 | 10.36 | 7. 05 | 17.41 | 33.13 | . 60 |
| South Dakota.- | 6. 20 | 6. 42 | 12. 62 | 20.78 | 4. 72 | 10.65 | 10.95 | 21.60 | 29.10 | 7.77 | 8.02 | 15. 79 | 23.71 | . 52 |
| Nebraska | 5. 06 | 4.17 | 9.23 | 14. 86 | 3.48 | 7.19 | 5.80 | 12.99 | 20. 28 | 5. 98 | 4.88 | 10. 86 | 17.21 | . 87 |
| Kansas | 2. 94 | 2. 89 | 5.83 | 12. 22 | 1. 79 | 5.91 | 7.47 | 13.38 | 18.23 | 4. 15 | 4.76 | 8.90 | 14.67 | . 49 |
| West North Central ${ }^{1}$. | 4.34 | 4. 52 | 8.85 | 16.02 | 3.65 | 7.61 | 7.76 | 15.37 | 23.01 | 5.47 | 5.64 | 11.10 | 18. 43 | . 52 |
| Montana | 16. 71 | 11. 07 | 27. 78 | 33.86 | 2.13 | 17.07 | 14.90 | 31.97 | 29.09 | 16. 75 | 11.51 | 28. 26 | 33.31 | 22 |
| W yoming | 4.39 | 6.95 | 11. 34 | 37.92 | 2. 05 | 16.09 | 12. 41 | 28.51 | 33.33 | 5.89 | 7. 65 | 13.54 | 37.33 | 2.05 |
| Colorado. | 7.11 | 7. 42 | 14.53 | 25.90 | 5. 76 | 9.55 | 11. 66 | 21. 22 | 26.92 | 7.68 | 8.41 | 16.09 | 26.14 | 1. 06 |
| Mountain (3 States) ${ }^{1}$ | 11. 20 | 9. 05 | 20. 25 | 31. 05 | 3.62 | 12.33 | 12.68 | 25.01 | 28. 12 | 11.39 | 9.66 | 21.06 | 30. 55 | . 81 |
| $\text { States } \left.^{1}\right)_{---}$ | 3.83 | 4.28 | 8.11 | 14.40 | 2.72 | 6.78 | 7.75 | 14.53 | 20.54 | 4.74 | 5.34 | 10.08 | 16. 28 | . 46 |

Division of Agricultural Finance. Data secured from 2,360 selected farmers who reported on 68,533 owner-farmers and 25,994 tenant-farmers in their immediate neighborhoods.
${ }^{1}$ Based on number of farms reported by the Census, January 1, 1920.

Table 88.-Wheat: Disposition of crop in principal States.

| State. | Usual disposition of the crop. |  |  |  | Intended disposition of the 1923 crop. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Used for seed. | Fed to livestock. | $\begin{gathered} \text { Milled } \\ \text { in } \\ \text { county. } \end{gathered}$ | Shipped out of county. | Used for seed. | Fed to livestock. ${ }^{1}$ | $\begin{gathered} \text { Milled } \\ \text { in } \\ \text { county. } \end{gathered}$ | Shipped out of county. |
| New York Pennsylvania. Maryland. Virginia North Carolina | Per cent. $\begin{array}{r} 10 \\ 9 \\ 9 \\ 10 \\ 10 \end{array}$ | Per cent. $\begin{array}{r} 24 \\ 18 \\ 9 \\ 8 \\ 7 \end{array}$ | Per cent. $\begin{aligned} & 35 \\ & 40 \\ & 29 \\ & 64 \\ & 80 \end{aligned}$ | Per cent. $\begin{array}{r} 31 \\ 33 \\ 53 \\ 18 \\ 3 \end{array}$ | Per cent. $\begin{array}{r} 9 \\ 9 \\ 9 \\ 10 \\ 10 \end{array}$ | Per cent. $\begin{array}{r} 29 \\ 23 \\ 13 \\ 10 \\ 7 \end{array}$ | Per cent. $\begin{aligned} & 33 \\ & 41 \\ & 30 \\ & 61 \\ & 80 \end{aligned}$ | Per cent. $\begin{array}{r} 29 \\ 27 \\ 48 \\ 19 \\ 3 \end{array}$ |
| Ohio $\qquad$ <br> Indiana <br> Inlinois. $\qquad$ <br> Michigan <br> Minnesota | 10 9 7 9 10 | 9 6 6 11 7 | $\begin{aligned} & 30 \\ & 27 \\ & 18 \\ & 32 \\ & 20 \end{aligned}$ | $\begin{aligned} & 51 \\ & 58 \\ & 69 \\ & 48 \\ & 63 \end{aligned}$ | a <br> 8 <br> 7 <br> 9 <br> 10 | 16 10 10 17 9 | 29 28 16 31 20 | 46 54 67 43 61 |
| Iowa <br> Missouri <br> North Dakota South Dakota Nebraska.- | 9 8 8 11 10 8 | 8 8 1 4 4 | 18 26 6 7 74 | 65 <br> 58 <br> 82 <br> 79 <br> 74 | 8 7 13 11 9 | 10 14 4 6 8 | 17 25 6 6 5 15 | 65 54 77 78 68 |
| Kansas <br> Kentucky.- <br> Tennessee <br> Texas.-.--. | $\begin{array}{r} 10 \\ 10 \\ 10 \\ 9 \end{array}$ | 4 5 7 4 | 16 70 704 26 | 70 15 19 61 | 17 9 10 10 | 9 8 8 10 12 | 17 69 64 26 | 57 14 16 52 |
| Oklahoma Montana Colorado. Utah...----- | 10 8 7 7 | $\begin{array}{r}8 \\ 5 \\ 8 \\ 82 \\ \hline\end{array}$ | 12 8 17 40 | 70 79 68 32 | $\begin{aligned} & 9 \\ & 8 \\ & 8 \\ & 7 \end{aligned}$ | 13 7 15 25 | 12 8 17 38 | 66 77 60 30 |
| Idaho Washington Oregon California $\qquad$ | $\begin{aligned} & 5 \\ & 6 \\ & 5 \\ & 8 \end{aligned}$ | $\begin{aligned} & 18 \\ & 10 \\ & 12 \\ & 18 \end{aligned}$ | 9 14 14 11 19 | 68 70 72 72 50 | $\begin{aligned} & 6 \\ & 5 \\ & 5 \\ & 8 \end{aligned}$ | 18 8 14 21 | 8 17 11 18 | 68 <br> 70 <br> 70 <br> 53 |
| 27 States | 8.6 | 8.1 | 20.5 | 62.8 | 9.3 | 11.6 | 20.4 | 58.7 |

Division of Crop and Livestock Estimates. Based on estimates of crop reporters, November, 1923.
${ }^{1}$ Because of unsatisfactory wheat price situation at time of inquiry the estimates of "fed to livestock" may be slightly excessive. The ratio of 1923 to usual, however, is felt to reflect the changed situation as it existedin November. The degree to which these expressed intentions materialized was probably affected by subsequent price changes.
Table 89.-Wheat: Imports from Canada; for consumption, duty paid; for milling in bond and export; and imports on which drawback has been allowed, June 1, 1921, to December 31, 1923.


[^148]Table 90.-Canadian freight rates on wheat, 1913, 1920, and 1923.

| To Fort William and Port Artbur- | 1913, per bushel. ${ }^{1}$ | Sept. 13, 1920, per bushel. ${ }^{2}$ | 1923, per bushel. ${ }^{3}$ |
| :---: | :---: | :---: | :---: |
| From points in: Manitoba- | Cents. | Cents. | Cents. |
| Brandon | 7.8 | 14.1 | 9.6 |
| Portage la Prairie. | 7.2 | 12. 9 | 9.0 |
| Winnipeg-------- | 6. ${ }_{9} 0$ | 11.4 15.9 | 8. ${ }^{8} 8$ |
| Saskatchewan--- |  |  | 10.8 |
| Broadview. | 9.6 | 17.4 | 10.8 |
| Shelbrook | 414.4 | 24.3 | 15.6 |
| Regina--- | 108 | 19.5 | 12.0 |
| Saskatoon. | 14.4 | 22.8 | 14.4 |
| Yorkton- | 10.2 | -18.3 | 11.4 |
| AlbertaA thabasca | ${ }^{4} 16.2$ | 26.7 | 17.4 |
| Calgary.- | 14.4 | 24.3 | 15.6 |
| Edmonton. | 16. 8 | 24.3 | 15.6 |
| Medicine Frat | 13.2 13.8 | 22.8 23.4 | 14.4 |

Division of Statistical and Historical Research. Compiled from data of Dominion Bureau of Statistics.
${ }^{1}$ Effective October 7, 1903.
${ }^{3}$ Effective July 6, 1922.
2 This rate continued in effect until January 1, 1921. 4 January 1, 1916.
$\mathrm{T}_{\text {able }}$ 91.-Export rail and water rates to Liverpool on wheat from the producing regions of the United States, Canada, and Argentina, 1923.

| To Liverpool- | Miles. | Rate per bushel. | Total rates per bushel. |
| :---: | :---: | :---: | :---: |
| from canada. | 794 | $\begin{array}{r} \text { Cents. } \\ 12.0 \\ 13.0 \\ 9.1 \end{array}$ | Cents. |
| Regina via Port Arthur to Buffalo: |  |  |  |
| 1. Regina to Port Arthur- |  |  |  |
| 2. Port Arthur to Buffalo |  |  |  |
| Total rate to seaboard. |  | 24.124.8 | 28.9 |
| 4. New York to Liverpool. |  |  |  |
| from united states. |  |  |  |
| Scobey, Mont., via Duluth to Buffalo: | 708 | 22.53.0 |  |
| 1. Scabey to Duluth- |  |  |  |
| 2. Duluth to Buffalo-- |  |  |  |
|  |  | $\begin{array}{r} 34.6 \\ 24.8 \end{array}$ | 39.4 |
| 4. New York to Liverpool |  |  |  |
|  |  |  |  |
|  |  |  |  |  |  |  |
| 2. Galveston to Liverpool | 974 | 27.0 28.6 | 35.6 |
| 1. McPherson to New Orleans | 771 | 27.028.6 | -------75. ${ }^{-1}$ |
| 2. New Orleans to Liverpool |  |  |  |
| brom argentina. | 111 | $\begin{array}{r} 9.5 \\ 14.8 \end{array}$ | --...-.- 24.3 |
| 1. Corral de Bustos to Rosario |  |  |  |
| 2. Rosario to Liverpool... |  |  |  |
| Average haul to Buenos Aires: ${ }^{\text {a }}$ |  |  |  |
| 1. Southern Ry------ | $\begin{aligned} & 106.25 \\ & \text { 194.00 } \\ & 121.00 \\ & 122.00 \\ & 186.00 \end{aligned}$ | 8.6612.148.689.53911.24 |  |
| 3. Central Argentine Ry --. |  |  |  |
| 4. Central of Cordoba Ry-- |  |  |  |
| 5. Buenos Aires \& Western Ry |  |  |  |
| A verage to Buenos Aires | $\begin{aligned} & 145.85 \\ & 140.04 \end{aligned}$ | $\begin{array}{r} 10.05 \\ 9.96 \\ 213.8 \end{array}$ | $23.8$ |
| Average for Argentina.-. |  |  |  |
| 6. Buenos Aires to Liverpool |  |  |  |

[^149]
# GRAINS OTHER THAN BREAD GRAINS. 

CORN.
Table 92.-Corn: Acreage, production, value, exports, etc., United States, 18691923.

| Calendar year. | $\begin{aligned} & \text { Acre- } \\ & \text { age. } \end{aligned}$ | Averageyield俗 per acre. | $\begin{gathered} \text { Produc- } \\ \text { tion. } \end{gathered}$ |  | FarmvalueDec. 1. | $\begin{gathered} \text { Value } \\ \text { per } \\ \text { acre. } \end{gathered}$ | Chicago cash price per bushel, No. 2 mixed. ${ }^{2}$ |  |  |  | Domestic exports including corn meal, fiscal year beginning July $1 .{ }^{3}$ | Imports, fiscal year beginning July $1 .{ }^{3}$ | Percentofcropex-por-ted. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | December. |  | FollowingMay. |  |  |  |  |
|  |  |  |  |  |  |  | Low | High | Low |  |  |  |  |
|  | 1, | Bu. of 56 lbs. |  |  |  | Dol- |  |  |  |  |  |  |  |
|  | acres. |  | bu |  | dollars. |  | $\begin{array}{r} \text { rts. } \\ 56 \end{array}$ | Cts. | $\begin{gathered} \text { Cts. } \\ 73 \end{gathered}$ |  | $\begin{aligned} & \text { Bushels. } \\ & 2,10,487 \end{aligned}$ | $80$ | 0.2 |
|  | 38,64 | 28.3 | 1, 094, 255 | 49.4 | 540, 520 | 13. 99 | 41 | 59 | 46 | 52 | 10, 673, 553 | 111, 080 | 1.0 |
| 1871 | 34, 091 | 29.1 | 991, 898 | 43.4 | 430, 356 | 12.62 | 36 | 39 | 38 | 43 | 35, 727, 010 | 58, 56 | 3. 6 |
| 1872 | 35, 527 | 30.8 | 1, 092, 719 | 35.3 | 385, 736 | 10.86 | 27 | 28 | 34 | 39 | 40, 154, 374 | 61, 53 | 3.7 |
| 1873 | 39, 197 |  | 932, 274 | 44.2 | 411, 961 | 10.51 | 40 | 49 | 49 | 59 | 35, 985,834 | 76, 003 | 3.9 |
| 1874 | 41,03 |  | 850 |  | 496, 271 | 12. | 64 | 76 | 53 | 67 | 30, 025, 036 | 38, | 3.5 |
| 1875 | 44, 8 |  | 1,321, 069 | 36.7 | 484, 675 | 10.81 | 40 | 47 | 41 | 45 | 50, 910 | 51,79 |  |
| 1876 | 49, 033 | 26. | 1,283, 828 | 34.0 | 436, 109 | 8.89 | 40 | 43 | 43 | 56 | 72, 652, 611 | 30, 902 | 7 |
| 1877 | 50,369 | 26.7 | 1, 342, 558 | 34.8 | 467, 635 | 9. | 41 | 49 | 35 | 41 | 87, 192, 110 | 13,423 | 6. 5 |
| 1878 | 51, 585 | 26.9 | 1, 388, 219 | 31.7 | 440, 281 | 8.54 | 30 | 32 | 33 | 36 | 87, 884, 892 | 33, 869 | . 3 |
|  | 62, 369 |  | 1,823, | 37. | 676 | 10.84 | 39 | 431 | $32{ }^{\frac{3}{5}}$ | 361 | 99, 572, 329 | 58,876 | 5.5 |
|  | 62, 318 | 27.6 | 1,717, | 39.6 | 679, 714 | 10.91 | 355 | 42 | $41 \frac{1}{2}$ |  | 93, 648, 147 | 75, 155 | 5 |
| 188 | 64, 262 | 18. | 1, 194, 916 | 63.6 | 759, 482 | 11.82 |  | ${ }_{61} 63$ |  | 76 | 44, 340, 683 | 69, 621 | 3. 7 |
| 1882 | 65, 660 | 24. | 1, 617, 025 | 48. 5 | 783, 867 | 11.94 |  | 631 | ${ }_{52}^{53}$ | $56{ }^{3}$ 57 | $41,655,653$ $46,258,606$ | 25,989 4,894 | 2. 6 |
|  | 68, 302 | 22. | 1, 551, 067 | 42.4 | 658, 051 |  | $54{ }^{2}$ | $63 \frac{1}{8}$ | 52 |  | 46, 258, 606 | 4,894 | 3.0 |
|  | 69,684 |  | 1, 795, 528 | 35.7 | 640, 736 | 9.19 | 342 | $40{ }^{1}$ | $44{ }^{3}$ |  | 52, 876, 456 | 07 | 2. 9 |
|  | 73, 130 | 26. 5 | 1, 936, 176 | 32.8 | 635, 675 | 8. 69 | 36 | ${ }^{42}{ }^{\frac{3}{4}}$ | $34{ }^{34}$ | ${ }_{3}^{36}$ | 64, 829,617 | 16, 104 | 5 |
|  | 75, 694 | 22.0 | 1, 665, 441 | 36. 6 | 610, 311 | 8. 06 | ${ }_{47} 3$ |  |  |  |  | 37,493 | 1.7 |
| 1887 | 72, 393 | 20. | 1, 456, 161 | 44.4 | 646, 107 | 8.92 8.95 | 331 | ${ }_{35}{ }_{3}^{1}$ | ${ }_{33}{ }_{3}^{1}$ |  | $25,360,869$ $70,841,673$ | 37,493 2,401 | . 6 |
|  | 75, 673 |  | 1, 987, 790 | 34.1 |  |  | $33^{\frac{1}{2}}$ | $35 \frac{1}{8}$ | ${ }_{32} 33_{\frac{3}{4}}^{4}$ | 35 | 70,841, 67 | 1,626 | 2 |
|  | 70, 39 | 20.7 | 460 , | 50.0 | 729, 647 | 10.37 | 47 | 53 | 55 | $69 \frac{1}{3}$ | 32, 041, 529 | 2,111 | 2 |
| 1891 | 74, 496 | 27.6 | , 055, 823 | 39.7 | 816, 917 | 10.97 | $39{ }^{\frac{3}{5}}$ | 59 | 403 | 100 | 76, 602, 285 | 15, 290 | . 7 |
| 1892 | 72, 610 | 23. | ,713, 688 | 38.8 | 664, 390 | 9.15 | 40 | $42{ }^{\frac{2}{5}}$ | 39 | $4{ }^{42}$ | 47, 121, 894 |  | 7 |
| 1893 | 74, 434 | 22. | 1, 707, 572 | 35.9 | 612, 998 | 8. 24 | $34 \frac{1}{2}$ | $36 \frac{1}{2}$ | 36 |  | 66, | 2, 19 | 3.9 |
|  | 69 |  | , 339,680 |  |  | 8.71 | $44{ }_{3}$ | 472 | 473 | $55 \frac{1}{2}$ | 28, 585, 405 | 16,57 | 2.1 |
|  | 85, 567 | 27.0 | 2, 310, 952 | 25.0 | 578, 408 | 6.76 | 25 | 263 | $27 \frac{1}{2}$ | 293 | 101, 100, 375 | 4,33 | . |
|  | 86, 56 |  | 503, 484 | 21.3 | 532, 8 | 6.16 | $22{ }^{2}$ | ${ }_{27}^{23}$ | ${ }_{32}^{23}$ | 25 | 178, 817, 417 |  |  |
| 1897 | 88, 127 | 24. | 2, 144, 553 | 26.0 | 558, | 6. |  | ${ }_{38} 27$ | 32 <br> 32 <br>  <br>  <br>  |  |  |  | 9.9 7.8 |
|  | 88,304 |  | , 2 | 28.4 | 642, 747 |  | 33 ${ }^{\frac{1}{2}}$ |  | 32 2 | 34. | 177, 255, 046 | 4, 17 |  |
| 1899 | 94 | 25.9 | 2, 454, 628 | 29.9 | 734, 916 | 7.74 | 30 | $31{ }^{3}$ | 36 |  | $\left\lvert\, \begin{aligned} & 213,123,412 \\ & 181-405,473 \end{aligned}\right.$ | $\begin{aligned} & 2,480 \\ & 5,169 \end{aligned}$ | . 7 |
| 1900 | 95, 042 | 26.4 | 2, 505, 148 | 60.1 | 878, 243 | 10. 24 |  |  |  |  | $181,405,473$ $28,028,688$ | $\left.\begin{array}{r} 5,169 \\ 18,278 \end{array} \right\rvert\,$ | . 7 |
| $\begin{aligned} & 1901 \\ & 1902 \end{aligned}$ | -94, 636 | 17.0 27.4 | 1, 613, 5288 | 60.1 40.1 | $\begin{array}{r}969,285 \\ 1,049 \\ \hline\end{array}$ | 10. 24 10 | ${ }_{43}{ }^{4}$ | ${ }_{57} 5$ | ${ }_{44}{ }_{4}^{8}$ | ${ }_{46}{ }^{4}{ }^{3}$ | 76, 2839,261 | 40,919 | 2. 9 |
| 1903 | ¢ |  | 2, 346, 897 | , | 987, 882 | 10.90 | 41 | $43 \frac{3}{4}$ | $47 \frac{1}{4}$ | 50 | 58, 222, | 6, 633 | 2.5 |
|  | 93, 340 |  | 2, 528 | 43. | 1,105 | 11.8 | $43{ }^{2}$ | 49 | 48 | $64 \frac{1}{2}$ | 90, 293 | 15,443 | 3.6 |
| 1905 | 93, |  | 748 |  | $1,120,513$ | 11.97 | 42 | $50 \frac{1}{4}$ | $47 \frac{1}{2}$ | 50 | 119, 893, 833 | 10, 127 | 4.4 |
| 1906 | 93, 643 | 0.9 | 2, 897, 662 | 39. 3 | 1, 138, 053 | 12.15 | 40 | 46 | 492 | 56 | 86, 368, 228 | 10,818 | 0 |
| 190 | 94, 971 | der | 2, 512, 065 | ${ }_{60} 50$ | 1, 277, 607 | 13. ${ }^{15}$ | 561 | ${ }^{62}$ | $7{ }^{67}$ | 82 | 55, $37,665,860$ |  | . |
|  | 95,603 | 26. | 2,544, 957 | $60 .$ | $\underline{1,527,679}$ | 15.98 | 56 | $62{ }^{2}$ | 72 | 76 | 37,665, 040 | 258, 065 |  |
| 1909 |  |  | 572, | 58.6 | 1,507 | 15.32 | $62 \frac{1}{2}$ | 66 | 56 | 63 | 38,128, 498 |  | 1.5 |
| 1910 | 104, 035 | 27.7 | 2, 886, 260 | 48.0 | 1, 384, 817 | 13.31 | $45 \cdot$ | 50 | 524 | 55 | 65, 614, 522 |  | . 3 |
| 1911 | 105, 825 | 23.9 | 2, 531,488 | 61.8 | $1,565,258$ | 14. 79 | 68 | 70 | $76{ }^{2}$ | ${ }_{60} 82$ | 41, 797, 291 | 903, 062 | . 6 |
| 1912 | 107, 083 | 29.1 | 3, 124, 746 | 48.7 69.1 | $1,520,454$ | 14. 20 |  |  |  |  |  | 2, 367,369 |  |
|  | 105, 820 | 23.1 | 2, 446,988 | 69.1 | 1,692,092 | 15. | 64 | $73_{2}$ |  |  | 25, |  |  |
|  | 104, 229 | 26.0 | 2, 712, 36 |  | 1,533, | 72 | 57.5 | 62.7 | 61. | 66.6 | 41, 409, 25 | 2,664,77 | 1.5 |
|  | 103, 435 | 25.8 | 2, 672,804 | 64.4 | 1,722, 070 | 16.65 | 6 | 68 | $5{ }^{5}$ | 56 | 50, 688, | 9,897, | 1.3 |
| 1915 | 106, 197 | 28.2 | 2, 994, 793 | 57.5 | 1,722,680 | 16. 22 | $69 \frac{1}{2}$ | 75 | 69 | $78 \frac{1}{2}$ | 39, 896, 928 | 5, |  |
| 1916 | 105, 2 | 24.4 | 2, 566, 927 | 88. | 2, 280, 729 | 21. 66 | 88 | 96 | 152 | 174 | 66, 753, 2 | 2, 287, 299 |  |
| 1917 | 116, 730 |  | 3, 065, 233 |  | 3, 920, 228 | 33.58 | 160 | 190 | 150 | 170 | 49, 073, 263 | 3, 196, 420 |  |
| 1918 | 104, 467 | 24.0 | 2, 502, 665 | 136. | 3, 416, 240 | 32.70 | 135 | 155 | ${ }^{1602}$ | 185 | 23, 018,82 | 3, 311, 211 |  |
| 919. | 97, 170 | 28.9 | 2, 811, 302 | 134. | 3, 780, 597 | 38. 91 | 42 | 60 | 189 | 17 | 16,707, 447 | 229, 249 |  |
| 1920 | 101, 699 | 31. | 3, 208, 584 | 67. | 2, 150,332 | 21.1 | $70 \frac{1}{2}$ | 86 | 59 | 66 | 70, 905, 781 | , |  |
| Aver | 104, 999 | 27.0 | 2,831,758 | 95.8 | 2,713,26 | 25.84 | 103.9 | 118.6 | 118 | 135 | 45, 289, 12 | 5, 693, 42 |  |
|  | 103, 740 |  | 3, 068, 569 | 42.3 | 1, 297, 213 | 12.50 | 46 | 51 | 593 | 65 | 179, 490, 442 | 124, 5 | 5.8 |
| 192 | 102, 846 | 28.3 | 2, 906, 020 | 65.8 | 1,910,775 | 18.58 | $69 \frac{1}{2}$ | 77 | 78 | $87 \frac{1}{2}$ | 96, 599, 093 | 137, 52 | 3. |
| 1923 | 104, 158 |  | 3, 054, 395 |  | 2, 222, 013 | 21. |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates. Figures in italics are Cens us returns.
1 Based upon farm price Dec. 1. 4Coincident with "corner."
${ }_{2}$ Chicago Daily Trade Bulletin. No. 2 to 1908. Contract to 1915. 6 Preliminary.
${ }^{3}$ Compiled from reports of Bureau of Foreign and Domestic Commerce.

Table 93.-Corn: Acreage, production, and farm value in six leading States, 1866-1923. ${ }^{1}$

| $\begin{aligned} & \text { Calen- } \\ & \text { dar } \\ & \text { year. } \end{aligned}$ | Acreage. | $\begin{gathered} \text { Yield } \\ \text { per } \\ \text { acre. } \end{gathered}$ | Production. | Farm price per Dec. 1. | Farm value Dec. 1. | $\begin{gathered} \text { Calen- } \\ \text { dar } \\ \text { year. } \end{gathered}$ | Acreage. | Yield per acre. | Production. | Farm <br> price <br> per <br> bu. <br> Dec 1. | Farm value Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 |  | 1,000 |  | 1,000 |  | 1,000 |  | 1,000 |  | 1,000 |
|  | acres. | Bush. | bushels. | Cents. | dollars. |  | acres. | Bush. | bushels. | Cents. | dollars. |
| 1866 | 14,307 | 33.9 | 484, 490 | 32.8 | 159.007 | 1901 | 44, 000 | 19. 4 | 854, 700 | 55.8 | 476, 642 |
| 1867 | 13, 077 | 27.5 | 359, 943 | 48.5 | 174, 496 | 1902 | 44, 100 | 36. 0 | 1,586, 655 | 34.5 | 547, 853 |
| 1868 | 12, 696 | 33.8 | 428, 719 | 36.5 | 156, 663 | 1903 | 40, 150 | 30. 2 | 1,211, 020 | 36.0 | 435, 987 |
| 1869 | 15, 806 | 27.1 | 428,500 | 48.0 | 205, 659 | 1904 | 42, 750 | 32.4 | 1, 385, 135 | 38.0 | 526, 365 |
| 1870 | 16,953 | 35.1 | 595, 847 | 34.8 | 207, 374 | 1905 | 42, 350 | 36.4 | 1,540, 860 | 36.5 | 562, 287 |
| 1871 | 14, 658 | 38.6 | 565, 739 | 29.6 | 167, 573 | 1906 | 41,900 | 36. 9 | 1, 546, 895 | 34. 6 | 534, 941 |
| 1872 | 15, 815 | 39.1 | 617, 839 | 23.6 | 145, 596 | 1907 | 42, 350 | 31.5 | 1, 335, 330 | 44.8 | 598, 742 |
| 1873 | 18, 859 | 25.6 | 482, 942 | 32.7 | 158, 130 | 1908 | 41, 850 | 30. 5 | 1, 277, 785 | 56.0 | 715, 100 |
| 1874 | 19, 832 | 23.3 | 461, 894 | 48.9 | 225, 914 |  |  |  |  |  |  |
| 1875 | 22, 479 | 35. 0 | 786, 000 | 28.7 | 225, 536 | 1909 | 42, 472 | 32. 3 | 1, 370, 094 | 52.2 | 715, 537 |
| 1876 | 641 |  | 500 | 28.2 | 199, 542 | 1910 | 43, 405 | 34.9 | 516, |  |  |
| 1877 | 24, 610 | 30.5 | 750, 500 | 28.6 | 214, 572 | 1911 | 43, 575 | 30.1 | 1, 313, 765 | 55.5 | 728, 864 |
| 1878 | 25, 194 | 31.6 | 795, 369 | 23.9 | 190, 196 | 1912 | 44, 958 | 36. 9 | 1, 658, 635 | 40.3 | 667, 979 |
| 1879 | 29,814 | 36.1 | 1,076, 944 | 28.8 | 309, 992 | 1913 | 44, 185 | 26.8 | 1, 186, 312 | 63.1 | 748, 416 |
| 1880 | 29,877 | 31.5 | 939, 786 | 33.6 | 315, 724 | Aver | 43,719 | 32.2 | 1, 409, 117 | 49.1 | 691, 328 |
| 1881 | 30, 398 | 21.8 | 661, 382 | 54. 2 | 358, 648 |  |  |  |  |  |  |
| 1882 | 29, 234 | 27.7 | 811, 143 | 43.8 | 355, 365 | 1914 | 43, 493 | 30.5 | 1, 327, 840 | 58.7 | 778, 890 |
| 1883 | 30, 182 | 26. 7 | 805, 529 | 36.1 | 290, 459 | 1915 | 42, 675 | 33. 3 | 1, 422, 150 | 52.5 | 747,191 |
| 1884 | 31, 171 | 32.3 | 1,007, 244 | 27.6 | 277, 954 | 1916 | 43, 162 | 29.7 | 1, 280, 295 | 83.1 | 1,063,962 |
| 1885 | 32, 669 | 33.1 | 1, 081, 640 | 26.0 | 281, 399 | 1917 | 47, 656 | 35. 0 | 1, 666, 556 | 115.7 | 1,928,148 |
|  |  |  |  |  |  | 1918 | 41, 747 | 29.9 | 1, 248, 696 | 124.7 | 1,557,436 |
| 1886 | 33, 557 | 26. 0 | 873, 502 | 30. 0 | 262, 159 | 1919 | 40, 355 | 35. 2 | 1, 418, 481 | 125. 2 | 1,776,447 |
| 1887 | 31, 192 | 22.6 | 703, 878 | 38.3 | 269, 718 | 1920 | 42,384 | 38.3 | 1,623, 991 | 54.3 | 881, 423 |
| 1888 | 32, 661 | 34. 3 | 1, 121, 5888 | 27.8 | $\begin{array}{r}311,370 \\ 254 \\ \hline\end{array}$ |  |  |  |  |  |  |
| 1889 | 33, 777 | 34. 0 | 1, 147, 578 | 22.2 | 254, 208 | Aver | 43, 067 | 33.1 | 1,426, 858 | 87.4 | 1,247,642 |
| 1890 | 33, 400 | 24.5 | 816, 710 | 44.4 | 362,914 | 1921 | 41, 267 | 35.2 | 1, 452, 111 | 34.5 | 501, 127 |
| 1891. | 35,700 | 33.7 | 1,204, 090 | 34. 0 | 409, 267 | 1922 | 41, 317 | 35. 5 | 1, 465, 381 | 59. 6 | 873, 069 |
| 1892 | 34, 200 | 27.9 | 954, 930 | 34.9 | 333, 532 | $1923{ }^{2}$ | 43, 274 | 36. 7 | 1,588, 939 | 63.8 | 1,013,584 |
| 1893. | 35, 075 | 27.5 | 965, 700 | 30.2 | 292, 014 |  |  |  |  |  |  |
| 1894 | 30, 500 | 21. 7 | 661, 150 | 40.6 | 268, 468 |  |  |  |  |  |  |
| 1895 | 40, 440 | 31.9 | 1, 290, 754 | 20.8 | 268, 360 |  |  |  |  |  |  |
| 1896 | 41, 280 | 36.8 | 1,519, 740 | 16. 8 | 255, 317 |  |  |  |  |  |  |
| 1897 | 41,780 | 29.9 | 1,248,975 | 20.3 | 253, 620 |  |  |  |  |  |  |
| 1898 | 41, 000 | 30. 2 | 1, 236, 900 | 24.7 | 304, 897 |  |  |  |  |  |  |
| 1899 | 43, 154 | 32.0 | 1,380, 602 | 26. 0 | 358, 618 |  |  |  |  |  |  |
| 1900---- | 43, 950 | 34.0 | 1, 493, 100 | 30.8 | 459, 374 |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Iowa, Illinois, Nebraska, Missouri, Indiana, and Ohio.
${ }^{2}$ Preliminary.

Table 94.-Corn: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

| State. | Thousands of acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
| Maine | 30 | 19 | 18 | 1,500 | 779 | 684 | 1,155 | 779 | 766 |
| New Hampshire.- | 24 | 27 | 26 | 1,272 | 1,161 | 1,092 | 954 | 871 | 1,212 |
| Vermont-------- | 81 | 85 | 84 | 4, 455 | 3,570 | 3,276 | 3, 386 | 3,249 | 3, 604 |
| Massachusetts..-- | 65 | 61 | 59 | 3, 120 | 2, 440 | 2,537 | 2,402 | 2,294 | 2,918 |
| Rhode Isfand.---- | 14 | 13 | 12 | 644 | 520 | 456 | 708 | 624 | 524 |
| Connecticut | 74 | 77 | 76 | 3, 848 | 3,465 | 3,116 | 3,463 | 3,326 | 3,334 |
| New York.- | 798 | 798 | 758 | 36, 708 | 28, 329 | 24, 559 | 24,594 | 23, 513 | 24, 559 |
| New Jersey | 241 | 231 | 236 | 11, 327 | 9, 702 | 9,440 | 6,003 | 6,791 | 8,968 |
| Pennsylvania..--- | 1, 589 | 1,573 | 1,541 | 76, 272 | 69, 212 | 61, 640 | 41,950 | 49,833 | 56, 092 |
| Delaware...------ | 185 | 189 | 183 | 6,845 | 5,557 | 6,057 | 3,080 | 3,890 | 4,906 |
| Maryland | 645 | 642 | 642 | 25, 155 | 25, 680 | 25, 231 | 12,326 | 17,462 | 20,689 |
| Virginia -- | 1,904 | 1,866 | 1,847 | 47, 600 | 52, 248 | 53,563 | 32, 844 | 41, 276 | 50,349 |
| West Virginia | , 592 | 604 | 592 | 20, 128 | 20, 536 | 20,128 | 15, 096 | 17, 250 | 19, 927 |
| North Carolina | 2,552 | 2,577 | 2, 603 | 49, 254 | 51,540 | 58,568 | 38, 418 | 45, 871 | 59,739 |
| South Carolina. | 2, 022 | 2,062 | 1,980 | 32, 352 | 29,899 | 32, 670 | 23,940 | 26, 012 | 34, 304 |
| Georgia | 4,665 | 4,385 | 4,034 | 69,975 | 52, 620 | 49,215 | 37, 087 | 45, 253 | 52,680 |
| Florida | 788 | 775 | 820 | 11, 032 | 10, 850 | 10, 250 | 5,847 | 9, 440 | 10, 250 |
| Ohio. | 3, 785 | 3, 823 | 3,899 | 155, 185. | 149, 097 | 159, 859 | 63, 626 | 98, 404 | 118, 296 |
| Indiana | 4,718 | 4, 765 | 5, 003 | 169, 848 | 176, 305 | 192, 616 | 62, 844 | 98, 731 | 119, 422 |
| Illinois. | 8,999 | 8,819 | 8,995 | 305, 966 | 313, 074 | 337, 312 | 116, 267 | 187, 844 | 219, 253 |
| Michigan...-.-.--- | 1, 703 | 1,720 | 1,686 | 66, 417 | 60, 716 | 58, 167 | 31, 880 | 40,680 | 45, 370 |
| Wisconsin.-.-...-- | 2,110 | 2,209 | 2, 253 | 97, 482 | 98, 300 | 83, 361 | 44, 842 | 61, 929 | 66, 689 |
| Minnesota | 3, 820 | 3, 979 | 4,297 | 156, 620 | 131, 307 | 154, 692 | 48, 552 | 73, 532 | 94, 362 |
| Iowa. | 10, 250 | 10, 364 | 10,571 | 430, 500 | 466, 380 | 430, 240 | 129, 150 | 261, 173 | 266, 749 |
| Missouri | 6, 096 | 6, 250 | 6,562 | 183, 880 | 178, 125 | 196, 860 | 73, 152 | 121, 125 | 145, 676 |
| North Dakota | 620 | 780 | 842 | 17,360 | 21,450 | 28, 207 | 5,902 | 11,368 | 15, 232 |
| South Dakota. | 3,926 | 3, 861 | 4, 208 | 125, 632 | 110, 038 | 145, 176 | 32, 664 | 55, 019 | 75, 492 |
| Nebraska | 7,419 | 7, 296 | 8,244 | 207, 732 | 182, 400 | 272, 052 | 56, 088 | 105, 792 | 144, 188 |
| Kansas. | 4,358 | 5, 098 | 5, 629 | 96, 748 | 98, 391 | 122, 149 | 29, 992 | 60, 019 | 78, 175 |
| Kentucky | 3,209 | 3,145 | 3,083 | 82,150 | 88, 060 | 87, 866 | 45, 182 | 60, 761 | 74, 686 |
| Tennessee | 3, 516 | 3, 280 | 3, 018 | 90, 713 | 75, 440 | 73,941 | 47, 171 | 59,598 | 69,505 |
| Alabama. | 4, 042 | 3, 636 | 3,310 | 58, 609 | 50, 904 | 48,988 | 36, 338 | 45, 814 | 52,907 |
| Mississippi...----- | 3, 172 | 2,855 | 2,327 | 57,096 | 49, 962 | 33, 742 | 31, 974 | 42, 468 | 36, 104 |
| Louisiana-------- | 1, 796 | 1,706 | 1, 604 | 35, 022 | 29, 002 | 24, 702 | 22, 764 | 24, 072 | 25, 937 |
| Texas. | 6, 227 | 5, 729 | 5,213 | 156, 920 | 114, 580 | 96, 440 | 84, 737 | 95, 101 | 96, 440 |
| Oklahoma | 3, 077 | 3, 200 | 3, 264 | 76, 925 | 57, 600 | 37, 536 | 24, 616 | 40,320 | 32,656 |
| Arkansas | 2,640 | 2, 250 | 2,002 | 58, 080 | 43, 875 | 39, 039 | 33, 106 | 37, 294 | 39, 429 : |
| Montana | 190 | 228 | 365 | 3,800 | 5,540 | 9,490 | 2,546 | 2,936 | 6, 168 |
| W yoming | 56 | 112 | 150 | 1,232 | 2,688 | 4, 050 | 616 | 1,613 | 2,835 |
| Colorado. | 1,102 | 1,145 | 1,490 | 15,979 | 18,320 | 37, 250 | 4,953 | 12,091 | 24, 212 |
| New Mexico.....-- | 290 | 236 | 221 | 6,380 | 3,210 | 3,624 | 5,742 | 2,632 | 3,443 |
| Arizona---------- | 35 | 39 | 33 | 1,015 | 1,170 | 990 | 1,015 | 1,346 | 1,188 |
| Utah | 21 | 32 | 31 | 517 | 781 | 772 | 393 | 664 | 733 |
| Nevada. | 1 | 1 | 1 | 29 | 21 | 23 | 35 | 22 | 29 |
| Idaho | 47 | 52 | 73 | 1,645 | 1,976 | 3,066 | 822 | 1,561 | 2, 361 |
| Washington | 64 | 67 | 74 | 2,560 | 2, 747 | 2,738 | 2, 202 | 2, 884 | 2, 601 |
| Oregon- | 66 116 | 69 | 71 | 1,980 | 2,277 | 2,485 | 1, 663 | 2,072 | 2,236 |
| California | 116 | 116 | 128 | 4, 060 | 4,176 | 4,480 | 3,126 | 4,176 | 4,838 |
| United States .- | 103, 740 | 102, 846 | 104, 158 | 3, 068, 569 | 2,906, 020 | 3, 054, 395 | 1,297, 213 | 1, 910, 775 | 2, 222, 013 |

[^150]Table 95.-Corn: Yield per acre, by States, calendar years, 1908-1923.


Division of Crop and Livestock Estimates.

Table 96.-Corn: Condition of crop, first of month, and yield per acre, United States, 1866-1923.

| Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. | Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P. ct. | P.ct. | P.ct. | Bush. |  | P.ct. | P. ct. | P.ct. | P.ct. | Bush. |
| 1866 | 93.5 | 113.4 | 1075 | 90. 4 | 25. 3 | 1896 | 92.4 | 96. 0 | 91.0 |  | 28.9 |
| 1868 | 101. 6 | 113.4 | 104.3 | 103.8 | 23.0 | 1898 | 90.5 | 87.0 87 | 84 | 78.1 | 24.3 |
| 1869 | 89.7 | 87.5 | 80.5 | 88.0 | 23.6 | 1899 | 86.5 | 89.9 | 85.2 | 82.7 | 25.9 |
| 1870 | 104.1 | 104.7 | 111.2 | 111.2 | 28.3 | 1900 | 89.5 | 87.5 | 80.6 | 78.2 | 26.4 |
| 1871 | 105.9 | 100. 6 | 97.3 | 99.1 | 29.1 | 1901. | 81.3 | 54.0 | 51.7 | 52.1 | 17.0 |
| 1872 | 96.8 | 105. 2 | 106. 2 | 108.0 | 30.8 | 1902 | 87.5 | 86. 5 | 84.3 | 79.6 | 27.4 |
| 1873 | 90. 2 | 90.8 | 82.8 | 84.0 | 23.8 | 1903 | 79.4 | 78.7 | 80.1 | 80.8 | 25.9 |
| 1874 | 99.2 | 90.0 | 83.0 | 86.0 | 20.7 | 1904 | 86.487.3 | 87.389.0 | 84.689.5 |  | 27.1 |
| 1875 | 96.0 | 96.0100.0 | 97.0 | 99.9 | 29.5 |  |  |  |  |  |  |
|  |  |  |  |  |  | 1905. |  |  |  | 89.2 | 29.4 |
| ${ }_{1876}^{187}$ |  |  |  | 101.2 | 26.2 | ${ }_{1906}$ | 87.5 | 88.0 | 90.2 | 90.1 | 30.9 |
| 1877 | 85.0 | 92.0 | 91.0 |  | 26.7 | 1907 | 80.2 | 82.8 | 80.2 | 78.0 | 26.5 |
| 1878 | 95.0 | 96.0 | 92.0 | 96.0 | 26.9 | 1908 | 82.8 | 82.5 | 79.4 | 77.8 | 26.6 |
| 1880-..--.------ | 100.0 | 98.0 | 95.0 91.0 | ----- | 27.6 | 1909.------.-- | 89.385.48 | 84.479.3 | 74.6 | 73. 8 | 26.127.7 |
|  |  |  | 91.0 |  |  |  |  |  |  |  |  |
| 1881. | 90.0 | 77.0 | 60.0 | 66.0 | 18.6 | 1911 | 80.1 | 69.6 | 70.3 | 70.4 | 23.9 |
| 1882 | 85.0 | 83.0 | 83.0 | 81.0 | 24.6 | 1912 | 81.5 | 80.0 | 82.1 | 82.2 | 29.2 |
| 1883 | 88.0 | 89.0 | 84.0 | 78.0 | 22.7 | 1913 | 86.9 | 75.8 | 65.1 | 65.3 | 23.1 |
| 1885-.------. | 94.0 | 96.0 | 95.0 | 95.0 | 25. 8 |  | 84.6 | 77.8 | 74.1 | 74.4 | 26.0 |
|  |  |  |  |  | 26.5 | Av. 1909-1913 |  |  |  |  |  |
| 1886 | 95.2 | 80.7 | 76. 6 | 80.0 | 22.0 | 1914 | 85.8 | 74.8 | 71.7 | 72.9 | 25.8 |
| 1887 | 97.7 | 80.5 | 72.3 | 72.8 | 20.1 | 1915 | 81.2 | 79.5 | 78.8 | 79.7 | 28.2 |
| 1888 | 93.0 | 95.5 | 94.2 | 92.0 | 26.3 | 1916 | 82.0 | 75.3 | 71.3 | 71.5 | 24.4 |
| 1890 | 90.3 | 94.8 | 90.9 | 70.6 | 20.7 | 1917 | 81.1 | 78.8 | 76.7 | 75.9 | 26.3 |
|  | 93.1 | 73.3 | 70.1 |  |  | - | $\begin{aligned} & 87.1 \\ & 86.7 \\ & 84.6 \end{aligned}$ | $\begin{aligned} & 78.5 \\ & 81.7 \\ & 86.7 \end{aligned}$ | 67.480.08 | 68.681.3 | 24.028.9 |
| 1891 |  |  |  |  |  |  |  |  |  |  |  |
| 1892 | 81.1 | 8.5 | 79.6 | 79.8 | 23.6 | 1920.-.-.-.-.-- |  |  | 86.4 | 89.1 | 31.5 |
| 1893 | 93.2 | 87.0 | 76.7 | 75.1 | 22.9 | Av. 1914-1920 | 84.1 | 79.3 | 76.0 | 77.0 | 27.0 |
| 1894-.----- | 95. 0 | 69. 1 | 63.4 | 64.2 | 27.0 |  | $\begin{aligned} & 91.1 \\ & 85.1 \\ & 84.9 \end{aligned}$ | $\begin{aligned} & 84.3 \\ & 85.6 \\ & 84.0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 85.1 \\ & 78.6 \\ & 83.3 \end{aligned}$ | $\begin{aligned} & 84.8 \\ & 78.4 \\ & 82.0 \end{aligned}$ | $\begin{aligned} & 29.6 \\ & 28.3 \\ & 29.3 \end{aligned}$ |
| 1895-...-.-.--- | 99.3 | 102.5 | 96.4 | 95.5 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.
Table 97.-Corn: Percentage reduction from full yield per acre, from stated causes, as estimated by crop reporters, 1909-1922.

| Calendar year. | Deficient moisture. | Excessive moisture. | Floods. | $\begin{gathered} \text { Frost } \\ \text { or } \\ \text { freeze. } \end{gathered}$ | Hail. | Hot winds. | Storms | Total climatic. | Plant disease. | Insect pests. | $\begin{gathered} \text { Ani- } \\ \text { mal } \\ \text { pests. } \end{gathered}$ | Defective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. |
| 1909 | 13.0 | 7.3 | 1.5 | 1.0 | 0.5 | 1. 6 | 0.7 | 25.8 | 0.2 | 2. 3 | 0.4 | 0.3 | 29.6 |
| 1910 | 13.9 | 3.0 | . 8 | . 9 | . 4 | 1. 6 | . 5 | 21.3 | . 2 | 2. 3 | . 4 | 1. 2 | 26.0 |
| 1911 | 23.4 | 1. 6 | (2) | . 4 | . 2 | 3. 4 | . 1 | 29.6 | . 2 | 2.3 | . 2 | . 4 | 33.7 |
| 1912 | 8.7 | 4.6 | . 9 | 1. 7 | . 5 | 1. 0 | . 3 | 18.1 | . 3 | 4.8 | . 3 | 2.3 | 26.3 |
| 1913 | 27.1 | 1.2 | . 4 | 1.0 | . 3 | 3.1 | . 4 | 33.7 | . 1 | 3.7 | . 2 | . 4 | 38.9 |
| 1914. | 20.8 | 1.3 | . 4 | . 4 | . 5 | 2.1 | . 4 | 26.1 | . 1 | 3.6 | . 1 | . 2 | 30.6 |
| 1915 | 3.0 | 11.9 | 2.1 | 6.9 | . 6 | .2 | 1. 1 | 26.5 | .3 | 2.1 | .1 | . 2 | 29.9 |
| 1916 | 18.5 | 5.8 | 1.7 | 1.7 | . 4 | 1.7 | 1.1 | 31.3 | .3 | 2.0 | . 1 | . 6 | 34.7 |
| 1917 | 12.1 | 2.9 | . 6 | 13.5 | .6 | 1. 2 | . 3 | 31. 6 | .3 | 1. 4 | . 1 | . 2 | 33.8 |
| 1918. | 22.1 | . 9 | . 5 | 2.0 | . 4 | 6.3 | 3.2 | 32.8 | .3 | 2.6 | . 1 | 1.5 | 37.7 |
| 1919 | 10.8 | 7.3 | 1.4 | $\stackrel{.}{ }+1$ | . 3 | 1.0 | . 4 | 21.4 | . 4 | 3.1 | . 1 | . 2 | 25.4 |
| 1920 | 5.4 | 3.3 | . 6 | . 7 | . 5 | . 3 | . 4 | 11.3 | .3 | 3.6 | . 1 | .3 | 15.9 |
| 1921 | 10.6 | 1. 1 | . 3 | . 2 | . 4 | 1.0 | . 6 | 14. 1 | . 8 | 3.4 |  | . 1 | 18.7 |
| 1922. | 14.2 | 2.3 | . 5 | . 2 | 1.0 | 1.0 | . 2 | 19.3 | . 4 | 3.0 | . 1 | . 2 | 23.0 |

[^151]Table 98.-Corn: Area and yield per acre in undermentioned countries.
NORTHERN HEMISPHERE.


[^152]Table 98.-Corn: Area and yield per acre in undermentioned countries-Con. SOUTHERN HEMISPHERE.

| Country. | Acreage. |  |  |  |  | Yield per acre. ${ }^{1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average 1913. | 1920 | 1921 | 1922 | $\begin{aligned} & \text { 1923, } \\ & \text { pre- } \\ & \text { limi- } \\ & \text { nary } \end{aligned}$ | A ver- age, 1909- 1913. | 1920 | 1921 | 1922 | 1923, pre-liminary. |
| Chile | 1,000 actes. 561 551 | 1,000 actes. 552 | 1,000 acres. | 1,000 actes. | $1,000$ <br> acres. $\begin{array}{r} 68 \\ 771 \end{array}$ | $\begin{array}{\|r\|} \text { Bush. } \\ 26.0 \\ 10.9 \end{array}$ | Bush. <br> 23.3 <br> 11.9 | Bush. <br> 24.4 <br> 9.3 | Bush. $\begin{array}{r} 22.5 \\ 8.6 \end{array}$ | Bush. $26.9$ $11.2$ |
| Argentina-----.-..- | ${ }_{2} 8,710$ | 8, 184 | 8,090 3,815 | 7,344 | 7,851 | 22.0 | 31.6 | 28.5 | 24.0 | 19.5 |
| Union of Sonth Africa.. | 2 2 2 2 2 161 | 4,003 173 | 3, 186 | 181 | 220 | 14.6 <br> 11.4 | 8.4 23.1 | 9. ${ }^{\text {93. }} 4$ | 13.1 | 23.5 |
| Java and Madura. |  | 4,785 | 4, 885 | 3,887 | 4,030 |  | 12.8 | 12.2 | 12.2 | 12.4 |
| Australia. | 353 | 265 | 284 | 305 |  | 28.5 | 25.5 | 25.6 | 25.7 |  |
| New Zealand. | ${ }^{6} 5$ | 9 | 12 | 11 | 10 |  |  |  |  |  |
| Total comparable with 1909-1913 | 12, 126 | 13,248 | 12,950 |  |  |  |  |  |  |  |
| Total comparable with 1923 |  | 13, 765 | 13,736 | 12,049 | 12,950 |  |  |  |  |  |
| World total comparablewith 1909-1913. $\qquad$ | 157, 237 |  |  |  |  |  |  |  |  |  |
| Worlds total comparable with 1923 |  | 135, 549 | 137, 947 |  | 137, 294 |  |  |  |  |  |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.
${ }^{1}$ Yield per acre not computed when acreage is less than 12,000 acres.
${ }^{2}$ One year only.
${ }^{6}$ Two-year average.

## Table 99.-Corn: Production in undermentioned countries. NORTHERN HEMISPHERE.

| Country. | $\begin{gathered} \text { A verage, } \\ 1909- \\ 1913 \end{gathered}$ | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923, preliminary. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NORTH AMERICA. Canada | 1,000 bushels. 17, 297 | 1,000 bushels. 7, 763 | 1,000 bushels. 14, 205 | 1,000 bushels 16, 941 | 1,000 bushels. 14, 335 | 1,000. bushels 14, 904 | 1,000 bushels. 13, 798 2,906, 020 | 1,000 bushels. 16, 376 |
| United States... | 2, 712, 364 | 3, 065, 233 | 2, 502, 665 | 2, 811, 302 | 3, 208, 584 | 3, 068, 560 | 2,906, 020 | 3, 054, 395 |
| Mexico-.---- | ${ }^{1} 82,519$ |  | 75, 985 |  |  | 61, 020 | 68, 260 |  |
| Guatemala | 15,090 | 10, 384 | 7,641 | 4,939 | 4, 062 | 5, 674 | 5,412 | 7,874 |
| Total comparable with 1909-1913. | 2, 817, 270 |  | 2, 600, 496 |  |  | 3, 150, 167 | 2,993, 490 |  |
| able with 1923 | 2, 734, 751 | 3, 083, 380 | 2, 524, 511 | 2, 833, 182 | 3, 226, 981 | 3, 089, 147 | 2, 925, 230 | 3, 078, 645 |
| EUROPE. |  |  |  |  |  |  |  |  |
| France. | ${ }^{2} 22,289$ | 14,902 | 9,760 | 9,976 | 15, 267 | 10,393 | 12, 676 | 11,857 |
| Spain | 26, 548 | 29,369 | 24, 141 | 25,555 | 27, 692 | 24,897 | 26, 832 | 23,925 |
| Poitugal |  | 9,907 | 9,345 | 9,753 | 11, 721 | 11, 374 |  |  |
| Italy | 100, 317 | 82, 771 | 76,590 | 85,846 | 89, 298 | 92, 325 | 76,830 | 83, 995 |
| Switzerland | - 113 | 276 | 358 | 287 | 280 | 218 | 185 | 165 |
| Austria | 24,488 | 2,810 | 2,291 | 2,115 | 2,129 | 2,521. | 3,477 | 3,671 |
| Czechoslovakia |  |  |  |  | 9, 648 | 9, 432 | 9,884 | 10,455 |
| Hungary | ${ }^{2} 194,063$ |  |  |  | 50, 156 | 31,703 | 48, 725 | 55,158 |
| Yugoslavia |  |  |  |  | 101, 136 | 73, 788 | 89, 136 |  |
| Greace | ${ }^{1} 5,952$ | 6, 112 | 6,466 | 7, 551 | 9, 133 | 7,874 |  |  |
| Bulgaria | ${ }^{2} 27,375$ | 17,423 | 8,463 | 25, 457 | 20, 851 | 16,380 | 15, 479 | 22,007 |
| Rumania | ${ }^{3} 134,447$ |  | 31,318 | 141, 352 | 182, 031 | 110, 933 | 110, 562 | 174, 124 |
| Poland. | 42 |  |  |  | 1,082 | 2, 286 | 2,776 |  |
| Russia (including Ukraine and Northern Caucasia) ...... | ${ }^{4} 36,392$ |  |  |  |  |  | 67, 427 |  |
| Total comparablewith 1909-1913 | 551, 986 |  |  |  |  |  |  |  |
| Total comparable with 1923 |  |  |  |  | 397,352 | 298,802 | 304,640 | 385,357 |

${ }^{1}$ One year only.
${ }^{2}$ Old boundaries.
${ }^{3}$ Includes Bessarabia.
${ }^{3}$ Preliminary estimate of former Russian territory within 1923 boundaries.

Table 99.-Corn: Production in undermentioned countries-Continued.
NORTHERN HEMISPHERE-Continued.

| Country. | A verage; 1909 1913. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | $\begin{aligned} & \text { 1923, } \\ & \text { prelimi- } \\ & \text { nary. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Moroceo-Western | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. 4, 793 | 1,000 bushels. 4, 605 | 1,000 butshels. 3,114 | 1,000 <br> bushels 3, 904 | 1,000 <br> bushels. <br> 5,900 | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 4,564 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ |
| Algeria-.------- | 598 | 302 | 194 | 236 | 254 | 354 | 276 | 155 |
| Tunis | 228 | 354 | 307 | 256 | 110 | 354 |  | 284 |
| Egypt. | 64, 273 | 63, 955 | 65, 483 | 67, 604 | 63, 976 | 70,568 | 73, 505 |  |
| Total comparable with 1909-1913 | 65,099 | 64, 611 | 65, 984 | 68, 096 | 64, 340 | 71, 276 |  |  |
| Total comparable with 1923 . |  |  |  | 492 | 364 | 708 |  | 439 |
| India-British | 5 82, 620 | 93, 800 | 96,640 | 71,292 | 103,440 | 83, 320 | 96, 240 |  |
| Russia (Asiatic) | ${ }^{4} 15,793$ |  |  |  |  |  |  |  |
| Japanese Empire: |  |  |  |  |  |  |  |  |
| Chosen------------ | $\stackrel{3}{3,391}$ | 3, 791 | 3,320 | 3, 996 | 3, 947 | 4, 241 |  |  |
| Philippines--- | $\begin{array}{r}\text { 6 } \\ \hline\end{array}$ | 14,545 | 3, 12,190 | 13,095 | 2,485 16,978 | 15,854 | $\begin{array}{r} 2,902 \\ 14,777 \end{array}$ | 16, 663 |
| Total comparable with 1909-1913 | 111, 501 |  |  |  |  |  |  |  |
| Total comparable with 1923 | 7,461 | 14, 545 | 12, 196 | 13, 095 | 16, 978 | 15, 854 | 14,777 | 16, 683 |
| Total Northern Hemisphere comparable with 1909-1913. | 3, 545,856 |  |  |  |  |  |  |  |
| Total Northern Hemisphere comparable with 1923. |  |  |  |  | 3,641, 675 | 3, 404,511 |  | 3,481, 104 |

SOUTHERN HEMISPHERE.

| Chile. | $\begin{aligned} & 1,000 \\ & \text { bushels. } \\ & 1,455 \end{aligned}$ | 1,000 bushsis. 1,338 | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 1,446 \end{gathered}$ | 1,000 bushels. 1, 284 | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 1,446 \end{gathered}$ | $\begin{gathered} 1,009 \\ \text { bu\&hels. } \\ 1,685 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 1,777 \end{gathered}$ | $\begin{gathered} t, 000 \\ \text { bushels. } \end{gathered}$ $1,832$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Uruguay | 6, 026 | 4,604 | 6,815 | 7,526 | 6,574 | 4,000 | 4,722 | 8, 628 |
| Argentína | 191, 698 | 58,839 | 170,660 | 224, 239 | - 258, 686 | 230, 420 | 176, 171 | 153,141 |
| Union of South Africa | ${ }^{6} 33,517$ | 34, 964 | 45, 148 | 30,986 | 33,461 | 34, 906 | 35, 195 | 50,390 |
| Southern Rhodesia..- | ${ }^{1} 1,834$ | 3, 350 | 2, 113 | 3, 178 | 4,002 | 4,360 | 2,367 | 5,178 |
| Java and Madura -- |  | 51, 166 | 49,862 | 49,585 | 61, 251 | 59, 619 | 47,501 | 50, 116 |
| Australiáa | 10, 057 | 8,527 | 8,843 | 6,912 | 6, 764 | 7, 259 | 7, 840 |  |
| New Zealand | ${ }^{5} 265$ | 274 | 368 | - 414 | 406 | 501 | , 505 | 508 |
| Total Southern Hemisphere comparable with 1909-1.913. | 244, 852 | 111, 896 | 235, 388 | 274, 519 | 311, 339 | 283, 731 | 228, 578 |  |
| Total Southern Hemisphere comparable with 1923 $\qquad$ | 21,852 | 154,535 | 276, 407 | 317, 202 | 365, 826 | 336, 091 | 228,578 | 269,791 |
| World total comparable with 1909 1913 | 3, 790, 708 |  |  |  |  |  |  |  |
| World total comparable with 1923 |  |  |  |  | 4, 007, 501 | 3, 740, 602 |  | 3, 750, 805 |

Division of Statistical and Historical Reserach. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.
${ }^{1}$ One year only.
4 Preliminary estimate of former Russian territory within 1923 boundaries.
${ }^{5}$ Two-year average.
${ }^{6}$ Four-year average.

Table 100.-Corn: World production, 1900-1923.

| Calendar year. | Production in countries reporting all years 1900-1923. | Production as reported. | Estimated world totals (preliminary). | Three selected countries. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | United States. | Italy. | Argentina. |
|  | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. |
| 1900 | 2, 657, 479 | 3, 145, 539 | 3, 445, 529 | 2, 505, 148 | 87, 969 | . 55,611 |
| 1901 | 1, 784, 780 | 2, 328, 687 | 2, 637, 787 | 1, 613, 528 | 100,455 | 98, 841 |
| 1902 | 2, 755, 097 | 3, 274, 417 | 3, 552, 137 | 2, 619, 499 | 71, 028 | 84, 018 |
| 1903 | 2, 640, 948 | 3, 133, 418 | 3, 417, 243 | 2, 346, 897 | 88, 990 | 148,946 |
| 1904 | 2, 673, 669 | 3, 066, 601 | 3, 339, 736 | 2, 528, 662 | 90,545 | 175, 187 |
| 1905 | 2, 920, 433 | 3, 464, 564 | 3, 743, 794 | 2, 748, 949 | 97, 265 | 140, 707 |
| 1906 | 3, 042,894 | 3, 703, 932 | 3, 980, 577 | 2, 897, 662 | 92, 904 | 194,910 |
| 1907 | 2, 667, 113 | 3, 354, 363 | 3, 628, 813 | 2, 512, 065 | 88,412 | 71, 768 |
| 1908 | 2, 702, 729 | 3, 266, 956 | 3, 705, 956 | 2, 544, 957 | 95, 845 | 136, 055 |
| 1909. | 2, 740, 791 | 3, 390, 685 | 3, 703, 585 | 2, 572, 336 | 99, 289 | 177, 155 |
| 1910. | 3, 056, 689 | 3, 709, 655 | 3, 951, 255 | 2, 886, 260 | 101, 722 | 175, 187 |
| 1911 | 2, 683, 121 | 3, 547, 596 | 3, 790, 396 | 2, 531, 488 | 93, 518 | 27, 676 |
| 1912 | 3, 287, 886 | 4, 220, 154 | 4, 329, 454 | 3, 124, 746 | 98, 668 | 295, 849 |
| 1913 | 2, 616, 156 | 3, 557, 132 | 3, 743, 632 | 2, 446, 988 | 108, 388 | 196, 642 |
| 1914 | 2, 844, 850 | 3,939, 799 | 4, 041, 799 | 2, 672, 804 | 104,967 | 263, 135 |
| 1915 | 3, 174, 515 | 3, 990, 557 | 4, 142, 557 | 2, 994, 793 | 121, 824 | 325, 178 |
| 1916 | 2, 699, 694 | 3, 176, 062 | 3, 475, 462 | 2, 566, 927 | 81, 547 | 161, 133 |
| 1917 | 3, 197, 869 | 3, 719, 215 | 4, 049, 715 | 3, 065, 233 | 82, 771 | 58, 839 |
| 1918 | 2, 615, 641 | 3, 279, 232 | 3, 469, 832 | 2, 502, 665 | 76, 590 | 170, 660 |
| 1919 | 2, 935, 030 | 3, 671, 630 | 3, 962, 630 | 2, 811, 302 | 85, 846 | 224, 239 |
| 1920. | 3, 343, 224 | 4, 292, 421 | 4, 437, 421 | 3, 208, 584 | 89, 298 | 258, 686 |
| 1921 | 3, 199, 059 | 3, 995, 272 | 4, 075, 772 | 3, 068, 569 | 92, 325 | 230, 420 |
| 1922 | 3, 026, 111 | 3, 941, 909 | 3, 972, 028 | 2, 906, 020 | 76, 830 | 176, 171 |
| 1923. | 3, 177, 990 | 3, 531, 212 | 4, 201, 912 | 3, 054, 395 | 83,995 | 153, 141 |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.
Table 101.-Corn: Farm stocks, shipments, and quality, United States, 1897-1923.

| Year. | Old stocks on farms Nov. $1 .{ }^{1}$ | Crop. |  |  |  | Total supplies. | Stocks on farms Mar. 1 following. ${ }^{1}$ | Shipped out of county where grown. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity. | Quality. | $\begin{array}{r} \text { Pro } \\ \text { merch } \end{array}$ | ortion antable. ${ }^{1}$ |  |  |  |
|  | 1,000 bush. | 1,000 bush. | Per cent. | Per cent. | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. |
| 1897-98 | 320,488 | 2, 144, 553 | 86.3 | 86.8 | 1,861, 838 | 2, 465, 041 | 878,063 | 1,000 472, 426 |
| 1898-99 | 156, 330 | 2, 261, 119 | 83.8 | 82.2 | 1, 858, 027 | 2, 417, 449 | 937, 016 | 478,991 |
| 1899-1900 | 134, 995 | 2, 454, 628 | 87.2 | 86.7 | 2, 127, 460 | 2, 589, 623 | 904, 586 | 420, 739 |
| 1900-1. | 106, 198 | 2, 505, 148 | 85.5 | 86.8 | 2, 175, 608 | 2, 611, 346 | 927, 423 | 585, 701 |
| 1901-2. | 116, 016 | 1, 613, 528 | 73.7 |  |  | 1, 729, 544 | 471, 609 | 166,612 |
| 1902-3 | 31, 494 | 2, 619, 499 | -80.7 | 76.0 | 1,991, 866 | 2, 650, 993 | 1, 091, 534 | 580, 139 |
| 1903-4. | 137, 602 | 2, 346, 897 | 83.1 | 75.6 | 1, 774, 099 | 2, 484, 499 | 871, 712 | 449, 719 |
| 1904-5 | 83, 379 | 2, 528, 662 | 86.2 | 84.5 | 2, 136, 927 | 2, 612, 041 | 972, 077 | 565, 287 |
| 1905-6 | 83, 105 | 2, 748, 949 | 90.6 | 88.3 | 2, 427, 996 | 2, 832, 054 | 1,124,905 | 696, 365 |
| 1906-7 | 122, 732 | 2, 897, 662 | 89.9 | 89.3 | 2, 587, 506 | 3, 020, 394 | 1, 287, 066 | 690, 490 |
| 1907-8 | 129, 786 | 2, 512, 065 | 82.8 | 77. 2 | 1, 939, 877 | 2,641, 851 | 931, 503 | 470, 046 |
| 1908-9 | 69, 251 | 2, 544, 957 | 86.9 | 88.2 | 2, 244, 571 | 2, 614, 208 | 999, 235 | 565, 510 |
| 1909-10 | 77, 403 | 2, 572, 336 | 84.2 | 82.7 | 2, 126, 965 | 2, 649, 739 | 980, 848 | 620, 057 |
| 1910-11 | 113, 919 | 2, 886, 260 | 87.2 | 86.4 | 2, 492, 763 | 3, 000, 179 | 1, 165, 378 | 661, 777 |
| 1911-12. | 123, 824 | 2,531, 488 | 80.6 | 80.1 | 2, 027, 922 | 2, 655, 312 | 884, 059 | 517, 766 |
| 1912-13. | 64,764 | 3, 124, 746 | 85.5 | 85.0 | 2,654, 907 | 3, 189, 510 | 1, 290, 642 | 680, 831 |
| 1913-14. | 137,972 | 2,446,988 | 82.2 | 80.1 | 1,961, 058 | 2,584, 960 | 866,352 | 422,059 |
| 1914-15. | 80, 046 | 2, 672, 804 | 85.1 | 84.5 | 2, 259, 755 | 2, 752, 850 | 910, 894 | 498, 285 |
| 1915-16 | 96,009 | 2,994, 793 | 77.2 | 71.1 | 2, 127, 965 | 3, 090, 802 | 1, 116,559 | 560, 824 |
| 1916-17 | 87, 908 | 2, 566, 927 | 83.8 | 83.9 | 2, 154, 487 | 2, 654, 835 | 782, 303 | 450, 589 |
| 1917-18 | 34, 448 | 3, 065, 233 | 75. 2 | 60.0 | 1, 837, 728 | 3, 099, 681 | 1, 253, 290 | 678, 027 |
| 1918-19. | 114, 678 | 2, 502, 665 | 85.6 | 82.4 | 2, 062,041 | 2, 617, 343 | 855, 269 | 362, 589 |
| 1919-20. | 69, 835 | 2, 811, 302 | 89.1 | 87.1 | 2, 448, 204 | 2, 881, 137 | 1, 045, 575 | 470, 328 |
| 1920-21. | 139, 083 | 3, 208, 584 | 89.6 | 86.9 | 2, 789, 720 | 3, 347, 667 | 1,564, 832 | 705, 481 |
| 1921-22 | 285, 769 | 3, 068,569 | 84.0 | 87.5 | 2, 684, 634 | 3, 354, 338 | 1, 305, 559 | 587, 893 |
| 1922-23 | 177, 287 | 2,906, 020 | 85.0 | 88.3 | 2, 567, 044 | $3,083,307$ | 1, 093, 306 | 518, 779 |
| 1923-24 ${ }^{2}$ | 83, 856 | 3, 054, 395 | 79.4 |  |  | 3, 138, 251 |  |  |

[^153]Table 102.-Corn: Receipts and shipments, 11 primary markets, 1909-1922.

| Year beginning Nov. 1. | Chicago. |  | Milwaukee. |  | Minneapolis. |  | Duluth. |  | St. Louis. |  | Toledo. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{\|c\|} \mathrm{Re}- \\ \text { ceipts. } \end{array}$ | Ship- | $\begin{gathered} \mathrm{Re}- \\ \text { ceipts. } \end{gathered}$ | $\left\lvert\, \begin{gathered} \text { Ship- } \\ \text { ments. } \end{gathered}\right.$ | $\xrightarrow{\mathrm{Re}-}$ ceipts. | Shipments. | $\begin{gathered} \mathrm{Re}- \\ \text { ceipts. } \end{gathered}$ | $\begin{array}{\|c\|} \text { Ship- } \\ \text { ments. } \end{array}$ | $\underset{\text { ceipts. }}{\mathrm{Re}}$ | Shipments | $\underset{\text { ceipts }}{\mathrm{Re}-}$ | Shipments |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. |
| 1909-10 | 88, 428 | 66, 011 | 6, 535 | 5,893 | 6, 564 | 5, 047 | $\begin{array}{\|c} 883 \\ 1897 \end{array}$ | 943 | 22, 913 | 16, 383 | 4, 001 | 1,840 |
| 910 | 113, 808 | 92, 652 | 7, 895 | 7, 625 | 8,948 | 5,370 | 1,697 | 1,697 | 23, 766 | 15, 422 | 6, 236 | 3,290 |
| 1911-12 | 108, 431 | 73, 940 | 9,410 | 6,506 | 5, 423 | 3, 264 | 12 | 12 | 25, 176 | 15, 492 | 4,121 | 2, 037 |
| 1912- | 131, 792 | 94, 311 | 11, 613 | 7,887 | 6,258 | 4, 374 | 492 | 492 | 22, 762 | 12, 257 | 2, 996 | 1,885 |
| 1913 | 84, 838 | 57, 528 | 15,804 | 10, 727 | 10,710 | 8,776 | 8 | 362 | 16, 961 | 10, 119 | 4, 560 | 2,314 |
| Av. 1909-1913. | 105, 459 | 76,888 | 10,251 | 7,728 | 7,581 | 5,366 | 792 | 701 | 22,316 | 13,935 | 4,38 | 2, 273 |
| 14-15 | 116,348 | 80, 256 | 19, 609 | 16,985 | 14, 699 | 11,997 | 036 | 3, 036 | 18, 626 | 10, 206 | 4,582 | 2, 594 |
| 1915-16 | 101, 325 | 62, 148 | 9,887 | 6, 943 | 5, 661 | 3, 927 | () | $\left.{ }^{1}\right)$ | 17, 974 | 8, 678 | 4, 656 | 1,422 |
| 1916-17 | 78, 723 | 40, 497 | 12, 755 | 8, 681 | 9, 550 | 7,779 | 32 |  | 21, 312 | 13, 191 | 2, 882 | 1,190 |
| 1917-18 | 98, 786 | 34, 540 | 12, 374 | 7,006 | 16, 715 | 9, 636 | 177 | 170 | 25, 354 | 16, 130 | 2, 609 | 1,160 |
| 1918-19 | 61, 366 | 32, 019 | 6,784 | 3, 697 | 6, 621 | 4,773 | 6 | ${ }^{(1)}$ | 19, 219 | 11, 956 | 1,127 | 549 |
| 1919-20 | 87, 641 | 37, 236 | 14, 652 | 7,079 | 9, 192 | 6, 384 |  | (1) | 27, 595 | 15, 975 | 2,122 | 1,298 |
| 20 | 167, 241 | 113, 374 | 27, 455 | 21, 823 | 12, 066 | 8, 483 | 4,834 | 3,777 | 25, 924 | 17, 044 | 3, 194 | 1,349 |
| Av. 1914-1920. | 101, 633 | 57, 153 | 14,788 | 10,316 | 10,643 | 7,568 |  |  | 22, 286 | 13,311 | 3, 02 | 1,366 |
| 1921-22 | 186, 815 | 115, 700 | 25, 630 | 22, 168 | 15, 920 | 12,048 | 14, 111 | 14, 034 | 33, 809 | 22,713 | 3, 994 | 1,795 |
| 1922-23 | 115, 960 | 65,890 | 15, 280 | 11, 748 | 7,531 | 4, 828 | 688 | 639 | 29,856 | 20,243 | 3,149 | 1,118 |
| 1922. November | 10,380 | 6, 205 | 631 | 577 | 436 | 246 | 16 | 123 | 2,162 | 1, 426 | 378 | 135 |
| Decembe | 20,972 | 5, 121 | 1,494 | 492 | 1,124 | 448 | 194 | 25 | 2, 332 | 1,154 | 368 | 135 |
| 1923. |  |  |  |  |  |  |  |  |  |  |  |  |
| January | 15,714 | 10, 153 | 2,488 | 1,869 | 1,231 | 722 | 22 | 31 | 3, 820 | 2, 385 | 426 | 160 |
| Februa | 15, 258 | 5, 965 | 2, 305 | 1,448 | 766 | 444 | 139 |  | 3,122 | 2, 148 | 324 | 136 |
| March | 11,406 | 5,147 | 1,327 | 1,385 | 712 | 506 | 69 |  | 2, 670 | 2,169 | 358 | 130 |
| April | 5, 290 | 4, 437 | 1,071 | 937 | 518 | 531 | 69 |  | 2,184 | 1,760 | 234 | 64 |
| May | 2, 844 | 8, 969 | 268 | 1,031 | 354 | 300 | 3 | 287 | 1,620 | 1,164 | 196 | 75 |
| June | 3, 554 | 4, 513 | 858 | 242 | 723 | 444 | 6 | 2 | 2, 345 | 1,685 | 139 | 53 |
| July | 6, 465 | 3, 520 | 1,514 | 876 | 466 | 532 | 140 | - 129 | 2, 615 | 1,809 | 209 | 88 |
| August | 8,894 | 4, 253 | 1,287 | 1,025 | 439 | 237 | 23 | 42 | 2, 582 | 1,987 | 218 | 102 |
| Septembe | 7,890 | 4, 506 | 1,526 | 1,455 | 287 | 133 | 4 |  | 2,405 | 1,474 | 159 | 12 |
| Octob | 7,293 | 3, 101 | 511 | 411 | 475 | 285 |  |  | 1,999 | 1,082 | 0 | 28 |


| Year beginning Nov. 1. | Detroit. |  | Kansas City. |  | Peoria. |  | Omaha. |  | Indianapolis. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Receipts. | Shipments. | Receipts. | Shipments. | Receipts. | Shipments. | Receipts. | Shipments. | Receipts. | Shipments. | Receipts. | Ship ments. |
|  | 1,000 | 1,000 | 1,000 |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. |
| 1909-10 | 2, 477 | 1,412 | 15, 102 | 12, 873 | 15, 387 | 11, 009 | ${ }^{1}$ ) | ${ }^{1}$ ) | ${ }^{(1)}$ | ${ }^{1}$ ) | 162, 290 | 121, 411 |
| 1910-11 | 3, 860 | 1, 930 | 16, 026 | 13, 395 | 16, 477 | 11, 141 | (1) | (1) | (1) | (1) | 198, 713 | 152, 522 |
| 1911-12 | 2, 857 | 1,888 | 19,646 | 14, 971 | 19, 041 | 14, 292 | 20, 817 | 15, 404 | 13, 687 | 1,947 | 228, 621 | 149, 753 |
| 1912-13 | 2, 757 | 1,615 | 16, 992 | 10, 614 | 17, 923 | 11, 202 | 22, 618 | 17, 732 | 15, 974 | 3, 637 | 252, 177 | 166, 006 |
| 1913-14 | 2, 835 | 1,636 | 27, 494 | 19, 192 | 14, 723 | 6,651 | 37, 108 | 33, 040 | 14, 118 | 5,183 | 230, 029 | 155, 528 |
| Av. 1919-1913. | 2, 957 | 1,6 | 19, | 14, 209 | 16, 710 | 10,859 |  |  |  |  | 214, 366 | 149, 044 |
| 1914 | 4, 058 | 3, 021 | 16,396 | 11, 914 | 16, 736 | 6,831 | 24, 599 | 23,117 | 15, 087 | 6, 498 | 253, 776 | 176, 455 |
| 1915-16 | 4, 726 | 3, 139 | 25, 837 | 22, 459 | 35, 948 | 13, 722 | 21, 496 | 15, 948 | 22, 790 | 11, 073 | 250, 300 | 149, 459 |
| 1916-17 | 3, 192 | 2, 425 | 12, 743 | 8,469 | 31, 533 | 11, 870 | 29, 820 | 25, 179 | 24, 421 | 14, 801 | 226, 963 | 134, 088 |
| 1917-18 | 4,361 | 717 | 31, 366 | 24, 481 | 36, 176 | 17, 062 | 46, 159 | 36, 355 | 20,583 | 9,206 | 294, 660 | 156, 463 |
| 1918-19 | 1,633 | 626 | 16, 146 | 10, 345 | 18, 511 | 10, 530 | 21, 805 | 21, 197 | 4, ${ }^{4}, 905$ | 7, 130 | 169, 123 | 102, 822 |
| 1919-20 | 1,671 | 481 | 11, 218 | 5, 034 | 22, 449 | 17, 660 | 23, 227 | 18, 604 | 19, 991 | 7, 170 | 219, 763 | 116, 921 |
| 1920-21 | 1, 663 | 261 | 14, 137 | 9, 742 | 16,091 | 9,823 | 20, 012 | 17, 356 | 17, 505 | 6,353 | 310, 122 | 209, 385 |
| Av. 1914-1920. | 3 , | 1,524 | 18, 263 | 13, 206 | 25,349 | 12, 5 | 26, 731 | 22, 537 | 19, 469 | 8,890 | 246,387 | 149,370 |
| 1921 | 2, | 903 | 16, | 10,242 | 24, 116 | 18, 295 | 29, 583 | 26, 047 | 21, 665 | 7, 053 | 374, 160 | 250,998 |
| 1922-23 | 1,957 | 289 | 15, 499 | 7,239 | 21, 157 | 6,2781 | 22, 730 | 20,266 | 18, 317 | 6,161 | 252, 124 | 154,699 |
| November | 241 | 31 | 879 | 334 |  | 2,112 | 2, 284 | 979 | 2, 220 | 846 | 21, 882 | 13, 014 |
| December | 279 | 48 | 1,597 | 225 | 2,843 | 2, 362 | 2,416 | 1,927 | 2, 195 | 986 | 35, 814 | 12,923 |
| 192 |  |  |  |  |  | 2,309 | 3,398 | 2, 396 | 2, 536 | 768 |  |  |
| January | 255 | 49 | 1,953 | 452 | 2, 1,730 | 1,244 | 2, 441 | 1,936 | 1, 428 | 539 | 29,556 |  |
| February | 156 | 45 | 1,887 | 503 | 1,730 | 1,244 | 2,441 | 1,936 | 1, 1,671 | 634 | 22, 987 | 14, 476 |
| A pr | 135 | 21 | 1,773 | 1,223 | 1, 151 | 1945 | 1,790 | 2,754 | 1,387 | 543 | 15, 602 | 13, 215 |
| May | 123 | 19 | 1,169 | 796 | -952 | 494 | 1,266 | 1,200 | 1,207 | 406 | 10, 002 | 14, 741 |
| June | 65 | 7 | 1, 226 | 618 | 1,314 | 894 | 1,976 | 1,758 | 1,057 | 274 | 13, 263 | 10,490 |
| July | 66 | 5 | 1,135 | 439 | 1,480 | 1, 023 | 1,412 | 1,624 | 1, 366 | 324 | 16, 868 | 10, 369 |
| Augus | 105 | 9 | 991 | 694 | 1,852 | 1,349 | 1,877 | 1, 443 | 1, 131 | 376 | 19,399 | 11, 517 |
| Septembe | 180 | 7 | 718 | 442 | 1,499 | 1,052 | 1, 052 | 1, 183 | 1, 246 | 311 | 16,966 | 10,575 |
| October.- | 172 | 12 | 719 | 659 | 1,733 | 979 | 1,284 | 966 | 973 | 154 | 15, 202 | 7,677 |

[^154]Table 103-Corn: Monthly marketings by farmers, United States, 1917-1922.

| Year beginning Jaly 1. | Percentage of year's receipts as reported by about 3,500 mills and elevators. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | son. |
| 1917-18 | 5.3 | 4.0 | 3.4 | 3.8 | 8.8 | 12.2 | 14.2 | 16.1 | 13. 7. | 7.1 | 5.6 | 5. 8 | 100.0 |
| 1918-19 | 6.7 | 6. 9 | 8.4 | 6. 7 | 7.3 | 12.0 | 15.0 | 7.2 | 7. 5. | 8. 2 | 8. 0 | 6. 1 | 190.0 |
| 1919-20 | 4.5 | 5.6 | 4.9 | 5. 6 | 9.2 | 15.0 | 12.9 | 9.5 | 8. 7. | 5.9 | 7.6 | 10.6 | 100.0 |
| 1920-21 | 5.4 | 5. 6 | 6.9 | 5. 3 | 7.1 | 11.3 | 14.3 | 11. 7 | 8.9 | 5. 6 | 8. 5 | 9.4 | 100.0 |
| 1921-22 | 4.9 | 7.3 | 8.6 | 6. 7 | 6. 6 | 12. 4 | 13. 8 | 12.4 | 7.5 | 4.7 | 7. 6 | 7.5 | 100.0 |
| 1922-23. | 6.8 | 7.5 | 9.1 | 8.2 | 8. 7 | 13.6 | 10. 7 | 11.0 | 6.6 | 5.3 | 6. 1 | 6.4 | 100.0 |

Division of Crop and Livestock Estimates.
Table 104.-Corn: Visible supply in United States, first of month, 1909-1923.

| $\begin{gathered} \text { Year } \\ \text { beginning } \end{gathered}$ <br> Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,009 | 1,000 | 1,000 |
|  | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. |
| 1909-10 | 2, 653 | 3, 289 | 8,465 | 9, 764 | 13, 480 | 13, 778 | 10, 603 | 5,940 | 5, 146 | 3, 770 | 2,750 | 5,011 |
| 1910-11 | 3, 510 | 1,545 | 5,099 | 9, 145 | 11, 794 | 11, 166 | 7,047 | 4, 685 | 7, 482 | 7, 100 | 6, 724 | 6, 339 |
| 1911-12 | 1,703 | 2, 054 | 5, 140 | 6, 900 | 14, 257 | 15, 914 | 7,490 | 5, 699 | 8,204 | 2,451 | 1, 823 | 3, 101 |
| 1912-13 | 2, 689 | 1,525 | 5, 879 | 9, 717 | 17, 918 | 21, 494 | 7, 270 | 2,549 | 11, 479 | 6,380 | 2,612 | 7,308 |
| 1913-14 | 6, 206 | 2, 026 | 12, 126 | 16,505 | 18, 374 | 18, 812 | 9, 380 | 4,409 | 7,589: | 3, 203 | 3, 923 | 5,461 |
| Av. 1909-1913. | 3, 352 | 2, 088 | 7, 342 | 10, 406 | 15, 165 | 16,233 | 8,358 | 4,656 | 7,980 | 4,583. | 3, 566 | 5,444 |
| 1914-15 | 3, 114 | 3,382 | 19,703 | 34, 156 | 41, 238 | 32, 877 | 20, 203 | 12,795 | 5,225 | 2, 306 | 2,382 | 3,444 |
| 1915-16 | 3, 288 | 4,387 | 8,919 | 14,773 | 24, 605 | 27, 697 | 21, 004 | 14,505 | 6, 870 | 5, 167 | 3, 330 | 5,093 |
| 1916-17 | 2, 361 | 2, 677 | 5, 838 | 10, 671 | 12,931 | 11, 974 | 7,173 | 2, 629 | 3,277 | 2,841 | 2, 371 | 1, 163 |
| 1917-18 | 1,277 | 1, 932 | 3, 155 | 4, 623 | 8, 939 | 19, 016 | 16, 111 | 13, 038 | 11, 487 | 9, 466 | 5,232 | 5, 503 |
| 1978-19 | 4, 733 | 2, 216 | 2, 415 | 5,549 | 4,483 | 2, 514 | 4,245 | 2, 600 | 4, 038 | 2, 461 | 958 | 2,163 |
| 1919-20 | 1,484 | 1,477 | 2, 921 | 3,575 | 4, 951 | 5,669 | 5, 035 | 2, 740 | 4, 364 | 6, 152 | 2, 564 | 7,587 |
| 1920-21 | 10, 085 | 4,597 | 5, 409 | 14, 297 | 22,333, | 32, 896 | 23, 018 | 15, 103 | 24, 304 | 14,584 | 11,500 | 11,785 |
| Av. 1914-1920. | 3, 763 | 2,953 | 6,909 | 12,521 | 17, 069 | 18, 949 | 13, 837 | 9, 059 | 8,509 | 6,140 | 4,048 | 5,245 |
| 1921-22 | 18, 891 | 15,518 | 23, 279 | 30,778 | 44,792 |  | 35,564 | 27, 046 | 29,337 | 19,509 | 7, 314 | 12, 206 |
| 1922-23 | 8,806 | 11,072 | 16,760 | 21,658 | 27, 529 | 28, 742 | 22, 339 | 6,734 | 3, 36a | 2, 373 | 1,587 | 2, 052 |

[^155]Table 105.-Corn: Classification of cars graded by licensed inspectors, all inspection points.


## Grain Division.

Table 106.-Corn, including meal: International trade, calendar years, 1909-1922.

| Country. | Average, 1909-1913. |  | 1920 |  | 1921 |  | $\begin{gathered} \text { 1922, } \\ \text { preliminary. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL FXPORTING COUNTRIES. | 1,000 bushels. | 1,000 bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ |
| Argentina | 2 | 115, 749 |  | 176, 159 |  | 111, 603 |  | 109, 101 |
| Bulgaria. | 44 | 9,307 | $\left.{ }^{1}\right)$ | 4,185 | ${ }^{(1)}$ | ${ }^{2} 2,195$ | ${ }^{(1)} 69$ | ${ }^{2} 1,654$ |
| China.-. | ${ }^{3} 38$ | ${ }^{3} 148$ | 79 | 686 17 329 | ${ }_{\text {(1) }} 356$ | -119 | 69 | 11,482 |
| Union South Africa | 143 | 30,934 3,952 | 359 | 2, 899 | 18 | 18, 325 | 18 | 11, 881 |
| United States. | 1,226 | 45, 054 | 7,784 | 21, 230 | 164 | 132, 186 | 113 | 166, 131 |
| Yugoslavia. |  |  |  | ${ }^{2} 5,003$ | 296 | ${ }^{2} 12,490$ |  |  |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Austria |  |  | 5,124 | ${ }^{2} 38$ | 6,699 | ${ }^{2} 34$ | ${ }^{2} 3,447$ | ${ }^{2} 5$ |
| Austria-Hungary | 13, 877 | 268 |  |  |  |  |  | 480 |
| Belgium . | 25, 801 | 8, 130 | 10,513 | 2, 327 | 19, 386 | 7,157 | 16, 513 | 180 |
| Canada | 10,629 | 25 | 10,793 2 314 | 113 21 | 12,455 4,794 | (1) 110 | 13,358 3,868 | 122 221 |
| Cuechoslovakia | 746 | (1) | $\begin{array}{r}2 \\ \\ 3,214 \\ \\ \hline\end{array}$ | 21 | 4, 794 | (1) | 3, 868 | 2 |
| Denmar | 11,440 | 6 | 9, 822 | 4 | 18,181 | 9 | 17,182 |  |
| Egypt | 471 | 61 | 948 | 1 | 2, 261 | 396 | 81 | 104 |
| France. | 18,708 | 82 | 17, 609 | 858 | 13, 355 | 600 | 21, 170 | 145 |
| Germany | 32, 160 | 1 | 16,099 | $\left({ }^{1}\right)$ | ${ }^{2} 73,639$ | ${ }^{4} 46$ | 42, 731 | 5 |
| Greece. |  |  | 342 | ${ }_{2}^{210}$ | 1,027 242 | ${ }_{21}^{2} 134$ | ${ }_{2} 191$ | 217 |
| Hungary |  |  | ${ }_{12}{ }^{1}$ ) 599 | 212 4 | $\begin{array}{r}1 \\ \hline 17,965 \\ \hline\end{array}$ | ${ }^{2} 1,134$ | 2 19 19 8 859 | 217 22 |
| Italy.-- | 14, 895 | 206 | 12, 599 | 4 | 17,965 | 11 | 19,859 | 22 |
| Mexico--- | $\begin{array}{r}4,404 \\ 29,580 \\ \hline\end{array}$ | 82 8,750 |  | 37 | 35, 643 | 355 | 34, 831 | 294 |
| Netherland | 29,580 1,079 | 8,750 | 15,566 2,623 | 37 | $\begin{array}{r}3,643 \\ 3,558 \\ \hline\end{array}$ | 355 | 3,483 |  |
| Poland. |  |  |  |  | ${ }^{2} 1,776$ | (1) | ${ }^{2} 524$ | ${ }^{2} 19$ |
| Portugal | 1, 674 | 5 | ${ }^{2} 1,257$ | $\left.{ }^{1}\right)$ |  |  |  |  |
| Spain--- | 9,775 | 44 | 7, 719 | 188 | 11,906 | 576 | 17,595 | 1 |
| Sweden | 1,476 | 26 | 1,505 | (1) 41 | 4,158 5,107 | 66 | 1,986 5,007 |  |
| Switzerland | 3,987 | 11 | $\begin{array}{r}1 \\ \hline 1,219\end{array}$ | ${ }^{(1)} 5$ | 5, 772 | 21 | 5,007 396 | ${ }^{1} 11$ |
| Tunis-- | 82446 | 11 | 1,219 71,057 | 67 | 78,194 | 65 | 79, 048 | 1 |
| United Kingdom | 82, 976 | 96 201 | 71,057 21,203 | (1) ${ }^{67}$ | 7,194 266 | ${ }^{2} 209$ | ${ }^{2} 81$ | 2124 |
| Uruguay | 2, 898 | $\begin{array}{r}\text { 9, } \\ 981 \\ \hline 821\end{array}$ | $\begin{array}{r}21,203 \\ 3,620 \\ \hline\end{array}$ | 5, 546 | 2, 2,045 | 8,118 | 1,924 | 7,231 |
| Total | 270,991 | 271, 026 | 202, 765 | 236, 743 | 314, 043 | 326, i15 | 286, 878 | 303, 798 |

Division of Statistical and Historical Research. Official sources except where otherwise noted. Maicena or maizena is in cluded as "Corn and corn meal."

1 Less than 500 bushels.
${ }_{2}$ International Institute of Agriculture.

Four-year average
4 Eight months, May-December.

Table 107.-Corn: Farm price per bushel, 1 st of month, United States, 1908-1923.

| Year beginning Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Weighted av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908 | $\begin{gathered} \text { Cts. } \\ 63.5 \\ \hline \end{gathered}$ | $\begin{aligned} & C t s . \\ & 60.6 \end{aligned}$ | $\begin{aligned} & \mathrm{Cts} . \\ & 60.7 \end{aligned}$ | Cts. $61.4$ | Cts. 64.7 | Cts. $67.5$ | $\begin{gathered} \text { Cts. } \\ 71.9 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Cts. } \\ & 76.3 \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Cts. } \\ 77.0 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 75.2 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Cts. } \\ & 71.0 \end{aligned}$ | $\begin{aligned} & \text { Cts. } \\ & 67.1 \end{aligned}$ | Cts. 66.2 |
| 1809-10 | 62.2 | 57.9 | 62.3 | 65.2 | 65.9 | 65.5 | 63.5 | 65.2 | 66.2 | 67.2 | 66.3 | 61.1 | 63.7 |
| 1910-11 | 52.6 | 48.0 | 48.2 | 49.0 | 48.9 | 49.7 | 51.8 | 55.1 | 60.0 | 65.8 | 65.9 | 65.7 | 53.1 |
| 1911-12 | 64.7 | 61.8 | 62.2 | 64.6 | 66.6 | 71.1 | 79.4 | 82.5 | 81. 1 | 79.3 | 77.6 | 70.2 | 4 |
| 1912-13 | 58.4 | 48.7 | 48.9 | 50.6 | 52.2 | 53.7 | 56.8 | 60.6 | 63.2 | 65.4 | 75.4 | 75.3 | 5 |
| 1913-14 | 70.7 | 69.1 | 69.6 | 68.3 | 69.1 | 70.7 | 72.1 | 75.0 | 75.5 | 76.8 | 81.5 | 78. | 9 |
| A $\nabla .1909-1913$ | 61.7 | 57.1 | 58.2 | 59.5 | 60.5 | 62.1 | 64.7 | 67.7 | 69.2 | 70.9 | 73.3 | 70.1 | 62.9 |
| 1914-15 | 70.6 | 64.4 | 66.2 | 72.8 | 75.1 | 75.1 | 77.7 | 77.9 | 77.7 | 78.9 | 77.3 | 70.5 | 72.4 |
| 1915-16 | 61.9 | 57.5 | 62.1 | 66.7 | 68.2 | 70.3 | 72.3 | 74.1 | 75.4 | 79.4 | 83.6 | 82.3 | 69.0 |
| 1916-17 | 85.0 | 88.9 | 90.0 | 95.8 | 100.9 | 113.4 | 150.6 | 160. 1 | 164. 6 | 196. 6 | 175. 5 | 175. 1 | 121.2 |
| 1917-18 | 146.0 | 127.9 | 134.8 | 138. 8 | 154. 3 | 153.6 | 155.7 | 152.5 | 153.7 | 159.7 | 165. 7 | 159.5 | 146.7 |
| 1918-19 | 140.3 | 136.5 | 144.7 | 138. 1 | 137. 2 | 149.6 | 162.6 | 171.2 | 176.5 | 191.2 | 185. 4 | 153.9 | 152.1 |
| 1919-20 | 133.4 | 134.5 | 140.4 | 146. 8 | 148. 5 | 158.6 | 169. 6 | 185.2 | 185.6 | 163.7 | 155.7 | 121.3 | 150.6 |
| 1920-21 | 87.3 | 67.0 | 66.7 | 62.4 | 64 | 63.0 | 59.5 | 62.5 | 62.2 | 61.7 | 56.2 | 51.0 | 64.1 |
| Av. 1914-1920 | 103.5 | 96.7 | 100.7 | 103.1 | 107.0 | 111.9 | 121.1 | 126.2 | 128.0 | 133.0 | 128.5 | 116.2 | 110.9 |
| 1921-22 | 41.1 | 42.3 | 43.4 | 45.8 | 54.8 | 56.9 | 59.7 | 61.6 | 62.2 | 64.4 | 62.7 | 61.6 | 52.2 |
| 1922-23 | 62.9 | 65.8 | 69.6 | 70.7 | 74.3 | 76.3 | 83.0 | 85.0 | 86.5 | 87.4 | 86.6 | 85.7 | 75.6 |
| 1923-24 | 83.9 | 72.7 |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 108.-Corn: Farm price per bushel, December 1, calendar years, 1908-1923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\begin{gathered} \text { AV. } \\ 1909 \\ 1913 . \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{aligned} & \mathrm{A} \nabla . \\ & 1914- \\ & 1920 . \end{aligned}$ | 1921 | 1922 | 1923 | $\left\{\begin{array}{c} \text { Value } \\ \text { per } \\ \text { acre } \\ 1923.1 \end{array}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | C'ts. | Cts. | Cts | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Dolls. |
| Me | 84 | . 80 | 71 | 90 | 75 | 87 | 81 | 88 | 85 | 119 | 228 | 167 | 195 | 128 | 144 | 77 | 100 | 112 | 42.56 |
| N. H | 79 | 76 | 69 | 82 | 75 | 81 | 77 | 82 | 76 | 115 | 217 | 150 | 170 | 145 | 136 | 75 | 75 | 111 | 46. 62 |
| V t | 78 | 73 | 66 | 80 | 72 | 81 | 74 | 81 | 84 | 110 | 213 | 170 | 175 | 126 | 137 | 76 | 91 | 110 | 42.90 |
| Mas | 81 | 81 | 70 | 83 | 77 | 85 | 79 | 85 | 80 | 120 | 215 | 170 | 172 | 125 | 138 | 77 | 94 | 115 | 49. 45 |
| R. I | 90 | 97 | 83 | 95 | 88 | 99 | 92 | 98 | 100 | 138 | 236 | 180 | 186 | 180 | 160 | 110 | 120 | 115 | 43. 70 |
| Con | 80 | 75 | 68 | 83 | 77 | 85 | 78 | 89 | 85 | 120 | 215 | 171 | 180 | 140 | 143 | 90 | 96 | 107 | 43. 87 |
| N. Y | 80 | 74 | 63 | 77 | 70 | 81 | 73 | 83 | 78 | 110 | 198 | 175 | 166 | 116 | 132 | 67 | 83 | 100 | 32. 40 |
| N. J | 69 | 71 | 60 | 71 | 68 | 75 | 69 | 76 | 75 | 100 | 170 | 150 | 153 | 85 | 116 | 53 | 70 | 95 | 38. 00 |
| Pa | 73 | 70 | 59 | 68 | 63 | 72 | 66 | 73 | 70 | 97 | 153 | 155 | 147 | 100 | 114 | 55 | 72 | 91 | 36. 40 |
|  | 59 | 58 | 52 | 61 | 51 | 59 | 56 | 62 | 62 | 89 | 140 | 136 | 145 | 75 | 101 | 45 | 70 | 81 | 26.81 |
| M | 62 | 65 | 58 | 63 | 55 | 65 | 61 | 68 | 61 | 89 | 140 | 135 | 140 | 81 | 102 | 49 | 68 | 82 | 32. 23 |
|  | 71 | 74 | 65 | 73 | 71 | 76 | 72 | 81 | 71 | 93 | 153 | 160 | 169 | 100 | 118 | 69 | 79 | 94 | 27. 26 |
| W. | 77 | 74 | 68 | 77 | 65 | 80 | 73 | 83 | 74 | 101 | 170 | 180 | 164 | 116 | 127 | 75 | 84 | 99 | 33. 66 |
| N. ${ }^{\text {c }}$ | 79 | 85 | 76 | 82 | 83 | 88 | 83 | 86 | 77 | 110 | 170 | 177 | 185 | 113 | 131 | 78 | 89 | 102 | 22. 95 |
| S. C | 91 | 90 | 82 | 91 | 85 | 97 | 89 | 92 | 87 | 113 | 192 | 195 | 197 | 116 | 142 | 74 | 87 | 105 | 17. 32 |
|  | 82 | 86 | 78 | 83 | 85 | 91 | 85 | 85 | 78 | 100 | 160 | 165 | 160 | 105 | 122 | 53 | 86 | 107 | 13. 05 |
| Fla | 82 | 83 | 85 | 80 | 79 | 82 | 82 | 80 | 73 | 90 | 140 | 138 | 140 | 100 | 109 | 53 | 87 | 100 | 12. 50 |
| Ohio | 63 | 56 | 46 | 58 | 45 | 63 | 54 | 61 | 56 | 90 | 136 | 130 | 121 | 68 | 95 | 41 | 66 | 74 | 30. 34 |
| Ind | 60 | 50 | 40 | 54 | 42 | 60 | 49 | 58 | 51 | 84 | 125 | 119 | 125 | 59 | 89 | 37 | 56 | 62 | 23. 87 |
|  | 57 | 52 | 38 | 55 | 41 | 63 | 50 | 61 | 54 | 84 | 110 | 120 | 130 | 59 | 88 | 38 | 60 | 65 | 24. 38 |
| Mich | 64 | 61 | 53 | 65 | 57 | 67 | 61 | 67 | 68 | 95 | 182 | 130 | 138 | 82 | 109 | 48 | 67 | 78 | 26. 91 |
| Wis | 61. | 60 | 52 | 60 | 51 | 60. | 57 | 65 | 68 | 92 | 163 | 130 | 125 | 77 | 103 | 46 | 63 | 80 | 29. 60 |
| Min | 55 | 49 | 45 | 53 | 37 | 53 | 47 | 52 | 62 | 80 | 110 | 111 | 120 | 51 | 84 | 31 | 56 | 61 | 21. 96 |
| Iow | 52 | 49 | 36 | 53 | 35 | 60 | 47 | 55 | 51 | 80 | 108 | 122 | 120 | 47 | 83 | 30 | 56 | 62 | 25. 23 |
| Mo | 57 | 59 | 44 | 60 | 46 | 74 | 57 | 68 | 57 | 90 | 114 | 143 | 138 | 64 | 96 | 40 | 68 | 74 | 22. 20 |
| N. Dak | 60 | 55 | 58. | 60 | 43 | 52 | 54 | 58 | 67 | 84 | 151 | 130 | 140 | 72 | 100 | 34 | 53 | 54 | 18. 09 |
| S. Dak | 50 | 50 | 40 | 53 | 37 | 56 | 47 | 50 | 49 | 77 | 120 | 110 | 119 | 42 | 81 | 26 | 50 | 52 | 17.94 |
| Nebr | 51 | 50 | 36 | 55 | 37 | 65 | 49 | 53 | 47 | 78 | 120 | 128 | 122 | 41 | 84 | 27 | 58 | 53 | 17.49 |
| Kans | 55 | 54 | 45 | 63 | 40 | 78 | 56 | 63 | 51 | 90 | 125 | 149 | 140 | 44 | 95 | 31 | 61 | 64 | 13. 89 |
| $\mathbf{K y}$ | 65 | 62 | 53 | 63 | 55 | 76 | 62 | 64 | 56 | 87 | 121 | 146 | 155 | 82 | 102 | 55 | 69 | 85 | 24. 22 |
| Tenn | 64 | 70 | 56 | 61 | 61 | 77 | 65 | 68 | 58 | 94 | 120 | 145 | 157 | 87 | 104 | 52 | 79 | 94 | 23. 03 |
| Ala | 83 | 85 | 71 | 78 | 79 | 89 | 80 | 80 | 69 | 102 | 125 | 148 | 159 | 98 | 112 | 62 | 90 | 108 | 15. 98 |
| Mis | 83 | 81 | 63 | 72 | 71 | 77 | 73 | 73 | 65 | 98 | 138 | 151 | 160 | 102 | 112 | 56 | 85 | 107 | 15. 52 |
| La | 70 | 69 | 55 | 70 | 68 | 77 | 68 | 75 | 64 | 94 | 146 | 161 | 150 | 85 | 111 | 65 | 83 | 105 | 16. 17 |
| Tex | 59 | 76 | 63 | 80 | 64 | 82 | 73 | 74 | 58 | 104 | 167 | 176 | 118 | 84 | 112 | 54 | 83 | 100 | 18. 50 |
| Okla | 51 | 55 | 51 | 70 | 41 | 72 | 58 | 64 | 46 | 93 | 147 | 164 | 127 | 54 | 99 | 32 | 70 | 87 | 10.00 |
| Ark | 66 | 72 | 58 | 72 | 67 | 78 | 69 | 80 | 64 | 98 | 140 | 180 | 164 | 97 | 118 | 57 | 85 | 101 | 19.70 |
| Mon | 90 | 86 | 95 | 80 | 70 | 77 | 82 | 76 | 69 | 93 | 175 | 135 | 165 | 80 | 113 | 67 | 53 | 65 | 16. 90 |
| W yo | 76 | 78 | 66 | 76 | 64 | 80 | 73 | 70 | 67 | 90 | 175 | 140 | 165 | 56 | 109 | 50 | 60 | 70 | 18. 90 |
| Colo | 71 | 70 | 60 | 78 | 50 | 73 | 66 | 60 | 55 | 90 | 125 | 135 | 142 | 70 | 97 | 31 | 66 | 65 | 16. 25 |
| N: Mex | 80 | 90 | 90 | 84 | 75 | 75 | 83 | 80 | 73 | 113 | 188 | 180 | 151 | 110 | 128 | 90 | 82 | 95 | 15. 58 |
| Àriz | 105 | 100 | 110 | 97 | 100 | 110 | 103 | 120 | 115 | 140 | 190 | 210 | 200 | 170 | 164 | 100 | 115 | 120 | 36. 00 |
| Utah | 72 | 87 | 84 | 81 | 75 | 70 | 79 | 75 | 80 | 115 | 170 | 181 | 150 | 150 | 132 | 76 | 85 | 95 | 23. 66 |
| Nev |  | 87 | 100 | 90 | 98 | 118 | 99 | 110 | 93 | 125 | 150 | 210 | 140 | 160 | 141 | 120 | 105 | 125 | 29. 12 |
| Idaho | 70 | 75 | 71 | 85 | 70 | 68 | 74 | 72 | 65 | 100 | 155 | 183 | 165 | 100 | 120 | 50 | 79 | 77 | 32.34 |
| Wash | 76 | 86 | 75 | 79 | 77 | 80 | 79 | 73 | 77 | 100 | 162 | 170 | 185 | 125 | 127 | 86 | 105 | 95 | 35. 15 |
| Oreg | 77 | 80 | 80 | 80 | 75 | 70 | 77 | 82 | 82 | 95 | 150 | 155 | 155 | 130 | 121 | 84 | 91 | 90 | 31. 50 |
| Calif | 88 | 91 | 80 | 90. | 85 | 88 | 87 | 87 | 88 | 124 | 185 | 193 | 179 | 120 | 139 | 77 | 100 | 108 | 37.80 |
| U. | 60.0 | 58.6 | 48. 0 | 61.8 | 48.7. | 69.1 | 57. 2 |  | 57. 5 |  |  | 136. 5 |  | 67.0 | 96.7 |  | 35. 8 | 72. 7 | 21. 33 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based upon farm price Dec. 1.

Table 109.-Corn, all classes and grades combined: Weighted average price per bushel of reported cash sales at markets named, 1918-1923.

CHICAGO.

| Year beginning Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |  |  |
| 1918-19 | 118. 6 | 138.6 | 131. 4 | 122.0 | 144. 2 | 160. 1 | 174.0 | 173. 7 | 191.8 | 193.2 | 156. 6 | 140.0 | 150.4 |
| 1919-20 | 143.8 | 141.6 | 144.9 | 139.5 | 155. 1 | 159. 7 | 197.4 | 183.3 | 155. 3 | 154.9 | 132. 2 | 95. 9 | 144.1 |
| 1920-21 | 78.8 | 72.5 | 62.1 | 59.9 | 60.7 | 54.5 | 61.2 | 59.1 | 59.4 | 56.2 | 53.2 | 46.2 | 56.6 |
| 1921-22 | 46.7 | 47. 1 | 47.3 | 54.0 | 57.1 | 58.2 | 61. 4 | 60.0 | 63.7 | 62.0 | 63.6 | 69.0 | 56.9 |
| 1922-23 | 71.1 | 72.4 | 70.1 | 72.5 | 72.8 | 79.3 | 81.8 | 84.0 | 87.1 | 88.2 | 88.8 | 102.4 | 78.1 |
| 1923-24. | 76. 1 | 69.8 |  |  |  |  |  |  |  |  |  |  |  |

ST. LOUIS.

| 1918-19 | 126.5 | 139.7 | 134. 5 | 126. 1 | 143.5 | 160. 2 | 174.8 | 179.1 | 193.0 | 194. 8 | 155.8 | 141. 9 | 151.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20 | 146.4 | 144.5 | 147.4 | 142.5 | 155. 3 | 171.8 | 194.9 | 186. 8 | 160.6 | 158. 1 | 129.3 | 93.5 | 155.4 |
| 1920-21. | 82.1 | 71.9 | 62.1 | 61.2 | 60.7 | 56.2 | 59.9 | 60.5 | 60.7 | 54.3 | 51. 6 | 45.4 | 57.5 |
| 1921-22 | 46.0 | 47.8 | 47.5 | 54.7 | 57.7 | 57.9 | 61.3 | 60.0 | 64.0 | 61.4 | 62.5 | 69.9 | 57.6 |
| 1922-23 | 71.4 | 72. 6. | 71.0. | 73.5. | 74.3 | 80.1 | 84.2 | 86. 1 | 87.4 | 87.0 | 89.9 | 101. 5 | 79.6 |
| 1923-24 | 76.9 | 69.4 |  |  |  |  |  |  |  |  |  |  |  |

OMAHA.

| 1918-19. | 131.6 | 142.8 | 136.0 | 123.6 | 142.4 | 159.3 | 167.6 | 170. 7 | 186.1 | 184. 0 | 152. 2 | 136.1 | 151.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20. | 139. 3 | 135. 6 | 135.9 | 131.9 | 146.3 | 161. 7 | 181.4 | 175. 5 | 149.3 | 150.3 | 118. 2 | 81.4 | 147.6 |
| 1920-21 | 70.7 | 60.7 | 54.7 | 52.2 | 53.1 | 47.6 | 52.6 | 53.6 | 50.3 | 45.3 | 42.5 | 36. 2 | 50.0 |
| 1921-22 | 39.4 | 39.2 | 40.8 | 49.5 | 51.2 | 51.9 | 54.2 | 54.4 | 57.1 | 53.7 | 55. 8. | 64.0 | 50.9 |
| 1922-23. | 68. 4 | 66. 8 | 65.8 | 67.5 | 68.9 | 77. 2 | 80.1 | 80.5 | 80.0 | 79.6 | 82.8 | 94.3 | 73.3 |
| 1923-24. | 68.8 | 62.5 |  |  |  |  |  |  |  |  |  |  |  |

KANSAS CITY.

| 1918-19 | 139.5 | 148.8 | 136.5 | 127.9 | 147.9 | 165.1 | 172.6 | 176. 7 | 189. 5 | 189.0 | 155. 2 | 141.7 | 152.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20 | 138.3 | 141. 0 | 142. 1 | 136. 5 | 149.1 | 166. 9 | 185. 1 | 171.1 | 149.5 | 146. 2 | 126. 8 | 86. 1 | 147.5 |
| 1920-21. | 67.1 | 63.3 | 58.5 | 57.1 | 56.8 | 51.1 | 57.0 | 55.5 | 52.4 | 45. 6 | 45.3 | 39.0 | 53.8 |
| 1921-22 | 41.8 | 42.1 | 43.7 | 52.9 | 54.0 | 55.0 | 57.4 | 57.0 | 56.0 | 55. 2 | 58.9 | 68.9 | 53.2 |
| 1922-23. | 72.5 | 70.5 | 69.8 | 71.4 | 72.7 | 81.9 | 84.0 | 84.2 | 83.0 | 81.5 | 86.6 | 95. 3 | 77.7 |
| 1923-24. | 73.9 | 65.1 |  |  |  |  |  |  |  |  |  |  |  |

MINNEAPOLIS.

1918-19
1919-20
1920-21
1921-22
1922-23-

## (INNEAPOLIS.



CINCINNATI. ${ }^{1}$

| 1919-20 |  |  | 147.5 | 145.9 | 159.3 | 173.8 | 196.0 | 191. 5 | 164.4 | 159.0 | 137.9 | 102. 7 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1920-21 | 80.3 | 69.7 | 65.7 | 65.5 | 63.9 | 57.8 | 63.9 | 63.4 | 65.3 | 63. 6 | 55.4 | 50.8 | 61.8 |
| 1921-22 | 49.5 | 49.2 | 49.1 | 55.8 | 60.8 | 60.5 | 64.5 | 62.2 | 68.2 | 65.4 | 65.6 | 73.1 | 59.7 |
| 1922-23. | 69.9 | 74. 0 | 73.8 | 76.3 | 77.3 | 85.7 | 87.0 | 88.9 | 92.1 | 92.5 | 93.6 | 99.5 | 82.7 |
| 1923-24. | 73.5 | 67.6 |  |  |  |  |  |  |  |  |  |  |  |

SIX MARKETS COMBINED. ${ }^{2}$

| 1918-19. | 122.5 | 140.4 | 133.0 | 123. 0 | 143.1 | 160.6 | 172.2 | 173.9 | 189.9 | 191.5 | 156.1 | 139.9 | 150.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919-20 | 143. 2 | 140.4 | 143.2 | 137.9 | 153. 1 | 163.8 | 191. 7 | 181. 0 | 154. 8 | 153. 2 | 130. 1 | 94. 3 | 146.5 |
| 1920-21. | 76.5 | 68.6 | 60.3 | 58.1 | 58.8 | 52.9 | 58.9 | 48.3 | 57.5 | 54.0 | 51.9 | 45. 2 | 55.5 |
| 1921-22 | 45.6 | 45.7 | 46.0 | 53.3 | 55.4 | 56.5 | 59.6 | 59.3 | 62.1 | 60.1 | 62.3 | 69.4 | 55.7 |
| 1922-23. | 70.8 | 71.6 | 69.2 | 71.6 | 72.4 | 79.0 | 82.1 | 83.1 | 85.6 | 86.4 | 88.3 | 100.3 | 77.4 |
| 1923-24 | 74.9 | 67.5 |  |  |  |  |  |  |  |  |  |  |  |

These prices are comparable with farm prices.
Division of Statistical and Historical Research. Compiled from Chicago Daily Trade Bulletin, St. Louis Daily Market Reporter, Omaha Daily Price Current, Kansas City Grain Market Review, Minneapolis Daily Market Record, Cincinnati Daily Trade Bulletin.
${ }^{1}$ No reports until January, 1920.
${ }^{2}$ Wrom November, 1918 through December, 1919 inclusive, Cincinnati is not included.

Table 110.-Corn, No. 3, yellow: Weighted average price per bushel of reported cash sales, 1899-1923.

CHICAGo.

| Year beginning Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | $\begin{aligned} & \text { Weight- } \\ & \text { ed aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1899-190 | \$0.31 | \$0.30 | \$0.30 | \$0. 32 | \$0.36 | \$0. 39 | \$0.38 | \$0.40 | \$0. 41 | \$0.40 | \$0.40 | \$0. 42 | \$0. 36 |
| 1900-1 | . 37 | . 35 | . 36 | . 37 | . 39 | . 42 | . 43 | . 42 | . 48 | . 56 | . 56 | . 56 | . 43 |
| 1901-2 | . 60 | 64 | . 62 | . 59 | . 59 | . 62 | . 62 | . 63 | . 65 | . 60 | . 59 | . 60 | 62 |
| 1902-3 | . 53 | . 46 | . 43 | . 43 | . 41 | . 41 | . 46 | . 49 | . 51 | . 53 | . 51 | . 45 | . 47 |
| 1903-4 | . 44 | . 44 | . 43 | . 46 | . 46 | . 49 | . 49 | . 50 | . 49 | . 52 | . 53 | . 55 | 49 |
| 1904-5 | . 48 | . 43 | . 42 | . 44 | . 47 | . 48 | . 50 | . 55 | . 57 | . 54 | . 53 | . 53 | 48 |
| 1905-6 | . 45 | . 42 | . 42 | . 42 | . 40 | . 42 | . 47 | . 49 | . 52 | . 54 | . 47 | . 46 | 44 |
| 1906-7 | . 43 | . 42 | . 41 | . 43 | . 43 | . 44 | . 52 | - 73 | . 54 | . 57 | - 64 | - 67 | 5 |
| 1907-8 | . 59 | . 58 | . 53 | . 54 | . 63 | . 65 | . 73 | . 72 | . 76 | . 81 | . 80 | . 77 | . 68 |
| 1908-9 | . 63 | . 59 | . 64 | . 65 | . 66 | . 69 | . 73 | . 75 | . 72 | . 70 | . 69 | . 59 | .65 |
| 1909-10. | . 59 | . 59 | . 64 | . 63 | . 61 | . 57 | . 60 | . 59 | . 62 | . 64 | . 58 | . 50 | . 59 |
| 1910-11 | . 49 | . 45 | . 45 | . 45 | . 45 | . 50 | . 54 | . 55 | . 63 | . 65 | - 67 | . 73 | . 53 |
| 1911-12 | . 68 | . 61 | . 62 | . 64 | . 68 | . 78 | . 79 | . 75 | . 68 | . 79 | . 74 | . 65 | . 71 |
| 1912-13 | . 52 | . 46 | . 46 | . 48 | . 49 | . 55 | . 57 | - 60 | . 62 | . 74 | . 75 | . 70 | . ${ }_{7} 5$ |
| 1913-14 | . 72 | . 66 | . 62 | . 62 | . 64 | . 67 | . 70 | . 72 | . 71 | . 82 | . 79 | . 73 | . 70 |
| Av., 1909 | . 60 | . 55 | . 56 | . 56 | . 57 | . 61 | . 64 | . 64 | . 65 | . 73 | 71 | . 66 | . 61 |
| 1914-15 | . 67 | . 64 | . 71 | . 74 | . 72 | 75 | . 77 | . 74 | . 78 | . 81 | . 74 | . 65 | 70 |
| 1915-16 | . 63 | . 69 | . 74 | . 74 | . 73 | . 76 | . 75 | . 74 | . 81 | . 85 | . 86 | . 96 | . 79 |
| 1916-17 | . 98 | . 92 | . 98 | 1.00 | 1. 09 | 1.40 | 1. 59 | 1.70 | 1.99 | 2.06 | 2. 10 | 2.03 | 1. 11 |
| 1917-18 | 2.21 | 1. 77 | 1.77 | 1.81 | 1.70 | 1.65 | 1.60 | 1.62 | 1. 70 | 1. 72 | 1. 58 | 1. 41 | 1. 63 |
| 1918-19 | 1.33 | 1.45 | 1.43 | 1.27 | 1. 53 | 1.62 | 1. 74 | 1.78 | 1.92 | 1. 95 | 1. 55 | 1.41 | 1. 62 |
| 1919-20. | 1. 46 | 1. 47 | 1.51 | 1.46 | 1.58 | 1.69 | 2.02 | 1.89 | 1.58 | 1.58 | 1.31 | . 91 | 1.59 |
| 1920-21. | . 77 | . 74 | . 65 | . 63 | . 62 | . 57 | . 60 | . 63 | . 60 | . 56 | . 53 | . 45 | 62 |
| Av., 1914-1920 | 1.15 | 1.10 | 1.11 | 1.09 | 1.14 | 1.21 | 1.30 | 1.30 | 1.34 | 1.36 | 1.24 | 1.12 | 1.15 |
| 1921-22 | . 47 | . 47 | . 48 | . 55 | . 57 | . 58 | . 62 | . 61 | . 64 | . 62 | . 64 | . 69 | . 55 |
| 1922-23 | . 71 | . 73 | . 70 | . 72 | . 73 | . 79 | . 82 | . 84 | . 88 | . 88 | . 89 | 1.04 | 73 |
| 1923-24 | . 82 | . 71 |  |  |  |  |  |  |  |  |  |  |  |

Compiled from Chicago Daily Trade Bulletin.
KANSAS CITY. ${ }^{1}$


## Compiled from the Kansas City Daily Price Current.

Division of Statistical and Historical Research.
${ }^{1}$ Prior to May 11, 1903, the prices were obtained under mixed corn.
${ }^{2}$ 1901, compiled from the Kansas City Star.

Table 110A.-Corn, No. B, yellow: Weighted average price per bushel of reported cash sales, 1909-1923.

ST. LOUIS.

| Year beginning Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | $\begin{gathered} \text { Weight- } \\ \text { ed aver- } \\ \text { age. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$0. 58 | \$0. 61 | \$0. 65 | \$0. 63 | \$0. 60 | \$0. 58 | \$0.62 | \$0. 59 | \$0. 63 | \$0. 62 | \$0. 55 | \$0. 49 | \$0.61 |
| 1910-11 | . 47 | . 44 | . 45 | . 44 | . 45 | . 48 | . 53 | . 55 | . 65 | . 63 | . 66 | . 72 | . 48 |
| 1911-12 | . 65 | . 61 | . 60 | . 64 | . 70 | . 80 | . 79 | . 74 | . 74 | . 76 | . 73 | . 64 | . 70 |
| 1912-13 | . 48 | . 46 | . 48 | . 48 | . 50 | . 57 | . 58 | . 60 | . 64 | . 73 | . 75 | . 71 | . 52 |
| 1913-14 | . 73 | . 67 | . 63 | . 62 | . 66 | . 68 | . 71 | . 71 | . 73 | . 83 | . 79 | 72 | . 68 |
| Av. 1909-19 | . 58 | . 56 | . 56 | . 56 | . 58 | . 62 | . 65 | . 64 | . 68 | . 71 | . 70 | . 66 | . 60 |
| 1914-15 | . 66 | . 65 | . 72 | . 74 | . 72 | . 76 | . 77 | . 74 | . 78 | . 78 | 74 | . 64 | 72 |
| 1915-16 | . 64 | . 68 | . 75 | . 75 | . 73 | . 75 | . 74 | . 74 | . 81 | . 86 | . 86 | . 93 | . 75 |
| 1916-17 | . 96 | . 91 | . 98 | . 99 | 1. 12 | 1.45 | 1.63 | 1. 67 | 1. 94 | 1.75 | 2. 04 | 1. 91 | 1.11 |
| 1917-18 | 2. 00 | 1. 75 | 1. 76 | 1. 82 | 1. 68 | 1. 66 | 1. 62 | 1. 60 | 1. 69 | 1.75 | 1. 63 | 1. 45 | 1. 67 |
| 1918-19 | 1. 40 | 1. 50 | 1. 44 | 1.33 | 1. 54 | 1. 62 | 1. 74 | 1.78 | 1. 99 | 1.93 | 1. 52 | 1. 42 | 1. 59 |
| 1919-20 | 1. 49 | 1. 49 | 1.51 | 1.48 | 1. 60 | 1. 73 | 2. 00 | 1.87 | 1. 62 | 1.57 | 1. 30 | . 92 | 1. 64 |
| 1920-21 | . 79 | . 74 | . 64 | . 63 | . 62 | . 57 | . 62 | . 61 | . 59 | . 54 | . 52 | . 46 | . 60 |
| Av. 1914-1920 | 1.13 | 1. 10 | 1.11 | 1.11 | 1. 14 | 1.22 | 1.30 | 1. 29 | 1. 35 | 1.31 | 1. 23 | 1. 10 | 1. 15 |
| 1921-22 | . 47 | .48 | . 48 | . 54 | . 58 | . 57 | . 61 | . 60 | . 65 | . 61 | . 63 | . 69 | . 57 |
| 1922-23 | . 71 | . 72 | . 70 | . 73 | . 74 | . 80 | . 84 | . 86 | . 86 | . 92 | . 90 | 1. 00 | . 75 |
| 1923-24 | . 82 | . 71 |  |  |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from the St. Louis Daily Market Reporter.
Table 111.-Corn, American mixed. Average spot price per bushel of 56 pounds at Liverpool, 1912-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | \$0.92 | \$0.95 | \$0.94 | \$0.95 | \$0.95 | \$0.95 | \$0.93 | \$0.99 | \$0.99 | \$0.99 | \$0.91 | \$0.86 |
| 1913 | . 82 | . 82 | . 81 | . 82 | . 82 | . 82 | . 82 | . 90 | . 95 | . 89 | . 90 | . 91 |
| 1914 | . 91 | . 91 | . 91 | . 91 | . 91 | . 92 | . 93 | 1. 13 | 1. 11 | 1. 04 | 1.00 | 98 |
| 1915 | 1. 04 | 1.11 | 1. 10 | 1.09 | 1. 13 | 1.08 | 1. 10 | 1.18 | 1.16 | 1.16 | $\left.{ }^{1}\right)$ | 1. 23 |
| 1916 | 1.40 | 1. 47 | 1. 43 | 1. 43 | 1. 47 | 1. 28 | 1.37 | 1.44 | 1.41 | 1.48 | 1. 71 | 1.83 |
| 1917 | 1.95 | 2.00 | 2. 05 | 1. 98 | 2. 03 | 2. 05 | 2.05 | 2.05 | 2. 05 | 2. 05 | 2.05 | 2.05 |
| 1918 | 2. 16 | 2. 16 | 2.16 | 2.16 | 2. 16 | 2.16 | 2. 34 | 2.52 | 2. 52 | 2. 52 | 2. 53 | 2. 53 |
| 1919 | 2.11 | 2.11 | 1. 65 | 1.63 | 1. 63 | 1. 61 | 1. 55 | $\left.{ }^{1}\right)$ | ${ }^{1}$ (1) | (1) | (1) | (1) |
| 1920 | (1) | 1.93 | 2. 14 | 2. 16 | 2. 04 | 2. 06 | $\left.{ }^{1}\right)$ | $\left.{ }^{1}\right)$ | $\left.{ }^{1}\right)$ | 1.63 | 1. 58 | 1.38 |
| 1921 | 1.49 | 1.15 | 1.13 | 1. 01 | . 95 | . 97 | . 98 | . 92 | . 85 | . 71 | . 78 | . 85 |
| 1922 | . 81 | . 90 | 85 | . 83 | . 84 | . 84 | . 98 | . 92 | . 90 | 1. 00 | 1.00 | 1.00 |
| 1923 | . 99 | 1.00 | 1.00 | 1.06 | 1.07 | 1. 09 | . 95 | 1.16 | 1.16 | $\left.{ }^{1}\right)$ | $\left.{ }^{1}\right)$ | (1) |

Division of Statistical and Historical Research. Compiled from Broomhall's Corn Trade News. For rate of exchange used in conversion from shillings see Table 696, p. 1164.
${ }^{1}$ No quotations.
Table 112.-Corn: Spot price per bushel of 56 pounds at Buenos Aires, 1912-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | (1) | (1) | (1) | \$0. 58 | \$0. 53 | \$0. 52 | \$0. 51 | \$0. 52 | \$0. 50 | \$0. 51 | \$0. 52 | \$0. 53 | \$0. 52 |
| 1913 | \$0. 54 | \$0.54 | \$0. 54 | . 56 | . 55 | . 55 | . 55 | . 55 | . 62 | . 59 | . 58 | . 58 | . 56 |
| 1914 | . 55 | . 56 | . 56 | . 54 | . 59 | . 55 | . 57 | 2.56 | . 55 | . 49 | . 53 | . 54 | 55 |
| 1915 | . 54 | . 61 | . 56 | . 57 | . 54 | . 50 | . 51 | . 49 | . 51 | . 51 | . 54 | . 52 | . 53 |
| 1916 | . 56 | . 60 | . 56 | . 51 | . 45 | . 43 | . 45 | . 51 | . 55 | . 70 | 1. 03 | . 93 | . 61 |
| 1917 | 1. 07 | 1. 07 | . 99 | 1.03 | 1. 27 | 1. 46 | 1. 43 | 1. 27 | . 87 | . 85 | . 95 | . 88 | 1. 10 |
| 1918 | . 79 | . 79 | . 74 | . 59 | . 53 | . 57 | . 64 | . 68 | . 65 | . 63 | . 63 | . 63 | . 66 |
| 1919 | . 57 | . 52 | . 47 | . 55 | . 55 | . 55 | . 96 | 1.07 | . 91 | . 79 | . 74 | . 71 | . 70 |
| 1920 | . 70 | . 71 | . 83 | 1. 03 | 1. 13 | 1.10 | . 96 | . 90 | . 92 | . 83 | . 77 | . 82 | . 89 |
| Av. 1914-1920. | . 68 | . 69 | . 67 | . 69 | . 72 | . 74 | . 79 | . 78 | . 71 | . 69 | . 74 | . 72 | 72 |
| 1921 | . 88 | . 91 | . 91 | . 78 | . 61 | . 63 | . 65 | . 66 | . 65 | . 58 | . 61 | . 63 | 71 |
| 1922 | . 63 | . 73 | . 79 | . 77 | . 75 | . 71 | . 78 | . 78 | . 76 | . 74 | . 70 | . 74 | . 74 |
| 1923 | . 80 | . 82 | . 81 | . 80 | . 77 | . 75 | . 73 | . 69 | . 74 | . 78 | . 81 | . 79 | . 77 |

[^156]Table 113．－Corn，yellow，La Plata：Spot price per bushel of 56 pounds at Liver－ pool，1912－1923．

| Calendar year． | Jan． | Feb． | Mar． | Apr． | May． | June． | July． | Aug． | Sept． | Oct． | Nov． | Dec． | $\begin{aligned} & \text { A ver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | （i） | ${ }^{(1)}$ | （1） | （1） | \＄0．97 | \＄0． 87 | \＄0． 71 | \＄0． 75 | \＄0． 78 | \＄0．72 | \＄0．68 | \＄0． 67 | \＄0． 77 |
| 1913 | \＄0．71 | \＄0．75 | \＄0．76 | \＄0．74 | ． 72 | ． 69 | ． 67 | ． 67 | ． 70 | ． 66 | ． 63 | ． 67 | － 70 |
| 1914 | ． 65 | ． 66 | ． 68 | ． 68 | ． 74 | ． 76 | ． 78 | ． 97 | ． 93 | ． 83 | ． 78 | ． 83 | ． 77 |
| 1915 | ． 98 | 1.06 | 1． 02 | 1． 06 | 1.11 | ． 97 | ． 92 | ． 90 | ． 85 | ． 94 | 1． 06 | 1． 19 | 1.00 |
| 1916 | 1． 40 | 1.44 | 1.42 | 1.43 | 1.47 | 1.33 | 1.45 | 1.54 | 1．39 | 1.48 | 1． 69 | 1.81 | 1.49 |
| 1917 | ${ }^{2} 1.89$ | 1.92 | 2． 00 | 2． 16 | （1） | 2.17 | 2． 17 | 2． 17 | 2.17 | 2.17 | 2． 17 | 2． 17 | 2.11 |
| 1918 | 2． 23 | 2． 23 | 2． 23 | 2． 23 | 2.23 | 2． 23 | 2． 42 | 2． 61 | 2． 61 | 2． 61 | 2． 61 | 2． 61 | 2． 40 |
| 1919 | 2.04 | 2． 04 | 1.75 | 1． 74 | 1． 74 | 1.72 | 1.65 | 1． 66 | 1． 69 | 1． 68 | 1.65 | 1． 52 | 1． 74 |
| 1920 | ${ }^{3} 1.49$ | ${ }^{41} 77$. | ${ }^{4} 1.96$ | 1.97 | 1.81 | 1.67 | 1.53 | 1． 43 | 1.60 | 1． 49 | 1． 15 | 1． 25 | 1． 59 |
| 1921 | 1． 28 | 1.22 | 1.30 | 1． 28 | 1.18 | 1.09 | 1.05 | ． 93 | ． 83 | ． 72 | ． 78 | ． 88 | 1.04 |
| 1922 | ． 92 | 1． 08 | 1． 08 | 1.03 | 1.06 | 1.01 | 1． 10 | 1． 10 | 1.09 | 1.08 | ． 96 | 1.00 | 1． 04 |
| 1923 | ． 99 | 1． 04 | 1.05 | 1.09 | 1． 14 | 1.10 | 1.02 | ． 94 | ． 98 | ． 97 | ． 96 | 1.02 | 1.02 |

Division of Statistical and Historical Research．Compiled from International Yearbook of Agricultural Statistics，1912－21．Subsequently Broomhall＇s Corn Trade News．

For rate of exchange used in conversion from shillings，see Table 696，p． 1164.
${ }^{1}$ Not quoteá．$\quad{ }^{2}$ Trading in maize controlled January 5，1917．${ }^{3}$ Afloat price．${ }^{4}$ Nominal．

## OATS．

Table 114．－Oats：Acreage，production，value，exports，etc．，United States， 1869－1923．

| Calendar year． | Acre－ age har－ vest－ ed． | Aver－ age yield per acre． | Produc－ tion． | Aver－ <br> age <br> farm <br> price <br> per <br> bush－ <br> el <br> Dec． <br> 1. | Farm value Dec． 1. | Value per acre．${ }^{1}$ | Chicago，cash price per bushel， No． 2 white．${ }^{2}$ |  |  |  | Domestic exports，in－ cluding oatmeal， fiscal year beginning July $1 .{ }^{3}$ | Imports， fiscal year be－ ginning July， $1 .{ }^{4}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | De－ cem－ ber． |  | $\begin{gathered} \text { Follow- } \\ \text { ing } \\ \text { May. } \end{gathered}$ |  |  |  |
|  |  |  |  |  |  |  | $\begin{aligned} & \dot{8} \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & \frac{8}{60} \\ & \text { 荷 } \end{aligned}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { मi } \\ & \text { 品 } \end{aligned}$ |  |  |
|  | －1，000 | Bush．of 32 lbs． | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | Cents． | $\begin{gathered} \text { 1,000 } \\ \text { dollars. } \end{gathered}$ | Dol－ <br> lars． | Cts． | Cts | Cts． |  | Bushels． |  |
| 1869 | 9，461 | 32.5 <br>  <br>  | 288， 334 | 38．0 | 109， 522 | 11.58 | 40 | 443 | 46t | 53 i | Bushels． | Bushels． |
| 1870 | 8，792 | 28.1 | 247， 277 | 39.0 | 96， 444 | 10.97 | 373 | 41 | $47 \frac{1}{4}$ | $51^{2}$ | 147， 572 | 2， 599,514 |
| 1871 | 8，366 | 30.6 | 255， 743 | 36.2 | 92， 591 | 11.07 | 303 | 33 | $34 \frac{3}{2}$ | 421 ${ }^{2}$ | 262， 975 | 535， 250 |
| 1872 | 9， 001 | 30.2 | 271， 747 | 29.9 | 81， 304 | 9.03 | 231 | 253 | $30^{*}$ | 34 | 714， 072 | 225， 555 |
| 1873. | －9，752 | 27.7 | 270，340 | 34.6 | 93， 474 | 9.59 | 34 | 40 $\frac{5}{8}$ | 44 | $48 \frac{1}{2}$ | 812，873 | 191， 802 |
| 1874 | 10， 897 | 22.1 | 240， 369 | 47.1 | 113， 134 | 10.38 | 513 | $54 \frac{1}{2}$ | 571 | $64 \frac{3}{2}$ | 504，770 | 1，500，040 |
| 1875 | 11， 915 | 29.7 | 354， 318 | 32.0 | 113， 441 | 9.52 | $29 \frac{1}{3}$ | $30 \frac{1}{2}$ | $28 \frac{5}{8}$ | $31 \frac{1}{2}$ | 1，466， 228 | 121， 547 |
| 1876 | 13， 359 | 24.0 | 320， 884 | 32.4 | 103， 845 | 7.77 | 31 | 341 | 37 ${ }^{\frac{1}{4}}$ | 45 ${ }^{\frac{2}{4}}$ | 2，854， 128 | 41，597 |
| 1877 | 12， 826 | 31.7 | 406， 394 | 28.4 | 115， 546 | 9.01 | $24 \frac{1}{\text { B }}$ | 27 | 23 | 27 | 3，715， 479 | 21， 391 |
| 1878 | 13， 176 | 31.4 | 413， 579. | 24.6 | 101， 752 | 7.72 | $19 \frac{5}{8}$ | $20 \frac{3}{8}$ | $24 \frac{3}{8}$ | $30 \frac{1}{2}$ | 5，452， 136 | 13，395 |
| 1879 | 16， 145 | 27.9 | 450， 745 | 33.3 | 150， 178 | 9.30 | 329 | 368 | 293 | $34{ }^{\frac{7}{8}}$ | 766， 366 | 489， 576 |
| 1880 | 16， 188 | 25.8 | 417， 885 | 36.0 | 150， 244 | 9.28 | 291 | $33 \frac{1}{2}$ | 361 | $39 \frac{1}{2}$ | 402， 904 | 64， 412 |
| 1881 | 16， 832 | 24.7 | 416， 481 | 46． 4 | 193， 199 | 11． 48 | 431 | 46 | －483 |  | 625， 690 | 1，850，983 |
| 1882 | 18， 495 | 26． 4 | 488， 251 | 37.5 | 182， 978 | 9：89 | 34 良 | 41눈 | 38 | 423 | 461， 496 | 815， 017 |
| 1883. | 20，325 | 28.1 | 571， 302 | 32.7 | 187， 040 | 9.20 | $29 \frac{5}{8}$ | 361 | 30 | 34\％ | 3，274， 622 | 121， 069 |
| 1884 | 21， 301 | 27.4 | 583， 628 | 27.7 | 161， 528 | 7.58 | 221 | $25 \frac{1}{2}$ | 341 | 37 | 6，203， 104 | 94，310 |
| 1885 | 22， 784 | 27.6 | 629， 409 | 28.5 | 179，632 | 7.88 | 27 | 29 | $26 \frac{1}{4}$ | 295 | 7，311， 306 | 149，480 |
| 1886 | 23， 658 | 26.4 | 624， 134 | 29.8 | 186， 138 | 7.87 | 253 | 273 | 251 | 271 | 1，374，635 | 139，575 |
| 1887 | 25， 921 | 25.4 | 659， 618 | 30.4 | 200， 700 | 7.74 | 28\％ | $30 \frac{1}{5}$ | 32 | $38{ }^{2}$ | 1，573， 080 | 123， 817 |
| 1888．．．．－－－－－ | 26，998 | 26．0 | 701， 735 | 27.8 | 195， 424 | 7.24 | 25 | 26 $\frac{7}{8}$ | 21 | 23部 | 1，191， 471 | 131，501 |

Division of Crop and Livestock Estimates．Figures in italics are census returns．Exports and im－ ports from Bureau of Foreign and Domestic Commerce．
${ }^{1}$ Based on Dec． 1 price．
${ }^{2}$ Chicago Daily Trade Bulletin．Quotations are for No． 2 to 1906；for contract 1906－1915．
${ }^{3}$ Oatmeal not included until 1882.
－Oatmeal not included 1869－1882，and 1909.

Table 114.-Oats: Acreage, production, value, exports, etc., United States, 1869-1929-Continued.

| Calendar year. | $\begin{aligned} & \text { Acre- } \\ & \text { age } \\ & \text { har- } \\ & \text { vest- } \\ & \text { ed. } \end{aligned}$ | Acreage yield per acre. | Production. | Average farm price per bushel Dec. 1. | Farm value Dec. 1. | $\begin{gathered} \text { Value } \\ \text { per } \\ \text { acre. } \end{gathered}$ | Chicage, cash price per bushe1, No 2 white. ${ }^{2}$ |  |  |  | Domestic exports, including oatmead. fiscal year beginning July $1 .{ }^{3}$ | Imports, fiscal year beginning July $1{ }^{\text { }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | De-cember. |  | Follow- <br> ing <br> May. |  |  |  |
|  |  |  |  |  |  |  | 穻 | - | $\begin{aligned} & \text { ni } \\ & \text { 品 } \end{aligned}$ | + |  |  |
|  | 1,000 | Bush.of | $1,000$ |  |  |  |  |  |  |  |  |  |
|  | acres. | $32 \mathrm{lbs} \text {. }$ | bushets. | Cenis. | dollars. | lars. | Cts. |  | Cts. | Cts. | Bushets. | Bushets. |
| 188 | 28, 321 | 28.3 | 801, 586 | 21.9 | 175, 801 | 6. 21 | 20 | 21 | ${ }^{24} 4$ | 30 | 15, 107, 238 |  |
| 1890 | 28, 102 | 20.4 | 572, 671 | 41.7 | 239, 047 | 8.51 | 397 | ${ }^{43}$ | 45 | 54 | 1,382, 836 | 41,848 |
| 1891 | 27, 604 | 30.4 | 839,995 | 30.6 | 257, 251 | 9.32 | 311 | $33 \frac{5}{8}$ | 281 | 331 | 10, 586, 644 | 47,782 |
| 1892 | 28, 023 | 24. 8 | 695, 277 | 31.5 | 218, 983 | 7.81 | 258. | 314 | 288 | $32{ }^{3}$ | 2,700, 793 | 49, 433 |
| 1893 | 28, 452 | 23.8 | 676, 151 | 29.1 | 196, 437 | 6.90 | 274 | 291. | $32 \frac{1}{2}$ | 36 | 6, 290, 229 | 31,759 |
| 1894 | 28, 362 | 25.2 | 715, 535 | 32.1 | 229,451 | 8.09 | 283 | 29 , | $27 \frac{1}{3}$ | 303 | 1,708, 824 | 330, 318 |
| 1895 | 29, 379 | 30. 2 | 885, 959 | 19.4 | 172, 198 | 5.86 | $16 \frac{5}{8}$ | $17 \frac{1}{2}$ | 18 | 193 | 15, 156, 618 | 66,602 |
| 1896 | 29, 645 | 26.3 | 780, 124 | 18.3 | 142, 772 | 4.82 | $16 \frac{1}{2}$ | $18 \frac{3}{3}$ | 167 ${ }^{\text {\% }}$ | 183 | 37, 725, 083 | 131, 204 |
| 1897 | 28, 353 | 27.9 | 791, 442 | 20.8 | 164, 836 | 5.81 | 21 | $23{ }^{\frac{7}{8}}$ | 26 | $32^{4}$ | 73, 880, 307 | 25, 093 |
| 1898. | 28, 769 | 29.3 | 842, 747 | 25. 2 | 212, 482 | 7.39 | 26 | $27 \frac{3}{4}$ | 24 | $27 \frac{3}{4}$ | 33, 534, 362 | 28, 098 |
| 1899 | 29, 540 | 31.3 | 925, 555 | 24.5 | 226, 588 | 7. 67. | $22 \frac{1}{4}$ | 23 | $21 \frac{1}{4}$ | $23{ }_{4}^{4}$ | 45, 048, 857 | 54,576 |
| 1900 | 30, 290 | 30.2 | 913, 800 | 25.4 | 232, 074 | 7. 66 | $21 \frac{3}{4}$ | 223 | $27 \frac{1}{8}$ | 31 | 42, 268, 931 | 32, 107 |
| 1901 | 29, 894 | 26.0 | 778, 392 | 39.7 | 308, 796 | 10.33 | 42 | $48 \frac{1}{4}$ | 41 | $49 \frac{1}{2}$ | 13, 277, 612 | 38, 978 |
| 1902 | 30,578 | 34.5 | 1,053, 489 | 30.6 | 322, 423 | 10.54. | 291 | 32 | 33 | $38 \frac{1}{4}$ | 8,381, 805 | 150,065 |
| 1003. | 30, 866 | 28.2 | 869, 350 | 34.0 | 295, 232 | 9.56 | $34 \frac{1}{4}$ | 38 | $39 \frac{5}{8}$ | 443 | 1, 960, 740 | 183, 983 |
| 1904 | 31, 353 | 32. 2 | 1, 098, 931 | 31.1 | 313, 488 | 10.00 | $28 \frac{1}{4}$ | 32 | $28 \frac{5}{3}$ | 32 | 8, 394, 692 | 55,699 |
| 1905 | 32, 072 | 34.0 | 1, 090, 236 | 28.9 | 314, 868 | 9.82 | $29 \frac{1}{2}$ | 323 | 32 ${ }^{\frac{1}{8}}$ | $34 \frac{3}{4}$ | 48, 434, 541 | 40, 025 |
| 1906 | 33, 353 | 31.0 | 1, 035, 576 | 31.9 | 329, 853 | 9.89 | 33 | 35 | $44 \frac{1}{3}$ | $48 \frac{1}{1}$ | 6, 386, 334 | 91, 289 |
| 1907 | 33, 641. | 23.9 | 805, 108 | 44.5. | $358,421$. | 10.65 | $46 \frac{1}{2}$ | $50 \frac{7}{8}$ | 523 | 561 | 2, 518, 855 | 383,418 |
| 1908 | 34, 006 | 25.0 | 850,540 | 47.3. | 402, 010 | 11.82 | $48 \frac{3}{8}$ | $50 \frac{1}{2}$ | $56 \frac{1}{4}$ | $62 \frac{1}{2}$ | 2, 333, 817 | 6, 091, 700 |
| 1909 | 35,159 | 30.4 | 1, 068,289 | 40.6 | 433, 869 | 12.34 | 40 | 45 | 361 | $43 \frac{1}{6}$ | 2, 548, 726 | 1, 034, 511 |
| 1910 | 37, 548 | 31.6 | 1, 186, 341 | 34.4 | 408, 388 | 10.88 | 31 | $32 \frac{1}{2}$ | 317 | 36 | 3, 845, 850 | 107, 318 |
| 1911 | 37, 763 | 24.4 | 922, 298 | 45.0 | 414, 663 | 10.98 | 461 | $47 \frac{3}{8}$ | $50 \frac{1}{2}$ | 58 | 2, 677, 749 | 2, 622, 357 |
| 1912 | 37, 917 | 37.4 | 1, 418, 337 | 31.9 | 452, 469 | 11.93 | 31 | $31 \frac{3}{4}$ | $35 \frac{1}{8}$ | 43 | 36, 455, 474 | 723, 899 |
| 1913 | 38, 399 | 29.2 | 1, 121, 768 | 39.2 | 439, 596 | 11.45 | $37 \frac{5}{8}$ | $40 \frac{1}{8}$ | 37 | 422 | 2, 748, 743 | 22, 273, 624 |
| Av. 190 1913 | 37, 357 | 30.6 | 1, 143, 407 | 37.6. | 429, 797 | 11.51 | 37. 2 | 30.4 | 38.2 | 44.6 | 9,655, 308 | 5, 352, 342 |
| 1914 | 38, 442 | 29.7 | 1, 141, 060 | 43.8 | 499, 431 | 12.909 | $46{ }^{\text {d }}$ | 498 | $50 \frac{1}{2}$ | 56 | 100,609, 272 | 630, 722 |
| 1915 | 40,996 | 37.8 | 1, 549, 030 | 36.1 | 559, 506 | 13.65 | 40\% | 44 | 391 | 493 | 98, 960,481 | 665,314 |
| 1916 | 41,527 | 30.1 | 1, 251,837 | 52.4 | 655, 928 | 15.80 | $46{ }^{3}$ | 54 | 591 | 74 | 95, 105, 698 | 761, 644 |
| 1917 | 43, 553 | 36.6 | 1, 592, 740. | 66.6 | 1,061, 474 | 24.37 | 702 | 80 | 72 | $79 \frac{1}{2}$ | 125,090, 611 | 2, 591, 077 |
| 1918 | 44, 349 | 34.7 | 1, 538, 124 | 70.9 | 1, 090, 322 | 24. 59 | 68 | 742 | 67 ${ }^{\text {b }}$ | 74 ${ }^{\frac{1}{4}}$ | 109, 004, 734 | 551, 355 |
| 1919 | 40, 359 | 29.3 | 1, 184, 030 | 70.4 | 833, 922 | 20.66 | 783 | 89 | 100 | 117 ${ }^{\frac{1}{4}}$ | 43, 435, 994 | 6, 043,834 |
| 1920 | 42, 491 | 35. 2 | 1,496,281. | 46.0 | 688,311 | 16. 20 | 47. | 52 | 36 | $43 \frac{1}{4}$ | 9,391, 096 | 3,795,638 |
| $1820$ | 41,674 | 33.4 | 1,303, 300 | 55.3 | 769,842 | 18. 47 | 56.7 | 63.4 | 60.9 | 70.5 | 83, 085512 | 2, 148, 512 |
| 1921 | 45, 495 | 23.7 | 1, 078, 341 | 30. 2 | 325, 954 | 7. 16 | $34 \frac{1}{2}$ | 421 | $37 \frac{1}{4}$ | 45 | 21, 236, 742 | 1,733, 282 |
| 1822 | 40, 790 | 29.8. | 1, 215, 803 | 39.4 | 478, 948 | 11.74 | $43 \frac{1}{2}$ | 50 | 43 | 7413 | $25,413,343$ | 293,208 |
| $1823{ }^{5}$ | 40, 833 | 31.8 | 1,299,823. | 41.5 | 539, 253 | 13.21 |  |  |  |  |  |  |

[^157]Table 115.-Oats: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

| State. | Thousands of acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of do!lars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1022 | $1923{ }^{1}$ | 1921 | 1922 | 19231 | 1921 | 1922 | 1923 \% |
| Maine | 124 | 120 | 125 | 4,340 | 4,560 | 4,625 | 2,387 | 2,143 | 2,590 |
| New Hampshir | 18 | 18 | 18 | 630 | 684 | 675 | 378 | 410 | 432 |
| Vermont.----- | 81 | 99 | 88 | 2,673 | 3,060 | 3,080 | 1,577 | 1,714 | 1,940 |
| Massachusetts | 9 | 10 | 9 | 279 | 340 | 315 | 165 | 214 | 198 |
| Rhede Istand. | 1 |  | 1 | 28 | 31 | 32 | 17 | 19 | 19 |
| Connecticut | 11 | 11 | 10 | 330 | 308 | 290 | 198 | 200 | 180 |
| New York | 1,038 | 1,059 | 1,017 | 24,912 | 31,770 | 32,747 | 11,709 | 16, 203 | 18,041 |
| New Jersey | 72 | 72 | 68 | 1,728 | 2, 232 | 1,632 | 7788 | 1,228 | . 898 |
| Pennsylvania | 1,238 | 1,170 | 1,170 | 35, 283 | 39, 780 | 33, 930 | 15,877 | 19, 094 | 17,644 |
| Delaware |  | 7 |  | 168 | 161 | 182 | 77 | 82 | 109 |
| Maryland | 60 | 58 | 59 | 1,620 | 1,740 | 1,758 | 729 | 887 | 949 |
| Virginia. | 163 | 166 | 163 | 3,342 | 3,320 | 3, 586 | 1,872 | 1,959 | 2,259 |
| West Virginia | 210 | 200 | 196 | 4,620 | 4,600 | 4,704 | 2, 402 | 2, 668 | 2,964 |
| North Carolina | 170 | 220 | 231 | 3,060 | 4,620 | 5,082 | 2, 142 | 3, 095 | 3,761 |
| South Carolina. | 338 | 406 | 447 | 8,112 | 9,744 | 10,728 | 5, 922 | 7,405 | 8,797 |
| Cteorgia | 412 | 474 | 521 | 8,652 | 8, 532 | 9, 378 | 5, 537 | 6,309 | 7,971 |
| Florida | 41 | 37 | 33 | 533 | 481 | 396 | 346 | 370 | 317 |
| Ohio- | 1,550 | 1,472 | 1,516 | 35,650 | 39,744 | 52,302 | 11,764 | 17,88.5 | 23,536 |
| Indiana | 1,912 | 1,506 | 1,739 | 45, 888 | 31, 626 | 48,692 | 13, 308 | 12,650 | 18,990 |
| Ilinois. | 4,594 | 3, 860 | 3,860 | 121, 741 | 110, 010 | 135, 100 | 35, 305 | 42,904 | 52,683 |
| Michigan. | 1,544 | 1,498 | 1,528 | 28, 101 | 50,932 | 48,896 | 10,116 | 20,882 | 21,035 |
| Wisconsin | 2,632 | 2,465 | 2, 539 | 63, 958 | 101, 558 | 92, 166 | 21, 106 | 39,608 | 39,631 |
| Minnesot | 4,145 | 4, 021 | 4,142 | 99,480 | 142, 746 | 153, 254 | 22,880 | 45, 679 | 52, 106 |
| Iowa. | 6,340 | 5,874 | 5,639 | 164,840 | 217, 925 | 203, 004 | 37,913 | 76, 274 | 75, 111 |
| Missouri | 2,148 | 1,200 | 1,380 | 42,960 | 19,200 | 34, 500 | 12,888 | 8,448 | 15, 525 |
| North Dakota | 2,568 | 2, 388 | 2,388 | 48,792 | 78, 804 | 54,924 | 10,246 | 20,439 | 15,379 |
| South Dakota | 2,650 | 2, 400 | 2,304 | 58,300 | 74,400 | 78, 336 | 11, 660 | 23,808 | 24, 284 |
| Nebraska | 2,585 | 2,408 | 2,456 | 70,054 | 56,106 | 81,048 | 14, 711 | 19,076 | 27,553 |
| Kansas | 1,894 | 1,494 | 1,338 | 38,827 | 27,639 | 34,922 | 10, 483 | 11,332 | 15, 018 |
| Kentucky | 293 | 234 | 225 | 5,567 | 4,282 | 4,725 | 2,672 | 2,398 | 2,646 |
| Tennessee | 260 | 229 | 205 | 5,330 | 4,122 | 4,305 | 2,558 | 2, 185 | 2, 583 |
| Alabama | 308 | 277 | 277 | 6,776 | 5,540 | 4,792 | 4,404 | 4,155 | 3,834 |
| Mississippi | 147 | 125 | 120 | 2,940 | 2,375 | 2,280 | 1,882 | 1,568 | 1,733 |
| Louisiana | 55 | 56 | 56 | 1,205 | 1,249 | 1,232 | 886 | 862 | ${ }_{8}^{838}$ |
| Texas. | 1,865 | 1,455 | 1,470 | 33, 570 | 33, 465 | 47,040 | 13, 092 | 18,405 | 26,813 |
| Oklahoma | 1,765 | 1,500 | 1,200 | 35,300 | 30,000 | 24,000 | 9,531 | 13,500 | 12,480 |
| Arkansas | 300 | 264 | 269 | 6, 600 | 6, 600 | 6,187 | 2,970 | 3,762 | 3,836 |
| Montana | 618 | 660 | 673 | 14, 832 | 21, 120 | 22, 209 | 5,043 | 7,814 | 8, 439 |
| W yorning | 150 | 158 | 175 | 4,500 | 4,898 | 5,950 | 1,710 | 1,959 | 2,796 |
| Colorado. | 217 | 185 | 198 | 6,727 | 4,625 | 6,336 | 2, 220 | 2, 081 | 2, 315 |
| New Mexi | 61 | 53 | 58 | 1,690 | 827 | 1,160 | 811 | 480 | 812 |
| Arizona | 18 | 20 | 19 | 630 | 620 | 570 | 410 | 422 | 45 a |
| Utah | 79 | 86 | 81 | 2,876 | 3,354 | 3,062 | 1,064 | 1,576 | 1,776 |
| Nevada | 3 | 2 | 3 | 113 | 74 | 106 | 85 | 56 | 86 |
| Idaho. | 180 | 162 | 170 | 7,749 | 6,156 | 7,820 | 2,477 | 2,832 | 3,441 |
| W ashingto | 210 | 202 | 210 | 10,500 | 7,918 | 11,970 | 4,410 | 4,592 | K, 985 |
| Oregon | 272 | 287 | 270 | 8,704 | 6,675 | 10,530 | 3, 308 | 3, 805 | 4,738 |
| California | 140 | 150 | - 162 | 3,780 | 5,250 | 5,265 | 1,928 | 3,360 | 3,159 |
| United States | 45,495 | 40,790 | 40, 833 | 1,078, 341 | 1,215, 803 | 1,299,823 | 325, 954 | 478, 948 | 339, 253 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

Table 116.-Oats: Yield per acre, by States, calendar years, 1908-1923.


Division of Crop and Livestock Estimates.

Table 117.-Oats: Condition of crop, 1st of month, and yield per acre, United States, 1866-1923.

| Calendar year. | June. | July. | Aug. | Sept. ${ }^{1}$ | Yield per acre. | Calendar year. | June. | July. | Aug. | Sept. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $P$. ct. | P.ct. | P. ct. | $\boldsymbol{P}$. ct. | Bush. |  | P.ct. | $P . c t$. | P. ct. | $P . c t$. | Bush. |
| 1866 | 90.3 | 105.6 | 113. 3 |  | 30.2 | 1901 | 85.3 | 83.7 | 73.6 | 72.1 | 26.0 |
| 1867 | 96.3 | 101. 9 | 109. 0 | 106. 7 | 27.6 | 1902 | 90.6 | 92.1 | 89.4 | 87.2 | 34.5 |
| 1868 | 102. 6 | 109. 6 | 104. 0 | 92.2 | 26.4 | 1903 | 85.5 | 84.3 | 79. 5 | 75.7 | 28.2 |
| 1869 | 100.5 | 114. 5 | 108.5 | 111.6 | 30.5 | 1904 | 89.2 | 89.8 | 86.6 | 85.6 | 32. 2 |
| 1870 | 95.2 | 93.4 | 94.5 | 96.1 | 28.1 | 1905 | 92.9 | 92.1 | 90.8 | 90.3 | 34.0 |
| 1871 | 96.0 | 93.8 | 95.1 | 97.6 | 30.6 | 1906 | 85.9 | 84.0 | 82.8 | 81.9 | 31.0 |
| 1872 | 99.3 | 103.2 | 99.6 | 97.4 | 30.2 | 1907 | 81.6 | 81.0 | 75.6 | 65. 5 | 23.9 |
| 1873 | 96.7 | 90.3 | 93.7 | 92.0 | 27.7 | 1908 | 92.9 | 85.7 | 76.8 | 69.7 | 25.0 |
| 1874 | 94.2 | 90.0 | 72.5 | 86.0 | 22.1 |  |  |  |  |  |  |
| 1875 | 93.5 | 100.7 | 90.0 | 87.0 | 29.7 | 1909 | 88.7 | 88.3 | 85.5 | 83.8 | 30.4 |
| 18 |  |  |  |  |  | 1910 | 91.0 | 82.2 | 81.5 | 83.3 | 31.6 |
| 1876 | 98.9 | 100.0 | 86.0 | 81.0 | 24.0 | 1911 | 85.7 | 68.8 | 65.7 | 64.5 | 24.4 |
| 1877 | 95.1 | 101. 7 | 98.0 | 106. 0 | 31.7 | 1912 | 91.1 | 89. 2 | 90.3 | 92.3 | 37.4 |
| 1878 | 103. 0 | 101. 0 | 100. 0 | 97.0 | 31.4 | 1913 | 87.0 | 76.3 | 73.8 | 74.0 | 29.2 |
| 1879 | 81.0 | 87.0 | 91.0 | 91.7 | 27.9 |  |  |  |  |  |  |
| 1880 | 93.0 | 96.0 | 90.6 | 88.0 | 25.8 | Av.1909-1913 | 88.7 | 81.0 | 79.4 | 79.6 | 30.6 |
| 1881 | 92.0 | 98.0 | 97.0 | 92.3 | 24.7 | 1914 | 89.5 | 84.7 | 79.4 | 75.8 | 29.7 |
| 1882 | 101. 0 | 103.0 | 102. 0 | 100. 0 | 26.4 | 1915 | 92.2 | 93.9 | 91.6 | 91. 1 | 37.8 |
| 1883 | 96.0 | 99.0 | 100.0 | 99.0 | 28.1 | 1916 | 86.9 | 86.3 | 81.5 | 78. 0 | 30. 1 |
| 1884 | 98.0 | 98.0 | 94.0 | 95.0 | 27.4 | 1917 | 88.8 | 89.4 | 87.2 | 90.4 | 36.6 |
| 1885 | 94.0 | 97.0 | 96.0 | 93.0 | 27.6 | 1918 | 93.2 | 85.5 | 82.8 | 84.4 | 34.7 |
|  |  |  |  |  |  | 1919 | 93.2 | 87. 0 | 76.5 | 73. 0 | 29.4 |
| 1886 | 95.9 | 88.8 | 87.4 | 90.9 | 26.4 | 1920 | 87.8 | 84.7 | 87.2 | 88.3 | 35.2 |
| 1887 | 91. 0 | 85.9 | 85.6 | 83.4 | 25.4 |  |  |  |  |  |  |
| 1888 | 95.4 | 95.2 | 91.7 | 87: 2 | 26. 0 | Av.1914-1920 | 90.2 | 87.4 | 83.7 | 83.0 | 33.4 |
| 1889 | 93.8 | 94.1 | 92.3 | 90.0 | 28.3 |  |  |  |  |  |  |
| 1890. | 89.8 | 81.6 | 70.1 | 64.4 | 20.4 | 1921 | 85.7 85.5 | 77.6 74.4 | 64.5 75.6 | 61.1 74.9 | 23.7 29.8 |
| 1891. | 85.1 | 87.6 | 89.5 | 90.7 | 30.4 | 1923 | 85.6 | 83.5 | 81.9 | 80.3 | 31.8 |
| 1892 | 88.5 | 87.2 | 86. 2 | 78.9 | 24.8 |  |  |  |  |  |  |
| 1893 | 88.9 | 88.8 | 78.3 | 74.9 | 23.8 |  |  |  | . |  |  |
| 1894 | 87.0 | 77.7 | 76.5 | 77.8 | 25. 2 |  |  |  |  |  |  |
| 1895.. | 84.3 | 83.2 | 84.5 | 86.0 | 30.2 |  |  |  |  |  |  |
| 1896 | 98.8 | 96.3 | 77.3 | 74.0 | 26.3 |  |  |  |  |  |  |
| 1897 | 89.0 | 87.5 | 86.0 | 84.6 | 27.9 |  |  |  |  |  |  |
| 1898 | 98. 0 | 92.8 | 84.2 | 79.0 | 29.3 |  |  |  |  |  |  |
| 1899 | 88.7 | 90.0 | 90.8 | 87.2 | 31.3 |  |  |  |  |  |  |
| 1900 | 91.7 | 85.5 | 85.0 | 82.9 | 30.2 |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.
Table 118.-Oats: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

| Calen dar year. | Deficient mois- ture. | Excessive mois- | Floods. | $\begin{aligned} & \text { Frost } \\ & \text { or } \\ & \text { freeze. } \end{aligned}$ | Hail. | Hot winds. | Storms. |  | $\begin{aligned} & \text { Plant } \\ & \text { dis- } \\ & \text { ease. } \end{aligned}$ | $\begin{aligned} & \text { Insect } \\ & \text { pests. } \end{aligned}$ | $\begin{gathered} \text { Ani- } \\ \text { mal } \\ \text { pests. } \end{gathered}$ | Defective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. |
| 1909 | 7.9 | 5. 2 | 0.6 | 0.8 | 1.1 | 0.9 | 0.8 | 17.7 | 2.4 | 0.5 | 0.1 | 0.4 | 22.2 |
| 1910 | 17.0 | . 8 |  | . 7 | . 4 | 1.7 | ${ }^{3}$ | 21.4 | $\cdot 9$ | . 6 | ${ }^{2}$ | ${ }^{2}$ | 24.0 |
| 1911 | 27.6 | 1.0 | ${ }^{(2)}$ | . 5 | . 3 | 5.1 | . 1 | 35.4 | .7 | 1.5 | 1 | $\stackrel{2}{2}$ | 39.5 |
| 1912- | 7.2 | 3.1 | . 3 | . 5 | 1.0 | 1.8 | .5 | $\stackrel{14.1}{14}$ | .6 .5 | 1.1 | . 1 | .1 | 30.3 |
| 1913 | 22.7 | . 7 | .2 | . 2 | . 6 | 1.8 | . 2 |  |  |  |  |  |  |
| 1914 | 15.7 | 2.2 | . 2 | . 3 | . 8 | 2.6 | . 4 | 22.7 | 2.0 | 1.7 | .1 | 1 | 27.5 |
| 1915 | 1.4 | 8.5 | .9 | .4 | 1.0 | . 1 | . 8 | 13. 2 | 2.1 | $\cdot 3$ | ${ }^{1}$ | ${ }^{1}$ | 16.3 |
| 1916 | 10.1 | 4.0 | . 4 | . 6 | . 8 | 2.8 | ${ }^{5}$ | 19.7 | 5.1 | 1.3 | (2) | (2) $^{1}$ | 19.2 |
| 1917 | 11.8 | 1.2 | .2 | 2.7 | . 8 | 1.0 | ${ }^{3}$ | 18.2 18.1 | 1.8 | . .4 | (2) | ${ }^{\text {. }} 2$ | 20.7 |
| 1918. | 12.9 | . 5 | . 2 | 1.3 | . 9 | 1.8 | . 3 | 18.1 | 1.1 | . 9 |  |  |  |
|  | 11.5 | 5.7 | . 4 | .4 | 7 | 2.8 | 4 | 22.3 | 4.9 | 2.2 | ${ }^{(2)}$ | 1 | 29.9 |
| 1920 | 6.4 | 2.7 | . 3 | . 4 | . 8 | . 9 | . 4 | 12.1 | 2. 3 | 1.4 | . 1 | 1 | 16.8 |
| 1921.-- | 18. 3 | 2.3 | .2 | 2.6 | 8 | 5.9 | ${ }^{6}$ | 31.0 | 5. 2 | 1.8 | 1 | 1 | ${ }_{27.6}$ |
| 1922 | 14.6 | 3.8 | . 4 | . 4 | 1.2 | 1.4 | .3 | 22.0 | 3.2 | 1.8 | 1 | 1 | 27.6 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Includes all other causes.

[^158]Table 119.-Oats: Area and yield per acre in undermentioned countries.
NORTEERN HEMISPHERE.


[^159][^160]Table 119.-Oats: Area and yield per acre in undermentioned covneries-Con. SOUTHERN HEMISPGERE.

| Country. | Area. |  |  |  |  | Yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \hline \text { Aver- } \\ \text { age } \\ 7909- \\ 1913 . \end{gathered}$ | 1020-21 | 1821-22 | 1922-23 | 1923-24 | $\begin{aligned} & \text { A ver- } \\ & \text { age } \\ & 1909 . \\ & 1913 . \end{aligned}$ | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| Chile | $\begin{aligned} & 1,000 \\ & \text { acres. } \\ & 78 \end{aligned}$ | $\begin{array}{r} 1,000 \\ \text { acFes. } \\ 79 \end{array}$ | $1,000$ acres. 60 | $\begin{array}{r} 1,00 \theta \\ \text { acres. } \\ 75 \end{array}$ | 1,000 acres. 68 | Bushels. 42.7 | Bushels. 39.9 | Bushets. 48.2 | Bushels. 40.4 | $\begin{gathered} \text { Bu.st. } \\ \text { els. } \end{gathered}$ |
| Uruguay | 765 | 128 | 107 | $\begin{array}{r}87 \\ \hline\end{array}$ | ${ }_{2}^{161}$ | ${ }^{7} 19.8$ | 19.5 | 19.3 | 11.5 |  |
| Argentina | 2,396 | 2, 061 | 2,105 | 2, 618 | 2, 747 | 22.5 | 23.1 | 15.7 | 20.9 | 21.3 |
| Union of south Africa | 1810 | 609 | 530 |  |  | 111.9 | 9.7 | 9.8 |  |  |
| Australia | 545 | 937 | 733 |  |  |  | 24. 7 | 20.7 |  |  |
| New Zealand. | 366 | 148 | 171 | 143 | 141 | 49.1 | 44.1 | 49.6 | 29.7 |  |
| Total comparable with 1909-1913 | 4, 260 | 3,962 | 3,706 |  |  |  |  |  |  |  |
| Total comparable with 1923 |  | 2,416 | 2,443 | 2,923 | 3,117 |  |  |  |  |  |
| World total comparable with 1008-1913 $\qquad$ | 141, 714 |  |  |  |  |  |  |  |  |  |
| World total comparable with 1923 |  | 101, 468 |  |  | 102, 133 |  |  |  |  |  |

Division of Statistical and Historical Research. Oficial sources and International Institute of Agriculture unless otherwise stated. Parenthesis denote interpolated figures.

Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }^{1}$ One year only
${ }^{7}$ Four-year average.
Table 120.-Oats: Production in undermentioned countries.
NORTHERN HEMISPHERE.

| Country. | $\begin{gathered} \text { A verage, } \\ 1909- \\ 1913 . \end{gathered}$ | 1917 | 1918 | 1919 | 1920 | 1921 | 1222 | $\begin{aligned} & 1923, \\ & \text { prolimi. } \\ & \text { nary. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NORTH America. | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |
|  | bushets. | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. | bushel3. |
| Canada | 351, 690 | 403, 010 | -425, 312 | 394,387 | -530, 710 | 426,233 |  | 531,378 |
| United State | 1, 143, 407 | 1, 592, 740 | 1, 538, 124 | \|1, 184, 030 | :, 496, 281 | 1, 078, 341 |  | 1,299,823 |
| Total comparable with 1923 | 1,495,097 | 1, 995, 750 | 1,964, 436 | 1,578,417 | 2, 026, 991 | 1,504, 574 | 1,707, 042 | 1,831,201 |
|  |  |  |  |  |  |  |  |  |
| United Kingdom: |  |  | , |  |  |  |  |  |
| England and |  | 105, 934. | 139,805 | 111,316 | 104, 774 | 97,822 | 90,568 | 92,898 |
| Scotland | 44, 507 | 53, 108 | 62, 956 | 51, 724 | (50, 281 | 46,732 | 46, 917 | 145,884 |
| Ireland | 65,169 | 94, 662 | 101, 399 | 85, 540 | 65, 388 | 56, 238 | 61, 389 |  |
| Norway | 10, 276 | 17, 004 | 16, 582 | 15, 106 | 15, 078 | 12,960 | 13,380 | 10,002 |
| Sweden | 86,050 | 61,400 | 56, 084 | 74, 094 | 69, 914 | 75,070 | 78, 853 | 66,758 |
| Denmark | ${ }^{2} 53,576$ | 37, 653 | 41, 571 | 47, 583 | 50, 794 | 52, 158 | 58,403 |  |
| Netherland | 18,070 | 17,858 | 18,617 | 18,500 | .20,443 | 20,001 | 17,817 | 23, 913 |
| Belgium | 42, 595 | 12, 834 |  | 27,360 | 33, 865 | 35, 225 | 35, 783 | 36, 356 |
| Luxemburg | 3, 382 | 1,616 | 1,550 | 1, 700 | 1,829 | 1,243 | 1,527 | 2,503 |
| France. | ${ }^{2} 355,278$ | ${ }^{3} 220,336$ | ${ }^{3} 180,553$ | ${ }^{3} 179,823$ | 291, 406 | 244,455 | 288,264 | 377, 47 l |
| Spain | 29, 110 | 33, 061 | 30, 474 | 32, 915 | 37,772 | 35, 615 | 31,214 | 40, 43 s |
| Portuga |  | 4,541 | 4,563 | $\begin{array}{r}4,620 \\ \hline\end{array}$ |  | 5,616 438,415 4 |  |  |
| Italy-..-- | 236,945 4,784 | $2.33,889$ 4,209 | 245,353 5,009 |  |  | 488,415 3,035 | 30,465 2,466 | 39,800 3,059 |
| Switzerlan | 4,784 $2.591,996$ | 4,209 549,964 |  | 2,811 ${ }_{5} 309,587$ | 3,121 332,490 | 3,035 344,812 | 2,466 284,567 | 411, 676 |
| Germany | 2.591,996 | 5249, 964 10,901 | 5301,839 12,933 | - 309,587 | 332,490 16,008 | 34,812 19,000 7 | 284,567 18,317 7 | - 21,078 |
| Czechosiova |  |  |  |  | 59,654 | 74, 087 | 71, 552 | 86, 265 |
| Hungary | 290, 896 |  |  |  | 22, 307 | 21,964 | 22, 553 | 25, 547 |
| Yrroslavia | 673,079 |  |  |  | 22, 244 | 18,907 | 18,272 | 19,353 |
| Greece | ${ }^{8} 2,228$ | 3, 566 | 4,540 | 3, 827 | 4, 187 | 4,134 |  | 5,964 |
| Bulgaria | $2{ }^{2} 9,595$ | 5, 991 | 3, 579 | 5,791 | 7, 005 | 6, 657 | 9, 144 | 10, 052 |

[^161]Table 120.-Oats: Production in undermentioned countries-Continued. NORTHERN HEMISPHERE-Continued.

| Country. | $\begin{gathered} \text { A verage, } \\ 1909- \\ 1913 . \end{gathered}$ | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | $\begin{gathered} 1923, \\ \text { prelimi- } \\ \text { nary. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EUROPE-continued. | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 933,097 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. 5,890 | 1,000 bushels. 22, 824 | 1,000 bushels. 68, 349 | 1,000 bushels. 66, 356 | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 92,074 \end{gathered}$ | 1,000 bushels. 63, 701 |
| Poland.------------------- | ${ }^{10}(105,755)$ |  |  |  | 129,061 | 150, 286 | 172, 621 | 259, 867 |
| Lithuania | ${ }^{10}(18,203)$ |  |  | 15,315 | 14, 223 | 18, 154 | 28, 943 | 23, 324 |
| Latvia | ${ }^{10}(18,205)$ |  |  |  | 7,790 | 16,843 | 18, 171 | 20,518 |
| Esthonia | ${ }^{10}(8,695)$ |  |  | 7,702 | 8, 022 | 8,840 | 10, 058 | 9,800 |
| Finland. | 20,391 | 18,802 | 19,228 | 20, 286 | 11,247 | 28,029 | 28, 199 | 21, 288 |
| Russia, including Ukraine and Northern Caucasia | ${ }^{10}(824,615)$ |  |  |  |  |  | 319, 570 |  |
| Total comparable with 1909-1913..... | 2, 737, 879 |  |  |  |  |  |  |  |
| Total comparable with 1923. | 1, 794,519 |  |  |  | 1,355, 293 | 1, 388, 643 |  | 1,722, 466 |
| $\triangle$ FRICA. |  |  |  |  |  |  |  |  |
| Moroceo |  | 165 | 267 | 201 | 228 | 555 | 1,180 | 1,151 |
| Algeria - ------------------ | 13, 489 | 18, 601 | 21, 564 | 10, 743 | 6, 855 | 10, 334 | 5,570 | 15,949 |
| Tunis--------------------- | 3,642 | 3,996 | 4,271 | 3,100 | 1,481 | 4,134 | 792 | 2,756 |
| Total comparable with 1909-1913.... | 17, 131 | 22,597 | 25, 835 | 13,843 | 8,336 | 14,468 | 6,362 | 18,705 |
| Total comparable with 1923 | -- | 22,762 | 26, 102 | 14,044 | 8,564 | 15,023 | 6,542 | 19,856 |
| Cyprus ASIA. | 515 | 371 | 407 | 210 | 240 | 255 | 264 |  |
| Russia (Asiatic) | 107,687 |  |  |  |  |  |  |  |
| Japanese Empire: <br> Chosen | ${ }^{7} 2,202$ | 3, 610 | 4,730 | 2,432 | 4,184 |  | 5,136 | ------- |
| Total comparable with 1909-1913...- | 110,404 |  |  |  |  | -------- | 41,494 |  |
| Total Northern Hemisphere, comparable with 1909-1913. | 4,360, 511 | . |  |  |  |  | , |  |
| Total Northern Hemisphere, comparable with 1923 |  |  |  |  | 3, 390, 848 | 2,908, 240 |  | 3,573,523 |

SOUTHERN HEMISPHERE.

| Country. | Average, 1909-1913. | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chile | 3,333 | 3,177 | 2, 020 | 2, 590 | 3,155 | 2, 893 | 3,029 |  |
| Uruguay | ${ }^{11} 1,284$ | 3,697 | 1,288 | 1,479 | 2,502 | 2,069 3, |  |  |
| Argentina | 54, 246 | 75, 783 | 33, 762 | 57, 113 | 47, 619 | 32,973 | 54,666 | 58,560 |
| Union of South Africa ${ }^{12}$ $\qquad$ | ${ }^{8} 9,661$ | 10,475 | 6,389 | 4,686 | 5,909 23 | 5,186 15,184 |  |  |
| Australia------------------ | 17, 768 17,977 | 12,984 6,178 | 13,051 8,606 | 15,695 8,710 | 23, 151 6,531 | 15,184 8,441 | 7,110 |  |
| Total comparable with 1909-1913 | 104, 269 | 112, 294 | 65, 116 | 90, 273 | 88,867 | 66,746 |  |  |
| Total compara- <br> ble with 1923 . | 54, 246 | 75, 783 | 33, 762 | 57, 113 | 47,619 | 32, 973 | 54, 666 | 58,560 |
| World total comparable with 1909-1913 | 4, 464, 780 |  |  |  |  |  |  |  |
| World total comparable with 1923 |  |  |  |  | 3, 438, 467 | 2,941, 213 |  | 3,632, 083 |

[^162]Table 121.-Oats: World production, 1894-1923.

| Year. | Production in countries reporting all years 1894-1923. | Production as reported. | $\begin{aligned} & \text { Estimated } \\ & \text { world totals } \\ & \text { (prelimi- } \\ & \text { nary). } \end{aligned}$ | Three selected countries. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Russia. ${ }^{1}$ | Germany. | France. |
|  | 1,000 bushels. | 1,000 bushels. | 1,000 bushels. | 1,000 bushels. | 1,000 bushels. | 1,000 bushels. |
| 1894 |  |  | $3,039,717$ $3,213,431$ | 743, 953 | ${ }^{433} \mathbf{4 3 2 8}$ | 294, 344 |
| 1895 | $2,039,081$ $1,868,604$ |  | $3,213,431$ $3,113,148$ | 717,314 799,833 | 430,205 411,259 | $\begin{array}{r}305,742 \\ 296 \\ \hline\end{array}$ |
| 1897 | 1,810,951 | 2, 680, 919 | 2, 889, 281 | 663, 714 | 393, 979 | 253, 257 |
| 1898 | 2, 045, 803 | 2, 995, 851 | 3,181, 262 | 687, 534 | 465, 317 | 321, 562 |
| 1899 | 2, 099, 348 | 3,333, 003 | 3,620, 889 | 995, 307 | 474, 174 | 307, 914 |
| 1900 | 2, 086, 228 | 3, 226, 625 | 3, 470, 581 | 853, 697 | 488, 590 | 285, 313 |
| 1901 | 1, 902,240 | 2, 810, 028 | 2,960,683 | 624, 098 | 485, 711 | 254,900 |
| 1902 | 2, 304,423 | 3, 557, 569 | 3, 812, 029 | 930, 679 | 514, 447 | 319,691 |
| 1903 | 2,178, 550 | 3, 326, 743 | 3,621, 951 | 799, 785 | 542, 427 | 344, 329 |
| -1904 | 2, 162,947 | 3, 561, 205 | 3, 832,755 | 1, 124, 266 | 477,847 | 290,902 |
| 1905 | 2, 248, 847 | 3, 474, 967 | 3, 752, 142 | 936, 665 | 451, 013 | 305,736 |
| 1906 | 2, 374, 494 | 3,430, 518 | 3, 713, 918 | 714, 272 | 580, 869 | 295, 110 |
| 1907 | 2, 264, 041 | 3, 526, 136 | 3,775, 336 | 921,175 | 630, 318 | 352, 712 |
| 1908 | 2,165, 982 | 3, 729, 862 | 3,783,767 | 959, 414 | 530, 126 | 327, 159 |
| 1909 | 2,570,179 | 4, 530,467 | 4,546, 147 | 1,163, 076 | 628, 712 | 383, 139 |
| 1910 | 2, 520, 718 | 4, 252, 783 | 4,257, 893 | 1, 064, 516 | 544, 287 | 331, 866 |
| 1911 | 2, 257, 513 | 3, 964, 808 | 3, 978 , 991 | 876, 013 | 530, 764 | 349,247 |
| 1912 | 2, 822, 328 | 4,738,090 | 4,756,725 | 1,089, 365 | 586, 987 | 355, 089 |
| 1913 | 2, 647, 659 | 4, 781, 258 | 4, 798, 558 | 1,250, 590 | 669, 231 | 357,049 |
| 1914 | 2, 492, 811 | 4, 131, 958 | 4,148, 447 | 2914,913 | 622, 674 | 318, 333 |
| 1915 | 2, 604, 450 | 4, 513, 559 | 4, 581, 429 | ${ }^{2} 1,022,107$ | 412, 400 | 238, 551 |
| 1916 | 2, 424, 824 | 3,126,676 | 4, 023, 526 |  | 484, 007 | 277, 117 |
| 1917 | 2, 382, 705 | 3,122, 116 | 3, 882, 136 |  | ${ }^{3} 249,964$ | 8220,336 |
| 1918 | 2, 382, 177 | 3,113, 316 | 3,777, 336 | ---------- | ${ }^{3} 301,839$ | ${ }^{8} 180,553$ |
| 1919 | 2, 006, 599 | 2,772,076 | 3,283, 092 |  | ${ }^{3} 309,587$ | ${ }^{8} 179,823$ |
| 1920 | 2, 437, 471 | 3, 606, 466 | 3, 836, 484 |  | ${ }^{3} 332,490$ | ${ }^{3} 291,406$ |
| 1921 | 2, 000, 212 | 3, 089, 253 | 3, 323, 268 |  | ${ }^{3} 344,812$ | ${ }^{3} 244,455$ |
| 1922 | 2, 106, 189 | 3, 684,938 | 3, 709, 954 |  | ${ }^{3} 284,567$ | ${ }^{8} 2888,264$ |
| 1923 | 2, 422, 121 | 3, 632, 083 | 4, 142, 849 |  | ${ }^{3} 411,676$ | ${ }^{8} 377,470$ |

Division of Statistical and Historical Research.
For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern.
${ }^{1}$ Includes all Russian territory reporting for years named. European Russia includes 50 governments in Europe, 10 governments of Poland, and 1 government and 2 provinces of Northern Caucasia; Asiatic Russia during 1899 to 1905 included statistics frons 4 governments of Siberia, 4 provinces in Central Asia, and the small government of the Black Sea in Transcaucasia. In 1906 no statistics were available for Akmolinsk, one of the 4 provinces of Central Asia which had been previously reported but to the other governments and provinces reporting were added statistics for Ural, 3 provinces of Turkestan, and 10 governments and provinces of Transcaucasia. Subsequently Asiatic Russia included 8 governments and provinces of Siberia; 4 provinces of the Steppes, 4 provinces of Turkestan, and Ural in Central Asia; and 11 governments and provinces of Transcaucasia. The territory supplying statistical data remained the same after 1906, although in the annual publication of the Division of Rural Economics and Agricultural Statistics of the Ministry of Agriculture for 1915 (published in 1917) the Central Statistical Committee departed from its usual grouping of the provinces of the Steppes and of Turkestan.
${ }^{2}$ Excludes Poland.
¿New boundaries.
Table 122.-Oats: Monthly marketings by farmers, United States, 1917-1922.

| Year beginning July 1. | Percentage of year's receipts as reported by about $3,500 \mathrm{mills}$ and elevators. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Season. |
| 1917-18. | 4.7 | 16.4 | 13.5 | 11.1 | 7.7 | 7.8 | 8.3 | 8.0 | 7.1 | 6. 5 | 4.0 | 4.9 | 100.0 |
| 1918-19 | 8.0 | 19.6 | 11.9 | 9.9 | 7.2 | 6. 7 | 6.7 | 4.5 | 5.5 | 6.3 | 7. 0 | 6.7 | 100. 0 |
| 1919-20 | 14.4 | 18.4 | 10.1 | 9.2 | 5.8 | 8.3 | 8. 2 | 6.6 | 4.9 | 4.3 | 5. 2 | 4.6 | 100.0 |
| 1920-21 | 8. 3 | 18.7 | 13.8 | 9.5 | 5. 5 | 5.8 | 6. 6 | 6.6 | 6.0 | 4.6 | 6.8 | 7.8 | 100.0 |
| 1921-22 | 15.1 | 16.5 | 11.8 | 7.9 | 5.3 | 6.1 | 7.3 | 6.9 | 5.6 | 4.3 | 7.2 | 6. 0 | 100. 0 |
| 1922-23. | 8.9 | 15.7 | 11.9 | 10.1 | 7.8 | 8.6 | 7.4 | 7.1 | 6.5 | 4.7 | 5.4 | 5.9 | 100.0 |

[^163]Table 123.-Oats: Farm stocks, shipments, and quality, United States, 1897-1923.

| Year. | Old stocks on farms Aug. .. | Crop. |  |  | Total supplies. | Stocks on farms Mar. 1 following. | Shipped out of county where grown. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity. | Weight per bushel. ${ }^{2}$ | Quality. ${ }^{3}$ |  |  |  |
|  | 1,000 bush. | 1,000 buesh. | Pounds. | Per cent. | 1,000 bush. | 1,000 bush. | 1,090 bush. |
| 1897-98 | 80, 153 | 791, 442 | 30. 5 | 87.6 | 871, 595 | 309, 043 | 245, 469 |
| 1898-99 | 51,352 | 842, 747 | 29.7 | 84.5 | 894, 099 | 338, 684 | 233, 096 |
| 1890-190 | 59, 060 | 925,555 | 31.3 | 89.5 | 984, 615 | 338, 383 | 274, 146 |
| 1900-1 | 64, 420 | 913, 800 | 31.1 | 89.2 | 978, 220 | 332, 364 | 288, 997 |
| 1901-2 | 55, 128 | 778, 392 | 30.7 | 83.7 | 833, 520 | 241, 506. | 152, 962 |
| 1902-3. | 32,449 | 1,053,489 | 31.0 | 86.7 | 1,085, 938 | 390, 872 | 256, 233 |
| 1903-4 | 78,598 | 869, 350 | 29.7 | 79.9 | 947,948 | 304, 128 | 250, 192 |
| 1904-5 | 46, 394 | 1,008, 331 | 31.5 | 91.4 | 1,055, 325 | 392, 861 | 300, 534 |
| $1905-6$ | 62, 872 | 1,090, 236 | 32.7 | 92.4 | 1, 153, 108 | 437, 300 | 819,871 |
| 1906-7 | 77, 573 | 1,035, 576 | 32.0 | 88.2 | 1,113, 149 | 413, 480 | 229,441 |
| 1907-8. | 73,196 | 805, 108 | 29.4 | 77.0 | 878, 304 | 258, 104 | 221, 147 |
| 1908-9 | 40, 528 | 850, 540 | 29.8 | 81.3 | 891, 068 | 294, 082 | 253, 929 |
| 1909-10 | 27,478 | 1,068, 289 | 32.7 | 91.4 | 1,095, 767 | 385, 705 | 343, 968 |
| 1910-11 | 66, 666 | 1, 186, 341 | 32.7 | 93.8 | 1, 253,007 | 442,665 | 363, 103 |
| 1911-12 | 67, 801 | 922, 298 | 31.1 | 84.6 | 990, 099 | 289, 880 | 265, 944 |
| 1912-13 | 34,875 | 1, 418,337 | 33.0 | 91.0 | 1,453, 212 | 604, 249 | 438, 130 |
| 1913-14 | 103, 916 | 1,121,768 | 32.1 | 89.1 | 1,225, 684 | 419,481 | 297, 365 |
| 1914-15 | 62,467 | 1,141, 060 | 31.5 | 86.5 | 1,203,527 | 379, 369 | 335, 539 |
| 1915 | 55,607 | 1, 549, 030 | 33.0 | 87.5 | 1, 604, 637 | 598, 148 | 465, 823 |
| 1916-17 | 113, 728 | 1, 251, 837 | 31.2 | 88.2 | 1,365,565 | 394, 211 | 355, 092 |
| 1917-18 | 47, 834 | 1, 592, 740 | 33.4 | 95.1 | 1, 640, 574 | 599, 208 | 514, 117 |
| 1918-19 | 81, 424 | 1,538, 124 | 33.2 | 93.6 | 1,619,548 | 590, 251 | 421, 568 |
| 1910-20 | 93, 045 | 1, 184, 030 | 31.1 | 84.7 | 1,277, 075 | 409, 730 | 312, 364 |
| 1920-21 | 54, 819 | 1,496, 281 | 33.1 | 93.3 | 1,551, 190 | 683, 759 | 431,687 |
| 1921-22 | 161, 108 | 1, 078,349 | 28.3 | 74.7 | 1,239, 457 | 411, 934 | 258, 259 |
| 1922-23 | 74, 513 | 1,215, 803 | 32.0 | 87.7 | 1,290, 316 | 421, 118 | 303, 950 |
| 1923-24 ${ }^{4}$ | 70,965 | 1,299, 823 | 32.1 | 87.9 | 1,370, 788 | 444,810 | 320, 859 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on percentage of crop as reported by crop reporters.
${ }_{2}^{2}$ Average weight per measured bushel as reported by crop reporters.
${ }^{3}$ Per cent of a "high medium grade" as reported by crop reporters.
${ }^{4}$ Preliminary.
Table 124.-Oats: Visible supply in United States, first of month, 1909-1923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |  |  |
|  | bush | bush- | bush- | bush- | bush- | bush- | bush- | butsh- | bush- |  | bush- | buish- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1910-11 |  |  |  |  |  |  |  |  |  |  |  | 4,24 |
| 1911-12 | 11, 203 | 20, 742 | 21, 044 | 22, 600 | 20, 315 | 18, 754 | 15, 431 | 14, 366 | 13, 429 | 11, 991 | 8 8,052 | 3,69 |
| 1912-13 | 1, 031 | 4, 160 | 9, 260 | 10,552 | 10,774 | 8, 457 | 9,646 | 12, 343 | 13, 115 | 8,704 | 8, 105 | 14,756 |
| 1913-14. | 17, 131 | 24, 662 | 30, 718 | 31,684 | 29, 664 | 26, 909 | 24, 450 | 21, 489 | 19,755 | 13, 262 | 8,144 | 7,210 |
| Av. 1909-1913. | 7,185 | 13,460 | 18, 525 | 19, 024 | 17,969 | 16, 286 | 14, 857 | 14, 521 | 13, 869 | 10, 748 | 7, 866 | 7,89 |
| 191 | 6,48 | 20, 124 | 27, 285 | 31, 866 | 32, 471 | 32, 956 | 33, 173 | 33, 258 | 27, 284 | 23, 022 | 12,62 | 4,345 |
| 1915-16 | 1,309 | 2,924 | 14,381 | 15,730 | 20, 928 | 21, 081 | 20, 175 | 20, 265 | 17,892 | 12,096 | 16, 192 | 12,452 |
| 1916-17 | 8, 537 6,679 | 27, 691 | 38, 866 | 45, 585 | 47, 467 | 48, 823 | 42, 675 | 36, 740 | 34, 191 | 28, 033 | 17,45 | 9,741 |
| 1918-19 | 7,876 | 19, 300 | 24, 689 | 22, 050 | 29, 143 | 34, 828 | 30, 505 | 27,666 | 22,882 | 21, 507 | - 15 , 827 | 18,094 |
| 1919-20 | 20,481 | 19, 411 | 19, 552 | 19, 196 | 16, 922 | 13, 080 | 11, 550 | 10, 401 | 9, 576 | 6,813 | 8,642 | 3, 623 |
| 1920 | 3,786 | 8,149 | 27, 602 | 34, 414 | 33, 961 | 32, 194 | 33, 632 | 34, 142 | 33, 903 | 30,740 | 28, 426 | 34,401 |
| A v. 1914-1920. | 7, 879 | 14, 984 | 23,791 | 26, 613 | 28, 498 | 28,660 | 26, 513 | 25, 203 | 23, 404 | 20, 717 | 17, 141 | 13, 698 |
| 1921-22 | 37, 562 | 60, 455 | 65, 843 | 69, 998 | 69, 198 | 67,728 | 68, 010 | 68,529 | 64,644 | 55, 837 | 47, 950 | 42, 7.43 |
| 1922-23 | 36,667 | 38, 355 | 35, 968 | 34, 077 | 32, 940 | 32, 391 | 30,861 | 27, 683 | 24, 044 | 21, 932 | 13, 514 | 8,523 |
| 1923-24 | 5,477 | 10, 111 | 16, 514 | 20, 488 | 18, 686 |  |  |  |  |  |  |  |

[^164]Table 125.-Oats: Receipts and shipments, 11 primary markets, 1909-192.

| Year beginning Aug. 1. | Chicago. |  | Milwaukee. |  | Minneapolis. |  | Duluth. |  | St. Louis. |  | Toledo. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{\|c} \text { Re- } \\ \text { ceipts. } \end{array}$ | Shipments | $\underset{\text { ceipts. }}{\text { Re- }}$ | $\left\lvert\, \begin{aligned} & \text { Ship- } \\ & \text { ments. } \end{aligned}\right.$ | $\begin{array}{\|c\|} \text { Re- } \\ \text { ceipts. } \end{array}$ | $\left\lvert\, \begin{aligned} & \text { Ship } \\ & \text { ments. } \end{aligned}\right.$ | $\underset{\text { ceipts. }}{\mathrm{Re}}$ | Shipments. | $\begin{gathered} \text { Re- } \\ \text { ceipts. } \end{gathered}$ | Shipments. | Receipts. | $\begin{aligned} & \text { Ship- } \\ & \text { ments. } \end{aligned}$ |
|  |  | 1,0 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  |  |  |  |  | bush- |  |  |  |  |  |  |  |
|  |  |  | ${ }_{9,4}{ }^{\text {els }}$ |  | els. |  |  | els. $7,432$ |  | els. $14,765$ | $\begin{aligned} & e l s . \\ & 3,670 \end{aligned}$ | $\begin{aligned} & \text { els. } \\ & 3,162 \end{aligned}$ |
| r910-1 | 107, 902 | 89, 705 | 14,844 | 14, 873 | 18, 419 | 13, 845 | 2,434 | 2,824 | 20, 517 | 15, 323 | 3, 700 | 3, 435 |
| 1911-12 | 87, 623 | 70, 090 | 10, 863 | 8, 194 | 10, 555 | 10, 043 | 4, 529 | 4, 639 | 16, 879 | 11, 280 | 2, 872 | 2,611 |
| 1912-13 | 117, 103 | 116, 275 | 16, 252 | 20, 180 | 19,031 | 16,397 | 9, 350 | 8,351 | 23, 785 | 16, 592 | 3, 63 | 4,365 |
| 1913-1 | 105, 738 | 98, 141 | 18, 434 | 17, 172 | 22, 995 | 24, 272 | 5,795 | 6,761 | 25,967 | 19, 497 | 3,655 | 2, 819 |
| A v. 1909-1913 | 100, 873 | 89,342 | 13, 978 | 13, 570 | 17,320 | 15,818 | 5,983 | 6,001 | 21,439 | 15, 49 | 3, 50 | 3,278 |
| 1914-15 | 143, 813 | 130,938 | 29,9 | 31, 179 | 23, 042 | 23, 147 | 9, 005 | 8,325 | 21,419 | 16,240 | 6,0 | 5,089 |
| 15 | 151, 168 | 122, 280 | 35, 252 | 34, 389 | 45, 778 | 45, 024 | 4, 844 | 4,528 | 17, 518 | 11, 63 | 4, 707 | 3,501 |
| 1916-17 | 145, 075 | 08, 152 | 32, 707 | 28, 649 | 31, 322 | 23, 075 | 3, 184 | , 493 | 24, 616 | 18, 940 | 4,926 | 2, 642 |
| 1917-18 | 134, 310 | 86, 725 | 31, 766 | 20, 128 | 42,017 | 42, 181 | 766 | 680 | 37, 431 | 32, 129 | 5, 303 | 3, 194 |
| 18-19 | 115, 714 | 83, 719 | 34, 727 | 30, 548 | 37, 031 | 33, 019 | 2, 663 | 2, 378 | 30, 812 | 23, 836 | 9, 010 | 8,820 |
| 19-2 | 82,141 | 60, 792 | 26, 572 | 17, 766 | 17, 054 | 19,033 | 1,035 | 1,084 | 31,391 | 22, 77 | 3, 221 | 1,601 |
| 1920 | 79, 430 | 54, 598 | 19,065 | 13, 297 | 26, 003 | 14,600 | 6,241 | 455 | 30,103 | 21,38 | 5,848 | 2,339 |
| Av. 1914-1920 | 121, 654 | 92, 458 | 30,007 | 25,137 | 31,750 | 28,583 | 3,963 | 2,992 | 27,613 | 20,99 | 5, 58 | 3,884 |
| 1921-22 | 77,828 | 63,418 | 23,241 | 17, 86 | 32, 307 | 28,260 | 6,065 | 10,129 | 25,949 | 20,16 | 4, 604 | 2,348 |
| 1922-23 | 84,451 | 65,055 | 21, 057 | 17, 162 | 24,870 | 38,320 | 1,372 | 2,130 | 32, 220 | 26, 66 | 3,786 | 2, 230 |
| 1922 <br> August | 10, 5 | 7,7 | 1,5 |  | 4,006 | 2, 727 | 207 | 459 | 2,580 | , | 398 |  |
| Septemb | 9, 493 | 6,907 | 1, 833 | 1,290 | 3, 733 | 3, 973 | 417 | 硅 | 1,760 | 1,309 | 230 |  |
| October | 9, 235 | 5,045 | 2, 236 | 1,549 | 3, 421 | 4,307 | $7{ }^{\text {a }}$ | 131 | 2, 810 | 2,001 | 390 | 249 |
| November | 8, 200 | 7,292 | 1,936 | 1,558 | 2,203 | 3,013 | 79 | 280 | 2,986 | 2,403 | 242 | 122 |
| December | 8,435 | 4,847 | 2, 121 | 1,902 | 2, 430 | 3, 809 | 4 | 19 | 2, 636 | 1,656 | 742 |  |
| 1923 |  |  |  |  |  |  | 6 | 9 |  |  | 30 |  |
| Februa | 5,677 | 5, 4 4 489 | 1,947 | 1, 1,413 | 1,467 | 2,242 | 53 | 41 | 1,908 | 1,906 | 167 | C? |
| March | 6,367 | 6,167 | 1,690 | 1,465 | 1,697 | 2, 437 | 32 | 39 | 2, 926 | 2, 426 | 247 | 2 |
| April | 4,737 | 4, 109 | 1,251 | 1,439 | 1,284 | 3, 080 | 17 | 6 | 2, 824 | 2,818 | 193 | 57 |
| May | 4,696 | 5, 107 | 1,132 | 1,501 | 730 | 3,167 | 37 | 4 | 2, 532 | 2, 079 | ${ }^{238}$ | 117 |
| June | 4,477 | 4,465 | 1,623 | 996 | 930 | 3, 359 | 41 | 318 | 2, 748 | ${ }_{2}^{2,283}$ | 370 | 53 |
| y | 6,154 | 3, 564 | 1, 774 | 1,145 | 67 | 2, 998 | 284 | 582 | 2, 452 | 2, 274 |  | 38 |


| Year beginning Aug. 1. | Detroit. |  | Kansas City. |  | Peoria. |  | Omata. |  | Indianapolis. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \mathrm{Re}- \\ \text { ceips. } \end{gathered}$ | Ship- | $\begin{gathered} \text { Re- } \\ \text { eipts. } \end{gathered}$ | Ship- ments. | $\begin{gathered} \text { Re- } \\ \text { ceipts. } \end{gathered}$ | Ship- | $\left\lvert\, \begin{gathered} \mathrm{Re}- \\ \text { ceipts. } \end{gathered}\right.$ | Ship- ments. | $\begin{gathered} \text { Re- } \\ \text { ceipts. } \end{gathered}$ | $\begin{aligned} & \text { Ship- } \\ & \text { ments. } \end{aligned}$ | $\begin{gathered} \text { Re- } \\ \text { ceipts. } \end{gathered}$ | Ship- |
| 1909-10 | $\begin{array}{\|c\|} \hline 1,000 \\ \text { bushl } \\ \text { ous } \\ 2,488 \\ 2,488 \\ \hline, 07 \end{array}$ |  | $\begin{array}{\|c\|} 1,000 \\ b u s h-1 \\ \text { cels } \\ 5,165 \\ 5,165 \\ \hline \end{array}$ | $\begin{gathered} 1,000 \\ \text { bush- } \\ \text { els } \\ 4,508 \\ 1,508 \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { bush } \\ & \text { eus. } \\ & 10,875 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { bush } \\ & \text { cus. } \\ & 11,705 \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { bush. } \\ \left.\begin{array}{c} \text { els. } \\ \text { (1) } \end{array}\right) \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { bush } \\ & \text { els. } \\ & \text { (1) } \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { bushl } \\ \text { els. } \\ \text { c1) } \\ \text { c1) } \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { bush } \\ & \text { els. } \\ & \text { (1) } \\ & \hline 11) \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { bush- } \\ \text { els } \\ 161,146 \\ 187 \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { bush } \\ & \text { els. } \\ & 136,420 \end{aligned}$ |
| 1910-11 | 3, 073 <br> 2 <br> 2 <br> 182 | ${ }_{348}^{265}$ | -6,280 | 5,071 | $\underset{\substack{10,130 \\ 6,658}}{1}$ | 10,895 | (1) ${ }_{8} 868$ | (1) | ${ }^{(1)} 976$ | ${ }^{(1)} 394$ | 187, ${ }^{158,} 5931$ | ${ }^{135,231}$ |
| 1912-13 | 3, 535 | 514 | 7,704 | 7,523 | 11,447 | 13, 188 | 14,958 | 14,802 | 8,136 | 2,876 | 234, | 221,063 |
| 1913-14 | 3,807 | 649 | 11, 325 | 11,032 | 12,152 | 13, 804 | 15,977 | 18,575 | 5,392 | 1,808 | 231, 237 | 214, 530 |
| Av. 1909-1913 | 3, 131 | 432 | 7,298 | 440 | 10,252 | 11,666 |  |  |  |  | 194, 643 | 171,582 |
| 1914 | 4, | 1,123 | 7,338 | 6,107 | 11, | 11,726 | 13,648 | 13,916 | 5,8 | 4,349 | 275, | 252,139 |
| 1915-16 | 5,173 | 2, 292 | 4,882 |  | 11,364 | 11,8 | 11, 212 | 10, 961 | 13,79 | 8,677 | 305, | ${ }^{257,708}$ |
| ${ }^{1916-17}$ | 3,677 | ${ }_{607}^{93}$ | 10,059 18,344 | 12, 826 | 20, 170 | 17,541 | ${ }_{23,673}^{118}$ | 21,945 | 19,822 | 13,705 | 337, | ${ }_{251}^{251,661}$ |
| 1918-19 | 8 8,179 | 1,756 | 16,688 | 11, 343 | 8,535 | 8 8,212 | 20,661 | 20,559 | 14,820 | 4, 516 | 298, | 228, 706 |
| 1919-2 | 2, 34 | 551 |  |  | 10, 636 | 13,096 | 13, 118 | ${ }_{1}^{21,110}$ | 13, 969 | 4,023 | 209, 070 | 158,008 |
| 1920-21 | 3, 345 | 750 | 7, 137 | 5, 132 | 9, 176 | 7,906 | 10, 223 | 8,423 | 16,509 | 6,099 | 213,080 | 134,986 |
| Av. 1914-1920 | 4,390 | 1,145 | 10,295 | 7,614 | 12,090 | 11,624 | 15,837 | 15,044 | 14, 234 | 7,466 | 277, 42 | 216,936 |
| 1921-22 | 2,285 | 330 | 7,262 | 5,043 | 14, 210 | 12,254 | 10,665 | 9,768 | 13, 052 | 6,247 | 217, 468 | 175,826 |
| 1922-23- | 3,444 | 326 | 10,568 | 6,147 | 15,555 | 15,147 | 14,772 | 16,174 | 10,585 | 3,471 | 222,680 | 192,826 |
| 1922 | 316 | 49 | 650 | 375 |  |  | 1,258 | , 322 |  | 232 | 24, 482 |  |
| Septembe | ${ }^{302}$ | 46 | 599 |  | 1,245 |  | 1,162 |  | 936 | 328 | 21,710 | 16, 792 |
| October | ${ }^{270}$ | 32 |  | 406 | $-1,762$ | 1,559 | 1, 340 | 1,068 | 846 | ${ }_{218}^{268}$ | ${ }_{21}^{23,405}$ | 16,615 18,293 |
| Novemb | 354 |  | 1,468 | 488 | 1,590 | 1,607 | 1,744 | 1,308 | 846 382 | 218 190 | 20,656 | ${ }_{15,514}^{18,293}$ |
| December | 356 | 12 | 1,043 | 460 | 1,457 | 1,374 | 1,050 | 1,221 | 382 | 190 | 20,656 | 15, 514 |
| January- | 433 | 52 | 1,163 | ${ }_{6}^{658}$ | 1,870 | 1,768 | 1,366 | 1,694 | 1,308 | ${ }_{318}^{244}$ | 21, 044 | 18, 875 |
| February | 240 281 | 61 40 | ${ }_{936}^{861}$ | 618 767 | 1848 1,348 1 | 1763 1,499 |  | 1, 1,748 | ${ }_{960}$ | 434 | 17,96 | 17,246 |
|  | 34 | 16 | 1,504 | 672 | 1,143 | 1,122 | 1,674 | 2,038 | 8 | 454 | 15, 69 | 16, 326 |
| May | 252 |  | ${ }_{617}^{617}$ | 636 | 747 | ${ }^{822}$ |  | 1,434 | ${ }_{724}^{980}$ | 408 | ${ }_{13}^{12,611}$ | 15, 1838 |
| June | ${ }_{202}^{204}$ | $\stackrel{2}{4}$ | 606 338 | ${ }_{297}^{465}$ | $\xrightarrow{1,085}$ | 1, 1,148 | 1, 102 | 1,304 | 724 472 | 240 137 | \|14,840 | 14, 1370 |

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the annual reports of the Chicago Board of Trade.

Table 126.-Oats: Classification of cars graded by licensed inspectors, all inspection points.

| Year beginning Aug. 1. | Total of all classes and subclasses under each grade, annual inspections, 1919-1922. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Receipts |  |  |  |  |  | Shipments. |  |  |  |  |  |
|  | No.1. | No. 2. | No.3. | No. 4. | Sam- ple. | Total. | No. 1 | No. 2. | No.3. | No. 4. | Sample. | Total. |
|  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| 1919-20 | 5, 662 | 52, 094 | 96, 039 | 15, 887 | 3, 589 | 173, 271 | 3, 167 | 41, 094 | 62, 764 | 4,100 |  | 111, 817 |
| 1920-21 | 8,803 | 60,169 | 73, 072 | 14,766 | 6,831 | 163, 641 | 3, 600 | 45, 099 | 31, 811 | 2, 821 | 2, 220 | 85, 551 |
| 1921-22 | 2,519 | 31, 643 | 105, 103 | 31, 774 | 6, 664 | 177, 703 | 2,384 | 49, 117 | 72, 955 | 4,305 | 1,675 | 130, 436 |
| 1922-23 | 2,548 | 47, 347 | 95, 984 | 17, 004 | 4,640 | 167, 523 | 1,738 | 45, 563 | 62, 601 | 6,112 | 1,235 | 117, 249 |
| Class. | Total inspections by grade and class, August 1, 1922, to July 31, 1923. |  |  |  |  |  |  |  |  |  |  |  |
| White. | 2,101 | 45, 333 | 94, 390 | 16,559 | -4, 011 | 162, 394 | 1, 601 | 44, 457 | 62, 157 | 6, 059 |  | 115, 244 |
| Red. | 329 | 1, 531 | 1,272 | 340 | - 124 | 3,596 | 116 | 934 | 409 | 34 | 8 | 1, 501 |
| Gray | 46 | 31 | 27 | 25 |  | 136 | 1 |  |  |  |  |  |
| Mixed | 72 | 452 | 295 | 80 | 498 | 1,397 | 20 |  | 35 | 19 | 257 | 501 |
| Year beginning Aug. 1. | Total of all classes and subclasses under each grade, annual inspections, 1919-1922. |  |  |  |  |  |  |  |  |  |  |  |
|  | Receipts. |  |  |  |  |  | Shipments. |  |  |  |  |  |
|  | No. 1. | No. 2. | No. 3. | No. 4. | Sample. | Total. | No. 1. | No. 2. | No.3. | No. 4. | Sample. | Total. |
|  | Per | Per cent. | Per | Per cent. | Per cent. | Per | Per cent. | Per Per . | Pent. | Per cent. | Per cent. | Per cent. |
| 1919-20 | 3.3 | 30.0 | 55.4 | 9.2 | 2.1 | 100 | 2.8 | 36.8 | 56.1 | 3.7 | 0.6 | 100 |
| 1920-21 | 5. 4 | 36.8 | 44.6 | 9. 0 | 4. 2 | 100 | 4.2 | 52.7 | 37.2 | 3.3 | 2.6 | 100 |
| 1921-22 | 1.4 | 17.8 | 59.1 | 17.9 | 3.8 | 100 | 1.8 | 37.7 | 55.9 | 3. 3 | 1.3 | 100 |
| 1922-23. | 1.5 | 28.3 | 57.3 | 10.1 | 2.8 | 100 | 1.5 | 38.9 | 53.4 | 5.2 | 1.0 | 100 |
| Class. | Total inspections by grade and class, August 1, 1922, to July 31, 1923. |  |  |  |  |  |  |  |  |  |  |  |
| White | 1.3 | 27.9 | 58.1 | 10.2 | 2. 5 | 100 | 1.4 | 38.6 | 53.9 | 5. 3 | 0.8 | 100 |
| Red. | 9.1 | 42.6 | 35.4 | 9. 5 | 3. 4 | 100 | 7.7 | 62.2 | 27.3 | 2.3 | 0.5 | 100 |
| Gray | 33.8 | 22.8 | 19.9 | 18. 4 | 5.1 | 100 | 33.3 | 66.7 |  |  |  | 100 |
| Mixed | 5.1 | 32.4 | 21.1 | 5. 7 | 35.7 | 100 | 4.0 | 33.9 | 7.0 | 3.8 | 51.3 | 100 |

Grain Division.

Table 127.-Oats, including oatmeal: International trade, 1910-1923.

| Country. | Year ending July 31. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average, 1910-1914. |  | 1920-21 |  | 1921-22 |  | $\begin{aligned} & \text { 1922-23, } \\ & \text { reliminary. } \end{aligned}$ |  |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING countries. <br> Algeria | $\begin{array}{r} 1,000 \\ \text { bushels. } \\ 79 \\ 55 \\ 898 \\ 487 \end{array}$ | $\begin{array}{r} 1,000 \\ \text { bushels. } \\ 4,102 \\ 42,569 \\ 270 \\ 443 \\ 178 \\ 14,771 \\ 2,469 \end{array}$ | $\begin{array}{r} 1,000 \\ \text { bushels. } \\ 4,190 \\ 20 \\ 186 \\ 1 \end{array}$ | $\begin{gathered} \text { 1,000 } \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 286 \end{gathered}$ | 1,000 bushels. <br> 10, 123 | 1,000 bushels. 1.509 ${ }^{1} 509$ | 1,000 bushels. 2, 081 |
| Argentina ${ }^{2}$ |  |  |  | 28,425 |  |  |  |  |
| Australia ${ }^{3}$ |  |  |  | 1,205 | 25 | 428 |  |  |
| British India |  |  |  | 1, 51 | 1 | 37 |  | ${ }^{3} 67$ |
| Bulgaria.- |  |  |  | - ${ }^{2}$ | ${ }^{(5)} 354$ | - 20 | 3964 | ${ }^{3} 26,115$ |
| Chile ${ }^{\text {2 }}$ | $\stackrel{9}{2}$ |  | $\stackrel{31}{31}$ | 25, ${ }_{196}$ | ${ }^{3} 7$ | 1,832 |  |  |
| Finland. |  |  | 26 | 39 |  | 132 | ${ }^{3} 590$ | ${ }^{3} 421$ |
| Hungary | 1,420 | 12,416 |  | 509 | - 68 | 572 10 | 112 312,243 | 11,344 <br> $\mathbf{3 6}$ <br> 1 |
| Italy-: | 8,212 | 65 | 9, 018 | 2 | 4,688 33 | ${ }_{218}^{10}$ | ${ }^{3} 12,12{ }^{173}$ | 11,473 |
| Rumania- | ${ }^{-7}{ }^{-7}$ | -10,493 |  | 7, 310 |  | 12, 592 | ${ }^{(1)}{ }^{5}{ }^{5}$ | 20,800 |
| Russia. | 1,206 | 70,466 |  |  |  |  |  |  |
| Tunis.-.-- |  | 2, 875 | 70 | 1,472 | 2 | 3,403 | ${ }^{1} 61$ | 722 |
| Union of South | 366 | 434 | 389 | 114 | 183 | 283 | 173 | 143 |
| United States - | 5,184 | 8,312 | 3, 104 | 4, 1314 | 1,738 | 19,685 | ${ }^{3} 293$ | ${ }^{3} \mathbf{2 5 , 4 1 3}$ |
| Yugoslavia |  |  |  | 914 |  |  |  |  |
| PRINCIPAL IMPORTINGCOUNTRIES. |  |  |  |  |  |  |  |  |
| Austria.- | $\begin{aligned} & 2,295 \\ & 8,486 \\ & 626 \end{aligned}$ | 11452 | $\begin{array}{r} 521 \\ 7,293 \\ \hline 42 \end{array}$ | 1 |  | ()20 | $\begin{aligned} & 1 \\ & 3 \\ & 3 \\ & 8,656 \end{aligned}$ | 118233 |
| Belgium |  |  |  |  | 10, 205 |  |  |  |
| Czechoslovakia----------- |  |  | 280226 | 559 | 1, 207 | ${ }^{(0)} 10$ | 1538 | --1195 |
| Denmark. | $\begin{array}{r} 4,687 \\ 29,972 \\ 36,977 \end{array}$ | $\begin{array}{r} 152 \\ 115 \\ 33,744 \end{array}$ |  | 94 | 765 | 148 | ${ }^{3} 1,048$ |  |
| France.. |  |  | $\begin{array}{r} 5,828 \\ 104 \end{array}$ | 8,99170 | $\begin{array}{r} 26,317 \\ 7,269 \end{array}$ | 656 564 | ${ }^{8} 17,599$ | 81,0318117 |
| Germany |  |  |  |  |  | 564 | ${ }^{8} 7,126$ |  |
| Greece |  |  | $\begin{array}{r} 413 \\ 2 \\ 2,821 \\ 290 \end{array}$ | $\begin{array}{r} (5) \\ 26 \\ 405 \\ 182 \end{array}$ | 136 3 |  | $\begin{array}{r} 131 \\ 35,191 \end{array}$ | -------- |
| Japan-.-.-.- | $\begin{array}{r} 5 \\ 38,862 \\ 8497 \end{array}$ | $\begin{array}{r} 42 \\ 30,771 \\ 8727 \end{array}$ |  |  | 4,485 | -611 |  |  |
| Netherlands |  |  |  |  | ${ }^{4} 981$ | 3 | ${ }^{3} 588$ | ${ }^{3} 20$ |
| Poland |  |  |  |  |  | 14 | 143 | 18 |
| Sweden- | $\begin{array}{r} 6,468 \\ 12,464 \\ 63,624 \end{array}$ | $\begin{array}{r} 1,899 \\ 13 \end{array}$ | $\begin{array}{r} 7,525 \\ 2,419 \\ 30,230 \end{array}$ | $\begin{array}{r} 191 \\ 66 \\ 441 \end{array}$ | $\begin{array}{r} 2,169 \\ 7,917 \\ 30,777 \end{array}$ | $\begin{array}{r} 3,851 \\ 88 \\ 882 \end{array}$ | $\begin{array}{r} 31,436 \\ \begin{array}{r} 3 \\ 0,541 \\ 3 \\ 36,610 \end{array} \end{array}$ | $\begin{array}{r} 31,763 \\ 11 \\ 8339 \\ 8 \end{array}$ |
| Switzerland |  |  |  |  |  |  |  |  |
| United Kingdom. |  |  |  |  |  |  |  |  |
| Total countries reported.--- | 222, 036 | 236, 392 | 70,038 | 81, 701 | 101, 553 | 114, 551 | 106, 520 | 102, 750 |

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1922, except figures with footnotes $\left(^{(2)}\right.$ and ${ }^{(3)}$, which are compiled from official sources.
${ }^{1}$ Ten months ending May 31.
2 Calendar years, 1909-1922.
3 Years ending June 30.
4 Average for the seasons 1911-12 to 1913-14
${ }^{5}$ Less than 500 bushels.
${ }^{0} 1913$ only.
${ }^{7}$ Eight months, Aug.-Dec. 1920, and May-July, 1921.
${ }^{8}$ Season 1913-1914.
e Eleven months.

Table 128.-Oats, including aatmaead: Net imports and net experts, principal countries 1907-1993.

| Year ending July 31. | Imports. |  |  |  |  |  | Exports. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Belgium. | France. | Italy. | Neth- er-- lands. | Swit-zerland. | United Kingdom. | $\begin{array}{\|c\|} \text { Ruma- } \\ \text { nia. } \end{array}$ | $\begin{aligned} & \text { Rus- } \\ & \text { sia. } \end{aligned}$ | $\begin{gathered} \text { Cana- } \\ \text { da. } \end{gathered}$ | United States. ${ }^{1}$ | Alger- <br> ia. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bushels | bushels | bushels | bushels | bushels | bushels | bushels | bushels | buishels | bushels | bushels |
| 1906-7 | 1,856 | 27, 792 | 3,816 | 1,758 | 9,206 | 43,437 | ${ }^{(2)}$ | 34,772 | 11, 340 | 6, 295 | 3, 660 |
| 1907-8 | 3, 172 | 7,631 | 4,216 | 3, 457 | 9, 661 | cid, 879 | ${ }^{2}$ ) | 28, 590 | 4, 574 | 2,135 | 3,942 |
| 18108-9 | 3,529 | 16, 602 | 5, 124 | 3,955 | 9, 542 | 55, 746 | ${ }^{(2)}$ | 59, 617 | 7, 381 | ${ }^{3} 4,358$ | 4,343 |
| 1009-10 | 6, 930 | 18, 470 | 6,559 | 9, 829 | 12, 354 | 74.411 | ${ }^{(2)}$ | 80,324 | 8, 929 | 1,514 | 3, 238 |
| 1910-11 | 8, 433 | 40, 841 | 11, 239 | 4,951 | 12,795 | 61,771 | ${ }^{(2)}$ | 107, 592 | 8,063 | 3,739 | 5,179 |
| 1911-12 | 6, 186 | 18,674 | 6, 844 | 8,283 | 11, 824 | 68, 288 | 11, 891 | -58, 575 | 11, 755 | 55 | 4,637 |
| 1912-13 | 1.2, 426 | 29, 957 | 11, 711 | 8,998 | 13, 387 | 78,432 | 1,101 | 53, 772 | 15, 524 | 35, 732 | 1,691 |
| 1813-14 | 7, 7.78 | 41,249 | 4,371 | 8,593 | 11, 963 | 59,000 | 18, 271 | 37, 034 | 38, 537 | ${ }^{3} 19,525$ | 5,377 |
| 1914-15 | ${ }^{(2)}$ | 32, 164 | 15, 150 | 1,868 | 7, 592 | 57,772 | 374 | 378 | 12, 265 | 99, 979 | 3,296 |
| 1915-16 | $\left.{ }^{2}\right)$ | 58, 016 | 34, 203 | 4,412 | 5,397 | 49,960 | 6,437 | ${ }^{3} 37$ | 57, 159 | '98, 295 | 6,371 |
| 1916-1 | ${ }^{(2)}$ | 74, 699 | ${ }^{1} 30,275$ | ${ }^{1} 5,563$ | ${ }^{1} 5,682$ | 137,309 | (2) | ${ }^{(2)}$ | 157,985 | 94, 344 | 1 7, 5772 |
| 1917-18 | (2) | 33, 898 | 122,187 | 1167 | 1 2, 402 | 150,280 | ${ }^{2}$ ) | ${ }^{(2)}$ | 145,238 | 122, 500 | ${ }^{1} 5,596$ |
| 1918-18 | 1,954 | 35, 843 | ${ }^{1} 20.940$ | 1893 | 12,387 | 142, 666 | ${ }^{3} 210$ | ${ }^{2}$ | ${ }^{1} 15,729$ | 108, 453 | 1.7,014 |
| 1910-29 | 4,549 | 29,923 | 1,086 | 2,268 | 6, 564 | 22, 569 | ${ }^{3} 123$ | ${ }^{(2)}$ | 14, 673 | 37, 392 | 4,572 |
| 1920-21 | 7, 289 | 53,164 | 9, 016 | 2,417 | 2,414 | 29, 789 | 7, 306 | ${ }^{(2)}$ | 24, 619 | 5,595 | ${ }^{3} 3.418$ |
| 1921-22 | 10, 185 | 25, 661 | 4,679 | 3, 874 | 7,916 | 29,895 | 12,592 | $\left.{ }^{2}\right)$ | 31, 190 | 19,503 | 9,837 |
| 1922-23 | 18,538 | 16, 567 | 112,236 | ${ }^{1} 4,508$ | 4 9,540 | ${ }^{136,271}$ | 20,800 | $\left.{ }^{2}\right)$ | ${ }^{1} 25,151$ | 25, 120 | 41, 573 |

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statisties 1915-16, 1922, and official sources.
${ }^{1}$ Year ending June 30.
4 Ten months ending May 31.
${ }^{2}$ Not available.
${ }^{3}$ Net import.
5 Net export.

Table 129.-Oats: Farm price per bushel, 1st of month, Urited States, 1908-1828.


Division of Crop and Livestock Estimates.

Table 130.-Oats: Farm price per bushel, December 1, calendar years, 1908-1923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 |  | 1912 | 9113 | $\begin{gathered} \text { Av. } \\ 1909 \\ 1913 . \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{array}{\|c\|} \hline \text { Av. } \\ 1914- \\ 1920 . \end{array}$ | 1021 | 1922 | 1923 | $\begin{aligned} & \text { Value } \\ & \text { per } \\ & \text { acre, } \\ & 1923.1 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Dolls. |
| Maine | 60 | 58 | 48 | 54 | 51 | 55 | 53 | 57 | 45 | 67. | 85 | 90 | 92 | 85 | 74 | 55 | 47 | 56 | 17. 86 |
| New Hampshire | 59 | 64 | 51 | 61 | 48 | 56 | 56 | 58 | 54 | 69 | 84 | 87 | 85 | 75 | 73 | 60 | 60 | 64 | 22.80 |
| Vermont-- | 62 | 50 | 50 | 59 | 48 | 52 | 52 | 55 | 53 | 65 | 85 | 90 | 90 | 75 | 73 | 59 | 56 | 63 | 19. 04 |
| Massachusetts.- | 62 | 58 | 50 | 58 | 47 | 54 | 53 | 56 | 51 | 66 | 81 | 91 | 90 | 80 | 74 | 59 | 63 | 63 | 21. 42 |
| Rhode Island.-- | 64 | 53 | 48 | 58 | 45 | 50 | 51 | 58 | 50 | 68 | 75 | 90 | 95 | 80 | 74 | 60 | 60 | 60 | 18. 60 |
| Connecticut | 58 | 53 | 44 | 56 | 49 | 55 | 51 | 55 | 55 | 69 | 79 | 90 | 88 | 75 | 73 | 60 | 65 | 52 | 18. 20 |
| New York | 56 | 49 | 42 | 51 | 42 | 47 | 46 | 51 | 45 | 62 | 75 | 84 | 83 | 67 | 67 | 47 | 51 | 55 | 15. 30 |
| New Jersey | 55 | 50 | 44 | 50 | 44 | 47 | 47 | 54 | 48 | 61 | 70 | 79 | 80 | 75 | 67 | 45 | 55 | 55 | 17.05 |
| Pennsylvani | 55 | 50 | 41 | 50 | 41 | 46 | 46 | 51 | 44 | 57 | 73 | 80 | 80 | 66 | 64 | 45 | 48 | 52 | 16. 32 |
| Delaware | 54 | 48 | 43 | 47 | 45 | 51 | 47 | 50 | 51 | 62 | 78 | 87 | 90 | 70 | 70 | 46 | 57 | 60 | 13.11 |
| Marylan | 53 | 49 | 46 | 49 | 45 | 48 | 47 | 52 | 49 | 61 | 75 | 86 | 82 | 70 | 68 | 45 | 51 | 54 | 15. 30 |
| Virginia | 55 | 54 | 49 | 54 | 52 | 52 | 52 | 58 | 55 | 63 | 84 | 100 | 100 | 81 | 77 | 56 | 59 | 63 | 11. 80 |
| West Virginia | 56 | 54 | 50 | 56 | 47 | 51 | 52 | 55 | 51 | 64 | 79 | 91 | 91 | 79 | 73 | 52 | 58 | 63 | 13. 34 |
| North Carolina- | 63 | 66 | 60 | 63 | 62 | 61 | 62 | 65 | 62 | 74 | 93 | 108 | 106 | 96 | 86 | 70 | 67 | 74 | 14. 07 |
| South Carolina- | 75 | 72 | 65 | 72 | 66 | 71 | 69 | 71 | 67 | 80 | 100 | 118 | 110 | 103 | 93 | 73 | 76 | 82 | 18. 24 |
| Georgia | 72 | 71 | 64 | 70 | 65 | 68 | 68 | 70 | 66 | 79 | 117 | 119 | 115 | 108 | 96 | 64 | 75 | 85 | 13. 50 |
| Florida | 72 | 75 | 65 | 75 | 70 | 70 | 71 | 70 | 70 | 71 | 98 | 115 | 120 | 60 | 86 | 65 | 77 | 80 | 8.84 |
| Ohio | 49 | 41 | 35 | 45 | 33 | 40 | 39 | 45 | 36 | 53 | 64 | 70 | 72 | 50 | 56 | 33 | 45 | 45 | 12. 15 |
| Indian | 47 | 39 | 31 | 43 | 30 | 38 | 36 | 43 | 34 | 51 | 63 | 67 | 69 | 46 | 53 | 29 | 40 | 39 | 8.40 |
| Illinois | 47 | 38. | 30 | 42 | 30 | 38 | 36 | 44 | 35 | 51 | 65 | 67 | 70 | 43 | 54 | 29 | 39 | 39 | 11.12 |
| Michigan | 49 | 41 | 35 | 46 | 33 | 39 | 39 | 45 | 35 | 53 | 64 | 69 | 71 | 48 | 55 | 36 | 41 | 43 | 13.94 |
| Wisconsin | 47 | 39 | 34 | 45 | 32 | 37 | 37 | 43 | 36 | 51 | 66 | 67 | 70 | 49 | 55 | 33 | 39 | 43 | 16. 07 |
| Minneso | 43 | 35 | 32 | 40 | 26 | 32 | 33 | 40 | 32 | 47 | 63 | 63 | 64 | 36 | 49 | 23 | 32 | 34 | 11. 36 |
| Iow | 42 | 35 | 27 | 41 | 27 | 34 | 33 | 41 | 32 | 48 | 63 | 64 | 64 | 36 | 50 | 23 | 35 | 37 | 12. 98 |
| Missouri | 45 | 43 | 32 | 45 | 35 | 45 | 40 | 44 | 38 | 53 | 61 | 70 | 71 | 49 | 55 | 30 | 44 | 45 | 7.04 |
| North Dakota-- | 42 | 33 | 37 | 41 | 22 | 30 | 33 | 37 | 27 | 44 | 62 | 61 | 67 | 35 | 48 | 21 | 26 | 28 | 8. 68 |
| South Dakot | 41 | 34 | 30 | 43 | 25 | 34 | 33 | 38 | 28 | 46 | 61 | 59 | 63 | 33 | 47 | 20 | 32 | 31 | 9.92 |
| Nebrask | 41 | 35 | 28. | 43 | 30 | 38 | 35 | 40 | 31 | 47 | 61 | 65 | 65 | 37 | 49 | 21 | 34 | 34 | 7. 92 |
| Kansas | 45 | 43 | 34 | 45 | 35 | 45 | 40 | 42 | 37 | 55 | 64 | 73 | 73 | 39 | 55 | 27 | 41 | 43 | 7.58 |
| Kentucky | 54 | 51 | 45 | 50 | 44 | 52 | 48 | 53 | 48 | 60 | 76 | 90 | 91 | 73 | 70 | 48 | 56 | 56 | 10.25 |
| Tennesse | 53 | 53 | 46 | 50 | 47 | 53 | 50 | 53 | 50 | 62 | 83 | 93 | 93 | 78 | 73 | 48 | 53 | 60 | 9. 54 |
| Alabama | 66 | 70 | 60 | 66 | 62 | 69 | 65 | 69 | 63 | 75 | 102 | 107 | 105 | 88 | 87 | 65 | 75 | 80 | 15. 00 |
| Mississipp | 67 | 68 | 55 | 65 | 60 | 63 | 62 | 65 | 60 | 74 | 94 | 107 | 105 | 87 | 85 | 64 | 66 | 76 | 12. 54 |
| Louisana | 64 | 62 | 49 | 65 | 51 | 57 | 57 | 63 | 55 | 68 | 94 | 99 | 100 | 82 | 80 | 70 | 69 | 68 | 15. 39 |
| Texas | 52 | 62 | 47 | 54 | 43 | 51 | 51 | 48 | 42 | 61 | 82 | 92 | 64 | 66 | 65 | 39 | 55 | 57 | 12.65 |
| Oklahom | 45 | 46 | 37 | 48 | 34 | 45 | 42 | 41 | 35 | 57 | 75 | 84 | 70 | 44 | 58 | 27 | 45 | 52 | 9. 00 |
| Arkansa | 53 | 59 | 46 | 53 | 50 | 53 | 52 | 53 | 52 | 68 | 75 | 88 | 88 | 78 | 72 | 45 | 57 | 62 | 14. 25 |
| Montana | 49 | 42 | 46 | 40 | 35 | 32 | 39 | 39 | 32 | 47 | 81 | 80 | 91 | 51 | 60 | 34 | 37 | 38 | 11.84 |
| W yoming | 50 | 50 | 50 | 50 | 37 | 40 | 45 | 48 | 43 | 60 | 80 | 80 | 112 | 62 | 69 | 38 | 40 | 47 | 12. 40 |
| Colorado. | 54 | 53 | 46 | 48 | 38 | 44 | 46 | 45 | 41 | 60 | 76 | 80 | 90 | 60 | 65 | 33 | 45 | 46 | 11. 25 |
| New Mex | 64 | 66 | 62 | 57 | 45 | 60 | 58 | 45 | 50 | 67 | 84 | 89 | 95 | 80 | 73 | 48 | 58 | 70 | 9.05 |
| Arizona | 74 | 79 | 90 | 60 | 70 | 50 | 70 | 70 | 64 | 80 | 96 | 120 | 100 | 96 | 89 | 65 | 68 | 80 | 21.08 |
| Utah | 48 | 52 | 48 | 47 | 49 | 40 | 47 | 43 | 45 | 61 | 85 | 97 | 98 | 80 | 73 | 37 | 47 | 58 | 18. 33 |
| Nevada | 65 | 59 | 63 | 62 | 52 | 65 | 60 | 55 | 55 | 75 | 96 | 118 | 100 | 120 | 88 | 75 | 75 | 81 | 27.90 |
| Idaho | 47 | 50 | 42 | 40 | 35 | 32 | 40 | 38 | 34 | 54 | 77 | 94 | 98 | 68 | 66 | 32 | 46 | 44 | 17. 48 |
| Washing | 48 | 48 | 48 | 45 | 40 | 40 | 44 | 42 | 37 | 51 | 81 | 98 | 93 | 72 | 68 | 42 | 58 | 50 | 22. 74 |
| Oregon | 47 | 52 | 47 | 44 | 41 | 38 | 44 | 45 | 37 | 49 | 75 | 96 | 92 | 65 | 66 | 38 | 57 | 45 | 14. 25 |
| California | 67 | 66 | 50 | 59 | 55 | 60 | 58 | 53 | 50 | 72 | 85 | 94 | 96 | 80 | 76 | 51 | 64 | 60 | 22.40 |
| United States_ |  |  | 34.4 | 45.0 | 31.9 | 39.2 |  | 43. 8 | 36.1 | 52.4 | 66.6 | 70.9 | 71.5 | 46.0 |  | 30.2 | 39. 4 | 41.5 | 11.74 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based upon farm price Dec. 1.

Table 131.-Oats, No. 3 white: Weighted average price per bushel of reported cash sales, 1899-1923.

CHICAGO.

| $\begin{aligned} & \text { Year beginning } \\ & \text { Aug. 1. } \end{aligned}$ | Aug. | Scpt. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1899-1900 | \$0. 22 | \$0. 23 | \$0. 25 | \$0. 25 | \$0. 24 | \$0. 24 | \$0.25 | \$0. 26 | \$0. 26 | \$0. 25 | \$0. 25 | \$0.25 | \$0.24 |
| 1900-1901 | . 23 | . 24 | . 24 | . 25 | . 25 | . 26 | . 27 | . 27 | . 28 | . 29 | . 29 | . 35 | . 26 |
| 1901-2 | . 37 | . 37 | . 38 | . 42 | . 47 | . 47 | . 44 | . 44 | . 44 | . 44 | . 48 | . 49 | . 43 |
| 1902-3 | . 35 | . 33 | . 32 | . 31 | . 32 | . 34 | . 35 | . 34 | . 34 | . 35 | . 39 | . 38 | . 34 |
| 1903-4 | . 35 | . 37 | . 36 | . 36 | . 36 | . 39 | . 43 | . 40 | . 41 | . 42 | . 42 | . 40 | . 38 |
| 1904-5. | . 34 | . 32 | . 30 | . 31 | . 30 | . 31 | .31 | . 32 | . 31 | . 32 | . 32 | . 32 | . 32 |
| 1905 | . 27 | . 28 | . 29 | . 31 | . 31 | . 31 | . 30 | . 30 | . 32 | . 34 | . 38 | . 37 | . 31 |
| 1906 | . 31 | . 32 | . 33 | . 33 | . 35 | . 36 | . 40 | . 42 | . 42 | . 45 | . 45 | . 45 | . 37 |
| 1907 | . 46 | . 49 | . 49 | . 47 | . 50 | . 50 | . 51 | . 52 | . 52 | . 53 | . 51 | . 55 | 50 |
| 1908-9 | . 49 | . 49 | . 48 | . 49 | . 50 | . 50 | . 54 | . 54 | . 55 | . 59 | . 56 | . 48 | . 52 |
| 1909-10 | . 38 | . 39 | . 40 | . 40 | . 44 | . 48 | . 47 | . 44 | . 42 | . 40 | . 38 | . 41 | . 42 |
| 1910-11 | . 35 | . 34 | . 32 | . 32 | . 32 | . 33 | . 31 | . 31 | . 32 | . 34 | . 39 | . 44 | . 33 |
| 1911-12 | . 41 | . 45 | . 47 | . 48 | . 47 | . 50 | . 52 | . 53 | . 57 | . 55 | . 53 | . 49 | . 50 |
| 1912-13 | . 33 | . 33 | . 33 | . 32 | . 33 | . 33 | . 33 | . 32 | . 35 | . 38 | . 40 | . 40 | . 35 |
| 1913-14. | . 42 | . 43 | . 40 | . 40 | . 40 | . 39 | . 39 | . 39 | . 39 | . 40 | . 40 | . 37 | . 40 |
| Av. 1909-1913. | . 38 | . 39 | . 38 | . 38 | . 39 | . 41 | . 40 | . 40 | . 41 | . 41 | 42 | . 42 | . 40 |
| 1914-1915 | . 42 | . 48 | . 46 | . 48 | . 49 | . 53 | 58 | . 57 | . 57 | . 54 | . 49 | . 53 | 50 |
| 1915-16 | . 41 | . 34 | . 36 | . 36 | . 42 | . 48 | . 45 | . 42 | . 44 | . 43 | . 39 | . 41 | . 41 |
| 1916-17 | . 44 | . 46 | . 49 | . 55 | . 53 | . 57 | . 56 | . 61 | . 69 | . 70 | - 67 | . 78 | . 54 |
| 1917-18. | . 61 | . 60 | . 60 | . 65 | . 77 | . 82 | . 89 | . 93 | . 89 | . 77 | . 77 | . 77 | . 71 |
| 1918-19 | . 70 | . 72 | . 69 | . 72 | . 72 | . 65 | . 58 | . 63 | . 70 | . 69 | . 70 | . 78 | . 70 |
| 1919-20 | . 73 | . 68 | . 70 | . 73 | . 82 | . 86 | . 86 | . 93 | 1. 01 | 1.09 | 1.13 | . 91 | . 80 |
| 1920-21 | . 70 | . 62 | . 54 | . 51 | . 48 | . 44 | . 42 | . 42 | . 36 | . 39 | . 37 | . 34 | . 51 |
| Av. 1914-1920 | . 57 | . 56 | . 55 | . 57 | . 60 | . 62 | 62 | . 64 | . 67 | . 66 | . 65 | . 65 | . 60 |
| 1921-22. | . 32 | . 35 | . 31 | . 33 | . 34 | . 34 | . 36 | . 36 | . 38 | . 38 | . 37 | . 36 | .35 |
| 1922-23. | . 32 | . 38 | . 42 | . 43 | . 44 | . 43 | 44 | . 45 | . 46 | . 45 | . 43 | . 40 | . 41 |
| 1923-24. | . 38 | . 40 | . 43 | . 43 | . 44 |  |  |  |  |  |  |  |  |

Compiled from the Chicago Daily Trade Bulletin.
KANSAS CITY.

| 1899-1900 | \$0. 22 | \$0. 22 | \$0. 23 | \$0. 24 | \$0. 24 | \$0. 24 | \$0. 24 | \$0. 24 | \$0. 26 | \$0. 24 | \$0. 24 | \$0. 25 | \$0.24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900-1 1 | . 22 | . 23 | . 24 | . 24 | . 24 | . 25 | . 26 | . 27 | . 29 | . 30 | . 29 | . 38 | . 26 |
| 1901-2 ${ }^{1}$ | . 39 | . 38 | . 38 | . 43 | . 47 | . 47 | . 45 | . 45 | . 45 | . 44 | . 45 | . 47 | . 43 |
| 1902-3. | . 32 | . 32 | . 32 | . 31 | . 32 | . 35 | . 34 | . 34 | . 33 | . 34 | . 44 | . 37 | . 34 |
| 1903-4 | . 34 | . 38 | . 35 | . 34 | . 35 | . 37 | . 41 | . 39 | . 40 | . 42 | . 40 | . 40 | . 37 |
| 1904-5. | . 35 | . 32 | . 30 | . 30 | . 31 | . 31 | . 32 | . 32 | . 30 | . 32 | . 31 | . 33 | . 32 |
| 1905 | . 26 | . 27 | . 28 | . 30 | . 31 | . 31 | . 31 | . 31 | . 32 | . 34 | . 37 | . 37 | . 31 |
| 1906-7 | . 30 | . 32 | . 33 | . 33 | . 34 | . 36 | . 40 | . 41 | . 42 | . 45 | . 45 | . 45 | . 38 |
| 1907-8 | . 48 | . 48 | . 48 | . 44 | . 49 | . 49 | . 49 | . 51 | . 49 | . 51 | . 51 | . 50 | . 49 |
| 1908-9 | . 48 | . 48 | . 47 | . 48 | . 49 | . 50 | . 51 | . 53 | . 54 | . 56 | . 55 | . 50 | . 51 |
| 1909-10. | . 41 | . 41 | . 40 | . 39 | . 44 | . 48 | . 46 | . 45 | . 42 | . 40 | . 35 | . 40 | . 42 |
| 1910-11 | . 34 | . 33 | . 32 | . 32 | . 32 | . 32 | . 31 | . 30 | . 32 | . 32 | . 39 | . 43 | . 34 |
| 1911-12 | . 41 | . 46 | . 49 | . 48 | . 48 | . 50 | . 53 | . 53 | . 57 | . 54 | . 52 | . 44 | . 50 |
| 1912-13 | . 34 | . 33 | . 32 | . 34 | . 33 | . 38 | . 39 | . 36 | . 48 | . 40 | . 40 | . 38 | . 37 |
| 1913-14- | . 40 | . 47 | . 45 | . 47 | . 47 | . 34 | . 33 | . 33 | . 35 | . 36 | . 39 | . 37 | . 40 |
| Av. 1909-1913 | . 38 | . 40 | . 40 | . 40 | . 41 | . 40 | . 40 | . 39 | . 43 | . 40 | . 41 | . 40 | . 41 |
| 1914-15 | . 47 | . 47 | . 45 | . 47 | . 48 | . 53 | . 56 | . 57 | . 55 | . 54 | . 46 | . 51 | . 54 |
| 1915-16 | . 38 | . 35 | . 36 | . 39 | . 42 | . 44 | . 47 | . 43 | . 44 | . 43 | . 39 | . 45 | . 40 |
| 1916-17 | . 45 | . 46 | . 48 | . 55 | . 54 | . 56 | . 58 | . 63 | . 71 | . 71 | . 67 | . 75 | . 58 |
| 1917-18 | . 59 | . 60 | . 60 | . 67 | . 76 | . 83 | . 90 | . 91 | . 91 | . 77 | . 72 | . 74 | . 72 |
| 1918-19 | . 74 | . 72 | . 70 | . 69 | . 72 | . 67 | . 61 | . 66 | . 71 | . 71 | . 70 | . 69 | . 66 |
| 1919-20 | . 73 | . 66 | . 69 | . 74 | . 81 | . 87 | . 89 | . 92 | 1. 06 | 1. 12 | 1. 11 | . 91 | . 83 |
| 1920-21 | . 72 | . 63 | . 55 | . 51 | . 49 | . 46 | . 43 | . 43 | . 37 | . 40 | . 37 | . 35 | . 50 |
| Av. 1914-1920. | . 58 | . 56 | . 55 | . 57 | . 60 | . 62 | . 63 | . 65 | . 68 | . 67 | . 63 | . 63 | . 60 |
| 1921-22 | . 32 | . 35 | . 32 | . 32 | . 33 | . 36 | . 37 | . 37 | . 37 | . 39 | . 37 | . 36 | . 34 |
| 1922-23 | . 33 | . 38 | . 42 | . 44 | . 45 | . 44 | . 44 | .46 | . 47 | . 45 | 43 | . 40 | 43 |
| 1923-24 | . 40 | . 40 | . 43 | . 42 | . 44 |  |  |  |  |  |  |  |  |

Compiled from Kansas City Daily Price Current.
Division of Statistical and Historical Research.
${ }^{1} 1901$ compiled from Kansas City Star.

Table 131A.-Oats, No. 3 white: Weighted average price per bushel of reported cash sales, 1909-1923.

MINNEAPOLIS.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | $\begin{aligned} & \text { Weight } \\ & \text { ed } \\ & \text { average. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$0.36 | \$0. 37 | \$0. 36 | \$0. 38 | \$0.41 | \$0. 46 | \$0. 45 | \$0.43 | \$0. 40 | \$0. 39 | \$0.36 | \$0. 42 | \$0. 39 |
| 1910-11 | . 35 | . 36 | . 30 | . 31 | . 30 | . 31 | . 29 | . 29 | . 32 | . 33 | . 37 | . 42 | . 33 |
| 1911-12 | 41 | . 44 | . 46 | . 46 | . 46 | . 48 | . 50 | . 52 | . 54 | . 54 | . 50 | . 47 | . 47 |
| 1912-13 | . 34 | . 31 | . 31 | . 29 | . 30 | . 31 | . 31 | . 30 | . 32 | . 35 | . 38 | . 38 | . 33 |
| 1913-14 | . 40 | . 40 | . 37 | . 37 | . 37 | . 36 | . 36 | . 37 | . 36 | . 38 | . 38 | . 35 | . 38 |
| Av. 1909-1913 | . 37 | . 38 | . 36 | . 36 | . 37 | . 38 | . 38 | . 38 | . 39 | . 40 | . 40 | . 41 | . 38 |
| 1914-15 | . 42 | . 46 | . 44 | . 46 | . 46 | . 52 | . 56 | . 56 | . 55 | . 52 | . 46 | . 50 | . 48 |
| 1915-16 | . 37 | . 33 | . 34 | . 35 | . 40 | . 46 | . 45 | . 41 | . 42 | . 42 | . 38 | . 38 | . 38 |
| 1916-17 | . 44 | . 44 | . 47 | . 53 | . 49 | . 55 | . 56 | . 60 | . 67 | . 69 | . 66 | . 75 | . 52 |
| 1917-18 | . 55 | . 58 | . 58. | . 62 | . 76 | . 81 | . 88 | . 92 | . 88 | . 74 | . 75 | . 74 | . 71 |
| 1918-19 | . 68 | . 69 | . 65 | . 69 | . 69 | . 64 | . 56 | . 60 | . 68 | . 66 | . 66 | . 74 | . 66 |
| 1919-20 | . 70 | . 65 | . 67 | . 69 | . 80 | . 83 | . 82 | . 89 | 1.08 | 1.05 | 1.15 | . 94 | . 80 |
| 1920-21. | . 66 | . 58 | . 51 | . 47 | . 44 | . 41 | . 39 | . 39 | . 33 | . 36 | . 34 | . 34 | . 48 |
| Av. 1914-1920 | . 55 | . 53 | . 52 | . 54 | . 58 | . 60 | . 60 | . 62 | . 66 | . 63 | 63 | . 63 | . 58 |
| 1921-22. | . 31 | . 33 | . 28 | . 29 | . 30 | . 32 | . 35 | . 34 | . 35 | . 36 | . 33 | . 32 | . 32 |
| 1922-23. | . 29 | . 33 | . 38 | . 39 | . 41 | . 40 | . 40 | . 41 | . 42 | . 41 | . 39 | . 36 | . 36 |
| 1923-24 | . 35 | . 37 | . 40 | . 39 | . 40 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.
Table 132.-Oats, No. 3 white: Price per pound expressed as percentage of price per pound for No. 3 yellow corn, Chicago, 1909-1923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr | May. | June. | July. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | $P$. ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. |
| 1909-10 | 95 | 99 | 119 | 119 | 130 | 131 | 131 | 126 | 129 | 117 | 113 | 116 | 119 |
| 1910-11 | 96 | 103 | 112 | 114 | 124 | 128 | 121 | 121 | 112 | 110 | 124 | 122 | 116 |
| 1911-12 | 110 | 118 | 113 | 124 | 135 | 141 | 142 | 136 | 128 | 122 | 124 | 126 | 127 |
| 1912-13 | 73 | 78 | 89 | 108 | 126 | 126 | 120 | 114 | 111 | 117 | 117 | 113 | 108 |
| 1913-14 | 99 | 100 | 100 | 97 | 106 | 110 | 110 | 107 | 102 | 100 | 97 | 91 | 102 |
| Av. 1909-1913. | 95 | 100 | 107 | 112 | 124 | 127 | 125 | 121 | 116 | 113 | 115 | 114 | 114 |
| 1914-15 | 90 | 106 | 110 | 125 | 134 | 131 | 137 | 138 | 133 | 123 | 116 | 119 | 122 |
| 1915-16 | 89 | 80 | 97 | 100 | 106 | 114 | 106 | 101 | 101 | 100 | 92 | 89 | 98 |
| 1916-17 | 91 | 94 | 89 | 98 | 101 | 102 | 98 | 98 | 86 | 77 | 69 | 69 | 89 |
| 1917-18 | 52 | 50 | 52 | 51 | 76 | 81 | 86 | 96 | 94 | 84 | 83 | 79 | 74 |
| 1918-19 | 71 | 80 | 86 | 95 | 87 | 80 | 80 | 72 | 76 | 69 | 69 | 71 | 78 |
| 1919-20 | 66 | 77 | 87 | 87 | 98 | 100 | 103 | 103 | 105 | 94 | 105 | 101 | 94 |
| 1920-21 | 78. | 83 | 104 | 116 | 114 | 118 | 117 | 119 | 111 | 114 | 103 | 99 | 106 |
| Av. 1914-1920. | 77 | 81 | 89 | 96 | 102 | 104 | 104 | 104 | 101 | 94 | 91 | 90 | 94 |
| 1921-22 | 100 | 116 | 121 | 123 | 127 | 124 | 115 | 111 | 115 | 107 | 106 | 98 | 114 |
| 1922-23 | 82 | 90 | 96 | 96 | 98 | 100 | 96 | 108 | 102 | 96 | 90 | 80 | 94 |
| 1923-24 | 76 | 79 | 72 | 92 | 98 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin.

## BARLEY.

Table 133.-Barley: Acreage, production, value, exports, etc., United States, 1869-1923.

| Calendaryear. | $\begin{gathered} \text { Acre- } \\ \text { age } \\ \text { hest- } \\ \text { vested. } \end{gathered}$ | $\begin{gathered} \text { Aver- } \\ \text { quge } \\ \text { yield } \\ \text { per } \\ \text { pere. } \end{gathered}$ | $\begin{aligned} & \text { Pro- } \\ & \text { Proc- } \\ & \text { dion. } \end{aligned}$ | $\begin{gathered} \text { Avver } \\ \text { ger } \\ \text { farm } \\ \text { price } \\ \text { per } \\ \text { bushel } \\ \text { Dec. } . \end{gathered}$ | $\begin{gathered} \text { Farm } \\ \text { value } \\ \text { Dee. } 1 . \end{gathered}$ | $\begin{gathered} \text { Value } \\ \text { per } \\ \text { acre. } \end{gathered}$ | Chicago, cash price per bushel, low maltiag to fancy. ${ }^{2}$ |  |  |  | $\begin{gathered} \text { Domestic } \\ \text { exports } \\ \text { escal year } \\ \text { esegnning } \\ \text { july } 1 . .^{3} \end{gathered}$ | $\begin{aligned} & \text { frrports, } \\ & \text { fisisg year } \\ & \text { beginning } \\ & \text { July } 1.3^{3} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Dece |  | $\begin{aligned} & \text { Following } \\ & \text { May. } \end{aligned}$ |  |  |  |
|  |  |  |  |  |  |  | Low. | High. | Low. | High. |  |  |
|  | ,000 |  |  |  | 1,000 | Iars |  |  |  |  |  |  |
| 869 |  | 27s. 9 | buzhels. | $C_{70, n i s,}$ | dollars. |  | Cts. | $\begin{gathered} \text { Cts. } \\ 85 . \end{gathered}$ | Cts. | $\begin{aligned} & \text { Cts. } \\ & 62 . \end{aligned}$ | Bushels. | Bushels. |
| 1870 | 109 | 23.7 | 20, 295 | 79.1 | 20, 792 | 18.75 | 68 | 80 | 72 | 95 | 340, 093 | 4, 85 |
| 1871 | 14 | 24.0 | 26, 718 | 75.8 | 20, 264 | 18. 19 | ${ }^{531}$ | 64 | 55 | 71 |  |  |
| 1872 |  | 19.2 | 26, 846 | 68.6 | 18, 416 | ${ }^{13.18}$ |  | 70 | 71 | 85 | 482, 410 | 4, 244, 751 |
| 1873 | 1,38 | 23.1 | 32, 044 | 86.7 | 27, 794 | 20.04 | 132 | 158 | 130 | 155 | 320, 399 | 4, 891, 189 |
| 1874 | 1,581 | ${ }_{20}^{20.6}$ | 32,552 | $\begin{aligned} & 86.0 \\ & 74.1 \\ & \hline 1 \end{aligned}$ | $\begin{gathered} 27,998 \\ 9728 \end{gathered}$ | 17.71 | ${ }_{81}^{120}$ | ${ }^{1292}$ | ${ }_{622}^{115}$ | ${ }_{7}^{137}$ | 91, 118 | $\begin{gathered} 6,255,033 \\ 10,255,857 \end{gathered}$ |
| ${ }_{1875}^{1875}$ | 1,799 | ${ }_{21}^{20.6}$ | - ${ }^{36,780}$ | $\begin{aligned} & 74.1 \\ & 63.0 \\ & 6.0 \end{aligned}$ | $\begin{aligned} & 27,368 \\ & 24,403 \end{aligned}$ |  | ${ }_{631}^{81}$ | ${ }_{68 \frac{1}{2}}^{88}$ | ${ }_{80}^{62 \%}$ | ${ }_{85}{ }^{72}$ | 1, 186, 129 | $10,285,957$ $6,702,965$ |
| 1877 | 1,669 | 21.4 | 35,638 | 6.5 | 22, 287 | 13. | ${ }^{561}$ |  | $46{ }^{\frac{1}{2}}$ | ${ }_{73}^{523}$ | 3, 921,501 | 6,764,228 |
| 1878 | 1,790 | 23.6 | 42, 246 | 57.9 | 24, 454 | 13.66 | 91 | 100 | 64 | 73 | 715, 336 | 5,720,979 |
| 1879 | 1,998 | 24 | 48, 721 | 59.4 | 28,939 | 14.48 | 86 | 92 | 75 | 80 | 1, 128, 923 | 7,135, 25 |
|  |  |  | 45, 165 |  | 30, | 16. 33 | 100 | 120 | 95 | 105 | 885, | 9,528, 61 |
| 1881 1882 | - | ${ }_{21}^{20}$ | 41, 4161 | 82.3 62.9 | 33,8 30 | 17. 51 | ${ }^{101}$ | $\begin{array}{r}107 \\ 82 \\ \hline\end{array}$ | 100 80 | $\begin{array}{r}100 \\ 80 \\ \hline\end{array}$ | 205,930 | 2, 182, 722 |
| 1883 | 2, 379 | 21.1 | 50, 136 | 58.7 | 22, 420 | 12. | 62 | 67 | 65 | 74 | 724, 955 | 8, 596,122 |
| 1884 | 2,609 | 23.5 | 61, 203 | 48.7 | 29, 779 | 11.41 | 53 | 58 | 65 | 65 | 629, 130 | 9, 986, 507 |
|  | 2, 729 | 21.4 | ${ }_{58,}^{58}$ | 56. 3 | 32, | 12. 04 | ${ }_{5}^{62}$ | ${ }_{54}^{65}$ | ${ }_{5}^{58}$ | ${ }_{5}^{60}$ | 252, 183 | 10, 197, 115 |
|  |  | ${ }^{22.4}$ | 59,428 | 53.6 | 31, 841 | 12.00 | 80 | 80 | 57 69 | 57 77 | 1,305, 300 | 10, 355, 594 |
| 1888 | 2,996 | 21.3 | 63, 884 | 59.0 | 37,672 | 12.57 |  |  |  |  | 1, 440,321 | 11, 368, 414 |
| 1889 | 3, 221 | 24. | 78 | 41.6 | 32, 5 | 10 | 58 | 58 |  |  | 1,40 | 11,332,543 |
|  |  | 21.4 |  |  |  |  |  |  |  |  |  |  |
| 1891 | 3,705 | 26. 1 | ${ }_{9}^{96}$ | 51.8 | 50,051 | 13.51 |  |  |  |  | 2, 800, 075 | 3, 146, 32 |
| 1892 |  |  | 92, 337 | 46 | 42, 790 | 10. 99 | ${ }_{5}^{65}$ | 67 54 | 65 55 | ${ }_{60}^{65}$ | 边 ${ }^{3,035,267}$ | 7910, 12 |
| 1893 | 3,855 | 21.7 | 83, 760 | 40.5 | 33, 922 | 8.80 | 52 | 54 | 55 | 60 | 5, 219, 405 | 791, 06 |
| 1894. | 4,0 | 19.5 | 78, 051 | 43.51 | 33, 924 | 8.47 | $53 \frac{1}{2}$ | $55 \frac{1}{2}$ | 51 | 52 | 1,563, 754 | 2,116 |
| 189 | 4 | 26.9 | 114, 732 | 32.0 | 35. 678 | 8. 60 | 33 | 40 | 25 | 35 | 7,680, 331 | 837 |
|  | 4, 1 | ${ }_{24}^{23.8}$ | :99, 394 | 30.0 <br> 35.2 | [3, ${ }_{3}^{23,814}$ | ${ }_{8}^{7} 15$ |  | ${ }_{42}^{37}$ | ${ }_{36}^{24,}$ | -35 | 20, 030,301 | 1,271,78 |
| ${ }_{1888}$ | 4, 4,238 | 23.5 | 193, 92 | ${ }^{35} 2$ | 39, ${ }^{303}$ | 9.21 | ${ }_{40}^{252}$ | ${ }_{50 \frac{1}{2}}^{42}$ | ${ }_{36}^{36}$ | ${ }_{42}$ | ${ }_{2} 2.267,40$ | 120,475 |
| 1899 | 4,470 | 26.1 | 116, 552 | 39.0 | 45, 479 | 10.17 | 35 | 45 | 36 | 44 | 23,661,66 | 189,757 |
|  | , 72 | 21.1 | 96, 041 | 45 | 38, 896 | ${ }^{8} 156$ |  |  | ${ }^{37}$ |  | 6, 6 , 2931 | 5) |
| 1901 | 4, 742 | 2 | 121, 78 | 45. 2 | 55,088 | 11. 61 |  |  | 64 | 72 | 8,714, | 57,40 |
|  | 5,126 | 29.1 | 149, | 45.5 | 67, 944 | 13. 25 | 36 <br> 42 | ${ }_{61} 71$ | 48 38 | 59 | -8,429, | 56, 46 |
| 1903 | 5,568 | 26.4 | 146, 8 | 45.4 | 66, 700 | 11. |  | $61 \frac{1}{2}$ | 38 | 59 | 10, 881, | 90, 78 |
| 1904 | 5,912 | 27. 4 | 162, 105 | . 6 | 67, 427 | 11.41 |  |  | 40 |  | 10,661, | 81,02 |
| 1909 | 6, ${ }^{6,250}$ | 27. | 170,089 192 | 39.4 41.6 | 66,959 80,069 | ${ }_{11.90}^{10.71}$ | ${ }_{44}^{37}$ | 53 56 | 42 66 | ${ }_{85}^{505}$ | 17, $8,238,842$ | 18, 38 |
| ${ }_{1987}^{1096}$ | 6,730 6 | 24. | 170, ${ }^{198}$ | 41.6 | 112, 685 | 16. 23. | 78 | 102 | 60 60 | 85 | 4, 349,078 | 199, 741 |
| 1898 | 7,294 |  | 184, 857 | 55.2 | 102,037 | 13.99 |  | $64 \frac{4}{2}$ | 66 | 75 | 6,580, 39 | 2,644 |
| M99 | ${ }^{7,695}$ | 24.4 | 187,973 | 54.8 | 102,947 | 13.37 | ${ }_{5}^{55}$ | 72 |  | ${ }^{88}$ | 4, 311, 566 |  |
| 1910 | 7,743 | 22.5 | 173, 832 | 57.8 | 100, 426 |  | 72 | ${ }^{90}$ | 75 | ${ }_{115}$ | 9,399, 34 |  |
| 1911 | 7, | 21. | 160, 240 | $\begin{array}{r}86.9 \\ 50 \\ \hline\end{array}$ | 139, 182 | 18.00 | 102 | ${ }^{130}$ | ${ }_{45}^{68}$ | ${ }_{1}^{132}$ | 1,585, 242 |  |
| $\begin{aligned} & 19122 \\ & 1913 \end{aligned}$ | 7, 7 7,990 | ${ }_{23.8}^{29}$ | 278, 189 | 53.7 | ${ }_{95}{ }^{1121}$ | 12.77 | 4 | 7 | 40 | 66 | 6, 644, 747 |  |
| $\begin{gathered} \text { Av. } 1909- \\ 1913 \end{gathered}$ | 7,620 | 24.3 | 184, 812 | 59.7 | 110, 249 | 14.47 | 64. | 89. | 57. | 89. | 7,895,521 |  |
| 1914 | 7,565 | 25.8 | 194, 953 | 54.3 | 105, 903 | 14.00 | 60 | 75 | 74 | 82 | 26, 754, 522 |  |
| 1915 | 7.148 | 32.0 | 228, 851 | 51.6 | 118, 172 | 16. 53 | ${ }_{6}^{62}$ | ${ }^{77}$ | 70 | 85 | 27, 473, 160 |  |
| 1916 | 8, ${ }^{7} .937$ | ${ }_{23,7}^{23.5}$ | 182, 317 | ${ }_{13} 81.7$ | ${ }^{160,646}$ |  | ${ }^{95}$ | 125 163 | 128 | 176 | 16, 1881,077 |  |
| 1918 | 9,740 | 26.3 | ${ }_{256,25}^{21,}$ | ${ }_{91.7} 7$ | 234, 942 | 24.12 | 88 | ${ }_{105}^{103}$ | 110 | 130 | 20, 555,78 |  |
| 1919 | 6,720 | 22.0 | 147, 608 | 120.6 | 178, 03 |  | 125 | 168 | 140 | 190 | 26, 671, 2 |  |
| 1920 | 7,600 | 24. | 189, 332 | 71.3 | 135, 883 | 17.77 | 50 | 98 | 56 | 75 | 20, 457, 19 |  |
| $\begin{gathered} A \nabla \cdot 1914- \\ 1920 \end{gathered}$ | 7,923 | 25. | 201, 577 | 83.2 | 167,655 | 21.16 | 86. | 115.9 | 7. | 28. | 23, 497, 200 |  |
| 21 | 7,4 | 20.9 | 154, 946 |  |  |  |  |  |  |  |  |  |
| 19234 |  | 24.9 | 182, 038 | 52.5 | 95, 560 | 13. 06 | 66 | 75 | 63 | 72 | 21, 910, 495 |  |
| 1923 | 7,903 |  | 198, 185 |  | 106, 955 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

[^165][^166]Table 134.-Barley: Acreage, production, and total farm value, by Siates, calendar years, 1921-1923.

| State. | Thousands oí acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
| Maine | 4 | 3 | 3 | 104 | 84 | 90 | 89 | 84 | 99 |
| New Hampshire | 1 | 1 | 1 | 23 | 28 | 26 | 25 | 27 | 22 |
| Vermont. | 9 | 9 | 9 | 225 | 261 | 261 | 180 | 253 | 248 |
| New York | 158 | 158 | 190 | 3,318 | 4,108 | 5,092 | 2, 057 | 3, 040 | 3, 819 |
| Penmsylvania | 13 | 12 | 12 | 280 | 306 | 269 | 174 | 198 | 194 |
| Maryland | 4 | 4 | 4 | 120 | 128 | 132 | 80 | 96 | 106 |
| Virginia. | 9 | 9 | 10 | 207 | 248 | 270 | 149 | 198 | 216 |
| Ohio | 97 | 73 | 74 | 2,522 | 1,424 | 1,998 | 1,286 | 926 | 1,259 |
| Indiana | 65 | 30 | 30 | 1,235 | 510 | 690 | 593 | 296 | 448 |
| Illinois_ | 173 | 190 | 228 | 4,550 | 5,605 | 6,612 | 2, 093 | 3, 251 | 3,835 |
| Michigan | 200 | 140 | 150 | 3, 500 | 3,598 | 3,600 | 1,995 | 2, 339 | 2,304 |
| Wisconsin | 473 | 443 | 465 | 10,642 | 14, 220 | 13,252 | 5,427 | 8, 105 | 8,084 |
| Minnesota | 935 | 908 | 962 | 18, 700 | 24, 062 | 24, 050 | 6,358 | 11,309 | 10,582 |
| Iowa. | 136 | 161 | 161 | 3, 196 | 4, 605 | 4,572 | 1,342 | 2, 256 | 2, 377 |
| Missouri | 7 | 5 | 6 | 154 | 115 | 162 | 100 | 83 | 126 |
| North Dakota | 1,096 | 1,008 | 1,361 | 16, 988 | 25, 704 | 23, 818 | 4,927 | 10, 025 | 9,051 |
| South Dakota | 1,120 | 881 | 890 | 19,040 | 20,263 | 20,025 | 5,522 | 8, 510 | 8,010 |
| Nebraska | 199 | 242 | 339 | 4,915 | 4,356 | 9, 492 | 1,376 | 2, 047 | 4, 176 |
| Kansas | 728 | 1,074 | 967 | 14, 560 | 18, 580 | 21, 467 | 4,222 | 8,361 | 10, 519 |
| Kentucky | 6 | 6 | - 7 | 144 | 168 | 189 | 88 | 143 | 159 |
| Tennessee | 9 | 14 | 17 | 189 | 315 | 391 | 189 | 252 | 391 |
| Texas. | 78 | 93 | 108 | 1,872 | 1,767 | 2,592 | 842 | 1,149 | 1,763 |
| Oklahoma | 122 | 129 | 129 | 2, 684 | 2, 193 | 2,838 | 1,208 | 1,208 | 1,987 |
| Montana | 75 | 92 | $\theta 7$ | 1,538 | 2, 300 | 2,474 | 923 | 1,150 | 1,188 |
| W yoming - | 9 | 20 | 28 | 261 | 560 | 868 | 170 | 336 | 564 |
| Colorado | 202 | 186 | 221 | 4,444 | 3,534 | 6,409 | 1,644 | 2, 085 | 3, 461 |
| New Mexico | 10 | 9 | 11 | 240 | 135 | 209 | 146 | 128 | 167 |
| Arizona | 29 | 25 | 36 | 928 | 825 | 1,260 | 742 | 701 | 1,197 |
| Utah | 16 | 18 | 22 | 512 | 630 | 893 | 246 | 346 | 625 |
| Nevada | 6 | 6 | 6 | 187 | 176 | 152 | 150 | 176 | 120 |
| Idaho. | 87 | 85 | 93 | 2,784 | 2,890 | 3,999 | 1,308 | 1,878 | 2, 319 |
| Washingtor | 80 | 74 | 85 | 2, 944 | 1,776 | 3,884 | 1,531 | 1,314 | 2, 330 |
| Oregon | 70 | 80 | 88 | 2, 240 | 2, 160 | 3, 080 | 1,120 | 1,598 | 2,064 |
| California | 1,188 | 1,129 | 1, 095 | 29,700 | 34, 434 | 33, 069 | 16, 632 | .21, 693 | 23, 148 |
| United States | 7,414 | 7,317 | 7,905 | 154,946 | 182, 068 | 198, 185 | 64, 934 | 95, 560 | 106, 955 |

Division of Crop and Livestock Estimates.
1 Preliminary.
Table 135.-Barley: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

| Oalendar year | Deficient moisture. | Excessive moisture. | Floods | $\begin{gathered} \text { Frost } \\ \text { or } \\ \text { freeze. } \end{gathered}$ | Hail. | Hot winds. | Storms | Total climatic. | Plant disease. | Insect pests. | Ani- <br> mal <br> pests. | Defective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. ct. | P.ct. | P. ct. | P.ct. | P.ct. | P. ct. | P.ct. | P.ct. | P.ct. | P.ct. | $P . c t$. | P.ct. | P. ct. |
| 1909 | 8. 9 | 3.6 | 0.3 | 1.0 | 2.1 | 2. 3 | 0.8 | 19.0 | 1.4 | 0.4 | 0.5 | 0.2 | 22.8 |
| 1910 | 34.0 | . 2 | . 1 | . 9 | . 9 | 4. 3 | . 1 | 40.7 | . 4 | . 8 | . 5 | . 1 | 43.1 |
| 1911 | 30.0 | 1.2 |  | . 8 | . 4 | 5. 7 | . 1 | 38.1 | .9 | -. 9 | . 3 | . 2 | - 41.3 |
| 1912 | 8.4 | 1.8 | . 1 | . 9 | 1. 9 | 1. 7 | . 5 | 15.9 | . 9 | . 5 | . 5 | . 3 | 19.6 |
| 1913 | 24.5 | . 7 | . 1 | . 4 | 1.0 | 3.2 | . 3 | 31.1 | . 2 | 1.2 | . 2 | . 2 | 34.3 |
| 1914 | 8. 2 | 2.3 | . 2 | . 6 | 1.5 | 4. 6 | . 4 | 18.4 | 2. 3 | . 6 | . 2 | . 1 | 22.7 |
| 1915 | 1. 3 | 3.2 | . 3 | . 7 | 1. 7 | . 3 | . 5 | 8.0 | . 9 | . 2 | .2 | . 1 | 10.0 |
| 1916 | 8.0 | 3.4 | . 3 | . 7 | 1.5 | 5. 0 | . 5 | 20.2 | 8.5 | . 7 | . 1 | . 1 | 30.6 |
| 1917 | 26. 6 | . 8 | $\left({ }^{2}\right)$ | 1. 0 | 1.1 | 2. 3 | . 2 | 32.1 | . 5 | . 4 | . 1 | . 1 | 33.6 |
| 1918 | 20.7 | .4 | . 1 | . 7 | 1.1 | 2.3 | . 3 | 25.9 | . 6 | 1.6 | . 2 | ${ }^{(2)}$ | 28.8 |
| 1919 | 18.0 | 3.4 | . 5 | . 2 | 1.8 | 3.8 | . 3 | 28.2 | 5.3 | 4.3 | . 1 | . 1 | 38. 5 |
| 1920 | 10.4 | 2.2 | . 2 | . 4 | 1.1 | 2. 0 | .2 | 16. 7 | 3. 0 | 1.3 | . 2 | . 0 | 21.7 |
| 1921 | 20.2 | 1.4 | . 1 | 1. 3 | 1. 2 | 6.6 | . 1 | 31.4 | 2.9 | 1.3 | . 1 |  | 36.0 |
| 1922 | 13.5 | 1.3 | . 1 | . 3 | 1.6 | 1.6 | . 2 | 19.0 | 1.3 | 1.4 | . 1 | . 1 | 22.2 |

Division of Orop and Livestock Estimates.
1 Includes all other causes.
${ }^{2}$ Less than 0.05 per cent.

Table 136.-Barley: Yield per acre, by Staies, calendar years, 1908-1923.

| State. | 1908 | 1809 | 1910 | 1911 | 1912 | 1913 | $\left\|\begin{array}{c} \mathrm{Av} . \\ 1999 \\ 1913 \end{array}\right\|$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{array}{\|c\|} \text { Av. } \\ 1914- \\ 1920 \end{array}$ | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bu . | $B u$. | Bu. | Bu. | $\overline{B u}$. | $\overline{B u}$. | Bu. | $\overline{B u}$. | $\overline{B u}$. | $\overline{B u}$. | $\overline{B u}$. | $\overline{B u}$. | $\overline{B u}$. | $\overline{B u}$. | Bu. | $\overline{B u}$. | $\overline{B u}$. | . |
| Maine | 28.0 | 28.5 | 31.0 | 28. 0 | 26. 2 | 28.0 | 28.3 | 30.0 | 26. 5 | 26.0 | 21.0 | 025.0 | 28.0 | 26.0 | 26.1 | 26. 0 |  | 30.0 |
| New H | 24.0 | 25. 0 | 26. 0 | 24.0 | 28. 0 | 28.0 | 26.2 | 32.0 | 30.0 | 28. 0 | 25. 0 | 032.0 | 24.8 | 26.0 | 28.3 | 23. 0 | 28. 0 | 26.5 |
| Vermon | 33. 0 | 30.0 | 31. 0 | 30.5 | 35. 0 | 32.0 | 31. 7 | 34.5 | 35. 0 | 27.5 | 29.0 | 031.0 | 25. | 28.0 | 30. | 25. 0 | 29. | 9. 0 |
| New Y | 26. | 24.8 | 28.3 | 25.0 | 26. 0 | 26. 7 | 26. | 28 | 32. | 23. 3 | 28. | 31.5 | 22. 0 | 29.0 | 27. | 21 | 6. | . 8 |
| Pennsylva | 26. 0 | 21.8 | 26.5 | 25. 0 | ${ }_{2}^{27.5}$ | 26. 0 | 25.4 | 28.0 | 29.5 | 25.0 | 28. 0 | 028.0 | 24. 5 | 24. 0 | 26. 7 | 30 | , | 22.4 |
| Maryland | 30.0 | 32.0 | 31. 0 | 23.0 | 27.0 | 29. 0 | 28. 4 | 33. 0 | 34. 0 | 32. 0 | 25. 0 | 031.0 | 33.0 | 27.5 | 30.8 | 30. 0 | 32. | 33.0 |
| Virginia | 28.0 | 28. 5 | 29.3 | 23.0 | 25. 0 | 26.0 | 26.4 | 26. 0 | 29.0 | $0$ | $5$ | $0 \mid 27.0$ | 25.0 | 27. 0 | $27.4$ | 23.0 | $27 .$ | 27.0 27.0 |
| Ohio-- | 27.5 | 25. 9 | 28.5 27.0 | 27. 2 | 31.0 <br> 29.5 | 24. 0 | $27.3$ $26.3$ | $\left\lvert\, \begin{gathered} 25.0 \\ 25.0 \end{gathered}\right.$ | $0$ | $27.8$ | $33.0$ | $031 .$ $537 .$ | $5 \left\lvert\, \begin{gathered} 23.0 \\ 0 \\ 25.0 \end{gathered}\right.$ | 27.7 | $\begin{aligned} & 28.4 \\ & 28.5 \end{aligned}$ | $\begin{gathered} 26.0 \\ 19.0 \end{gathered}$ | $19 .$ | 27.0 23.0 |
| Indiana | 23. 23 | 23. 5 | 27.0 | 26. 28 | 29. 5 | 25.0 | $\begin{aligned} & 26.3 \\ & 28.7 \end{aligned}$ | $25$ | $0 \mid 28 .$ | $0$ | $30$ | $36.0$ | $\begin{gathered} 25.0 \\ 027.0 \end{gathered}$ | 27.0 | $\begin{aligned} & 28.5 \\ & 32.3 \end{aligned}$ | $\begin{aligned} & 19.0 \\ & 26.3 \end{aligned}$ | 17. | 23.0 29.0 |
| Michig | 25. | 24.7 | 26. 0 | 24. 0 | 26.0 | 24.8 | 25.1 | 26.0 | 29.5 | 24.5 | 24.4 | 430.0 | 17.0 | 26. 0 | 25.3 | 17. 5 | 25. | 24.0 |
| Wiscons | 30. | 28. | 25.9 | 25. | 29. | 25. 0 | 26.8 | 27.3 | 35. 5 | 30.0 | 32.0 | 035.7 | 26. 5 | 31.7 | 31. 2 | 22. | 32 | 28.5 |
| Min | 25.0 | 23.6 | 21.0 | 19.0 | 28.2 | 24. 0 | 23.2 | 23. 0 | $3{ }^{30 .}$ | 19.0 | 27. 0 | 031.0 | 20. 0 | 25. 0 | $25 .$ | 20.0 | 28. | 25.0 28.4 |
| Iowa-.- | 27.0 | 22. 0 | 29.5 | 21.9 | 31.0 | 25. 0 | 25.9 | 26. 0 | 31. 0 | 29.5 | 35. 0 | $0,31.5$ | 25. | 27.5 | $29 .$ | $\begin{aligned} & 23 \\ & 22 \end{aligned}$ |  | 27. 4 |
| Missouri | 23.0 | 25.0 | 27.0 | 20.0 | 24.8 | 22.0 | 23.8 | 24.0 | 25.0 | 20. 0 | 25. | 25. | 30 | 28.0 | $25 .$ | $22 .$ |  | 17.0 |
| North Dakota | 19.5 | 21.0 | 5. 5 | 19.5 | 29.9 | 20.0 | 19.2 | 19.5 | 32.0 | 15. 5 | 12.5 | 521. | 11. 5 | 18.0 | 18. 6 | 15. | 25. | 17.5 |
| South Dakot | 26.5 | 19.5 | 18.2 | 5. 4 | 26. 0 | 17. 5 | 17.3 | 23. 0 | ) 32. | 22. 7 | 27. 0 | , | 22. 0 | 25. 0 | 25.9 | 17.0 | 23.0 | 22.5 |
| Nebrask | 23.5 | 22.0 | 18.5 | 11.0 | 22. 0 | 16. 0 | 17.9 | 23. | 31.0 | 28.0 | 26. | 6. | 25. 7 | 29.0 | 25.3 | 24.7 | 7 | 28.0 22.2 |
| Kansas, | 16.0 | 18. | 18.0 | 6. 5 | 23.5 | 5 8.1 | 14.8 | 24. | 31.0 | 16. |  |  | 27. | 25.4 | $\begin{aligned} & 20.3 \\ & 27.6 \end{aligned}$ |  | $7.3$ | 27.2 |
| Kentucky | 25.0 | 24.0 | 24. 0 | 28. 7 | 26.0 | 26. 6 | $25 .$ |  |  | $0 \left\lvert\, \begin{gathered} 26.0 \\ 23.7 \end{gathered}\right.$ |  |  |  | 28.0 | $\begin{aligned} & 27 . \\ & \hline \end{aligned}$ | $21 .$ | $22 .$ | 27.0 23.0 |
| Tennessee | 25. 0 | 19. | 23.0 | 28. | 26. | 25. 0 | $\begin{aligned} & 25 . \\ & 24 . \end{aligned}$ | 27.0 | 24. 0 | $0 \begin{aligned} & 23.7 \\ & 17.0 \end{aligned}$ | 15.0, |  | 35. | 23.0 | $\begin{gathered} 22 . \\ 2, \end{gathered}$ | $21 .$ | 12. | 23.0 24.0 |
| Oklahon | 23.0 | 23. 0 | 30.0 | 10.0 | 20.0 | 9. 0 | 18.4 | 25.0 | 26.5 | 12. | 18. | 17. 0 | 30. 0 | 24.0 | 21.9 | 22. | 7. | 22.0 |
| Montana | 35. 0 | 38. 0 | 28.0 | 34. 5 | 36. 5 | 31.0 | 33.6 | 30.5 | 34. | 28.0 | 15. | 022. | 5. 6 | 18. 0 | 21. 9 | 20. | 25.0 | 25.5 |
| W yoming | 35.0 | 31. 0 | 30.0 | 34. 0 | 34.0 | 30. 5 | 31. 9 | 33.0 | 36. 0 | 33. 0 | 36. |  | 5. | 36. 0 | 32.3 | 29. | 28.0 | 31.0 |
| Colorado | 33. 0 | 36. 0 | 32. 0 | 29. 0 | 39. 0 | 32. 5 | 33.7 | 38.5 | 36. 0 | 32. |  |  |  | 24. 5 | $28.7$ | 22. |  | 29.0 19.0 |
| New Me | 42. 0 | 40. 0 | 25.0 | 33. 0 | 35. 0 | 24.0 | 31.4 | 34. 0 | 3370 | 35. |  |  |  | 23. 6 | 28.3 | ${ }_{2}^{24}$ |  |  |
| Arizona | 38.0 | 40.0 | 36. 0 | 36. 5 | 40.0 | 38. 5 | 38.3 | 36. 0 | 37. 0 | 35. 0 | 37.0 | 35.0 | 22. 9 | 34. 2 | $\begin{aligned} & 35.1 \\ & 35.7 \\ & 3 \end{aligned}$ | 32.0 | 35. | 35.0 40.6 |
| Nevada | 30.0 | 38. 0 | 40. 0 | 40.0 | 41. 0 | 41.0 | 40.0 | 47. 0 | 48.0 | 41. 0 | 35. 0 | ) 34.0 | 26.5 | 30.0 | 37. 4 | 31. | 29. | 25.4 |
| Idaho. | 41.0 | 40.0 | 33.0 | 42.0 | 43.5 | 42.0 | 40.1 | 38.0 | 40.5 | 39.0 | 29.0 | 128.0 | 26.0 | 35. 0 | 33.6 | 32. 0 | 34. 0 | 43.0 |
| W ashington | 30. 5 | 39.5 | 29.0 | 37.0 | 43.0 | 40.5 | 37. 8 | 39.0 | 41. 5 | 41.3 | 29. | 5. | 30. | 35. 3 | 33. 0 | 36. 8 | 24. | 45.7 |
| Oregon... | 29. 0 | 31.5 | 31.5 | 34.0 | 36. 0 | 35. 0 | 33. 6 | 30.0 | 36. 0 | 38. 5 | 29. | 25. | 23. | 32.2 | 30.5 | 32.0 | 27. |  |
| California | 23.5 | 26.5 | 31.0 | 28.0 | 30.0 | 26.0 | 28.3 | 30.0 | 29.0 | 28. | 29. | 06.027 | 27 | 23.0 | 27.4 | 25.0 | 30. |  |
| Unite | 25. 3 | 24 | 22.5 | 21.0 | 29.7 | \|23.8 | 24. 32 | 25.8 | 32.0 | 23.5 | 23.7 | 26. 3 | 22.0 | 24.9 | 25. 5 | 20.9 | 24. 9 | 25.1 |

Division of Crop and Livestock Estimates.
Table 137.-Barley: Condition of crop, 1 st of month, and yield per acre, United States, 1866-1923.

| Calendar year. | June. | July. | Aug. | Sept. ${ }^{1}$ | Yield per acre. | $\begin{gathered} \text { Calendar } \\ \text { year. } \end{gathered}$ | June. | July. | Aug. | Sept. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. ct. | P.ct. | P.ct | $P$.ct. | Bush |  | P.ct. | P.ct. | P.ct | P.ct. | Bush. |
| 1866 | 100.0 | 109.5 |  |  | 22.9 | 1898 | 78.8 | 85.7 | 79.3 | 79.2 | 23.5 |
| 1867 | 98.3 | 99.6 | 104.0 | 105. 5 | 22.7 | 1899 | 91.4 | 92. 0 | 93.6 | 86.7 | 26.1 |
| 1868 | 103.1 | 105. 8 | 98.5 | 95.2 | 24.4 | 1900 | 86.2 | 76.3 | 71.6 | 70.7 | 21.1 |
| 1869 | 101.0 | 100.7 | 102. 2 | 103.6 | 27.9 | 1901 | 91.0 | 91.3 | 86.9 | 83.8 | 25.7 |
| 1870 | 91.4 | 90.0 | 92.2 | 94.6 | 23.7 | 1902 | 93.6 | 93.7 | 90.2 | 89.7 | 29.1 |
| 1871 | 99.3 | 96.4 | 92.6 | 92.7 | 24.0 | 1903 | 91.5 | 86. 8 | 83.4 | 82.1 | 26.4 |
| 1872 | 97.7 | 98.7 | 97.7 | 96.9 | 19.2 | 1904 | 90.5 | 88.5 | 88.1 | 87.4 | 27.4 |
| 1873 | 93.4 | 88.1 | 90.3 | 90.4 | 23.1 | 1905 | 93.7 | 91.5 | 89.5 | 87.8 | 27.2 |
| 1874 | 99. 2 | 98.9 | 96.7 | 92.0 | 20.6 | 1906 | 93.5 | 92.5 | 90.3 | 89.4 | 28.6 |
| 1875 | 85.7 | 94.5 | 879 | 85.0 | 20.6 | 1907 | 84.9 | 84.4 | 84.5 | 78.5 | 24.5 |
| 1876 | 100.3 | 98.2 | 92.3 | 90.0 | 21.9 21.4 | 1908 | 89.7 | 86.2 | 83.1 | 81.2 | 25.3 |
| 1877. | 100. 0 | 95.1 | 94.4 | 98.0 | 21.4 |  |  |  |  |  |  |
| 1878. | 102. 0 | 101. 0 | 94.1 | 95.0 | 23.6 | 1909 | 90.6 | 90.2 | 85.4 | 80.5 | 24.4 |
| 1879 | 91.0 | 91.7 | 95.5 | 95.5 | 24.4 | 1910 | 89.6 | 73.7 | 70. 0 | 69.8 | 22.5 |
| 1880 | 99.0 | 99.0 | 97.7 | 96.9 | 24.5 | 1911 | 9.2 | 72.1 | 66.2 | 65.5 | 21.0 |
| 1881 | 94.0 | 96.9 | 92.7 | 94.3 | 20.9 | 1912 | 91.1 | 88.3 | 89.1 | 88.9 | 29.7 |
| 1882 | 96.0 | 95.0 | 95.0 | 95.0 | 21.5 | 1913 | 87.1 | 76. 6 | 74.9 | 73.4 | 23.8 |
| 1883 | 97.0 98.0 | 97. 0 | 95.0 98.0 | 100.0 97.0 | 21.1 |  |  |  |  |  |  |
| 1884 | 98.0 89.7 | 98.0 92.0 | 98. 9 | 97.0 88.0 | 23.5 21.4 | Av. 1909-1913 | 89.7 | 80.2 | 77. 1 | 75.6 | 24.3 |
| 188 | 89.7 100.0 | 92.0 | 92.0 | 88.0 92.7 | 21.4 | 1914 | 95.5 | 92.6 | 85.3 | 82.4 | 25.8 |
| 1887 | 87.0 | 82.8 | 86.2 | 83.0 | 19.6 | 1915 | 94.6 | 94.1 | 93.8 | 94.2 | 32.0 |
| 1888 | 88.8 | 91.0 | 89.4 | 86. 9 | 21.3 | 1916 | 86.3 | 87.9 | 80.0 | 74. 6 | 23.5 |
| 1889 | 95.6 | 91.9 | 90.6 | 88.9 | 24.3 | 1917 | 89.3 | 85.4 | 77.9 | 76.3 | 23.7 |
| 1890 | 86.4 | 88.3 | 82.8 | 78.6 | 21.4 | 1918 | 90.5 91.7 | 84.7 87.4 | 82. 78 | 81.5 69.2 | 26.3 |
| 1891 | 90.3 | 90.9 | 93.8 | 94.3 87 87 | 26.1 | 1919 | 91.7 87.6 | 87.4 87.6 | 84.9 | 82. 5 | 24.9 |
| 1892 | 92.1 88.3 | 92.0 88.8 | 91.1 84.6 | 87.4 83.8 | 23.6 21.7 | Av. 1914-20----- | 90.8 | 88.5 | 82.5 | 80.1 | 25.5 |
| 1894 | 82.2 | 76. 8 | 69.8 | 71.5 | 19.5 |  |  |  |  |  |  |
| 1895 | 90.3 | 91. 9. | 87.2 | 87.6 | 26.9 | 1921 | 87.1 | 81.4 | 71.4 | 68.4 | 20.9 |
| 1896 | 98.0 | 88.1 | 82.9 | 83.1 | 23.8 | 1922 | 90.1 | 82.6 | 82. 0 | 81.2 | 24.9 |
| 1897. | 87.4 | 88.5 | 87.5 | 86. 4 | 24.9 | 1923 | 89.0 | 86.1 | 82.6 | 79.5 | 25.1 |

Division of Crop and Livestock Estimates.

[^167]Table 138.-Barley: Area and yield per acre in undermentioned countries.
NORTHERN HEMISPHERE.


Table 138.-Barley: Area and yield per acre in undermentioned countriesContinued.

NORTHERN HEMISPHERE-Continued.*

| Country | Area. |  |  |  |  | Yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Aver- } \\ & \text { age, } \\ & 1909- \\ & 1913 . \end{aligned}$ | 1920 | 1921 | 1922 | 1923, pre- <br> limi- <br> nary. | $\begin{aligned} & \text { Aver- } \\ & \text { age, } \\ & 1909- \\ & 1913 . \end{aligned}$ | 1920 | 1921 | 1922 | 1923, <br> pre- <br> limi- <br> nary. |
| Cyprus...-- | $1,00 \theta$ acres. | $\begin{array}{r} 1,000 \\ \text { acres. } \\ -110 \end{array}$ | 1,000 acres. 130 | 1,000 acres. 118 7, | 1,000 acres. | Bush. | Bush. | Bush. | Bush. | Bush. |
| India.- | ${ }^{7} 7,842$ | 7,419 | 6,203 | 7, 356 |  | ${ }^{7} 5.5$ | 20.2 | 18.9 | 19.8 |  |
| Russia. | 2,912 |  |  | 454 |  | 12.6 |  |  | 9.8 |  |
| Japanese Empire: | 3, 042 | 2,987 | 2,929 | 2, 746 | 2,515 | 29.4 | 28.4 | 28.1 | 31.7 | 32.4 |
| Chosen | 1, 662 | 2,150 | 1,979 |  |  | 20.7 | 18.4 | 16. 7 |  |  |
| Formosa. | 1, 5 | 2, 5 | 1 |  |  | 12.6 | 11. 2 | 9.2 |  |  |
| Kwantung------- | ${ }^{1} 1$ | 1 | 2 |  |  | 18.0 | 12.0 | 13.0 |  |  |
| Total eomparable with 1909-1913.-.-- | 15, 464 |  |  |  |  |  |  |  |  |  |
| Total comparable with 1923 | 3, 042 | 2,987 | 2,929 | 2,746 | 2, 515 | ------ |  |  |  |  |
| Total Northern Hemisphere, comparable with 1969-1913. | 80,576 | , |  |  |  |  |  |  |  |  |
| Total Northern Hemissphere, comparable with 1923. |  | 43,968 |  |  | 47, 278 |  |  |  | . |  |

SOUTHERN HEMISPHERE.

| Country. | Average 19091913. | 1920-21 | 1921-22 | 1932-23 | 1923-24 | $\begin{gathered} \text { A ver- } \\ \text { age } \\ 1969- \\ 1913 \end{gathered}$ | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chile. | 111 | 143 | 128 | 147 | 136 | 36.8 | 35.2 | 35.6 | 36.6 |  |
| Uruguay | 87 | 5 | 3 | 3 | 10 | ${ }^{8} 11.1$ | 16. 4 | 14.0 | 9.3 |  |
| Argentina--------- | 230 | 617 | 620 | 600 | 637 | ${ }^{8} 17.6$ | 6.0 | 9.6 | 12.8 | 14.4 |
| Union of South Africa | 2109 | 97 | 87 |  |  | ${ }^{2} 11.7$ | 10.8 | 14.7 |  |  |
| Australia-------------- | 154 | 335 | 298 |  |  | 19.6 | 22.3 | 21.3 |  |  |
| New Zealand | 35 | 47 | 33 | 17 |  | 36. 1 | 35. 2 | 36.4 | 36.6 |  |
| Total comparable with 1909-1013.-.- | 646 | 1,244 | 1,169 |  |  |  |  |  |  |  |
| Total comparable with 1923 | 348 | 765 | 751 | 750 | 783 | ------ | -------- | ------- |  |  |
| World total comparable with 19091913 | 81, 222 |  |  |  |  | , |  |  | 1 |  |
| World total comparable with 1923.... |  | 44, 733 |  |  | 48, 081 |  |  |  |  |  |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Five-year averages are of the crops harvested during the calendir years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the sacceeding harvest in the Southern Hemisphere.
1 Three year average.
7 Two-year average.
${ }^{8}$ Four-year average.

Table 139.-Barley: Production in undermentioned countries.
NORTHERN HEMISPHERE.


## ${ }^{1}$ Commercial estimate.

2 Old boundaries.
Includes production in Alsace-Lorraine
Includes 758,000 bushels produced in Venezia Tridentina and Venezia Giulia.
Excludes production in Alsace-Lorraine.
6 Three-year average.
Former Kingdom of Serbia.
: One year only.
${ }^{9}$ Includes Bessarabia.
${ }_{10}$ Preliminary estimate of former Russian territory within 1923 boundaries.

Table 139.-Barley: Production in undermentioned countries-Continued.
NORTHERN HEMISPHERE-Continued.


SOUTHERN HEMISPHERE.

| Country. | $\begin{gathered} \text { Average, } \\ 1909-1913 . \end{gathered}$ | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chile | 4,090 | 3, 304 | 3,664 | 3,691 | 5, 035 | 4,556 | 5, 380 |  |
| Uruguay | 1278 | 108 | 72 | 76 | 82 | 42 | - 28 |  |
| Argentina.-.------.- | 124,395 |  |  | 2,555 | 3,682 | 5,982 | 7, 656 | 9,186 |
| Union of South Africa ${ }^{13}$ | 81,274 | 2, 025 | 1,029 | 720 | 1,046 | 1,282 |  |  |
| Australia. | 3,021 | 4,163 | 4,962 | 4,467 | 7,454 | 6,339 |  |  |
| New Zealand | 1,264 | 592 | 741 | 850 | 1,653 | 1, 200 | 623 |  |
| Total comparable with 1909-1913 | 14, 122 |  |  | 12,359 | 18, 952 | 19,401 |  |  |
| Total comparable with 1923 | 4,395 |  |  | 2,555 | 3,682 | 5,982 | 7,656 | 9,186 |
| World total, comparable with 1909-1913 | 1,598, 618 |  |  |  |  |  |  |  |
| World total, comparable with 1923 |  |  |  |  | 955, 559 | 969, 177 |  | 1, 137, 721 |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Parentheses denote interpolated figures.

Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }_{8}^{6}$ Three-year average.
${ }^{8}$ One year only.
${ }_{12}^{11 \text { Two-year average. }}$
${ }^{12}$ Four-year average.
${ }^{13}$ Excludes native locations which produced 38,550 bushels in 1917-18 and 29,057 in 1920-21

Table 140.-Barley: World production, 1894-1923.

| Year. | Production in countries reporting all years, 1894-1923. | Production as reported. | $\begin{gathered} \text { Estimated } \\ \text { world totals } \\ \text { (prelimi- } \\ \text { nary). } \end{gathered}$ | Three selected countries. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Russian Empire. ${ }^{1}$ | Germany. | Japan. |
|  | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. | 1,000 bush. |
| 1894 | ${ }_{616}^{607,282}$ | 1,031, 839 | 1, 209, 725 | 277, 464 | 130, 858 | 81, 133 |
| 1896 | 616, 057 | 970, 564 | 1, 125, 471 | 226, 134 | 128, 325 | 79, 646 |
| 1897 | 551, 097 | 999, ${ }^{9615}$ | $1,127,085$ $1,045,892$ | 253,630 238,651 | 125,254 117,783 | 70, 545 |
| 1898. | 635, 270 | 1,090,672 | 1,327, 512 | 306, 922 | 129, 939 | 83, 338 |
| 1899 | 628, 739 | 973, 216 | 1,143,901 | 226, 909 | 137, 047 | 77, 309 |
| 1900 | 620, 639 | 984, 210 | 1, 168, 630 | 236, 981 | 137, 888 | 82, 420 |
| 1901 | 679, 376 | 1,046, 723 | 1,222, 624 | 239, 917 | 152, 535 | 83, 352 |
| 1902 | 702, 761 | 1,182, 478 | 1, 365, 344 | 338, 251 | 142, 391 | 74, 078 |
| 1903. | 666, 922 | 1,195, 298 | 1, 356, 104 | 357, 471 | 152, 652 | 59,737 |
| 1904. | 657, 150 | 1,140, 319 | 1,313, 769 | 346, 255 | 135, 408 | 80, 794 |
| 1905 | 651, 638 | 1,158, 453 | 1, 313, 903 | 346, 966 | 134, 203 | 77, 473 |
| 1906 | 758, 275 | 1, 262, 809 | 1, 456, 706 | 330, 962 | 142, 900 | 83,967 |
| 1907. | 725, 374 | 1,261, 256 | 1, 438, 416 | 377, 031 | 160, 649 | 90, 480 |
| 1908 | 709, 335 | 1, 293, 613 | 1, 434, 561 | 402, 258 | 140,538 | 87, 138 |
| 1909 | 778, 074 | 1,522, 309 | 1,648, 697 | 501, 869 | 160, 551 | 87, 185 |
| 1910. | 707, 237 | 1, 396, 972 | 1, 518,917 | 487, 919 | 133, 330 | 81, 953 |
| 1911 | 728, 017 | 1, 449, 535 | 1,541, 983 | 436, 569 | 145, 133 | 86, 480 |
| 1912 | 772, 145 | 1, 575, 130 | 1, 619,575 | 496, 352 | 159, 924 | 90, 559 |
| 1913. | 783, 690 | 1, 726, 095 | 1,778,842 | 600, 232 | 168, 709 | 101, 477 |
| 1914. | 718, 089 | 1, 514,983 | 1, 557, 233 | ${ }^{2}$ 432, 615 | 144, 125 | 85, 774 |
| 1915 | 691,862 | 1,563, 397 | 1, 585, 154 | ${ }^{2} 429,161$ | 114, 077 | 94,959 |
| 1916 | 669, 754 | 1,048, 089 | 1,514, 614 |  | 128, 450 | 89,335 |
| 1917 | 612, 658 | 982, 142 | 1,434, 642 |  | ${ }^{3} 89,886$ | 88,896 |
| 1918 | 694, 950 | 1, 128, 067 | 1, 488, 567 |  | ${ }^{8} 93,504$ | 87,769 |
| 1919 | 536, 432 | 927, 303 | 1, 136, 303 |  | ${ }^{3} 87,741$ | 89, 356 |
| 1920 | 580, 268 | 1,156, 526 | 1,244, 526 |  | ${ }^{3} 82,344$ | 84,909 |
| 1921 | 574, 819 | 1, 136, 761 | 1, 224, 261 |  | ${ }^{8} 89,056$ | 82,323 |
| 1922 | 555, 961 | 1,305, 414 | 1,327, 674 |  | ${ }^{3} 73,013$ | 87,139 |
| 1923 | 657, 950 | 1,137, 721 | 1,460, 721 |  | ${ }^{3} 99,162$ | 81, 371 |

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }^{1}$ Includes all Russian territory reporting for years named. Further information of the territory included is given in notes on Table 121.

Excludes Poland.
: New boundaries.
Table 141.-Barley: Farm stocks, shipments, and quality, United States, 19101923.

| Year. | Old stocks on farms Aug. $1 .{ }^{1}$ | Crop. |  |  | Total. supplies. | Stocks on farms Mar. 1 following. ${ }^{1}$ | Shipped out of county where grown. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity. | Weight per bushel. ${ }^{2}$ | Quality. ${ }^{3}$ |  |  |  |
| 1910-11 | 1,000 bushels. 8, 075 | 1,000 bushels. 173, 832 | Pounds. 46.9 | Per cent. 88.1 | 1,000 bushels. 181, 907 | 1,000 bushels. 33, 498 | $\begin{aligned} & \text { 1,000 } \\ & \text { bushels. } \\ & 86,955 \end{aligned}$ |
| 1911-12 | 5, 763 | 160, 240 | 46.0 | 84.9 | 166,003 | 24, 754 | 91, 620 |
| 1912-13. | 2,591 | 223, 824 | 46.8 | 86.2 | 226, 415 | 62, 301 | 120, 143 |
| 1913-14 | 11, 252 | 178, 189 | 46.5 | 86.4 | 189, 441 | 44, 126 | 86, 262 |
| 1914-15. | 7, 609 | 194, 953 | 46.2 | 87.5 | 202; 562 | 42, 889 | 87, 834 |
| 1915-16. | 6, 336 | 228, 851 | 47.4 | 90.5 | 235, 187 | 58, 301 | 98,965 |
| 1916-17 | 10,982 | 182, 309 | 45. 2 | 84.4 | 193, 291 | 33, 244 | 79, 257 |
| 1917-18 | 3, 775 | 211,759 | 46.6 | 90.9 | 215, 534 | 44,419 | 84, 056 |
| 1918-19 | 4,510 | 256, 225 | 46.9 | 89.8 | 260, 735 | 81, 746 | 99, 987 |
| 1919-20. | 11,897 | 147, 608 | 45.2 | 84.8 | 159, 505 | 33, 820 | 50,471 |
| 1920-21 | 4,122 | 189, 332 | 46.0 | 88.2 | 193, 454 | 65, 229 | 68, 663 |
| 1921-22. | 13,487 | 154, 946 | 44.4 | 82.5 | 168, 433 | 42,294 | 55, 738 |
| 1922-23 | 7,497 | 182, 068 | 46. 2 | 88.5 | 189, 565 | 42,469 | 66, 560 |
| 1923-24 ${ }^{4}$ | 6,805 | 198, 185 | 45.3 | 86.6 | 204, 990 | 44, 844 | 68, 589 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on percentage of entire crop as reported by crop reporters.
\& Average weight per measured bushel as reported by crop reporters.
${ }^{8}$ Percent of a "high medium grade" as reported by crop reporters.

- Preliminary.

Table 142.-Barley: Monthly marketings by farmers, United States, 1917-192\&.

| $\begin{aligned} & \text { Year } \\ & \text { beginning } \\ & \text { July } 1 . \end{aligned}$ | Percentage of year's receipts as reported by about 3,500 milis and elevators. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Season. |
| 1917-18 | 2.2 | 15.0 | 23.4 | 16. 5 | 8.5 | 8. 6 | 6. 5 | 7.5 | 6.1 | 2.9 | 1.8 | 1.0 | 100.0 |
| 1918-19 | 24 | 9.7 | 8.4 | 4.4 | 7.8 | 3. 3 | 1. 3 | . 7 | 2. 9 | 27.5 | 30.7 | 1.0 .9 | 100.0 |
| 1919-20 | 18.5 | 19.2 | 14.3 | 9.9 | 6. 4 | 7.5 | 5. 4 | 3. 1 | 3.7 | 3.4 | 3. 0 | 5. 6 | 100.0 |
| 1920-21 | 7.0 | 16.5 | 15.0 | 9.9 | 9.9 | 7. 2 | 6. 7 | 5. 5 | 6. 5 | 4. 2 | 5. 7 | 5. 9 | 100.0 |
| 1921-22-23- | 35.0 17.4 | 14.0 | 10.5 | 7.8 10.8 | 4.4 5.2 | 4. 20 | 3.9 4.8 | 4. 3 | 4. 2 | 3.0 1.9 | 4. 4 | 4.3 7.0 | 100.0 100.0 |
|  |  |  |  |  |  |  |  |  | 3.5 |  | 2.7 | 7.0 | 100.0 |

Division of Crop and Livestock Estimates.
Table 143.-Barley: Receipts at markets named, 1909-1922.


[^168]Table 144.-Barley: Net imports and net exports of principal countries, 19071923.

| $\begin{aligned} & \text { Year ending } \\ & \text { July 31. } \end{aligned}$ | Imparts. |  |  |  |  | Exports. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Bel- } \\ \text { gium. } \end{gathered}$ | France. | $\begin{gathered} \text { Ger- } \\ \text { many. } \end{gathered}$ | Nether lands. | United Kingdom. | $\xrightarrow{\mathrm{Ru}} \mathrm{mania}$ | Russia. | $\begin{aligned} & \text { Co- } \\ & \text { a } \end{aligned}$ | United States. | Algeria. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,00 |
| 1900-7 | bushels | buskels. | bushel | $\begin{gathered} \begin{array}{c} \text { bushels } \\ 7,509 \end{array} \end{gathered}$ | bushels | bushels. | ${ }_{\text {b }}^{\text {bushel8. }}$ |  | bushel | ${ }_{5,335}$ bushels. |
|  | 12,808 | 2,011 | 92, 675 | 6,812 | 40, 237 | (2) | 104, 674 | 2, 051 | 4, 149 | 3,704 |
| ${ }_{1009-10}$ | 13,847 | ${ }_{3}^{2,983}$ | ${ }_{124,938}^{103}$ | ${ }_{\text {c }}^{\text {9, }} 1$ | 47, ${ }^{507}$ | (2) | - | 2, $\begin{aligned} & \text { 1,900 } \\ & 1\end{aligned}$ | ${ }_{4}^{4,578}$ | - |
| 1910-11 | 15,353 | 8,823 | 161, 627 | 15, 739 | 44,615 | (2) | 199, 423 | 1,040 | 9,399 | 7, 289 |
| 1911-12- | 17, 380 | 6,945 | 152,771 | 88,319 | ${ }_{53} 8881$ | 19,435 | 139,910 | 2,641 | 1, 585 | 7,552 |
| 1912-13 | 15, 1508 | 2,779 | ${ }_{173}^{133} 713$ | 8, 8 174 | -53,654 | 11,847 | ${ }_{199,632}^{154,519}$ |  | 17, 6375 | ¢ 6 6138 |
| ${ }_{1914-15}$ | (2) | 1,412 | ${ }^{173}{ }^{(2)}$ | 4, 172 | ${ }_{31,737}^{46}$ | 4,680 | ${ }_{215}^{199,62}$ | 2,808 | 26,755 | 1,502 |
| 1915-16 | ${ }^{(2)}$ |  | ${ }^{(2)}$ | 5,474 | 40,396 | 24, 344 |  | 8,851 | 27,473 | 5,268 |
| 1916-17 | (2) | '9,920 | (2) | 44,989 | ${ }^{5} 26,686$ | (2) | (2) | ${ }^{6} 8.878$ | 16,381 | ${ }^{7}$ 7, 2688 |
| 1917-18 | (2) | ${ }^{18} 8,745$ | ${ }^{(2)}$ |  | $5{ }^{50,770}$ | (2) | (2) | ${ }^{6} 66,607$ | 26, 285 | ${ }^{7} 1,770$ |
| 1918 | ${ }^{(2)}$ | ${ }^{3} 12,248$ | ${ }^{(2)}$ | 4 2,327 | ${ }^{5} 9,264$ | ${ }^{(2)}$ | (2) | ${ }^{6} 5.398$ | 20,458 | 13 |
| 1919-20- | ${ }_{5}^{2} 852$ | 10,365 | ${ }_{8,935}{ }^{(2)}$ | 4, 4 , 965 | - $\begin{aligned} & 37,509 \\ & 3268\end{aligned}$ |  | (2) ${ }_{(2)}$ | 11,891 | 26,571 | -6,395 |
| ${ }_{1921-22}$ | - ${ }^{\text {5, }}$, 4928 | - $\begin{array}{r}1,423 \\ 4,118\end{array}$ |  | 6,261 | 33, 111 | 15, 222 |  | 12, 861 |  |  |
| 1922-23 | 9,799 | 446 | 15,789 | 6,955 | 34, 571 | 35, 141 | (2) | 10,902 | 18, 193 | -3,919 |

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1915-16, 1922, and from official sources.
${ }^{1}$ Year ending June 30-Commerce and Navigation of the United States and Monthly Summary of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.
${ }^{2}$ Not available.
${ }^{2}$ Y ear ending June 30-Documents Statistiques sur le Commerce de la France.
Y Year ending June 30-Maandcijfers Netherlands.
${ }^{5}$ Year ending June 30-Trade and Navigation of the United Kingdom.

- Year ending June 30-Monthiy Reports of the Trade of Canada.
${ }^{7}$ Year ending June 30-International Crop Reports and Crop Statistics.
8 Net exports.
${ }^{9}$ Net imports.
Table 145.-Barley: Farm price per bushel, 1st of month, United States, 1908-1923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908 | $\begin{gathered} \text { Cts. } \\ 57.1 \\ \hline \end{gathered}$ | Cts. <br> 56. 1 | $\underset{55,3}{\boldsymbol{C t s .}}$ | $\begin{gathered} \text { Ct8. } \\ 53.7 \end{gathered}$ | $\begin{gathered} \mathrm{Cts}_{\mathrm{it}} \\ \text { 55. } \end{gathered}$ | $\begin{gathered} C t s . \\ 56.5 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 58.3 \end{gathered}$ | Cts. 59.4 | $\underset{61.2}{C t s .}$ | $\underset{\text { Cts. }}{ }$ | $\underset{\text { 67. }}{\text { Cts }}$ | $\begin{gathered} \text { Cts. } \\ 67.0 \end{gathered}$ | Cts. 57.0 |
| 09-10 | 61.2 | 54. | 53.4 | 53.3 | 54.0 | 57.6 | 59.3 | 60.2 | 59.7 | 56.5 | 55.7 | 53. 9 | 55.7 |
| 1910-11 | 54.7 | 57.2 | 56.1 | 55.3 | 57.8 | 59.8 | 64.1 | 63.0 | 69.1 | 74.0 | 73.8 | 70.1 | 59.5 |
| 1911-12 | 69.3 | 77.0 | 81.7 | 84.9 | 86.9 | 86.4 | 91.2 | 91.0 | 92. 3 | 96. 2 | 91.1 | 81.9 | 83. 6 |
| 1912-13 | 66.8 | 53.5 | 54.8 | 53.8 | 50.5 | 49.9 | 51.4 | 49.0 | 48.5 | 48.3 | 52.7 | 537 | 53.1 |
| 1913-14 | 50.8 | 55.2 | 56.8 | 54.7 | 53.7 | 52. 2 | 52.4 | 51.1 | 51.7 | 49.3 | 49.1 | 47,5 | 53.6 |
| Av. 1909 | 60.6 | 59.5 | 60.6 | 60.4 | 60.6 | 61.2 | 63.7 | 62.9 | 64.3 | 64.9 | 64. | 61.4 | 61.1 |
| 1914-15 | 45.1 | 52.5 | 51.8 | 51.7 | 4.3 | 54.3 | 62.9 | . 7 |  | 63.8 | 62. | 55.8 | 55. |
| 1915-16 | 56.7 | 51.9 | 46.8 | 50.1 | 51. $\theta$ | 54.9 | 61.7 | 62. 6 | 57.2 | 59.6 | 59.6 | 593 | 3. |
| 1916-17 | 59. 3 | 72.9 | 76. 5 | 83.2 | 88.1 | 87.1 | 92.7 | 96. 9 | 102.3 | 120. 1 | 119.3 | 106. 6 | 85.2 |
| 1917-18 | 114.5 | 110.0 | 113.9 | 111.3 | 113.7 | 126. 5 | 131.9 | 161. 1 | 170.2 | 158.5 | 135.4 | 118.4 | 122.6 |
| 1918-19 | 110.0 | 100.9 | 95. 5 | 94.9 | 91.7 | 91.3 | 86.8 | 85.4 | 92.7 | 103.9 | 109.2 | 108.4 | 95.9 |
| 1919-20 | 118.7 | 115. 6 | 115.3 | 117.1 | 120. 6 | 130. 2 | 137. 1 | 129.3 | 140.0 | 146. 4 | 148.3 | 142.0 | 123.8 |
| 1920-2 | 121.0 | 105. 0 | 91.2 | 81.7 | 71.3 | 64.4 | 57.2 | 56.8 | 54.4 | 49.2 | 51.6 | 50.6 | 79.1 |
| Av. 1914-1920. | 89.3 | 87.0 | 84.4 | 84.3 | 84.5 | 87.0 | 90.0 | 93.8 | 97.4 | 100.2 | 97.9 | 91. | 87. |
| 1921-22 | 49.4 | 47.0 | 45.4 | 41.7 | 41.9 | 43.7 | 44.3 | 49.6 | 52.8 | 56. 3 | 57.7 | 52.2 | 46. 1 |
| 1922-23 | 49. 7 | 45. 7 | 46.7 | 51.6 | 52. 5 | 58.6 | 55.0 | 57.4 | 58.6 | 60.7 | 60.9 | 55.7 | 52.1 |
| 1923-24 | 53.7 | 50.7 | 53.1 | 56.3 | 54.0 |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 146.-Barley: International trade, 1910-1923.


Division of Statistical and Mistorical Research. Compiled from International Yearbook of Agricultural Statistics, 1922, except figures with footnotes (2) and (3) which are compiled from official sources.

1 Ten months ending May 31.
${ }^{2}$ Calendar years, 1909-1922.
${ }^{3}$ Years ending June 30.
4 Less than 500 bushels.
${ }^{6}$ Three year average, 1910-1912.
${ }^{6}$ Eleven months.
7 Three-year average, 1912-1914.
8 The month of July 1914 is not included in average.
9 Two-year average, 1913-1914.
${ }^{10}$ Eight months: Aug.-Dec., 1920 and May-July, 1921.

Table 147.-Barley: Farm price per bushel, December 1, calendar years, 19081923, and value per acre, 1923.

| State. |  |  |  |  |  |  |  |  |  | 51916 | 1917 | 1918 | 1919 | 20 |  |  | 1922 1923 | Value |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Cts | Cts. | cts. | cts. |  |  | Cts. |  |  |  | cts. | $C_{18}$ | Cts. | Cts. | Cts. |  | Cts. Cts. |  |
| Me |  |  |  |  |  |  |  |  |  |  | 130 |  | 178 | ${ }^{138}$ | 121 | 86 | 100100 | ${ }^{0}$ |
| V |  | 77 |  |  |  |  |  | 75 | 57 | 5100 | 140 | 153 | 150 | 120 | 116 | 80 | ${ }_{97}{ }^{95}$ | . 55 |
| N. | T0 | 69 | 70 |  |  | 69 | 75 | 71 | 75 | 510 | 130 | 126 | ${ }^{136}$ | 99 | 105 | ${ }_{62}^{62}$ | 74 | 10 |
|  |  |  |  |  |  |  |  |  |  |  |  | 120 | 128 | ${ }^{90}$ | 00 |  | 72 |  |
| $\mathrm{V}_{\mathrm{a}}$ |  | ${ }_{71}^{64}$ | $\begin{aligned} & 61 \\ & 67 \\ & 67 \end{aligned}$ | $\begin{aligned} & 60 \\ & 70 \end{aligned}$ | $\begin{array}{l\|l\|l\|} \hline 0 & 68 \\ 0 & 75 \\ \hline \end{array}$ |  | $\stackrel{63}{71}$ | ${ }_{80}^{66}$ | 75 | ${ }^{5} 8$ | ${ }_{139}^{130}$ | ${ }_{160}^{120}$ | 130 | 100 | 110 | ${ }_{7}^{67}$ | 80 | ${ }_{21} 60$ |
| Ond |  | 61 | ${ }_{56}^{60}$ | ${ }_{75}^{84}$ | ${ }_{60}^{55}$ |  | 64 | ( ${ }_{67} 6$ | ${ }^{9}{ }^{565}$ | 75 | 118 | 103 | 118 | 88 | \% | 5 | 65 63 <br> 58  | ${ }_{95}$ |
| 11 | 65 | 52 | 56 | 92 | 53 | 57 | 62 | 61 | 1 | 103 | 121 | 90 | 121 | 82 | 91 | 46 | 58 | 82 |
| Mich |  | 61 | 58 |  | 65 |  | 66 | 65 |  | 291 |  | 100 | 118 |  | 92 | ${ }^{57}$ | ${ }^{65}{ }^{64}$ | 36 |
| Mini | 告 4 |  | ${ }_{60}^{64}$ | ${ }_{96}^{99}$ | 41 |  | 588 | $\stackrel{62}{53}$ | ${ }^{2}{ }^{56}$ | 105 | 124 | 80 | 116 | 62 | 92 80 | [54 | ${ }_{47}^{57}{ }_{4} 61$ | . ${ }^{38}$ |
|  | 51 | 46 | 56 | 93 | 66 | ${ }_{60}{ }^{55}$ | 66 6 | 65 | 63 | -93 ${ }_{93}^{91}$ | ${ }_{94}^{117}$ | ${ }^{85}$ | 132 | ${ }_{98}$ | ${ }_{94}^{82}$ | 65 | 7278 | ${ }^{14.77}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { N. } \mathrm{D}_{2} \end{aligned}$ | ${ }_{47}^{46}$ | $\begin{aligned} & 43 \\ & 45 \\ & 45 \end{aligned}$ | 55 | 888 |  |  |  |  |  |  | $\begin{aligned} & 100 \\ & 110 \\ & 98 \end{aligned}$ |  | 115 |  |  |  | 42 47 48 48 |  |
| ${ }_{\text {K }} \mathrm{Nan}$ | ${ }_{54}^{46}$ | 43 | 45 | ${ }_{60}^{60}$ | 40 |  | 481 | 47 | 74 | ${ }^{7}$ | 115 | ${ }^{85}$ | 100 | 45 | 74 | 1 | 45 | 10.88 |
| Kу--- | 72 | 76 |  |  |  |  |  |  |  |  |  | 140 |  |  |  |  |  |  |
| Tenn |  | 100 | 80 | ${ }_{93}^{90}$ | 80 | 7 |  |  |  |  |  |  | 180 |  |  |  |  |  |
| Oex | 788 | 105 | ${ }_{54}^{90}$ | ${ }_{6} 98$ | $1{ }^{178}$ |  | 88 68 58 | 53 | 350 | ${ }^{8} 100$ | 148 | ${ }_{124}^{123}$ | 122 | 72 | 96 | 5 | 780 | 40 |
|  | ${ }^{6}$ | 63 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Wyo | 65 | 74 | $\begin{aligned} & 67 \\ & 60 \end{aligned}$ | 75 | $\begin{aligned} & 62 \\ & 50 \end{aligned}$ |  |  | ${ }_{5}^{64}$ |  | 5 <br> 8 <br> 82 <br> 82 | 130 |  |  |  |  |  | $\begin{array}{lll}60 & 65 \\ 59 \\ 54\end{array}$ | 20.15 15.66 |
| N. M | $\begin{gathered} 65 \\ 79 \end{gathered}$ | 100 | 80 | 70 | 71 | 72 | 79 | 75 | 570 | 100 | 139 | 110 | 110 | 75 |  | 61 | ${ }^{95}$ | 15. 20 |
| Ariz- | $\begin{aligned} & 85 \\ & 54 \end{aligned}$ |  | ${ }_{60}^{90}$ | 87 68 | 87 59 | 73 55 | $\begin{array}{r}85 \\ 61 \\ \hline\end{array}$ | 60 50 |  | ${ }^{6} 108$ | 120 | 130 | 141 | 100 | 97 | 48 | $55 \quad 70$ | 28.42 |
|  |  | 75 | 70 |  | 87 |  |  |  |  |  |  |  | 150 |  | 117 |  | 10083 | 21.08 |
| Idah | 53 | 59 | 50 | 70 | 51 | 48 | 56 |  | $5{ }^{52}$ |  | 105 | 13 | 140 | 75 |  | 47 | ${ }_{7}^{65}$ | ${ }^{94}$ |
|  | - ${ }_{59}^{68}$ | ${ }_{66}^{64}$ | ${ }_{62}^{57}$ | 65 | 55 | 55 | ${ }_{6}^{5}$ | ${ }_{61}$ | $1{ }^{6} 2$ | 880 | 115 | 136 | 150 | 100 | 101 | 50 | 746 | 23 |
|  | ${ }_{74}$ | ${ }_{74}$ | 55 | 85 | ${ }^{5} 7$ |  | 70 | 59 | 62 | 2 | 120 | 115 | 141 | 100 | 99 | 56 | 6370 | 21.14 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 | 13.53 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on farm price Dec. 1.
Table 148.-Barley, No. 2: Weighted average price per bushel, Minneapolis, 1909-1923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$0. 45 | \$0.48 | \$0.49 | \$0.52 | \$0. 57 | \$0.61 | \$0.60 | \$0. 58 | \$0. 54 | \$0. 54 | \$0. 53 | \$0. 60 | \$0. 54 |
| 1910-11 | . 61 | . 63 | . 63 | . 66 | . 70 | . 77 | . 74 | . 81 | . 88 | . 75 | . 77 | . 87 | 74 |
| 1911-12 | . 85 | . 94 | . 95 | . 98 | . 91 | 1.05 | 1.00 | . 95 | 1.01 | . 99 | . 76 | . 60 | 92 |
| 1912-13 | . 46 | . 49 | . 50 | . 47 | . 45 | . 49 | . 48 | . 46 | . 46 | . 50 | . 52 | . 48 | 48 |
| 1913-14 | . 58 | . 61 | . 56 | . 53 | . 50 | . 52 | . 50 | . 48 | . 47 | . 48 | . 47 |  | 51 |
| Av. 1909-1913. | . 59 | . 63 | . 63 | . 63 | . 63 | . 69 | . 66 | . 66 | . 67 | . 65 | . 61 | . 60 | . 64 |
| 1914-15. | . 59 | . 58 | . 55 | . 59 | . 57 | . 68 | . 75 | . 70 | . 70 | . 70 | . 66 | . 68 | . 65 |
| 1915-16 | . 59 | . 48 | . 51 | . 56 | . 61 | . 70 | . 66 | . 65 | . 68 | . 70 | . 68 | . 69 | . 63 |
| 1916-17. | . 81 | . 81 | 1.03 | 1.11 | 1.07 | 1.17 | 1.17 | 1. 21 | 1.36 | 1.48 | 1.38 | 8 | 17 |
| 1917-18 | 1. 31 | 1. 33 | 1.28 | 1. 27 | 1. 49 | 1.56 | 1.88 | 2.12 | 1.82 | 1. 46 | 1. 23 | 1. 18 | 49 |
| 1918-19 | 1. 02 | . 95 | . 91 | + 94 | +92 | .90 +59 | 1.87 1 | .93 1.51 | 1. 1.60 | 1.13 1.74 | 1.12 1.49 | 1. $1.16{ }^{\circ}$ | 1.43 |
| 1919-20. | 1. 33 | 1. 27 | 1. 29 | 1.33 .82 | 1.52 .74 | 1.52 .69 | 1.37 .65 | 1.51 .67 | 1.60 .61 | $\begin{array}{r}1.74 \\ .59 \\ \hline\end{array}$ | 1.49 .57 | 1.16 <br> .62 | 1.43 .74 |
| 1920-21. | 1.02 | . 99 | . 92 | . 82 | . 74 | . 69 | . 65 | . 67 | . 61 | . 59 |  |  |  |
| Av. 1914-1920. | . 95 | . 92 | . 93 | . 95 | . 99 | 1.03 | 1.05 | 1.11 | 1.12 | 1.11 | 1.02 | 1.00 | 1.02 |
| 1921-22 | . 58 | . 55 | . 50 | . 54 | . 47 | . 51 | . 56 | . 58 | . 61 | . 62 | . 56 | . 56 | . 55 |
| 1922-23 | . 49 | . 54 | . 57 | . 60 | . 61 | . 57 | . 60 | . 59 | . 64 | . 61 | . 58 | . 59 | . 58 |
| 1923-24. | . 56 | . 58 | . 60 | . 61 | . 62 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Minneapolis Market Record.

## FLAX AND FLAX SEED.

Table 149.-Flaxseed: Acreage, production value, exports, etc., United States, 1849-1923.

| Calendar year. | Acreage. | Average yield per acre | Production. | Average farm price per bushel Dec. 1. | Farm value Dec. 1. | Value per acre. ${ }^{1}$ | Domestic exports, fiscal year beginning July $1 .{ }^{2}$ | Imports, fiscal year beginning July $1 .{ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Actes. | Bush. of 66 lbs. | Bus | Cents. | Dollars. | Dollars. | ushels. | ushels. |
| 1849 |  |  | 562, 000 |  |  |  | 2, 501 | 667,369 |
| 1859 |  |  | 567,000 |  |  |  | 2, 715 | 00 |
| 1869 |  |  | 1, 730,000 |  |  |  | 35 | , 195 |
| 1879 |  |  | 10, 171,000 |  |  |  | 14, 678 | $1,464,195$ $2,391,175$ |
| 1889 | 1,919,000 | 7.8 | 10,250,000 |  |  |  | 14,678 |  |
| 1899 | 2,111,000 | 9.5 | 19,979,000 |  |  |  | 2, 830, 991 | 67, 379 |
| 1902 | 3, 740, 000 | 7.8 | 29, 285, 000 | 105.2 | $30,815,000$ <br> 292 <br> 10 | 8.24 <br> 6.90 | 4, 128, 130 | 129,089 213,270 |
| 1903 | $3,233,000$ $2,284,000$ | 8.4 10.3 | ${ }_{23,401,000}^{27,301,00}$ | 81.7 98 | $22,242,000$ | 6. 10.26 10. | 1,338 | 296,184 |
| 1904 | $2,264,000$ $2,535,000$ | 11.2 | 28, 478, 000 | 84.4 | 24, 049, 000 | 9.49 | 5, 988, 519 | 52, 240 |
| 06. |  | 10.2 | 25, 576, 000 | 101.3 | 25,899,000 | 10.33 | 6,336,310 | 90, 356 |
| 1907 | 2, 864, 000 | 9.0 | 25, 851,000 | 95.6 | 24, 713,000 | 8.63 | 4, 277,313 | 57,419 |
| 1908 | 2, 679, 000 | 9.6 | 25, 805, 000 | 118.4 | 30, 577, 000 | 11.41 | 882, 889 | 593, 668 |
| 1909 | 2, 083, | 9.5 | 19, 699, 000 | 152.8 | 30, 093, 000 | 14.45 | 65, 193 | 5, 002, 496 |
| 1910 | 2, 467, 000 | 5.2 | 12,718, 000 | 231. 7 | ${ }_{3}^{29,472,000}$ | 11. 95 | $\begin{array}{r}976 \\ 4.323 \\ \hline\end{array}$ | $10,499,227$ $6,841,806$ |
| 1911 | 2, 757, 000 | 7.0 | 19,370,000 | 114.1 | 35, 272, 000 | 11. 29 | 16,894 | 5, 294,296 |
| 1912 | $2,851,000$ $2,291,000$ | 9.8 7.8 | $28,073,000$ $17,853,000$ | 114.7 119.9 | 21, 399,000 | 12.39 9.34 | 305, 546 | 8, 653,235 |
| 1913 | 2, 291, 000 |  |  |  |  |  |  |  |
| Av. 1909-1913 | 2, 490, 000 | 7.8 | 19,543, 000 | 151.9 | 29, 888,000 | 11.92 | 78, 586 | 7, 258, 212 |
| 1914 | 1, 645, 000 | 8.4 | 13, 749, 000 | 126.0 | 17, 318, 000 | 10.53 | 4,145 | 10, 666, 215 |
| 1915 | 1, 387, 000 | 10.1 | 14, 030,000 | 174. 0 | 24, 410,000 | 17.60 | 2,614 | $14,679,233$ <br> 12 <br> 193 |
| 1916 | 1, 474, 000 | 9.7 | 14, 296, 000 | 248. 6 | 35,541, 000 | ${ }_{13}^{24 .} 70$ | 21,481 | ${ }_{13,366,529}$ |
| 1917 | 1, 984, 000 | 4. 6 |  | 296.6 340.1 | 45, 470,000 | ${ }_{23.81}^{13 .}$ | 15,574 | 8,426,886 |
| 1918. | 1, 910, 000 |  | $\begin{gathered} 13,369,000 \\ 7 \\ 756 \end{gathered}$ | 340.1 438. | $45,470,000$ $31,802,000$ | 21.16 | 24, 044 | 23, 391, 934 |
| 1919 | $\begin{aligned} & 1,503,000 \\ & 1,757,000 \end{aligned}$ | 4.8 6.1 | $\begin{array}{r} 7,256,000 \\ 10,774,000 \end{array}$ | 176.7 | 19, 039, 000 | 10.84 | 1,481 | 16, 170, 415 |
| . 1914-1930 | 1,666,000 | 7.1 | 11, 805, 000 | 242.9 | 28,680, 000 | 17. 21 | 10,051 | 14, 156, 457 |
| 1921 | 1, 108, 000 | 7.2 | 8, 029, 000 | 145.1 | 11,648,000 | 10. 51 | 2,267 | 13, 632, 073 |
| 1922 | 1, 113, 000 | 9.3 | 10,375, 000 | 211.5 | 21, 941, 000 | 19.71 |  | 25,005, 936 |
| 1923 - | 2,061,000 | 8.5 | 17, 429,000 | 210.8 | 36, 733, 000 | 17.82 |  |  |

Division of Crop and Livestock Estimates. Figures in italics are census returns.
1 Based on farm price Dec. 1.
2 Compiled from reports of $B$.
${ }_{2}$ Compiled from reports of Bureau of Foreign and Domestic Commerce.
${ }^{3}$ Approximate.
4 Preliminary.

Table 150.-Flaxseed: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

| State. | Thousands of acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
| Wisconsin | 6 | 4 | 8 | 63 | \% 52 | 97 5 | $\begin{array}{r}94 \\ 4 \\ \hline 04\end{array}$ | 94 6.758 | 11, 204 |
| Minnesota | 314 | 310 | 527 | 2,983 | 3,100 | 5,270 | 4,504 | 6,758 | 11, 225 |
| Iowa...-- | 8 | 8 | $\begin{array}{r}9 \\ \hline\end{array}$ | \% 79 | 83 4.845 | 8, 824 | 3,997 | 10,368 | 17, 859 |
| North Dakota | 430 | 521 | $\begin{array}{r}1,094 \\ \hline 284\end{array}$ | 2,795 | 4,845 1,539 | 8,424 | 3,992 | 10,093 | 5; 021 |
| South Dakota | 216 | 162 3 | 284 4 | $\begin{array}{r}1,404 \\ 24 \\ \hline\end{array}$ | $\begin{array}{r}1,539 \\ \mathbf{2 4} \\ \hline 1\end{array}$ | 2,414 | $\begin{array}{r}1,952 \\ \hline 36\end{array}$ | - 46 | 5 92 |
| Nebraska | 3 20 | 3 20 | 4 24 | 24 134 | ${ }_{124}$ | 182 | 181 | 223 | 391 |
| Kansas | 20 110 | 20 | 24 110 | 5 | 605 | 902 | 770 | 1,092 | 1,741 |
| Montana | 110 | 84 | 110 1 | 500 6 | $\begin{array}{r}605 \\ \hline\end{array}$ | 10 | 7 | 1, 13 | 19 |
|  | 1,108 | 1,113 | 2,061 | 8, 029 | 10,375 | 17,429 | 11, 648 | 21,941 | 36,733 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

Table 151.-Flaxseed: Yield per acre, by States, calendar years, 1908-1923.

| State. | 1908 |  | 1910 | 1911 |  | 1913 | Av. | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | Av. <br> 1914 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - |  |  |  |  |  |  | 1913 |  |  |  |  |  |  |  | 1920 |  |  |  |
|  | Bra. | Bu. | Bu. | $B u$. | Bu. | Bu. | Bu. | Bz. | $B u$. | Bu. | Bu. | $B u$. | $B u$. | $B u$. | Bu. | Bu. | Bu. | Bu |
| Wisconsin. | 16.0 | 14.5 | 10.0 | 12.0 | 12.5 | 14.0 | 12.6 | 13.5 | 13.5 | 12.0 |  | 11.0 | 10.5 | 11.0 |  | 10. 5 | 13.0 | 12.1 |
| Minneso | 10.6 | 10.0 | 7.5 | 8.0 | 10.2 | 9.0 | 8.9 | 9. 3 | 10.5 | 8.5 | 9. 5 | 10.4 | 8. 0 | 9.5 | 9.4 | 9. 5 | 10.0 | 10.0 |
| Iowa | 10.9 | 9.8 | 12. 2 | 8.0 | 11. 5 | 9.4 | 10.2 | 9. 5 |  | 10.0 | 11.0 | 11.0 | 16.01 | 12.0 | 11.2 |  |  | 9.5 |
| North Dako | 90 | 9. 3 | 3.6 | 7. 6 | 9. 7 | 7.2 | 7.5 | 8. 3 | 9.9 | 10.3 | 3.9 | 7.8 |  | 5.3 | 7.2 | 6. 5 | 9. 3 | 7.7 |
| South Dak | 10.7 | 9. 4 | 5.0 | 5.3 | 8. 6 | 7.2 | 7.1 |  | 11.0 | 9. 3 | 7.0 | 9. 5 |  | 0. 0 | 8.8 | 6. 5 |  | 8.5 |
| Nebraska | 11.0 | 8.5 | 8.0 | 5. 0 | 9. 5 | 6. 0 | 7.4 |  | 11.0 | 8. 0 | 5. 5 | 9. 5 | 5. 0 | 9.0 | 7.9 | 8.0 | 8.0 | 11.0 |
| Kansas. | 6. 5 | 7.0 | 8.2 | 3. 0 | 6. 0 | 6. 0 | 6.0 | 6. 0 | 5.7 | 5. 8 | 7.0 | 5.0 | 6. 3 | 6. 9 | 6. 1 | 6. 7 | 6.0 | 7. 6 |
| Montana | 11.5 | 12.0 | 7.0 | 7.7 | 12.0 | 9.0 | 9.5 | 8. | 10.5 | 9.5 | 3.0 | 3.0 | 1.3 | 2.6 | 5.4 | 5. 0 | 7.2 | 8.2 |
| W yoming |  |  |  |  |  |  |  |  | 13.0 | 7.0 | 6.5 | 9.0 | 4.0 | 8.2 | 8. 0 | 5. 7 |  | 10.0 |
| United Stat | 9.6 | 9.5 | 5. 2 | 7.0 |  | 7.8 | 7.9 |  | 10.1 | 9.7 | 4.6 | 7.0 | 4.8 | 6.1 | 7.2 | 7.2 | 9.3 | 8.5 |

Division of Crop and Livestock Estimates.
Table 152.—Flaxseed: Condition of crop, 1st of month, and yield per acre, United States, 1903-1923.

| Calendar year. | July. | Aug. | Sept. | Oet. ${ }^{1}$ | Yield per acre. | Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. ct. | P.ct. | $P . c t$. | P. ct. | Busk. |  | P.ct. | P. ct. | P.ct. | $P$. ct. | Bush. |
| 1903 | 86. 2 | 80.3 | 80.5 | 74.0 | 8. 4 | 1914 | 90.5 | 82.1 | 72.9 | 77.4 | 8.4 |
| 1904 | 86.6 | 78.9 | 85.8 | 87.0 | 10.3 | 1915 | 88.5 | 91.2 | 87.6 | 84.5 | 10.1 |
| 1905 | 92.7 | 96.7 | 94.2 | 91.5 | 11. 2 | 1916 | 90.3 | 84.0 | 84.8 | 86.2 | 9.7 |
| 1806 | 93.2 | 92.2 | 89.0 | 87.4 | 10.2 | 1917 | 84.0 | 60.6 | 50.2 | 51.3 | 4.6 |
| 1907 | 91.2 | 91.9 | 85.4 | 78.0 | 9.0 | 1918 | 79.8 | 70.6 | 72.6 | 70.8 | 7.0 |
| 1908 | 92.5 | 86.1 | 82.5 | 81. 2 | 9.6 | 1919 | 73.5 | 52.7 | 50.5 | 52.6 | 4.8 |
|  |  |  |  |  |  | 1920 | 89.1 | 80.1 | 63.8 | 62.8 | 6.1 |
| 1909 | 95.1 | 92.7 | 88.9 | 84.9 | 9.5 |  |  |  |  |  |  |
| 1910 | 65.0 | 51.7 | 48. 3 | 47.2 | 5.2 | Av. 1914-1920 | 85.1 | 74.5 | 68.9 | 69.4 | 7.2 |
| 1911 | 80.9 | 71.0 | 68.4 | 69.6 | 7. 0 |  |  |  |  |  |  |
| 1912 | 88.9 | 87.5 | 86.3 | 83.8 | 9.8 | 1921 | 82.7 | 70.0 | 62.3 | 66.8 | 7.2 |
| 1913 | 82.0 | 77. 4 | 74.9 | 74.7 | 7.8 | 1922 | 87.6 | 84.7 | 82.7 | 82.6 | 8.3 |
| Av. 1909-1913 | 82.4 | 76.1 | 73.4 | 72.0 | 7.9 |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.
Table 153.-Flaxseed: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1910-1922.

| $\begin{gathered} \text { Cal- } \\ \text { endar } \\ \text { year. } \end{gathered}$ | Deficient moise. | $\begin{aligned} & \text { Ex- } \\ & \text { ces- } \\ & \text { sive } \\ & \text { mois- } \\ & \text { ture. } \end{aligned}$ | Floods. | Frost and freeze | Hail. | $\underset{\text { winds. }}{\text { Hot }}$ | Storms. | Total matic. | Plant disease. | Insect pests. | $\begin{aligned} & \text { Ani- } \\ & \text { mal } \\ & \text { pests. } \end{aligned}$ | De-fective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | $P$ ct. | P.ct. | P.ct. | P.ct. | P. ct. | P.ct. | P. ct. | P.ct. | P. ct. | P. ct. | P. ct. | P. ct. |
| 1910. | 49.4 | (2) |  | 2.5 | 0.9 | 6.2 | 0.1 | 59.3 | 1.3 | 1.7 | ${ }^{(2)}$ |  | 63.1 |
| 1911 | 16. 4 | 1.1 |  | 8.4 | . 9 | 2.8 | . 1 | 30.5 | 2.2 | 1.7 | ${ }^{(2)}$ | .2 | 36.3 |
| 1912 | 5. 1 | 2.9 | 0.2 | 5.9 | 2.8 | 1.1 | . 8 | 19.0 | 3.7 | .4 | 0.4 | 1.4 | 23.6 |
| 1913- | 24.3 | . 7 | . 1 | 1.0 | 1.7 | 2. 2 | .2 | 30.6 | 1.6 | . 2 |  | .4 | 34.5 29.1 |
| 1914-- | 11.4 | 1.7 | . 2 | 2.0 | 1.9 | 6.6 | .3 | 24.1 | 2.2 | . 5 | 2 | 4 | 29.1 |
| 1915. | 21 | 20 | . 3 | 8.5 | 2.1 | 4 | . 2 | 16.1 | 2.6 | . 1 | ${ }^{(2)}$ | ${ }^{(2)}$ | 20.0 |
| 1916 | 3.3 | 2.3 |  | 1.4 | 1.7 | 2.8 | . 3 | 12.4 | 3.9 | . 1 | (2) | .1 | 17.2 |
| 1917-- | 51.3 | .3 | $\left.{ }^{2}\right)$ | 2.9 | 1.2 | 2.9 | ${ }^{(2)}$ | 59.3 | 1.2 | 1.2 | (2) | . 1 | 62.3 |
| 1918-- | 26.2 | .2 | . 1 | 3.3 | 2.3 | 2.5 | .2 | 34. 8 | 1.0 | 2.6 | (3) | . 1 | 39.3 |
| 1919.- | 38.0 | 7 | . 1 | . 5 | 2.0 | 4.1 | ${ }^{(2)}$ | 45.5 | 3.7 | 10.6 | . 1 | (2) | 60.2 |
| 1920.- | 23.2 | 1.2 | .3 | . 6 | 1.7 | 4.2 | .2 | 31.7 | 4. 5 | 3.7 |  | . 1 | 41.4 |
| 1921.- | 25.2 | . 8 | .2 | ${ }^{4}$ | 1.9 2.4 | 6.6 1.7 | .12 | 36.3 14.8 | 4.3 2.6 | 3.1 3.9 | (2) | .1 | 21.4 |
| 1922. | 9.6 | .4 |  | $\cdot 3$ | 2.4 | 1.7 | . 2 | 14.8 |  |  |  |  |  |

[^169]Table 154.-Flax: Area in undermentioned countries, 1909-1923. NORTHERN HEMISPHERE.
-

| Country. | Area. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | A verage, 1909-1913. | 1920 | 1921 | 1922 | 1923 |
| NORTH America. | $\begin{gathered} \text { Acres. } \\ 1,035,000 \\ 2,489,800 \end{gathered}$ | $\begin{aligned} & \text { Acres. } \\ & 1,428,164 \\ & 1,757,000 \end{aligned}$ | $\begin{gathered} \text { Acres. } \\ 533,147 \\ 1,108,000 \end{gathered}$ | $\begin{array}{r} \text { Acres. } \\ 565,479 \\ 1,113,000 \end{array}$ | $\begin{aligned} & \text { Acres. } \\ & 629,938 \\ & 2,061,000 \end{aligned}$ |
| Canada |  |  |  |  |  |
|  |  |  |  |  |  |
| EUROPE. |  |  |  |  |  |
| United Kingdom: |  |  |  |  |  |
| England and Wales | 5380 | 22, 300 | 7,800 | 9,360 | 9,446 |
| Sweden | 53,000 3,841 | 127, 198 | 39, 845 | 34, 032 |  |
| Netherlands | 33,000 | 60, 179 | 21, 510 | 23,954 | 24,300 |
| Belgium. | 48, 930 | 125, 344 | 37, 164 | 40,700 | 45, 200 |
| France. | ${ }^{1} 61,540$ | 86, 048 | 43, 163 | 45, 429 |  |
| Spain | ${ }^{2} 7,349$ | 2, 978 | 4, 097 | 4,200 | 4, 200 |
| Italy | ${ }^{3} 41,513$ | 49, 914 | 52, 632 | 52, 385 | 49,400 |
| Germany | ${ }^{11} 41,266$ | 139, 458 | 117, 795 | 114, 580 |  |
| Austria- | 196,525 | 7,554 | 8,357 | 9,200 |  |
| Czechoslovakia |  | 54, 406 | 58, 409 | 56, 151 | 55, 059 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | 1720 | 1,290 | 638 | 1,700 | 1,300 |
| Rumania. | ${ }^{1} 52,266$ | 24, 582 | 27, 225 | 26, 800 | 30, 500 |
| Poland. |  | 120, 825 | 175, 095 | 251, 500 | 255, 600 |
| Lithuania |  | 166, 076 | 126, 800 | 126, 500 | 128, 700 |
| Latvia |  | 75, 363 | 84, 335 | 93, 300 | 139,500 |
| Esthonia |  | 50,048 | 50,342 | 59, 200 | 59, 200 |
| Finland. | ${ }^{4} 12,236$ | 15,985 | 16,828 | 13,600 | 10,600 |
| Russia, including Ukraine and Northern Caucasia | ${ }^{15} 3,409,345$ | 1,538, 000 | ${ }^{6} 1,775,000$ | 1,862, 000 |  |
| africa. |  |  |  |  |  |
| Morocco (French, Western) |  | 96, 147 | 43, 663 | 31,700 | 39,500 |
| Algeria | 1,366 | 988 | 741 | 700 | 800 |
| Tunis.- |  | 8,317 | 9,180 | 3,800 | 7,400 |
| Egypt. |  | 5,765 | 1,384 | 1,400 | 1,700 |
|  |  |  |  |  |  |
| ASIA. |  |  |  |  |  |
| India | 3, 818, 080 | 3, 103, 000 | 2, 269, 000 | 3, 011, 000 | 3,358, 000 |
| Russia, Asiatic. | ${ }^{1} 376,000$ | 213, 000 |  | 298, 000 |  |
| Japan... | 12, 139 | 103, 201 | 76, 428 | 39,100 |  |

SOUTHERN HEMISPHERE.

| Country. | Area. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | A verage, 1909-1913 | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| Chile | Acres. $3,149$ | Acres. 897 | Acres. $500$ | Acres. 800 | Acres. |
| Uruguay- | 126, 528 | 78,867 | 60,935 | 84, 500 | 102,500 |
| Argentina | $4,004,058$ 21,056 | $4,769,030$ 1,072 | 3,891, 825 | 4, 194, 028 |  |
| New Zealand | ${ }^{4} 2,565$ | 9, 662 | 5,881 | 10,600 |  |
| World total comparable with 19091913 | 15, 777, 409 | 14, 183, 008 |  |  |  |
| World total comparable with 1923.- |  | 12, 025,535 | 8, 591, 116 | 9, 771, 557 | 12, 273, 238 |

Division of Statistical and Historical Research.
Official and International Institute of Agriculture, unless otherwise stated.
Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }^{1}$ Pre-war boundaries.
${ }^{2}$ Two years.
${ }^{8}$ Three-year average.
${ }^{4}$ One year.
${ }^{5}$ Pre-war Poland included in Russia, Austria, and Germany.
${ }^{6}$ From an unofficial source.

Table 155.-Flax: Production in undermentioned countries, 1909-1923. NORTHERN HEMISPHERE.

| Country. | Seed. |  |  |  | Fiber. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { A verage } \\ 1909-1913 . \end{gathered}$ | 1921 | 1922 | 1923 | Average 1909-1913. | 1921 | 1922 | 1923 |
| NORTH AMERICA. | 1,000bushels. 12,04019,543 | 1,000bushels. 4,1128,029 | 1,000 bushels. 5,00910,375 | 1,000bushels. 6,94217,429 | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| United States EUROPE. |  |  |  |  |  |  |  |  |
| United Kingdom: <br> England and <br> Wales. |  |  |  |  |  |  |  |  |
| Ireland.-.-... |  |  |  |  | 23,701 | 10,725 | 12,390 |  |
| Sweden- | ${ }^{1} 14$ | 17 | 11 |  | ${ }^{1} 1,128$. | 1, 512 | 1,098 |  |
| Netherlands | 374 | 249 | 250 |  | 17, 276 | 10, 853 | 9,691 |  |
| Belgium--- |  | 328 | 356 | 396 | ${ }_{3}^{2} 51,888$ | 20,027 | 33,480 | 40,370 |
| France-- |  | 288 46 | 223 51 | 51 | 3 30,623 21,995 | 23,333 1,157 | 30,185 1,420 | 1,170 |
| Italy. | 329 | 516 | 413 | 433 | 6,289 | 5,930 | 4,982 | 5, 510 |
| Austria | ${ }^{3} 694$ | 45 | 48 |  | ${ }^{3} 53,116$ | 6,739 | 7,130 |  |
| Czechoslova |  | 300 73 | 312 41 | 427 |  | 28,693 7,618 | 27,731 | 30,078 |
| Hungary--- <br> Yugoslavia | 196 | 73 |  |  | ${ }^{3} 20,547$ | 7,618 $\mathbf{1 6 , 6 8 0}$ | 5, $\mathbf{1 5 , 2 7 0}$ |  |
| Serbia, Croatia-Slavonia and BosniaHerzegovina | ${ }^{3} 21$ |  |  |  | ${ }^{3} 10,564$ |  |  |  |
| Bulgaria.-.-...-...---- | 88 | . 3 | 15 | 11 | ${ }^{13} 447$ | 169 | 650 | 550 |
| Rumania | 8467 | 128 | 194 |  | ${ }^{3} 4,864$ | 2, 670 | 3,110 |  |
| Poland. | ( ${ }^{\text {) }}$ | 1,287 | 1,995 |  | ${ }^{(4)}$ | 92, 614 | 113,770 |  |
| Lithuania |  | 909 | 1,108 | 1,026 |  | 41,470 | 45, 190 | 45, 978 |
| Latvia.- |  | 625 275 | 563 328 | ${ }_{304}^{982}$ |  | $\begin{array}{r}30,675 \\ 15 \\ \hline\end{array}$ | 37,560 20,750 | 54,180 19,800 |
| Esthonia Finland. |  | 275 | 328 |  |  | 15 3,486 | - 3 3, 527 | 19,800 |
| Russia, including Ukraine and Northern Caucasia. | ${ }^{34} 21,338$ |  | 7,866 |  | 3,41,255,973 |  | 429, 995 |  |
| africa. |  |  |  |  |  |  |  |  |
| Morocco (French)...- |  | 418 | 267 |  |  |  |  |  |
| Algeria... | 13 | 11 | 6 | 10 | ${ }^{5} 188$ |  |  |  |
| Tunis.. | 37 | 59 | 4 | 47 |  |  |  |  |
| Kenya.-....... |  | 35 | 33 |  |  | 2, 545 |  |  |
| ASIA. |  |  |  |  |  |  |  |  |
| India---..-- | 19, 870 | 10, 800 | 17,440 | 21, 280 | - 127,613 |  | 61,392 |  |
| Asiatic Russia | 12,123 198 | 634 | 1, 275 |  | 5,174 | 24, 980 | 10,710 |  |

SOUTHERN HEMISPHERE.

| Country. | Seed. |  |  |  | Fiber. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Average } \\ 1909-1913 . \end{gathered}$ | 1921-22 | 1922-23 | 1923-24 | $\begin{gathered} \text { Average } \\ 1009-1913 \end{gathered}$ $1909-1913 .$ | 1921-22 | 1922-23 | 1923-24 |
| Chile. | $1,000$ bushels. 35 | $1,000$ <br> bushels. $8$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. | $\begin{array}{r} 1,000 \\ \text { pounds. } \\ 43 \end{array}$ | $\begin{array}{r} 1,000 \\ \text { pounds. } \\ 210 \end{array}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | 1,000 <br> pounds. |
| Uruguay.- | 976 | 519 | 719 |  |  |  |  |  |
| Argentina------------- | 31, 117 | 36, 046 | 44, 280 | 63, 225 |  |  |  |  |
| Australia | ${ }^{5} 9$ | 10 |  |  | ${ }^{6} 128$ | 49 |  |  |
| New Zealand.-------- |  | 113 | 205 |  |  |  |  |  |
| World total comparable with 1909-1913 | 110, 331 |  |  |  | 1,621, 557 | -------- |  |  |
| World total comparable with 1923. $\qquad$ |  | 62, 059 | 80, 260 | 112, 563 |  | 144, 027 | 171, 763 | 197,628 |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[^170]Table 156.-Flaxseed: Monthly marketings by farmers, United States, 1917-1922.

| Year beginning July 1. | Percentage of year's receipts as reported by about 3,500 mills and elevators. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Season. |
| 1917-18 | 1.8 | 3.6 | 21.5 | 28.1 | 17. 6 | 7.6 | 4. 7 | 4.0 | 4. 8 | 1.8 | 1. 6 | 2.9 | 100.0 |
| 1918-19 | 1.8 | 2.9 | 14.8 | 21.5 | 15.0 | 10.9 | 5. 2 | 4.4 | 5. 8 | 4.3 | 5. 0 | 8.4 | 100.0 |
| 1919-20 | 3. 6 | 8. 0 | 20.6 | 22.2 | 11.1 | 7. 4 | 5. 0 | 6. 3 | 3. 1 | 3.1 | 2. 6 | 7.0 | 100.0 |
| 1920-21 | 2.1 | 4. 7 | 23.6 | 28. 6 | 13.0 | 6. 2 | 5. 0 | 3.3 | 3. 1 | 2.1 | 3. 4 | 4.9. | 100.0 |
| 1921-22 | 6. 4 | 10.9 | 20. 7 | 25. 7 | 12.0 | 6. 9 | 4. 3 | 2. 8 | 3. 0 | 2.4 | 2.1 | 2.8 | 100.0 |
| 1922-23 | 2.5 | 13.4 | 27.6 | 23.3 | 11.4 | 5.9 | 4.7 | 3.0 | 2. 7 | 2.3 | 1.6 | 1. 6 | 100.0 |

Division of Crop and Livestock Estimates.
Table 157.-Flaxseed: Receipts at Minneapolis, 1910-1923.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. | bush. |
| 1910-11 | . 854 | -1,530 | 1,292 | 535 | 338 | 300 | 232 | 112 | 118 | 122 | 133 | 191 | 5,757 |
| 1911-12 | 563 | 1, 212 | 1, 570 | 1,716 | 531 | 459 | 397 | 468 | 571 | 440 | 487 | 160 | 8, 574 |
| 1912-13 | 700 | 1,657 | 1,520 | 2,245 | 1,450 | 1,146 | 1, 057 | 742 | 518 | 514 | 432 | 281 | 12,362 |
| 1913-14 | 756 | 1, 686 | 1,505 | 1,131 | 711 | 478 | 592 | 270 | 139 | 165 | 233 | 117 | 7, 783 |
| 1914-15 | 901 | 1,800 | 1,247 | 1, 016 | 599 | 443 | 384 | 142 | 77 | 146 | 239 | 115 | 7,199 |
| 1915-16 | 347 | 1, 038 | 1,506 | 1,113 | 319 | 399 | 810 | 486 | 440 | 363 | 441 | 199 | 7,461 |
| 1916-17 | 316 | 2, 380 | 1,694 | 1, 045 | 544 | 442 | 441 | 384 | 263 | 565 | 325 | 92 | 8,491 |
| 1917-18 | 265 | 980 | I, 112 | 614 | 533 | 553 | 527 | 283 | 349 | 648 | 208 | 94 | 6,166 |
| 1918-19 | 536 | 915 | 857 | 788 | 558 | 473 | 829 | 439 | 436 | 942 | 642 | 196 | 7,611 |
| 1919-20 | 753 | 570 | 568 | 492 | 344 | 368 | 409 | 159 | 295 | 522 | 554 | 297 | 5, 331 |
| 1920-21 | 580 | 1, 444 | 861 | 699 | 298 | 269 | 364 | 434 | 578 | 572 | 338 | 289 | 6,726 |
| Av. 1914-1920. | 528 | 1,317 | 1, 121 | 824 | 457 | 421 | 538 | 332 | 348 | 537 | 392 | 183 | 6, 998 |
| 1921-22 | 500 | 1, 144 | 375 | 354 | 308 | 200 | 254 | 196 | 360 | 220 | 157 | 288 | 4,296 |
| 1922-23 | 909 | 1, 121 | 580 | 577 | 494 | 238 | 316 | 456 | 393 | 458 | 382 | 884 | 6,808 |
| 1923-24 | 2, 553 | 2, 025 | 1,360 | 865 |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Minneapolis Chamber of Commerce reports and Daily Market Record.

Table 158.-Flaxseed; including linseed oit: Production, imports, exports, and net supply in the United States, 1911-1922.

| Year beginning July 1. | Production. | Imperts of seed. | Imports of | Exports of seed (domestic and foreign). | Exports of oil (domestic and foreign). ${ }^{1}$ | $\begin{aligned} & \text { Net sup- } \\ & \text { ply. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1911-12 |  | Bushels. | Bushets. | Bushels. | Bushels. | Bushels. |
| 1912-13 | 28, 073,000 | 5, 294,296 | -69, 476 | 17,062 | 693, 579 | 32, 726131 |
| 1913-14- | 17, 853, 000 | 8, 653,235 | 76, 913 | 305, 796 | 95, 775 | 26, 181, 577 |
| 1914-15. | 13, 749, 000 | 10, 666, 215 | 214, 116 | 67, 173 | 484, 857 | 24,077,301 |
| 1915-16. | 14, 030, 000 | 14, 679, 233 | 20, 059 | 2, 631 | 285, 648 | 28, 441, 013 |
| 1916-17 | 14, 296, 000 | 12, 393, 988 | 44, 323 | 1,017 | 480, 622 | 26,252, 672 |
| 1917-18. | 9, 164,000 | 13, 366, 529 | 20,331 | 22,332 | 476, 216 | 22, 052,312 |
| 1918-19. | 13, 369,000 | 8, 426, 886 | 395, 225 | 15, 618 | 439, 173 | 21, 737, 020 |
| 1919-20 | 7, 256, 000 | 23, 391, 934 | 1,820, 156 | 48,980 | 456, 806 | 31, 262,304 |
| 1920-21 | 10, 774, 000 | 16, 170, 415 | 798, 634 | 1,486 | 224, 514 | 27, 517,049 |
| 1921-22 | 8, 229,000 | 13, 632,073 | 8, 997, 620 | 2, 281 | 148, 605 | 30, 507, 807 |
| 1922-23. | 10, 375, 090 | 25, 005, 936 | 3,027, 399 | ${ }^{2} 216$ | 165, 605 | 38, 242, 514 |

[^171]Table 159.-Flaxseed used in the production of oil, United States, 1919-1923.

| Year. | July-Sept. | Oct.-Dec. | Jan.-Mar. | Apr.-June | $\begin{aligned} & \text { Year end- } \\ & \text { ing June } 30 . \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1918-19. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. 1, 041 | 1,000 bushels. 4, 785 | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ |
| 1919-20 | 6,899 | 7,684 | 6,336 | 6,407 | 27, 326 |
| 1920-21 | 6,542 | 6,341 | 6, 343 | 6, 332 | 25, 558 |
| 1921-22 | 5,812 | 7,539 | 6,713 | 3,441 | 23, 505 |
| 1922-23 | 5,583 | 8, 602 | 8, 292 | 8,689 | 31, 166 |
| 1923-24 | 8,223 | 8,970 |  |  |  |

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census. Converted to bushels of 56 pounds.
Table 160.-Flaxseed: Imports into the United States by countries, 1910-1923.

| - | Year ending June 30. | Argentina. | Canada. | British India. | Other countries. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1,000 batsh. 3, 029 | 1,000 busk. 1,410 | 1,000 bush. 194 | $1,000$ bush. | 1,000 bush. 5, 002 |
| 1909-10- |  | 3,029 | 1,410 | 2. 334 | 369 893 | 5,002 10,499 |
| 1910-11 |  | 5, 2121 | 2,2511 | 2, 1,525 | 595 | 10,482 |
| 1912-13. |  | 429 | 4,732 | 129 | 4 | 5,294 |
| 1913-14. |  |  | 8,647 | (1) | 6 | 8,653 |
| 1914-15. |  | 3,928 | 6,630 | 40 | 68 | -10,666 |
| 1915-16. |  | 11,468 | 3, 695 |  | 116 | 14, 679 |
| 1916-17. |  | 5,009 | 7,015 | 123 | 247 | 12,394 |
| 1917-18 |  | 7, 432 | 5,501 |  | 434 | 13, 367 |
| 1918-19. |  | 6,977 | 1,304 | 11 | 135 | 8,427 |
| 1919-20. |  | 22, 242 | 816 |  | 334 | 23, 392 |
| 1920-21 |  | 13, 145 | 2,635 |  | 390 | 16, 170 |
| 1921-22 |  | 10, 409 | 3,013 | 12 | 198 | 13, 632 |
| 1922-23. |  | 22, 331 | 2, 191 | -------- | 484 | 25,006 |

Division of Statistical and Historical Research.
${ }^{1}$ Less than 500 bushels.
Table 161.-Flaxseed: International trade, calendar years, 1911-1922.

| Country. | Average 1911-1913. |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING countries. <br> Argentina | $1,000$ bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 25,562 \end{gathered}$ | $1,000$ butshels. $\begin{array}{r} 3 \\ 380 \end{array}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 41,829 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \\ 53,549 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. 36,453 |
| Aritish India | ${ }_{1} 323$ | 1 14, 409 | 280 | 7,839 | 283 | 4, 264 | 260 | 12,404 |
| Canada | 89 | 10,645 | 617 | 1,519 | 270 | 3,728 | 45 | 2,073 |
| China |  |  |  | $\stackrel{242}{9}$ | ${ }^{2} 47$ | 2181 | ${ }^{1} 74$ | 1,331 1899 |
| Moroceo (French) |  | 338 |  | 706 |  | 590 |  | ${ }^{2} 225$ |
| Ramania | 19 | 120 |  |  |  |  |  |  |
| Russia | (3) 80 | $\begin{array}{r} 5,739 \\ \hline 99 \end{array}$ | 1 |  | ${ }_{\left({ }^{2} 2\right.}^{2}$ | 79 | (3) |  |
| Uruguay. |  | 994 |  | 784 |  | ${ }^{2} 887$ |  | ${ }^{2} 500$ |
| PRINCIPAL IMPORTING COUNTRIES. <br> Australia | 103 | (3) |  |  | 712 |  |  |  |
| Austria--------- |  |  | 224 | (3) | 24 | (8) | 21 | (3) |
| Austria-Hungary | 1,913 9,313 | 5,965 |  |  |  |  |  |  |
| Belgium | 9, 313 | 5,965 | 1,586 102 | (3) | 6,273 2 1 | ${ }_{\text {(\%) }}{ }^{\text {d }}$ | 2,934 802 | (3) 102 |
| Denmark | 110 |  | 1,049 | (3) | 1,106 | (\%) | 602 142 | ${ }^{(3)} 21$ |
| Finland | 110 6,304 | ${ }^{(3)} 60$ | $\begin{array}{r}104 \\ 1,284 \\ \hline\end{array}$ | 67 | 139 4,280 | 12 | 142 5,288 | 47 |
| Germany | 15, 312 | 210 | 2,080 | 13 | - 5, 908 | 445 | 4,061 | 2 |
| Erungary | 1,698 |  | 871 | (3) | 21 749 | (3) | 1,217 | 2 |
| Japan | ${ }_{5} 52$ | ${ }^{5} 27$ | 114 | 74 | 162 | 103 | ${ }^{2} 139$ |  |
| Netherlands. | 8,741 | 2, 488 | 3, 826 | 179 | 10,788 | 210 | 9, 862 | 201 |
| Norway --.-. | 445 |  | 3,332 1,085 |  | 438 1,061 |  | 1,042 |  |
| Sweden United Kingdom....-. | 911 -15908 | 7 | 1,085 15,520 | (3) | 1,061 18,528 | 1 | 1,042 14,093 |  |
| United States .....-.-- | 7,298 | 101 | 24,641 | 16 | 12, 326 |  | 14, 913 | 2 |
| Other countries.-.-.-- | 575 | 139 | 32 | 74 | 32 | 212 | 25 | 209 |
| Total | 69, 171 | 67, 533 | 54, 121 | 53,498 | 63,705 | 66,571 | 56, 272 | 54, 087 |

[^172]Table 162.-Flaxseed: Farm price per bushel, 1st of month, United States, 1908-1923.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Weight ed av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908-9------------ | $\begin{gathered} \text { Cts. } \\ 109.6 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 107.0 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 108.3 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 118.4 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ \text { 123. } \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ \text { 129.8. } \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ \text { 141. } 3 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ \text { 145. } 6 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 148.7 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 153.4 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 153.2 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 137.0 \end{gathered}$ | Cts. 118.4 |
| 1909-10 | 123.1 | 122.8 | 139.8 | 152.9 | 171.2 | 192.9 | 193.1 | 193.9 | 209.5 | 195. 5 | 183.5 | 209. 7 | 153.2 |
| 1910-11 | 220.0 | 234. 3 | 229.4 | 231.7 | 221.1 | 233.9 | 240.7 | 234.6 | 241.9 | 225.0 | 205. 6 | 199. 2 | 229.4 |
| 1911-12 | 203.6 | 205.0 | 210.6 | 182. 1 | 187.1 | 190.8 | 183.9 | 191.3 | 181.0 | 205.0 | 198. 4 | 175. 2 | 197. 1 |
| 1912-13 | 162.6 | 147. 7 | 133.4 | 114. 7 | 106. 2 | 109. 3 | 119.0 | 113.6 | 114. 3 | 115.8 | 113.4 | 118. 6 | 125.9 |
| 1913-14 | 127.8 | 122.6 | 118.7 | 119.9 | 124.2 | 127.8 | 132.5 | 132.8 | 134.7 | 136.8 | 136.0 | 150.7 | 123.2 |
| Av. 1909-1913..-- | 167.4 | 166.5 | 166.4 | 160.3 | 162.0 | 170.9 | 173.8 | 173.2 | 176.3 | 175.6 | 167.4 | 170.7 | 165.8 |
| 1914-15 | 139.3 | 127.4 | 118.7 | 126.0 | 134.8 | 163.7 | 157.9 | 167.7 | 169.6 | 169.5 | 152.5 | 144.6 | 132.0 |
| 1915-16 | 143.5 | 148.1 | 162.9 | 174.0 | 185.9 | 210.9 | 202.5 | 202.1 | 191.8 | 176. 5 | 163.2 | 178.1 | 170.6 |
| 1916-17 | 190. 2 | 199.2 | 234. 7 | 248.6 | 250.7 | 253. 7 | 253.1 | 266.1 | 300.6 | 298. 8 | 278.0 | 271.6 | 239.4 |
| 1917-18 | 302.8 | 308. 5 | 295.9 | 296.6 | 310.8 | 326. 7 | 349.8 | 379. 7 | 373.3 | 363.6 | 349.3 | 410.5 | 311.0 |
| 1918-19 | 381. 2 | 380.9 | 333. 8 | 340.1 | 327. 7 | 310.1 | 327.4 | 348. 7 | 361.4 | 389.3 | 444. 1 | 540.6 | 349.2 |
| 1919-20 | 517.5 | 438. 2 | 382.3 | 438.3 | 433.6 | 456.5 | 472.7 | 455. 7 | 448. 2 | 421.1 | 359.6 | 303. 7 | 421.4 |
| 1920-21 | 290.3 | 279.7 | 240.1 | 176.7 | 163.7 | 156.3 | 150.4 | 142.6 | 125.7 | 145. 7 | 145.8 | 162.1 | 208.4 |
| Av. 1914-1920..- | 280.7 | 268.9 | 252.6 | 257.2 | 258.2 | 268.3 | 273.4 | 280.4 | 281.5 | 280.6 | 270.4 | 287.3 | 261.7 |
| 1921-22 | 164.8 | 162.9 | 145.0 | 145. 1 | 151.1 | 173.1 | 216. 2 | 218. 7 | 230.6 | 236.9 | 223.0 | 211.4 | 161.2 |
| 1922-23 | 190.1 | 188. 1 | 210.7 | 211.5 | 224. 2 | 235.6 | 255.1 | 268. 0 | 291.0 | 255. 2 | 241.7 | 215.9 | 216.0 |
| 1923-24 | 204.8 | 212.1 | 212.1 | 210.8 |  |  |  |  |  |  |  |  |  |

## Division of Crop and Livestock Estimates.

Table 163.-Flaxseed: Farm price per bushel, December 1, calendar years, 19081923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | Av. 19091913 | 1914 | 1915 | 1916 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| W is consin | 115 | 135 | 220 | 185 | 127 | 123 | 158 | 125 | 180 | 240 |
| Minnesota | 120 | 150 | 230 | 182 | 120 | 123 | 161 | 128 | 176 | 240 |
| Iowa.. | 110 | 130 | 220 | 185 | 124 | 123 | 156 | 120 | 150 | 215 |
| North Dakota | 119 | 157 | 235 | 184 | 114 | 121 | 162 | 128 | 178 | 252 |
| South Dakota | 119 | 151 | 229 | 178 | 113 | 120 | 158 | 123 | 167 | 247 |
| Nebraska.. | 112 | 122 | 225 | 185 | 128 | 110 | 154 | 119 | 147 | 230 |
| Kansas . | 102 | 110 | 210 | 190 | 130 | 116 | 151 | 125 | 145 | 234 |
| Montana W yoming. | 100 | 160 | 240 | 180 | 112 | 115 | 161 | 120 | 170 | 248 |
|  |  |  |  |  |  |  |  |  | 145 | 225 |
|  | 118.4 | 152.6 | 231.7 | 182.1 | 114.7 | 119.9 | 160.2 | 126.0 | 174.0 | 248.6 |
| State. |  |  |  |  |  |  |  |  |  |  |
|  |  | 1917 | 1918 | 1919 | 1920 | Av. 19141920 | 1921 | 1922 | 1923 |  |
|  | - | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Dollars. |
| W isconsin | - |  | 330 | 430 | 212 |  | 150 | 180 | 210 | 25.41 |
| Minnesota |  | 295 | 341 | 445 | 183 | 258 | 151 | 218 | 213 | 21.30 |
| Iowa |  | 275 | 320 | 420 | 180 | 240 | 153 | 185 | 210 | 19.95 |
| North Dakota |  | 300 | 345 | 441 | 178 | 260 | 143 | 214 | 212 | 16.32 |
| South Dakota |  | 299 | 325 | 425 | 165 | 250 | 139 | 201 | 208 | 17.68 |
| Nebraska. |  | 250 | 330 | 400 | 155 | 233 | 150 | 190 | 210 | 23. 10 |
| Kansas .- |  | 290 | 330 | 380 | 180 | 241 | 135 | 186 | 215 | 16. 34 |
| Montana |  | 295 | 338 | 440 | 175 | 255 | 140 | 197 | 193 | 15.83 |
| W yoming |  | 261 | 325 | 350 | 135 | 240 | 118 | 190 | 190 | 19.00 |
|  |  | 296.6 | 340.1 | 438.3 | 176. 7 | 257.2 | 145. 1 | 211.5 | 210.8 | 17.82 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based upon farm price Dec. 1.

Table 164.-Flaxseed: Average closing price per bushel, Minneapolis, 1899-1923.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - |  |  |  |  | \$1.45 | \$1. 55 | \$1. 59 | \$1. 68 | \$1.75 | \$1.75 | \$1. 63 | \$1.35 |  |
| 1900-1 | \$1. 49 | \$1. 70 | \$1.71 | \$1. 62 | 1.65 | 1.60 | 1.54 | 1. 68 | 1.75 | 1. 75 | 1.85 | 1.60 | \$1.66 |
| 1901-2 | 1. 50 | 1.45 | 1.42 | 1. 47 | 1.65 | 1.70 | 1.72 | 1.75 | 1. 75 | 1.74 | 1.52 | 1. 42 | 1.59 |
| 1902 | 1.31 | 1.20 | 1.18 | 1.19 | 1.19 | 1.15 | 1.12 | 1. 10 | 1.14 | 1.07 | . 97 | . 97 | 1.13 |
| 1903 | 1. 00 | . 98 | . 94 | + 97 | 1. 06 | 1.15 | 1.14 | 1.12 | 1.06 | 1.07 | 1.19 | 1. 24 | 1.08 |
| 1904 | 1.22 | 1.14 | 1.16. | 1.23 | 1.23 | 1. 27 | 1. 39 | 1.39 | 1. 42 | 1.47 | 1.47 | 1. 42 | 1.32 |
| 1806 | 1.04 | . 97 | 98 | 1. 1.19 | 1. 16 | 1. 14 | 1. 13 | 1.15 | 1.14 | 1.11 | 1.10 | 1. 11 | 1. 09 |
| 1907 | 1.22 | 1.27 | 1.13 | 1.12 | 1.17 | 1.16 | 1.16 | 1.17 | 1.23 | 1.23 | 1. 21 | 1. 29 | . 28 |
| 1908 | 1.23 | 1.22 | 1.38 | 1.45 | 1.56 | 1.64 | 1. 64 | 1.65 | 1.72 | 1. 77 | 1.59 | 1. 42 | 1. 52 |
| 1909 | 1.41 | 1.57 | 1.75 | 1.93 | 2.18 | 2.18 | 2.25 | 2.38 | 2.22 | 2.04 | 2.34 | 2.47 | 2.06 |
| 10-1 | 2.66 | 2.62 | 2.61 | 2.42 | 2.60 | 2. 68 | 2.60 | 2. 56 | 2.47 | 2. 24 | 2.10 | 2.34 | 2.49 |
| 1911-12 | 2.47 | 2.35 | 2.04 | 2.06 | 2.15 | 2. 06 | 2.06 | 2.15 | 2.23 | 2.25 | 1.97 | 1.86 | 2. 14 |
| 1912 | 1.76 | 1. 60 | 1.35 | 1.25 | 1. 29 | 1.34 | 1. 26 | 1.29 | 1.30 | 1.31 | 1.38 | 1. 47 | 1.38 |
| 1913 | 1.45 | 1.38 | 1.35 | 1. 44 | 1.49 | 1. 53 | 1.58 | 1.54 | 1. 56 | 1. 59 | 1.68 | 1.64 | 1.52 |
| Av. 190 | 1.95 | 1.90 | 1.82 | 1.82 | 1.94 | 1.96 | 1.95 | 1.98 | 1.96 | 1.89 | 1.89 | 1.96 | 1.92 |
| 1914-15 | 1.51 | 1.33 | 1.45 | 1.54 | 1.83 | 1.86 | 1.91 | 1.93 | 1.95 | 1.76 | 1.67 | 1.67 | 1.78 |
| 1915-16 | 1. 70 | 1. 86 | 1.99 | 2.07 | 2.31 | 2.32 | 2.27 | 2.13 | 1.96 | 1. 80 | 1.96 | 2. 15 | 2.04 |
| 1916-17 | 2.11 | 2.54 | 2.78 | 2.84 | 2.89 | 2.81 | 2.90 | 3.18 | 3.33 | 3.11 | 3.01 | 3. 46 | 2. 91 |
| 1917-18 | 3. 38 | 3.16 | 3. 29 | 3. 40 | 3.60 | 3.74 | 4.08 | 4.09 | 3. 93 | 3.86 | 4. 40 | 4. 39 | 3. 78 |
| 1918-19 | 4.09 | 3. 59 | 3.77 | 3. 54 | 3.41 | 3.45 | 3. 75 | 3.88 | 4. 12 | 4.86 | 5. 94 | 5. 87 | 4. 19 |
| 1919-20 | 4. 92 | 4.32 | 4.83 | 4.99 | 5. 12 | 5.09 | 5.02 | 4.68 | 4.53 | 3.92 | 3. 48 | 3. 28 | 4.52 |
| 1920-21 | 3. 23 | 2. 83 | 2. 27. | 2.06 | 1.96 | 1.82 | 1.78 | 1. 58 | 1.84 | 1. 86 | 1.89 | 2. 01 | 2. 09 |
| AV. 191 | 2.99 | 2.80 | 2.91 | 2.92 | 3. 02 | 3.01 | 3.10 | 3.07 | 3.09 | 3.02 | 3. 19 | 3. 26 | 3.03 |
| 1921-22 | 2.03 | 1.81 | 1.81 | 1.89 | 2.13 | 2.46 | 2.57 | 2.70 | 2.80 | 2.50 | 2. 59 | 2.29 | 2.19 |
| 1922-23 | 2. 28 | 2.38 | 2.48 | 2. 62 | 2. 80 | 3.04 | 3.07 | 3.40 | 2.94 | 2. 80 | 2. 70 | 2.34 | 2. 58 |
| 1923-24_ | 2. 38 | 2. 48 | 2. 41 | 2. 46 |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Complied from Annual Reports of the Minneapolis Chamber of Commerce and the Minneapolis Daily Market Record. From Jan. 1, 1921, prices are weighted averages.

## LINSEED OIL.

Table 165.-Linseed oil: International trade, calendar years, 1909-1922.

| Country. | Average 1909-1913. ${ }^{1}$ |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORT- <br> ING COUNTRIES. <br> Argentina | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 886 \end{gathered}$ | $\begin{gathered} 1,000 \\ p_{\text {ound }} \\ 2.2 \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { pounids. } \\ & 522 \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 3,013 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 747 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ |
| Belgium.- | 10, 233 | 26,790 | 7,795 | 16, 117 | 11,205 | 25, 623 | 1,272 | 19, 831 |
| Denmark |  |  | 845 | 5,777 | 865 | 2, 281 |  | 391 |
| Netherlands |  |  | 2,137 | 59,239 | 2,124 | 145, 569 | 62 | 157,928 |
| United Kingdom. | 58,018 | 58, 013 | 3,358 | 108, 463 | 110 | 123, 764 | 9, 103 | 133, 388 |
| PRINCIPAL TMPORTing countries. |  |  |  |  |  |  |  |  |
| Australia | 12, 252 |  | 3, 487 | 320 | 5,737 | 55 |  |  |
| Austria |  |  | ${ }^{1} 2,847$ |  | ${ }^{1} 6,863$ |  |  |  |
| Austria-Hungary | 16,367 | 6, 542 |  |  |  |  |  |  |
| Brazil. | 8,726 |  | 8, 769 |  | 4,617 |  |  |  |
| British Ind | 3, 430 | 1,967 | 2, 594 | 3,125 | 1, 953 | 399 | 2,792 | ${ }_{94} 9$ |
| Canada | 2, 279 |  | 8, 323 |  | 254 | 58 | 1,058 | 94 |
| Chile---1-----1 | 2, 854 | 15 | -3,112 |  | 7777 |  |  |  |
| Crechoslovakia | 43,199 |  | $\begin{array}{r}15,557 \\ 6,643 \\ \hline\end{array}$ | 17 | 7,070 | ${ }^{1} 320$ | ${ }^{5} 2,220$ |  |
| Egypt.- | 3,467 |  | 2, 034 | 6 | 2,615 |  | 3,134 |  |
| Finland. | 812 |  | 295 |  | 1,642 |  | 2,695 |  |
| France | 3, 382 | 10,931 | 26, 630 | 3, 856 | 29,511 | 3, 035 | 9, 062 | 3,371 |
| Germany | 5,231 | 4,377 |  |  | ${ }^{1} 77,016$ | ${ }^{14,325}$ | 64,458 | 3,394 |
| Greece | 1,246 1,042 | 165 | 1, 9206 | 395 | 1, 2667 | 47 | 915 6,617 | 196 |
| Hungar |  |  | 1450 |  | ${ }^{1} 2,484$ |  |  |  |
| Japan | 1,023 |  | 150 |  |  | 275 |  |  |
| New Zeala | 4,188 |  | 4,783 |  | 3, 318 |  | 2, 701 |  |
| Norway.-- | 1,609 | ${ }^{6} 5$ | 2, 303 | 49 | 8, 104 | 19 | 5,666 |  |
| Philippine Islands <br> Sweden | $\begin{aligned} & 809 \\ & 933 \end{aligned}$ |  | 1,653 1,148 |  | 1,037 | 7 | 852 |  |
| Switzerland | 7, 825 | 16 | 4,607 | 1,842 | 8, 189 | 396 | 8, 584 | 29 |
| Union South Africa | 3, 449 |  | 3,650 | ${ }^{7}$ ) | 3, 312 |  | 2, 930 | 1 |
| United States...-. | 2, 605 | 4,105 | 35, 200 | 5,366 | 60, 091 | 3, 512 | 144, 137 | 2, 703 |
| Other countries. | 6,539 | 1,460 | 7,182 | 191 | 4,513 | 145 | 2,142 | 144 |
| Total | 162, 041 | 188, 075 | 156, 300 | 207, 841 | 256, 846 | 311, 004 | 270, 400 | 323,860 |

Division of Statistical and Historical Research. Official sources except where otherwise noted.
(Conversions made on the basis of 7.5 pounds to the gallon).
${ }^{1}$ International Institute of Agriculture, for Oleaginous Products and Vegetable Oils, 1923.
2 Four-year average.
Two-year average
Includes re-exports.
${ }^{8}$ Not separately stated. ${ }^{6}$ Java and Madura only. ${ }^{7}$ Less than 500 pounds.
$85813^{\circ}$-YBE 1923-46

Table 166.-Linseed oil: Average price per gallon at New York, 1910-1923.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jane. | July. | Aug. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | \$0.90 | \$0.90 | \$0.95 | \$0.95 | \$0.95 | \$0.96 | 80.96 | \$0.91 | \$0.91 | \$0. 89 | \$0. 87 | \$0. 80 | \$0.91 |
| 1911-12 | . 87 | . 88 | . 84 | . 71 | . 74 | . 71 | . 70 | . 73 | .73 | . 76 | . 77 | . 66 | . 76 |
| 1912-13 | . 66 | . 62 | . 56 | . 43 | . 42 | . 46 | . 45 | . 44 | . 46 | . 45 | . 47 | . 49 | . 49 |
| 1913-14 | . 50 | . 47 | . 46 | . 48 | . 48 | . 48 | . 50 | . 51 | . 50 | . 50 | . 52 | . 59 | . 50 |
| 1914-15 | . 57 | . 49 | . 44 | . 45 | . 48 | . 56 | . 55 | . 58 | . 62 | . 63 | . 54 | . 50 | 53 |
| 1915-16 | . 52 | . 55 | . 60 | . 61 | . 68 | . 72 | . 77 | . 76 | . 75 | . 67 | . 63 | . 71 | . 66 |
| 1916-17 | . 70 | . 82 | . 90 | . 92 | . 94 | . 95 | . 94 | 1. 07. | 1.21 | 1.21 | 1.12 | 1.18 | 1.00 |
| 1917-18 | 1. 25 | 1. 18 | 1.15 | 1.21 | 1.29 | 1. 29 | 1.41 | 1.57 | 1.57 | 1. 57 | 1.64 | 1.88 | 1. 42 |
| 1918-19 | 1. 90 | J. 83 | 1. 55 | 1.58 | 1. 50 | 1.45 | 1.48 | 1. 54 | 1.61 | 1.81 | 2. 10 | 2. 22 | 1.71 |
| 1919-20 | 2.04 | 1.79 | 1.75 | 1. 82 | 1.77 | 1. 77 | 1.80 | 1.83 | 1.69 | 1.65 | 1. 52 | 1.41 | 1.74 |
| 1920-21 | 1.22 | 1. 20 | . 98 | . 82 | . 78 | . 68 | . 66 | . 61 | . 70 | . 75 | . 75 | . 74 | . 82 |
| Av. 1914-1920 | 1.17 | 1.12 | 1.05 | 1.06 | 1.06 | 1.06 | 1.09 | 1.14 | 1.16 | 1.18 | 1.19 | 1.23 | 1. 13 |
| 1921-22: | . 74 | . 68 | . 67 | . 67 | . 72 | . 82 | . 82 | . 84 | . 90 | . 84 | . 89 | . 87 | . 79 |
| 1922-23. | . 88 | . 89 | . 88 | . 89 | . 89 | . 95 | 1.02 | 1.16 | 1. 15 | 1.12 | 1.04 | . 97 | . 99 |
| 1923-24 | . 90 | . 94 | . 92 | . 92 |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Researeh. Figures for 1910-1915 from Monthly Labor Review; 1916-19:18 from W ar Industries Board Price Bulletin; 1919-1923 from Oil, Paint, and Drug Reporter.

Table 167.-Rice, rough: Acreage, production, value, exports, etc., United States, 1904-1923.

| Calender year. | Acreage. | A verage yield per acre. | Production. | Average <br> farm price per bushel Dec. 1. | Farm value Dec. 1. | Value per acre. ${ }^{1}$ | Domestic exports, fiscal year beginning July 1. ${ }^{2}$ | Net imports, fiscal year beginning July $1 .{ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Bush. of 45 lbs. |  |  | Dollars. |  |  |  |
| 1904 | 662,000 | 31. 9 | $21,096,000$ | $65.8$ | $13,892,000$ | Dolls. 20.98 | $\begin{aligned} & \text { Bushels. } \\ & 5,964,814 \end{aligned}$ | $\begin{aligned} & \text { Bushels. } \\ & 3,501,337 \end{aligned}$ |
| 1995 | 482, 000 | 28.2 | 13, 607, 000 | 95.2 | 12, 956, 000 | 26. 88 | 3, 612, 289 | 5, 593, 750 |
| 1906 | 575, 000 | 31.1 | 17, 855, 000 | 90.3 | 16, 121, 000 | 28. 04 | 3,790, 080 | 7,264, 859 |
| 1907 | 627, 090 | 29.9 | 18, 738, 000 | 85.8 | 16, 081,000 | 25.65 | 3, 033, 788 | 7,333, 910 |
| 1908 | 655,000 | 33.4 | 21, 890, 000 | 81.2 | 17, 771, 000 | 27. 13 | 3, 406, 070 | 7, 760, 164 |
| 1909 | 610,000 | 33.8 | 20,607,000 | 79.5 | 16,392,000 | 26.87 | 4, 487, 287 | 7, 820, 843 |
| 1910 | 723, 000 | 33.9 | 24, 510, 000 | 67.8 | 16, 624,000 | 22. 99 | 5, 134, 355 | 7, 292, 960 |
| 1911 | 686, 000 | 32.9 | 22, 534, 000 | 79.7 | 18, 274, 000 | 26. 26 | 5, 824, 598 | 6, 467, 505 |
| 1912 | 723,000 | 34.7 | 25, 054, 000 | 93. 5 | 23, 423, 000 | 32. 40 | 5,672, 996 | 7, 539, 206 |
| 1913 | 827, 000 | 31.1 | 25, 744, 000 | 85.3 | 22, 090, 000 | 26. 71 | 5,871, 289 | 9, 806, 684 |
| A v. 1909-1913. | 716,000 | 33.2 | 23,770,000 | 81.5 | 19, 361, 000 | 27.04 | 5,398, 105 | 7, 785, 400 |
| 1914. | 694, 000 | 34.1 | 23, 649,000 | 92.4 | 21, 849, 000 | 31.48 | 7, 334, 389 | 7, 848, 181 |
| 1915 | 803, 000 | 36.1 | 28, 947, 000 | 90.6 | 26, 212, 000 | 32. 64 | 9,506, 099 | 6,931, 061 |
| 1916 | 869, 000 | 47.0 | 40, 861, 000 | 88.9 | 36, 311, 000 | 41. 78 | 12, 315, 486 | 6, 180, 934 |
| 1917 | 981, 000 | 35.4 | 34, 739, 000 | 189.6 | 65, 879, 000 | 67.16 | 11, 885, 265 | 13, 095, 243 |
| 1918 | 1, 119, 000 | 34.5 | 38, 606, 000 | 191. 8 | 74, 042, 000 | 66. 17 | 12, 892, 196 | 5,309, 014 |
| $19: 9$ | 1,063, 000 | 39.5 | 41, 985, 000 | 266.6 | 111, 913, 000 | 105. 28 | 22, 899, 774 | 3, $001,362$. |
| 1920 | 1,336, 000 | 39.0 | 52, 066, 000 | 119.1 | 62, 036, 000 | 46.43 | 22, 449, 930 | 1, 267, 391 |
| Av. 1914-1920. | 981, 000 | 38.0 | 37, 265, 000 | 152.7 | 56, 892, 000 | 57.99 | 14, 183, 306 | 6,233, 312 |
| 1921 | 921,000 | 40.8 | 37, 612, 000 | 5. 92 | 35, 802, 000 | 38.87 | 33, 834, 616 | 721, 411 |
| 1922 | 1,055, 000 | 39. 2 | 41, 405, 000 | 93.1 | 38, 562,000 | 36.55 | 21,583, 818 | 1,332, 360 |
| $1923{ }^{3}$ | 892, 000 | 37.3 | 33, 256, 000 | 110.3 | 36, 686, 000 | 41.13 |  | 1,332,360 |

Division of Crop and Livestock Estimates. Figures in italics are census returns.
${ }^{1}$ Based upon farm price Dec. 1.
${ }^{2}$ Bureau of Foreign and Domestic Commerce. Domestic exports here include also shipments from the United States to Porto Rico and Hawaii; net imports are total imports minus reexports. Bushels are computed from pounds as reported in original by assuming 1 bushel of raugh rice to yield $27^{7}$ g pounds of cleaned rife.
${ }^{3}$ Preliminary.

Table 168.-Rice, rough: Acreage, production, and total farm value, by States, celendar years, 1921-1923.

| State | Theusands of aeres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | 19231 | 1921 | 1922 | $1923{ }^{1}$ |
| South Carolina | 7 | 8. | 8 | 175 | 208 | 200 | 170 | 239 | 240 |
| Georgia... | 3 | 3 | 3 | 78 | 72 | 68 | 72 | 84 | 90 |
| Florida | 4 | 3 | 2 | 88 | 75 | 46 | 85 | 88 | 62 |
| Mississippi | 1 | 1 | 1 | 20 | 19 | 18 | 24 | 21 | 21 |
| Irouisiana | 480 | 555 | 480 | 17, 280 | 18,980 | 15; 840 | 14, 861 | 17,782 | 16,949 |
| Texas.-.-- | 166 | 191 | 159 | 5, 989 |  | 6,360 5,254 |  |  | 7,314 5,884 |
| Arkansas | 125 | 154 | 138 | 6,688 7,290 | 7,392 7,700 | 5,254 5,470 | 6,153 8,384 | 6, 8,470 | 5,884 6,126 |
|  | 921 | 1, 055 | 892 | 37, 612 | 41, 405 | 33, 256 | 35, 802 | 38, 562 | 36,686 |

Division of Crop and Livestack Estimates.
${ }^{1}$ Preliminary.
Table 169.-Rice, rough: Yield per acre, by States, calendar years, 1908-192צ.

| State. | 1908 |  | 1910 | 191.1 | 1912 | 1913 | $\left\|\begin{array}{c} \mathrm{A} \nabla \\ 1909 \\ 1913 \end{array}\right\|$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\left\|\begin{array}{c} \text { Av. } \\ 1914- \\ 1920 \end{array}\right\|$ | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $B u$. | $B u$. | Bu. | Bu | Bu . | $B u$. | $B u$. | Bu. | Bu | Bu. | Bu. | Bu. | Bu. | Bu. | Bu. | $B u$. | Bu. | u. |
| South Carolina | 24.0 | 25. 6 | 21.0 | 11.7 | 25.0 | 30.0 | 22.7 | 26.0 | 24.3 | 14.0 | 25.0 | 23.0 | 24.0 | 25.0 | 23.0 | 25.0 | 26.0 | 25. 0 |
| Georgia | 25. 0 | 23.9 | 22.0 | 26. 8 | 30.0 | 32.0 | 26.9 | 28. 0 | 29.3 | 20.0 | 30.0 | 26. 0 | 24.0 | 26.0 | 26. 2 | 26.0 | 24.1 | 22.7 |
| Florida | 25.0 | 25.0 | 21.0 | 25.0 | 25. 0 | 25.0 | 24.2 | 25.0 | ${ }^{25 .} 0$ | 25.0 | ${ }^{26.0}$ | 24.0 | 26. 0 | 24.0 | 25. | 22.0 | 25. 0 | ${ }^{23.0}$ |
| Mississipp | 31.0 | 30.0 | 30: 0 | 36. 0 | 35. 0 | 28.0 | 31.8 | 30. | 25. 0 | 28. 0 | 30. | 23.0 | 29. 1 | 31.0 | 28.0 | ${ }^{20.0}$ | 19.0 | 18.0 |
| Louisiana | 33.0 | 33. 8 | 34. 4 | 31.5 | 33. 5 | ${ }^{29} 0$ | 32. 4 | 32. 1 | 134.2 | 46. 0 | 31.0 | 28.8 |  |  |  |  |  |  |
| Texas... | 31. 5 | 34.0 | 33.0 | 34. 3 | 35.5 | 32.0 |  | 33.8 | 830.5 | $\begin{aligned} & 45.0 \\ & 50.5 \\ & 50 \end{aligned}$ |  | 37.9 | 32.0 | 49.0 | 33.9 <br> 4 <br>  <br>  <br>  <br>  | 53. 5 | 31. 2 | 49. 5 |
| Arkansa Californi | 41.0 | 40. 0 | 40.0 | 39.0 | 37.5 | 38.0 | 38.5 | 53.3 | 848. 4 | 59.5 | 41.0 | 65. 5 | 46.0 | 41.0 | 44.7 <br> 60.5 | 54. 0 | 58.0 | 39. 6 |
| Unit |  | 33.8 | 33.9 | 32.9 | 34.7 | 31.1 | 33.3 | 34.1 | 36.1 | 47.0 | 35.4 | 34.5 | 39. 5 | 39.0 | 37.9 | 40.8 | 39.2 | 7.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 170.-Rice, rough: Condition of crop, 1 st of month, and yield per acre, United States, 1894-1923.

| Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. | Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield. per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. ct. | P. ct. | P.ct. | P. ct. | Bush. |  | $P$. ct. | P.ct. | $P . c t$. | $P$. ct. | Busì. |
| 1894 | 91.1 | 91.0 | 89.4 | 89.8 |  | 1912 | 86. 3 | 86.3 | 88. 8 | 89.2 | 34.7. |
| 1895 | 84.4 | 84.1 | 94.5 | 90.3 | 53.0 | 1913 | 88.4 | 88.7 | 88.0 | 80.3 | 31.1 |
| 1896 | 82.9 | 77.2 | 76.5 | 68.6 | 35.7 |  |  |  |  |  |  |
| 1897 | 94.3 | 83.4 | 86. 2 | 83.4 | 29.8 | Av. 1909-1913. | 87.9 | 87.1 | 87.5 | 84.8 | 33.3 |
| 1898. |  | 101.7 | 99.3 | 93. 2 | 29.8 | 1914 | 86.5 | 87.6 | 88. 9 | 88.0 | 34.1 |
| 1899: |  | 92: 6 | 88.4 | 91.4 | 34.1 | 1915 | 90.5 | 90.0 | 82.3 | 80.9 | 36.1. |
| 1900 |  | 96. 3 | 89.5 | 85.7 | 29. 9 | 1916 | 92.7 | 92.2 | 91.2 | 91.5 | 47.0 |
| 1901 |  | 92. 3. | 91.0 | 91.0 | 32.5 | 1917 | 85.1 | 85. 0 | 78.4 | 79.7 | 35.4. |
| 1902 | 82. 2 | 77.5 | 80.0 | 72.2 | 26.9 | 1918 | 91.1 | 85.7 | 85.7 | 85.4 | 34.5 |
| 1903 | 93.5 | 92.0 | 93.6 | 90.6 | 32.7 | 1919 | 89.5 | 90. 4 | 91.9 | 91.3 | 39.5 |
|  |  |  |  |  |  | 1920 | 90.0 | 88.7 | 88.3 | 88.1 | 39.0 |
| 1904 | 88. 2 | 90. 2 | 89.7 | 87. 3 | 31.9 |  |  |  |  |  |  |
| 1905 | 88. 0 | 92.9 | 92.2 | 89.3 | 28.1. | Av. 1914-1920. | 89.3 | 88.5 | 86.7 | 86.4 | 37.9 |
| 1906 | 82. 9 | 83. 1 | 86.8 | 87. 2 | 31.1 |  |  |  |  |  |  |
| 1907 | 88.7 | 88.6 | 87. 0 | 88.7 | 29.9 | 1921 | 88. 0 | 86.5 86.9 | 83.8 85.5 | 84.6 85.3 | $40.8$ |
| 1908 | 92.9 | 94. 1 | 93.5 | 87.7 | 33.4 | 1922------------------ | 88.6 86.4 | 86.9 84.8 | 85.5 82.9 | 85.3 83.0 | $\begin{aligned} & 39.2 \\ & 37.3 \end{aligned}$ |
| 1909 | 90.7 | 84.5 | 84.7 | 81.2 | 33. 8 |  |  |  |  |  |  |
| 1910 | 86.3 | 87.6 | 88.8 | 88.1. | 33. 9 : |  |  |  |  |  |  |
| 1911 | 87.7 | 88.3 | 87.2 | 85.4 | 32.9 |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.

Table 171.-Rice: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

| Year. | Deficient mois- ture. | Ex- cessive moisture. | Floods | $\begin{gathered} \text { Frost } \\ \text { and } \\ \text { freeze. } \end{gathered}$ | Hail. | Hot | Storms | Total matic | $\begin{gathered} \text { Plant } \\ \text { dis- } \\ \text { ease. } \end{gathered}$ | Insect pests. | $\begin{gathered} \text { Ani- } \\ \text { mal } \\ \text { pests. } \end{gathered}$ | Defective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | $P . c t$. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. |
| 1909. | 4. 6 | 0.1 |  |  |  | 1.1 | 6.6 | 12.4 | 2.7 | 0.9 | 0.2 | 0.1 | 17.0 |
| 1910 | 7.2 | 1.7 |  | 0.1 |  | . 1 | 1.0 | 10. 1 | 3.4 | . 4 | 1.2 | . 3 | 17.3 |
| 1911 | 6. 5 | 3.2 |  | . 2 |  | . 7 |  | 10.6 | . 7 | . 6 | . 5 | . 1 | 14.5 |
| 1912 | 3.1 | 1.1 | 6.2 |  |  | . 6 | . 5 | 11.6 | 2.5 | 2.0 | . 5 | . 6 | 19.6 |
| 1913 | 3.9 | 14.3 | 5.8 |  |  | ${ }^{(2)}$ |  | 24.1 | . 1 | . 7 |  |  | 28.5 |
| 1914 | 5. 3 | 2.3 | . 1 |  | ${ }^{(2)}$ | . 6 | . 6 | 10.1 | . 1 | 1.3 | ${ }^{(2)}$ | . 3 | 17.5 |
| 1915 | 7.0 | . 6 | . 1 | . 3 |  | . 4 | 8.1 | 16. 7 | . 4 | . 2 |  | ${ }^{(2)}$ | 19.4 |
| 1916 | 4.8 | . 2 |  | 4 |  | .3 | . 2 | 6.2 | 1.1 | .3 |  | . 2 | 9.5 |
| 1917. | 17.3 | . 7 | . 1 | 1.5 | 0.1 | . 1 | . 1 | 20.0 | . 5 | 2 |  | . 1 | 25.4 |
| 1918. | 7.2 | 7.2 | 2.5 | . 2 |  | . 4 | 1.5 | 18.8 | . 3 | 1.0 | ${ }^{(2)}$ |  | 21.7 |
| 1919 | 1.0 | 12.8 | 1.1 | 3 |  | 1 | 2.6 | 18.4 | . 3 | . 5 | . 7 | . 1 | 20.0 |
| 1920 | 5 | 8.0 | . 4 | 1.2 | . 2 |  |  | 10.3 | 3.2 | 1.6 |  |  | 16.7 |
| 1921 | 4.5 | . 2 |  | .3 |  | .2 | 1 | 5.3 | 1. 6 | 2.7 |  | . 1 | 11.8 |
| 1922 | 3.8 | 4.2 |  | .1 |  | .1 |  | 8.2 | 3.4 | 1.0 | .1 |  | 14.4 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Includes all other causes.
${ }^{2}$ Less than 0.05 per cent.
Table 172.-Rice: Area and yield per acre in undermentioned countries.
NORTHERN HEMISPHERE.


Table 172.-Rice: Area and yield per acre in undermentioned countries-Contd. NORTHERN HEMISPHERE-Continued.

| Country. | Area. |  |  |  |  | Yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Av. } \\ & 1909 \\ & 1913 . \end{aligned}$ | 1920 | 1921 | 1922 | $\begin{array}{\|c\|} \text { prelimi- } \\ \text { nary. } \end{array}$ | Av. 19091913. | 1920 | 1921 | 1922 | 1923, prelim prelimi nary |
| \%. ASIA. | $1,000$ acres. | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | $\begin{aligned} & \text { 1,000 } \\ & \text { acres. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. |
| India | 67, 004 | 78,952 | 81, 662 | 81, 533 | ${ }^{8} 75,455$ | ${ }^{1,099}$ | 785 | 912 | 911 |  |
| Andaman and Nico- <br> bar $\qquad$ |  | 2 | 3 | 4 |  |  |  |  |  |  |
| British North Borneo- |  |  | 54 | 58 |  |  |  | 438 |  |  |
| French establishments in India | 40 | 43 | 43 | 46 |  | 657 | 934 | 610 | 704 |  |
| Russia (Asiatic) | 572 |  |  |  |  | 584 |  |  |  |  |
| Japanese Empire: | 7, 300 | 7,662 | 7,680 | 7,697 |  | 2,163 | 2, 591 | 2, 257 | 2,477 |  |
| Chosen (Kor ea | 2,905 | 3, 812 | 3, 753 | 3,818 | ${ }^{9} 3,582$ | - 1,133 | 1,227 | 1,202 | 1,239 | 1,363 |
| Formosa (Taiwan) Kwangtung | 1,193 | 1, 236 | 1,860 2 | 1,253 |  | 1,183 | 1,231 | 840 | 1,459 | 1, |
| Kwangtung ---- | 2 8, 550 | 11, 761 | 11, 984 | 1012,000 | ${ }^{1011,000}$ | ${ }^{2} 858$ | 534 | 662 |  |  |
| Siam | 114,666 | 115,890 | 11 6, 000 | 12 7,000 | 126,000 | 1,167 | 1,130 | 1,038 |  |  |
| Federated Malay States $\qquad$ | 1118 | 197 | 200 | 196 |  | ${ }^{2} 637$ | 626 | 593 | 655 | -------- |
| Unfederated Malay States | ${ }^{3} 153$ | 157 | 202 | 236 |  |  | 64 | 163 | 144 |  |
| Straits Settlements.- | 93 |  |  |  |  |  |  |  |  |  |
| Philippine Islands..- | 2, 753 | 3, 669 | 4, 135 | 4, 105 |  | 423 | 612 | 620 | 653 |  |
| Ceylon......--....---- | 2, 695 | , 757 | 799 | 850 | 800 | 686 | 635 | 618 | 615 | 370 |

SOUTHERN HEMISPHERE.

| Country | Area. |  |  |  |  | Yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Av. 19091913. | 1920-21 | 1921-22 | 1922-23 | $\begin{gathered} 1923-24 \\ \text { prelimi- } \\ \text { nary. } \end{gathered}$ | $\begin{aligned} & \text { Av. } \\ & 1909- \\ & 1913 . \end{aligned}$ | 1920-21 | 1921-22 | 1922-23 | 1923-24, preliminary. |
| Peru | $\begin{gathered} 1,000 \\ \text { acres. } \\ \quad 2131 \end{gathered}$ | $\begin{aligned} & \text { 1,000 } \\ & \text { acres. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | 1,000 acres. 70 | $\begin{aligned} & 1,000 \\ & \text { actes. } \end{aligned}$ | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. |
| Brazil |  | 905 |  | 599 |  |  | 1,446 |  |  |  |
| Argentina.-. | ${ }^{411}$ |  |  |  |  |  |  |  |  |  |
| Belgian Congo------ |  | 8 | 7 |  |  |  |  |  |  |  |
| Madagascar. | 4979 |  |  | ------- |  | 1916 |  |  |  | ------ |
| Java and Madura Irrigated Non-irrigated | 5,953 | $\begin{aligned} & 6,835 \\ & 1,129 \end{aligned}$ | $\begin{array}{r}6,472 \\ \hline 751 \\ \hline\end{array}$ |  |  | 1,206 | $\begin{array}{r}1,129 \\ \hline 559 \\ \hline\end{array}$ | $\begin{array}{r}1,073 \\ 556 \\ \hline\end{array}$ |  |  |
| Total Java and Madura <br> Australia $\qquad$ | 5,953 ${ }_{\text {(5) }}$ | 7,954 | $7,223$ ${ }^{(5)}$ | ${ }^{11} 8,236$ | ${ }^{11} 8,402$ |  |  |  |  |  |
| Fiji Islands.... | 11 | 10 | 11 | ------- |  |  | - | ------ |  | ------ |
| Total comparable with 1909-1913 ... | 104,956 |  |  |  |  |  |  |  |  |  |
| Total comparable with 1923. | 91, 205 | 111, 030 | 113, 072 | 114,937 | 106, 753 | , |  |  |  |  |

[^173] culture. Yield per acre not calculated where total acreage is below 15,000 acres.
Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }_{2}$ Two years only.
${ }^{3}$ One year only.
4 Four years only.
${ }^{5}$ Less than 500 acres
7 Total area estimated from area reported for the summer or main crop which was 154,000 acres in 1923 compared with 24,000 acres in 1922 . This crop in 1921 was 93 per cent of the total area devoted to rice in Egypt
${ }_{8}$ Sceond forecast compared with $78,455,000$ acres at the same time last year.
${ }_{10}$ Unofficial source. as $8,416,000$ acres in 1923 compared with $8,881,000$ acres in 1922.
${ }^{11}$ Area cultivated.
12 Total area estimated from that reported for Bisnuloke and the six inner Provinces where rice for export is chiefly grown. The area in these Provinces was 3,230,000 acres for 1923 compared with $3,589,000$ in 1922. In 1921 the area under rice in these Provinces amounted to roughly about 50 per cent of the total area devoted to rice in Siam.

Table 173.-Rice: Production in undermentioned countries (in terms of cleaned NORTHERN HEMISPHERE.

| Country. | $\begin{aligned} & \text { Average } \\ & 1909-13 . \end{aligned}$ | 1917 | 1918 | 1919 | 1920 | 1923: | 1922 | 1923, preliminary. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NORTH AMERICA. |  |  |  |  |  |  |  |  |
| United States | $660,272$ | $\begin{gathered} \mathbf{9 6 4}, 972 \end{gathered}$ | $\begin{aligned} & 1,000 \text { los. } \\ & 1,072,389 \end{aligned}$ | $\begin{aligned} & 1,000 \text { lbs. } \\ & 1,166,250 \end{aligned}$ | $\begin{aligned} & 1,000 \text { lbs. } \\ & 1,446,278 \end{aligned}$ | $\begin{gathered} 1,000 \mathrm{lbs} . \\ 1,044,778 \end{gathered}$ | $\begin{aligned} & 1,000 \mathrm{lbs} . \\ & 1,150,139 \end{aligned}$ | $\begin{aligned} & 1,000 \mathrm{lbs} . \\ & 923,778 \end{aligned}$ |
| Mexico. | 198,016 |  | 24, 787 |  |  | 1, 9, 796 | 1, 44, 489 |  |
| Hawaii | ${ }^{2} 25,820$ |  |  | 18, 254 |  |  |  |  |
| CENTRAL AND SOUTH AMERICA AND WEST INDIES. |  |  |  |  |  |  |  |  |
| Guatemala | ${ }^{3} 2,208$ | 20,733 | 16,997 | 5, 180 | 2, 226 | 2,651 | 3,882 | 4,080 |
| Salvador |  |  | 8, 328 | 8,895 |  |  |  |  |
| British Guiana | 53, 865 | 108, 864 | 49, 616 | 100,330 | 55, 999 ] | 67,072 | 44,957 |  |
| Dutch Guiana | 2,254 | 5,449 | 3, 832 | 11, 623 | 10, 000 | 12, 041 | 13, 202 |  |
| Porto Rico | ${ }^{2} 4,298$ |  |  | 3, 308 | 10, |  |  |  |
| Trinidad and Tobago |  |  |  |  |  |  |  |  |
| EUROPE. |  |  |  |  |  |  |  |  |
| France. | 2,017 |  |  |  |  | ${ }_{1} 1$ |  |  |
| Spain | 299, 703 | 322, 130 | 282, 581 | 411, 924 | 393, 752 | 355, 967 | 373, 339 | 330,099 |
| Portugal |  | 22, 835 | 31, 656 | 27, 955 | 32, 251 | 14, 650 | 27, 771 | 330, |
| Italy. | 646, 465 | 716, 359 | 712, 412 | 662, 333 | 614, 022 | 641, 375 | 631, 985 | 680,438 |
| Yugoslavia----------- |  |  |  |  | 3, 640 | 3, 414 | 2,944 | 680, 38 |
| Bulgaria ------------ | ${ }^{4} 8,215$ | 14, 513 | 8, 30f | 5,178 | 6,776 | 7,403 | 7,381 | 8,290 |
| Russia (northern <br> Caucasia) | 1,218 |  |  |  |  |  |  |  |
| AFRICA. |  |  |  |  |  |  |  |  |
| French Guinea |  |  |  |  | 762, 084 |  |  |  |
| French Senegal |  |  |  |  | 56, 426 |  |  |  |
| Sierra Leone. |  |  |  | 138, 270 | 248, 886 |  | 235, 059 |  |
| Egypt | 547, 972 | 487, 163 | 691, 966 | 243, 604 | 282, 667 | 471, 903 | 540,000 | 5300,000 |
| Kenya Colony ${ }^{6}$ |  |  |  | 578 | 842 | 464 |  |  |
| ASIA. |  |  |  |  |  |  |  |  |
| Turkey | 24165,846 |  |  |  |  |  |  |  |
|  | $64,144,192$ | 80, 637, 760 | 54, 526, 080 | 71, 742, 720 | 61, 962,880 | 74, 446, 400 | $74,294,080$ |  |
| Andaman and Nicobar Islands. |  | 2, 419 | 2,343 |  |  |  |  |  |
| French establish- |  | 2, 419 | 2, 343 . | 1,283 |  | 2, 431 | 2,780 |  |
| ments in India | 26, 268 | 33, 589 | 32, 388 | 18,758 | 40, 160 | 26, 250 | 82, 378 |  |
| British North Borneo. |  | 23, 280 | 24,399 | 12, 230 |  | 23, 587 |  |  |
| Russia (Asiatic).- | ${ }^{4} 334,061$ |  |  |  |  |  |  |  |
| China |  | 70, 218, 667 |  |  | 52, 788, 000 |  |  |  |
| Japanese Empire: | 15,787,020 | 7, 142,858 |  |  |  |  |  |  |
| Japan. <br> Chosen (Korea) | $15,787,020$ $3,292,776$ | $17,142,858$ $4,300,128$ | 17, 184, 019 | 19, 106, 360 | 19, 849, 197 | 17, 335, 796 | 19, 066, 742 | 18, 302, 547 |
| Formosa (Tai- | 3, 292, 776 | 4, 300, 128 | 4, 804, 729 | 3, 992, 354 | 4, 675, 374 | 4, 511, 834 | 4, 730, 531 | 4,883, 142 |
| wan) | 1, 412, 504 | 1, 518, 569 | 1, 455, 232 | 1,546, 663 | 1, 521, 250 | 1, 563, 330 | 1, 827, 711 | 1, 633, 609 |
| Kwantung--.------ | 1, 1, 074 | 1, 563 | 1, 3, 193 | 2, 498 | 2, 911 | 1, 3, 131 | , 827, 711 | 1, 833,603 |
| French Indo-China- | 27,332, 350 | 6, 313,430 | 6, 301, 999 | 6, 532, 000 | 6, 283, 684 | $7,931,000$ | 7,777,000 | 7,000, 000 |
|  | ${ }^{5} 5,447,671$ | ${ }^{8} 6,823,374$ | $86,413,745$ | 86,859, 588 | ${ }^{8} 6,658,107$ | 6, 225, 000 | - 7,000, 000 |  |
| Federated Malay <br> States | 79,015 |  | 92,689 | 82,605 | 123,254 | 118, 665 | 128,168 |  |
| Unfederated Malay States |  |  | 32, 68 | 82, 60 | 123,254 10,138 | 118,605 33,005 |  |  |
| Straits Settlements |  |  |  |  | 10, 138 | 33, 005 | 33, 910 |  |
| Philippine Islands | 1, 165, 298 | 1,745, 489 | 2, 213, 435 | 2, 088, 934 | 2, 247, 368 | 2, 584,881 | 2, 681,303 | 2, 702, 835 |
| Ceylon--------------- | 476, 536 | 484, 108 | 449,869 | 487, 914 | 480, 388 | 493, 792 | 522, 706 | 296, 296 |

${ }^{1}$ Three years only.
${ }^{2}$ One year only.
${ }^{3}$ Two years only.
${ }^{4}$ Old boundaries.
${ }^{5}$ Total production estimated from production reported for the summer or main crop which amounted to $266,012,000$ pounds in 1923, compared with $33,469,000$ in 1922.
${ }_{5}^{5}$ Cultivated by natives only.
${ }^{7}$ Total production estimated from production reported for Annam, Cochin-China, and the first crop in Tonking as $4,735,696,000$ pounds, compared with $5,179,342,000$ pounds in 1922 . This amounted approximately to 70 per cent of the total 1922 crop.
${ }^{8}$ Production estimated from official average yields for different grades of land as classified for revenue purposes according to fertility. These production figures are probably a little too high as the area cultivated is always greater than that actually harvested.
${ }^{9}$ Total production estimated from that reported for Bisnuloke and the six inner provinces where rice for export is chiefly grown. These produced $3,286,974,000$ pounds in 1923 , compared with $3,271,114,000$ pounds in 1922. This appears to be roughly about 50 per cent of the total rice production of Siam.

Table 173.-Rice: Production in undermentioned countries (in terms of cleaned rice)-Continued.
SOUTHERN HEMISPHERE.


Division of Statistical and Historical Research. Official sources and International Institute of Agriculture.
Five-year averages are of the crops harvested during the ealendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

$$
{ }^{1} \text { Three years only. } \quad{ }^{2} \text { One year only. } \quad{ }^{3} \text { Two years only. }
$$

Table 174.-Rice: World production, 1900-1922 (in terms of cleaned rice).

| Years. | Production for countries reporting all years, 1900-1922. ${ }^{1}$ | Production as reported. | Estimated world totals exclusive of China. | Production in the chief producing countries. ${ }^{2}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | India. | Japan. | Java and Madura. |
| 1901-2 | 65, 336,796 | 65, 363,899 | 77,000, 000 | 43, 040, 939 | 14, 738,427 | 5, 680,809 |
| 1902 | 71, 319, 301 | 74, 174, 773 | $85,000,000$ | 52, 582, 298 | 11, 602, 474 | 5, 372, 666 |
| 1903 | 72, 177, 655 | 75, 548, 201 | 87, 000, 000 | 49, 199, 438 | 14, 599, 842 | 6, 229, 076 |
| 1904-5 | 75, 101, 790 | 79, 117, 049 | $90,000,000$ | 50, 227, 520 | 16, 157, 087 | 6, 430, 781 |
| 1905 | 67, 519, 575 | 72, 528, 630 | $84,000,000$ | 48, 511, 680 | 10, 421, 342 | 6, 267, 897 |
| 1906 | 71, 298, 387 | 75, 988, 426 | $87,000,000$ | 47, 906, 880 | 14, 546, 194 | 6, 330,068 |
| 1907 | 67,049, 878 | 72, 523, 092 | $84,000,000$ | 42, 598, 080 | 15,409, 976 | 6, 532, 935 |
| 1908-9 | 69, 553, 467 | 74, 895, 930 | 87,000,000 | 43, 877, 120 | 16, 315, 318 | 6, 902, 969 |
| 1909 | 89, 793, 800 | 99, 328, 460 | 108, 000, 000 | 63, 869, 120 | 16, 473, 579 | 7,065, 690 |
| 1910-11. | 88, 487, 400 | 99, 935, 172 | 108, 000, 000 | 64, 552, 320 | 14, 650, 132 | 7, 084, 033 |
| 1911-12 | 90, 164, 338 | 103, 527, 182 | 111, 000, 000 | 63, 943, 040 | 16, 245, 745 | 7,516, 953 |
| 1912-13 | 88, 972, 299 | 109, 162, 633 | 111, 000,000 | $63,801,920$ | 15, 777, 677 | 7, 187, 265 |
| 1913-14 | 90, 948, 842 | 113, 686, 746 | $115,000,000$ | 64, 554, 560 | 15,787, 969 | 7, 951, 044 |
| 191 | 89, 373, 481 | 114, 376, 495 | 116, 000, 000 | 61, 109, 440 | 17, 908, 918 | 7, 826, 026 |
| 1915-18 | 101, 439, 746 | 124, 876, 819 | $126,000,000$ | 73, 315, 200 | 17, 569, 018 | 7, 963, 749 |
| 1916-17 | 107, 298, 131 | 129, 146, 272 | 131, 0000,000 | 78, 520,960 | 18, 359, 997 | 7,911,997 |
| 1917-18 | 109, 236, 413 | ${ }^{3} 201,777,415$ | 134, 000,000 | 80, 637, 760 | 17,142, 858 | $48,893,288$ |
| 1918- | 83, 142, 262 | 106, 431, 57.0 | 109, 000, 000 | 54, 526, 080 | 17, 184, 019 | 4,978, 106 |
| 1919-20 | 103, 279, 803 | 128, 278, 366 | 128,000, 000 | 71, 742, 720 | 19, 106, 360 | 4, 9, 798, 080 |
| 1920-21 | 92, 698, 525 | ${ }^{3} 170,217,972$ | 118, 000,000 | 61, 962, 880 | 19, 849, 197 | 8, 347, 724 |
| 1921-22 | 101, 715, 810 | 127, 576, 151 | 129, 000, 000 | 74, 448, 400 | 17, 335, 796 | 7, 360, 901 |
| 1922-23 | 102, 657, 645 | 127, 097, 797 | 131, 000, 000 | 74, 294, 080 | 19, 066, 742 | 6, 450, 586 |

Division of Statistical and Historical Research.
The figures for each year include the crop harvested in the Northern Hemisphere within the calendar year and the following harvest in the Southern Hemisphere.
${ }^{1}$ India, Japan, Java and Madura, Formosa, Dutch Guiana, Spain, and Italy.
${ }^{2}$ China would rank among the three chief rice producing countries, but owing to lack of official statistics has been omitted.
${ }_{3}$ Large increase due to the fact that an estimate was available for China, i. e., $52,788,000,000$ pounds in 1920 and $70,218,667,000$ in 1917.
${ }_{4}$ Includes non-irrigated rice, for which statistics were first given in 1917.

Table 175.-Rice: International trade, calendar years, 1909-1929.

| Country. | A verage 1909-1913. |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Brazil------------- | $\begin{gathered} 1,000 \mathrm{lbs} . \\ 24,753 \end{gathered}$ |  | 1,000 los. 14 | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 296,758 \end{array}$ | 1,000 lbs. | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 124,790 \end{array}$ | 1,000 lbs. | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 83,477 \end{array}$ |
| British India | 278, 272 | 5, 337, 516 | 176, 082 | 2, 390, 397 | 280, 334 | 2, 740, 866 | 302, 760 | 4, 836, 325 |
| Chosen (Korea) | 217,830 | ${ }^{2} 130,446$ | 217,882 | ${ }^{2}$ 226, 615 | 2 5, 919 | 2 906,407 | ${ }^{2} 54,919$ | ${ }^{2} 827,989$ |
| French Indo-Chin | 41 | 2, 288, 040 | 2643 | 2, 604, 906 |  | ${ }^{2} 3,393,428$ |  | ${ }^{2} 2,382,823$ |
| Italy. | 4,415 | -142, 239 | 3 | 1,325 | 17, 511 | 55, 490 | 1,484 | 230, 017 |
| Siam |  | 1, 928, 507 | 5 | 621, 398 | 186 | 2, 799, 953 | 21 | 2, 810, 004 |
| Spain | 5,467 | 18, 063 | 7 | 119, 323 | 15 | 145, 831 | 86 | 53, 756 |
| United States | 209, 814 | 16, 215 | 131, 647 | 392, 613 | 76,237 | 600, 059 | 62, 371 | 411, 542 |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Austria |  |  | 28, 912 | 483 | 55, 616 | 309 | ${ }^{2} 47,068$ | ${ }^{2} 1,220$ |
| Austria-Hungar | 183, 411 | 461 |  |  |  |  |  |  |
| Belgium --..- | 180, 830 | 99, 948 | 116, 777 | 6,227 | 166, 289 | 60,069 | 69, 324 | 10, 487 |
| British Mala | 21, 999, 672 | ${ }^{2} 1,299,475$ | ${ }^{2} 1,153,262$ | ${ }^{2} 396,543$ | 1, 008, 640 | 470, 360 | ${ }^{2} 1,682,177$ | ${ }^{2} 937,127$ |
| Canada | 32, 109 | 2, 354 | 52, 623 | 4,891 | 38, 174 | 1,997 | 41, 403 | 335 |
| Ceylon | 821, 654 |  | 678, 555 |  | 719, 017 | ${ }^{(3)}$ | 850, 981 | 9 |
| China | 704, 992 |  | 153, 567 | 41, 578 | 874, 835 | 2, 857 | 1, 576, 640 | 3,713 |
| Cuba | 262, 207 |  | 482, 279 |  |  |  |  |  |
| Czechoslovakia |  |  | 2 53, 371 | 2271 | 116, 213 | 107 | 90, 352 | 124 |
| Dutch East Indies | 1, 178, 111 | 132, 400 | 491, 783 | 4,066 | 1, 685, 518 | 4,961 | 4883,593 | 4 43, 285 |
| Egypt | 98, 690 | 53, 700 | 272 | 10,067 | 59, 923 | 43, 977 | ${ }^{2} 86,511$ | ${ }^{2} 38,375$ |
| France | 517, 861 | 79, 087 | 197, 119 | 36, 991 | 383, 746 | 62, 804 | 372, 002 | 71,558 |
| Germany | 913, 772 | 396, 628 | 280, 041 | 2,207 | ${ }^{2} 688,588$ | ${ }^{5} 65,860$ | 417, 858 | 33, 399 |
| Hongkong |  |  |  |  |  |  | 2, 614, 836 | 2, 316, 167 |
| Hungar |  |  | ${ }^{2} 5,921$ |  | 230,000 |  | ${ }^{2} 26,515$ | ${ }^{2} 336$ |
| Japan. | 655, 676 | 61,936 | 157, 028 | 25,682 | 531, 793 | 31, 414 | ${ }^{2} 1,006,591$ | 213,425 |
| Mauritius | 132, 543 | ${ }^{6} 1,446$ | 142, 047 |  | 101, 044 |  | 145, 635 |  |
| Netherlands | 778, 682 | 476, 276 | 49,618 | 2, 490 | 189, 948 | 27, 889 | 162, 152 | 29,249 |
| Philippine Islands:-- | 412, 781 | 74 | 170, 491 | 69 | 131, 235 | 715 | 93, 243 | 892 |
| Russia. | 250, 461 | 5, 746 | ${ }^{2} 2,219$ |  | ${ }^{2} 32,385$ |  | ${ }^{2} 52,327$ |  |
| United Kingdom | 768,853 | 90, 564 | 422, 231 | 32, 263 | 759, 058 | 18, 606 | 77, 345 | 19, 041 |
| Other countries | 1, 007, 053 | 159, 692 | 917, 117 | 136, 490 | 1,066, 177 | 101, 457 | 846, 338 | 124, 253 |
| Total | 11, 439, 950 | 12, 720, 845 | 5, 881, 516 | 7,653, 653 | 9, 018, 417 | 11, 660, 206 | 11, 564, 532 | 15, 278, 928 |

Division of Statistical and Historical Research. Official sources except where otherwise noted.
Mostly cleaned rice. Under rice is included paddy, unhulled, rough, cleaned, polished, broken, and cargo rice, in addition to rice flour and meal. Rice bran is not included. Rough rice, or paddy, where specifically reported, has been reduced to terms of cleaned rice at ratio of 162 pounds of rough or unhulled to 100 pounds of cleaned. "Rice, other than whole or cleaned rice," in the returns of United Kingdom is not considered paddy, since the chief sources of supply indicate that it is practically all hulled rice. Cargo rice, a mixture of hulled and unhulled, is included without being reduced to terms of cleaned. Broken rice and rice flour and meal are taken without being reduced to terms of whole cleaned rice.

1 Three-year average.
2 International Institute of Agriculture.
${ }^{3}$ Less than 500 pounds.
4 Java and Madura only.
8 Eight months, May-December.
6 Two-year average.
${ }^{7}$ One year only.
Table 176.-Rice, rough: Farm price per bushel, December 1, calendar years, 1908-1923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\left\|\begin{array}{c} A v \\ 1909 \\ 1913 \end{array}\right\|$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\left\|\begin{array}{c} \mathrm{A} \nabla \\ 1914- \\ 1920 \end{array}\right\|$ | 1921 | 1922 | 1923 | Value per acre, 1923. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Dolls. |
| S. C | 106 | 91 | 75 | 75 | 93 | 90 | 85 | 92 | 90 | 90 | 195 | 195 | 300 | 290 | 179 | 97 | 115 | 120 | 30.00 |
| Ga | 109 | 87 | 75 | 77 | 90 | 83 | 82 | 89 | 88 | 87 | 195 | 175 | 275 | 225 | 162 | 92 | 117 | 132 | 29.96 |
| Fla | 92 | 80 | 72 | 75 | 90 | 60 | 75 | 70 | 75 | 75 | 195 | 140 | 263 | 175 | 142 | 97 | 130 | 135 | 31.05 |
| Mis | 83 | 80 | 70 | 77 | 90 | 70 | 77 | 85 | 88 | 80 | 190 | 150 | 190 | 200 | 140 | 118 | 110 | 115 | 20. 70 |
| La. | 78 | 79 | 67 | 79 | 93 | 84 | 80 | 93 | 90 | 90 | 190 | 195 | 271 | 110 | 148 | 86 | 89 | 107 | 35.31 |
| Tex | 83 | 78 | 68 | 80 | 94 | 86 | 81 | 92 | 89 | 86 | 200 | 197 | 280 | 125 | 153 | 101 | 90 | 115 | 46.00 |
| Ark | 92 | 90 | 70 | 82 | 94 | 90 | 85 | 90 | 95 | 96 | 190 | 180 | 240 | 131 | 146 | 92 | 88 | 112 | 44. 24 |
| Calif |  |  | 65 | 75 | 91 | 100 |  | 100 | 90 | 78 | 175 | 190 | 267 | 121 | 146 | 115 | 110 | 112 | 57. 79 |
| U. S | 81. 2 | 79.4 | 67.8 | 79.7 | 93.5 | 85. 8 | 81.2 | 92.4 | 90.6 | 88.9 | 189.6 | 191.8 | 266.6 | 119.1 | 148.4 | 95.2 | 93.1 | 110.3 | 41.13 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on farm price Dec. 1.

Table 177.-Rice: Wholesale price per 162 pounds, 1900-1923.
Lake charles (ROUGH).

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900-1901. |  |  |  |  |  | \$2. 48 | \$2. 48 |  |  |  |  |  |
| 1901-2. |  | \$2. 75 | \$2. 75 | \$2. 75 | \$2. 50 | 2. 38 | 2. 38 |  |  |  |  |  |
| 1902-3 |  | 2. 70 | 2. 58 | 2. 60 | 2.52 | 2. 58 | 2. 58 | \$2. 58 |  |  |  |  |
| 1903-4 |  | 2. 80 | 2.68 | 2.42 | 2. 25 | 2. 25 | 2.12 | 1.88 | \$1.75 | \$1.62 | \$1.62 | \$1.62 |
| 1904-5 | \$1.62 | 1. 62 | 1.55 | 1.55 | 1. 50 | 1. 50 | 1. 50 | 1.68 | 1. 62 | 1.75 | 1.75 | 1.75 |
| 1905-6. | 2.12 | 2. 62 | 2.62 | 2.88 | 2.92 | 3.05 | 3.05 | 3.05 |  |  |  |  |
| 1906-7 | 3.18 | 3.18 | 3.05 | 2.88 | 2.62 | 2.75 | 2. 75 | 2.88 | 2. 38 |  |  |  |
| 1907-8 |  | 2.98 | 3.22 | 3.25 | 2.95 | 3.00 | 3.12 | 3.29 |  |  |  |  |
| 1908-9 | 3.00 | 2.80 | 2.75 | 2.92 | 2. 58 | 2.75 | 2.82 | 2.94 | 2.92 | 2.70 | 2. 38 |  |
| 1909-10 |  | 2. 38 | 2. 75 | 2. 50 | 2. 40 | 2. 50 | 2. 50 | 2. 30 | 2.10 | 2.05 | 2.18 | 2. 12 |
| 1910-11 | 2. 22 | 2.42 | 2. 28 | 2.45 | 2. 25 | 2.25 | 2.18 | 2.18 | 2.25 | 2.25 |  |  |
| 1911-12 | 2.45 | 2.45 | 2.58 | 2. 62 | 2.82 | 3. 16 | 3.10 |  |  |  |  |  |
| 1913-14 |  | 2.65 | 2.98 | 2.88 | 2.82 | 2. 90 | 2. 40 | 2.50 | 2.75 | 3.02 | 3.22 | 3. 28 |
| 1914-15 | 3. 78 | 4.02 | 3.50 | 3.00 | 2. 78 | 3. 48 | 3. 75 | 3.81 |  |  |  |  |
| 1915-16 | 3. 26 | 3. 26 | 3.08 | 3.41 | 3.32 | 3.00 | 3.28 | 3. 32 | 3.51 | 3. 64 | 4.00 |  |
| 1916-17 |  | 2. 99 | 3.02 | 3. 50 | 3.42 | 3.05 | 3.38 | 3.72 | 4.90 | 5.55 |  | 5.75 |
| 1917-18 | 6.09 | 6.00 | 6. 72 | 6. 52 | 6. 27 |  |  |  |  |  |  |  |
| 1918-19 |  |  |  |  |  | 7.00 | 6.75 |  | 6. 50 | 6.50 | 6. 75 | 7.50 |
| 1919-20 | 13.00 | 11.00 |  |  |  |  |  |  |  |  |  |  |
| 1920-21 |  |  |  |  |  |  | 2. 00 | 1. 75 | 1.50 | 2. 50 | 2. 00 | 2. 50 |
| 1921-22 | 2. 75 | 4.00 | 4.25 | 2.75 | 3. 50 | 3.05 | 3.50 | 3. 90 | 4.00 | 3.75 | 3.85 | 4.00 |
| 1922-23 | 4. 25 | 3. 30 | 3. 30 | 3.25 | 3. 25 | 3.25 | 3. 20 | 3. 50 | 3.40 | 3.10 | 3. 40 | 3.35 |
| 1923-24 | 3. 50 | 4.21 | 4.00 | 4.00 | 3.90 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research.
Table 178.-Rice: Wholesale price per pound, 1900-1923.
NEW YORK (DOMESTIC, FANCY HEAD).

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1900-1901 | 4. 8 | 4.8 | 4.8 | 4.9 | 5.0 | 5.0 | 4.9 | 4.9 | 4.9 | 4.9 | 4. 9 | 4. 9 | 4.9 |
| 1901-2 | 5.0 | 5.0 | 5.0 | 4. 9 | 4.8 | 4.8 | 4.8 | 4.8 | 4. 8 | 4. 9 | 5.1 | 5. 1 | 4.9 |
| 1902-3 | 4. 9 | 4. 9 | 4.9 | 4. 9 | 5.0 | 4.9 | 5.0 | 5.2 | 5. 2 | 5.2 | 5.2 | 5.2 | 5.0 |
| 1503-4 | 5. 2 | 5.0 | 4. 7 | 4. 4 | 4.2 | 4. 2 | 4.0 | 4.0 | 4. 0 | 3. 9 | 3. 7 | 3.6 | 4.2 |
| 1904-5 | 3.5 | 3.4 | 3. 4 | 3.4 | 3.4 | 3. 4 | 3.4 | 3. 4 | 3. 4 | 3. 4 | 3.6 | 3.8 | 3.5 |
| 1505-6 | 3.8 | 3.9 | 4. 1 | 4. 1 | 4.5 | 5. 1 | 5.1 | 5. 0 | 4.9 | 4. 9 | 5. 1 | 5.4 | 4. 7 |
| 1906-7 | 5. 2 | 5. 2 | 5. 4 | 5. 3 | 5.1 | 5. 1 | 5.1 | 5.1 | 5. 2 | 5. 4 | 5.6 | 5. 9 | 5.3 |
| 1507-8 | 5. 9 | 5.9 | 5. 6 | 5. 4 | 5.1 | 5.1 | 5.4 | 5. 7 | 5.8 | 5.8 | 6. 1 | 6.2 | 5.7 |
| 1908-9 | 6.4 | 5.9 | 5. 4 | 5.1 | 5.1 | 5. 2 | 5.6 | 5. 8 | 5. 8 | 5.8 | 5. 8 | 5.6 | 5.6 |
| 1909-10 | 5.9 | 5.2 | 5.1 | 4.9 | 4.8 | 5.0 | 4.8 | 4. 6 | 4. 1 | 4. 4 | 4. 4 | 4.4 | 4.8 |
| 1910-11 | 4.4 | 4.6 | 4. 4 | 4.1 | 4.1 | 4. 2 | 4.0 | 3. 9 | 3.8 | 3.8 | 3. 7 | 3.8 | 4.1 |
| 1911-12 | 3.9 | 4.2 | 4. 3 | 4. 2 | 4.2 | 4. 4 | 4.7 | 4. 9 | 4. 9 | 5. 1 | 5.1 | 5.1 | 4. 6 |
| 1912-13 | 5.0 | 4.9 | 4.9 | 4.9 | 4. 9 | 4. 9 | 4.9 | 4.9 | 4. 9 | 4.9 | 4.9 | 5.0 | 4.9 |
| 1913-14 | 5.1 | 5.1 | 5. 1 | 5. 1 | 5.0 | 4.9 | 4. 9 | 4. 9 | 4.9 | 4.9 | 4.9 | 4.9 | 5.0 |
| Av. 1909-1913 | 4.9 | 4.8 | 4. 8 | 4.6 | 4.6 | 4. 7 | 4. 7 | 4. 6 | 4.5 | 4.6 | 4. 6 | 4.6 | 4.7 |
| 1914-15 | 5.3 | 5. 7 | 5. 6 | 5. 6 | 5. 4 | 5.2 | 5.4 | 5.4 | 5. 4 | 5. 4 | 5. 4 | 5.4 | 5.4 |
| 1915-16 | 5. 2 | 4.9 | 4.9 | 5.1 | 5.1 | 5.1 | 5.1 | 5. 1 | 5.1 | 5. 1 | 5. 1 | 5.1 | 5.1 |
| 1916-17 | 5.2 | 5.2 | 5.2 | 5. 2 | 5. 4 | 5. 4 | 5.4 | 5. 6 | 7.1 | 8. 8 | 8. 6 | 8.4 | 6.3 |
| 1917-18 | 7.9 | 7.8 | 8.2 | 9. 0 | 8.9 | 8.9 | 8. 9 | 9. 4 | 9. 6 | 9.9 | 10.0 | 10. 1 | 9.0 |
| 1918-19 | 10.1 | 10.1 | 10.2 | 10.5 | 10.5 | 10. 4 | 10.4 | 10. 4 | 10. 4 | 10.7 | 11.7 | 13. 7 | 10.8 |
| 1919-20 | 14.3 | 14.1 | 13.6 | 13.8 | 14. 2 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 14. 8 | 14.4 | 14.4 |
| 1920-21 | 14.0 | 13.2 | 11.1 | 7. 4 | 8. 5 | 7.5 | 6.9 | 6. 9 | 6. 5 | 6.1 | 6.5 | 6. 5 | 8.4 |
| Av. 1914-1920. | 8.9 | 8. 7 | 8.4 | 8.1 | 8. 3 | 8. 2 | 8.1 | 8. 2 | 8.4 | 8. 7 | 8.9 | 9.1 | 8.5 |
| 1921-22 | 6.7 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7. 0 | 7.0 | 7.1 | 7.5 | 7.5 | 7.1 |
| 1922-23 | 7.5 | 7.5 | 7.6 | 7.4 | 7.4 | 7.8 | 7.8 | 7. 7 | 7.6 | 7.9 | 7.9 | 7.9 | 7.7 |
| 1923-24 | 7.9 | 7.7 | 7.6 | 7.6 | 7.6 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from daily quotations in the New York Journal of Commerce.

Table 178.-Rice: Wholesale price per pound, 1900-192s-Continued. NEW ORLEANS (HONDURAS, CLEAN, FANCY).

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1900-1301 | 5.4 | 5.2 | 5.1 | 5.1 | 5.1 | 4.1 | 4.1 | 4.4 | 4.1 | 4.5 | 4.4 | 4.8 | 4.7 |
| 1901-2 | 4. 4 | 4.3 | 4. 0 | 3.9 | 3.9 | 4.0 | 4.0 | 4.0 | 8.9 | 3.9 | 3.8 | 4. 2 | 4.0 |
| 1902-3 | 3.8 | 3.8 | 3. 7 | 3.8 | 3.8 | 3. 9 | 4. 0 | 4.1 | 4.2 | 4. 1 | 4.2 | 4. 5 | 4.9 |
| 1903-4 | 4.1 | 4.0 | 3. 6 | 3.3 | 3.1 | 3. 2 | 3.1 | 2. 9 | 2.7 | 2. 9 | 2.8 | 3.0 | 3.2 |
| 1904-5 | 3.4 | 3. 0 | 3. 1 | 3.1 | 3.2 | 3.1 | 2. 9 | 2. 9 | 2.6 | 2.9 | 3.6 | 3. 4 | 3.1 |
| 1905-6 | 3.5 | 3.7 | 3. 9 | 3.9 | 3. 6 | 4. 0 | 3. 9 | 3. 8 | 4. 1 | 3.6 | 3. 9 | 3.9 | 3.8 |
| 1906-7 | 4.2 | 4.0 | 3. 9 | 3.8 | 3.8 | 3. 9 | 3.9 | 3.5 | 3.6 | 3.8 | 4. 1 | 4.3 | 3.9 |
| 1907-8 | 4.2 | 4.2 | 4. 1 | 3.9 | 3.9 | 4. 0 | 4. 1 | 4. 2 | 4. 4 | 4.4 | 4. 2 | 5.1 | 4.2 |
| 1908-9 | 4.8 | 3.9 | 3. 9 | 3.8 | 3.8 | 3.6 | 4.0 | 4.1 | 4.1 | 4.2 | 4.0 | 4. 2 | 4.0 |
| 1909-10 | 4.1 | 3.6 | 3. 8 | 3.7 | 3.7 | 3.8 | 3.8 | 3.4 | 3.2 | 3.6 | 3. 5 | 3.7 | 3.7 |
| 1910-11 | 3.8 | 3.6 | 3. 4 | 3.1 | 3.2 | 2.9 | 3.1 | 2.9 | 3.0 | 2.9 | 2. 9 | 3. 6 | 3.2 |
| 1911-12 | 3. 6 | 3.5 | 3.3 | 3.4 | 3.4 | 3. 8 | 3.9 | 4. 0 | 3.9 | 4.6 | 4. 2 | 4. 6 | 3.8 |
| 1912-13 | 4.1 | 4. 1 | 3. 5 | 3.8 | 4. 1 | 4.1 | 4.0 | 3. 9 | 4.0 | 4.1 | 4.1 | 4.4 | 4.0 |
| 1913-14 | 4.4 | 3.8 | 3. 8 | 3.6 | 3.7 | 3.9 | 3.8 | 3.7 | 3.6 | 3.9 | 3.8 | 3.7 | 3.8 |
| Av. 1909-1913 | 4. 0 | 3. 7 | 3. 6 | 3.5 | 3.6 | 3.7 | 3.7 | 3.6 | 3.5 | 3.8 | 3. 7 | 4.0 | 3.7 |
| 1014-15 | 4.1 | 4.2 | 3. 6 | 3.4 | 3.6 | 3.9 | 4.1 | 4.1 | 4.0 | 4.1 | 4.2 | 4.2 | 4.0 |
| 1915-16 | 3.6 | 3.3 | -3.8 | 3.8 | 3. 8 | 3.5 | 3. 6 | 3.9 | 3.8 | 4.0 | 4. 2 | 3. 9 | 3.8 |
| 1916-17 | 3. 8 | 3. 5 | 3. 8 | 3.9 | 3. 9 | 3.9 | 3.9 | 4.1 | 5.2 | 5. 9 | 6. 3 | 6.3 | 4.5 |
| 1917-18 | 6.1 | 6. 4 | 6. 7 | 6. 6 | 6. 8 | 6.8 | 7.0 | 7.6 | 8.2 | 8.3 | 8.3 | 8. 4 | 7.3 |
| 1918-19 | 7.6 | 7.6 | 7.5 | 7. 3 | 7. 5 | 7.8 | 7.7 | 8.0 | 7. 9 | 7.0 | 9. 2 | 10. 1 | 7.9 |
| 1919-20 | 10.9 | 12.2 | 11.8 | 11.9 | 12.3 | 12. 7 | 12.8 | 12.5 | 12.3 | 12. 2 | 12. 3 | 12.5 | 12. 2 |
| 1920-21 | 10.6 | 9.6 | 7.9 | 6.9 | 6.6 | 4.6 | 4.7 | 5.4 | 5.3 | 5. 5 | 5.8 | 5.6 | 6.5 |
| Av. 1914-1920. | 6.7 | 6.7 | 6.4 | 6.3 | 6.4 | 6.2 | 6. 3 | 6.5 | 6. 7 | 6. 7 | 7.2 | 7.3 | 6.6 |
| 1921-22 | 5.7 | 5.4 | 5.3 | 5.4 | 5. 7 | 5. 7 | 5. 7 | 5.9 | 6. 4 | 6.4 | 6.4 | 6.4 | 5.9 |
| 1922-23 | 6. 6 | 6. 6 | 6. 5 | 6.5 | 6. 5 | 6.6 | 6. 6 | 6.3 | 6.4 | 6.4 | 6. 5 | 6. 5 | 6.5 |
| 1923-24 | 6. 5 | 6.4 | 6. 3 | 6. 3 | 6. 4 |  |  |  |  |  |  |  |  |

Compiled from the New Orleans Times-Picayune.
HOUSTON (HEAD, CLEANED).


Houston Cotton Exchange. Division of Statistical and Historical Research.
${ }^{1}$ A verage for 5 months.
2 Average for 7 months.
${ }^{8}$ A verage for 6 years.

## BUCKWHEAT.

Table 179.-Buckwheat: Acreage, production, value, exports, etc., in the United States, 1849-1923.


Division of Crop and Livestock Estimates. Figures in italics are census returns.
${ }^{r}$ Based on farm price Dee. 1.
${ }^{2}$ Compiled from reports of Bureau of Foreign and Domestic Commarce. Including buckwheat flour Jan. 1 to June 30, 1922.
${ }^{3}$ Preliminary.

Table 180.-Buckwheat: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

| State. | Thousands of acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
| Maine | 13 | 8 | 9 | 351 | 216 | 207 | 351 | 238 | 197 |
| New Hampshire. | 1 | 1 | 1 | 21 | 25 | 22 | 18 | 31 | 22 |
| Vermont.-.-.-- | 4 | 4 | 4 | 88 | 96 | 72 | 79 | 88 | 72 |
| Massachusetts. | 1 | 1 | 1 | 18 | 21 | 20 | 22 | 29 | 23 |
| Connecticut.- | 2 | 2 | 2 | 35 | 36 | 32 | 49 | 50 | 35 |
| New York | 193 | 208 | 214 | 4,150 | 4,368 | 4,066 | 3,444 | 4,368 | 3,903 |
| New Jersey | 8 | 10 | 10 | 168 | 220 | 210 | 168 | 253 | 200 |
| Pennsylvania | 225 | 225 | 227 | 5,175 | 4,725 | 4,880 | 3,881 | 3,780 | 4,441 |
| Delaware..-. | 7 | 8 | 8 | 5 98 | 153 | 144 | 74 | 122 | 131 |
| Maryland | 9 | 9 | 9 | 171 | 185 | 199 | 145 | 159 | 199 |
| Virginia | 17 | 18 | 18 | 357 | 351 | 347 | 293 | 288 | 330 |
| West Virginia | 31 | 33 | 33 | 682 | 693 | 660 | 559 | 589 | 634 |
| North Carolina | 5 | 7 | 8 | 85 | 140 | 176 | 72 | 136 | 190 |
| Ohio.--- | 21 | 25 | 23 | 525 | 500 | 460 | 551 | 400 | 432 |
| Indiana. | 6 | 6 | 6 | 114 | 90 | 102 | 114 | 90 | 97 |
| Illinois_ | 4 | 6 | 6 | 70 | 84 | 90 | 77 | 71 | 91 |
| Michigan | 39 | 62 | 53 | 624 | 868 | 753 | 487 | 694 | 633 |
| W isconsin | 40 | 25 | 28 | 596 | 360 | 392 | 447 | 313 | 349 |
| Minnesota | 28 | 75 | 49 | 448 | 1, 050 | 637 | 314 | 840 | 573 |
| Iowa.- | 5 | 5 | 5 | 75 | 70 | 75 | 60 | 88 | 70 |
| Missouri | 1 | 1 | 1 | 14 | 13 | 13 | 21 | 16 | 15 |
| South Dakota | 8 | 12 | 9 | 112 | 96 | 126 | 90 | 67 | 108 |
| Nebraska.. | 1 | 1 | 1 | 16 | 16 | 18 | 13 | 14 | 15 |
| Kentucky | 8 | 9 | 9 | 160 | 144 | 162 | 160 | 130 | 162 |
| Tennessee. | 3 | 3 | 3 | 54 | 44 | 57 | 51 | 35 | 62 |
| United States..- | 680 | 764 | 737 | 14, 207 | 14, 564 | 13, 920 | 11, 540 | 12, 889 | 12,984 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 181.-Buckwheat: Yield per acre, by States, calendar years, 1908-1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\left\|\begin{array}{c} A \nabla \\ \hline 1909 \\ 1913 \end{array}\right\|$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{array}{\|c} \text { A } \nabla \text {. } \\ 1914- \\ 1920 \end{array}$ | 1921 | 222 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $B u$. | Bu. | Bu | Bu. | $B u$. | Bu | $B u$. | $B u$. | Bu. | Bu. | $B u$. | Bu. | Bu. | Bu | $B u$. | $B u$. |  |  |
| Main |  |  | 32.5 | 30.0 | 29.4 | 432.0 |  | 429.0 | 26.0 | 24.0 | 21.5 | 20.0 | 24.0 |  |  |  |  |  |
| New Hamp | 21.5 | 22.0 | 31.0 | 27.3 | 31.0 | 031.0 | 28.5 | 525.0 | 30.0 | 20.0 | 16.0 | 17.0 | 18. | 20.0 |  |  |  |  |
| Vermont |  | 22.0 | 24.0 | 24.3 | 30.0 | 025.0 |  | 128.0 | 27.0 | 17.5 | 20.0 | 21.0 | 22.0 | 21 | 22 | 22. | 24 | 0 |
| Massachuset | 18.0 | 19.3 | 22.0 | 21.0 | 21.0 | 17.0 | 20.1 | 118.5 | 516. | 16. 0 | 15.0 | 16. 0 | d | 19.0 | 17. | 18. | 21. | 0 |
| Connecticut |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| New York |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | . 0 |
| New Jere | 20. | 21.8 | 21. 5 | 20.0 | 22.0 | 22.0 | 21. | 21. | 21.0 | 19.0 | 18.0 | 18. | 18.0 | 18.0 |  |  |  | 1.0 |
| Pennsylv | 19.2 | 19.5 | 19.5 | 21.9 | 24.2 | 218.5 | 20.7 | 720.5 | 21.0 | 14.0 | 18.0 | 18.0 | 21.6 | 18.0 | 18. | 23.0 | 21. | ${ }^{21.5}$ |
| Delawar | 30. | 19.8 | 20.5 | 19.0 | 16.0 | 17.0 |  | 19.0 | 18.5 | 19.0 | 20.0 | 20.5 |  |  | 19.0 | 14. | 19. | 18.0 |
| Marylan |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Virginia | 18. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | . 3 |
| West Virgi | 18.0 | 22.7 |  | 24.0 | 24.0 | 21.0 |  |  | 22.0 | 18 |  | 19 |  | 19.5 | 20. |  |  |  |
| North Car | 16.4 | 19.8 | 19.0 | 19.0 | 17.5 | 519.3 | 18.9 | 919.0 | 17.5 | 17.5 | 20.0 | 20.0 | 17. |  | 18. |  |  | 22.0 |
| , | 18.5 | 21.2 |  | 21.0 | 19.5 | 518.0 |  | 24. | 23.0 | 17.7 |  | 16. 0 | 23. 2 | 20.9 | 20.3 | 25.0 | 20.0 | 20.0 |
| India |  |  |  |  |  | 18.5 |  | ${ }^{17.5}$ | 14.0 |  | 15.0 |  |  | 20.0 |  |  |  |  |
| Illinois |  |  |  |  |  |  |  |  |  |  |  |  | 8. | 1. |  |  |  | 15.0 |
| Michiga | 13. | 14.3 | 15.3 | 18.0 | 17.0 | 15 | 15. | 17 | 514. | 11. 0 | 9.0 | 10.0 | 13 | 14.5 | 13. | 0 | 14. | 14.2 |
| Wisconsin | 15.2 | 12.3 | 14.0 | 17.5 | 17.0 | 16.5 | 15.5 | 517.5 | 13. 0 | 14.0 | 12.2 | 15.9 | 16.2 | 16.0 | 15. | 14. | 14.4 | 14.0 |
| Minnes | 18.2 | 15.2 | 16.0 | 18.0 | 21.0 | 16.5 | 17.3 | 17.0 | 17.5 | 15.0 | 14.0 | 17.0 | 19.0 | 16.0 | 16.5 | 16.0 | 14.0 | 13.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Missou | 20. | 21.0 |  |  |  | 11 | 14.7 |  |  |  | 15.0 | 13.0 | 15.0 | 16.0 | 14.8 | 1. |  | 3. 0 |
| South Da |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 14. |  |  |
| Nebraska | 18.0 | 16.0 |  | 16.0 | 18.0 | 20.0 | 18.0 | 18 | 20 | 17.0 | 16.0 | 14.0 | 16.0 | 1 | 16. | 16.0 | 16.0 | 18.0 |
| Kentucky |  |  |  |  |  |  |  |  |  |  |  |  | 13. 0 | 15.0 |  | 20.0 | 116.0 | 18.0 |
| Tennessee |  | 15.0 | 15.0 | 16. | 18.0 | 15.0 | 15.8 | 82. | 18 | 18.0 | 17.0 | 18 | 15 | 16.5 | 17. |  | 14. | 19.0 |
| Unite | 19.4 | 20. 5 | 20. 5 | 21.1 | 22 | 17. | 20. | 21.3 | 19.61 | 14.1 | 17. | . | 20.6 | 7 | 18.3 | 20.8 | 9.1 | 18.9 |

Division of Crop and Livestock Estimates.

Table 182.-Buckwheat: Condition of crop, first of month, and yield per acre, United States, 1867-1923.

| Calendar year. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. | Calendar year. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | $P$. ct. | Bush. |  | P.ct. | P. ct. | P.ct. | Bush. |
| 1867. | 98.2 | 95.3 | 94.9 | 17.4 | 1897 | 94. 9 | 95. 1 | 90.8 | 20.6 |
| 1888. | 92.3 | 95. 1 | 95. 0 | 17.8 | 1898 | 87. 2 | 88.8 | 76. 2 | 17.2 |
| 1869 | 101.5 | 93.3 | 93.1 | 16.9 | 1899 | 93.2 | 75.2 | 70.2 | 16.1 |
| 1870 | 94.4 | 95. 4 | 89.8 | 18. 3 | 1900 | 87.9 | 80.5 | 72.8 | 14.9 |
| 1871 | 97.5 | 90.7 | 90.4 | 20.1 | 1901 | 91.1 | 90.9 | 90.5 | 18.4 |
| 1872 | 100.9 | 99.5 | 95.1 | 18.1 | 1902 | 91.4 | 86.4 | 80.5 | 17.9 |
| 1873 | 95.9 | 98.4 | 94.9 | 17.3 | 1903 | 93.9 | 91.0 | 83.0 | 17.5 |
| 1874. | 96.7 | 91.8 | 95.0 | 17.7 | 1904 | 92.8 | 91.5 | 88.7 | 18.6 |
| 1875 | 98.6 | 98.0 | 97.0 | 17.5 | 1905 | 92.6 | 91.8 | 91.6 | 18.8 |
| 1876. | 97.3 | 81.6 | 86.6 | 14.5 | 1906 | 93.2 | 91.2 | 84.9 | 18.2 |
| 1877. | 100.5 | 98.0 |  | 15.7 | 1907 | 91.9 | 77.4 | 80.1 | 17.7 |
| 1878 | 98.2 | 96. 0 |  | 18. 2 | 1908 | 89.4 | 87.8 | 81.6 | 19.4 |
| 1879 | 97.6 | 98.0 |  | 20.7 |  |  |  |  |  |
| 1880 | 94.2 | 94.0 |  | 17.8 | 1909. | 86.4 | 81.0 | 79.5 | 20.5 |
| 1881 | 94.9 | 70.0 |  | 11.4 | 1910 | 87.9 | 82.3 | 81.7 | 20.5 |
|  |  |  |  |  | 1911. | 82.9 | 83.8 | 81.4 | 21.1 |
| 1882 | 99.0 | 92.4 |  |  | 1912 | 88.4 | 91.6 | 89.2 | 22.9 |
| 1883 | 99.0 | 88.0 | 63. 6 | 8.9 | 1913 | 85.5 | 75.4 | 65.9 | 17.2 |
| 1884 | 96.0 | 93.1 | 87.0 | 12.6 |  | 86.2 |  |  |  |
|  | 94.1 | 89.8 | 86.5 | 12.9 | Av.1914. | 86. 2 | 82.8 | 79.5 | 20.4 |
|  |  |  |  |  |  | 88.8 | 87.1 | 83.3 | 21.3 |
| 1887 | 93.3 | 89.1 | 76.6 | 11.9 | 1915 | 92.6 | 88.6 | 81.9 | 19.6 |
| 1888 | 92.5 | 93.7 | 79.1 | 13. 2 | 1916 | 87.8 | 78.5 | 66. 9 | 14.1 |
| 1889 | 95.2 | 92.1 | 90.0 | 14.5 | 1917 | 92.2 | 90. 2 | 74.8 | 17.3 |
| 1891 | 90.1 | 96. 6 | ${ }_{92.7}$ | 15.0 | 1918 | 88.6 | 83.3 | 75.6 | 16.5 |
|  | 97.3 |  |  |  | 1919 | 88.2 | 90.1 | 88. 0 | 20.6 |
|  |  |  |  |  | 1920 | 90.5 | 91.1 | 85.6 | 18.7 |
| 1893 | 92.9 88.8 | 89.0 77.5 | 85.6 73.5 | 14.7 14.7 | Av. 1914-1920 | 89.8 | 87.0 | 79.4 | 18.3 |
| 1894 | $\begin{aligned} & 82.3 \\ & 85.2 \end{aligned}$ | 69.2 | 72.0 | 15.9 |  |  |  |  |  |
| 1896. |  | 93.2 | 84.8 | 19.9 | 1921. | 87.2 | 85.6 | 87.4 | 20.9 |
|  | 96.0 |  | 86.0 | 18.5 | ${ }_{1923}$ | 89.7 82.7 | 85.7 80.5 | 83.8 77.6 | 19.1 18.9 |
|  |  |  |  |  | 1923 | 82.7 | 80.5 | 77.6 | 18.9 |

Division of Grop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.
Table 183.-Buckwheat: Farm price per bushel, first of month, United States, 1908-1923.

| Year beginning Sept. 1. |  | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Weighted av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908-9 | $\begin{gathered} \text { Cts. } \\ 80.0 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 77.2 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 77.1 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 75.6 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 74.3 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 74.2 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 75.5 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 76.2 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 78.8 \end{gathered}$ | $C t s$ $83.4$ | $\begin{gathered} C t s . \\ 86.9 \end{gathered}$ | $\begin{gathered} \text { Cts. } \\ 82.9 \end{gathered}$ | Cts. $77.6$ |
| 1909-10 | 76.9 | 75.0 | 71.6 | 70.1 | 70.0 | 72.0 | 70.6 | 73.4 | 71.0 | 73.7 | 78. 0 | 74.8 | 72.4 |
| 1910-11 | 72.6 | 71.3 | 65.9 | 66.1 | 65.8 | 64.4 | 64.1 | 65.3 | 65.8 | 70.1 | 72.4 | 76.0 | 67.6 |
| 1911-12 | 74.0 | 69.6 | 73.0 | 72.6 | 73.7 | 73.6 | 76.9 | 76. 9 | 79.9 | 84.8 | 86. 2 | 83.6 | 75.2 |
| 1912-13 | 76.6 | 69.7 | 65.5 | 66.1 | 66.8 | 69.4 | 67.0 | 68.3 | 71.4 | 70. 8 | 72.9 | 72. 4 | 68.4 |
| 1913-14 | 70.0 | 74.1 | 75.5 | 75.5 | 76.6 | 75.6 | 75.1 | 76.9 | 77. 3 | 79.0 | 85.5 | 81.2 | 76.3 |
| Av. 1909-19 | 74.0 | 71.9 | 70.3 | 70.1 | 70.6 | 71.0 | 70.7 | 72.2 | 73.1 | 75.7 | 79.0 | 77.6 | 72.0 |
| 1914-15 | 79.8 | 78. 7 | 78.0 | 76.4 | 77.9 | 83.7 | 85.5 | 85.3 | 84.6 | 86.9 | 92.1 | 89. 2 | 80.9 |
| 1915-16 | 81.4 | 73.7 | 78.5 | 78.7 | 81.5 | 80.7 | 83.2 | 83.1 | 84.9 | 87.0 | 93.1 | 89.0 | 81.1 |
| 1916-17 | 86.4 | 90.4 | 102.9 | 112.7 | 117.2 | 114.6 | 124.8 | 128. 3 | 150. 6 | 183. 7 | 209.2 | 189. 3 | 123.2 |
| 1917-18 | 164.3 | 154.4 | 154.2 | 160.0 | 162.7 | 161. 9 | 168. 2 | 170.1 | 176. 0 | 191. 0 | 200.8 | 192. 7 | 165.8 |
| 1918-19 | 190.3 | 180.0 | 173.0 | 166. 5 | 162. 9 | 158. 1 | 148. 4 | 149. 6 | 147.3 | 165. 6 | 160.8 | 165. 9 | 166.5 |
| 1919-20 | 159.8 | 162. 0 | 151.0 | 146.1 | 150.7 | 154.9 | 155. 7 | 163. 1 | 168. 8 | 180.2 | 202. 7 | 181.3 | 159.0 |
| 1920-21 | 176.3 | 159.4 | 131.0 | 128.3 | 125. 4 | 118.7 | 116. 3 | 109.3 | 115. 9 | 116. 1 | 115. 3 | 119.7 | 129.7 |
| Av. 1914-192 | 134.0 | 128.4 | 124.1 | 124.1 | 125. 5 | 124.7 | 126. 0 | 127.0 | 132.6 | 144.4 | 153.4 | 146.7 | 129.5 |
| 1921-22. | 114.4 | 106. 0 | 83.9 | 81.2 | 83.5 | 85.4 | 85.8 | 92. 6 | 93.3 | 97.5 | 102.6 | 95.7 | 90.3 |
| 1922-23 | 86.3 | 84.1 | 80.3 | 88.5 | 89.5 | 87.5 | 89.8 | 95.4 | 94.5 | 102.2 | 102.4 | 100.3 | 89.0 |
| 1923-24. | 98.5 | 94.7 | 93.6 | 93.3 |  |  |  |  |  |  |  |  |  |

[^174]Table 184.-Buckwheat: Farm price per bushel, December 1, calendar years, 19081923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\begin{gathered} \text { A.7. } \\ 1909 \\ 1913 \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\left\lvert\, \begin{gathered} \text { A } \nabla . \\ 1914- \\ 1920 \end{gathered}\right.$ | 1921 | 1922 | 1923 | Value per acre, 1923. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts: | Cts: | Cts. | Ctt. | Cts: | Cts. | Cts: | Cts. | Cts. | Cts. | Dols: |
| Me. | 75 | 70 | 68 | 70 | 70 | 56. | 67 | 60 | 70 | 95 | 150 | 150 | 175 | 153 | 122 | 100 | 110 | 95 | 21.85 |
| N ${ }^{\text {E }}$ | 80 | 76 | 62 | 81 | 72 | 66 | 71. | 70 | 81 | 100 | 183 | 208 | 156 | 122 | 130 | 88 | 125 | 100 | 22. $0^{8}$ |
| Vt | 70 | 76 | 70 | 85 | 72 | 80 | 77 | 82 | 82 | 105 | 150 | 160 | 17.0 | 135 | 128 | 90 | 92 | 100 | 18.08 |
| Mas | 80 | 75 | 85 | 89 | 85 | 80 | 83 | 84 | 95 | 140 | 166 | 198 | 168 | 140 | 140 | 125 | 138 | 115 | 23.06: |
| Conn | 80 | 100 | 83 | 95 | 88 | 95 | 92 | 95 | 96 | 120 | 200 | 210 | 200 | 160 | 154 | 139 | 140 | 110 | 17.60 |
| N: Y | 76 | 69 | 65 | 73 | 64 | 81 | 70 | 76 | 88 | 122 | 160 | 175 | 145 | 140 | 128 | 83 | 100 | 96 | 18: 24 |
| N | 75 | 74 | 69 | 75 | 72 | 76 | 73 | 83 | 83 | 108 | 158 | 170 | 159 | 150 | 129 | 100 | 115 | 95 | 19.95 |
| Pa | 75 | 68 | 62 | 69 | 64 | 73 | 67 | 76 | 78 | 111. | 163 | 169 | 140 | 120 | 121. | 75 | 80 | 91. | 19.58 |
| Del | 72 | $6{ }^{6}$ | 65 | 65 | 66 | 69 | 65 | 76 | 75 | 118 | 148 | 148 | 160 | 120 | 120 | 75 | 80 | 91. | 16.38 |
| Md | 76 | 74 | 66 | 67 | 71 | 75 | 71 | 81. | 72 | 110 | 165 | 165 | 155 | 133 | 126 | 85 | 86 | 100 | 22.10 |
| Va | 72 | 76 | 77 | 70 | 75 | 80 | 76 | 84 | 80 | 95 | 150 | 163. | 153 | 140 | 124 | 82 | 82 | 95 | 18.34 |
| W. V | 81 | 78 | 77 | 85 | 75. | 78 | 78 | 83 | 80 | 101 | 170 | 173 | 170 | 140 | 131 | 82 | 85 | 96 | 19:20 |
| N, C | 78 | 80 | 80 | 80. | 85 | 78 | 81. | 83 | 82 | 85 | 130 | 150 | 140 | 110 | 111 | 85 | 97 | 108 | 23. 76 |
| Ohie | 82 | 78 | 75 | 78 | 70 | 76 | 75 | 76 | 77 | 110 | 153 | 156 | 155 | 105 | 119 | 105 | 80 | 94 | 18.88 |
| Ind. | 78 | 77 | 70 | 74 | 73 | 7.5 | 74. | 78 | 80 | 112 | 155 | 160 | 150 | 120 | 122 | 100 | 100 | 95 | 16.15 |
| III | 90 | 80 | 90 | 95 | 80 | 80 | 85 | 95 | 90 | 130 | 170 | 180 | 180 | 136 | 140 | 110 | 85 | 101. | 15. 15 |
| Mich | 71 | 68 | 62 | 71 | O5 | 70 | 67 | 71 | 72 | 115 | 147 | 170 | 137 | 109 | 117 | 78 | 80 | 84 | 11.93: |
| Wis | 76 | 78 | 75 | 75. | 66 | 69 | 73. | 78 | 83 | 116 | 174 | 165 | 150 | 120 | 120 | 75 | 87 | 89 | 12.46 |
| Minn | 73 | 71 | 72 | 76 | 65. | 64 | 70 | 70 | 75 | 112 | 135 | 170 | 130 | 106 | 114 | 70 | 89 | 90 | 11. 78 |
| Iowa | 78 | 85 | 83 | 90 | 75 | 81. | 83. | 7.7 | 80 | 125 | 200 | 180 | 169 | 134 | 138 | 80 | 125 | 94 | 14. 10 |
| Mo. | 85 | 90 | 87 | 105. | 95 | 85 | 92 | 93 | 90 | 133 | 144 | 180 | 184 | 155 | 140 | 150 | 125 | 1.18 | 15.34 |
| S Diak |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 80 | 70 | 86 | 12.04: |
| Nebr | 83 | 96 | 90 | 95. | 90 | 79 | 89 | 84 | 95 | 110 | 150 | 165 | 180 | 100 | 120 | 80. | 85 | 85 | 15.30 |
| K:y |  |  |  |  |  |  |  |  |  |  | 145 |  |  | 100 |  | 100 | 90 | 100 | 18.00. |
| Tenn | 80 | 79 | 86 | 79. | 78 | 7.5 | 79 | 78 | 78 | 100 | 150 | 140 | 150 | 130 | 118 | 95 | 80 | 109 | 20.71 |
| U. | 75.7 | 70.2 | 66.1 | 72.6 6 | 66.17 | 75. 5 | 70. 17 | 76. 4 | 78. 7 | 112. 7 | 160.0 | 166.5 | 146. 1 | 128.3 | 124. 1 | 81. 2 | 88. 5 | 93: 3 | 17.62 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Basedion farm price Dec. 1.
Table 185.-Buckwheat: Average price per 100 pounds.
BUFEALO. ${ }^{1}$

| Year beginning Oct. 1. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914-15 | \$1. 60 | \$1.55 | \$1. 75 : | \$1.85 | \$2. 21 | \$2.07 | \$1.84 |
| 1915-16. | 1. 50 | 1.81 | 1.81 | 1.85 | 1:80 | 1.70 | 1.74 |
| 1916-17 | 1.86 | 2.92 | 3.15 | 2. 86 | 3. 00 | 3.03 | 2.80 |
| 1917-18 | 3. 22 | 3. 50 | 3. 52 | 3. $60-$ | 3. 73 | 4. 50 | 3: 68 |
| 1918-19 | 3.84 | 3. 70. | 3.32 | 2. 93 | 250 | 2.35 | 3.11 |
| $1918-20$ | 2.98 | 2.84: | 3. 16 | 3. 25 | 3: 45 | 3.47 | 3.19 |
| 1980-21 | 2.73 | 2.52. | 2.51. | 2:48 | 2.40 | 2. 60 | 2.54 |
| Average, 1914-1920: | 2.53 | 2.69 | 2. 75 | 2.68 | 273 | 2.82 | 2.70 |
| 192土-22 | 1.75 | 1. 64 | I 78 | 1.94 | 208 | 2.59 | 1.96 |
| 1922-23 | 1. 79 | 2.04 | 2.13 | 2.05 | 210. | 2.12 | 2.04 |
| 1923-24. | 2. 20 | 2.12 | 2.06 |  |  |  |  |

MANNFEAPOETS: ${ }^{2}$


Division of Statistical and Historical Reseanchr.
${ }^{1}$ From the Weekdy Northwestern Miller. Average of weekly quotations: 1922-23 and after from Commercial Bulletin, Buaffalo Corn Fxchange.

2'fromi Minneapolis: Daily Market Record: Average of daily quotations.

## GRAIN SORGHUMS. ${ }^{1}$

Table 186.-Grain sorghums: Acreage, production, and total farm value, United States, 1915-1923; by States, 1922 and 1923.

| Calendar year, and State. | Thousands of acres. |  | Average yield in bushels per acre. |  | Production, thousands of bushels. |  | Average farm price, Nov 15, cents per bushel. |  | Farm value, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915 | 4,153 |  | 27.6 |  | 114,460 |  | 44.7 |  | 51, 157 |  |
| 1916 | 3, 944 |  | 13.7 |  | 53,85861,409 |  | 105.9161.9 |  | 57,02799,433 |  |
| 1917 | 5,153 |  | 11.912.1 |  |  |  |  |  |  |  |
| 1918 |  |  | 73, 241 | 150.0 |  | $109,881$ |  |  |  |
| 1919 | 5, 060 |  |  |  | 25.8 |  | 130,734137,408 |  | 127.4 |  |  |  |
| 1920 |  |  |  |  |  |  |  |  | $127,629$ |  |
| 1921 | $\begin{aligned} & 0,120 \\ & 4,635 \end{aligned}$ |  | 24.6 |  | 113, 990 |  | 39.1 |  | $44,575$ |  |
| Leading. States. | 1922 | $1923{ }^{2}$ | 1922 | 1923 | 1922 | 19232 | 1922 | 1923 | 1922 | $1923{ }^{2}$ |
| Total | 5,064 | 5,776. | 17.9 | 18.3 | 90, 524 | 105, 619 | 87.8 | 94.1 | 79,503 | 99, 353 |
| Iowa | 8 | 6 | 24.0 | 33.0 | 144 | 198 | 55 | 100 | 79 | 198 |
| Missouri | 15 | 13 | 20.0 | 21.0 | 300 | 273 | 85 | 100 | 255 | 273 |
| Nebraska | 19 | 26 | 18.0 | 25.6 | 342 | 666 | 74 | 88 | 253 | 588 |
| Kansas.- | 1, 039 | 1, 598 | 19.5 | 17.7 | 20; 260 | 28, 285 | 74 | 82 | 14,992 | 23, 194 |
| Texas | 1,970 | 1,891 | 20.0 | 22.0 | 39,400 | 41, 602 | 100 | 105 | 39, 400 | 43, 682 |
| Oklahoma | 1,450 | 1,523 | 13.5 | 12.0 | 19,575 | 18, 276 | 80 | 92 | 15, 660 | 16, 814 |
| Colorado | 247 | 336 | 15.0 | 20.0 | 3, 705 | 6, 720 | 70 | 80 | 2, 594 | 5,376 |
| New Mexico | 158 | 205 | 11.0 | 18.0 | 1,738 | 3, 690 | 80 | 90 | 1,390 | 3,321 |
| Arizona | 30 | 35 | 30.0 | 34.0 | 900 | 1,190 | 80 | 100 | 720 | 1. 190 |
| California | 130 | 143 | 32.0 | 33.0 | 4,160 | 4, 719 | 100 | 100 | 4, 160 | 4, 719 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Kafirs, milo maize, feterita. ${ }^{2}$ Preliminary.
Table 187.-Grain sorghums: Condition of crop, first of month, and yield per acre, United States, 1906-1923.

| Calendar year. | July. | Aug. | Sept. | Oct. | Yield per acre. | Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | P.ct. | P. ct. | P. ct. | Bush. |  | P. ct. | P. ct. | P.ci. | P.ct. | Bush. |
| 1906 | 90.2 | 91.3 | 92.4 |  |  | 1914 | 90.5 | 84.4 | 84.5 |  |  |
| 1907 | 84.8 | 85. 6 | 83.1 |  |  | 1915 | 87.1 | 89.1 | 90.8 | 90.5 | 27.613.7 |
| 1908 | 85.3 | 86.5 | 85.1 |  | --------- | 1916 | 83.2 | 73.1 | 62.3 | 65.2 |  |
|  | 89.482.7 | 85.0 |  |  | - |  | 69.8 |  | 50.1 | 49.0 | 11.9 |
| 1909. |  |  | 72.8 |  |  |  |  | 1918--------------------- |  |  | 78.7 | 65.8 | 12.1 |
| 1910 |  | 71.1 | 79.2 |  |  | 91.1 | 90.4 |  | 88.0 | 94. 7 | 25. 8 |
| 1911 | 64.5 89.4 8 | 72.985.073.1 | $\begin{aligned} & 74.4 \\ & 85.4 \\ & 57.9 \end{aligned}$ |  |  |  | 89.5 | 87.5 | 91.0 |  | 26.8 |
| 1913 | 84.7 |  |  |  | Av. 1914-1920_ |  | 84.3 | 78.4 | 76.8 | 75.6 | 19.6 |
| Av.1909-1913. | 82.1 | 77.4 | 73.9 |  |  | 1921 | 88.9 | 88.5 | 84.6 | 85.3 | 24.6 |
|  |  |  |  |  |  | 1922 | 87.2 | 79.3 74.7 | 65.5 | 64.9 67.5 | 17.9 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.

Table 188.-Kafir, No. 2 White: Weighted average price per 100 pounds of reported cash sales, Kansas City, 1909-1923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { Nov. } 1 \text {. } \end{aligned}$ | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | $\begin{aligned} & \text { Weight- } \\ & \text { ed } \\ & \text { everage. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$1. 20 | \$1.31 | \$1. 53 | \$1. 42 | \$1. 37 | \$1. 32 | \$1. 46 | \$1. 50 | \$1. 53 | \$1. 81 | \$1. 78 | \$1. 19 | \$1.45 |
| 1910-11 | 1.12 | . 96 | . 96 | ${ }^{93}$ | . 94 | . 94 | 1.06 | 1.24 | 1.42 | 1.34 | 1. 27 | -1.21 | 1.12 |
| 1911-12 | 1.06 | . 99 | 1. 19 | (1) | 1. 29 | 1.43 | 1. 44 | 1.25 | 1.63 | 1. 68 | 1.36 | 1.13 | 1.31 |
| 1912-13 | . 98 | . 86 | . 85 | . 83 | 81 | 82 | . 88 | 1.11 | 1.09 | 1.41 | 1. 53 | 1.51 | 1.06 |
| 1913-14 | 1.57 | 1.63 | 1.72 | 1.72 | 1.76 | (1) | 2. 00 | (1) | (1) | (1) | (1) | (1) |  |
| Av. 1909-1913. | 1. 19 | 1.15 | 1. 25 | -- | 1. 23 |  | 1.37 |  |  |  |  |  |  |
| 1914-15 | 1.04 | 1.14 | 1.33 | 1.38 | 1.28 | 1. 18 | 1.14 | 1.20 | 1.16 | 1.09 | 1.04 | 1. 06 | 1.17 |
| 1915-16 | . 91 | . 99 | 99 | . 96 | . 93 | 1. 06 | 1. 05 | 1. 11 | 1.22 | 1. 58 | 1.71 | 1.84 | 1. 19 |
| 1916-17 | 2.34 | 2.11 | 2. 43 | 2. 48 | 2. 66 | 3. 17 | 3. 79 | 3. 36 | 4.00 | 4. 48 | 4. 34 | 3. 69 | 3.24 |
| 1917-18. | 3.40 | 3. 25 | 3. 33 | 3.69 | 3. 84 | 3.37 | 2.93 | 2. 65 | 3.03 | 3. 40 | 3. 40 | 3. 27 | 3.28 |
| 1918-19 | 2. 96 | 2.61 | 2. 60 | 2. 70 | 2. 56 | 2. 67 | 2.97 | 3. 42 | 3.51 | 3.61 | 2. 41 | 2. 34 | 2.86 |
| 1919-20 | 2.67 | 2.93 | 2. 49 | 2. 17 | 2.31 | 2. 38 | 2.65 | 2. 52 | 2.36 | 2. 43 | 2. 24 | 1.81 | 2.41 |
| 1920-21 | 1.39 | 1.17 | . 98 | . 91 | . 85 | . 80 | 1. 03 | 1. 12 | 1.21 | 1. 13 | 1.13 | 1. 02 | 1.06 |
| Av. 1914-1920. | 2. 10 | 2.03 | 2. 02 | 2.04 | 2.06 | 2.09 | 2. 22 | 2. 20 | 2. 36 | 2. 53 | 2. 32 | 2.15 | 2.17 |
| 1921-22 | . 85 | . 90 | 90 | 1. 29 | 1. 32 | 1. 20 | 1. 28 | 1.38 | 1.66 | 1. 72 |  | 83 | 1.36 |
| 1922-23 | 1. 78 | 1. 63 | 1. 59 | 1. 60 | 1.66 | 1.72 | 1.76 | 1. 67 | 1. 50 | 1.48 | ${ }^{1}$ ) | (1) |  |
| 1923-24 | (1) | 1. 27 |  |  |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Kansas City Price Current and Market Review.
${ }^{1}$ No quotations.
Table 189.-Kafir: Farm price per bushel, 15th of month, United States, 1916-1923.

| Year begining Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | $\begin{aligned} & \text { Weight- } \\ & \text { ed } \\ & \text { average. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1916-17 | 102.4 | 101. 5 | 119.1 | 129.0 | 147.0 | 152.0 | 188.0 | 206. 3 | 214. 0 | 243.3 | 187. 7 | 174.1 | 152.6 |
| 1917-18 | 160.6 | 166.7 | 170.8 | 185. 7 | 193.5 | 204. 0 | 211.0 | 179.6 | 165. 6 | 177.2 | 181. 0 | 175.9 | 182.3 |
| 1918-19. | 150.5 | 154.8 | 153. 7 | 156.9 | 150.9 | 162. 1 | 173.6 | 174. 1 | 175.9 | 176.9 | 153.7 | 139.7 | 160.4 |
| 1919-20 | 133.6 | 144.3 | 137.3 | 138.7 | 129.8 | 145.4 | 154.5 | 153.9 | 135.2 | 150.0 | 124.8 | 95.5 | 140.4 |
| 1920-21. | 95.5 | 81.7 | 65.6 | 57.8 | 67.3 | 53.8 | 51.5 | 62.0 | 51.0 | 58.0 | 54.9 | 48.3 | 63.6 |
| 1921-22 | 35. 8 | 33. 8 | 41.4 | 48. 0 | 60. 5 | 63. 2 | 61. 2 | 63.8 | 68.7 | 87.7 | 77.1 | 85.6 | 54.8 |
| 1922-23 | 89.2 | 89.3 | 89.0 | 92.1 | 98.6 | 108.2 | 96.4 | 100.2 | 109.8 | 102.2 | 94.1 | 100.8 | 96.6 |
| 1923-24 | 95.4 |  |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 190.-Kafir: Monthly and yearly receipts at Kansas City, 1909-1922.

| Year beginning Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Yearly total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1, | 1,000 | 1,000 | 1,000 | 1,000 | 1,00 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |
|  |  |  |  | lbs. | lbs | lbs. |  |  | lbs. | lbs. | libs. |  |  |
| 1909 | 5,940 | 2, 820 | 7,020 | 8, 400 | 9,000 | 2, 520 | 1,800 | 1,140 | 660 | 420 | 300 | 200 | 40,220 |
| 1910-1 | 6,000 | 16, 050 | 12,550 | 10, 050 | 4, 800 | 2, 900 | 4,000 | 3, 150 | 1,700 | 2, 350 | 1,050 | 3,450 | 68, 050 |
| 1911-12 | 11, 300 | 18, 100 | 14, 291 | 22, 945 | 10, 718 | 11, 088 | 10, 410 | 6, 776 | 4,189 | 2,587 | 3, 450 | 5, 790 | 121, 644 |
| 1912-13 | 24, 948 | 36, 098 | 34, 188 | 18, 665 | 6, 222 | 8, 439 | 7, 207 | 12, 505 | 5, 051 | 616 | 1,848 | 1, 478 | 157, 265 |
| 1913-14 | 1,232 | 2,957 | 7,454 | 4,004 | 1, 417 | 862 | 924 | 862 | 185 | 62 | 493 | 2,341 | 22,793 |
| Av., | 9,884 | 15,205 | 15,101 | 12,813 | 6,431 | 5,162 | 4,868 | 4,887 | 2,357 | 1,207 | 1,428 | 2,652 | 81,994 |
| 1914-15 ${ }^{1}$ | 17, 433 | 40,286 | 37, 022 | 34, 619 | 10,5 | 27,227 | 14, | 10, | $\stackrel{11,519}{ }$ | 11,396 | 6,283 | 7,269 | 28, 165 |
| 1915-16 ${ }^{1}$ | 20, 574 | 62, 524 | 32, 088 | 32, 424 | 35, 616 | 3, 376 | 30, 352 | 33, 88 | 21, 504 | 9, 576 | 5, 600 | 2, 016 | 319, 530 |
| 1916-17 | 1,512 | 5,432 | 10, 780 | 15, 338 | 4,004 | 2,526 | 2,156 | 493 | 431 | 431 | 308 | 308 | 43, 719 |
| 1917-18 | 4, 928 | 15, 585 | 25, 995 | 21, 560 | 28, 336 | 18, 049 | 5,482 | 5,975 | 2, 218 | 1, 602 | 493 | 370 | 130, 593 |
| 1918-19 ${ }^{1}$ | 2, 834 | 9, 117 | 8, 562 | 9, 425 | 21, 498 | 18, 418 | 21, 006 | 5,298 | 8, 932 | 3, 634 | 4,866 | 4,497 | 118, 087 |
| 1919-20 | 1,232 | 13, 059 | 41, 703 | 40, 410 | 51, 519 | 25, 133 | 30, 246 | 45, 769 | 42, 997 | 13, 182 | 8, 932 | 6,899 | 321, 081 |
| 1920-21 | 6,283 | 36,652 | 54, 886 | 25, 934 | 31, 847 | 16, 078 | 16,878 | 36, 036 | 13, 121 | 16,386 | 6,714 | 11, 704 | 272, 519 |
| Av., 1 | 7,828 | 26, 094 | 30,148 | 25,673 | 26,202 | 20,115 | 17,175 | 19,694 | 14,389 | 8,030 | 4,742 | 4,723 | 204, 813 |
| 1921 | 14,722 | $\overline{19,589}$ | 26,365 | 30,061 | 21,930 | 17, 494 | $\overline{11,149}$ | $\widetilde{11,889}$ | 8,378 | $\overline{4,682}$ | 1, 971 | 6,714 | 174,944 |
| 1922-23 | 9,425 | 24, 886 | 25, 670 | 14, 246 | 10,349 | 8, 467 | 4,637 | 3, 024 | 4,234 | 2, 151 | 1,142 | 1,075 | 109, 306 |

[^175]
## FRUTS AND VEGETABLES.

## APPLES.

Table 191.-Apples: Production in the United States, 1889-1923.

| Calendar year. | Production. | Calendar year. | Production. | $\begin{aligned} & \text { Calendar } \\ & \text { year. } \end{aligned}$ | Production. | Calendar year. | Production |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bushels |  | Bushels. |  | Bushels. |  | Bushels. |
| 1889 | 143, 105, 000 | 1898 | 118,061,000 | 1907 | 119,560, 000 | 1916 | 193, 205, 000 |
| 1890 | $80,142,000$ $198,907,000$ | 1899 | 175, 997,000 | 1908 | 148, 940, 000 | 1917 | 166, 749, 000 |
| 1892 | 120, 536,000 | 1901 | 135, 500,000 | 1909 | $146,122,000$ 141,640 | 1918 | 169, 625,000 |
| 1893 | 114, 773, 000 | 1902 | 212, 330, 000 | 1911 | 214, 020, 000 | 1920 | 223, 677,000 |
| 1894 | 134, 648, 000 | 1903 | 195, 680, 000 | 1912 | 235, 220, 000 | 1921 | 99, 002, 000 |
| 1895 | ${ }^{219,600,000}$ | 1904 | 233, 630, 000 | 1913 | 145, 410,000 | 1922 | 202, 702,000 |
| 1896 | 232, 600,000 | 1905 | 136, 220, 000 | 1914 | 253, 200, 000 | 19 | 196, 770, 000 |
| 1897. | 163, 728, 000 | 1906 | 216, 720, 000 | 1915 | 230, 011, 000 |  |  |

Division of Crop and Livestock Estimates. Census figures are in italies.
Table 192.-Apples: Production and farm prices December 1, by States, calendar years, 1919-1923.

| State. | Total crop, thousands of bushels. |  |  |  |  | Farm price per bushel Dec. 1 (cents). |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ | 1919 | 1920 | 1921 | 1922 | 1923 |
| Maine | 4,829 | 1,680 | 4,060 | 1, 250 | 2, 300 | 117 | 120 | 115 | 107 | 96 |
| New Hampshi | 1,364 | 1, 200 | 700 | - 775 | 800 | 160 | 150 | 175 | 135 | 140 |
| Vermont.-- | , 960 | -993 | 600 | 960 | 592 | 175 | 150 | 195 | 160 | 170 |
| Massachusetts | 3, 187 | 3,575 | 1, 125 | 3, 010 | 3,015 | 200 | 120 | 240 | 145 | 150 |
| Rhode Island | 334 | 390 | 63 | 200 | 450 | 195 | 200 | 250 | 110 | 135 |
| Connecticut | 1,395 | 2,375 | 758 | 1, 300 | 1,700 | 170 | 125 | 240 | 120 | 150 |
| New York | 14, 350 | 47, 087 | 13, 500 | 36, 000 | 24, 000 | 200 | 75 | 205 | 81 | 120 |
| New Jersey | 1, 666 | 2, 942 | 667 | 2,610 | 2,203 | 200 | 120 | 270 | 95 | 140 |
| Pennsylvania | 5,513 | 18, 584 | 2, 208 | 11, 400 | 10,855 | 225 | 90 | 260 | 96 | 100 |
| Delaware.-. | 606 | 822 | 68 | 1, 414 | 1,200 | 200 | 95 | 220 | 90 | 100 |
| Maryland | 1, 519 | 2, 600 | 225 | 1,500 | 2,300 | 200 | 78 | 195 | 90 | 86 |
| Virginia. | 8, 943 | 13,744 | 570 | 8,960 | 9,800 | 160 | 90 | 255 | 90 | 94 |
| West Virginia | 4, 189 | 8, 040 | 420 | 5, 625 | 8, 320 | 180 | 125 | 260 | 102 | 100 |
| North Carolina | 2, 000 | 6, 320 | 593 | 6, 000 | 2, 700 | 187 | 105 | 250 | 90 | 140 |
| South Carolina | 216 | 440 | 293 | 383 | 274 | 280 | 184 | 230 | 140 | 180 |
| Georgia | 417 | 1,270 | 698 | 1,135 | 864 | 245 | 165 | 200 | 100 | 150 |
| Ohio | 2, 976 | 13, 960 | 3,390 | 7, 298 | 12, 395 | 262 | 115 | 225 | 130 | 105 |
| Indiana | 1, 190 | 4,596 | 1, 029 | 4, 148 | 5, 035 | 267 | 143 | 230 | 123 | 115 |
| Illinois. | 4, 673 | 5, 866 | 2, 381 | 9, 720 | 7, 370 | 230 | 140 | 250 | 105 | 115 |
| Michigan | 5, 844 | 16,500 | 6,317 | 11, 850 | 13, 159 | 220 | 77 | 195 | 88 | 85 |
| Wisconsin | 1,545 | 2, 250 | 1,050 | 2, 024 | 2, 340 | 220 | 170 | 242 | 118 | 115 |
| Minnesota | 1,336 | 1,350 | 900 | 1, 020 | 1,520 | 250 | 200 | 260 | 200 | 130 |
| Iowa. | 1, 810 | 4,410 | 630 | 4,410 | 3, 750 | 275 | 191 | 274 | 117 | 118 |
| Missouri | 5,132 | 4,724 | 480 | 9,400 | 7,072 | 190 | 170 | 255 | 82 | 92 |
| South Dakota | 168 | 180 | 126 | 263 | 212 | 300 | 260 | 280 | 170 | 177 |
| Nebraska | 907 | 797 | 125 | 1, 620 | 880 | 250 | 230 | 270 | 120 | 145 |
| Kansas. | 1,835 | 1,144 | 172 | 3,280 | 2, 166 | 210 | 220 | 250 | 100 | 120 |
| Kentucky | 1,281 | 5, 022 | 636 | 5, 070 | 2,625 | 250 | 160 | 250 | 130 | 140 |
| Tennessee. | 1,259 | 4, 280 | 754 | 4,250 | 1, 311 | 225 | 142 | 245 | 116 | 150 |
| Alabama | 577 | 1,186 | 890 | 1,098 | 731 | 250 | 175 | 200 | 145 | 170 |
| Mississippi | 218 | 190 | 145 | 216 | 120 | 235 | 190 | 240 | 170 | 158 |
| Louisiana. | 44 | 34 | 35 | 37 | 31 | 200 | 200 | 200 | 225 | 200 |
| Texas | 487 | 274 | 274 | 264 | 270 | 190 | 200 | 190 | 150 | 155 |
| Oklahoma | 1,600 | 585 | 486 | 1, 140 | 1,240 | 175 | 230 | 210 | 135 | 120 |
| Arkansas. | 7, 164 | 3,900 | 120 | 2, 400 | 3, 025 | 170 | 140 | 200 | 102 | 110 |
| Montana | 850 | 825 | 975 | 610 | 990 | 175 | 180 | 150 | 100 | 130 |
| W yoming | 30 | 18 | 19 | 40 | - 35 | 350 | 200 | 250 | 200 | 180 |
| Colorado. | 3,418 | 2, 830 | 3,200 | 4,250 | 3, 010 | 185 | 140 | 170 | 75 | 95 |
| New Mexico | 1, 100 | 434 | 483 | 750 | 1, 400 | 200 | 180 | 200 | 130 | 180 |
| Arizona. | 125 | 80 | 47 | 77 | 128 | 225 | 250 | 250 | 205 | 180 |
| Otah | 760 | 1, 064 | 1,037 | 1, 085 | 1,119 | 170 | 120 | 130 | 80 | 78 |
| Nevada | 53 | 36 | 24 | 35 | 56 | 300 | 275 | 260 | 160 | 140 |
| Idaho | 3, 800 | 3,420 | 4,500 | 3,900 | 5,600 | 180 | 145 | 130 | 72 | 75 |
| W ashington | 25, 295 | 21, 502 | 29, 062 | 25, 775 | 31, 357 | 155 | 140 | 125 | 100 | 77 |
| Oregon. | 6, 921 | 4, 158 | 6, 667 | 6,300 | 8, 000 | 140 | 125 | 115 | 95 | 85 |
| California | 8,200 | 6,000 | 6,500 | 7,850 | 8,450 | 145 | 160 | 135 | 90 | 75 |
| United States | 142, 086 | 223, 677 | 99, 002 | 202, 702 | 196, 770 | 183.6 | 114.8 | 168.0 | 98.6 | 102.2 |

[^176]${ }^{1}$ Preliminary.

Table 193.-Apples (commercial crop): Production, by States, calendar years, 1919-1923.

| State. | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ | State. | 1919 | 1920 | 1921 | 1922 | 19231 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | barrels. | barrels. | barrels. | barrels. | barrels. |  | barrels. | barrels. | barrels. | barrels. | barrels. |
| Me | 675 | 230 | 657 | 232 | 425 | Iowa | 211 | 420 | 25 | 220 | 188 |
| N. H | 187 | 170 | 110 | 119 | 120 | Mo. | 1,010 | 924 | 30 | 1,250 | 850 |
| Vt. | 203 | 190 | 116 | 128 | 89 | S. Dak | 3 | 5 | 0 | 4 | 3 |
| $\begin{aligned} & \text { Mass } \\ & \text { R.I. } \end{aligned}$ | 33565 | 75 | $\begin{array}{r}172 \\ 8 \\ \hline\end{array}$ | 46120 | 50 | Nebr | 180 | 110 | 17 | 130 | 103 |
|  |  |  |  |  |  |  |  |  |  |  | O |
| Conn | 119 | 215 | 70 | 108 | 160 | $\mathbf{K y}$ | 57 | 218 | 31 | 169 | 70 |
| N. | 2, 975 | 6,500 | 3,300 | 6,000 | 3,900 | Tenn | 68 | 204 | 45 | 95 | 30 |
| N. J | 456 | 848 | 132 | 552 | 470 | Ala. | 9 | 20 | 15 | 18 | 12 |
|  | 759 | 1,547 | 221 | 1,216 | 1,266 | Tex-........- | 37431,100 |  |  |  |  |
|  | 155 | 219 | 14 | 380 | 340 | Okla------------ |  | 29 | 21 | 158 | 15 |
| M | 177 | 399 | 20 | 280 | 460 | Ark |  | 724 | 16 | 520 | 656 |
| W. Va------- | 1, 653 | 1, 340 | 80 | -881 | 1,350 | Mon | 140 | 128 | 175 | 115 | 123 |
|  | , 648 |  | 130 |  |  |  |  |  |  |  | 803 |
| N. | 92 | 250 | 25 | 236 | 100 | N. M | 264 | 108 | 123 | 1, 150 | 315 |
| Ga | 35 | 106 | 58 | 95 | 60 | Ariz | 15 | 10 | 6 | 9 | 14 |
| Ohio | 280 | 1,445 | 360 | 608 | 1,033300 | Utah | 121 | 196 | 198 | 198 | 260 |
| Ind | 137 |  | 109 | 277 |  |  |  |  |  |  |  |
| Ill |  | 1,369 | 397 | 1,450 | 1,351 | W W ash | 1, 008 | 756 5,734 | 1,359 | ${ }^{1}, 150$ | 1,600 9,198 |
| Mieh. | 1,050 | 3, 167 | 1,208 | 1, 699 | 2,118 | Oreg | 1, 357 | , 832 | 1,667 | 1,260 | 1,750 |
| W is. | 168 | 161 | 64 | 101 | 136 | Cali | 1,200 | 1,230 | 1,352 | 1,399 | 1,732 |
| Minn- |  |  |  |  |  | United States | 26, 159 | 33, 005 | 21, 557 | 31,945 | 34, 303 |

Division of Crop and Livestock Estimates. Included in "Apples" (preceding table).
By commercial crop is meant that portion of the total crop which is sold for consumption as fresh fruit. One barrel is equivalent to three boxes.
${ }^{1}$ Preliminary.
Table 194.-Apples: Condition of crop, first of month, United States, 1866-1923.

| Calendar year. | June. | July. | Aug. | Sept. | Oct. | Per cent of a full crop. | Calendar year. | June. | July. | Aug. | Sept. | Oct. | Per cent of 9 fall crop. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | $P . c t$. | P.ct. | P.ct. | P.ct. | $P . c t$. |  | P.ct. | P.ct. | P.ct. | $P . c t$. | $P . c t$. | P.ct. |
| 1866 | 98.9 | 92.8 |  |  |  | 89.1 | 1896 | 71. 0 | 64.6 | 65. 7 | 67.0 | 66.7 | 65.5 |
| 1867 | 120.7 | 108. 2 | 100.0 | 100.5 |  | 97.2 | 1897 | 74.8 | 66.8 | 60.3 | 56.9 | 57.2 | 53.3 |
| 1868 | 99.4 | 94.6 | 89.9 | 71.8 |  | 80.1 | 1898 | 73. 0 | 57.5 | 48.8 | 42.0 | 36. 6 | 35.6 |
| 1869 | 105. 8 | 101. 9 | 96.6 | 94.7 |  | 101.9 | 1899 | 75. 2 | 58.7 | 56.8 | 52.0 | 46.4 | 44.2 |
| 1870 | 87.3 | 88.1 | 83.9 | 89.3 |  | 86.8 | 1900. | 83.4 | 75.4 | 71.0 | 67.8 | 61.2 | 56.3 |
| 1871 |  | 81. 2 | 80.4 | 82.1 |  | 82.6 | 1901 | 80.3 | 65. 7 | 45.8 | 44.9 | 46.4 | 44.0 |
| 1872 | 105. 6 | 102. 1 | 100. 2 | 101.6 |  | 109. 7 | 1902 | 67.9 | 62.3 | 59.3 | 61.6 | 63.8 | 61.3 |
| 1873 | 84.5 | 72. 3 | 64. 0 | 62.7 |  | 57.9 | 1903 | 62.6 | 56.5 | 54.3 | 56. 2 | 56.4 | 53.0 |
| 1874 | 100. 6 | 91. 4 | 85.4 | 78.0 |  | 86.9 | 1904 | 79. 5 | 71.5 | 63.8 | 64.7 | 65.4 | 64.2 |
| 1875 | 67.2 | 61.2 | 56.6 | 59.6 |  | 58.4 | 1905 | 70.6 | 61.1 | 53.4 | 50.3 | 50.0 | 41.1 |
|  |  |  |  |  |  |  | 1906 | 76. 6 | 70.5 | 68. 2 | 70.6 | 69.2 | 69.1 |
| 1876 | 95.0 | 93.5 | 88.4 | 92.4 |  | 107.0 | 1907 | 50.1 | 44.0 | 39. 4 | 34.7 | 33.8 | 32.1 |
| 1877 | 84.4 | 76. 2 | 73.7 | 73.5 |  |  | 1908 | 66.0 | 57.6 | 52. 2 | 52.1 | 48.4 | 43.4 |
| 1878 | 87.1 | 84.7 | 79.7 | 78. 4 |  |  | 1909 | 61.4 | 54.6 | 46.3 | 44.5 | 43.9 | 52.5 |
| 1879 | 71. 7 | 66. 8 |  | 65.6 |  |  | 1910 | 53.0 | 49.6 | 47. 8 | 46.8 | 4.4 | 43.5 |
| 1880 | 93.6 | 94.7 | 95.4 | 94.8 |  |  | 1911 | 68. 5 | 57.9 | 53. 9 | 56. 2 | 59.8 | 62.4 |
|  |  |  |  |  |  |  | 1912 | 72.3 | 67.9 | 65.8 | 67.9 | 67.8 | 69.9 |
| $\begin{aligned} & 1881 . \\ & 1882 . \end{aligned}$ | 80. 2 | 73.0 88.3 | 63.7 | 75.6 |  | 74.5 | 1913 | 67.1 | 59.4 | 52. 2 | 47.7 | 46.6 | 44.6 |
| 1883 | 78.5 | 70. 2 | 58. 2 | 52. 5 |  | 52.8 | Av.1909-1913 | 64.5 | 57.9 | 53.2 | 52. 6 | 52.9 | 52.6 |
| 1884 | 93.2 | 83.6 | 79.7 | 78. 9 |  | 78. 5 |  |  |  |  |  |  |  |
| 1885 | 88.4 | 77.8 | 73.0 | 70.7 |  | 73.0 | 191 | 73.7 | 64.2 | 61.3 | 61.9 | 69.1 | 72.8 |
|  |  |  |  |  |  |  | 1915 | 70.1 | 63.3 | 61.5 | 62.7 | 63. 0 | 65.6 |
| 1886 | 89.2 | 83.8 | 79.0 | 75.9 |  | 67.7 | 1916 | 76.0 | 68.1 | 62.3 | 58.7 | 57.2 | 57.5 |
| 1887 | 73.7 | 68.4 | 58.0 | 50.9 |  | 47.8 | 1917 | 73.9 | 64.0 | 55.4 | 51.1 | 50.7 | 50.4 |
| 1888 | 87.4 | 84.0 | 81.3 | 80.7 |  | 80.7 | 1918 | 69.8 | 59.7 | 55. 9 | 54.3 | 54.7 | 54.2 |
| 1889 | 82.7 | 76.7 | 74.6 | 68.5 |  | 67.0 | 1919 | 67.8 | 56. 6 | 52. 2 | 51.0 | 52.1 | 48.1 |
| 1890 | 76.3 | 60.8 | 48.1 | 40.7 |  | 42.2 | 1920 | 79.3 | 70.7 | 70.4 | 72.4 | 74.7 | 77.3 |
| 1891 | 84.4 | 81.0 | 76.8 | 77.2 |  | 77.3 | Av.1914-1920 | 72.9 | 63.8 | 59.9 | 58.9 | 60.2 | 60.8 |
| 1892 | 83.2 | 65.2 | 55.4 | 48.9 |  | 45.3 |  |  |  |  |  |  |  |
| 1893 | 68.8 | 56.9 | 46.2 | 42.0 |  | 38. 6 | 1921 | 42. 2 | 35.3 | 34.8 | 34.5 | 35.0 | 33.0 |
| 1894 | 60.7 | 47.6 | 44.0 | 40.8 |  | 41.7 | 1922 | 72.7 | 66.8 | 67.4 | 68.2 | 67.6 | 88. 5 |
| 1895 | 76. 0 | 70.2 | 71. 2 | 72.8 | 70.6 | 71.1 | 1923 | 75.5 | 67.0 | 63.8 | 63.6 | 64.2 | 65.6 |

Division of Crop and Livestock Estimates.

Table 195.-Apples: Percexdage redtuction from full yield, frome stated causes, as reported by crop correspondents, 1912-1922.

| Calendar year. | Deficient meistare. | Excessive moisture. | Floods | Frost and freeze. | Hail. | Hot winds. | Storms | Total climatic. | Plant disease. | Insect pests. | Animal pests. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | $\boldsymbol{P} . c t$. | P.ct. | P.ct. | $P$. ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. |
| 1912 | 2. 5 | 0.9 | 0.3 | 10. 2 | 0. 7 | Q. 3 | Q. 9 | 16. 9 | 4.2 | 3.1 | Q. 1 | 32.4 |
| 1913 | 10. 3 | . 4 | . 4 | 25.3 | . 6 | . 9 | . 6 | 39.9 | 1.0 | 5.2 | (2) | 53.5 |
| 1814 | 6.5 | . 3 | (2) | 6.4 | . 6 | . 4 | . 6 | 15. 1 | . 8 | 5.0 | . 1 | 28.2 |
| 1915 | I. 2 | 1. 9 | . 2 | 15. 8 | . 9 | . 1 | 1. 2 | 21. 8 | 5. 2 | 3.0 | . 1 | 35.4 |
| 1915 | 5. 4 | 3. 2 | . 2 | 9. 9 | . 9 | . 6 | 1.4 | 22. 8 | 5.6 | 3.0 | . 1 | 38. 6 |
| 19.17 | 4. 1 | 3.9 | . 1 | 15. 2 | 1.1 | . 3 | 1. 1 | 27.0 | 4. 7 | 2.8 | . 1 | 44. 2 |
| 1918 | 7.5 | . 7 | . 2 | 19. 1 | . 8 | 1.0 | .. 7 | 30.7 | 4. 2 | 2. 9 | . 2 | 44. 9 |
| 1919 | 4.3 | 2. 9 | . 1 | 29. 1 | . 6 | . 6 | 1. 0 | 39.1 | 5.1 | 2.7 | . 1 | 52.7 |
| 1920. | 2. 2 | . 8 | .2 | 10. 2 | . 8 | . 2 | . 7 | 16.5 | 4.4 | 1.9 | . 1 | 25.9 |
| 1921 | 5. 0 | 7 |  | 49. 0 | . 6 | . 3 | . 6 | 57.7 | 3.0 | 1.9 | . 1 | 65.1 |
| 1922 | 4.1 | 1. 3 |  | 13.4 | . 8 | . 4 | . 7 | 21.3 | 4.8 | 2.4 | . 1 | 28.6 |

Division of Crop and Livestock Estimates.
1 Heludes all other causes. E Eess than 0.05 per eent.
Table 196.-Apples: Carlot shipments, by States of origin, 1917-1922.

| State. | Year beginnüag June 1. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1917-18 | 1978-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 |
| WESTERN AREA. | Cars. | Cars. | Cafs. | Cars. | Cars. | Carrs. |
| Montana | 171 | 292 | 509 | 430 | 686 | 351 |
| Colerado. | 2, 094 | 1,984 | 3,225 | 2, 861 | 3,886 | 3, 385 |
| New Mexico | 636 | 407 | 859 | 279 | 615 | 438 |
| Utah. | 355 | 447 | 199 | 619 | 735 | 718 |
| Idsho | 3,528 | 536 | 3,943 | 2,881 | 5, 811 | 4,222 |
| Westington | 15, 837 | 18, 232 | 27, 169 | 21, 6ET | 32,961 | 23, 295 |
| Oregon..- | 3,448 | 云, 248 | 5,443 | 3, 17\% | 6,543 | 3, 893 |
| California | 1,630 | 3,473 | 4,153 | 4,503 | 5, 055 | 4,966 |
| Total | 27, 663 | 25,5811 | 45,591 | 36, 370 | 56,292 | 46,268 |
|  |  |  |  |  |  |  |
| Maine | 1, 248 | 257 | 2,343 | 414 | 4,308 | 278 |
| New Hiampanire | 276 | 120 | 507 | 249 | 321 | 187 |
| AMassachusetts - | 358 | 252 | 407 | 627 | 159 | 286 |
| New York | 5,867 | 22,900 | 10,286 | 33, 860 | 17, 735 | 29,966 |
| New Jersey | 1,001 | . 938 | 737 | 850 | 179 | 447 |
| Pemsylvania | 913 | 1,794 | 1,206 | 3, 492 | 226 | 2, 038 |
| Delaware -- | 349 | 375 | 498 | 751 | 126 | 1,751 |
| Maryland, Eastern Shore | ${ }^{1} 436$ | 29 | 36 | 139 | 48 | 418 |
| Maryland, other | (2) | 685 | -564 | 1, 498 | 92 328 | 706 6,975 |
| Virginia --- | 4,589 | 4, 227 | 7,075 | 8, 782 | 323 | 6,975 $\mathbf{2} 242$ |
| West Virginia | 1, 280 | 2,919 | 2,849 | 4,880 | 801 | 2, 2424 |
| Ohio - | 274 | 448 | 255 | 976 | 615 | 484 |
| Iflimois. | 5,554 | 2,676 | 2, 235 | 3,471 | - 445 | 4, 840 |
| Mfiehigan | 1,385 | 2,862 | 3,435 | 6, 212 | 5,992 | 6,015 3,079 |
| Missouri | 2, 600 | I, 167 | 2, 155 | 1,725 | ${ }^{(3)} 8$ | 3,079 |
| Kansas | 1,131 | 398 | 535 | 738 | (3) 62 | 1,083 |
| Arksmsas | 1,545 | I, 068 | 4, 553 | 2, 686 | ${ }^{(8)}$ | 2,620 |
| All other. | 1,931 | 939 | 1,098 | 1,684 | 594 | 2,644 |
| Total | 30,737 | 44,049 | 41, 444 | 72, 910 | 32, 022 | 65,999 |
| Total, United States. | 58, 406 | 69, 630 | 87, 65 | 109, 280 | 88, 314 | 112, 267 |

Division of Statistical and Historical Research Compited from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.
${ }^{1}$ Includes Maryland "other." ${ }^{2}$ Included in Maryland Eastern Shore. ${ }^{3}$ Included in all other.

Table 197.-Apples: Monthly carlot shipments, by States, 1917-1923.

| State, and crop movement season. ${ }^{1}$ | June. | July. | Aug | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York: | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| 1917-18 |  |  | 19 | 397 | 1,339 | 1,149 | 439 | 444 | 693 | 685 | 470 | 186 | 46 | 5,867 |
| 1918-19 |  | 8 | 486 | 2,026 | 7,662 | 4,199 | 2, 388 | 2,215 | 1,951 | 1,130 | 564 | 228 | 43 | 22,900 |
| 1919-20 |  | 23 | 169 | 978 | 3, 195 | 1,171 | 829 | 632 | 992 | 1,218 | 576 | 447 | 56 | 10, 286 |
| 1920-21 |  | 4 | 747 | 2,488 | 9, 125 | 7,996 | 3,376 | 2, 600 | 3, 254 | 2,655 | 1,074 | 449 | 292 | 33, 860 |
| 1921-22 |  | 98 | 970 | 3, 064 | 5, 855 | 1,206 | 839 | 1,090 | 1, 485 | 1, 472 | 970 | 563 | 123 | 17, 735 |
| 1922-23 |  | 68 | 1, 360 | 3,502 | 7,988 | 5, 711 | 1,968 | 2,193 | 2,241 | 2, 399 | 1,482 | 888 | 166 | 29,966 |
| 1923-24. |  | 5 | 280 | 1,572 | 4,159 | 3, 099 | 1,146 |  |  |  |  |  |  |  |
| Pennsylvania: <br> 1917-18 |  |  | 12 | 36 | 526 | 145 | 62 | 28 | 42 | 18 | 39 | 5 |  | 913 |
| 1918-19 |  | 25 | 39 | 253 | 839 | 247 | 124 | 143 | 73 | 45 | 6 |  |  | 1,794 |
| 1919-20 |  | 2 | 14 | 170 | 699 | 121 | 76 | 93 | 62 | 21 | 3 | 5 |  | 1,266 |
| 1920-21 |  | 27 | 27 | 190 | 1, 379 | 674 | 382 | 299 | 262 | 151 | 10 | 1 |  | 3,402 |
| 1921-22 |  |  | , | 67 | 109 | 9 | 7 | 7 | 15 | 9 | 2 |  |  | 226 |
| 1922-23 |  | 19 | 23 | 270 | 840 | 372 | 220 | 177 | 71 | 21 | 17 | 8 |  | 2, 038 |
| 1923-24 |  | 20 | 39 | 359 | 1,398 | 892 | 276 |  |  |  |  |  |  |  |
| Virginia: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917-18 | 6 | 36 | 115 | 1,091 | 1, 887 | 548 | 131 | 131 | 250 | 211 83 | $\begin{array}{r}156 \\ 92 \\ \hline\end{array}$ | 27 49 |  | 4,589 4,227 |
| 1918-19 |  | 29 | 100 | 867 1,933 | 1, 5689 | 740 592 | 235 | 283 | 171 | 83 308 | $\begin{array}{r}92 \\ 114 \\ \hline\end{array}$ | 49 72 | 9 | 4,227 7,075 |
| 1919-20 |  | 43 | 238 | 1,933 | 2, 732 | - 592 | 894 | 313 | 336 | 308 354 | 114 | 72 116 |  | 7,075 8,762 |
| 1920-21 |  | 46 | 102 | 1,523 | 3, 143 | 1,275 | 811 | 680 | 468 | 354 | 219 | 116 | 25 | 8,762 323 |
| 1921-22 |  |  | 9 | 126 | 87 | 17 | 34 | 16 | 10 | 16 | 8 |  |  | 323 6975 |
| 1922-23 | 5 | 32 | 300 | 1,741 | 2,349 | 1,139 | 465 | 342 | 133 | 94 | 98 | 160 | 117 | 6,975 |
| 1923-24 |  | 49 | 131 | 1,887 | 3, 610 | 1,385 | 740 |  |  |  |  |  |  |  |
| West Virginia: 1917-18 |  | 9 | 24 | 231 | 478 | 223 | 98 | 37 | 87 | 66 | 27 |  |  | , 280 |
| 1918-19 |  | 23 | 71 | 504 | 1,254 | 718 | 202 | 78 | 34 | 32 |  | 3 |  | 2,919 |
| 1919-20 |  | 23 | 90 | 620 | 1, 267 | 365 | 160 | 95 | 82 | 71 | 61 | 15 |  | 2,849 |
| 1920-21 |  | 63 | 75 | 744 | 2, 269 | 874 | 209 | 179 | 118 | 146 | 109 | 84 | 10 | 4,880 |
| 1921-22 |  | 4 | 18 | 412 | 176 | 19 | 27 | 15 | 42 | 59 | 27 | 2 |  | 801 |
| 1922-23 | 10 | 28 | 75 | 451 | 1, 005 | 310 | 141 | 84 | 37 | 36 | 38 | 27 |  | 2, 242 |
| 1923-24 |  | 78 | 120 | 1, 020 | 3, 064 | 1,477 | 301 |  |  |  |  |  |  |  |
| Itlinois: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917-18 | 12 | 353 | 140 | 1, 242 | $3,001$ | 664 | 3 | 12 | 49 | 33 | 37 46 |  |  | 5,554 |
| 1918-19 | 24 | 244 | 81 79 | 518 | $1,210$ | 219 | 46 11 | 66 73 | 100 90 | 111 | 46 47 | 39 <br> 55 | ${ }^{3} 14$ | 2, 676 2,935 |
| 1919-20 | 36 | 340 | 79 | 807 | 1,142 | 131 | 11 | $\begin{array}{r}73 \\ 45 \\ \hline\end{array}$ | 90 | 111 | 47 69 | 55 26 | 13 | 2,935 3,471 |
| 1920-21 | 50 | 528 | 217 | 789 | 1, 268 | 296 | 34 | 45 | 28 | 113 | 69 7 | 26 | 8 | 3,471 445 |
| 1921-22-23 | 35 | 24 | 51 | 114 | 94 | 8 | 9 | 33 | 46 | 12 | 7 | 12 |  | 445 4.840 |
| 1922-23- | 312 | 526 | 253 | 1,294 | 1,557 | 492 | 58 | 65 | 85 | 88 | 61 | 48 | 1 | 4,840 |
| 1923-24 Michigan: | 22 | 429 | 145 | 1,043 | 2,125 | 554 | 66 |  |  |  |  |  |  |  |
| Michigan: |  |  |  |  |  |  |  |  |  | 10 |  |  |  | 1,385 |
| $\begin{aligned} & 1917-18 \\ & 1918-19 \end{aligned}$ |  | 88 | 127 | 480 | 1, 532 | ${ }_{511} 307$ | 27 | 5 | 4 | 10 | 1 |  |  | 2, 862 |
| 1919-20 |  | 12 | 608 | 1,040 | 1, 587 | 175 | 7 | 2 |  | + | 1 | 2 |  | 3,435 |
| 1920-21 |  | 55 | 1,152 | 1, 188 | 2, 102 | 1, 300 | 175 | 51 | 92 | 70 | 26 | 1 |  | 6,212 |
| 1921-22 |  | 516 | 1,219 | 1, 772 | 2, 327 | 112 | 15 | 12 | 11 | 7 | 1 |  |  | 5,992 |
| 1922-23 |  | 307 | 913 | , 997 | 2,717 | 854 | 95 | 42 | 33 | 35 | 20. | 2 |  | 6,015 |
| 1923-24 |  | 39 | 1, 189 | 1, 334 | 3,432 | 1,719 | 178 |  |  |  |  |  |  |  |
| Washington: |  |  |  |  |  |  |  |  |  | 967 |  |  |  |  |
| 1917-18 |  |  | 56 | 409 | 5, 280 | 4, 582 | 1, 447 | 1, 700 | 1, 814 | 420 | 211 | 60 | 15 | 16, 232 |
| 1918-19 |  | 22 | 138 | 1, 023 | 6, 209 | 4, 481 | 2,139 | 1,800 |  | $\begin{array}{r} 420 \\ 1,864 \end{array}$ | 1,133 | 493 | 19 |  |
| 1919-20-20-21 |  | 35 | 164 | 1,763 | 9, 701 | 6,682 4,967 | 1, 875 | 1, 1,123 | 1, 1,681 | 1,498 | 1, 056 | 700 | ${ }^{4} 197$ | 21, 627 |
| 1921-22 |  | 33 | 1110 | 2, 506 | 12, 758 | 7, 749 | 3, 124 | 2, 070 | 2,368 | 1, 994 | - 636 | 491 | 112 | 32, 961 |
| 1922-23 |  | 33 | 78 | 2, 187 | 6, 792 | 5,596 | 3, 298 | 4, 194 | 3, 007 | 2, 004 | 780 | 297 | 29 | 28, 295 |
| 1923-24 |  | 65 | 202 | 2, 492 | 13, 106 | 7, 819 | 2, 772 |  |  |  |  |  |  |  |
| Oregon: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917-18 |  |  | , | 43 | $\begin{gathered} 629 \\ 792 \end{gathered}$ | 1, 2076 | 627 359 | 219 | 260 | 335 | 117 | 7 |  |  |
| 1918-19 |  | 2 | 9 | 59 | 723 | 746 | 359 | 126 | 128 | $\begin{array}{r}72 \\ \\ 232 \\ \hline\end{array}$ | 15 | 80 |  | 2, 246 |
| 1919-20 |  | 4 | 10 | 192 | 1, 354 | 1,478 | 781 | 798 | 406 | 232 | 108 | 80 |  | 5, 443 |
| 1920-21 |  | 1 | 3 | 36 | 961 | 1, 079 | 452 | 260 | 207 | 116 | 43 | 12 |  | 3,170 |
| 1921-22 |  | 9 | 11 | 300 | 2, 340 | 1, 897 | 1, 032 | 496 | 298 | 109 | 44 | 6 | 1 | 6,543 |
| 1922-23 |  | 1 | 1 | 98 | 867 | 1,238 | 706 | 451 | 314 | 191 | 23 | 3 |  | 3,893 |
| 1923-24. |  | 19 | 20 | 459 | 2, 239 | 1, 914 | 628 |  |  |  |  |  |  |  |
| California: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917-18. |  | 112 | 173 | 514 | 404 | 216 | 62 | 22 | 34 | 36 81 | 30 42 | 25 | 2 | 1,630 3,473 |
| 1918-19 | 6 | 66 | 468 | 486 | 797 | 585 | 501 | 198 | 226 | 81 | 42 | 41 | 5 | 3,473 4,153 |
| 1919-20 | 5 | 273 | 441 | 877 | 908 | 709 | 370 | 155 | 148 | 173 | 48 | 41 | 5 | 4, 153 |
| 1920-21 | 6 | 244 | 723 | 967 | 1, 018 | 765 | 373 | 106 | 84 | 73 | 79 | 56 | 9 | 4,503 |
| 1921-22 | 13. | 352 | 690 | 1, 224 | 1,494 | 699 | 181 | 120 | . 117 | 101 | 42 | 21 | 1 | 5, 055 |
| 1922-23 | 2 | 220 | 998 | 782 | 918 | 887 | 494 | 179 | 103 | 168 | 107 | 78 | 30 | 4,966 |
| 1923-24 | 61 | 1,290 | 986 | 1,259 | 1,415 | 772 | 2 |  |  |  |  |  |  |  |

${ }^{1}$ The crop movement season normally begins in June and extends through June of the following year, with irregular shipments continuing into July.
${ }_{2}$ Includes 3 carsin July.
${ }^{3}$ Includes 2 cars in July.
${ }^{4}$ Includes 10 cars in July.

Table 197.-Apples: Monthly carlot shipments, by States, 1917-1923-Contd.

| State, and crop movement season. ${ }^{1}$ | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| All other | Cars. | Cars. | Cars. | Cars. | Ca | s. |  |  | rs. | rrs. | Cars. | ars. | Cars. |  |
| 1917-18. | 36 | 241 | 638 | 1,485 | 7, 919 | 4, 920 | 1,101 |  | 351 |  | 258 | 12 |  |  |
| 1918-19 | 148 | 642 | 553 | $1,854$ | 4, 885 | 1, 321 |  | 230 | 178 | 127 | 138 | 32 |  |  |
| 1919-20 | ${ }_{107}^{61}$ | ${ }_{854}^{592}$ | 899 | $\|3,879\|$ | 10,381 8,498 | 4, 4361 | 798 <br> 994 | 378 703 | 422 | 379 519 | $\begin{array}{r}138 \\ 134 \\ \hline\end{array}$ | 0 | 18 | 19,393 |
| 1920-21 | 107 | 854 | $\begin{aligned} & 704 \\ & 295 \end{aligned}$ | 2, 4608 | 8, 817 | 2, 748 | 994 | 703 340 | 384 | 124 | +26 | 22 |  | 17, 732 |
| 1922-23 | 545 | 1,358 | 922 | 3, 648 | 8,932 | 4,028 | 1,371 | 846 | 587 | 466 | 181 | 89 | 13 | 22, 986 |
| 1923-24 | 70 | 1,314 | 812 | 4, 117 | 11, 407 | 5,766 | 1,431 |  |  |  |  |  |  |  |
| Total: $\qquad$ |  |  |  |  |  |  |  | 2,362 | 3, 232 | 2, 882 | , 647 | 347 | 51 | 58, 406 |
| 1918-19 | 178 | 1,149 | 2,359 | 8, 070 | 26, 680 | 13, 563 | 6,320 | 4, 044 | 3,679 | 2,063 | 1, 006 | 430 | 89 | 69, 630 |
| 1919-20 | 102 | 1, 347 | 2,712 | 12, 259 | 32, 666 | 15, 854 | 5,301 | 4, 393 | 4,419 | 4, 378 | 2, 229 | 1,276 | 99 | 87, 035 |
| 1920-21 | 163 | 1,855 | 3, 861 | 11, 043 | 37, 284 | 23, 087 | 8, 875 |  |  | $5,695$ |  |  | ${ }^{6} 359$ | 109,280 |
| 1921-22-23 | ${ }^{5} 76$ | 1, 207 | $\left\lvert\, \begin{array}{l\|l\|} 3,384 \\ 4 \end{array}\right.$ | $\begin{aligned} & 12,653 \\ & 14,970 \end{aligned}$ | $\begin{aligned} & 35,057 \\ & 33,065 \end{aligned}$ |  |  | 4,199 8,573 | 4,756 6,611 | $\xrightarrow{2,903}$ | 1, 763 | 1,117 1,600 | 243 | 87, 813 |
| 1922-23-24 | 874 | 2, 392 |  | 14, 542 | 45, 955 | 25, 297 | 8, 816 | 8,573 | 6,611 | 5, 502 | 2, 807 | 1,600 | 356 | 112, 216 |
| 1923-24. | 153 | 3,308 | $3,3,924$ | 15, 542 | 45,955 | 25, 397 | 7, 759 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.
${ }^{1}$ The crop movement season normally begins in June and extends through June of the following year, with irregular shipments continuing into July.
${ }_{5}$ Includes 1 car in May.
${ }^{6}$ Includes 15 cars in July.
Table 198.-Apples: Cold storage holdings in United States, 1915-1923. ${ }^{1}$

| Year beginning Oct. 1. | Oct. 1. | Nov. 1. | Dec. 1. | Jan. 1. | Feb. 1. | Mar. 1. | Apr. 1. | May 1. | June 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | barrels. | barrels. | barrels. | barrels. | barrels. | barrels. | barrels: | barrels. | barrels. |
| 1915-16 |  | 3, 689 | 5,441 | 4, 813 | 4,236 | 3, 242 | 1,984 | 1,035 808 | 365 205 |
| 1916-17 |  | 3, 260 | 4,492 | 4, 132 | 3, 385 | 2, 442 | 1, 783 | 808 | 159 |
| 1917-18. |  | 3, 296 |  | 4,599 4,294 | 3, 357 | 1,830 | 1, 986 | 678 380 | 125 |
| 1918-19 | 971 | 3,752 4,523 | 4,928 | 4,294 5,529 | - 4,105 | 1,772 3,162 | 1, ${ }^{959}$ | 806 | 213 |
| 1919-20 |  |  |  |  |  |  |  |  |  |
| 1920-21 | 544 | 4,475 | 6,787 | 6, 386 | 5,105 | 3, 650 | 2,210 | 1,119 | 445 |
| 1921-22- | 792 | 3, 643 | 5,739 | 5,429 | 4, 313 | 3, 090 | 1,930 | 944 | 314 |
| 1922-23 | 1,452 | 5, 521 | 6,743 | 6, 481 | 5,376 | 3,877 | 2,314 | 1,070 | 277 |
| 1923-24 | 927 | 6,914 | 10,099 | 9,641 |  |  |  |  |  |

Division of Statistical and Historical Research.
${ }^{1}$ Apples in barrels, boxes and baskets combined; 3 boxes or bushels equivalent to 1 barrel.
Table 199.-Apples: Farm price per bushel, 1st of month, United States, 19101923.

| Year beginning <br> June 1. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Weight- |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| ed av. |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table 200.-Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920-192s.
BARRELS.

| Market, and year beginning Sept. 1. | September. |  | October. |  | November averase. | December average. | January average. | February average. | March average. | April. |  | May ${ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Range. | Average | Range. | Average. |  |  |  |  |  | Range. | Average. | Range. | Average. |
| New York: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 | \$2.75-\$8.00 | \$4.86 | \$2.00-\$9.00 | \$5. 83 | \$5. 66 | \$4. 71 | \$4.80 | \$5. 01 | \$6. 01 | \$3.50-\$10.00 | \$6. 79 | \$4.00-\$13.50 | \$8. 03 |
| 1921-22 | 5. $50-13.00$ $1.50-7.50$ | 8. 3. 3 | 5. $00-11.00$ 2. $00-8.80$ | 7.72 4.63 | 7.18 4.94 | 7.82 4.67 | 8.23 5.08 | 8.62 5.09 | 7.64 8.87 | 5.00-12.00 | 7.44 | 35-8.50 | B5 |
| 1923-24 | 2.00-7.50 | 5.16 | 2. 00-10.00 | 4.80 | 4.58 | 4.71 | 5.0 | 5. | \%. 8 | $3.00-8.50$ | 6.68 | 3.70-8.50 | 6. 5 |
| Chicago: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-21 | 3.50-8.00 | 5. 86 | 3. $50-9.00$ | 6. 28 | 6.29 | 5. 23 | 5. 36 | 5.15 | 5. 38 | 4.50-8.00 | 5. 55 | '5.00-9.00 | 6. 53 |
| 1921-22 | 7.00-10.00 | 8. 26 | 6. 00-10.50 | 8. 00 | 7.97 | 8.10 | 8.48 | 9.07 | 8.49 | 6. $00-9.00$ | 7.86 |  |  |
| 1922-23-- | 2.00-6.00 | 3. 58 4.60 | 2.25-7.00 | 4.41 5.06 | 4.68 5.12 | 4.90 4.96 | 4.58 | 4.84 | 5. 17 | $4.00-7.00$ | 5. 43 | 4.00-9.50 | 6. 40 |
| Philadelphia: | $2.75-7.00$ | 4.60 | 3.50-6.25 | 5.06 | 5.12 | 4.96 |  |  |  |  |  |  |  |
| 1920-21. | 2. 00-7. 50 | 5.00 | 2. 50-8. 50 | 4.93 | 4. 49 | 4.13 | 4.05 | 4.17 | 4.44 | $2.85-7.00$ | 5.07 | 4.00-7.50 | 6.00 |
| 1921-22 | 4.50-10.50 | 7. 44 | 4.00-12.00 | 6.63 | 6.57 | 6.65 | 7.38 | 7. 44 | 7.01 | 4.25- 8.90 | 6. 64 |  |  |
| 1922-23 | 1.50-5.50 | 3.39 | 2. $00-7.00$ | 8. 65 | 3.86 | 4.13 | 4.33 | 4.72 | 4.91 | 4.00-6.50 | 5. 24 | 4.25-8.50 | 5.81 |
| 1923-24 | 1.75-7.00 | 4.28 | 1.75-6.50 | 3.77 | 3.83 | 3.64 |  |  |  |  |  |  |  |
| Pittsburgh: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 | 3.00-6. 3. 25- 9.00 | 4.99 7.22 | 3.00-6.00 5. $00-9.00$ | 4.46 7.16 | 4. 81 | 4.68 6.25 | 4.89 7.63 | 4.73 7.42 4 | 5.06 7.07 | $\begin{array}{lll}8.25- & 6.50 \\ 8.75- & 8.00 \\ \text { S. }\end{array}$ | 5.34 7.02 | 4.50-8.50 | 6. 31 |
| 1922-23 | 2.50-4.00 | 3.25 | 2. $50-5.00$ | 3.51 | 3. 99 | 4. 38 | 4.29 | 4.38 | 7.84 4.84 | $\begin{array}{lll}\text { 3. } \\ \text { 3. } & 00-6.60\end{array}$ | 7. 4.80 | $4.00-7.00$ | 5.44 |
| 1823-24 | 2.50-5.50 | 4.06 | 3.00-5.50 | 3.54 | 3.49 | 4.05 |  |  |  |  |  |  |  |
| St. Louis: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1020-21. | 3.00-7.25 | 5.34 | 2.75-7.50 | 4.67 | 4.97 | 4.83 | 4.68 | 4.88 | 5.23 | 4.75-8.50 | 5. 82 | 5. $50-10.00$ | 6.68 |
| 1921-22 |  |  | 4.85-8.25 | 6. 48 | 5. 44 |  |  |  |  |  |  |  |  |
| 1922-23- | 2.00-4.85 | 3.40 | 1.75-4.75 | 3.36 | 3.15 | 4. 53 | 4.61 | 4.53 | 4.89 | 8.50-7.50 | 4.89 |  |  |
| 1023-24. | 1.75-5.25 | 4.07 | 1.75-5.25 | 3.60 | 3. 29 | 4.15 |  |  |  |  |  |  |  |
| Cincinnati: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21- | 4. $00-6.00$ $7.00-9.00$ | 5.40 8.12 | 2. $75-6.00$ 5. $00-8.50$ | 4.63 7.64 | 4.45 6.98 | 4.87 6.72 | 4.46 7.44 | 4.65 | 5.31 | 4.25- 8.00 | 6. 02 | 5. $00-7.75$ | 6.70 |
| 1922-23. | 2.50-4.00 | 3. 15 | 2.00-4.75 | 3.32 | 6.98 4.15 | 4. 41 | 7.44 4.46 | 7.62 4.72 | 7.56 5.08 | 6. $00-8.50$ $4.00-6.50$ | 7. 76 | 4.65-6.50 | 5.98 |
| 1923-24. |  |  | 3.00-5.50 | 4.07 | 4.30 | 4.88 |  |  |  |  |  |  |  |
| St. Paul: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21. | 7.00-12.50 | 8. 79 | 5. 50-10.00 | 7.81 | 5.85 | 5. 53 | 5.31 | 5.69 | 5. 87 | 4.75-7.50 | 6.39 |  |  |
| 1921-22 |  |  | 7.00-8.50 | 7.37 | 7.73 | 7. 97 |  |  |  |  |  |  |  |
| $1022-23$ $1023-24$ |  |  | 4.00-6.50 5. $50-6.50$ | 5.11 | 4.55 5.40 | 4. 34 5.61 | 4.59 | 5. 20 | 4.95 | 5.00- 5.50 | 5.19 | 5.00- 5.50 | 5. 46 |
| Minneapolis: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 | 6. 50-11. 50 | 9.63 | 5. 75-11. 00 | 8.88 | 7.85 | 5. 84 | 6.13 | 6.17 | 6.14 | $6.00-7.50$ | 6.78 | 7.00- 8.25 | 7. 51 |
| 1921-22 |  |  | 7. $50-10.00$ | 8. 78 | 9.77 | 8.89 | 8. 57 | 9. 56 | 9.87 |  |  | $7.00-8.25$ |  |
| 1822-23 | 3.25-6.00 | 4. 73 | 3. 50-6.50 | 5.12 | 4.80 | 5. 05 | 5. 29 | 5. 27 | 5. 49 | 5.00-6. 25 | 5. 39 | 5.25-6.00 | 5.73 |
| 1923-24. |  |  | 4.00-8.00 | 6.16 | 5.08 | 5. 14 |  |  |  |  |  |  |  |


| $\begin{array}{r} \text { Kansas City: } \\ 1920-21 . \end{array}$ | 7. 50-9.00 | 8.45 | 5.00-8.00 | 7.25 | 5.95 | 5. 66 | 5. 58 | 5.97 | 5. 73 | 5.75-7.00 | 5. 91 | 5.75-6.00 | 5. 88 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1921-22- | 10. 00-12. 00 | 11.00 |  |  |  |  |  |  |  |  |  |  |  |
| 1922-23-24. | 3.00-4.00 $4.00-6.50$ | 3.62 5.02 | $3.75-5.00$ $3.25-5.50$ | 4. 33 4.78 | 4. 4 4.30 | 4. 58 4.35 | 4.53 | 4.38 | 5.05 | 4.50-7.50 | 5.82 | 4.75-5.00 | 4.88 |
| Washington: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 ${ }^{2}$ | 3. $500-7.50$ | 5.90 8.88 | 3. $00-14.00$ | 5. 74 <br> 9.23 <br> .8 | 5. 46 8.42 | 5. 52 | 4. 68 88 8.28 | 4.71 8.24 | 5. 19 | $3.50-7.50$ <br> $6.00-90$ <br> 9.00 | 5.56 8.38 | 4.00-10.00 | 6.61 |
| 1922-23 ${ }^{-}$ | ${ }^{\text {5. }}$. $00-5.75$ | 8. <br> 3.86 <br> 18 | 2. $00-6.50$ | 4. 79 | 4. 76 | 4. 42 | 4.41 | 4.43 | 4.96 | 6. $4.00-7.50$ | 5.61 | 3.75--7.00 | 6. 23 |
| 1923-24.- | 4.00-9.00 | 5.20 | 3.50-7.50 | 4.85 | 4. 40 | 3.95 |  |  |  |  |  |  |  |

BOXES.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline New York: 1920-21 \& \$4.00-\$5. 25 \& \$4. 40 \& \$2.25-\$5. 50 \& \$3.68 \& \$3. 29 \& \$3. 88 \& \$3. 70 \& \$3. 90 \& \$3. 77 \& \$2. 50-\$6. 00 \& \$3. 98 \& \$2.75-\$5.00 \& \$3. 87 \\
\hline 1921-22 \& 2.25-6.00 \& 4. 06 \& 2.00-5.50 \& 3. 36 \& 2. 80 \& +3.12 \& 3. 01 \& 3. 35 \& 3. 41 \& 2.75-4.75 \& 13.54
3.54 \& \$2.75-\$5.00 \& \\
\hline 1922-23 \& 1. \(50-4.50\) \& 2. 65 \& 1. \(40-5.25\) \& 2. 85 \& 2. 36 \& 2. 42 \& 2. 41 \& 2. 35 \& 2. 57 \& 1. \(90-3.75\) \& 2. 74 \& 2. \(25-4.75\) \& 3.45 \\
\hline 1923-24. \& 1.50-4.50 \& 2.95 \& 1.15-5.00 \& 2.41 \& 2. 09 \& 2.13 \& \& \& \& \& \& \& \\
\hline Chicago: \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline 1920-21- \& 4.00-5.25 \& 4.62 \& \& \& 3. 67 \& 3. 75 \& 3. 14 \& 3. 30 \& 3. 62 \& 2. \(25-5.25\) \& 3. 23 \& 2. \(50-4.50\) \& 3. 23 \\
\hline 1921-22 \& \& \& 2.00-4.75 \& 3.43 \& 3.05 \& 3.00 \& 3.16 \& 3. 34 \& 3. 36 \& 2. \(00-4.50\) \& 3. 45 \& \& \\
\hline 1922-23 \& \({ }^{2} 1.00-2.80\) \& \({ }^{3} 1.89\) \& 1.50-3.75 \& 2. 69 \& 2. 48 \& 2. 61 \& 2.69 \& 2. 71 \& 3.07 \& 2. 25-5.00 \& 2. 96 \& 1.85-5.00 \& 2.91 \\
\hline 1923-24-- \& 2.50-4.00 \& 3. 10 \& \(1.50-3.75\) \& 2. 39 \& 2. 42 \& 2.55 \& \& \& \& \& \& \& \\
\hline 1920-21. \& \& \& 2.00-4.75 \& 3.16 \& 2.72 \& 2.52 \& 3. 44 \& 3. 83 \& 3. 06 \& \& \& 2. \(00-4.00\) \& 3.11 \\
\hline 1921-22 \& \& \& 1.38-5.00 \& 2.88 \& 2. 41 \& 2. 49 \& 2.77 \& 2.96 \& 3. 32 \& 2. \(25-3.75\) \& 3.13 \& \& \\
\hline 1922-23. \& \& \& 1.25-3.50 \& 2.34 \& 1. 93 \& 2.10 \& 2. 07 \& 2.06 \& 2. 39 \& 2. \(00-3.25\) \& 2. 65 \& \& \\
\hline 1923-24 \& \& \& 1. \(00-3.25\) \& 1.82 \& 1.77 \& 1.76 \& \& \& \& \& \& \& \\
\hline Pittsburgh: \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline 1920-21- \& \& \& 3. \(50-5.50\)
\(2.00-4.75\) \& 4. 28
3.22 \& 3.64
2.85 \& \& 2.60
3.07 \& 3.28 \& 3. 11 \& 2. \(25-3.75\)
2. \(25-4.50\) \& 3.04
3.13 \& 2. 25-4.00 \& 3. 18 \\
\hline 1922-23. \& \& \& 1.50-3.00 \& 2. 17 \& 2.00 \& 2. 32 \& 2.22 \& 2. 28 \& 2. 49 \& 2.00-3.50 \& 2.71 \& 2. \(25-3.80\) \& 2.96 \\
\hline 1923-24. \& \& \& 1.25-4.50 \& 2. 39 \& 2.09 \& 2. 27 \& \& \& \& \& \& \& \\
\hline St. Louis: 1921-22 \& \& \& \& \& \& \& 2. 70 \& 3.09 \& 2. 97 \& \& \& \& \\
\hline 1923-23- \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline 1923-24- \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline Cincinnati: \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline 1920-21. \& \& \& \& \& \& \& 2. 40 \& \& \& \& \& \& \\
\hline 1921-22 \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline 1922-23. \& \& \& \& \& \& 2. 05 \& \& \& \& \& \& \& \\
\hline 1923-24- \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline St. Paul: \& \& \& \& \& \& \& \& \& \& \& \& \& \\
\hline 1920-21- \& 2. \(25-3.75\) \& 2. 81 \& 3. \(25-3.75\)
3. \(00-4.25\)
1. \& 3.50
3.62 \& \begin{tabular}{l}
3.34 \\
3.56 \\
\hline
\end{tabular} \& 3. 23
3
36 \& 3. 09 \& 3. 54 \& 3.28
3.33 \& 3. \(00-3.75\)
\(3.00-3.50\)

2. \& 3. 29 \& 3.00-3.50 \& 3. 27 <br>
\hline 1922-23 \& 3 2.25-2.50 \& 32.38 \& 1.80-3.50 \& 3.62
2.20 \& 2. 84 \& 2. 45 \& 2. 27 \& 3. 21 \& 2. 41 \& 2. $40-2.75$ \& 2. 58 \& 2. $50-2.85$ \& 2. 72 <br>
\hline 1923-24. \& \& \& 2. $00-3.00$ \& 2. 42 \& 2. 50 \& 2. 59 \& \& \& \& \& \& \& <br>
\hline
\end{tabular}

${ }^{1}$ Last quotation May 12, 1923. $\quad{ }^{2}$ Sales direct to retailers. $\quad{ }^{3}$ First quotations in 1922-23 were, Sept. 26 for Chicago, Sept. 21 for St. Paul, and Sept. 20 for Minneapolis
Fruits dond Vegetables:

Table 200.-Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920-1923-Continued.
BOXES-Continued.

| Market, and year beginning Sept. 1. | September. |  | October. |  | November average. | December average. | January average. | February average. | March average. | A pril. |  | May. ${ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Range. | Average. | Range. | Average. |  |  |  |  |  | Range. | Average. | Range. | Average. |
| Minneapolis: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21-22 | \$2.25-\$4.75 | \$3. 22 | $\$ 3.40-\$ 4.40$ $2.90-4.75$ | $\$ 3.80$ 3.75 | $\$ 3.74$ 3.57 | \$3. 59 | \$3.18 | \$3. 45 | \$3. 41 | \$3.00-\$3.75 | \$3.38 | \$3.00-\$3. 75 | \$3. 38 |
| 1922-23 | ${ }^{\$ 2} 2.40-3.37$ | ${ }^{3} 2.59$ | 1. $75-3.50$ | 2. 50 | 2. 70 | 2. 62 | 2. 59 | 2. 40 | 2. 58 | 2.50-3.00 | 2. 79 | 2. $50-3.00$ | 2.78 |
| 1923-24 |  |  | 1.30-3.15 | 2. 55 | 2. 49 | 2.37 |  |  |  |  |  |  |  |
| Kansas City: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21- |  |  | 3. $00-4.50$ 2. $75-4.50$ | 3.61 3.54 | 3.60 3.63 | 3. 07 | 2.84 3.49 | 3. 29 | 3. 53 | 3. $50-4.50$ | 4.00 | 3.50-4.50 | 4.00 |
| 1921-22- | 3.75 | 3.75 | 2.75-4.50 $1.75-3.50$ | 3.54 2. 76 | 3.63 2.78 | 3.52 2. 75 | 3.89 2.74 | 3. 59 | 3.75 | 3. $00-4.50$ | 3. 48 |  |  |
| 1922-23. | 2.50-3.25 | 2. 74 | $1.75-3.50$ $1.25-4.00$ | 2.76 2.69 | 2.78 2.38 | 2.75 2.38 | 2. 74 | 2. 70 | 3.18 | 2. $75-4.00$ | 3.32 | 2.75-3.25 | 3.00 |
| W ashington: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1921-22 ${ }^{2}$ |  |  | 2.25-5.00 | 3.75 | 3. 64 | 3. 38 | 3.06 | 3. 52 | 3.44 | 3. $00-4.50$ | 3.54 |  |  |
| 1922-23-24.- | 1.50-3.50 | 2.85 | 1.25-3.75 | 2. 77 | 2. 29 2.69 | 2. 2.64 | 2. 62 | 2. 38 | 2. 39 | 2.00-3.25 | 2. 65 | 2. $50-4.25$ | 3. 05 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table 201.-Apples: Monthly average wholesale prices per barrel at New York; 1900-1929.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900-1 | \$1.93 | \$1.97 | \$2. 53 | \$3.10 | \$2. 75 | \$3. 15 | \$3. 55 | \$3.81 | . 72 |
| 1901-2 | 3.41 | 3.62 | 4.78 | 5. 00 | 5. 00 | 5. 06 | 4.90 | 4. 25 | 4.40 |
| 1902-3 | 1.91 | 1.97 | 2. 20 | 2.00 | 2.37 | 2.59 | 2.12 | 2.00 | 2.52 |
| 1903 | 2.69 | 2. 43 | 2.94 | 2.71 | 2.90 | 2.97 | 3.06 | 3. 02 | 2.91 |
| 1904- | 2.00 | 2.03 | 1.96 | 2. 25 | 2.38 | 2.44 | 2.75 | 2.43 | 2. 97 |
| 1905-6 | 3.18 | 2.97 | 3.75 | 3.75 | 3.75 | 4.50 | 4.82 | 6. 06 | 5. 59 |
| 1906 | 2.67 | 3.32 | 3.06 | 2.62 | 2.88 | 3.25 | 3.22 | 3.66 | 5. 00 |
| 1907 | 3.72 | 3.56 | 3. 55 | 3. 34 | 3. 46 | 3.52 | 3.22 | 3. 00 | 2.60 |
| 19 | 2.68 | 3.04 | 3.16 | 3.50 | 4.09 | 4.53 | 4.68 | 5. 00 | 5.02 |
| 1909-10 | 3.72 | 4.22 | 3.81 | 3.69 | 3.82 | 3.21 | 3.28 | 3.48 | 3.71 |
| 1910-11. | 3. 50 | 3.65 | 3.75 | 4.14 | 4.12 | 4.50 | 4.75 | 5.35 | 5.31 |
| 1911-12 | 2. 55 | 3.06 | 2.71 | 3.12 | 2.84 | 2.96 | 3.39 | 4.20 | 4.00 |
| 1912-13 | 2.66 | 3. 06 | 2.75 | 2.62 | 2.71 | 2. 78 | 2.70 | 3.12 | 4. 00 |
| 1913-14 | 3. 29 | 4.43 | 3.75 | 4.00 | 4.06 | 4. 79 | 4.75 | 5.34 | 5.14 |
| Average 1909-1913 | 3. 14 | 3.49 | 3.35 | 3.51 | 3.51 | 3.65 | 3.77 | 4. 30 | 4.43 |
| 1914-15. | 2.38 | 2.22 | 2.78 | 3.12 | 2.80 | 2.91 | 2.84 | 3.56 | 3.65 |
| 1915-16 | 2.38 | 2.95 | 3.12 | 3.06 | 3.05 | 3.19 | 3. 33 | 3. 12 | 2.96 |
| 1916-17 | 3.30 | 3. 38 | 4.18 | 4. 60 | 5.00 | 5. 38 | 5.91 | 5. 53 | 5. 28 |
| 1917-18. | 4.08 | 4.44 | 4.94 | 5.10 | 5.00 | 4. 88 | 4.92 | 5.75 | 6.75 |
| 1918-19 | 5.38 | 6.03 | 5.98 | 6.31 | 6. 50 | 7.88 | 9.55 | 10.00 | 10. 80 |
| 1919-20 | 6.12 | 7.81 | 7.55 | 7.50 | 7.00 | 8.06 | 7.50 | 7.08 | 9.25 |
| 1920-21 | 5.38 | 6.25 | 6. 33 | 6.38 | 5. 40 | 4.88 | 5.56 | 6.32 | ¢. 38 |
| A verage 1914-1920 | 4.15 | 4.73 | 4.98 | 5.15 | 4.96 | 5.31 | 5.66 | 5.91 | 6.30 |
| 1921-22. | 6. 06 | 8.10 | 6.91 | 6.80 | 6. 62 |  | 7.67 | 6.98 | 7.06 |
| 1922-23 | 4. 16 | 4. 62 | 4. 48 | 5. 50 | 5.78 | 5. 22 | 6.47 | 6.56 | 7.06 |
| 1923-24. | 4.94 | 5.92 | 5. 55 | 4.42 |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled fiom the American Agriculturist.
Table 202.-Apples: Wholesale prices per barrel at New York for October 15, January 1, and March 1, 1881-1923.


Division of Statistical and Historical Research. Compiled from the American Agriculturist.
Table 203.-Oranges: Production and value, 1915-1923.

| Year | United States. |  |  | Florida. |  |  | California. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Production. |  | $\begin{aligned} & \text { Farm } \\ & \text { value } \\ & \text { Dec. 1. } \end{aligned}$ | Produc | $\left\|\begin{array}{\|c\|} \hline \text { Average } \\ \text { price } \\ \text { per box } \\ \text { Dec. 1. } \end{array}\right\|$ | $\begin{aligned} & \text { Farm } \\ & \text { value } \\ & \text { Dec. } . \end{aligned}$ | Production. |  | Farm Dec. 1. |
|  | 1,000 |  | 1,000 dollars. | 1,000 |  | 1,000 | 1,000 |  | 1,000 dollars. |
| 1915 | linexes. | $\begin{array}{r} \text { ollars. } \\ 2.39 \end{array}$ | dollars. |  | Dollars. <br> 1.88 |  | boxes. | Dollars. | dolars. |
| 1916 | 24,433 | 2.52 | 61, 463 | 6, 933 | 2. 05 | 14, 213 | 17, 500 | 2.70 | 47, 250 |
| 1917 | 10, 593 | 2.60 | 27, 556 | 3, 500 | 2. 30 | 8, 050 | 7, 093 | 2.75 | 19,506 |
| 1918 | 24, 200 | 3.49 | 84, 480 | 5,700 | 2. 65 | 15, 105 | 18,500 | 3.75 | 69,375 |
| 1919 | 22, 528 | 2. 67 | 60, 202 | 7,000 | 2.50 | 17, 500 | 15, 528 | 2,75 | 42, 702 |
| 1920. | 29, 700 | 2.19 | 64, 908 | 8,100 | 2.20 | 17,820 | 21,600 | 2. 18 | 47, 088 |
| 1921 | 20, 300 | 2.51 | 51, 600 | 7,300 9,700 | 2. 20 | 14,600 22,310 | 13,000 | 2.80 2.00 | 36, 400 |
| 1922 | 30,200 34,800 | 2.10 1.84 | 63,310 64,080 | $\begin{array}{r}\text { 9, } \\ 12000 \\ \hline\end{array}$ | 2.30 1.35 | 22,310 16,200 | 20,500 <br> 122,800 | 2.00 | 41, 47 |
| 1923 | 34, 800 | 1.84 |  |  |  |  |  |  |  |

Table 204.-Citrus fruats: Carlot shipments, by States of origin, calendar years. 1918-1928.

GRAPEERUIT.

| State. | 1948 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Florida | $\begin{gathered} \text { Cars } \\ 5,289 \end{gathered}$ | $\begin{gathered} \text { Cars. } \\ 6, .328 \end{gathered}$ | Cars. 11, 498 | Cars. <br> 11, 795 | $\begin{aligned} & \text { Cars. } \\ & 13,626 \end{aligned}$ | Curs. <br> 18,673 |
| Alabama |  |  |  |  |  |  |
| Texas ---- |  |  |  |  |  | 59 |
| Arizona | 9 | 17 | 54 | 54 | 65 | ${ }^{93}$ |
| California | 352 | '279 | 477 | 426 | 491 | 497 |
| Total. | 5,650 | 6,624 | 12, 229 | 12, 275 | 14, 182 | 18,72\% |

LEMONS.

| Florida |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| Mississipp |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  | 9,874 | 8,430 |
| Tota | 6,913 | 8,823 | 9, 373 | 11,887 | 9,875 | 8,430 |

ORANGES.

| Florida | 12, 184 | 13, 264 | 19,27371 | 18, 914 | 17,435401 | $\begin{array}{r} 25,285 \\ 577 \\ 10 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alabama |  |  |  |  |  |  |
| Mississippi |  |  |  |  |  |  |
| Texas--- | 71 | 98 | 49 | 73 | 75 | 98 |
| Oalifornia | 16, 183 | 35, 957 | 30,906 | 46,759 | 28, 61.5 | 45,001 |
| Total | 28, 444 | 49, 324 | 50, 299 | 65, 891 | 46, 526 | 71, 971 |

TOTAL CITRUS FRUITS (GRAPEFRUIT, LEMONS, AND ORANGES).

| Fiorida | 17,473 | 19,592 | 30,773 | 30, 709 | 31, 061 | 43, 358 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alabama | 17, 6 | 5 | 71 | 145 | 401 | . 577 |
| Mississippi |  |  |  |  |  | 10 |
| Texas |  |  |  |  |  | 59 |
| Arizona | 80 | 115 | 103 | 127 | 141 | 196 |
| California | 23, 448 | 45, 059 | 40,754 | 59,072 | 38, 983 | 54, 323 |
| Total | 41, 007 | 64, 771 | 71, 701 | 90, 053 | 70, 583 | 99, 128 |

Division of Statistical and Historical Research. Compifed from data of the Fruit and Vegetable Division. .Shipments as shown in carlots inelude those by boat reduced to carlot basis.
Table 205.-Grapefruit, Floridas (excluding russets): Monthily average wholesale prices per box at New York, 1908-1923.

| Calendar year. | Jan. | Feb. | Mar | Apr. | May. | Jane. | Jaly. | Oet. | Mov. | Wec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1008 | \$5. 40 | \$5. 75 | \$5. 94 | \$5.50 | \$4.90 |  |  | \$3.88 | \$3.62 | \$3. 53 |
| 1909 | 3. 15 | 3.12 | 3.12 | 3. 90 | 5. 25 | \$5. 25 |  | 3. 21 | 3.47 | 3.53 |
| 1910 | 3.50 | 4.34 | 4.28 | 4.38 | 4.39 |  |  | 5.00 | 4.59 | 3.65 |
| 1911 | 3. 50 | 8. 58 | 3. 69 | 3.34 | 8.75 | 4.90 |  | 6.44 | 4.69 | 4.78 |
| 1912 | 4.00 | 4.7.5 | 4.95 | 6.44 | 7.38 |  |  | 4.00 | 3. 62 | 3.47 |
| 1913 | 2.95 | 3.58 | 3.12 | 3.38 | 3. 90 | 5.75 |  | 5.08 | 4. 78 | 3.62 |
| Average 1909-1913 | 3. 42 | 3.85 | .3. 83 | 4.29 | 4.91 |  |  | 4. 74 | 4. 23 | 3.80 |
| 1914. | 3.80 | 3.81 | 3. 78 | 4.06 | 3. 45 | 3. 06 |  | 3.06 | 2.78 | 2. 53 |
| 1915 | 2.38 | 2.38 | 2. 25 | 2. 62 | 2.81 | 3. 88 |  | 5. 25 | 4.16 | 3.45 |
| 1916 | 3.56 | 3.38 | 3. 50 | 3.62 | 3. 50 | 4. 38 | \$4. 75 |  | 4.50 | 4.35 |
| 1917 | 3. 75 | 4.12 | 4.12 | 4.12 | 4.12 | 4. 50. | 4.75 |  |  |  |
| 1918 |  |  | 4. 02 | 4.62 | 4.62 |  |  |  | 4.75 | 4.75 |
| 1919 | 4.75 | 4.75 | 4. 88 | 6. 56 | 7. 25 | 7.75 |  |  | 4.75 | 4.75 |
| 1200 | 4.75 | 4. 6 | 4.00 | 4. 40 | 5. 56 | 4. 38 | 4.15 |  | 6. 25 | 6. 25 |
| A Ferage 1914-1920 |  |  | 3. 88 | 4.29 | 4. 47 |  |  |  |  |  |
| 1921 | 6. 25 | 6. 25 | 6. 25 | 6. 25 | 6. 25 | 6. 0 - | 5. 25 | 5. 38 | 5. 38 | 5.38 |
| 1922 | 6.12 | 6. 12 | 6. 12 | 6.12 | 6. 12 | 6. 12 |  |  |  |  |

Dlvision of Statiatical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

Table 206.-Lemons, California: Monthly average wholesale prices per box at New York, 1908-1923.

| Caiendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908 | \$3.10 | \$3. 25 | \$3.06 | \$2. 91 | \$3. 02 | \$3. 25 |  |  |  |  | \$4. 72 | \$3. 19 |
| 1909 | 3. 70 | 3.88 | 3.20 | 3.42 | 3.62 | 3. 12 | \$5.80 |  |  |  | 5.75 | 5. 2.5 |
| 1819 | 4.62 | 3.84 | 3.44 | 3.78 | 4.00 |  |  |  |  | \$6. 97 | 6.17 | 3. 88 |
| 1911. | 3. 50 | 4.82 | 3.88 | 3. 94 | 4.75 | 5. 88 | 4.75 |  | \$4.94 | 5.97 | 5. 91 | 4. 49 |
| 1912 | 3. 62 |  |  |  |  |  |  |  | 10.00 | 7.66 | 7.60 | 6.22 |
| 1913 | 4.75 |  |  |  |  |  |  |  |  |  |  |  |
| 1914 |  |  |  |  |  |  |  |  | 4.75 | 4. 56 | 4. 25 | 3.00 |
| 1915 | 2.52 | 2. 59 | 2.75 | 2.84 | 3. 30 | 3.28 | 2. 08 | \$2. 69 | 3.03 | 3. 90 | 4. 31 | 4. 18 |
| 1916 | 4.19 | 3.62 | 2.90 | 3.19 | 3.50 | 4.15 | 5. 69 | 8.12 | 7.62 | 7. 38 | 6. 56 | 4. 70 |
| 1917 | 3.12 | 3. 50 | 3.72 | 4.62 | 4.62 | 5. 25 | 6. 75 | 8.85 | 10. 25 | 7.34 |  | 5.88 |
| 1918 | 5. 88 | 5. 88 | 5. 88 | 5. 56 | 6. 08 | 8.28 | 8. 38 | 8. 38 | 8. 38 | 8. 38 |  | 4. 81 |
| 1919 | 3.62 6.00 | 4.59 6.00 | 4. 68 | 4.41 | 4. 62 4.50 | 3. 2. 27 | 4.53 3.05 | 5. 50 3.25 | 5.88 3.25 | 8.75 3.25 | 6.00 3.25 | 6.00 3.25 |
| 1920 | 6. <br> 3. 25 <br>  <br>  | 6.00 3.25 3. | 6. 25 <br> 3.25 | 6.25 3.25 | 4. 50 | 2.75 7.43 | 3.05 9.82 | 3. 25 7.50 | 3.25 7.50 | 3.25 7.50 | 3.25 7.50 | 3.25 <br> 7.50 |
| 1922 | 4.00 | 4.00 | 4.00 | 4.00 | 4. 00 | 4.00 | 4.00 | 4.00 | 4.00 | 9.00 | 9.00 | 8. 60 |
| 1923 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 7.05 | 6.62 | 6. 62 | 6.62 | 6. 62 |

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

Table 207.-Oranges, California Navels: Monthly average wholesale prices per box at New York, 1908-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908 | \$3. 22 | \$3. 25 | \$2. 97 | \$3. 02 | \$3. 50 | \$4.38 | \$4. 38 | \$3.38 |
| 1909 | 3.28 | 3.25 | 3.03 | 3. 28 | 3.00 | 3. 16 | 3.62 |  |
| 1910 | 2.88 | 3.19 | 3.12 | 3.18 | 3.56 | 3.72 | 4.00 | 3.62 |
| 1911 | 3.22 | 3. 32 | 4. 12 | 3.42 | 3. 78 | 3.82 3.69 | 3.56 | 3. 50 |
| 1012 | 3. 54 | 3.72 3.55 | 3. 30 4.16 | 3. 44 4.72 | 3. 5.15 |  | 3.56 | 3. 38 |
| Average 1909-1913 |  | 3.41 | 3. 55 | 3.61 | 3.74 |  |  |  |
| 1914. | 3. 28 | 3.09 | 3.03 | 3.12 | 3. 50 | 2.81 |  | 3.19 |
| 1915 | 2. 73 | 2. 90 | 2. 79 | 2. 96 | 3. 19 | 3.44 |  | 3. 79 |
| 1916 | 3. 38 | 3. 38 | 3. 02 | 3. 66 | 3. 50 | 4. 00 |  | 3. 06 |
| 1917 | 3. 25 | 3. 72 | 3. 98 | 4. 38 | 4. 38 | 4.38 | 4.38 | 4. 25 |
| 1918 | 4.25 | 5.00 | 5.95 | 6.75 | 6.75 |  |  |  |
| 1919 |  | 4.91 | 5.69 | 5.75 | 5.62 |  |  |  |
| 1920 |  |  |  | 4. 00 |  |  |  | 5. 00 |
| 1921 | 6. 31 | 6.00 | 6.00 | 6. 00 | 6. 09 |  |  | 7.75 |
| 1923 | 7.75 | 7.75 | 7.75 | 7.75 | 7.75 | 7.75 |  | 6. 09 |

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

Tabie 208.-Oranges, California Valencias: Monthly average wholesale prices per box at New York, 1908-1923.

| Calendar year. | Jan. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908. |  | \$5. 12 | \$5. 25 | \$5. 25 | \$5. 25 | \$5. 50 | \$7.00 |  |
| 1909. |  |  | 4.88 | 4.94 | 5.44 | 5.98 | 6.50 | \$6. 50 |
| 1910 |  |  | 6. 22 | 6. 94 | 6. 95 | 7.50 | 8.41 | 9.50 |
| 1911 |  | 4.38 | 4.91 | 5.66 | 5. 72 | 6.78 | 7.03 | 9.25 |
| 1912 | \$9.38 | 4.75 | 5.16 | 5.15 | 5.56 | 5.91 | 6.62 |  |
| 1913 |  | 6.22 | 7.03 | 6.60 | 6.44 | 7.80 | 8.12 |  |
| A verage 1909-1913. |  |  | 5. 64 | 5.86 | 6.02 | 6.79 | 7.34 |  |
| 1914 |  | 3.58 | 3.95 | 4. 31 | 3.94 | 4.15 | 4. 97. | 6. 56 |
| 1915 |  |  | 4. 92 | 5.41 | 6.09 | 6.88 | 7. 50 | 8.38 |
| 1916 |  | 5.00 | 5.12 | 5.44 | 6.48 | 7.12 | 6. 94 | 6. 75 |
| 1917 |  |  |  | 5.75 | 5.75 | 5.47 | 6. 25 | 4. 81 |
| 1918 | 3.38 | 7.94 | 7. 75 | 7.75 | 7. 75 | 9.84 | 12. 72 | 11.00 |
| 1919 | 11. 00 | 5. 56 | 5. 53 | 7.35 | 7.50 | 7.55 | 7.75 | 7. 75 |
| 1920 | 7.75 |  | 8. 50 | 7.56 | 7. 25 | 7.75 | 8.50 | 10.50 |
| Average 1914-1920 |  |  |  | 6.22 | 6.39 | 6.97 | 7.80 | 7.96 |
| 1921 |  | 5. 25 | 5. 32 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 |
| 1922 |  | 10. 75 | 10.75 | 10. 75 | 10.75 | 11. 00 | 11. 25 | 11.25 |
| 1923 |  |  | 6.50 | 6.35 | 6.12 | 6.12 | 6.12 | 6.12 |

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

## OLIVE OIL.

Table 209.-Olive oil (including inedible): International trade, calendar years, 1909-1922.

| Country. | Average, 1909-1913. ${ }^{1}$ |  | 1920 |  | 1921 |  | $\begin{gathered} \text { preliminary. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. <br> Algeria $\qquad$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 2974 \end{gathered}$ | $\begin{gathered} 1,000 \\ p_{2}, \underline{u n d} \mathbf{1 1 , 5 6 6} \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 110 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 1,720 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 288 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ \mathbf{4 , 1 2 0} \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 246 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 20,831 \end{gathered}$ |
| Greece |  | 22, 272 | 813 | 3,916 | 206 | 25,004 | 127 | 20, 36 |
| Italy | ${ }^{2} 6,643$ | 75, 130 | 2, 631 | 23, 374 | 25, 196 | 30, 908 | 9, 321 | 40, 510 |
| Spain |  | 86, 454 | 21 | 119, 754 |  | 105,768 |  | 102,472 |
| Tunis. | 2, 020 | 18,090 | 70 | 1,311 | 8 | 58, 322 | 20 | 68,319 |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Argentina | 48,248 |  | 31, 538 |  |  |  |  |  |
| Australia | 510 | 11 | 523 |  | 305 | 1 |  |  |
| Belgium | ${ }^{2} 4,295$ | ${ }^{2} 582$ | 1,676 | 293 | 1,373 | 186 | 2,375 | 207 |
| Brazil | 8,409 |  | 9, 733 |  | 1,224 |  |  |  |
| Canada | 1,593 |  | 1,459 |  | 1,557 |  | 1,744 |  |
| Chile | 7,255 |  | 5, 425 |  | 3,941 |  |  |  |
| Denmar | 146 |  | 11,232 1202 |  |  | 9 |  |  |
| Egypt. | 4, 803 |  | 1,591 |  | 3,164 | 18 | 3,223 | 13 |
| France. | ${ }^{2} 42,502$ | 12,935 | 20, 250 | 4, 812 | 44, 847 | 10,009 | 58, 300 | 13, 742 |
| Germany | 6, 085 |  |  |  | ${ }^{1} 1,192$ |  | 769 |  |
| Japan_- | 126 |  | 427 |  | 134 |  |  |  |
| Morocco. <br> Netherlan | ${ }_{2}^{268}$ | $\begin{array}{r} 375 \\ 205 \end{array}$ | 3,647 37 | 36 | 5, 5151 | 43 | 139 | 24 |
| New Zealand | 68 |  | 87 |  | 54 | 4 | 13 |  |
| Norway.- | 3, 458 |  | 2,227 | 111 | 873 | 14 | 4,429 |  |
| Peru- | ${ }^{2} 684$ | 277 | 1,496 |  | 825 |  | 481 |  |
| Philippine Islands | 360 |  | 125 |  | 115 |  | 177 |  |
| Sweden--- |  |  | $\stackrel{305}{226}$ | 33 14 | , 255 | 15 |  |  |
| Switzerland | 4,138 22,950 | 71 823 | 1,226 9,052 | 14 668 | 2, 9,854 | 19 164 | 2,914 | 190 |
| United States..-. | 39,903 |  | 31,087 |  | 53, 881 |  | 87,974 |  |
| Uruguay | 4,249 |  | ${ }^{1} 5,132$ |  | 15,477 |  |  |  |
| Other countries | 53,766 | 30, 132 | 9,155 | 33 | 6,837 | 320 | 150 |  |
| Total | 264, 653 | 258, 758 | 151, 277 | 155,976 | 169, 981 | 234, 890 | 189, 534 | 282, 777 |

Division of Statistical and Historical Research. Official sources except where otherwise noted. (Conversions on basis of 7.5 pounds to the gallon).

[^177]Table 210.-Fruits and nuts: Production and value in California and Florida, 1919-1923.

CALIFORNIA.

| Crop and year. | Production. | Farm value, Dec. 1. |  | Crop and year. | Production. | Farm value, Dec. 1. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Per unit. | Total. |  |  | Per unit. | Total. |
| Apples: |  |  |  | Grapes (table): | Tons. |  |  |
| 1919 | $8,200,000$ | \$1. 45 | \$11, 890, 000 | 1919 | $200,000$ | 75. 00 | 15,000,000 |
| $\begin{aligned} & 1920 . \\ & 1921 \end{aligned}$ | 6, 6000,000 | 1.60 1.35 | $9,600,000$ $8,775,000$ | ${ }_{1921}^{1920}$ | 190,000 210,000 | 75.00 | 14, 250, 000 |
| 1922 | 7, 850, 000 | $\begin{array}{r}.90 \\ \hline\end{array}$ | 7,065, 000 | 1922 | '308,000 | 52.00 | 16, 016,000 |
| 1923 | 8, 450, 000 | . 75 | 6, 338, 000 | 1923 | 340, 000 | 35.00 | 11,900, 000 |
| Pears: | Tons. 115,000 |  |  | Grapes (wine): 1919 |  |  |  |
| 1919. 1920. | 115,000 102,000 | 72.00 90.00 | $8,280,000$ $9,180,000$ | $\begin{aligned} & 1919=. \\ & 1920 . \end{aligned}$ | 400,000 375,000 | 50.00 75.00 | 20, 0000,000 |
| 1920 | 102,000 86,009 | 90.00 | 9, 180,000 $5,375,000$ | 1920 | 375,000 310,000 | 75. 00 | 28, 125, 000 |
| 1922 | 150, 000 | 50.00 | 7,500, 000 | 1922 | 450, 000 | 65.00 | 29, 250, 000 |
| 1923 | 128, 000 | 50.00 | 6, 400, 000 | 1923 | 428, 000 | 40.00 | 17, 120, 000 |
| Peaches: | 430 | 60.00 | 25, 800, 000 | Oranges: ${ }^{2}$ | Boxes. | 2.75 | 42, 702, 000 |
| 1920 | 360, 000 | 76.00 | 27, 360, 000 | 1920 | 21, 6000000 | 2.18 | 47, 088,000 |
| 1921 | 310, 000 | 42.00 | 13, 020,000 | 1921 | 13, 000, 000 | 2.80 | 36, 400, 000 |
| 1922 | 410, 000 | 45.00 | 18, 450, 000 | 1922 | 20, 500, 000 | 2.00 | 41, 000,000 |
| 1923 | 380, 000 | 24.00 | 9, 120, 000 | $1923{ }^{3}$ | 22, 800, 000 | 2.10 | 47, 880, 000 |
| Apricots: |  |  |  | Lemons: ${ }^{2}$ |  |  |  |
| $\begin{aligned} & 1919 \\ & 1920 \end{aligned}$ | 175,000 110,000 | 80.00 85.00 | $14,000,000$ $9,350,000$ | 1919. | $3,499,000$ $4,955,000$ | 2. 2.00 | $6,998,000$ $14,469,000$ |
| 1921 | 100, 000 | 50.00 | 5, 000,000 | 1921 | 4, 050,000 | 3.45 | 13, 973,000 |
| 1922 | 145, 000 | 70.00 | 10, 150, 000 | 1922 | 3, 400, 000 | 3.30 | 11, 220, 000 |
| 1923 | 170, 000 | 25.00 | 4, 250, 000 | $1923{ }^{3}$ | 4, 800, 000 | 1.90 | 9, 120, 000 |
| Prunes: ${ }_{1919}$ | 135, 000 | 240.00 | 32, 400, 000 | Figs: <br> 1919 | Tons. | 150.00 | , 800, 000 |
| 1920 | 97, 250 | 130.00 | 12, 643, 000 | 1920 | 12, 300 | 90.00 | 1, 107, 000 |
| 1921. | 100, 000 | 130.00 | 13, 000, 000 | 1921 | 9,600 | 145.00 | 1,392, 000 |
| 1922 | 110, 000 | 140.00 | 15, 400, 000 | 1922 | 11,000 | 120.00 | 1,320, 000 |
| 1923 | 80, 000 | 100.00 | 8,000,000 | 1923 | 9, 000 | 90.00 | 810, 000 |
| Plums: |  |  |  | Olives: 1919 |  |  |  |
| ${ }_{1920}^{1919}$ | 42,000 35,000 | 60.00 90.00 | 2,5,50,000 $-\quad 3,150,000$ | 1919 .1920 | 8,800 | 160.00 95.00 | 1, 76080000 |
| 1922 | 48,000 | 50.00 | 2, 400,000 | 1922 | 10,000 | 125.00 | 1, 250,000 |
| 1923 | 69,000 | 30.00 | 2, 670.000 | 1923 | 17,000 | 65, 00 | 1, 105, 000 |
| Cherries: | 12,400 | 150.00 | 1,860,000 | Almonds: | 7,250 | 440.00 | 3,190,000 |
| 1920 | 17,500 | 200.00 | 3, 500, 000 | 1920 | 5,500 | 360.00 | 1,980,000 |
| 1921 | 13, 000 | 125. 00 | 1, 625, 000 | 1921 | 6,000 | 320.00 | 1,920,000 |
| 1922 | 14, 000 | 180.00 | 2, 520, 000 | 1922 | 8,500 | 290.00 | 2, 465, 000 |
| 1923 | 14, 500 | 160.00 | 2, 320, 000 | 1923 | 11,000 | 260:00 | 2, 860, 000 |
| Raisins: ${ }_{1919}$ | 182, 500 | 210. 00 | 38, 325, 000 | Walnuts: | 28, 100 | 550, 00 | 15, 455,000 |
| 1920 | 177, 000 | 235. 00 | 41,595,000 | 1920 | $21,000$. | 400.00 | 8, 400, 000 |
| 1921 | 145, 000 | 190.00 | 27, 550, 000 | 1921 | 19,500. | 400.00 | 7, 800, 000 |
| 1922. | 237, 000 | 105.00 | 24, 885, 000 | 1922 | 27,000 | 360.00 | 9, 720,000 |
| 1923 | 237, 000 | 80.00 | 18, 960, 000 | 1923 | 25, 000 | 400.00 | 10,000,000 |

FLORIDA.


Division of Crop and Livestock Estimates; California estimates in cooperation with California Department of Agriculture. 1923 estimates are preliminary.
${ }^{1}$ Dried basis.
${ }^{2}$ Representing the commercial crop year beginning Oct. 1; the numbers for 1923, for instance, represent the fruit that set during the season of 1923 and will be picked and marketed from Oct. 1, 1923, to Sept. 30, 1924.
${ }^{2}$ Freeze during January, 1924, promises to reduce the stated figures for oranges by about one million boxes. Damage to lemons still undetermined.

## CRANBERÉIES.

Table 211.-Cranberries: Acreage, production, and farm value, United States, 1914-1923; by States, 1922 and 1923.

| Calendar year and state. | Acreage. |  | Average yield, in barrels, per acre. |  | Production, thousands of barrels. |  | A verage farm price per barrel Dec. 1. |  | Farm value, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | 22,00023,10026,20018,20025,40025,40025,00025,000 |  | $\begin{aligned} & 31.7 \\ & 19.1 \\ & 18.0 \\ & 13.7 \\ & 13.9 \\ & 23.9 \\ & 28.0 \\ & 18.0 \end{aligned}$ |  | 097441471249352549449384 |  | $\begin{array}{r} \$ 3.97 \\ 6.59 \\ 7.32 \\ 10.24 \\ 10.77 \\ 88.37 \\ 12.28 \\ 16.99 \end{array}$ |  | $\begin{aligned} & 2,766 \\ & 2,908 \\ & 3,449 \\ & 2,550 \\ & 3,791 \\ & 4,597 \\ & 5,514 \\ & 6,526 \end{aligned}$ |  |
| 1915 |  |  |  |  |  |  |  |  |  |  |
| 1916 |  |  |  |  |  |  |  |  |  |  |
| 1917 |  |  |  |  |  |  |  |  |  |  |
| 1918 |  |  |  |  |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |  |  |  |  |
| 1921. |  |  |  |  |  |  |  |  |  |  |
| Leading States. | 1922 | 19231 | 1922 | 1923 | 1922 | 19231 | 1922 | 1923 | 1922 | 19231 |
| Total | 25, 060 | 25, 000 | 22.4 | 24.4 | 560 | 610 | 10. 18 | 7.25 | 5, 702 | 4,423 |
| Massachusetts. | 12,000 | 12,000 | 25.4 | 29.2 | 305 | 350 | 10. 50 | 6. 50 | 3,202 | 2,275 |
| New Jersey. | 11,000 | 11, 000 | 18.2 | 20.0 | 200 | 220 | 9.75 | 8.00 | 1,950 | 1,760 |
| Wisconsin. | 2,000 | 2,000 | 27.5 | 20.0 | 55 | 40 | 10.00 | 9.70 | 550 | 388 |

Division of Crop and Livestoek Estimates.
${ }^{1}$ Preliminary.
GRAPES.
Table 212.-Grapes: Estimated production, by States, calendar years, 1922 and 1923.

| State. | 1922 | $1923{ }^{1}$ | State. | 1922 | $1923{ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $1,000$ <br> pounds. | Kansas | 1,000 <br> paunds. | 1,000 pounds. |
| New Hampshire | ${ }_{204}$ | ${ }^{176}$ | Kentuoky | 2,000 | 1,690 |
| Vermont.--...-- | 90 | 74 | Tennessee | 4,574 | 2,065 |
| Massachusetts. | 860 | 913 | Alabama. | 1,400 | 1,470 |
| Rhode Island. | 369 | 552 | Mississippi | 468 | 504 |
| Conneeticut | 1,760 | 1, 955 | Louisiana | 57 | 50 |
| New York | 210, 000 | 122, 220 | Texas | 1,674 | 2,325 |
| New Jersey. | 4,505 | 4,488 | Oktahoma | 3,713 | 2,940 |
| Pennsylvania | 50,000 | 33,000 | Arkansas | 2,400 | 1, 920 |
| Deleware. | 1,620 | 1,539 | Colorado | 576 | 594 |
| Maryland. | 1,000 | 1,760 | New Mexico | 910 | 1,170 |
| Virginia---- | 2,900 | 4,032 | Arizona | 680 | 680 |
| West Virginia | 1,944 | 2, 183 | Utah | 1,269 | 1,378 |
| North Carolina | 11,760 | 11,664 | Nevada | 300 |  |
| South Carolina | 2, 706 | 2, 952 | İaho. | 57.0 | :600 |
| Georgia | 3,040 | 3;000 | Washington | 3,784 | 3,899 |
| Ohio... | 45,000 | 38,710 | Oregon- | 3,060 | 2,730 |
| Indiana. | 8,836 | 7,980 | California | 3, 602, 000 | 3,622,000 |
| Michigan | $\begin{array}{r} 12,740 \\ -127,500 \end{array}$ | $\begin{aligned} & 10 ; 988 \\ & 88,560 \end{aligned}$ | United States | 4, 152, 342 | 4,015,609 |
| Wisconsin | 693 | 576 |  |  |  |
| Minnesota | 150 | 148 |  |  |  |
| Iowa | 13,000 | 11,880 |  |  |  |
| Missouri | 14,700 | 12,600 |  |  |  |
| Nebraska | 2, 700 | 2, 640 |  |  |  |

Table 213.-Grapes: Carlot shipments, by States:of origin, calendar years, $1917-$ 1923.

| State. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1223 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cars. | Cars. | Cars. | Cars. | Cers. | Cars. | Gars. |
| New York | 3, 621 | 2, 017 | 3,751 | 6, 079 | $2 ; 451$ | 7,728 | 4, 239 |
| Pennsylvania | 801 | 367 | 881 | 1,2455 | -300 | 1,558 | 854 |
| Ohio.- | 196 | 50 | 87 | $\begin{array}{r}50 \\ \hline\end{array}$ | . 68 | 80 | 76 |
| Michigan | 3, 298 | 1,635 | 3, 783 | 4, 607 | 1,237 | 6,020 | 4, 034 |
| Iowa. | 85 | 68 | 108 | 106 | 88 | 238 | 207 |
| Missouri | 28 | 21 | 36 | 26 | 4 | 128 | 72 |
| Washington | 31 | 59 | 37 | 8 | 67 | 47 | ${ }^{56}$ |
| California.. | 13, 251 | 16, 639 | 21, 605 | 26,974 | 32, 879 | 43, 884 | 53, 477 |
| All ether. | :68: | 59 | 61 | 110 | 38 | 177 | 202 |
| Total | 21,879: | -20,915 | 30,340 | 39, 205 | 37, 202 | 89,858 | 68,247 |

Division of statistical and Historieal Research. Compiled from tata of the Frutt and Fegetable Division. Shipments as shown in carlots include those by boat reduced to earlot basis.

PEACHES.
Table 214.-Peaches: Production, United States, 1899-19思s.

| Calendar year. | Production. | Calendar year. | Production. | Calendar year. | Production. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bushels. |  | Bushels. |  |  |
| 1899 | 15, 4338,000 | 1908 | $48,146,000$ | 1916 | 37, 505,000 |
| 1900 | 49, 438, 000 | 1909 | 35, 470,000 | 1917 | 48, 765, 000 |
| 1901 | 46, 445, 000 | 1910 | 48, 171, 000 | 1918. | 33, 094, 000 |
| 1902 | 37, 831,000 | 1911 | 34, 880, 000 | 1919 | 53, 178, 000 |
| 1903 | $28,850,000$ | 1912 | 52, 343, 000 | 1920 | $45,620,000$ |
| 1904 | 41, 070,000 | 1913 | 39, 707, 000 | 1921 | 32, 602,000 |
| 1905 | 36, 634,000 | 1914 | 54, 109, 000 | 1922 | 55, 852, 000 |
| 1907 | $\begin{aligned} & 44,104,000 \\ & 22,527,000 \end{aligned}$ | 1915 | 64, 097, 000 | 1923 | 45, 702, 000 |

Division of Crop and Livestock Estimates. Census figures in italics.
Table 215.-Peaches: Production and farm prices, by States, calendar years, 19191923.

| State. | Total crop, thousands of bushels. |  |  |  |  | Farm price per bushel Sept. 15- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | 19231 | 1919 | 1920 | 1921 | 1922 | 1923 |
| New Hampshir | 39 |  | 29 |  |  | Cents. | Cents. | Cents. | Cents. | Cents. |
| Massachusetts. | 213 | 4 | 185 | 32 | 40 | 210 | 400 | 317 | 248 | 162 |
| Rhode Island.-.-.--- | 29 | 3 | 18 | 28 | 31 | 350 | 415 | ${ }_{3} 357$ | 270 | 195 |
| Connecticut.. | 195 | 10 | 290 | 262 | 232 | 250 | 425 | 371 | 285 | 264 |
| New York.-.------- | 1,262 | 2, 600 | 1,700 | 3,400 | 1,700 | 270 | 225 | 255 | 110 | 181 |
| New Jersey | 1,653 | 2, 134 | 347 | 2,000 | 2, 642 | 270 | 220 | 335 | 185 | 209 |
| Pennsylvania | 1, 100 | 2,000 | 350 | 1,560 | 1,907 | 300 | 250 | 345 | 180 | 183 |
| Delaware | 227 | 203 | 7 | 320 | 225 | 190 | 225 | 300 | 80 | 150 |
| Maryland | 564 | 692 | 59 | 495 | 631 | 190 | 210 | 300 | 170 | 150 |
| Virginia.. | 682 | 1,092 | 52 | 764 | 504 | 200 | 185 | 300 | 170 | 210 |
| West Virginia | 760 | 992 | 48 | 715 | 526 | 220 | 225 | 300 | 200 | 205 |
| North Carolina | 575 | 1, 539 | 644 | 1, 010 | 260 | 210 | 184 | 235 | 170 | 200 |
| South Carolina | 390 | 832 | 566 | 845 | 550 | 220 | 200 | 145 | 150 | 240 |
| Georgia | 5,895 | 3,799 | 6, 550 | 4,900 | 5,248 | 250 | 171 | 160 | 146 | 178 |
| Florida | 148 | 150 | 130 | 130 | 120 | 250 | 300 | 210 | 350 | 192 |
| Ohio -. | 618 | 3,238 | 335 | 1,584 | 1,386 | 330 | 215 | 365 | 176 | 187 |
| Indiana | 82 | 405 | 26 | 650 | 445 | 330 | 258 | 352 | 178 | 231 |
| Illinois | 450 | 770 | 76 | 1,109 | 675 | 270 | 317 | 371 | 175 | 264 |
| Michigan | 448 | 1,500 | 358 | 1,440 | 1,125 | 310 | 230 | 290 | 150 | 179 |
| Iowa | 2 | 100 | 30 | 200 | 40 | 330 | 347 | 341 | 172 | 200 |
| Missouri | 1,263 | 1,427 | 0 | 2,300 | 1,040 | 200 | 254 |  | 110 | 174 |
| Nebraska |  |  | 0 | 81 | 45 | 310 | 403 |  | 150 | 270 |
| Kansas.-- | 214 | 187 | 24 | 630 | 78 | 260 | 400 | 320 | 170 | 252 |
| Kentucky | 480 | 988 | 80 | 1,218 | 450 | 240 | 225 | 300 | 140 | 164 |
| Tennessee. | 1,285 | 1,590 | 320 | 2, 002 | 460 | 180 | 180 | 230 | 108 | 190 |
| Alabama | 1,083 | 974 | 1,230 | 810 | 779 | 170 | 175 | 165 | 120 | 138 |
| Mississippi | 776 | 412 | 322 | 375 | 260 | 150 | 175 | 150 | 200 | 195 |
| Louisiana | 382 | 269 | 264 | 180 | 175 | 190 | 275 | 250 | 167 | 300 |
| Texas | 4, 621 | 800 | 2, 200 | 1,920 | 1,700 | 180 | 310 | 165 | 220 | 217 |
| Oklahoma | 2,924 | 180 | 360 | 2, 070 | 1,290 | 140 | 250 | 150 | 115 | 159 |
| Arkansas. | 3,340 | 117 | 435 | 2, 040 | 1, 110 | 160 | 235 | 160 | 100 | 163 |
| Colorado | 722 | 670 | 810 | 900 | 792 | 250 | 250 | 175 | 100 | 171 |
| New Mexico | 204 | 6 | 8 | 98 | 189 | 200 | 250 | 325 | 200 | 200 |
| Arizona | 140 | 48 | 54 | 128 | 90 | 180 | 350 | 300 | 190 | 250 |
| Utah. | 884 | 471 | 763 | 885 | 802 | 160 | 250 | 171 | 50 | 129 |
| Nevada. | 6 |  | 4 | 6 | 5 | 270 | 300 | 250 | 75 | 200 |
| Idaho. | 293 | 42 | 150 | 244 | 282 | 180 | 290 | 175 | 155 | 108 |
| Washington | 1,545 | 155 | 772 | 950 | 1,333 | 170 | 280 | 182 | 106 | 134 |
| Oregon | 504 | 100 | 105 | 300 | 500 | 140 | 330 | 250 | 125 | 168 |
| Califormia | 17, 200 | 15, 200 | 12, 910 | 17,080 | 15, 830 | 150 | 190 | 100 | 108 | 58 |
| United States | 53, 178 | 45, 620 | 32, 602 | 55,852 | 45, 702 | 189.0 | 210.4 | 158.7 | 133.8 | 140.0 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

Table 216.-Peaches: Condition of crop, United States, 1st of month, 1868-1923.

| Calendar year. | June. | July. | Aug. | $\begin{gathered} \text { Per } \\ \text { cent } \\ \text { of a full } \end{gathered}$ crop. | Calendar year. | June. | July. | Aug. | Per cent of a full crop. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P.ct. | P.ct. |  | $P . c t$. | P.ct. | P.ct. | P.ct. |
| 1868 | 113. 9 | 103.2 | 105. 0 | 91.5 | 1898 | 70.8 | 61.8 |  | 63.6 |
| 1869 | 97.8 | 97.4 | 90.9 | 91.0 | 1899. | 25.6 | 23.6 |  | 19.6 |
|  | 79.2 | 80.3 | 72.1 | 68.4 | 1900 | 88.2 | 85.4 |  | 78.0 |
| 1871 | 96.1 | 96.1 | 87.6 | 92.2 | 1901 | 88.5 | 82.5 |  | 70.1 |
| 1872 | 91.8 | 90.7 | 85.4 | 86.3 | 1902 | 66.0 | 62.8 | 59.0 | 57.8 |
| 1873 | 59.0 | 55.4 | 47.0 | 44.6 | 1903 | 48.2 | 44.9 | 42.7 | 40.8 |
| 1874 | 95.3 | 94.5 | 86.2 | 84.8 | 1904 | 63.1 | 60.7 | 59.1 | 58.9 |
| 1875 | 57.5 | 54.6 | 50.3 | 46.2 | 1905 | 59.0 | 55.8 | 54.4 | 54.3 |
| 1876. | 60.3 | 57.5 | 49.6 | 48.3 |  |  |  |  |  |
| 1877 | 90.8 | 89.8 | 84.9 | 82.8 | $\begin{aligned} & 1906 . \\ & 1907 \end{aligned}$ | $\begin{array}{r} 72.3 \\ { }_{27} \end{array}$ | 66.2 <br> 35.7 | 66.1 33.4 | 64.0 30.7 |
| 1878. | 97.9 | 96.2 | 87.7 | 91.3 | 1908 | 73.0 | 359.7 | 67.1 | 67.5 |
| 1879 | 62.3 | 56.4 |  | 52.4 |  |  |  |  |  |
| 1880 | 85.4 | 81.9 | 80.6 | 80.6 | 1909 | 54.1 | 50.0 | 45.4 | 43. 6 |
| 1881 | 65.6 | 63. 2 | 54. 7 | 48.0 | 1910 | 62.0 | 62.1 |  | 64.0 |
| 1882 | 80.0 | 85.7 | 79.9 | 77.7 | 1911 | 52.1 63.7 | 44.6 68.5 | 42.7 65 | 44.3 68.4 |
| 1883 | 67.0 | 67.0 | 59.3 | 55.6 | 1913 | 55.7 | 52.3 | 48.2 | 47.6 |
| 1884 | 73. 6 | 71.3 | 66.5 | 56.1 |  |  |  |  |  |
| 1885 | 76.7 60 | 71.1 67 | 65.7 60.2 | 72.7 60.4 | 1909-1913 | 57.5 | 55.5 | 52.7 | 53.6 |
| 18887 | 60.5 70.9 | 67.2 66.9 | 60.2 60.3 | 60.4 54.1 | 1914 | 61.7 | 56.2 | 55.9 | 63.0 |
|  |  |  |  |  | 1915- | 75.8 | 73.0 | 72.2 | 78.6 |
| 1888. | 83.6 | 79.8 | 78.3 | 79.2 | 1916 | 55.4 | 52.2 55 | 48.5 52.9 | 45. 5 52.6 |
| 1889 | 85.4 | 85.0 | 81.5 | 74.4 | 1917 | 60.5 | 55.2 | 52.9 | 52.6 |
| 1890 | 47.8 | 37.5 | 28.0 | 26.9 |  |  |  |  |  |
| 1891 | 78.2 | 79.9 | 77.4 | 79.3 | 1918 |  |  |  |  |
| 1892 | 68.2 | 58.6 | 54.6 | 49.5 | $\begin{aligned} & 1919- \\ & 1920- \end{aligned}$ | 73.1 64.9 | $\begin{aligned} & 69.0 \\ & 61.8 \end{aligned}$ | $\begin{aligned} & 66.7 \\ & 60.7 \end{aligned}$ | 70.8 61.2 |
| 1893 | 77.9 | 71.0 24 | 62.0 22.3 | 58.7 21.1 | 1914-1920 | 63.3 | 59.1 | 57.5 | 59.5 |
| 1895 | 66.0 | 66.4 | 83.3 | 84.1 |  |  |  |  |  |
| 1896 | 64.7 | 51.8 | 48.1 | 42.8 | 1921. | 45.6 | 42.8 | 42.6 | 46.7 |
| 1897. | 67.0 | 62.5 | 58.0 | 60.5 | ${ }_{1923}^{1922}$ | 77.1 66.7 | $\begin{aligned} & 74.3 \\ & 63.5 \end{aligned}$ | 74.7 61.3 | 78.1 61.2 |

Division of Crop and Livestock Estimates.
Table 217.-Peaches: Carlot shipments, by States of origin, calendar years, 19171923.

| State. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| New York | 7,308 | 1,057 | 1,434 | 4,666 | 2,840 | 6,862 | 2,764 |
| New Jersey | 1,218 | 748 | 1,148 | 1, 307 | 5 | 1,595 | 1,758 |
| Pennsylvania | 879 | 257 | 366 | 316 | 45 | 268 | 554 |
| Virginia.- | 125 | 63 | 137 | 370 |  | 265 | 70 |
| W est Virginia | 990 | 322 | 425 | 458 |  | 19 | 177 |
| North Carolina | 65 | 56 | 66 | 343 | 589 | 1,452 | 250 |
| Georgia | 4,098 | 7,995 | 7, 236 | 5, 663 | 10, 636 | 7,368 | 8,717 |
| Michigan. | 445 | 76 | 270 | 2, 275 | 198 | 1,650 | 994 |
| Tennessee. | 10 | - 152 | 116 | 149 | 218 | 248 | 53 |
| Texas....- | 825 | 1, 579 | 1,940 | 62 | 964 | 25 | 102 |
| Oklahoma | 278 | 244 | 866 |  | 42 | 155 | 94 |
| Arkansas. | 1, 597 | 190 | 2, 335 | 20 | 596 | 1,521 | 747 |
| Colorado. | 1,347 | 1, 111 | 1,334 | 773 | 1,219 | 1,420 | 1,264 |
| Utah | 1, 146 | 577 | 1, 102 | 402 | . 839 | 1,261 | 1,174 |
| W ashington | 1,920 | 647 518 | 2,219 | 204 7 | 1,097 | -990 | 10,611 |
| California. | 2, 858 | 4,518 | 7,846 | 7,354 2,605 | 1,606 408 | 9,085 4,107 | 10,059 2,766 |
| All other. | 2, 128 | 817 | 2,083 | 2,605 | 406 | 4,107 | 2, 766 |
| Total | 27, 237 | 20,409 | 30,923 | 26, 967 | 27, 300 | 38, 291 | 33, 154 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

Table 218.-Peaches: Monthly carlot shipments, by States, 1917-1923.

| State and calendar year. | May. | June. | July. | Aug. | Sept. | Oct. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York: 1917 | Cars. | Cars. | Cars. | Cars. | Cars. 4,292 | Cars. <br> ${ }^{1} 3,016$ | Cars. 7,308 |
| 1818 |  |  |  | 18 | -999 |  | 1, 057 |
| 1919 |  |  | 5 | 97 | 1,289 | 43 | 1,434 |
| 1920 |  |  |  | 22 | 3,442 | 1,202 | 4, 666 |
| 1921 |  |  |  | 1,663 | 1,173 | 4 | 2, 840 |
| 1922 |  |  | 3 | 106 | $\stackrel{5}{-}, 953$ | 800 | 6, 868 |
| $\xrightarrow{1923}$ |  |  |  | 10 | 2, 138 | 616 | 2, 764 |
| Georgia: |  |  |  |  |  |  |  |
| 1917. 1918. | 37 1,036 | 1, 076 | $\begin{array}{r}2,983 \\ 3,438 \\ \hline\end{array}$ | $\stackrel{2}{10}$ |  |  | 4,098 7,995 |
| 1919 | ${ }^{1} 295$ | 3, 073 | 3, 863 | 5 |  |  | 7,236 |
| 1920 | 41 | 1,315 | 4,157 | 150 |  |  | 5, 663 |
| 1921 | 1,402 | 3,659 | 5, 564 | 11 |  |  | 10,636 |
| 1922 | 682 | 3, 002 | 3, 681 | 3 |  |  | 7,368 |
| 1923 | 1 | 2, 238 | 5,898 | 580 |  |  | 8,717 |
| Arkansas: |  | 10 | 1,099 | 485 | 3 |  | 1,597 |
| 1918 |  |  | 179 | 11 |  |  | 190 |
| 1919 | 2 |  | 1,375 | 956 | 2 |  | 2,335 |
| 1920 |  |  |  | 20 |  |  | 20 |
| 1922 | 2 | 3 | 591 |  |  |  | - 596 |
| 1922 |  | 5 2 | 1,264 198 | 254 |  |  | 1, 521 |
| Colorado: |  |  |  |  |  |  |  |
| 1917.- |  |  |  | 51 | 922 | 374 | 1,347 |
| 1918. |  |  | 5 | 670 860 | 434 470 |  |  |
| 1919 |  |  |  | 860 62 | 470 708 | 4 3 | 1, 373 |
| 1921 |  |  |  | 554 | 659 | 6 | 1,219 |
| 1922 |  |  |  | 455 | 965 |  | 1,420 |
| 1923 |  |  |  | 567 | 695 | 2 | 1,264 |
| California: |  | 154 | 173 | 2,136 | 361 | 33 | 2,858 |
| 1918 | 1 | 201 | 762 | 2,396 | 1,122 | 36 | 4, 518 |
| 1919 | 4 | 205 | 1,520 | 4,363 | 1,753 | . 1 | 7,846 7 |
| 1920 | 2 | 222 |  |  |  | ${ }^{6}$ |  |
| 1921 |  | 43 64 | 1,672 | 4,231 5,258 | 1,652 3,352 | 8 284 | 7,606 9,085 |
| 1922 |  | 110 | 4,367 | 3,842 | 1,691 | 49 | 10,059 |
| All other: |  |  |  |  |  |  |  |
| 1917 | $\begin{array}{r}3 \\ 82 \\ \hline\end{array}$ | $\begin{array}{r}54 \\ 309 \\ \hline\end{array}$ | 894 1,952 | 3,069 2,080 | 5,453 1,070 | $\begin{array}{r}2556 \\ 45 \\ \hline\end{array}$ | 10,029 5,538 |
| 1919 | 27 | 235 | 2,453 | 4, 996 | 2, 971 | 56 | 10,738 |
| 1920 | 2 | 51 | 410 | 2, 844 | 4,754 | ${ }^{2} 430$ | 8,491 |
| 1921 | 25 | 307 | 1,560 | 865 | 1,632 | 14 | 4,403 |
| 1922 | 13 | 113 | 2, 465 | 5,812 | 3,508 | 124 90 | 12,035 9,603 |
| 1923 -...-.--- |  | 34 | 392 | 4,205 | 4,882 | 90 | 9,603 |
| Total 1917 -------- | 41 | 1,294 | 5,149 | 5,743 | 11, 031 | \% 3,979 | 27, 237 |
| 1918. | 1,119 | 4, 021 | 6, 336 | 5,185 | 3, 625 | 123 | 20, 409 |
| 1919 | 328 | 3,513 | 9,216 | 11, 277 | 6,485 | ${ }_{2} \stackrel{104}{104}$ | 30,923 |
| 1920 | 45 1,429 | 1,588 4,012 | 6, <br> 9881 <br> 188 | 6,284 | 10,528 5,116 | 21,641 32 | 27, 2700 |
| 1921 | 1,429 | 4, 184 <br> 184 | 7,540 | 11,886 | 13,778 | 1,208 | 38, 291 |
| 1923 | 1 | 2,384 | 10,855 | 9,751 | 9,406 | 757 | 33, 154 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.
${ }^{1}$ Includes 8 cars in November. ${ }^{2}$ Includes 3 cars in November. ${ }^{8}$ Includes 11 cars in November.
Table 219.-Peaches: Farm price per bushel, 15th of month, United States, 19101923.

| Calendar year. | June | $\begin{gathered} \text { July } \\ 15 . \end{gathered}$ | $\begin{gathered} \text { Aug. } \\ \text { 15. } \end{gathered}$ | $\begin{aligned} & \text { Sept. } \\ & 15 . \end{aligned}$ | $\begin{aligned} & \text { Oct. } \\ & 15 . \end{aligned}$ | Weighted average. | Calendar year. | June | $\begin{gathered} \text { July } \\ 15 . \end{gathered}$ | $\begin{gathered} \text { Aug. } \\ 15 . \end{gathered}$ | $\begin{aligned} & \text { Sept. } \\ & 15 . \end{aligned}$ | $\begin{aligned} & \text { Oct. } \\ & 15 . \end{aligned}$ | $\begin{gathered} \text { Weight- } \\ \text { ed } \\ \text { average. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts |  | Cts. | Cts. | Cts. | Cts. | cts. |  |
| 1910 |  |  | 110.9 | 115.1 | 122.8 | 113.3 | 1917 | 170.3 | 144.8 | 143.3 | 143.8 | 160.6 | 148.0 |
| 1911 | 135.0 | 151. 0 | 138.0 | 129.0 | 131.0 | 138.2 | 1918 | 165. 1 | 169.4 | 178.9 | 185. 3 | 193. 2 | 176.6 |
| 1912 | 119.2 | 112. 1 | 108.3 | 110.0 | 105.0 | 111.2 | 1919 | 191. 1 | 201. 6 | 199. 6 | 205. 7 | 211.7 | 200.9 |
| 1913 |  | 130.5 | 126. 2 | 136.3 | 145.0 | 131.3 | 1920 | 236.8 | 226. 9 | 235.0 | 219.8 | 244.2 | 2288 |
| 1914 |  | 120.4 | 105.0 | 202.2 | 105.3 | 108.7 | 1921 | 189.3 | 205.3 | 216. 3 | 227.5 | 244.3 | 213.5 |
| 1915 |  | 99.5 | 85.4 | 81.1 | 85. 2 | 88.2 | 1922 | 172.0 | 161.4 | 143.7 | 143.5 | 150.4 | 15.3 |
| 1916 | 119.6 | 109.1 | 114.9 | 118.3 | 112.1 | 115.0 | 192 | 178.6 | 181.4 | 171.8 | 173.0 | 0 | 175.8 |

Division of Crop and Livestock Estimates.

Table 220.-Peaches: Average jobbing prices per 6-basket carrier and per bushel at 10 markets, 1921-1923.

| Market, and calendar year. | 6-basket carriers. |  |  |  | - |  | Bushels. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | May. ${ }^{1}$ | June. | July. | Aug. | May. ${ }^{1}$ | June. | July. | Aug. | Sept. | Oct. ${ }^{2}$ |
|  |  |  |  |  |  |  |  |  |  |  |
| 1922 | \$3.72 | 3. 05 | ${ }_{2} 2.57$ | 2.16 |  |  | 2. 29 | \$1.90 | \$1.78 | \$1.43 |
| 1923 |  | 3.31 | 2.10 | 2.03 |  |  | 2.18 | 2. 16 | 2. 48 | 1.94 |
| Chicago: |  |  |  |  |  |  |  |  |  |  |
| 1922 | 3.50 | 2. 72 | 2.65 |  |  | 2. 76 | 2.51 | 1.91 | 1.70 | 1.38 |
| 1823 |  | 279 | 2.39 | 2.56 |  |  | 2.76 | 3. 06 | 2.11 | 2. 25 |
| Philadelphia: |  |  |  |  |  |  |  |  |  |  |
| 1922. | 2.81 | 2.65 | 2. 44 | 2.14 |  |  |  | 1.88 | 1.60 | 1.67 |
| 1923 |  | 2.98 | 2. 24 | 2.70 |  |  |  |  | 2.08 | 2. 18 |
|  |  |  |  |  |  |  |  |  |  |  |
| 1922 | 3. 50 | 2.78 | 2. 58 | 2. 20 |  |  | 2.89 | 2.47 | 1. 62 | 1. 84 |
| 1923 |  | 3.15 | 2.22 | 2.75 |  |  | 2.32 | 2. 79 | 2.01 | 2.09 |
| St. Louis: |  |  |  |  |  |  |  |  |  |  |
| 1922. |  | 2. 74 | 2.48 |  |  | 2.50 | 2. 59 | 1. 89 | 1.95 | 1. 54 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 1922 |  | 2. 21 | 2. 13 |  | \$2. 50 | 2.05 | 2. 59 | 2.17 | 1. 69 | 1.90 |
| 1923 |  | 2.55 | 1.96 | 2. 20 |  |  | 2.28 | 3.21 | 2.35 | 2. 31 |
| St. Paul: |  |  |  |  |  |  |  |  |  |  |
| 1922 |  |  |  |  |  |  |  | 2. 17 | 2.03 | 1.70 |
| 1923---- |  |  |  |  |  |  |  |  |  |  |
| Minneapolis: |  |  |  |  |  |  |  |  |  |  |
| 1822 - |  |  | 2. 49 |  |  |  |  | 2. 21 | 1.99 | 1. 56 |
| Kansas City: |  |  |  |  |  |  |  |  |  | 2.20 |
| Kansas City: |  | 2.59 |  |  |  | 4.04 | 3. 29 |  |  |  |
| $\begin{aligned} & 1922 . \\ & 1923 . \end{aligned}$ |  | 2.60 | $2.58$ |  |  |  | 2.48 | 2.15 3.24 | 1. ${ }^{1.99}$ | 1.01 1.98 |
|  |  |  |  |  |  |  |  |  |  |  |
| 1921 |  | 3. 04 | 3. 29 | 4.75 |  |  |  |  |  |  |
| ${ }_{1923}^{1922}$ |  | 3. <br> 3. 97 | 2.43 2.64 | 2. 27 2. 68 |  |  |  | 2.55 3.12 | 2.30 2.48 | 2. 07 2.20 |
| 1923 |  | 3.90 | 2.64 | 2.68 |  |  |  | 3.12 | 2.48 |  |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.
Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.

1 Quotations began May 25, 1822.
${ }^{2}$ Last quotation Oct. 11, 1922, and Oct. 13, 1923.
${ }^{3}$ Sales direet to retailers, except September and October, 1923, for bushels.

## PEARS.

Table 221.-Pears: Production, United States, 1909-1923.

| Calendar year. | Production. | Calendar year. | Production. | Calendar year. | Production. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bushels. |  | Bushels. |  | Bushels. |
| 1909 | 8,841,000 | 1914. | 12, 086, 000 | 1919. | 15,006, 000 |
| 1910 | 10, 431,000 | 1915 | 11, 216, 000 | 1920 | 16,805, 000 |
| 1911 | 11, 450, 000 | 1916 | 11, 874, 000 | 1921 | 11, 297, 000 |
| 1912 | 11, 843,000 | 1817 | 13, 281, 000 | 1922 | 20,705, 000 |
| 1913 | 10, 108,000 | 1818 | 13, 362, 000 | 1923. | 17, 390, 000 |

Division of Crep and Livestock Estimates. Census figures in italics.

Table 222.-Pears: Production and farm prices, by States, calendar years, 19191923.

| State. | Total crop, thousands of bushels. |  |  |  |  | Farm price per bushel Nov. 15- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ | 1919 | 1920 | 1921 | 1922 | 1923 |
| Maine | 14 | 10 | 15 | 14 | 7 | Cents. 240 | Cents. 225 | $\begin{gathered} \text { Cents. } \\ 200 \end{gathered}$ | Cents. 200 | Cents. 200 |
| New Hampshir | 17 | 18 | 17 | 24 | 12 | 240 | 225 | 250 | 200 | 200 |
| Vermont........ | 10 | 10 | 6 | 10 | 6 | 240 | 280 | 330 | 220 | 225 |
| Massachusetts. | 84 | 83 | 45 | 84 | 58 | 240 | 250 | 300 | 147 | 220 |
| Rhode Island | 11 | 11 | 6 | 12 | 10 | 240 | 250 | 150 | 100 | 250 |
| Connecticut. | 57 | 61 | 50 | 60 | 37 | 240 | 250 | 200 | 100 | 225 |
| New York. | 1,830 | 2,700 | 1,650 | 3, 200 | 1,000 | 240 | 105 | 170 | 65 | 188 |
| New Jersey | 402 | 690 | 185 | 405 | 662 | 140 | 110 | 150 | 80 | 109 |
| Pennsylvania | 421 | 845 | 220 | 576 | 612 | 230 | 130 | 245 | 100 | 121 |
| Delaware-..- | 98 | 140 | 9 | 158 | 370 | 150 | 25 | 200 | 25 | 50 |
| Maryland. | 287 | 421 | 35 | 256 | 374 | 130 | 60 | 200 | 50 | 109 |
| Virginia | 288 | 438 | 30 | 270 | 200 | 160 | 95 | 200 | 100 | 136 |
| West Virginia | 40 | 66 | 2. | 38 | 41 | 230 | 175 | 300 | 160 | 130 |
| North Carolina | 120 | 208 | 100 | 110 | 65 | 210 | 161 | 182 | 130 | 171 |
| South Carolina | 99 | 120 | 115 | 104 | 88 | 220 | 150 | 150 | 120 | 130 |
| Georgia. | 178 | 173 | 171 | 202 | 192 | 180 | 145 | 165 | 105 | 116 |
| Florida. | 43 | 24 | 40 | 50 | 35 | 180 | 150 | 125 | 100 | 125 |
| Ohio... | 157 | 478 | 126 | 450 | 332 | 280 | 120 | 275 | 80 | 106 |
| Indiana | 107 | 375 | 70 | 300 | 334 | 180 | 99 | 196 | 75 | 75 |
| Illinois. | 375 | 603 | 100 | 510 | 307 | 170 | 125 | 270 | 100 | 94 |
| Mjichigan | 405 | 1,044 | 532. | 1,500 | 909 | 180 | 90 | 175 | 80 | 107 |
| Wisconsin. | 20 | 24 | 16 | 19 | 16 | 190 | 175 | 320 | 80 | 131 |
| Iowa-. | 30 | 90 | 5 | 75 | 62 | 190 | 145 | 600 | 124 | 111 |
| Missouri | 431 | 418 | 4 | 450 | 475 | 140 | 150 | 250 | 105 | 95 |
| Nebraska | 25 | 22 | 2 | 27 | 24 | 250 | 275 | 300 | 140 | 206 |
| Kansas | 221 | 41 | 7 | 243 | 134 | 170 | 215 | 275 | 140 | 161 |
| Kentucky | 55 | 132 | 4 | 150 | 70 | 180 | 195 | 233 | 155 | 132 |
| Tennessee. | 115 | 200 | 65 | 180 | 83 | 200 | 165 | 205 | 120 | 162 |
| Alabama | 163 | 158 | 180 | 176 | 174 | 160 | 164 | 137 | 133 | 152 |
| Mississippi- | 125 | 167 | 167 | 190 | 90 | 160 | 200 | 132 | 125 | 150 |
| Louisiana | 59 | 47 | 38 | 48 | 45 | 125 | 175 | 229 | 171 | 170 |
| Texas...- | 637 | 338 | 406 | 390 | 340 | 140 | 231 | 190 | 117 | 157 |
| Oklahoma | 250 | 42 | 36 | 197 | 100 | 190 | 200 | 200 | 150 | 175 |
| Arkansas.. | 123 | 42 | 39 | 100 | 45 | 170 | 190 | 160 | 160 | 200 |
| Montana | 6 | 6 | 7 | 8 | 8 | 300 | 200 | 300 | 100 | 200 |
| Colorado. | 345 | 386 | 502 | 519 | 400 | 220 | 190 | 220 | 75 | 156 |
| New Mexico | 67 | 32 | 24 | 18 | 49 | 230 | 250 | 250 | 150 | 240 |
| Arizona | 20 | 12 | 16 | 18 | 18 | 380 | 250 | 300 | 125 | 240 |
| Utah. | 76 | 87 | 81 | 98 | 64 | 250 | 250 | 250 | 106 | 132 |
| Nevada. | 4 | 5 | 3 | 4 | 7 | 250 | 300 | 250 | 150 | 190 |
| Idaho. | 49 | 58 | 55 | 72 | 72 | 175 | 276 | 200 | 175 | 176 |
| Washington. | I, 781 | 1,140 | 1,710 | 1,740 | 2, 600 | 170 | 130 | 170 | 134 | 110 |
| Oregon. | 761 | 760 | 836 | 1,400 | 1,540 | 150 | 175 | 150 | 140 | 108 |
| California | 4,600 | 4, 080 | 3,570 | 6,250 | 5,332 | 180 | 275 | 150 | 120 | 120 |
| United St | 15, 006 | 16, 805 | 11, 297 | 20, 705 | 17, 390 | 184.0 | 165.8 | 170.6 | 106.0 | 121.1 |

## Division of Crop and Livestock Estimates.

1 Preliminary.
Table 223.-Pears: Condition of crop, United States, 1st of month, 1908-1923.

| Calendar year. | June. | July. | Aug. | Sept. | Oct. | Per cent of a full crop. | Calendar year. | June. | July. | Aug. | Sept. | Oct. | Per cent of a full crop. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908 | $\begin{aligned} & P \cdot c t . \\ & 70.9 \end{aligned}$ | $\begin{aligned} & \text { P.ct: } \\ & 69.7 \end{aligned}$ | $\underset{70.6}{P .6 t .}$ | $\begin{aligned} & P . c t . \\ & 74.1 \end{aligned}$ | $\begin{aligned} & \text { P.ct: } \\ & 75.0 \end{aligned}$ | $\begin{gathered} P_{73 .}, c t . \end{gathered}$ | 1916. | $\begin{aligned} & \hline P . c t . \\ & 66.6 \\ & 77.1 \end{aligned}$ | $\begin{aligned} & P . c t . \\ & 6 \dot{\theta} .8 \\ & 66.2 \end{aligned}$ | $\begin{aligned} & P . c t . \\ & 59.0 \\ & 61.9 \end{aligned}$ | $\begin{aligned} & \hline \text { P.ct. } \\ & 61.2 \\ & 65.3 \end{aligned}$ | $\begin{aligned} & \text { P. ct. } \\ & 61.8 \\ & 66.3 \end{aligned}$ | $\begin{array}{r} \text { P.ct. } \\ 61.8 \\ 68.2 \end{array}$ |
| 1909 | 61.8 | 57.5 | 55.0 | 53.6 | 54.2 | 54.3 |  |  |  |  |  |  |  |
| 1910 | 63.2 | 61.0 | 61.3 | 63.9 | 64.7 | 66.3 | 1918 | 62.7 | 58.2 | 56. 4 | 60.3 | 60. 6 | 62. 1 |
| 1911 | 65. 1 | 60.4 | 59.5 | 64. 0 | 66. 9 | 71.9 | 1919 | 66. 3 | 60.6 | 60.5 | 66. 8 | 68. 0 | 68. 2 |
| 1912 | 70.9 | 66. 2 | 65. 0 | 70.8 | 71.8 | 73.3 | 1920 | 73.4 | 68.4 | 71.0 | 76.1 | 78.5 | 82.9 |
| 1913 | 59.7 | 55.9 | 55.4 | 59.1 | 58.1 | 61.8 | A $\bar{\square}$ |  |  |  |  |  |  |
| $\begin{gathered} \text { A verage } \\ 1909-1913 \end{gathered}$ | 64.1 | 60. 2 | 59.2 | 62. 3 | 63.1 | 65.5 | 921 | 69.1 | 62.7 | 61.7 | 66.3 | 67.5 | 69.0 |
|  |  |  |  |  |  |  |  |  | 40. 9 | 41. 7 | 45.3 | 48.1 | 48.2 |
| 1914 | 68.4 | 62.4 | 60.9 | 67.4 | 69.5 | 73. 0 | 1922 | 72.8 | 69: 8 | 73.0 | 77. 4 | 80.2 | 86.3 |
| 1815 | 69.2 | 62.3. | 62.0 | 66.8 | 67.8 | 66.8 | 1923 | 68.6 | 63. 2 | 61.8 | 64.0 | 66.4 | 68: 8 |

Division of Crop and Livestock Estimates.

Table 224.-Pears: Carlot shipments, by States of origin, 1917-1922.

| State. | Year beginning June 1. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 |
| New York | Cars. $1,746$ | $\begin{gathered} \text { Cars. } \\ 1,226 \end{gathered}$ | $\begin{gathered} \text { Cars. } \\ 1,506 \\ \hline, 50 \end{gathered}$ | $\begin{gathered} \text { Cars. } \\ 3,962 \end{gathered}$ | $\begin{gathered} \text { Cars. } \\ 2,855 \end{gathered}$ | Cars. 5,418 |
| New Jersey -- | 62 | 52 | 121 | 42 | 21 | 40 |
| Delaware---- | 461 | 413 | 55 | 267 |  | 151 |
| Maryland | 54 | 43 | 18 | 36 |  | 36 |
| Idianna--- | 45 | 47 11 | $\begin{array}{r}5 \\ 49 \\ \hline\end{array}$ | 54 | 17 | 96 44 |
| Illinois.-. | 334 | 97 | 324 | 1,140 |  | 468 |
| Michigan | 696 | 343 | 127 | 1,142 | $610^{-}$ | 1,860 |
| Texas | 18 | 127 | 100 | -88 | 96 | 47 |
| Colorado | 382 | 347 | 524 | 604 | 733 | 774 |
| Utah | 27 | 34 | 25 | 75 | 31 | 82 |
| W ashington | 1,700 | 2,421 | 2,452 | 1,906 | 2,827 | 2,678 |
| Oregon | 699 | 799 | 930 | 847 | 974 | 1,862 |
| California | 5,191 | 4, 002 | 3, 661 | 4, 594 | 4, 431 | 6,461 |
| All other | 170 | 208 | 257 | 202 | 142 | 314 |
| Total | 11,614 | 10, 170 | 10, 154 | 15, 037 | 12,737 | 20,331 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

Table 225.-Pears: Farm price per bushel, 15th of month, United States, 19101923.

| Calendar year. | $\begin{aligned} & \text { Aug. } \\ & \text { 15. } \end{aligned}$ | Scpt. | $\begin{aligned} & \text { Oct. } \\ & 15 . \end{aligned}$ | $\begin{array}{\|c} \text { Nov. } \\ 15 . \end{array}$ | $\begin{gathered} \text { Dec. } \\ 15 . \end{gathered}$ | Weighted aver. crop year | Calendar year. | Aug. | $\begin{aligned} \text { Sept. } \\ 15 . \end{aligned}$ | Oct. | $\begin{gathered} \text { Nov. } \\ 15 . \end{gathered}$ | Dec. $15 .$ | Weight ed aver. crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1910 |  | 100.9 | 98.6 | 100.8 | 122.4 | 100.9 | 1917 | 132. 2 | 125.0 | 118. 2 | 116.1 |  | 127.4 |
| 1911 | 118. 0 | 103.8 | 97. 2 | 85. 1 | 111.0 | 109.3 | 1918 | 168.4 | 157.8 | 147.5 | 140.1 | 156.6 | 161.1 |
| 1912 | 106. 3 | 100.0 | 83.1 | 79. 3 | 92.8 | 100.4 | 1919 | 188. 4 | 183.0 | 181.3 | 182.0 | 219.5 | 185.7 |
| 1913 | 109. 9 | 119.3 | 95.6 | 93.0 | 97.9 | 111.2 | 1920 | 195. 5 | 197.9 | 184. 2 | 170.0 | 164. 5 | 194. 1 |
| 1914 | 98. 8 | 92.8 | 80. 4 | 77.5 | 82.5 | 93.7 . | 1921 | 165. 2 | 175.1 | 186. 4 | 194. 9 | 198. 7 | 172. 2 |
| 1915 | 80.8 | 83. 8 | 82.7 | 89. 8 | 89.7 | 82.5 | 1922 | 147.1 |  | 116. 2 | 119.8 | 118.7 | 139.7 |
| 19 | 109.0 | 102.7 | 96.9 | 93.3 | 105.6 | 104.8 | 19 | 168.3 | 172.5 | 165. 1 | 150.2 |  |  |

Division of Crop and Livestock Estimates.

## STRAWBERRIES.

Table 226.-Strawberries: Carlot shipments by States of origin, calendar years, 1917-1923.

| State. | 1917 | 1918 | 1919 | 1920. | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| New York | 210 | 242 | 112 | 362 | 244 | 328 | 290 |
| New Jersey | 829 | 445 | 326 | 559 | 425 | 274 | 187 |
| Delaware- | 2, 340 | 828 | 430 | 640 | 856 | 940 | 924 |
| Maryland | 2,193 | 838 | 611 | 787 | 1,069 | 1,646 | 1,916 |
| Virginia.- | 1,352 | 342 | 208 | 349 | 697 | 1,670 | 1,193 |
| North Carolina | 696 | 585 | 484 | 446 | 479 | 1,101 | 1,667 |
| Florida | 193 | 79 | 21. | 153 | 108 | 322 | 1, 035 |
| Illinois. | 347 | 125 | 80 | 98. | 74 | 260 | 249 |
| Michigan. | 475 | 272 | 391 | 439 | 455 | 640 | 408 |
| Missouri. | 673 | 620 | 1,081 | 318 | 466 | 1,963 | 872 |
| Kentucky | 676 | 410 | 132 | 239 | 387 | 772 | 826 |
| Tennessee. | 1,781 | 1,234 | 1,099 | 1,182 | 1,693 | 3,607 | 3,289 |
| Alabama. | 196 | 279 | 229 | 147 | 285 | 460 | 693 |
| Louisiana | 1,100 | 556 | 682 | 858 | 1,531 | 1, 576 | 1,678 |
| Arkansas | 1, 096 | ${ }_{5}^{651}$ | 1, 034 | 896 | 1,094 | 2,165 | 1,342 |
| California | 245 | 509 | 703 | 569 | 291 | 201 | 193 |
| All other | 663 | 443 | 482 | 448 | 541 | 791 | 1,134 |
| Total | 15, 065 | 8,452 | 8,105 | 8,490 | 10,695 | 18,716 | 17,896 |

[^178]Table 227.-Strawberries: Average jobbing prices per quart at 10 markets, 19211929.

| Market, and calendar year. | Mar. ${ }^{1}$ | Apr. | May. | June. ${ }^{2}$ | Market, and calendar year. | Mar. ${ }^{1}$ | Apr. | May. | June. ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York: |  |  |  |  | Cincinnati: - |  |  |  |  |
|  | \$0. 47 | \$0. 41 | \$0. 27 |  | 1921. | \$0. 33 | \$0. 27 | \$0. 23 |  |
| 1922 | -60 | .37 .43 | .21 .20 | \$0.16 | 1922 | . 53 | . 18 | . 12 |  |
| Chicago: |  |  | , 2 |  | St. Paul: | . 48 | . 30 | . 15 | \$0.10 |
| 1921 | . 31 | . 37 | . 24 |  | 1921. | . 38 | . 44 | . 28 |  |
| 1922 | . 45 c | . 29 | . 14 | . 12 | 1922 |  | . 30 | .19 | . 16 |
| Philadelphia: | . 45 | . 41 | . 20 | . 15 | ${ }_{\text {Minneapor }}$ |  | . 44 | .25 | $\stackrel{10}{ }$ |
| 1921.-... | . 33 | . 34 | . 23 |  | 1921. | . 37 | . 41 | . 31 |  |
| 1922 | . 53 | . 32 | . 18 | . 17 | 1922 |  | . 29 | .18 | .14 |
| Pittsburgh: | . 55 | . 40 | . 18 | . 15 | $\xrightarrow{1923}$ | . 58 | .45 | .26 | . 19 |
| 1921-- | . 34 | . 34 | . 26 |  | Kansas 1921 ----- | . 33 | .36 | 23 |  |
| 1922 | . 50 | . 34 | . 17 | . 18 | 1922 |  | . 31 | .16 | . 13 |
| St ${ }^{1923}$-- | . 62 | . 41 | . 22 | . 16 | 1923 | . 46 | . 40 | . 21 | . 16 |
| St. Louis: | . 31 | . 33 | . 23 |  | Washington: ${ }^{1921}$ |  |  |  |  |
| 1922 | . 54 | . 26 | . 14 | . 16 | 1922 | . 55 | . 27 | . 20 | .14 |
| 1923 | . 49 | . 40 | . 18 |  | 1923 | . 42 | .34 | . 17 | . 11 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.
${ }^{1}$ Quotations began Mar. 23, 1922, and Mar. 28, 1923
${ }^{2}$ Last quotation June 6, 1922, and June 13, 1923.
${ }^{3}$ Sales direct to retailers.
CABBAGE.
Table 228.-Cabbage: Commercial acreage, yield per acre, and production, in carloads containing 12.5 tons each, 1921-1923.

| State. | Acreage. |  |  | Yield per acre. |  |  | Production. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | 1923 | 1921 | 1922 | $1923{ }^{1}$ |
| Early: | Acres. | Acres. | Acres | Tons. | Tons. | Tons. | Cars. | Cars. |  |
| California | 7,320 | 7,320 | 5,300 | 7.0 | 6.0 | 7.0 | 4,099 | 3,514 | $2,968$ |
| Florida | 5,370 | 11,280 | 2,070 | 6.0 | 7.0 | 8.0 | 2, 578 | 6,317 | 1,325 |
| Louisiana | 1,580 | 1, 670 | 1,640 | 6.4 | 6. 0 | 4.5 | 2,809 | , 802 | 1, 590 |
| Texas | 11,210 | 14, 880 | 4,070 | 4.0 | 5.0 | 5.0 | 3,587 | 5,952 | 1,628 |
| Tota | 25,480 | 35,150 | 13,080 | 5.4 | 5. 9 | 6.2 | 11,073 | 16,585 | 6,511 |
| Intermediate: $=\sim \sim=$ |  |  |  |  |  |  |  |  |  |
| Alabama | 1,600 | 2, 200 | 2, 200 | 8.0 | 8.5 | 7.5 | 1,024 | 1,496 | 1,320 |
| Georgia | , 250 | 520 +880 | +220 | 7.0 | 5. 0 | 5.5 | - 140 | , 208 | 1, 97 |
| Illinois | 1,620 | 1,880 | 1,400 | 5.0 | 8.0 | 5. 0 | 648 | 1,203 | 560 |
| Iowa---- | 600 350 | 1,840 300 | 1, 200 | 5. 0 | 8. 0 | 5. 5 | 240 | 1, 178 | 528 |
| Karyland | 350 2,060 | 1800 2,750 | 300 2,000 | 6. 0 | 6. 0 | 5. 0 | 168 | 144 | 120 |
| Mississipp | 1, 420 | 4, 640 | 4, 240 | 6. 0 | 5.0 5.0 | 6.0 3.5 | 791 | 1,100 1,856 | 960 187 |
| Missouri. | 700 | 700 | 800 | 8.1 | 7.0 | 6. 0 | 454 | 1, 392 | , 384 |
| New Jersey | 4,220 | 4, 500 | 4, 100 | 6.5 | 8.0 | 5. 5 | 2,194 | 2,880 | 1,804 |
| New Mexico | 130 | 400 | 300 | 8.0 | 9.0 | 7.0 | 2, 83 | 2, 288 | 168 |
| New York (L. I.) | 4,150 | 4,500 | 4,200 | 6. 6 | 11.0 | 7.0 | 2, 191 | 3, 960 | 2, 352 |
| North Carolina | + 450 | 350 | , 440 | 6.5 | 6.0 | 7.5 | 2, 234 | , 168 | 264 |
| South Carolina | 3,970 | 4,100 | 3,450 | 9.7 | 7.5 | 11. 5 | 3,081 | 2, 460 | 3,174 |
| Tennessee - ---- | 720 | 1,500 | 1,200 | 6.1 | 7.0 | 7.0 | ${ }^{3} \mathbf{3 5 1}$ | 2, 840 | 3, 672 |
| Eastern Shore. | 4,200 | 3,500 | 3,750 | 8.8 | 8.0 | 6.0 | 2,957 | 2, 240 | 1,800 |
| W ashington. | 920 | 950 | , 890 | 8.0 | 9.0 | 8.0 | 2, 589 | 2, 684 | 1,800 |
| Total | 27, 360 | 34,630 | 30,690 | 7.2 | 7.6 | 6.5 | 15,827 | 21,097 | 15,960 |
| Late: |  |  |  |  |  |  |  |  |  |
| Colorado | 4,000 | 5,240 | 5,270 | 11.7 | 12.0 | 11.0 | 3, 744 | 5, 030 | 4,638 |
| Indiana. | 1,090 | 1, 660 | 1,300 | 6.0 | 7.0 | 10.0 | ${ }^{3} 523$ | 5,930 | 1,040 |
| Michigan | 1,990 | 3,570 | 3,290 | 6. 5 | 11.0 | 9.8 | 1,035 | 3,142 | 2,579 |
| Minnesot | 2,740 | 3,840 | 3,260 | 5. 0 | 9.0 | 7.5 | 1,096 | 2,765 | 1,956 |
| New Y | 22,900 2,360 | 24, 900 | 22, 680 | 6. 5 | 9.0 | 7.5 | 11,908 | 17,928 | 13, 608 |
| Oregon | 2, 780 | 2,870 900 | 3,220 900 | 5. 7 9.5 | 8.2 7.0 | 8.5 5.0 | 1,076 593 | 1,883 504 | 2, 190 |
| Pennsylvania | 2, 720 | 2, 800 | 2,750 | 6. 0 | 7.0 | 5. 0 | 1,306 | 1,568 | 1,100 |
| Virginia (southwest) | 2, 500 | 2, 670 | 2, 620 | 6. 0 | 9.0 | 7.0 | 1,200 | 1,922 | 1,467 |
| Wisconsin | 10,660 | 16,560 | 13,340 | 6.0 | 11.0 | 9.5 | 5,117 | 14, 573 | 10,138 |
| Total | 51,740 | 65, 010 | 58, 630 | 6. 7 | 9.7 | 8.3 | 27, 598 | 50,245 | 39,076 |
| Grand total | 104, 580 | 134, 790 | 102, 400 | 6.5 | 8.2 | 7.5 | $\overline{54,498}$ | 87,927 | 61,547 |

[^179]Table 229.-Cabbage: Carlot shipments, by: States of origin, calendar years, 19171929.


Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.
${ }^{1}$ Long Island included with New York, other, in 1919, 1921, and 1923
Table 230.-Cabbage: Farm price per 100 pounds, 15 th of month, United States, 1910-1923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{aligned} & \text { Weight- } \\ & \text { ed } \\ & \text { average. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dollds. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls | D lls . | Dolls. | Dolls. | Dolls. | Dolls. |
| 1910-11 | 2. 27 | 1. 89 | 1. 94 | 1. 58 | 1.38 | 1. 49 | 1. 56 | 1. 48 | 1. 29 | 1. 33 | 1.38 | 2.46 | 1.57 |
| 1911-12 | 2. 93 | 2.47 | 1. 94 | 1. 58 | 1. 51 | 1.83 | 1.89 | 2. 24 | 2. 88 | 3. 17 | 2.98 | 2. 67 | 2. 23 |
| 1912-13 | 2. 29 | 1. 88 | 1. 25 | 1. 08 | 1. 04 | 1.15 | 1. 26 | 1.17 | 1. 03 | 1.15 | 1. 58 | 2. 18 | 1. 28 |
| 1913-14 | 2. 64 | 2. 15 | 1. 79 | 1.69 | 1. 58 | 1. 75 | 1.87 | 2.07 | 2.03 | 2. 24 | 2. 05 | 2. $\hat{6}$ | 1. 95 |
| Av. 1910-1913 | 2. 53 | 2.10 | 1.73 | 1. 48 | 1. 37 | 1. 56 | 1. 64 | 1. 74 | 1.80 | 1. 97 | 2. 00 | 2. 48 | 1. 76 |
| 1914-15 | 2. 66 | 1. 74 | 1. 50 | 1.31 | 1. 14 | 1.26 | 1. 36 | 1. 41 | 1.38 | 1. 99 | 2. 53 | 2. 34 | 1. 60 |
| 1915-16 | 1. 95 | 1. 61 | 1. 24 - | 1. 00 | . 97 | 1. 07 | 1. 17 | 1.21 | 1. 38 | 1. 50 | 1.93 | 2. 27 | 1. 33 |
| 1916-17 | 2. 15 | 2. 26 | 2.17 | 2. 40 : | 2. 61 | 3. 04 | 3.95 | 5. 65 | 6. 77 | 7. 61 | 7. 53 | 5. 10 | 4.45 |
| 1917-18 | 3. 23 | 2. 19 | 1. 76 | 1.79 | 2.66 | 2. 28 | 2. 74 | 3. 26 | 2. 86 | 2.98 | 3. 23 | 3. 55 | 2. 62 |
| 1918-19 | 3. 41 | 2. 96 | 2. 45 | 2. 16 | 1. 99 | 2. 05 | 2. 19 | 2. 33 | 2. 71 | 3. 79. | 4.97 | 4: 68 | 2. 83 |
| 1919-20 | 4. 23 | 3. 73 | 3. 08 | 2.88 | 2. 74 | 3. 49 | 4.31 | 5. 05 | 5. 25 | 5. 59 | 6. 75 | 5: 47 | 4.31 |
| 1920-21 | 4.71 | 3. 28 | 2.03. | 1.95 | 1.67 | 1. 77 | 1.91 | 1. 88 | 1. 71 | 2. 03 | 3. 10 | 4.04 | 2. 19 |
| Av. 1914-1920. | 3. 19 | 2. 54 | 2.03 | 1. 93 | 1.97 | 2. 14 | 2. 52 | 2.97 | 3.15 | 3. 64 | 4: 29 | 3.92 | 2. 76 |
| 1921-22 | 3. 95 | 3.16 | 2. 61 | 2. 39 | 2. 42 | 2. 77 | 3.05 | 3.09: | 3.02 | 3. 10 | 3.68 | 3:36 | 2. 92 |
| 1922-23 | 2. 96 | 2. 12 | 1.72 | 1. 55 | 1. 46 | 1. 63 | 2. 11 | 2. 42 | 3.00 | 3.62 | 4.01 | 4. 11 | 2. 44 |
| 1923-24. | 3. 85 | 3. 20. | 2:90 | 2: 59 : | 2. 12 | 2. 30 |  |  |  |  |  |  |  |

[^180]Table 231.-Cabbage, Danish: Range and average jobbing prices, per 100 pounds, at 10 markets, 1920-1923.

| Market, and. year beginning October 1. | October. |  | November. |  | De-cember, average. | $\begin{aligned} & \text { Janu- } \\ & \text { ary, } \\ & \text { aver- } \\ & \text { age. } \end{aligned}$ | February. . |  | March. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Range. | Average: | Range. | Average. |  |  | Range. | Average. | Range. | A ver. age. |
| New York: | \$0.88-\$1.00 | \$0.99 | \$0.75-\$1.13 | \$0. 94 | \$0. 76 | \$1.00 | \$0.68-\$0.83 | \$0. 73 | \$0.68-\$0.95 |  |
| 1921-22 | 1.82-2. 05 | 1.98 | 1.78-2.40 | 2.08 | 249 | 2. 60 | 1.75-2.25 | 2. 02 | 1.75-2.50 | 2.11 |
| 1922-23 | . $90-1.25$ | 1.01 | . $50-1.25$ | . 79 | 1. 18 | 1.33 | 1. $60-3.00$ | 2.08 | 2. $25-3.50$ | 3.16 |
| 1923-24. | 1. 10-1.60. | 1.33 | .75-1. 40 | 1.01 | 1.36 |  |  |  |  |  |
| Chicago: |  |  |  |  |  |  |  |  |  |  |
| 1920-21- | 1.75-2.25 | 2.02 |  | - 2.47 | 2. 75 | 2. ${ }^{21}$ | $.47-.83$ $1.50-2.15$ | 1. 71 | . $30-\mathrm{l} 8$ | . 64 |
| 1922-23 |  |  | . $75-1.10$ | . 83 | 1.21 | 1.51 | 1. $90-3.75$ | 2. 40 | 1. $70-3.50$ | 3.01 |
| 1923-24 |  |  | . $50-1.20$ | . 85 | 1. 13 |  |  |  |  |  |
| Philadelphia: | 70 | 81 | 55-1.18 | 82 | 62 | 93 | 55-. 80 | 69. | 55-. 83 |  |
| 1921-22. | 1. $50-2.00$ | 1. 87 | 1.50-2. 38 | 1.91 | 2. 42 : | 2.39. | 1. $25-2.25$ | 1.77 | 8. $00-2.50$ | 2. 22 |
| 1922-23. | . $75-1.10$ | 87 | . $35-1.15$ | . 71 | 1. 99 | 1.25 | 1. 25-3. 00 | 1.78 | 1. 00-3. 75 | 2.38 |
| 1923-24.. | 1.00-1.65 | 1.32 | . 75-1.25 | . 95 | 1.27 |  |  |  |  |  |
| Pittsburgh: |  |  |  |  |  |  |  |  |  |  |
| 1920-21.- | 88-1.40 | 1. 12 | . $70-1.50$ | 1. 00 | . 69 | 1. 04 | . $70-.95$ | . 80 | ${ }^{\text {. }} 55-\mathrm{F}$. 78 | ${ }^{66}$ |
| 1921-22. | 2. 15-2.75. | 2.48 | 2. $25-2.88$ | $\begin{array}{r}1.87 \\ 2.86 \\ \hline\end{array}$ | 2.67 1.57 | 2. 1.28 1.25 | 1. $1.90-2.75$ | 2. 2.06 | 1. ${ }^{\text {2 }} 50-2.4 .50$ | 2. 36 3.16 |
| 1922-23. | 1. 50-2. 50 <br> 1. 15-2 00 | 1.91 1.51 | . $40-1.50$ $.75-1.40$ | 1. 10 | 11. 34 |  | 1. 25-3. 50 |  | 2. 50-4. 50 |  |
| St. Louis: |  |  |  |  |  |  |  |  |  |  |
| 1920-21. |  |  |  |  | . 91 | 1.12 | . $75-1.25$ | 99 | .63-1. 25 | . 96 |
| 1921-22. | 1. $69-2.75$ | 2. $15^{\prime}$ | 1.81-2.50 | 2.30 | 2. 65 | 2. 57 | 1. 50-2. 25 | 2.02 |  |  |
| 1922-23- |  |  |  |  | 1. 30 | 1.37 | 2. 00-4. 25 | 2.84 | 2. 75-4. 50 | 3. 32 |
| 1923-24 |  |  | . $60-1.50$ | 1.08 | $1: 39$ |  |  |  |  |  |
| Cincinnati: |  |  |  |  |  |  |  |  |  |  |
| 1980-21- |  |  | . 55-1. 33 | $\begin{array}{r} .96 \\ 2.10 \end{array}$ | 2. ${ }^{.} 72$. | 1. 03 2. 59 |  | 1. 05. | . $50-1.13$ | . 82 |
| 1921-22.- |  |  | 1. $50-2.50$ | 2.10 | 2.73 <br> 1.31 | 1. 2.59 1.46 | 1.75-2.50 | 2. <br> 2. 31 <br> 1 |  |  |
| $\begin{aligned} & 1922-23 \\ & 1923-24 \end{aligned}$ | $\begin{array}{r} .90-1.40 \\ 1.25-1.90 \end{array}$ | 1.21 1.58 | $\xrightarrow{.50-1.00}$ | 1.71 1.16 | 1.31 1.39 | 1.46 | 1.85-3. 50 | 2.31 | 2. $50-3.75$ | 3. 18 : |
| St. Pqual: <br> 1921-22 |  |  |  |  |  |  |  |  |  |  |
| Minneapolis: |  |  |  |  |  | 3. |  |  |  |  |
| 1221-22... |  |  |  |  |  | 3.32 |  |  |  |  |
| Kansas: City: |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 1920-20 \\ & 1921-22 \end{aligned}$ | 1. 50-2. 50 | 2.09 . | 1. 75-3:25 | 2.61 | 3. 15 | 1.39 | 2:00-2.75 | 1.05 | . $50-1.00$ | . 78 |
| 1922-23.- | -60-1. 25 | . 90 | . 50 - 85 | . 68. | 1. 22 | 1.62 | 2: 00-4.00 | 2.85 | 3. $25-5.00$ | 3.84. |
| 1923-24. | . $90-1.50$ | 1.18 | . $90-1.50{ }^{\text {a }}$ | 1.07 | 1.24 |  |  |  |  |  |
| W ashington: |  |  |  |  |  | 1.93 | 1. 25-1.50 | 1.47 | 1.00-1. 50 | 1.25 |
| 1921-22 ${ }^{1}$ |  |  | $2.00-9.00$ | 2.53 | 3.03 | 1.41 | 2. $50-4.00$ | 3. 01 |  |  |
| 1922-231 | 1. $50-2.25$ | 1.97 | 1.00-2.00 | 1. 43 | 1. 82 | 1.88 | 2. 00-3.00 | 2.47 |  |  |
| 1923-24. | 1. 75-2: 50 | 1.98 : | 1.25-2.00 | 1,44 | 1. 88 : |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smailer units or vice versa, in order to obtain comparability.
${ }^{1}$ Sales direct to retailers.

## CANTALOUPES.

Table 232-Cantaloupes: Carlot shipments by States of origin, calendar years, 1917-1923.

| State: | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Delaware | Cars. <br> 702 | Cars. 429 | Cars: $580$ | Ears: 581 | Cars. 943 | Cars. 843 | Cars. 818 |
| Maryland | 865 | 490 | 835 | 77.1 | 1,206 | 1,233 | 1,271 |
| North Carolina | 1,106 | 418 | 523 | 359 | 821 | 700 | 619 |
| South Carolina | 157. | 31 | 100 | 110 | 299 | 270 | 70 |
| Georgia.-. | 789 | 551 | 314 | 389 | 640 | 1,632 | 222 |
| Indiana | 684 | 443 | 462 | 635 | 644 | 894 | 653 |
| Miehigan | 42 | 37 | 204 | 299. | 17.6 | 465 | 302 |
| Arkansas: | 797 | 699 | 1,106 | 986 | 1,501 | 990 | 336 |
| Colorado. | 1,898 | 1, 888 | 3, 132 | 2, 454 | 3,215 | 4, 420 | 2;314 |
| New Mexieo. | 227 | 256 | 378 | 937 | 421 | 275 | 386 |
| Arizona | 1, 215 | $1{ }^{1} 169$ | 1, 832 | 1,164 | 1,474 | 1, 558 | 1,209 |
| Washington | 145 | 110 | 100 | 329 | 209 | 371 | 198 |
| California | 8,258 | 6,848 | 12, 010 | 13, 100 | 13, 177 | 15, 304 | 16, 390 |
| All other. | 57.5 | 320 | 453 | 403 | 843 | 962 | 1,022 |
| Total | 17, 430 | 13,619 | 22,039 | 22, 377 | 25, 569 | 29,917 | 25, 791 |

Division: of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

## CELERY.

Table 233.-Celery: Carlot shipments by States of origin, calendar years, 1917-1923.

| State. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| New York | 1,563 | 1,614 | 1,523 | 2,675 | 3, 110 | 3, 347 | 3, 496 |
| New Jersey | 108 | 155 | 177 | 105 | 216 | 119 | 213 |
| Pennsylvania | 143 | 199 | 33 | 176 | 225 | 212 | 224 |
| Florida-.-.- | 2, 222 | 2, 461 | 2, 051 | 3,010 | 4,172 | 4,955 | 6,409 |
| Michigan | 436 | 461 | 598 | 604 | 1,013 | 1,612 | 1,372 |
| Colorado. | 183 | 225 | 212 | 283 | 211 | 222 | 115 |
| California | 1,877 | 2, 262 | 1,796 | 2, 384 | 3, 405 | 3,474 | 4,473 |
| All other | 45 | 35 | 59 | 71 | 131 | 210 | 285 |
| Total | 6,577 | 7,412 | 6, 449 | 9,308 | 12, 483 | 14, 151 | 16,587 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

## CANNED CORN.

Table 234.-Corn, canned: Production in the United States, calendar years, 1905-1923.

| State. | 1905 |  |  | 906 |  | 907 |  | 1908 |  | 1909 | 1910 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maine | $\begin{gathered} \text { Cases. }^{1}{ }^{1}, 348,751 \end{gathered}$ |  | $\begin{gathered} \text { Cases. }{ }^{1} \\ 939,698 \end{gathered}$ |  | $\begin{gathered} \text { Cases. }{ }^{1} \\ 1,090,624 \end{gathered}$ |  | $\begin{aligned} & \text { Cases. }{ }^{1} \\ & 970,000 \\ & \left({ }^{2}\right) \end{aligned}$ |  | Cases. ${ }^{1}$$698,000$ |  | $\begin{aligned} & \text { Case8. }^{1} \\ & 1,487,000 \end{aligned}$ |
|  |  |  |  |  |  |  |  |  | $\begin{aligned} & \left(^{2}\right) \\ & 1,145,000 \end{aligned}$ |
| New York |  |  | $\begin{array}{r} 1,583,969 \\ 220,022 \end{array}$ |  | 1, 422, 012 |  | 659, ${ }^{-791}$ |  |  | $620,000$ |  | $\begin{gathered} \left({ }^{(2)}\right. \\ 634,000 \end{gathered}$ |  |
| Pennsylvania |  | 99, 920 |  |  |  | 68, 570 |  | $\left.{ }^{(2}\right)$ |  | ${ }^{(2)}$ | $\underset{\left({ }^{2}\right)}{1,145,000}$ |
| Delaware |  | $\begin{gathered} 220 ; \\ 05 \\ 0202 \end{gathered}$ |  | 10, 040 |  | 75, 000 |  | $\left.{ }^{2}\right)$ |  | (2) | ${ }^{2}$ ) |
| Maryland | 1,676, 240 |  | 1,058 | 58, 492 |  | 875, 506 |  | 010, 000 |  | 432, 000 | 970,000 |
| Ohio... | 1, 140, 631 |  |  | 48, 796 |  | 61, 560 |  | 933, 000 |  | 677, 000 | 936, 000 |
| Indiana | 1,025, 606 |  |  | 21, 433 |  | 31, 778 |  | 301, 000 |  | 405, 000 | 746,000 |
| llinois | 1, 963,617 |  | 1,243 | 43, 106 |  | 19, 525 |  | 856, 000 |  | 134, 000 | 2, 027, 000 |
| Michigan |  | 1, 145, 152 |  | 19, 300 |  | 68, 300 |  | ${ }^{(2)}$ |  | ${ }^{2}$ ) | ${ }^{(2)}$ |
| Wisconsin | 443, 055 |  |  | 11,711 |  | 69, 120 |  | 343, 000 |  | 422, 000 | 222,000 |
| Minnesot | 272, 000 |  |  | 1,933 |  | 23, 945 |  | 124, 000 |  | 78, 000 | 200, 000 |
| Iowa | 2, 557, 104 |  | 1,815 | 5, 900 |  | 48, 725 |  | 085, 000 |  | 902, 000 | 1,720, 000 |
| Missouri |  | 47, 100 |  | 29, 100 |  | 18, 600 |  | ${ }^{(2)}$ |  |  | ${ }^{2}$ ) |
| Nebraska | 441, 000 |  |  | 1, 300 |  | 64,000 | (2) |  |  | ${ }^{(2)}$ | ${ }^{(2)}$ |
| Kansas. | 53, 887 |  | 32, 819 |  | 23, 400 |  |  |  | ${ }^{(2)}$ |  | (2) |
| Ali othe |  | 5,231 |  | 12, 400 |  | 7,000 |  | 542,000 |  | 405,000 | 610,000 |
| United State | 13, 018, 665 |  | 9, 136, 960 |  | 6,654, 044 |  | 6, 784, 000 |  |  | , 787, 000 | 10,063, 000 |
| State. 191 |  |  | 1912 |  | 1913 |  | 1914 |  | 1915 |  | 1916 |
| Maine.- |  |  | 801, 000 |  | 650, 000 |  | 1,114,000 |  | 942,000 |  | 782,000 |
| New York |  |  | 1,009, 000 |  | 393, 000 |  | 771,000 |  | 1,016,000 |  | 280,000 |
| Maryland | ${ }^{3} 1,673,000$ |  | 1,517, 000 |  | 1, 023, 000 |  | 1,364, 000 |  | 1,609,000 |  |  |
| Ohio. | 1, 412, 000 |  | 1,376, 000 |  | -984, 000 |  | 1,203, 000 |  | 1, 144, 000 |  | $1,448,000$ 930,000 |
| Indiana |  | , 000 | 1, 23 | 35, 000 |  | 85, 000 |  | 694, 000 |  | 785, 000 | 797,000 |
| Illinois | 2, 771, 000 |  | 2, 438,000 |  | 1,330, 000 |  | 1, 515, 000 |  | 2, 081, 000 |  | 1, 540, 000 |
| Wisconsin | 351,000 |  | 519,000 |  | -377, 000 |  | 342,000 |  | 208, 000 |  | $\begin{array}{r} 1,9 \pm, 000 \\ 322,000 \end{array}$ |
| Minnesot | 301,000$2,744,000$ |  | $\begin{array}{r} 321,000 \\ 2,961,000 \end{array}$ |  | 188, 000 |  | 224, 000 |  | 121, 000 |  | $278,000$ |
| Iowa |  |  |  | 884, 000 |  | 573, 000 |  | , 223, 000 | 1,730, 000 |
| All othe |  | 1, 044, 000 |  |  | 932, 000 |  | 669,000 |  | 989,000 |  | 995, 000 |  | 1, 023, 000 |
| United States | 14, 337, 000 |  | 13, 109, 000 |  | 7, 283, 000 |  | 9, 789, 000 |  | 10, 124, 000 |  | 9,130,000 |
| State. | 1917 | 1918 |  | 1919 |  | 1920 |  | 1921 | 1922 |  | 1923 |
| Maine | 566, 498 | 1, 112, 912 |  | 1,652,000 |  | 1, 588, 000 |  | 911,000 |  | 1,066,000 | 923, 000 |
| New York | 257, 296 | 488, 912 |  | 1, 014,000 |  | 829, 000 |  | - 564,000 |  | 616,000 | $434,000$ |
| Maryland | $2,001,544$$1,200,131$ | 2,032 | 2, 944 | 2,081, | 000 | 2, 217, |  | 1, 130, 0 |  | 1,944, | $2,256,000$ |
| Ohio. |  | 1, 584, 064 |  | 1, 360, 000 |  | 1,544, 000 |  | -850,000 |  | 1, 073,000 | 1,390,000 |
| Indiana | $1,200,131$ 742,491 |  | 2, 688 | 586, |  | 861, |  | 709, 00 |  | 665, | 0 1, 208,000 |
| Illinois | 2, 421, 953 | 2, 199, 344 |  | 2, 225, 000 |  | 2, 271, 000 | 1, 711, 000 |  |  | 1, 939, 000 | 2, 833,000 |
| Wisconsin |  | - 372, 924 |  | 635, 000 |  | 290, 000 |  |  |  | 625,000598,000 | $\begin{aligned} & 648,000 \\ & 898,000 \end{aligned}$ |
| Minnesota | 165,492 201,969 |  | 9, 136 | 456, |  | 643, |  |  |  |  |  |
| Iowa | 2, 280, 366 | $\begin{array}{r} 2,300,241 \\ 808,695 \end{array}$ |  | 2, 496, 000 |  | 3, 246, 000 |  | $\begin{array}{r} 1,190,000 \\ 629,000 \end{array}$ |  | $\begin{array}{r} 1,959,000 \\ 934,000 \end{array}$ | $\begin{aligned} & 2,382,000 \\ & 1,134,000 \end{aligned}$ |
| All othe |  |  |  | 1,045, | , 000 | 1,251, |  |  |  |  |  |  |
| United States | 10,803, 015 | 11, 721, 860 |  | 13,550,000 |  | 15, 040, 000 |  | 8, 843, 000 | 11, 419,000 |  | 14, 106,000 |

Division of Statistical and Historical Research. Compiled from National Canners' Association data.
${ }^{1}$ Stated in cases of 24 No. 2 cans. ${ }^{2}$ Included in all other. ${ }^{3}$ Includes Virginia.

## LETTUCE

Table 235.-Lettuce: Carlot shipments by States of origin, calendar years, 19171923.

| State. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| New York | 1,423 | 1, 334 | 1,761 | 2, 138 | 3, 361 | 3,167 | 3, 811 |
| New Jersey | 215 | 171 | 245 | 515 | 478 | 571 | 454 |
| North Carolina | 181 | 226 | 319 | 265 | 448 | 622 | 718 |
| South Carolina | 161 | 375 | 395 | 356 | 583 | 987 | 577 |
| Florida...-- | 1,116 | 2, 352 | 2, 134 | 3,120 | 2, 286 | 3, 323 | 3, 054 |
| Texas | 53 | 17 | 90 | 176 | 114 | 113 | 102 |
| Arizona | 64 | 64 | 41 | 165 | 166 | 678 | 1,044 |
| Washington |  |  | 19 | 345 | 632 | 812 | 1,081 |
| California - | 2,013 | 2, 051 | 2, 731 | 6,350 | 9, 746 | 9, 744 | 15, 148 |
| All other | 202 | 369 | 283 | 391 | 802 | 2, 223 | 3,297 |
| Total | 5, 428 | 6,959 | 8,018 | 13, 821 | 18, 616 | 22, 240 | 29,286 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

## ONIONS.

Table 236.-Onions: Commercial acreage, yield per acre, and production, 19211923.

| State. | Acreage. |  |  | Yield per acre. |  |  | Production. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1821 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | 1923 | 1921 | 1922 | $1923{ }^{1}$ |
| Early (Bermuda): | Acres. | Acres. | Acres. | Bush. | Bush. | Bush. | Cars. ${ }^{2}$ | Cars. ${ }^{2}$ | Cars. ${ }^{2}$ |
| California.----- | 2,000 | 2,950 | 1,340 | 245 | 320 | 297 | 980 | 1,888 | 796 |
| Louisiana. | 1, 010 | 1,100 | 1,100 | 206 | 300 | 106 | 416 | 660 | 233 |
| Texas. | 10,500 | 11,920 | 12, 680 | 207 | 197 | 129 | 4,347 | 4,696 | 3,271 |
| Total | 13, 510 | 15,970 | 15, 120 | 213 | 227 | 142 | 5,743 | 7, 244 | 4,300 |
| Intermediate: |  |  |  |  |  |  |  |  |  |
| Kentucky | 1, 000 | 1,000 | 1,000 | 300 | 225 | 298 | 600 | 1, 450 | 596 |
| New Jersey | 2, 380 | 2, 360 | 2, 290 | 250 | 250 | 194 | 1, 190 | 1, 180 | 889 |
| Virginia | 1, 120 | 1,320 | 1,290 | 280 | 225 | 254 | 627 | 594 | $\begin{array}{r}655 \\ \hline \text {, }\end{array}$ |
| Washington | 1,280 | 1,530 | 1,500 | 300 | 320 | 450 | 768 | 979 | 1,350 |
| Total | 7, 020 | 7,820 | 7,620 | 263 | 283 | 303 | 3,693 | 4,427. | 4,614 |
|  |  |  |  |  |  |  |  |  |  |
| California | 7,900 | 6,720 | 7, 010 | 225 | 250 | 300 | 3, 555 | 3,360 | 4, 206 |
| Colorado | 1, 300 | 1,900 | 2, 360 | 300 | 280 | 250 | 780 | 1, 064 | 1, 180 |
| Idaho- | 140 | , 300 | 300 | 470 | 460 | 425 | 132 | 276 | 255 |
| Illinois | 1,040 | 1,250 | 1,080 | 210 | 300 | 289 | 437 | 750 | ${ }^{624}$ |
| Indiana | 4, 180 | 5, 620 | 5,900 | 265 | 413 | 276 | 2, 215 | 4, 642 | 3,257 |
| Massachusetts | 4,500 | 4,560 | 3, 360 | 280 | 275 | 345 | 2, 520 | 2, 508 | 2,318 |
| Michigan | 1,350 | 1,750 | 1,840 | 225 | 511 | 267 | 608 | 1,788 | 983 |
| Minnesota | 1, 430 | 1,470 | 1, 050 | 200 | 350 | 220 | 572 | 1, 029 | 462 |
| New York | 7,280 | 7, 740 | 7, 390 | 300 | 270 | 418 | 4, 368 | 4,180 | 6, 178 |
| Ohio | 5, 080 | 5, 680 | 5, 700 | 225 | 400 | 253 | 2, 286 | 4,544 | 2, 884 |
| Oregon | 870 | 880 | 600 | 300 | 300 | 295 | - 522 | 528 | 354 |
| Pennsylvania | 340 | 350 | 280 | 270 | 380 | 200 | 184 | 266 | 112 |
| Utah | 120 | 250 | 400 | 440 | 400 | 375 | 106 | 200 | 300 |
| W isconsin | 1, 010 | 1, 030 | 1,090 | 300 | 350 | 279 | 606 | 721 | 608 |
| Total. | 36, 540 | 39,500 | 38, 360 | 258 | 327 | 309 | 18,891 | 25, 856 | 23,721 |
| Grand total | 57, 070 | 63, 290 | 61,100 | 248 | 296 | 267 | 28, 327 | 37, 527 | 32, 635 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
£500 bushels to car.

Table 237.-Onions: Carlot shipments, by States of origin, 1917-1922.

| State. | Crop movement season, March 1 through June of succeeding year. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 |
|  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| Massachusetts | 2, 766 | 2, 883 | 2, 835 | 3, 834 | 2, 224 | 1,912 |
| New York.- | 2, 104 | 2, 784 | 2, 702 | 3, 089 | 2,891 | 2,812 |
| New Jersey | 567 | 597 | 634 | 635 | 427 | 479 |
| Virginia-- | 158 | 95 | 133 | 181 | 140 | 371 |
| Ohio -.- | 1,475 | 2,008 | 1,913 | 3,212 | 1,743 | - 4,492 |
| Indiana | 1,204 | 1,817 | 1,005 | 3,448 | 1,834 | 4,683 |
| Hlinois... | 230 | 334 | 123 | 360 | 253 | 487 |
| Michigan | 253 | 590 | 224 | 795 | 417 | 1, 887 |
| W isconsin | $240^{\circ}$ | 309 | 95 | 406 | 89 | 330 |
| Minnesota | 626 | 822 | 439 | 276 | 172 | 500 |
| Iowa. | 708 | 968 | 488 | 870 | 411 | 918 |
| Kentucky | 177 | 195 | 339 | 303 | 361 | 257 |
| Louisana. | 174 | 450 | 101 | 106 | 79 | 91 |
| Texas ${ }^{1}$ | 5,898 | 3, 575 | 2,876 | 5, 086 | 4,208 | 4,629 |
| Colorado | 239 | 230 | 207 | 134 | 443 | 651 |
| Washington. | 315 | 477 | 596 | 790 | 649 | 765 |
| Oregon....- | 196 | 238 | 202 | 19 | 347 | 263 |
| California, northern district --- | 2,835 | 3, 627 | 4,887 | 3,169 | 2, 657 | 2,376 |
| California, southern district ${ }^{1}$-- | 663 | 400 | 522 | 1,233 | 928 | 1,266 |
| All other | 215 | 150 | 228 | 277 | 434 | 610 |
| Total | 21, 041 | 22,549 | 20,549 | 28, 223 | 20, 707 | 29,759 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in cariots include those by boat reduced to carlot basis.

1 Shipments from Texas and from the southern district of California were principally Bermudas. For Texas various common varieties comprised approximately 80 cars in 1917-18, 69 in 1918-19, 40 in 1919-20, 101 in 1920-21, 172 in 1921-22 and 215 in 1922-23; for the southern district of California they comprised $2 \theta$ in 1918-19, 178 in 1919-20, 56 in 1920-21, 30 in 1921-22, and 13 in 1922-23.

Table 238.-Onions: Farm price per bushel, 15th of month, United States, 19101923.

| Year beginning July 1. | July. | Ang. | Sept. | Oct. | Nov. | Dee. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1910-11 | 104.5 | 99.8 | 99.4 | 93.2 | 94.6 | 98.8 | 101. 0 | 104: 0 | 105.0 | 119.0 | 129.0 | 134. 0 | 100.8 |
| 1911-12 | 122. 0 | 116.0 | 104. 0 | 102.0. | 103.0 | 113.0 | 117.0 | 140.0 | 167.0 | 175.0 | 177.0 | 155. 0 | 123.6 |
| 1912-13 | 114. 0 | 100: 0 | 89.0 | 85.0 | 84. 0 | 84.0 | 81.6 | 77.5 | 77.0 | 79.0 | 87.2 | 95.6 | 88.2 |
| 1913-14 | 101. 7 | 105. 1 | 103.9 | 110. 2 | 114.9 | 114.9 | 121. 0 | 140.7 | 155. 2 | 159.2 | 152.6 | 140.8 | 124.0 |
| Av. 1910-1913 | 110.6 | 105.2 | 99.1 | 97.6 | 99.1 | 102. 7 | 105: 2 | 115.6 | 126.0 | 133. 0 | 136. 4 | 131. 4 | 109.2 |
| 1914-15 | 170.4 | 137.9 | 103.3 | 88.3 | 84.4 | 92.3 | 88. 9 | 97.6 | 95.3 | 104. 4 | 102.9 | 102.9 | 106. 1 |
| 1915-16 | 93.0 | 86.3 | 82. 8 | 94.8 | 94.8 | 99.6 | 113. 2 | 126. 3 | 130.3 | 123. 5 | 123.3 | 133.8 | 104.5 |
| 1916-17 | 147.3 | 133.5 | 122. 9 | 131. 4 | 153.8 | 175. 7 | 208. 4. | 357.9 | 476. 2 | 495.6 | 398. 0 | 308. 0 | 241.7 |
| 1917-18 | 201. 0 | 154. 7 | 142. 9 | 157.5 | 174.6 | 177.0 | 178.9 | 183. 2 | 147.0 | 134.1 | 134. 7 | 138.7 | 156.7 |
| 1918-19 | 162.6 | 1.4.7 | 163: 3 | 143. 2 | 143.1 | 131. 7 | 133. 5 | 154.7 | 199.8 | 202.1 | 229.9 | 234.1 | 171. 3 |
| 1919-20 | 232. 0 | 225.8 | 195.4 | 196. 4 | 212. 5 | 245. 8 | 280. 8 | 307. 3 | 325.6 | 344.2 | 337.6 | 264. 2 | 257.0 |
| 1920-21 | 204.8 | 176. 4 | 172.9 | 158.9 | 143.8 | 132.0 | 135. 2 | 131. 2 | 114.2 | 98.4 | 106. 7 | 138.2 | 145.6 |
| Av. 1914-1920 | 173.0 | 154.2 | 140. 5 | 138.6 | 143.9 | 150.6 | 162. 7 | 194. 0 | 212.6 | 214. 6 | 204. 7 | 188.6 | 169.0 |
| 1921-22 | 147. 7 | 159. 1 | 168. 5 | 186. 6 | 219.9 | 245.2 | 263. 8 | 325.3 | 365. 7 | 469.6 | 331. 4 | 270.9 | 252.5 |
| 1922-23 | 204. 5 | 156. 9 | 126. 9 | 118. 8 | 123.6 | 131.7 | 159.8 | 173: 0 | 173.8 | 196. 5 | 200.7 | 220.5 | 160.7 |
| 1923-24 | 207.7 | 185. 2 | 179.3 | 185.6 | 174.6 | 178. 4 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 239.- Onions: Average jobbing prices per 100 pounds, at 10 markets, 19201923.

| Market, and year beginning Aug. 1. | Various common varieties. |  |  |  |  |  |  |  | Bermudas. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aug. ${ }^{1}$ | Sept. | Oet. | Nov. | Dec. | Jant | Feb. | Mar. | Apr. |  | May. |  | June. ${ }^{2}$ |  |
|  |  |  |  |  |  |  |  |  | Yellow. | Crystal White Wax. | Yellow. | $\begin{gathered} \text { Crys- } \\ \text { tal } \\ \text { White } \\ \text { Wax. } \end{gathered}$ | Yellow. | Crystal White Wax. |
| New York: ${ }^{\text {- }}$ |  |  |  |  |  |  |  |  | \$4,34 |  | \$3.15 |  |  | \$3. 01 |
| 1920-21 |  | \$2. 24 | \$1. 56 | \$1. 55 | \$1. 23 | \$1. 31 | \$0.98. | 80.81 | \$4:34 | \$3. 46 | \$3.15 | \$3.79 | \$2. 93 | \$3.01 3.54 |
| 1921-22 | \$2.80 | 3. 43 | 5.06 | 5. 63 | 5. 45 | 7.34 | 8. 25 | 8. 21 | 7.66 | 6. 20 . | 4. 14. | 3.79 | 3.91 | 3. 54 |
| 1922-23 | 2.08 | 1. 52 | 1. 72 | 2. 00 | 2.99 | 2.83 | 2.45 | 2.98 |  |  | 5.31 | 5. 19 |  |  |
| 1923-24. | 2.68 | 3.21 | 3.26 | 2.75 | 2.76 |  |  |  |  |  |  |  |  |  |
| Chicago: 1920-21. |  | 1. 94 | 1. 59 | 1. 56 | 1. 31 | 1. 16 | . 98 | 93 | 3. 48 | 4. 37 | 2. 79 | 3. 73 | 2. 53 | 3. 27 |
| 1921-22 | 2. 58 | 3. 61 | 4. 47 | 5. 11 | 5. 62 | 7. 09 | 7. 64 | 8. 53 | 6.21 | 6.47 | 4. 05. | 4. 20 | 3. 43 | 3.80 |
| 1922-23 | 2. 12 | 1. 61 | 1. 70 | 2. 22 | 2. 29 | 2. 56 | 3. 44 | 3.38 | 5. 96 |  | 5. 15 | 5. 79 |  |  |
| 1923-24. | 3. 19 | 3. 48 | 3. 29 | 3.22 | 3.07 |  |  |  |  |  |  |  |  |  |
| Philadelphia: $1920-21$ |  | 2. 03 | 1. 49 | 1. 51 | 1. 23 | 1. 27 | . 98 | . 87 | 4. 04 | 3.88 | 3. 26 | 3. 70 | 2.75 | 2.61 |
| 1921-22 | 3. 02 | 3. 80 | 4. 80 | 5. 34 | 5. 52 | 6. 93 | 8. 09 | 8. 98 | 7. 03 | 6. 00 | 4. 13 | 4.04 | 4.07 |  |
| 1922-23 | 2. 19 | 1. 63 | 1. 57 | 1.82 | 2. 73 | 2.90 | 2. 54 | 3. 20 | 6. 03 |  |  |  |  |  |
| 1923-24 | 3.07 | 3.45 | 3.09 | 2.73 | 2.61 |  |  |  |  |  |  |  |  |  |
| Pittsburgh: 1920-21. |  | 2.30- | 1. 74 | 1. 65 | 1. 05 | 1. 26 | . 89. | . 90 | 4.03 | 4. 58 | 3. 22 | 3.91 | 2. 95 | 3. 35 |
| 1921-22 | $3: 05$ | 3. 82 | 4.86 | 5. 44 | 5. 57 | 6. 73 | 7.88 | 8.89 | 6.81 | 7.17 | 4. 52 | 5. 29 | 3. 54 | 3. 88 |
| 1922-23 | 2. 36 | 1. 56 | 1. 52 | 1. 63 | 2. 74 | 2. 95 | 2.70 | - 3.33 | 6. 95 |  | 5. 49 | 5.98 |  |  |
| 1923-24 | 2. 98 | 3.50 | 3. 34 | 2. 73 | 2. 46 |  |  |  |  |  |  |  |  |  |
| St. Louis: |  |  | 1. 55 |  | 1. 06 | 1. 17 | 91 | 76 | 3. 30 | 4. 40 | 2.83 | 3. 47 |  | 3.20 |
| 1921-22- | 2. 95 | 3.70 | 4.88 | 5. 45 | 5. 68 | 6. 97 | 7. 90 | 8. 52 | 5. 95 | 5.67 | 3. 17 | 4.19 | 3.37 |  |
| 1922-23 | 2. |  | 1.89 | 2. 20 | 2.30 | 2. 92 | 2. 52 | 3. 14 |  |  | 5. 05 | 5. 20 |  |  |
| 1923-24 | 2.55 | 3.45 | 3.45 | 3. 23 | , 3. 05 |  |  |  |  |  |  |  |  |  |
| Cincinati: |  |  |  |  |  |  |  |  |  | 49 | 3. 17 | 3. 95 | 2. 72 |  |
| 1920-21. |  | 1. 76 | 1.48 | 1. 45 | 1.30 | 1. 25 | 1.13 | 8.88 | 3.43 5.93 | 6. 44 |  | 3.95 | 3. 40 | 3. 76 |
| 1921-22: | 2.92 | 3.74 | 5. 19 | 5.59 <br> 1.96 | 5. 45 2.87 | 6.90 3.08 | 8. 29 | -8.68 | 5. 93 | 6.44 | 4. 67 5.38 | 5.71 | 3.40 | 3.76 |
| 1922-23 |  | 43 | 1.78 | 1. 96 | 2.87 | 3.08 | 2.93 | 3. 94 |  |  | 5. 38 | 5.71 |  |  |
| St. Panal: | 2.9 | 3.43 1.99 |  |  |  |  |  |  | 3. 55 |  |  |  |  |  |
| 1920-21---- |  | 1. 3.49 |  |  |  | 6.42 | 7. 75 | 8.61 | 3. 55 |  | 3. 23 4.39 | 4. 52 | 3. 12 | 3.82 3.35 |
| 1921-22-23 | 2.85 | 3. 49 | 4.92 | 4.83 | 4.44 | 6.4 | 7.75 |  |  |  | 5. 65 | 6.15 | 3. | 3.35 |
| 1923-24 |  | 3.35 | 3. 66 | 3.11 | 2.71 |  |  |  |  |  |  |  |  |  |
| Minneapolis: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 |  | 2. 12 |  |  |  |  |  |  | 4.02 | 4.66 | 3. 38 | 4. 41 | 2.49 3.17 | 4.05 3.55 |
| 1921-22 | 2. 70 | 3.34 | 4.76 | 4.81 | 4. 60 | 6.62 | 8.11 | 8.83 |  |  | 4. 62 5.90 | 4. 86 | 3. 17 | 3. 55 |
| 1922-23- | 2.73 | 3. 44 | 3.72 | 3. 14 | 3. 22 |  |  |  |  |  | 5. 90 | 6.21 |  |  |
| Kansas City: | 2.7 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 ... |  | 1.98 | 1. 68 | 1.67 | 1. 52 | 1.35 | 1. 13 | . 66 | 3. 60 | 4. 27 | 2. 78 | 3. 46 | 2. 39 | 3. 41 |
| 1921-22 | 2.97 | 3.60 | 4.38 | 5. 40 | 5.42 | 6. 94 | 8. 06 | 8.50 | 6. 56 | 6. 92 | 3.91 | 4. 46 | 2.76 | 3.29 |
| 1922-23 |  |  | 2.12 | 2. 02 | 2. 56 | 3. 25 | 3.45 | 3.22 |  |  |  |  |  |  |
| 1923-24...-- | 262 | 348 | 3.65 | 3. 30 | 2.96 |  |  |  |  |  |  |  |  |  |
| W ashington: |  |  |  |  |  |  |  |  |  |  | 4.21 |  |  |  |
| 1920-21 ${ }^{3}$ |  | 2.61 | 1.95 | 1.92 | 1. 86 | 1.88 | 1. 53 | 1. 35 | 5. 87 |  | 4.21 |  | 4.36 |  |
| 1921-22 ${ }^{3}$ | 3. 64 | 4. 27 | 4. 93 | 5.93 | 5.78 | ${ }^{7} .10$ | 8. 61 | 19.55 | 8.00 | 7.36 |  | 5.17 | 4. 36 | 4. 36 |
| 1922-23 ${ }^{3}$ | 2. 64 | 2. 07 | 1.75 | 2.72 | 2.77 | 3.38 | 3.30 | 3.58 |  |  | 6.07 |  |  |  |
| 1923-24----- | 3.44 | 3.90 | 3.62 | 3.32 | 3.11 |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.
Average prices as shown are based on stock of good merchantable quality and condition only; they are simple average of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.
${ }^{1}$ Quotations began Aug. 22, 1921, and August 14, 1923.
${ }^{2}$ Last quotation June 14, 1922.
${ }^{3}$ Sales direct to retailers.

## CANNED PEAS.

Table 240.-Peas, canned: Production in the United States, calendar years, 19061923.

| State. | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cases. 1 | Cases ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. 1 | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. 1 | Cases. ${ }^{1}$ | Cases. 1 |
| New York | 1, 314, 832 | 1, 509, 997 | 1, 325, 000 | 1, 378, 000 | 1,356, 000 | 1, 145, 000 | 1,514, 000 | 2, 252,000 | 1,934, 000 |
| New Jersey | -125, 931 | 149, 900 | 101,000 | 125, 000 | (2) | ${ }^{(2)}$ | ( ${ }^{2}$ ) | ${ }^{(2)}$ | ${ }^{3} 295,000$ |
| Delaware | 46, 900 | 141, 036 | 110,000 | 107, 000 | ${ }^{4} 299,000$ | ${ }^{4} 192,000$ | 4270,000 | 4173,000 |  |
| Maryland | 333, 590 | 468, 073 | 343, 000 | 226, 000 | 200,000 | 305, 000 | 380, 000 | 318, 000 | 502, 000 |
| Ohio | 87, 000 | 45, 721 | 199, 000 | 113, 000 | 170,000 | 128, 000 | 276, 000 | 343, 000 | 748, 000 |
| Indiana | 364, 085 | 766, 972 | 492,000 | 447, 000 | 261,000 | 259, 000 | 323, 000 | 419, 000 | 470.000 |
| Illinois. |  |  |  |  |  |  |  |  | ${ }^{(5)} 5000$ |
| Michigan | 342,901 $1,409,497$ | 578,000 | 492,000 | -373, 000 | 1, 422,000 | 1, 323, 000 | 760,000 | 3, 830,000 | 3, 459, 5500 |
| Wisconsin Utah | 1, 409, 497 | 1, 507, 710 | 2, 200, 000 | 1,878, 000 | 1, 086, 000 | 1, 520, 000 | 2, 658, 000 | 3, 348, 000 | $\begin{array}{r} 3,555,000 \\ 350,000 \end{array}$ |
| California |  |  |  |  |  |  |  |  | ${ }^{(5)}$ |
| All other | 550, 272 | 367, 655 | 315, 000 | 381, 000 | 553, 000 | 660, 000 | 1,126, 000 | 1,087, 000 | 1,034, 000 |
| United States. | 4, 575, 008 | 5, 535, 064 | 5, 577, 000 | 5, 028, 000 | 4, 347, 000 | 4, 532, 000 | 7, 307, 000 | 8,770, 000 | 9,347, 000 |
| State. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | Cases. 1 | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. 1 | Cases ${ }^{1}$ | Cases. 1 | Cases. ${ }^{1}$ | Cases. 1 |
| New York | 2, 218, 000 | 1,084, 000 | 1, 394, 171 | 1, 870, 161 | 1,040, 000 | 2, 381, 000 | 1, 382, 000 | 2, 137,000 | 2, 541, 000 |
| New Jersey ${ }^{\text {a }}$ | 371, 000 | 312, 000 | 567, 432 | 331, 869 | 248, 000 | 549, 000 | 345, 000 | 153, 000 | 199, 000 |
| Maryland | 574, 000 | 468, 000 | 721, 160 | 683, 007 | 509, 000 | 696, 000 | 533, 000 | 489, 000 | 591, 000 |
| Ohio. | 289, 000 | 131, 000 | 321, 624 | 441, 842 | 306, 000 | 282, 000 | 241, 000 | 225, 000 | 384, 000 |
| Indiana | 544, 000 | 412, 000 | 522, 532 | 454, 229 | 381, 000 | 271, 000 | 182, 000 | 268, 000 | 367, 000 |
| Ilkinois | 381, 000 | 248, 000 | 421, 213 | 978, 434 | 433, 000 | 460, 000 | 331, 000 | 516, 000 | 586, 000 |
| Michigan | 514, 000 | 280, 000 | 604, 470 | 476, 650 | 425, 000 | 549, 000 | 317, 000 | 455, 000 | 392, 000 |
| Wisconsin | 3, 469, 000 | 2, 763, 000 | 3, 569, 185 | 4, 519, 934 | 4, 317, 000 | 5, 804, 000 | 4, 063, 000 | 7, 042, 000 | 6, 961, 000 |
| Utah.. | 303, 000 | 275, 000 | 754, 673 | 491, 963 | 395, 000 | 595, 000 | 376, 000 | 751, 000 | 918, 000 |
| Californi | 210, 000 | 228, 000 | 349, 910 | 252, 836 | 205, 000 | ( ${ }^{5}$ ) | 84, 000 | 496, 000 | 239, 000 |
| All other | 399, 000 | 385, 000 | 593, 783 | 397, 288 | 426, 000 | 730, 000 | 353, 000 | 510, 000 | 770, 000 |
| United States. | 9,272, 000 | 6, 586, 000 | 9, 820, 153 | 10,898,213 | 8, 685, 000 | 12,317,000 8 | 8, 207, 000 | $13,042,000$ | $13,948,000$ |

Division of Statistical and Historical Research. Compiled from National Canners' Association data.
$\begin{array}{ll}{ }_{2}^{1} \text { Stated in cases of } 24 \text { No. } 2 \text { cans. } & { }^{3} \text { Includes Delaware. }\end{array}{ }^{5}$ Included in all $0^{+}$her.

## POTATOES.

Table 241.-Potatoes: Acreage, production, value, exports, etc., United States, 1869-1923.

| Calendar year. | Acreage. | Average yield per acre. | Production. | Aver- <br> age <br> farm <br> price <br> per <br> bushel <br> Dec. <br> 1. | Farm value Dec. 1. | Value per acre. ${ }^{1}$ | Chicago cash price per hundredweight, fair to fancy. ${ }^{2}$ |  |  |  | Domestic exports, fiscal year beginning July 1. | Imports, fiscal year beginning July 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | December. |  | FollowingMay. |  |  |  |
|  |  |  |  |  |  |  | Low. | High. | Low. | High |  |  |
|  | 1,000 | Bush | 1,0 |  |  |  |  |  |  | Ct |  |  |
|  | acres. | els. | bushels. | Cents. | dollars. | Dollars. | Cts. | Cts. | Cts. | Ct | $596,968$ | $\begin{aligned} & \text { eshels. } \\ & 75,336 \end{aligned}$ |
| 1869 | 1,222 | 109.5 | 133, 886 | 42.9. | 57, 481 74,621 | 47.04 56.32 |  |  |  |  |  | 458, 758 |
| 1870 | 1, 325 | 86.6 6 | 114,775 120,462 | 65.0 53.9 | 74,621 64,905 | 56.32 53.16 |  |  |  |  | 553, <br> 621,537 | 458,758 96,259 |
| 1871 | 1,221 1,331 | 98.7 85.3 | 120,462 113,516 | 53.9 53.5 | 64,905 60,692 | 53. 16 45.60 |  |  |  |  | 515, 306 | 346, 840 |
| 1873 | 1, 295 | 81.9 | 106, 089 | 65.2 | 60, 154 | 53. 40 |  |  |  |  | 497, 413 | 549, 073 |
| 187 | 1,310 | 80.9 | 105, 981 | 61.5 | 65, 223 | 49.79 |  |  |  |  | 609, 642 | 188,757 |
| 1875 | 1, 510 | 110. 5 | 166, 877 | 34.4 | 57,358 | 37. 99 |  |  |  |  | 704, 379 | 92, 148 |
| 1876 | 1,742 | 71. 7 | 124, 827 | 61.9 | 77, 320 | 44. 39 |  |  |  |  | 529, 650 | 3, 205, 555 |
| 1877 | 1,792 | 94.9 | 170, 092 | 43. 7 | 74, 272 | 41.45 |  |  |  |  | 744, 409 | 528, 584 |
| 1878 | 1,777 | 69.9 | 124, 127 | 58.7 | 72, 924 | 41.04 |  |  |  |  |  |  |
| 1879 | 1,837 | 98.9 | 181, 626 | 43.6 | 79, 154 | 43.09 |  |  |  |  | 696, 080 | 721, 868 |
| 1880 | 1,843 | 91.0 | 167, 660 | 48.3 | 81, 062 | 43.98 |  |  |  |  | 638, 840 | 2, 170, 372 |
| 1881 | 2,042 | 53.5 | 109, 145 | 91.0 | 99, 291 | 48.62 |  |  |  |  | 408, 286 | 8, 789, 860 |
| 1882 | 2, 172 | 78.7 | 170, 973 | 55.7 | 95, 305 | 43. 88 |  |  |  |  | 439, 443 | 2, 362, 362 |
| 1883 | 2, 289 | 90.9 | 208, 164 | 42. 2 | 87, 849 | 38.38 |  |  |  |  |  |  |
| 1884 | 2, 221 | 85.8 | 190,642 | 39.6 | 75, 524 | 34.00 |  |  |  |  | 380, 868 | 658, 633 |
| 188 | 2,266 | 77.2 | 175, 029 | 44.7 | 78, 153 | 34.49 |  |  | 55 | 83 | 494, 948 | 1, 937, 416 |
| 1886 | 2, 287 | 73.5 | 168, 051 | 46. 7 | 78, 442 | 34. 30 | 73 | 78 | 108 | 150 | 434, 864 | $1,432,490$ $8,259,538$ |
| 1887 | 2, 357 | 56.9 | 134, 103 | 68.2 | 91, 507 | 38. 82 | 117 | 138 | 108 40 | 75 | 5 | -253, 380 |
| 1888 | 2, 533 | 79.9 | 202, 365 | 40. 2 | 81, 414 | 32.14 | 50 | 2 | 40 | 75 | - | 883, 380 |
| 1889 | 2,601 | 77.4 | 201, 200 | 35.4 | 71,294 | 27.41 | 55 | 75 | 50 | 100 | 406, 618 | 3, 415, 578 |
| 1890 | 2, 653 | 56.7 | 150, 494 | 75.3 | 113,291 | 42. 70 | 137 | 155 | 158 | 183 | 341, 189 | 5, 401, 912 |
| 1891 | 2, 732 | 93.7 | 256, 122 | 35.6 | 91, 229 | 33. 39 | 50 | 67 | 50 | 83 | 557, 022 | 186,871 $4,317,021$ |
| 1892. | 2, 650 | 62.1 | 164, 516 | 65. 5 | 107, 835 | 40.69 | 100 | 120 | 117 | 163 | 845,720 803,111 | $4,317,021$ $3,002,578$ |
| 1893 | 2, 722 | 71.7 | 195, 040 | 58.4 | 113,886 | 41.84 | 85 | 100 | 107 | 147 | 803, 111 | 3, 002, 578 |
| 18 | 2,891 | 63.6 | 183, 841 | 52.9 | 97, 330 | 33.67 | 72 | 97 | 67 | 117 | 572, 957 | 1, 341, 533 |
| 1895 | 3, 101 | 102.3 | 317, 114 | 26.2 | 83, 151 | 26. 81 | 30 | 40 | 17 | 38 | 680, 049 | 175, 240 |
| 1896 | 2,975 | 91.4 | 271, 769 | 29.0 | 78, 783 | 26. 48 | 30 | 43 | 32 | 43 | 926, 646 | 246, 178 |
| 1897 | 2, 813 | 67.9 | 191, 025 | 54.2 | 103, 442 | 36. 77 | 83 50 | 103 | 100 55 | 87 | 605,187 579,833 | 171,378 530,420 |
| 1898. | 2,841 | 77.0 | 218, 772 | 41.5 | 90,897 | 31.99 | 50 | 60 | 55 | 87 | 579,833 | 530, 42 |
| 1899 | 2,939 | 88.6 | 260, 257 | 39.7 | 103, 365 | 35. 17 | 58 | 77 | 45 | 65 | 809, 472 | 155, 861 |
| 1900 | 2,987 | 82. 9 | 247, 759 | 42. 3 | 104, 764 | 35.07 | 67 | 80 | 58 | 100 | 741, 483 |  |
| 1901 | 2, 996 | 66.3 | 198, 626 | 76.3 | 151, 602 | 50. 60 | 125 | $\begin{array}{r}137 \\ 80 \\ \hline\end{array}$ | 97 70 | 167 | 528, 484 | $7,656,162$ 358,505 |
| 1902 | 3, 078 | 95.5 | 293, 918 | 46.9 | 137, 730 | 44.75 51.82 | 70 100 | 80 110 | 158 | 193 | 843, 042 | 3,161, 581 |
| 1903. | 3,080 | 85.1 | 262, 053 | 60.9 | 159,620 | 51.82 | 100 | 110 | 158 | 193 | 484, 042 | 3,161,581 |
| 1904 | 3,172 | 111.1 | 352, 268 | 44.8 | 157, 646 | 49.70 53.31 | 53 92 | 63 110 | 33 80 | 42 122 | $1,163,270$ $1,000,326$ | 186,199 $1,948,160$ |
| 1905 | 3,195 | 87.3 | 278, 885 | 61.1 | 170, 340 | 53.31 | 92 67 | 110 | 80 92 | 122 | $1,000,326$ $1,530,461$ | 1, 948, 160 |
| 1906 | 3,244 | 102. 2 | 331, 685 | 50.6 | 167, 795 | 51.72 58.63 | 67 77 | 97 | 83 | 133 | 1, 203, 894 | 403,952 |
| 1907 | 3, 375 | 95.7 | 322, 954 | 61.3 | 197, 863 | 58.63 60.13 | 77 100 | 97 128 | 117 | 250 | 1, 763, 651 | 8, 383, 966 |
| 1908. | 3, 503 | 86.2 | 302, 000 | 69.7 | 210,618 | 60.13 | 100 | 128 | 117 | 250 | 763, 651 | 8,383, 36 |
| 1909 | 9,669 | 107.5 | 394, 553 | 54.2 | 213, 679 | 58. 24 | 33 | 97 | 27 | 57 | 999, 476 | 353, 208 |
| 1910 | 3,720 | 93. 8 | 349, 032 | 55.7 | 194, 566 | 52.30 | 50 | 80 | 58 | 125 | 2, 383, 887 | 218, 984 |
| 1911 | 3, 619 | 80.9 | 292, 737 | 79.9 | 233, 778 | 64.60 | 117 | 167 | 150 | 333 | 1, 23 |  |
| 1912 | 3, 711 | 113.4 | 420, 647 | 50. 5 | 212, 550 | 57. 28 | 67 | 108 | 55 | 117 | 2, 028, 261 | 337, 230 |
| 1913 | 3,668 | 90.4 | 331, 525 | 68.7 | 227, 903 | 62.13 | 83 | 117 | 100 | 150 | 1,794, 073 | 645,993 |
| Average 1909-1913 | 3, 677 | 97.3 | 357, 699 | 60.5 | 216, 495 | 58.88 | 70 | 114 | 78 | 156 | 1,688, 595 | 3, 658, 022 |
| 14 |  | 110.5 |  | 48.7 | 199, 460 | 53.75 | 50 | 110 | 57 | 250 | 3, 135, 474 | 270, 942 |
| 1914 | 3, 734 | 110.5 96.3 | 359, 721 | 61.7 | 221, 992 | 59.45 | 88 | 158 | 133 | 183 | 4, 017, 760 | 209,532 |
| 1916 | 3,565 | 80.5 | 286, 953 | 146. 1 | 419, 333 | 117.62 | 208 | 317 | 333 | 625 | 2, 489, 001 | 3, 079,025 |
| 1917 | 4,384 | 100.8 | 442, 108 | 122.8 | 542, 774 | 123.81 | 155 | 225 | 80 | 250 | 3, 453, 307 | 1,180,480 |
| 1918 | 4,295 | 95.9 | 411, 860 | 119.3 | 491, 527 | 114.44 | 90 | 225 | 125 | 250 | 3, 688, 840 | 3, 534, 076 |
| 1919 | 3,542 | 91. 2 | 322, 867 | 159.5 | 514,855 | 145. 36 | 280 | 360 | 685 | 925 500 | 3, 723, 434 | $6,940,930$ $3,423,189$ |
| 1920 | 3,657 | 110.3 | 403, 296 | 114.5 | 461, 778 | 126.27 | 120 | 225 | 40 | 500 | 4, 803, 159 | 3, 423, 189 |
| Average |  |  |  | 108.2 | 407, 388 | 106. 06 | 142 | 231 | 208 | 426 | 3, 615, 854 | 2, 662, 596 |
| 1914-1920. | 3,841 | 98.1 | 376,675 | 108.2 | 407,388 | 106.06 |  |  |  |  |  |  |
| 1921 | 3, 941 | 91.8 | 361, 659 | 110.1 | 398, 362 | 101. 08 | 100 | 245 | 190 | 235 | 2, 327, 147 | 2, 109, 537 |
| 1922 | 4,307 | 105.3 | 453, 396 | 58.1 | 263, 355 | 61. 15 | 75 | 175 | 90 | 70 | 2,980, | 572 |
| $1923{ }^{3}$ | 3,816 | 108.1 | 412, 392 | 82.3 | 339, 322 | 88.92 |  |  |  |  |  |  |

Division of Crop and Livestock Estimates; figures in italics are census returns.
${ }^{1}$ Based on farm price Dec. $1 . \quad{ }^{2}$ Burbank to $1910 . \quad{ }^{3}$ Preliminary.

Table 242.-Potatoes: Acreage, prodiuction, and total farm value, by States, calendar years, 1921-1923.

| State. | Thousands of acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec 1 price, thousands of dotlars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
| Maine | 129 | 135 | 124 | 38,442 | 25, 245 | 31, 902 | 32, 676 | 11,360 | 22; 394 |
| New Hampshire | 14 | 14 | 13 | 2,240. | 1.400 | 2.405 | 3,024 | 1,470 | 2, 766 |
| Verment. | 25 | 25 | 24 | 3,750\% | 3,000 | 4,320. | 3,900 | 2,790 | 4,320. |
| Massachusetts | 29 | 29 | 26 | 3,335: | 2, 610 | 4, 550 | 5,069 | 2,480 | 6, 142 |
| Rhede Island. | 3 | 3 | 2 | 345 | 270 | 330 | 552 | 243 | 429 |
| Conneeticut | 23 | 24 | 23 | 2,369. | 3,360 | 3, 565 | 3,554 | 3, 360 | 5, 241 |
| New York | 330 | 340 | 323 | 33, 990 | 37, 400 | 39, 729 | 36,709 | 22, 440 | 37, 743 |
| New Jersey | 95 | 95 | 80 | 9;025 | 16, 435 | 7, 600, | 12, 816 | 11, 833 | 9,500 |
| Pennsylvani | 251 | 254 | 249 | 21, 580. | 27, 432 | 26, 145 | 28,709 | 20, 574 | 27, 452. |
| Delaware:- | 10 | 10 | 10 | 500: | 960 | 800: | 550 | 672 | 816 |
| Maryland. | 49 | 51 | 49 | 3,185 | 5, 151 | 3,920 | 3,504 | 3,091 | 3,920 |
| Virginia | 149 | 155 | 152 | 16,092 | 16,585 | 14,136 | 17, 701 | 10,780 | 14,136 |
| West Virginia | 48 | 49. | 49 | 4,080 | 4, 851 | 5,880. | 6, 650 | 4, 220 | 6, 174 |
| North Carolina | 46 | 50 | 46 | 4, 048. | 4,700 | 3,956 | 5,789 | 4,747 | 4,747 |
| South Carolina | 30 | 33 | 32 | 2,550 | 2, 508 | 3, 136 | 3, 825 | 3,210 | 5, 018 |
| Georgia | 23 | 25 | 22 | 1,725. | 1,700 | 1,540. | $\stackrel{2}{2,846}$ | 2, 380 | 2, 464 |
| Florida. | 17 | 26 | 19 | 1,564 | 2,860 | 1,748 | 2, 972 | 5,005 | 3, 321 |
| Ohio | 120 | 126 | 126 | 64,960 | 11, 214 | 12,348. | 10,788 | 10,093 | 12,348. |
| Indiana. | 70 | 74 | 75 | 3, 570 | 5, 624 | 7,875. | 5, 176 | 4,724 | 6,772. |
| Illinois. | 121 | 107 | 104 | 6, 413 | 6; 741 | 9,568 | 8,978 | 6,067 | 8,420 |
| Michizan. | 340 | 357 | 314 | 27, 2000 | 37, 842 | 3.5, 796 | 25; 840 | 12, 866 | 17,888: |
| Wisconsin | 315 | 328 | 272 | 21, 220 | 40, 672 | 26, 112 | 20,349 | 13, 422 | 13,056 |
| Mimesota | 430 | 486 | 399 | 32,250. | 43, 740 | 38,304. | 29, 025 | 15, 309 | 21, 067. |
| Iown.- | 96 | 85. | 81 | 4,128 | 8,925 | 6; 804 | 5,779 | 5, 980 | 5,239 |
| Missouri | 82. | 90 | 93 | 4,756: | 5; 400 | 9,300 | 6; 421 | 4,968 | 8, 184 |
| North Dakota: | 124 | 210 | 158 | 11,904 | 18,909 | 13, 114 | 8,333 | 5,859 | 4, 590: |
| South Dakota | 90 | 110 | 88 | 5, 490 | 8,580 | 7,744 | 5,874 | 3,775 | 3, 872 |
| Nebraska. | 102 | 139 | 111 | 8, 160 | 11,676 | 8,880 | 9,792 | 5,488 | 7, 104 |
| Kamsas | 65 | 65 | 69 | 4, 160. | 4, 160 | 5,160 | 5,616 | 3, 827 | 5, 108 |
| Kentucky | 58 | 59 | 58 | 3, 77.0 | 4. 720 | 4,930 | 6,220 | 4,720 | 5,916 |
| Tennessee - | 35 | 32 | 32 | 1,820 | 2,560 | 2, 880: | 3,003 | 2,816 | 3, 2286 |
| Alabama. | 32 | 48 | 44 | 2, 400 | 3, 840 | 3, 520 | 4, 080 | 5,760 | 5,280 |
| Mississippi | 16. | 16 | 15 | 1,088. | 1,360 | 1,110 | 2,176 | 2, 176 | 1,709. |
| Louisiara | 27 | 27 | 26 | 1,809: | 1.755 | 1,638 | 3, 256 | 2,632 | 2, 457 |
| Texas...- | 37 | 39: | 35 | 2,072 | 2,418 | 1, 925 | 3,937 | 3,869 | 3, 080 |
| Oklahoma | 36 | 40 | 42 | 2,088 | 2,720 | 2,772 | 3, 863 | 3,346 | 3, 548. |
| Arkansas.- | 33 | 35 | 33 | 1,815 | 2, 380 | 1,947 | 3, 267 | 3, 094 | 2, 648 |
| Montana | 41. | 45 | 36 | 4; 715 | 5,670 | 3, 960 | 3, 772 | 2,268 | 2, 891 |
| W yoming | 19 | 22 | 18 | 2,052 | 2,420 | 1,710. | 2, 421 | 1,210 | 1,590 |
| Colerado. | 113 | 142 | 110 | 14, 916. | 18,460 | 13,530. | 10,889 | 6,830. | 8,794: |
| New Mexico. | 4 | 4 | 3 | 240 | 200 | 150 | 432 | 290 | 240: |
| Arizona. | 4. | 6. | 4. | 460. | 510 | 240. | 644 | 459 | 336 |
| Utah | 15. | 21 | 16 | 2,415 | 4, 137 | 2,688. | 2,053 | 1,655 | 1,882. |
| Nevadia | 4 | 5 | 5 | 592. | 870 | 870 | 710 | 522 | 914 |
| Idaha | 64 | 81 | ${ }^{67}$ | 11, 840 | 14,985 | 11, 725 | 9, 117. | 4,645 | 5,862 |
| Washington | 60: | 65 | 52 | 8, 100 | 9; 425 | 8.060 | 8, 019 | 4, 241 | 5, 642. |
| Oregor | 43 | 49 | 44 | 3; 870. | 5, 145 | 4,180: | 4,218 | 2; 675 | 2,926 |
| California | 74 | 76 | 52 | 10,360 | 9,880 | 7,800 | 13, 468 | 7,114 | 10; 140 |
| United: Sta | 3,941 | 4,307 | 2, 816 | 361, 659 | 453; 396 | 12; 392 | 398; 362 | 283, 355 | 339, 322 |

## Division of Crop und Livestock Estimates.

${ }^{1}$ Preliminary.

Table 243.-Potatoes: Yield per acre,by States, calendar years, 1908-1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\left\|\begin{array}{c} A v . \\ 1909 \end{array}\right\|$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | Av. 1914 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bu. | $B u$. | Bu. | $B u$. | $B u$. | Br. | Br. | Bu. | ${ }^{\text {Are. }}$ | Br. | Bu. | Brt. | $B t$. | But | $B u$. | Bu. | $B u$. | a. |
| Maina | 225 | 225 | 220 | 180 | 198 | 220 | 209 | 260 | 179 | 204 |  | 200 | 230 | 177 | 196 |  |  | 258 |
| NewHampshire | 100 | 130 | 150 | 125 | 140 | 122 | 133 | 159 | 95 | 120 | 107 | 140 | 102 | 127 | 121 | 160 | 100 | 185 |
| Vermont.. | 73 | 155 | 130 | 105 | 140 | 127 | 131 | 168 | 108 | 112 | 100 | 130 | 100 | 130 | 121 | 150 | 120 | 180 |
| Massachusetts - | 95 | 125 | 125 | 93 | 130 | 105 | 116 | 155 | 120 | 91 | 115 | 133 | 90 | 125 | 118 | 115 | 90 | 175 |
| Rhode Island.- | 150 | 125 | 136 | 110 | 113 | 130 | 123 | 165 | 110 | 74 | 135 | 130 | 100 | 110 | 118 | 115 | 90 | 165 |
| Connecticut. | 80 | 120 | 125 | 85 | 107 | 92 | 106 | 140 | 95 | 95 | 110 | 95 | 75 | 115 | 104 | 103 | 140 | 155 |
| New Yark | 82 | 120 | 102 | 74 | 106 | 74 | 95 | 145 | 62 | 70 | 95 | 98 | 109 | 125 | 101 | 103 | 110 | 123 |
| New Jersey | 72 | 90 | 105 | 73 | 108 | 95 | 94 | 108 | 130 | 122 | 114 | 92 | 96 | 156 | 117 | 95 | 173 | 95 |
| Pennsylvania-- | 72 | 78 | 88 | 56 | 109 | 88 | 84 | 105 | 72 | 70 | 92 | 8 | 100 | 115 | 91 | 88 | 108 | 105 |
| Delaware...---- | 82 | 96 | 103 | 60 | 100 | 87 | 89 | 80 | 95 | 90 | 95 | 87 | 83 | 108 | 91 | 50 | 96 | 80 |
| Maryland | 77 | 80 | 95 | 45 | 112 | 87 | 84 | 78 | 97 | 95 | 100 | 80 | 94 | 102 | 92 | 65 | 101 | 80 |
| Virginia | 88 | 92 | 98 | 45 | 87 | 94 | 83 | 65 | 125 | 130 | 99 | 94 | 114 | 120 | 107 | 108 | 107 | 93 |
| West Virginia_- | 84 | 98 | 92 | 45 | 112 | 83 | 86 | 54 | 117 | 88 | 115 | 87 | 90 | 120 | 96 | 85 | 99 | 120 |
| North Carolina | 79 | 74 | 89 | 48 | 85 | 80 | 75 | 52 | 90 | 95 | 90 | 95 | 80 | 91 | 85 | 88 | 94 | 86 |
| South Carolina. | 81 | 85 | 90 | 70 | 90 | 80 | 83 | 70 | 80 | 75 | 96 | 102 | 85 | 100 | 87 | 85 | 76 | 98 |
| Georgia | 78 | 81 | 82 | 72 | 78 | 81 | 79 | 60 | 65 | 60 | 84 | 70 | 70 | 74 | 69 | 75 | 68 | 70 |
| Florida | 83 | 95 | 90 | 90 | 93 | 76 | 89 | 80 | 80 | 74 | 91 | 100 | 76 | 105 | 87 | 92 | 110 |  |
| Ohio | 77 | 93 | 82 | 65 | 112 | 64 | 83 | 95 | 82 | 45 | 100 | 69 | 61 | 100 | 79 | 58 | 89 | 98 |
| Indiana | 57 | 95 | 84 | 58 | 114 | 53 | 81 | 80 | 95 | 44 | 92 | 80 | 44 | 96 | 76 | 51 | 76 | 105 |
| Illinois. | 71 | 91 | 75 | 50 | 101 | 46 | 73 | 60 | 110 | 58 | 90 | 72 | 52 | 65 | 72 | 53 | 63 | 2 |
| Michigan. | 72 | 105 | 105 | 94 | 105 | 96 | 101 | 121 | 59 | 48 | 95 | 84 | 90 | 105 | 86 |  | 106 | 114 |
| W iscensia | 80 | 102 | 95 | 116 | 120 | 109 | 108 | 124 | 87 | 47 | 114 | 110 | 94 | 108 | 98 | 68 | 124 | 96 |
| Minnesota | 76 | 115 | 61 | 115 | 135 | 110 | 107 | 114 | 106 | 60 | 112 | 105 | 87 | 99 | 98 |  | 90 | 96 |
| Iowa-- | 80 | 89 | 72 | 74. | 109 | 48 | 78 | 86 | 105 | 42 | 95 | 72 | 46 | 110 | 79 | 43 | 105 | 84 |
| Missouri | 80 | 85 | 86 | 27 | 84 | 38 | 64 | 45 | 98 | 60 | 87 | 61 | 75 | 82 | 73 | 58 | 60 | 100 |
| North Dakota.- | 85 | 110 | 41 | 120 | 128 | 85 | 97 | 109 | 90 | 93 | 43 | 99 | 63 | 79 | 82 | 96 | 90 | 83 |
| South Dakota-- | 90 | 80 | 44 | 72 | 105 | 78 | 76 | 90 | 115 | 68 | 90 | 91 |  | 108 | 87 |  |  |  |
| Nebraska | 78 | 78 | 60 | 52 | 80 | 48 | 64 | 80 | 105 | 73 | 85 | 86 | 5 | 99 | 8 | 8 |  | 88 |
| Kansas | 80 | 79 | 57 | 22 | 82 | 40 | ${ }_{75}^{56}$ | 62 | 83 | 88 | ${ }_{96}^{57}$ | 75 | 76 | 89 99 | 8 | 65 | 88 | 85 |
| Kentucky-. | 62 | 92 | 92 | 39 | 101 | 49 | 75 | 45 | 126 | 84 | 96 | 75 | \% | 99 |  |  |  |  |
| Tennessee | 80 | 75 | 80 | 41 | 88 | 64 | 70 | 43 | 88 | 82 | 94 | 70 | 67 | 83 | 75 | 52 | 80 | 90 |
| Alabama | 85 | 80 | 80 | 78 | 81 | 84 | 81 | 79 | 80 | 90 | 72 | 80 | 80 | 67 | 78 | 75 | 80 | 80 |
| Mississippi. | 91 | 87 | 85 | 83 | 89 | 80 | 85 | 80 | 90 | 65 | 78 | 80 | 85 | 87 | 81 | 68 | 85 | 74 |
| Louisiana | 82 | 75 | 55 | 69 | 73 | 70 | 68 | 70 | 51 | 65 | 64 | 79 | 64 | 65 | $\stackrel{65}{59}$ | ${ }^{67}$ | 65 | ${ }_{55}^{63}$ |
| Texas.... | 71 | 50 | 51 | 57 | 63 | 52 | 55 | 61 | 65 | 50 | 60 | 55 | 73 | 52 | 59 | 56 | 62 | 55 |
| Oklahoma | 78 | 70 | 60 | 18 | 60 | 60 | 54 | 70 | 85 | 53 | 69 | 34 | 75 | 74 | 66 |  |  | 66 |
| Arkansas. | 82 | 70 | 84 | 55 | 70 | 72 | 70 | 60 | 90 | 65 | 80 | 50 | 73 | 78 | 71 | 55 | 68 | 59 |
| Montana | 138 | 180 | 120 | 150 | 165 | 140 | 151 | 140 | 155 | 125 | 95 | 135 | 60 | 110 | 117 | 115 | 126 | 110 |
| W yoming. | 158 | 160 | 100 | 42 | 140 | 140 | 116 | 108 | 150 | 130 | 155 | 150 | 80 | 125 | 128 | 108 | 110 | 95 |
| Colorado.. | 125 | 16 | 100 | 35 | 95 | 115 | 101 | 120 | 135 | 138 | 160 | 160 | 115 | 130 | 137 | 132 | 130 | 123 |
| New Mexico..- | 100 | 85 | 47 | 80 | 100 | 68 | 76 | 100 | 100 | 102 | 116 | 100 | 58 | 75 | 93 | 60 | 50 | 50 |
| Arizona | 110 | 90 | 92 | 95 | 125 | 75 | 95 | 110 | 95 | 115 | 105 | 85 | 70 | 90 | 96 | 115 | 85 | 60 |
| Utah | 160 | 180 | 142 | 140 | 185 | 180 | 165 | 140 | 125 | 180 | 189 | 180 | 136 | 189 | 163 | 161 | 197 | 168 |
| Nevada.-.-.-.-- | 120 | 180 | 150 | 160 | 178 | 160 | 166 | 130 | 172 | 190 | 207 | 171 | 135 | 135 | 163 | 148 | 174 | 174 |
| Idaho | 130 | 200 | 142 | 180 | 185 | 170 | 175 | 155 | 125 | 150 | 156 | 185 | 155 | 180 | 158 | 185 | 185 | 175 |
| Washingtor | 120 | 170 | 131 | 160 | 167 | 123 | 150 | 128 | 135 | 165 | 125 | 13 | 125 | 155 | 138 | 135 | 145 | 155 |
| Oregon. | 90 | 160 | 105 | 130 | 155 | 135 | 137 | 97 | 115 | 150 | 108 | 110 | 94 | 130 | 115 | 90 | 105 | 95 |
| California | 107 | 130 | 130 | 135 | 130 | 119 | 129 | 138 | 130 | 141 | 145 | 143 | 130 | 140 | 138 | 140 | 130 | 150 |


Bivision of Crop and Livestock Estimates.

Table 244.-Potatoes: Condition of crop, 1st of month, and yield per acre, United States: 1866-1923.

| Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. | Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | $\begin{gathered} \text { Yield } \\ \text { per } \\ \text { acre. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $P$. ct. | $P$. ct. | P.ct. | P.ct. | Bush. |  | $P . c t$. | P.ct. | P.ct. | $P . c t$. | Bush. |
| 1866 | 104. 0 | 105.0 |  | 98.8 | 100. 2 | 1896 | 99.0 | 94.8 | 83.2 | 81.7 | 91.4 |
| 1867 | 97.3 | 100.0 | 90.9 | 87.9 | 82.0 | 1897 | 87.8 | 77.9 | 66.7 | 61.6 | 67.9 |
| 1868 | 103.5 | 104.0 | 83.6 | 90.6 | 93.8 | 1898 | 95.5 | 83.9 | 77.7 | 72.5 | 77.0 |
| 1869 | 106.8 | 110.5 | 106. 0 | 105. 2 | 109. 5 | 1899 | 93.8 | 93.0 | 86.3 | 81.7 | 88.6 |
| 1870 | 96.9 | 91.0 | 85.4 | 83.0 | 86.6 | 1900 | 91.3 | 88.2 | 80.0 | 74.4 | 82.9 |
| 1871 | 98.4 | 99. 6 | 95.6 | 97.6 | 98.7 | 1901 | 87.4 | 62.3 | 52.2 | 54.0 | 66.3 |
| 1872 | 102. 1 | 102. 2 | 96.1 | 92.6 | 85.3 | 1902 | 92.9 | 94.8 | 89.1 | 82.5 | 95.5 |
| 1873 | 90. 2 | 93.4 | 95.0 | 89.0 | 81.9 | 1903 | 88.1 | 87.2 | 84.3 | 74.6 | 85.1 |
| 1874 | 97. 5 | 92. 8 | 83. 0 | 86.0 | 80.9 | 1904 | 93.9 | 94.1 | 91.6 | 89. 5 | 111. 1 |
| 1875 | 101. 2 | 105.9 | 110.0 | 106. 7 | 110.5 | 1905 | 91.2 | 87.2 | 80.9 | 74.3 | 87.3 |
| 1876 | 98.3 | 94.0 | 79.6 | 77.0 | 71.7 | 1906 | 91.5 | 89.0 | 85.3 | 82.2 | 102.2 |
| 1877 | 104. 2 | 105. 0 | 99.0 |  | 94.9 | 1907 | 90.2 | 88.5 | 80.2 | 77. 0 | 95.7 |
| 1878 | 100. 7 | 94.0 | 85.3 |  | 69.9 | 1908 | 89.6 | 82.9 | 73.7 | 68.7 | 86.2 |
| 1879 | 88.0 | 97.0 | 95.0 | 90.0 | 98.9 |  |  |  |  |  |  |
| 1880 | 99.1 | 98.0 | 90.0 | 88.0 | 91.0 | 1909 | 93.0 | 85. 8 | 80.9 | 78.8 | 107.5 |
|  |  |  |  |  |  | 1910 | 86.3 | 75. 8 | 70.5 | 71.8 | - 93.8 |
| 1881 | 100. 3 | 92.0 | 70.0 | 67.0 | 53.5 | 1911 | 76.0 | 62.3 | 59.8 | 62.3 | 80.9 |
| 1882 | 102. 0 | 101. 0 | 92. 0 | 90.7 | 78.7 | 1912 | 88.9 | 87.8 | 87.2 | 85.1 | 113.4 |
| 1883 | 101.0 | 101. 0 | 95.0 | 93. 0 | 90.9 | 1913 | 86.2 | 78.0 | 69.9 | 67.7 | 90.4 |
| 1884 | 96. 2 | 94. 0 | 91.0 | 88.0 | 85.8 |  |  |  |  |  |  |
| 1885 | 97.0 | 95.0 | 93.0 | 82.0 | 77.2 | Av. 1909-1913. | 86.1 | 77.9 | 73.7 | 73.1 | 97.2 |
| 1886 | 96.6 | 88.3 | 81.4 | 81.0 | 73.5 | 1914 | 83.6 | 79.0 | 75.8 | 78.3 | 110.5 |
| 1887 | 93.2 | 80.8 | 67.3 | 61.5 | 56.9 | 1915 | 91.1 | 92.0 | 82.7 | 74.2 | - 96.3 |
| 1888 | 95.7 | 93.2 | 91.6 | 86.8 | 79.9 | 1916 | 87.8 | 80.8 | 67.4 | 62.6 | 80.5 |
| 1889 | 95.1 | 94.3 | 81.7 | 77.9 | 77.4 | 1917 | 90.1 | 87.9 | 82.7 | 79.0 | 100.8 |
| 1890 | 91.7 | 77.4 | 65.7 | 61.7 | 56.7 | 1918 | 87. 6 | 79.9 | 74.5 | 73.7 | . 95.9 |
| 1891. | 95.3 | 96.5 | 94.8 | 91.3 | 93.7 | 1919 | 87.6 | 75.1 | 69.5 | 67.9 | 91.2 |
| 1892 | 90.0 | 86.8 | 74.8 | 67.7 | 62.1 | 1920 | 89.3 | 87.0 | 84.3 | 82.7 | 110.3 |
| 1893 | 94.8 | 86.0 | 71.8 | 71. 2 | 71.7 |  |  |  |  |  |  |
| 1894 | 92. 3 | 74.0 | 62.4 | 64.3 | 63.6 | Av.1914-1920. | 88.2 | 83.1 | 76.7 | 74.1 | 97.9 |
| 1895 | 91.5 | 89.7 | 90.8 | 87.4 | 102. 3 | 192 | 83.4 | 65.8 | 63.7 | 66.5 | 91.8 |
|  |  |  |  |  |  | 1922-------------- | 87.3 | 84.3 | 79.9 | 77. 3 | 105.3 |
|  |  |  |  |  |  | 1923 | 86.4 | 80.5 | 77.7 | 78.2 | 108.1 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.
Table 245.-Potatoes: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

| Calendar Year. | Deficient moisture. | Excessive moisture. | Floods | $\begin{gathered} \text { Frost } \\ \text { or } \\ \text { freeze. } \end{gathered}$ | Hail. | Hot winds. | Storms. | Total climatic | Plant discase. | Insect pests | Ani- mal pests. | De-fective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $P$. ct. | $P . c t$. | $\boldsymbol{P} . c t$. | P.ct. | $P$. ct. | P.ct. | $P . c t$. | P. ct. | $P$. ct. | $P$. ct. | P. ct. | $P$. ct | $P . c t$. |
| 1909. | 11.3 | 2.8 | 0.3 | 1.8 | 0.2 | 0.2 | (2) | 16. 7 | 1. 7 | 1.7 | 0.1 | 0.2 | 21.3 |
| 1910 | 15.4 | 1. 7 | 2 | 1.1 | . 1 | . 3 | $\left.{ }^{2}\right)$ | 19.2 | 3. 9 | 5. 0 | . 1 | . 4 | 29.8 |
| 1911 | 25. 8 | 2. 0 | (2) | 1. 9 | . 1 | 3.2 | (2) | 33. 5 | 2. 7 | 2. 6 | . 1 | . 6 | 42.4 |
| 1912 | 5. 3 | 3.3 | . 4 | . 6 | . 1 | . 2 | 0.1 | 10.5 | 5. 8 | 3.9 | . 2 | . 3 | 21.7 |
| 1913 | 20.8 | 1.6 | . 2 | 2.0 | . 1 | . 7 | $\left.{ }^{2}\right)$ | 26.0 | 1. 7 | 3.9 | . 1 | . 5 | 34.5 |
| 1914 | 10.2 | 2. 1 | . 1 | . 8 | . 1 | . 4 | ${ }^{(2)}$ | 14. 0 | 1. 7 | 3. 3 | $\left.{ }^{2}\right)$ | . 3 | 21.2 |
| 1915 | 2. 2 | 8. 7 | . 5 | 2.2 | . 1 | . 1 | . 1 | 14. 0 | 13. 0 | 2.4 | (2) | . 1 | 30.4 |
| 1916 | 19.7 | 6. 5 | .4 | 1.9 | . 2 | 1. 4 | . 1 | 31. 5 | 5. 6 | 4.5 | (2) | . 2 | 43.6 |
| 1917 | 8.8 | 3.5 | .2 | 3. 0 | . 2 | . 3 | $\left.{ }^{2}\right)$ | 16. 3 | 4. 1 | 2.4 | (2) | . 1 | 23.8 |
| 1918 | 14.7 | 1.0 | . 2 | 1.5 | 1 | . 6 | $\left.{ }^{2}\right)$ | 18.4 | 5. 3 | 3.3 | $\left.{ }^{2}\right)$ | . 2 | 28.3 |
| 1919. | 16. 3 | 5. 0 | . 4 | . 7 | . 1 | . 7 | . 1 | 23.6 | 8. 8 | 4.7 | ${ }^{(2)}$ | . 3 | 38.1 |
| 1920 | 6. 7 | 2. 2 | . 3 | 6 | . 2 | . 2 |  | 10.2 | 8.1 | 2.8 | . 1 | 2 | 21.8 |
| 1921 | 21. 7 | 1. 0 | . 1 | 1.2 | . 2 | 1.8 |  | 26.1 | 5. 7 | 3.5 | ( 1 | . 3 | 36: 2 |
| 1922 | 10.6 | 2. 8 | . 4 | . 3 | . 3 | 2 |  | 14.7 | 5. 7 | 2.6 | (2) | . 2 | 23.4 |

Division of Crop and Livestock Estimates.
1 Ineludes all other causes.
${ }^{2}$ Less than 0.05 per cent.

Table 246.-Potatoes: Area and yield per acre in undermentioned countries. NORTHERN HEMISPHERE.

| Country. | Area. |  |  |  |  | Yield per acre. ${ }^{1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average, 19091913. | 1920 | 1921 | 1922 | 1923, pre-liminary. | $\begin{aligned} & \text { A ver- } \\ & \text { age, } \\ & 1909- \\ & 1913 . \end{aligned}$ | 1920 | 1921 | 1922 | 1923, <br> pre- <br> limi- <br> nary. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |  |  |  |
| NORTH AMERICA. | acres. 483 | acres. 785 | acres. 702 | acres. 684 | acres. 561 | Bush. 161. 2 | Bush. <br> 170. 1 | Bush. <br> 152.9 | Bush. 135. 8 | Bush. 203. 2 |
| United States | 3,677 | 3,657 | 3,941 | 4,307 | 3,816 | $\begin{array}{r}161.2 \\ 97.3 \\ \hline\end{array}$ | 110.3 | $\begin{array}{r}152.9 \\ 91.8 \\ \hline\end{array}$ | 105.3 | $\text { 108. } 1$ |
| Total comparable with 1923 | 4,160 | 4,442 | 4,643 | 4,991 | 4,377 |  |  |  |  |  |
| EUROPE. <br> United Kingdom: <br> England and Wales | 434 |  |  |  |  |  |  |  |  |  |
| Scotland ----------- | 144 | 545 162 | 558 154 | 561 | 467 | 230.2 | 215.8 | 197.9 | 267.0 | 220.3 |
| Ireland.--- | 588 | 584 | ${ }_{568}^{154}$ | 570 | 137 | 240. 8 | 285. 1 | 252. 1 | 283.2 | 223.5 |
| Norway |  |  | 130 | 126 | 126 | 203.9 | 127.0 | 168.0 200.0 | 223.8 <br> 259.5 | 227.1 |
| Sweden | ${ }^{2} 377$ | 364 | 363 | 400 | 392 | 152.7- | 164. ${ }^{-7}$ | 177. 8 | 187. 0 | 155.3 |
| Denmark | 34151 | 228 | 208 | 204 | 204 | 205. 0 | 198. 8 | 241.2 | 241.4 |  |
| Netherlands | 411 | 427 | 441 | 477 | 397 | 253.2 | 284.6 | 243.4 | 340.3 | 200.7 |
| Belgium.- | 388 | 366 | 419 | 445 | 374 | 277.0 | 226. 5 | 170.7 | 324. 6 | 237.6 |
| Luxemburg | $\begin{array}{r}36 \\ \hline\end{array}$ | 33 | 35 | 37 | 374 35 | 178.9 | 160. 1 | 170.6 | 324. 6 189.4 | 237.6 176.4 |
| France. | ${ }^{4} 3,838$ | 3, 560 | 3, 595 | 3, 619 | 3,560 | 127. 5 | 120. 1 | 84.9 | 128. 4 | 98.4 |
| Spain | 4641 | 841 | 779 | 783 | 757 | 176. 3 | 128. 2 | 131. 2 | 138.7 | 126. 2 |
| Portuga |  | 63 | 45 | 68 |  |  | 98.7 | 134. 6 | 95.8 |  |
| Italy--.-- | 710 | 744 | 763 | 861 | 890 | 85.6 | 70.2 | 76. 5 | 62.4 | 70.2 |
| Switzerlan | ${ }^{8} 115$ | 124 | 113 | 112 | 111 | 214.5 | 227.8 | 224. 5 | 221.6 | 209.8 |
| Germany | 48,251 | 5,986 | 6,541 | 6, 725 | 6,735 | 203.8 | 171. 1 | 146. 9 | 222.2 | 177.7 |
| Austria------ | 4 3, 094 | 291 | 327 | 403 |  | 147.5 | 84.9 | 93.6 | 127. 5 |  |
| Czechoslovakia |  | 1, 494 | 1,574 | 1,606 | 1,574 |  | 123. 0 | 101. 1 | 207. 5 | 146.8 |
| Hungary | 4 1,707 | 626 | , 665 | - 635 | ${ }^{6} 637$ | 118.5 | 121. 4 | 69.0 | 76.4 | 99.0 |
| Yugoslavi | ${ }^{\prime} 628$ | 504 | 516 | 532 |  | 61.5 | 81.5 | 50.7 | 58. 5 | 0.0 |
| Bulgaria-------------- | 48 | 20 | 20 | 20 | 24 | 61.5 | 48. 6 | 52. 0 | 68.0 | 50.8 |
| Rumania----------------- | 769 | 241 | 493 | 355 | 408 | 128.2-2 | 92.8 | 103. 4 | 106. 2 | 50.8 |
| Poland--- | ${ }^{8}(3,397)$ | 4,061 | 4,796 | 5,409 | 5,632 | 132. 2 | 163. 7 | 128. 7 | 229.3 | 160.4 |
| Lithuania | ${ }^{8} 8(274)$ | 320 | 326 | 326 | 353 | 103. 5 | 147.3 | 156. 2 | 208. 3 | 156. 3 |
| Latvia. | ${ }^{8}(188)$ | 122 | 146 | 171 |  | 124. 8 | 112. 9 | 169. 6 | 145. 1 |  |
| Esthonia | ${ }^{8}(174)$ | 157 | $\bigcirc 160$ | 187 | 187 | 149.5 | 164. 4 |  | 141. 0 | 126.0 |
| Finland. |  | 176 | 168 | 185 | 168 | 14.5 | 116. 5 | 136.-3 | 146.5 | 94.1 |
| Russia, including Ukraine and Northern Caucasia .....-- | ${ }^{8}(6,930)$ |  | 168 | 6,096 |  | 104. 1 | 116.5 | 13.3 | 80.5 114.0 | 94 |
| Total comparable with 1909-1913 | 31, 953 |  |  | 30,691 |  |  |  |  |  |  |
| Total comparable with 1923 |  |  | 22,301 | 23, 230 | 23,168 |  | ----- | - | --- |  |
| AFRICA. <br> Algeria <br> Tunis $\qquad$ $\qquad$ | 44 | 43 3 | 46 2 | 42 3 | 46 3 | 42.0 | 22.9 | 14.2 | 51.1 | 18.0 |
| ASIA. <br> Russia (Asiatic) | 445 |  |  | 229 |  | 79.3 |  |  | 95.4 |  |
| Japanese Empire: |  |  |  |  |  | 7.3 |  |  | 95.4 |  |
| Japan------------ | 169 | 297 | 256 |  |  | 146. 4 | 133.8 | 154.3 |  |  |
| Chosen------------- | 1065 | 186 | 187 | --- | --1 | 107. 1 | 99.3 | 98.2 | ----- |  |

SOUTHERN HEMISPHERE.

| Chile <br> Trugu-- | 69 | 83 9 | 83 9 | 83 |  | 123.3 | 144.4 | 139.6 | 131.7 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Argentina- | 217 | 390 | 336 |  |  | 140.6 |  |  |  |  |
| Union of South Africa | ${ }^{3} 62$ | 45 | 3 |  |  | 49.5 | 80.0 |  |  |  |
| Southern Rhodesia--- | (11) | 2 | $\overline{3}$ | 3 |  |  | 8.0 |  |  |  |
| Australia--- | 144 | 140 | 149 |  |  | 100.5 | 99.5 | 97. |  |  |
| New Zealand.- | 28 | 22 | 19 | 20 |  | 205. 8 | 214.9 | 220.3 | 212.5 |  |
| World total comparablewith 1909-1913 | 37,356 |  |  |  |  |  |  |  |  |  |
| World total comparable with 1923 . |  | --- | 6, 992 | 28, 266 | 27,594 |  |  |  |  |  |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

[^181]${ }^{7}$ Includes Bessarabia.
${ }^{8}$ Preliminary estimate of former Russian territory within 1923 boundaries.
${ }^{9}$ Estimate of U. S. Department of Agriculture.
${ }^{10}$ Two-year average.
${ }^{11}$ Acreage less than 500 acres.

## Table 247.-Potatoes: Production in undermbntioned countries.

 NORTHERN HEMEISPHERE.| Countries. | $\begin{array}{\|c\|c\|} \text { Average, } \\ 1909-1913 . \end{array}$ | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923, preliminary. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NOBTH AMERICA | 1,000 |  |  |  |  |  |  | 1,000 |
| Canada | bushels. 77, 843 | bushels. <br> 79, 892 | 104, 347 | Ustete. | $\begin{gathered} \text { bushels: } \\ 133,498 \end{gathered}$ | bushels. | 92, 908 | ushels. <br> 113, 991 |
| United States.-. | 357, 699 | 442, 108 | 411,860 | 322, 867 | 403, 296 | 361, 659 | 453, 396 | 412, 392 |
| Total comparable with 1909-1913.... | 435,542 | 522, 000 | 516, 207 | 448, 442 | 536,794 | 469, 006 | 546, 304 | 526, 383 |
| ited |  |  |  |  |  |  |  |  |
| E |  |  |  |  |  |  |  |  |
| Wales | 99,893 | 124, 731 | 157, 136 | 102, 032 | 117, 637 | 110, 432 | 149, 781 | 102, 891 |
| Scotland | 34, 674 | 41, 440 | 42,971 | 31, 061 | 46, 181 | 38, 827 | 44, 464 | 30, 613 |
| Ireland | 119, 874 | 155, 036 | 144, 231 | 102, 555 | 74, 141 | 95, 424 | 127, 579 |  |
| Norway | ${ }^{1} 25,179$ | 39,700 | 28, 954 | 37, 912 | 31, 076 | 25, 995 | 32, 699 | 28,610 |
| Sweden | 57, 581 | 74, 252 | 67, 344 | 73, 537 | 59,801 | 64, 543 | 74, 788 | 61,251 |
| Denmark | ${ }^{2} 30,953$ | ${ }^{2} 312,882$ | ${ }^{2} 40,605$ | ${ }^{2} 53,087$ | 45, 316 | 50, 173 | 49, 249 |  |
| Netherland | 104, 051 | 123, 978 | 130, 288 | 127, 403 | 121, 514 | 107, 346 | 162, 328 | 81,948 |
| Belgium. | 107, 479 |  |  | 103, 930 | 82, 912 | 71,534 | 144, 453 | 88,853 |
| Luxemburg | 6,439 | 5,500 | 5, 104 | 6, 696 | 5, 284 | 2, 856 | 7, 007 | 6,173 |
| France. | ${ }^{2} 489,377$ | 399, 962 | 251, 600 | 312, 708 | 427, 610 | 305, 324 | 464,661 | 350, 311 |
| Spain. | ${ }^{3} 112,997$ | 113, 477 | 95, 562 | 101, 019 | 107, 833 | 102, 224 | 108, 598 | 95, 497 |
| Portuga |  | 6, 080 | 5, 600 | 5, 654 | 6, 218 | 6, 058 | 6,512 |  |
| Italy .- | 60, 806 | 48, 112 | 51, 804 | 50, 989 | 52, 260 | 58,359 | 53, 689 | 62,404 |
| Switzerlan | ${ }^{4} 24,664$ | 38, 573 | 34, 304 | 30, 313 | 28,248 | 25,371 | 24, 820 | 23, 292 |
| Germany | 2 1, 681, 959 | 1, 264, 377 | 1, 070,772 | 760, 548 | 1, 024,301 | 960, 889 | 1, 494, 181 | 1, 197, 119 |
| Austria. | ${ }^{2}$ 456, 492 | 32, 890 | 21, 495 | 20, 022 | 24, 707 | 30, 607 | 51,378 |  |
| Czechoslov |  | 90, 899 | 85, 334 | 84, 091 | 183, 810 | 159, 068 | 333, 236 | 231, 063 |
| Hungary | ${ }^{2} 202,207$ |  |  |  | 75, 967 | 45, 898 | 48,490 | 63, 043 |
| Yugoslavi | ${ }^{6} 61,721$ |  |  |  | 41,079 | 26, 184 | 31, 100 |  |
| Bulgaria | ${ }^{2} 454$ | 651 | 535 | 813 |  | 1,040 | 1,360 | 1,220 |
| Rumania | 78,849 |  |  | 10,441 | 22,363 | 50, 987 | 37, 692 |  |
| Poland. | ${ }^{9}(449,034)$ |  |  | 386, 315 | 664,920 | 617, 272 | 1, 240; 418 | 903,443 |
| Lithuan | ${ }_{8}^{8}(28,347)$ |  |  | 32,738 | 47, 127 | 50, 926 | 67, 903 | 55, 171 |
| Latvia | ${ }^{8}(23,470)$ |  |  |  | 13, 771 | 24, 758 | 24, 806 |  |
| Esthonia. | ${ }^{8}(26,008)$ |  |  | 18,349 | 25, 813 | - 25,000 | 26, 373 | 23,567 |
| Finland.- | 18, 443 | 19, 118 | 19,548 | 19, 953 | 20,497 | 22, 891 | 16, 009 | 15,816 |
| Russia, including Ukraine and Northern Caucasia | $8(721,219)$ |  |  |  |  |  | 695, 122 |  |
| Total comparable with 1909-1913..... | 4, 892, 170 |  |  |  |  |  | 5; 512, 184 |  |
| Tatal comparable with 1923 |  |  |  |  | 3, 123, 764 | 2, 795, 795 | 4, 495, 258 | 3, 422, 345 |
| AFRI |  |  |  |  |  |  |  |  |
| Algeria | 1, 847 | 2,756 |  | 920 | 985 | 653 | 2,146 |  |
| Tunis.. |  | 92 | 220 | 138 | 147 | 147 | 165 | 147 |
|  | 296 |  |  |  |  |  | 21, 855 |  |
| Japanese Empire: |  |  |  |  |  |  |  |  |
| Japan.- | 24, 738 | 47, 616 | 44, 634 | 67, 236 | 39, 736 | 39,506 |  |  |
| Chosen....... | ${ }^{3} 6,960$ | 13, 484 | 15, 584 | 15, 138 | 18, 471 | 18, 371 |  |  |

SOUTHERN FEMISPHERE.


Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

[^182]6 Former Kingdom of Serbia.
7 Includes Bessarabia.
8 Preliminary estimate of former Russian territory
within 1923 boundaries.
${ }^{9}$ Estimate of U. S. Department of Agriculture.

Table 248.-Potatoes: Stocks on hand January 1, 1919-1923.

| State and year. | Total production. | Merchantable stocks Jan. 1. |  | Per cent of stock held Jan. 1 by- |  | Farm price perbushel. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Per cent of crop. | Quantity. | Growers. | Dealers. | Dec. 1. | Mar. 1. |
| 19 surplus late potato States: 1 | 1,000 bush. | Per cent. | 1,000 bush. | Per cent. | Per cent. | Cents. | Cents. |
| 1919-20. | 225, 248 | 26.0 | 58,530 | 79.4 | 20. 6 | 151. 0 | 234.2 |
| 1920-21. | 209, 222 | 35.3 | 95,061 | 85.2 | 14.8: | 103. 1 | 65.6 |
| $\begin{aligned} & \text { 1921-22. } \\ & 1922-23 \end{aligned}$ | 263, 052 325,479 | 31.4 | 82, 657 | 80.0 | 20.0 | 99.9 | 105. 2 |
| 1923-24. | 288, 659 | 36. 3 | 118. 151 | 85.8 86.7 | 14.2 | 46.2 | 50.7 |
| 16 deficient late potato States: ${ }^{2}$ |  |  | 96, 799 | 86.7 | 13.3. | 71.3 |  |
| 1919-20. | 73, 291 | 9.4 | 6,875 | 74.4 | 25.6 | 181.1 | 254.7 |
| 1920-21. | 107, 644 | 12.0 | 12,930 | 81.7 | 18.3 | 130.5 | 105. 2 |
| 1921-22. | 74,928 | 9.8 | 7,366 | 76.9 | 23.1 | 139.5 | 141. 3 |
| 1922-23. | 98,406 | 11.5 | 11, 312 | 77.2 | 22.8 | 81.6 | 87.7 |
| Total; 35 States: | 99,171 | 11.3 | 11, 178 | 85.0 | 15.0 | 101.3 |  |
| 1919-20..... | 298, 539 | 21.9 | 65, 405. | 78.8 | 21.2 | 158.8 | 239.5 |
| 1920-21 | 376, 866 | 28.7 | 107, 991 | 84.6 | 15.4 | 110.2 | 75.9 |
| 1921-22 | 337, 980 | 26.6 | 90, 023 | 79.6 | 20.4 | 110.1 | 114.5 |
| 1922-23. | 423, 885 | 30.5 | 129,463 | 84.8 | 15.2 | 55.4 | 60.3 |
| 1923-24.-...------ | 385, 830 | 28.0 | 107, 977 | 86.4 | 13.6 | 79.1 |  |
| Leading surplus States: |  |  |  |  |  |  |  |
| 1919-20 | 25,530 | 44.5 | 11, 373 | 78 | 22 | 140 | 200 - |
| 1920-21 | 21, 771 | 44. 6 | 9,699 | 88 | 12 | 125 | 55 |
| 1921-22. | 38,442 | 43.7 | 18,814 | 81 | 19 | 85 | 96 |
| 1932-23- | 25, 245 | 47.0 | 11, 865 | 84 | 16 | 45 | 60 |
| 1923-24 | 31, 992 | 50.0 | 15, 996 | 84 | 16 | 70 |  |
| 1919-20. | 33,790 | 30.2 | 10, 218 | 90. | 10 | 145 | 220 |
| 1920-21. | 40,625 | 40.3 | 16,380 | 91 |  | 118 | 63 |
| 1921-22 | 33,990 | 29.0 | 9,850 | 92 | 8 | 108 | 116 |
| 1922-23 | 37,400 | 32.8 | 12, 252 | 92. | 8 | 60 | 72 |
| 1923-24. | 39,729 | 38.0 | 15, 096 | 95 | 5 | 95 |  |
| Pennsylvania- $1919-20$ | 23,400 | 16.5 | 3,861 | 80 | 20 | 154 | 223 |
| 1920-21 | 28, 290 | 24.2 | 6,846 | 91 | 9 | 124 | 78 |
| 1921-22 | 21, 586 | 19.2 | 4,155 | 81 | 19 | 133 | 130 |
| 1922-23 | 27,432 | 23.1 | 6,340 | 80 | 20 | 75 | 77 |
| Michigan- | 26, 145 | 28.0 | 7,321 | 86 | 14 | 105 |  |
| Michigan- 1919-20 | 27,000 | 21.0 | 5,670 | 77 | 23 | 135 | 228 |
| 1920-21 | 36, 225 | 38. 4 | 13,910 | 83 | 17 | 92 | 52 |
| 1921-22 | 27, 200 | 30.0 | 8, 160 | - 81 | 19 | 95. | 96 : |
| 1922-23 | 37, 842 | 37.2 | 14, 066 | 88 | 12 | 34 | 40 |
| Wisconsin- | 35,796 | 39.0 | 13; 981 | 87 | 13 | 50 |  |
| 1919-20. | 28,388 | 21.6 | 6,132 | 78. | 22 | 140 | 227 |
| 1920-21 | 33, 264 | 37.2 | 12, 374 | 88 | 12 | 80 | 62 |
| 1921-22. | 21, 420 | 39. 6 | 8,482 | ,74 | 26 | 95 | 109 |
| 1922-23. | 40, 67.2 | 39.6 | 16, 106 | 88 | 12 | 33 | 32. |
| Minnesota- | 26, 112 | 33.0 | 8, 616 | 88 | 12 | 50 |  |
| 1919-29 | 28, 884 | 21.5 | 6, 196 | 76 | 24 | 153 | 237 |
| 1920-21 | 31,581 | 32.5 | 10, 264 | $80^{\circ}$ | 20 | 80 | 54 |
| 1921-22. | 32, $250^{\circ}$ | 30: 1 | 9,707 | 73 | 27 | 90 | 94 |
| 1922-23. | 43, 740 | 41.1 | 17,912 | 74 | 26 | 35 | 33. |
| 1923-24 | 38, 304 | $33.0-$ | 12, 640 | 76 | 24 | 55 |  |
| North19-20 | 5,229. | 10.5 | 549 | 86 | 14 | 160 | 243 |
| 1920-21 | 6,557 | 16.5 | 1,082 | 62 | 38 | 98 | 9 F |
| 1921-22. | 11,904 | 13.7 | 1,625 | 63 | 37 | 70 | 93 |
| 1922-28. | 18,900 | 30.0 | 5,670 | 83 | 17 | 31 | 38 |
| 1923-24. | 13, 114 | 23.0 | 3,016 | 78 | 22 | 35 |  |
| South Dakota- <br> 1919-20: | 4050 | 16.2 | 656 | 80 | 20 | 190 | 254 |
| 1920-21 | 7,950 | 17. 5. | 1,395 | 82 | 18 | 197 | ${ }_{92} \mathbf{9}$ : |
| 1921-22 | 5,490: | 10.0: | 549 | 82 | 18 | 107 | 108 |
| 1922-23. | 8,580 | 15.3 | 1,313 | 91 | 9 | 44 | 52 |
| 1923-24- | 7,744 | 13.0 | 1,007 | 85 | 5 | 50 |  |
| Nebraska- $1919-20$ | 5,720: | 25.0 | 1,430 | 78 | 22 | 190 | 275 |
| 1920-21 | 8,415 | 20.0: | 1, 683 | 85 | 15 | 120 | 106 |
| 1921-22 | 8,160 | 26.4 | 2,154 | 73 | 27 | 120 | 137 |
| 1922-23. | 11,678. | $25.0{ }^{\circ}$ | 2,919 | 88 | 12 | 47 | 54 |
| $\xrightarrow{\text { 1923-24- }}$ | 8,880 | 16.0 | 1,421 | 94 | 6 | 80 |  |
| 1919-20. | 8; 855 | 28.5 | 2, 524 | 89 | 11 | 170 | 245. |
| 1920-21 | 9,490 | 36. 8 | 3,488 | 92 | 8 | 80 | 53 |
| 1921-22 | 14,916 | 44.2 | 6, 600 | 90 | 10 | 73 | ${ }^{65}$ |
| 1922-23 | 18, 460 | 43.5 | 8, 030 | ${ }_{92}^{95}$ | 5 8 | 37 65 | 25 |
| 1923-24. | 13, 530 | 36.0 | 4,871 | 92 | 8 | 65 |  |

[^183]Table 248.-Potatoes: Stocks on hand January 1, 1919-1923-Continued.

| State and year. | Total production. | Merchantable stocks Jan. 1. |  | Per cent of stock held Jan. 1 by- |  | $\underset{\text { Farm price per }}{\text { bushel. }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Per cent of crop. | Quantity. | Growers. | Dealers. | Dec. 1. | Mar. 1. |
| Leading surplus States-Con. Idaho- | 1,000 bush. | Per cent. | 1,0003ush. | Per cent. | Per cent. | Cents. | Cen's. |
| 1919-20-. | 6,665 | 28.7 |  |  | 37 |  |  |
| 1920-21 | 8,100 | 49.0 | 3, 969 | 90 | 10 | 68 | 48 |
| 1921-22-23 | 11,840 14,985 | 40.2 <br> 47 | 4,757 | 82 | 18 | ${ }_{31} 7$ | 89 |
| 1922-23- | 14,985 11,725 | 47.0 38.0 | 7,043 4,455 | 98 89 | 2 11 | 31 50 | 55 |

Division of Crop and Livestock Estimates.
Table 249.-Potatoes: Carlot shipments, by States of origin, 1917-1922.

| State. | Crop movement season. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1917-18 | 1918-19 | 1919-20 | $0^{1920-21}$ | $1921-22$ | Quarters, 1922-23. |  |  |  |  |  |
|  |  |  |  |  |  | $\begin{aligned} & \text { Apr.- } \\ & \text { June. } \end{aligned}$ | $\begin{aligned} & \text { July- } \\ & \text { Sept } \end{aligned}$ | $\begin{aligned} & \text { Oct.- } \\ & \text { Dec. } \end{aligned}$ | $\begin{aligned} & \text { Jan.- } \\ & \text { Mar. } \end{aligned}$ | Apr.- | Total. |
| Maine | $\begin{gathered} \text { Cars. } \\ 14,794 \end{gathered}$ | $\begin{gathered} \text { Cars. } \\ 19,026 \end{gathered}$ | $\underset{23,444}{\text { Cars. }}$ | $\begin{aligned} & \text { Cars. } \\ & 17,817 \end{aligned}$ | Cars.$38,037$ | Cars. | $\begin{aligned} & \text { Cars. } \\ & 1,976 \end{aligned}$ | $\begin{aligned} & \text { Cars. } \\ & 8,111 \end{aligned}$ | $\begin{aligned} & \text { Cars. } \\ & 9,012 \end{aligned}$ | $\begin{gathered} \text { Cars. } \\ 15,286 \end{gathered}$ | $\begin{gathered} \text { Cars. } \\ 24,385 \end{gathered}$ |
| New York:-------------1-1 | $\begin{aligned} & 4,939 \\ & 5,171 \end{aligned}$ | $4,350$ |  | -5,501 |  | -- |  |  |  |  |  |
| Long İ? |  |  |  |  | $\begin{array}{r} 4,959 \\ 14,029 \end{array}$ |  | $\left\lvert\, \begin{gathered} 2,586 \\ 92 \end{gathered}\right.$ | $\begin{aligned} & 3,538 \\ & 4,550 \end{aligned}$ | $\begin{aligned} & 1,058 \\ & 6,058 \end{aligned}$ | 34 <br> 11,579 | $\begin{array}{r} 7,216 \\ 12,079 \end{array}$ |
| Other- |  | 5,739 5 5 2 | $\begin{array}{r} 10,409 \\ 3,742 \end{array}$ | $\begin{array}{r} 17,147 \\ 6,489 \end{array}$ |  |  |  |  |  |  |  |
| Pennsylvani | 11,709 3,727 | $\begin{aligned} & 5,889 \\ & 2,119 \end{aligned}$ |  |  | $\begin{array}{r} 10,476 \\ 3,564 \end{array}$ |  | $\begin{array}{r} 15,377 \\ 1,017 \end{array}$ | $\begin{aligned} & 2,653 \\ & 3,052 \end{aligned}$ | 1,278 | $\begin{array}{r} 81 \\ 1405 \end{array}$ | $\begin{array}{r} 18,335 \\ 5,752 \end{array}$ |
| Maryland: | $\begin{array}{r} 2,286 \\ 625 \\ 22 \end{array}$ | $\begin{aligned} & 703 \\ & 233 \end{aligned}$ | $\begin{gathered} 1,434 \\ 667 \end{gathered}$ | 2, 259 | $\left.\begin{array}{r} 2,123 \\ 529 \\ \\ \\ 27 \end{array} \right\rvert\,$ | 206 | 2, 847 | 223 | 40 | 79 | 3,0.53 |
| Eastern Shore, first. |  |  |  |  |  |  |  |  |  |  |  |
| Eastern Shore, second |  |  |  | 799 |  |  |  |  |  |  |  |
| Other. |  | 8, 10 | 9, 235 | 11,948 |  | 5,450 | 8,282 |  |  | 19 |  |
| Eastern Shore, first | 14, 123 |  |  |  |  |  |  | 185 | 103 |  |  |
| Eastern Shore, second | $\begin{array}{r} 214 \\ 5,003 \end{array}$ | 2, 285 | , 2982,285 | 1,9732,995 |  |  |  |  |  | 12, 322 |  |
| Norfolk, first |  |  |  |  | $\begin{array}{r} 359 \\ 5,192 \\ 525 \end{array}$ | 2,663 | 1,430 | 114 | 56 | 41 | 4,093211 |
| Norfolk, secon | $\begin{aligned} & 328 \\ & 372 \\ & 7 \end{aligned}$ | $591$ | $\begin{aligned} & 174 \\ & 102 \end{aligned}$ |  |  | --190 |  |  |  |  |  |
| Other |  |  |  |  | 407 |  | 155 |  |  |  | 385 |
| North Carolina | 4,713 | 5,605 | 3, 306 | $\begin{aligned} & 3,513 \\ & 3,070 \end{aligned}$ |  |  | $\begin{array}{r} 434 \\ 5 \\ 3 \\ 1,292 \end{array}$ | 5 | 7 | 73 |  |
| South Carolin | 2, 4 4, 49 | 2, 812 | 1,217 |  | 2,5092,344 |  |  |  |  | ------- | 4, 4,345 |
| Florida- |  | 11,062 | $\begin{array}{r} 2,275 \\ 12,23 \\ 12,237 \end{array}$ | 17,119 |  | $\begin{array}{r} 4,337 \\ 25,039 \end{array}$ |  |  | $\begin{array}{r} 2 \\ 3 \\ 5,051 \end{array}$ | - 7 7, 0 - | 5, 04619,829 |
| Michigan | $\begin{array}{r} 4,494 \\ 9 ; 431 \\ 13,852 \end{array}$ |  |  |  | 15, 222 |  |  |  |  |  |  |
| Wisconsi |  | 20,655 | 21, 975 | 18, 661 | 11, 045 |  | 1, 582 | 7, 338 | 7,393 | ${ }^{1} 5,450$ | 21,763 |
| Minnesota | $\begin{array}{r} 16,477 \\ 462 \\ 353 \\ 9.63 \\ 2,026 \end{array}$ | 23, 515 | 22, 058 | 23, 214 | 29,568 |  | $\begin{array}{c\|c} 6,107 & 10,187 \\ 235 & 576 \\ 1,051 & 3,959 \\ 757 & 1,675 \\ 1,365 & 1,740 \end{array}$ |  | $\begin{array}{r} 7,471 \\ 25 \\ 1,803 \\ 69 \\ 1,679 \end{array}$ | $\begin{array}{rl} 1 & 5,143 \\ 1 & 7 \\ 1 & 1,538 \\ & 201 \end{array}$ | $\begin{array}{r} 28,908 \\ 8,93 \\ 8,351 \\ 2,702 \end{array}$ |
| Iowa- |  | 943 | 251 | 922 | 91 |  |  |  |  |  |  |  |
| North Dak |  | 2,530 | 2, 229 | 1,846 | 10, 522 |  |  |  |  |  |  |  |
| South Dak |  | 1,291 | 689 | 1, 926 | 3,345 |  |  |  |  |  |  |  |
| Nebrask |  | 3, 823 | 1,661 | 3, 071 | 5,331 |  |  |  | 780 | 5,564 |  |
| Kansas. | $\begin{array}{r} 844 \\ 805 \\ 641 \\ 1,076 \\ 1,693 \end{array}$ | $\begin{array}{r} 824 \\ 758 \\ 579 \\ 4,032 \end{array}$ | 1, 132 | 1,982 | 2,380 | $\begin{array}{r} 61 \\ 30 \\ 1,912 \\ 1,013 \end{array}$ | 2, 328 | 40 |  |  | $\begin{array}{\|l\|l\|} 4 & \cdots \cdots- \\ \hline \end{array}$ | 2,433 |
| Kentucky |  |  | 866 | 1, 132 | ${ }_{641}$ |  |  | 10 | $54$ | 483 |  |
| Alabama |  |  | 90 559 | 308 88 | ${ }_{1} 696$ |  |  |  |  | 1, 025 |  |
| Texas... |  | 2, 312 |  | 738 | 1,107 | 1,410 | 43 10 | $\begin{array}{r}14 \\ 3 \\ \hline\end{array}$ | 13 |  | 1,083 |
| Oklahoma | $\begin{aligned} & 665 \\ & 371 \end{aligned}$ | $\begin{aligned} & 350 \\ & 280 \\ & 2 \end{aligned}$ | $\begin{aligned} & 677 \\ & 186 \\ & 352 \end{aligned}$ | $\begin{aligned} & 592 \\ & 236 \end{aligned}$ | $\begin{aligned} & 281 \\ & 138 \end{aligned}$ | $\left.\begin{gathered} 945 \\ 317 \end{gathered} \right\rvert\,$ | 52 <br> 11 |  |  |  | 1,000 |
| Arkansas |  |  |  |  |  |  |  | 6 | 7 | $\begin{array}{rr}  \\ & 554 \\ 1 & 158 \end{array}$ | 1,3411,4121,037 |
| Montana | 355 | 771 |  | 949 | 1,834 |  | 65 | 611407 | 182 |  |  |
| W yoming | 12, 462 | 13,647 | 8,810 | 11,345 | 17958 |  | 1943,227 |  | 278 |  |  |
| Colorado |  |  |  |  |  |  |  | 4, 282 | 5,607 | 12,354 | 15, 470 |
| Utah | 8161,417 |  | 426 | 563 | 1,074 | 3 | 1,325 | 498 | 48 | 161 | 2, 036 |
| Nevada |  | 726 | 689 | 415 | 465 |  |  | 367 | 259 | 11 | 744 |
| Idaho- | 7, 120 | 7,727 | 6, 853 | 8, 143 | 14, 670 |  | 2, 760 | 4,132 | 4, 376 | 14,945 | 16, 213 |
| W ashing | 2, 630 | 2, 924 | 3, 098 | 3,765 | 6, 194 |  | 609 | 1,279 | 1, 449 | 1,728 | 5, 065 |
| Oregon | 1,903 | 1,628 | 786 | 1,756 | 1,386 |  | 451 | 386 | 302 | 703 | 1, 842 |
| California: |  |  |  |  |  |  |  |  |  |  |  |
| Northern district | 7 | 8, 151 | 7,118 | 8, 403 | 6, 500 | 530 | 1,466 | 1,978 | 1,659 | 227 | 5, 860 |
| ${ }^{\text {S }}$ Southern district | () | 2, 200 | 1, 369 | 1, 687 | 2, 741 | 431 | 1,374 | 40 | 44 | 16 | 1,905 |
| All oth | 1,980 | 1,667 | 1, 123 | 1,336 | 1,593 | 729 | 520 | 386 | 277 | 146 | 2,058 |
| Tot | 161, 596 | 76, 552 | 167, 870 | 199, 165 | 238, 546 | 28, 95 | 61, 416 | 68, 678 | 56, 270 | 48, 81C | 254, 127 |

[^184]Table 250.-Potatoes: Carlot shipments, by States of origin, 1917-1923.

| State, and crop movement season beginning Apr. 1 . | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr | May. | June. | July. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maine: | Cars. | Cars. | Cars. | Cars. | Ciars. |  |  |  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |  |  |  |
| 1917-18. |  |  |  |  | 71 | $1,699$ | $1,986$ | 1,331 | 1, 390 | 1,808 | $1,673$ | $2,020$ | 1,530 | Cas. | 445 | Cars 16 | $14,794$ |
| 1918-19 |  |  |  |  | 91 | 2,076 | 2, 466 | 1, 596 | 1, 700 | 1,979 | 1, 417 | 2,471 | 2, 281 | 1, 618 | 1, 271 | 60 | 19, 026 |
| 1919-20 |  |  |  |  | 947 | 2,211 | 3, 338 | 2, 543 | 2, 465 | 2,837 | 1,474 | 2, 796 | 3,493 | 1, 208 | 1, 132 |  | 23, 444 |
| 1920-21 |  |  |  |  | 91 579 | 1,126 | 2,170 | 2, 046 | 1, 478 | 2, 478 | 2,036 | 2, 495 | 1, 778 | 1, 643 | 458 | 18 | 17, 817 |
| 1921-22-23- |  |  |  |  | 579 198 | 4,452 1,778 | 4,681 | 2, 882 | 2, 768 | 3, 569 | 3, 386 | 4,473 | 4, 814 | 4,459 | 1,918 | 56 | 38, 037 |
| 1922-23- |  |  |  |  | 198 281 | 1,778 3,943 | 3,077 5,737 | 2, 675 3,742 | 2, 359 2,995 | 2, 717 | 2, 782 | 3,513 | 2,589 | 1,523 | 1,131 | 43 | 24, 385 |
| New York: |  |  |  |  | 281 | 3,943 | 5, 737 | 3, 742 | 2,995 |  |  |  |  |  |  |  |  |
| 1917-18 |  |  |  | 36 | 733 | 1,052 | 2, 228 | 1,043 | 478 | 913 | 1, 145 | 1,104 | 891 | 413 | 74 |  | 10, 110 |
| 1918-19 |  |  |  | 80 | 608 | 1,169 | 2,067 | 1,265 | 875 | 902 | 1,687 | 1,012 | 927 | 374 | 116 | 7 | 10,089 |
| 1919-20 |  |  |  | 117 | 782 | + 516 | 2,920 | 2, 071 | 982 | 1,298 | 1,153 | 1,929 | 817 | 214 | 15 | - 3 | 12, 817 |
| 1920-21-22- |  |  |  | $\begin{array}{r}15 \\ 203 \\ \hline\end{array}$ | 336 1,360 | 999 2,121 | 2, 363 | 2, 636 | 1,008 | 1, 316 | 1,787 | 2,317 | 2,063 | 1,429 | 192 | 3 | 16, 502 |
| 1922-23 |  |  |  | 203 93 | 1,360 815 | 2,121 | 4,914 3,396 | 1, 2,646 | 1,356 1,830 | 2, 138 | 1,517 | 1,818 | 1,129 | 428 | 57 | 1 | 18, 988 |
| 1923-24. |  |  | 6 | 52 | 1,867 | 1, 634 | 2, 270 | 1,905 | 979 |  | - | 1 | 5 | 354 | 97 | 3 | 19,295 |
| New Jersey: |  |  |  |  | 1,867 | 1,634 | 2, 270 | 1, |  |  |  |  |  |  |  |  |  |
| 1917-18. |  |  |  | 112 | 4,669. | 3,919 | 1,979 | 563 | 76 | 57 | 84 | 105 | 111 | 27 | 7 | ----- | 11, 709 |
| 1918-19 |  |  | 2 | 303 618 | 3,075 | 1,641 3,292 | 368 970 | 223 410 | 110 56 | 27 | 32 | 48 | 41 | 13 | 6 |  | 5, 889 |
| 1920-21 |  |  |  | 1,567 | 5,942 | 3,282 | 970 2,747 | 410 | 56 118 | 32 37 | 2 24 | 50 109 | $\begin{array}{r}3 \\ 3 \\ \hline\end{array}$ | 5 |  |  | 10,409 |
| 1921-22 |  |  |  | 2, 107 | 5,854 | 1, 634 | 377 | 284 | 49 | 23 | 55 | 75 | 16 | 2 |  |  | 17,142 10,476 |
| 1922-23 |  |  | 7 | 2, 234 | 8,387 | 4,756 | 1,971 | 609 | 73 | 34 | 9 | 174 | 72 | 9 |  |  | 18, 335 |
| Pennsylvania |  |  |  | 86 | 3,869 | 1,704 | 357 | 183 | 19 |  |  |  |  |  |  |  |  |
| 1917-18 |  |  |  |  | 16 | 371 | 1,051 | 578 | 257 | 347 | 299 | 286 | 377 | 125 | 20 |  | 3,727 |
| 1918-19 |  |  |  |  | 14 | 264 | - 489 | 309 | 161 | 175 | 158 | 192 | 240 | 116 | 1 |  | 2,119 |
| 1919-20-21 |  |  |  |  | 80 | 549 | 743 | 964 | 320 | 351 | 236 | 274 | 151 | 71 | 3 |  | 3,742 |
| 1920-21-22. |  |  |  | 1 | 7 69 | 331 426 | 1,316 1,182 | 1,879 578 | 418 | 550 | 397 | 717 | 564 | 291 | 15 | 3 | 6,489 |
| 1922-23 |  |  |  |  | r 124 | 426 893 | 1,182 | 1878 1,176 | 241 44 | 412 | 286 290 | 211 | 121 | 36 74 | 12 | 1 | 3, 564 |
| 1923-24. |  |  |  |  | 30 | 196 | 1, 569 | -835 | 269 |  | 290 |  | 316 | 74 | 12 | 3 | 5,752 |
| Virginia: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917-18 |  | 4 | 4, 962 | 11, 487 | 3,026 | 288 | 110 | 207 | 76 | 22 | 63 | 65 | 101 | 16 | 13 |  | 20, 440 |
| 1918-19 |  | 1 | 2,470 | 7,570 | 936 | 124 | 16 | 410 | 135 | 83 | 43 | 74 | 54 | 13 |  |  | 11, 929 |
| 1919-20 |  |  | 3,955 | 7,311 | 330 | 22 | 13 | 419 | 82 | 19 | 12 | 11 | 20 |  |  |  | 12, 194 |
| 1920-21 |  |  | 4,813 | 8,220 | 1,801 | 236 | 123 | 784 | 171 | 125 | 55 | 73 | 200 | 29 |  |  | 16, 630 |
| 1921-22- |  | 400 | 9,728 | 7,993 | 468 | 59 | 61 | 397 | 86 | 43 | 56 | 131 | 98 | 44 |  |  | 19, 564 |
| 1922-23 |  | 16 | 8,287 5,198 | 9,142 9,443 | 651 572 | 74 64 | 49 26 | 246 284 | 40 17 | 60 | 43 | 58 | 75 | 2 |  |  | 18, 743 |
| North Carolina: |  |  | 5,108 | ¢, 44 | 572 | 64 | 26 | 284 | 17 |  |  |  |  |  |  |  |  |
| 1917-18 |  | 221 | 3,925 | 554 |  | 1 | 6 | 2 |  |  |  | 3 |  | 1 |  |  |  |
| 1918-19 |  | 32 | 4,077 | 1, 421 | 12 | 3 | 4 |  | 15 | 3 | 3 | 16 | 11 | 8 |  |  | 5,605 |
| 1919-20 |  | 3 | 2, 415 | 812 | 59 | 6 | 1 | 2 | 7 | 1 |  |  |  |  |  |  | 3,306 |
| 1920-21- |  | 30 | 3, 288 | 152 | 2 | 2 | 13 | 18 |  | 1 |  | 3 | 4 |  |  |  | 3,913 |
| 1921-22- |  | 404 | 2,515 3,479 | 515 392 | 115 | 21 | 14 | 6 | 2 | 2 | 7 | 1 | 7 | 1 |  |  | 3,597 |
| 1923-24- |  | 201 | 3,479 3,139 | 392 215 | 41 66 | 19 | 14 4 | 6 |  | 2 | 2 | 3 | 3 |  |  |  | 4,144 |

# Table 250.-Potatoes: Carlot shipments, by States of origin, 1917-1923-Continued. 

| State, and crop movement season beginning Apr. 1. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June: | July, | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| South Carolina: 1917-18 | Cars. | Cars. <br> 1, 7.70 | Cars. 670 | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. 2, 440 |
| 1918-19 - |  | 1, 800 | 1,927 | 85 |  |  |  |  |  |  |  |  |  |  |  |  | 2, 2,812 |
| 1919-20 |  | 341 | 838 | 38 |  |  |  |  |  |  |  |  |  |  |  |  | 1, 217 |
| 1920-21 | 2 | 852 | 2, 209 | 6 |  |  |  |  |  | 1 |  |  |  |  |  |  | 3, 070 |
| 1921-22 |  | 2, 035 | 451 | 14 |  |  |  |  |  | 3 |  | 6 |  |  |  |  | 2,509 |
| 1922-23 |  | 3, 293 | 1, 044 | 4 | 1 |  |  |  | 1 | 2 |  |  |  |  |  |  | 4,345 |
| Florida: ${ }_{\text {1923 }}$ |  | 1,848 | 2,347 | 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917-18. | ${ }^{1} 1,472$ | 2,618 | 190 | 4 |  |  |  |  |  | 3 | 5 | 2 |  |  |  |  | 4, 294 |
| 1918-19 | ${ }^{2} 1,264$ | 2,950 | 584 | 36 | -- | 2 |  |  |  | 3 |  |  |  |  |  |  | 4,839 |
| 1919-20 | 2734 | 1,499 | 42 |  |  |  |  |  |  |  |  |  |  |  |  |  | 2,275 |
| 1920-21 | 148 | 2, 335 | 924 | 42 |  |  |  | 2 |  |  |  |  |  |  |  |  | 3,351 |
| 1921-22 | ${ }^{3} 1,775$ | 539 | 28 |  |  |  |  |  |  | 2 |  |  |  |  |  |  | 2,344 |
| 1922-23. | 4 5 5 5 1, 1,712 | 2,214 2,291 | 113 | 3 | 3 |  | 1 |  |  | 3 |  |  |  |  |  |  | 5, 046 |
| Michigan: | 1,089 | 2,291 | 108 | 3 |  |  |  | 1 |  |  |  |  |  |  |  |  |  |
| 1917-18. |  |  |  |  | 16 | 388 | 1,572 | 1,296 | 598 | 458 | 751 | 938 | 1,326 | 1,553 | 531 | 4 | 9, 431 |
| 1918-19 |  |  |  |  | 20 | 328 | 1,547 | 2, 072 | 743 | 790 | 592 | 1,154 | 1,725 | 1,291 | 770 | 30 | 11, 062 |
| 1919-20 |  |  |  |  | 50 | 601 | 2, 687 | 2,329 | 1,043 | 1,099 | 1,011 | 1,714 | 1,134 | . 543 | 26 |  | 12, 237 |
| 1920-21 |  |  |  | 2 | 39 | 577 | 2, 210 | 3,116 | 1,253 | 1,630 | 1990 | 1,657 | 2,174 | 2,632 | 813 | 26 | 17, 119 |
| 1921-22 |  |  |  |  | ${ }^{3}$ | 789 | 3,210 | 1,886 | 880 | 1,516 | 1,240 | 2, 041 | 1,522 | 1,414 | 718 | 3 | 15, 222 |
| 1922-23- |  |  |  |  | 76 | 1,216 | 2, 6,00 | 2, 475 | 1,380 | 1,468 | 1,415 | 2, 168 | 2,920 | 2,321 | 1,633 | ${ }^{6} 157$ | 19, 820 |
| Wisconsin: |  |  |  |  | 50 | 864 | 2, 333 | 2, 359 | 1, 088 |  |  |  |  |  |  |  |  |
| 1917-18. |  |  |  |  | 118 | 1,158 | 3, 707 | 1,383 | 575 | 887 | 1,461 | 1,643 | 1,452 | 1,011 | 447 | 10 | 13, 852 |
| 1918-19 |  |  |  | 1 | 134 | 2,768 | 4,630 | 2, 464 | 1,545 | 2, 460 | 1,598 | 2,122 | 1,608 | 963 | 362 |  | 20,655 |
| 1919-20 |  |  |  |  | 127 | 3, 250 | 7, 019 | 2, 810 | 1,567 | 2, 137 | 1,754 | 1,923 | 893 | -344 | 148 | 3 | 21, 975 |
| 1920-21 |  |  |  |  | 18 | 450 | 3, 189 | 2, 878 | 1, 214 | 2,337 | 1,933 | 2, 385 | 2,234 | 1,592 | 431 | 2 | 18, 661 |
| 1921-22 |  |  |  |  | 76 | 754 | 2, 125 | . 719 | , 626 | 1,367 | 1,201 | 1,993 | 1,166 | . 755 | 260 | 3 | 11, 045 |
| 1922-23 |  |  |  |  | 205 185 | $\begin{array}{r}1,377 \\ \hline 982\end{array}$ | 3,685 2,458 | 2,018 1,415 | 1,635 1,040 | 2, 495 | 1,906 | 2,992 | 2,716 | 1,735 | 944 | 55 | 21, 763 |
| Minnesota: |  |  |  |  |  |  | 2, |  |  |  |  |  |  |  |  |  |  |
| 1017-18 |  |  |  | 15 | 1,312 | 1,918 | 4,074 | 1,445 | 675 | 1,261 | 1,510 | 2,119 | 1,328 | 625 | 179 | 16 | 16, 477 |
| 1918-19. |  |  |  | 96 | 3, 099 | 4,573 | 4, 623 | 1,733 | 758 | 1,839 | 1,359 | 2,365 | 1,612 | 1,018 | 434 | 6 | 23, 515 |
| 1919-20 |  |  |  | 83 | 2, 438 | 5, 359 | 5, 817 | 1,324 | 693 | 1,875 | 1,162 | 1,900 | 1,027 | 262 | 117 | 1 | 22, 058 |
| 1920-21 |  |  |  | 64 | 1,344 | 2,770 | 6,870 | 3, 279 | 934 | 1, 469 | 1,723 | 2,542 | 1,133 | 863 | 214 | 9 | 23, 214 |
| 1921-22 |  |  |  | 508 | 1960 1,432 | 4,869 4,167 | 9,029 | 2, 197 | 892 | 1, 894 | 1,442 | 4, 443 | 2, 514 | 1,080 | 248 |  | 29,568 |
| 1923-24 |  |  |  | 15 | 1,754 | 5, 980 | 7,936 | 2, 650 | 1,120 | 1, | 1, 53 | 4,215 | 3, 274 | 1,350 | 458 | 21 | 28, 908 |
| Nebraska: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917-18. |  |  |  |  | 38 | 27 | 652 | 668 | 74 | 98 | 224 | 190 | 37 | 17 | 1 |  | 2,026 |
| 1918-19. |  |  |  |  | 110 | 450 | 1, 063 | 709 | 264 | 370 | 204 | 320 | 235 | 87 | 11 |  | 3,823 |
| 1919-20 |  |  |  | 1 | 96 | 182 | 712 | 257 | 59 | 173 | 84 | 71 | 22 | 4 |  |  | 1, 661 |
| 1920-21 |  |  |  | 1 267 | 152 | 338 | $\begin{array}{r}924 \\ \hline 1.265\end{array}$ | 600 | 141 | 306 | 284 | 261 | 52 | 11 | 1 |  | 3, 071 |
| 1921-22- |  |  | 1 | 267 | 446 | 938 | 1,265 | 390 | 294 | 495 | 342 | 456 | 238 | 184 | 15 |  | 5, 331 |
| 1922-23. |  |  |  | 51 12 | 570 266 | 744 387 | 903 656 | 461 712 | 376 279 | 743 | 432 | 504 | 530 | 210 | 40 | -------- | 5,564 |



Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[^185]- Fncludes 36 cars in March
- Includes 9 cars in August.

7 Includes 20 ears in March.
8 Includes 115 cars in March.

Table 251.-Potatoes: International trade, calendar years, 1911-1922.

| Country. | A verage, 1911-1913. |  | 1920 |  | 1921 |  | $\stackrel{1922,}{\text { preliminary. }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| Principal exporting countries. | $1,000$ bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. | 1,000 bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ | 1,000 bushels. | 1,000 bushels. |
| Canada | 525 | 1,207 | 923 | 5,583 | 466 | 3, 258 | 347 | 3,609 |
| Czechosiovaki | 36 | 288 | 1860 | ${ }_{1}^{192}$ | 283 | 272 165 | 319 | $\begin{array}{r}\text { 2, } \\ \hline 834 \\ \hline 88\end{array}$ |
| Denmark | $40^{-}$ | 928 | 30 | 7, 954 | 55 | 2, 322 | 123 | 2, 244 |
| Esthonia |  |  |  | 1923 |  | 1719 |  | ${ }^{1} 1,712$ |
| France. | 7, 143 | 8,683 | 2, 465 | 7,903 | 5, 870 | 8,667 | 13, 544 | 5,167 |
| Italy-- | 242 | 3,975 |  | 3, 074 | 706 | 4, 260 | 3 | ${ }_{1}^{4}, 526$ |
| Japan-..-.-- | 1, 952 | 440 16,451 | 44 | 14, 424 | 350 | 18, ${ }^{240}$ | 735 | 1235 11,538 |
| Portugal | 273 | $\begin{array}{r}16,400 \\ \hline 15\end{array}$ | 1770 | 1, 124 |  |  |  |  |
| Spain.- |  | 1,835 |  | 326 |  | 899 | 506 | 1,346 |
| Sweden | 700 |  | 208. | 1,535 | 657 |  | 78 | ${ }^{1} 750$ |
| United States | 5,707 | 1,814 | 6, 062 | 4, 154 | 2, 018 | 3,500 | 1,775 | 2, 897 |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Algeria. | 1,218 | 931 | 1,631 | 473 | 994 | 720 | 1,200 | 614 |
| Argentina | 1,337 | 543 | 191 6,037 | ${ }_{(2)}^{1,560}$ | 4,148 | 24 | 13,666 | 2 |
| Austria-Hungary | 4,070 | 1, 751 |  |  |  |  |  |  |
| Belgium.- | 4, 921 | 8,692 | 1,520 | 2, 371 | 10,946 | 677 | 6,641 | 2,975 |
| Brazil | 939 | ${ }^{(2)}$ | 276 | ${ }^{(2)}$ | 80 | 18 |  |  |
| British In |  |  | 752 | 7 | 769 | 10 | 874 | 12 |
| Cuba | 2, 001 | 2 | 2, 802 |  |  |  |  |  |
| Egypt | 599 | ${ }^{3} 28$ | 785 | 4 | ${ }_{6}^{624}$ | 13 | ${ }_{5}^{594}$ | ${ }_{11}^{215}$ |
| Finland. | 29, 489 | 12,412 | - 172 | 2,109 | 19,728 | ${ }^{4} 2148$ | 6, $\begin{array}{r}527 \\ 6,158\end{array}$ |  |
| Hermany | 29,180 | 12,412 | 26,852 | 1 1,051 | - ${ }_{1} 12$ | ${ }_{1}^{21787}$ | ${ }_{1}^{6} 1403$ |  |
| Norway | 215 | 60 | 97 | 568 | 499 | 21 | 398 | 77 |
| Philippine Islands | 334 309 |  | 291 1527 |  | $\begin{array}{r}352 \\ 1469 \\ \hline\end{array}$ |  | 300 |  |
| Russia ---- | 3,172 | 7,42 | + 456 | 584 | 1, 082 | $51^{-1}$ | 2, 260 | 19 |
| Tunis | ${ }_{5} 594$ | 52 | 316 | 3 | 313 | 3 | 320 | 4 |
| United Kingdom | 11,382 | 6, 246 | 9, 719 | 690 | 5, 678 | 2, 825 | 6, 405 | ${ }^{1} 5,433$ |
| Uruguay --.- | ${ }^{3} 7888$ | ${ }_{77}^{1}$ | $\left.\begin{array}{r} 11,418 \\ 2.139 \end{array} \right\rvert\,$ | 871 | $\begin{array}{r}1955 \\ 1818 \\ \hline\end{array}$ | 1,280 | $\begin{array}{r} 11,325 \\ 849 \end{array}$ | 455 |

Division of Statistical and Historical Research. Compiled from official sources except where otherwise noted

> 1 International Institute of Agriculture. $\begin{aligned} & 2 \\ & 2\end{aligned} \quad$ Eight months, May-December. 8 One year only. 500 bushels.

Table 252.-Potatoes: Farm price per bushel, 1st of month, United States, 19081923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July 1- } \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908 | Cts. $77.8$ | $\underset{83.6}{C_{8}}$ | cts. $78.0$ | $\begin{aligned} & \text { Cts. } \\ & \text { 74. } 8 \end{aligned}$ | $\begin{gathered} \text { Cts. } \\ 69.2 \end{gathered}$ | $\begin{aligned} & \mathrm{Cts.}^{2} \\ & 70.6 \end{aligned}$ | $\begin{gathered} C t s . \\ 72.0 \end{gathered}$ | $\underset{\text { 73. }}{\substack{\text { Cts. }}}$ | Cts. <br> 80.0 | $\begin{gathered} \text { Cts. } \\ 86.3 \end{gathered}$ | Cts. $97.3$ | $\begin{gathered} C_{978 .} \\ 97 . \end{gathered}$ | ${ }_{77.0}$ |
| 09 | 91.0 |  | 71.5 |  | 57.8 |  | 56.0 | 56.2 |  |  |  | 37. |  |
| 1910-11 | 40.1 | 64. | 72.9 | 67.8 | 55.7 | 55.7 | 54. 1 | 55.1 | 55. 3 | 55. 5 | 62. | 63.3 | 5 |
| 1911-12 | 96.3 | 136.0 | 113.7 | 88.3 | 76. 3 | 79.9 | 84.5 | 94. 4 | 102.0 | 117. 1 | 127.3 | 119.7 | 96.0 |
| 1912-13 | 103.6 | 86.5 | 65.0 | 51.1 | 45.5 | 50.5 | 50.6 | 53. 1 | 52.0 | 50.3 | 48.2 | 55. 2 | ${ }^{55.2}$ |
| 1913-14 | 49.8 | 69.2 | 75.3 | 73.9 | 69.6 | 68.7 | 68.4 | 69.7 | 70.7 | 70.0 | 71.4 | 71.3 | 70.0 |
| Av. 1900 | 76.2 | 88. | 79. | 69. | 61.0 | 1. | 62. | 65. | 66.9 | 68. | 69. | 69. | 68. |
| 1914-15 | 81.5 | 87. | 74.9 | 64.7 |  | 48. 7 | 49. | 50.4 | , | 47.8 | 50. | 50.8 | 58.3 |
| 1915-16 | 52.1 | 56.3 | 50.5 | 48.8 | 60.8 | 61.7 | 70.6 | 88.0 |  | 97. 6 | 94. | 98.8 | 66.8 |
| 1916-17 | 102. 3 | 95. 4 | 109.3 | 112. 0 | 135. | 146. 1 | 147. 3 | 172. 4 | 240. 7 | 234.7 | 279. 6 | 274.0 | 155.2 |
| 1917-18 | 247.9 | 170.8 | 139.1 | 122.1 | 127.8 | 122.8 | 121. 0 | 122. | 120. 3 | 92.6 | 80. | 75.5 | 126.4 |
| 1918-19 | 94.9 | 141.6 | 148.8 | 143. 6 | 127. 2 | 119.3 | 116. 1 | 114. | 109. 4 | 105. 4 | 118. 9 | 121. | 126.2 |
| 1919-20 | 128.4 | 192.8 | 187.5 | 164. 2 | 152.8 | 115. 5 | 178. 6 | 217.6 | $\begin{gathered} 243.5 \\ 84.0 \end{gathered}$ | $\begin{array}{r} 295.6 \\ 77.8 \end{array}$ | 393. 6 | 421.3 | 203.7 137.0 |
| 1920-21 | 386.0 | 302. 9 | 184.9 | 134.8 | 118.3 | 114. 5 | 105. 6 | 95.6 | 84.0 | 77.8 | 68.0 | 67.1 | 137.0 |
| Av* ${ }^{\text {1914-1920 }}$ | 156. 2 | 149.6 | 127.9 | 112.9 | 110.8 | 110.4 | 112.7 | 123.0 | 134.7 | 135. | 155. | 158. | 124. |
| 1921-22 | . 9 | 136.9 | 168.6 | 137.6 | 123.5 | 110.1 | 108.6 | 115.5 | 117.8 | 113.6 | 104. 3 | 104. | 122.6 |
| 1922-23 | 103. 3 | 114.8 | 88.0 | 69.6 | 62.8 | 58.1 | 59.3 | 64.7 | 63.6 | 73.6 | 81.3 | 76. 6 | 72.6 |
| 1923-24 | 83.1 | 122. | 119 | 100. 2 | 82. 7 | 82 |  |  |  |  |  |  |  |

[^186]Table 253.-Potatoes: Farm price per bushel, by States, December 1, calendar years, 1909-1929, and value per acre 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\begin{gathered} \text { A } \\ 1909 \\ 1913 \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{gathered} A \nabla . \\ 1914 \\ 1920 \end{gathered}$ | 1921 | 1922 | 1923 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | C | Cts. | Cts. |  |
| Me | 61 | 47 | 42 | 77 | 55 | 53 | 55 | 33 | 70 | 142 | 130 | 120 | 140 | 125 | 109 |  | 45 | 70 | $180.60$ |
| N. H | 73 | 64 | 52 | 87 | 61 | 83 | 69 | 60 | 95 | 166 | 167 | 145 | 175 | 155 | 138 | 135 | 105 |  | 212. 75 |
| Vt | 67 | 44 | 45 | 79 | 55 | 72 | 59 | 47 | 81 | 139 | 140 | 138 | 157 | 125 | 118 | 104 | 93 | 100 | 180.00 |
| Mass | 85 | 79 | 70 | 96 | 75 | 85 | 81 | 71 | 94 | 175 | 175 | 170 | 190 | 150 | 146 | 152 | 95 | 135 | 236. 25 |
| R. I. | 86 | 80 | 69 | 106 | 77 | 90 | 84 | 70 | 92 | 185 | 175 | 173 | 180 | 160 | 148 | 160 | 90 | 130 | 214.50 |
| Conn | 90 | 83 | 70 | 105 | 78 | 87 | 85 | 65 | 96 | 175 | 164 | 165 | 195 | 150 | 144 | 150 | 100 | 147 | 227.85 |
| N.Y | 75 | 50 | 48 | 90 | 58 | 80 | 65 | 44 | 82 | 158 | 130 | 122 | 145 | 118 | 114 | 108 | 60 | 95 | 116.85 |
| N. J | 89 | 82 | 65 | 105 | 66 | 82 | 80 | 61 | 75 | 155 | 141 | 170 | 169 | 125 | 128 | 142 | 72 | 125 | 118. 75 |
| Pa | 80 | 65 | 52 | 93 | 57 | 80 | 69 | 58 | 75 | 148 | 135 | 151 | 154 | 124 | 121 | 133 | 75 | 105 | 110.25 |
| Del. | 83 | 72 | 60 | 96 | 70 | 75 | 75 | 70 | 75 | 125 | 130 | 140 | 125 | 100 | 109 | 110 | 70 | 102 | 81.60 |
| Md | 74 | 66 | 54 | 91 | 58 | 67 | 67 | 60 | 62 | 133 | 119 | 120 | 130 | 95 | 103 | 110 | 60 | 100 | 80.00 |
|  | 72 | 70 | 58 | 96 | 65 | 80 | 74 | 77 | 61 | 137 | 125 | 120 | 157 | 95 | 110 | 110 | 65 | 100 | 93,00 |
| W. V | 85 | 68 | 67 | 104 | 62 | 90 | 78 | 81 | 65 | 158 | 132 | 160 | 175 | 135 | 129 | 163 | 87 | 105 | 126. 00 |
| N. C | 77 | 81 | 73 | 108 | 76 | 82 | 84 | 92 | 73 | 140 | 143 | 135 | 163 | 142 | 127 | 143 | 101 | 120 | 103. 20 |
| S. C. | 110 | 115 | 105 | 122 | 112 | 130 | 117 | 125 | 115 | 175 | 210 | 193 | 200 | 180 | 171 | 150 | 128 | 160 | 156.80 |
| Ga | 110 | 100 | 105 | 110 | 87 | 105 | 101 | 105 | 99 | 175 | 195 | 185 | 217 | 208 | 169 | 165 | 140 | 160 | 112.00 |
| Fla | 135 | 120 | 100 | 145 | 110 | 117 | 118 | 113 | 115 | 200 | 205 | 200 | 210 | 200 | 178 | 190 | 175 | 190 | 174.80 |
| Ohio | 77 | 56 | 51 | 84 | 53 | 85 | 66 | 53 | 70 | 182 | 143 | 150 | 192 | 135 | 132 | 155 | 90 | 100 | 98.00 |
| Ind | 84 | 52 | 50 | 87 | 50 | 84 | 65 | 56 | 56 | 177 | 139 | 135 | 195 | 133 | 127 | 145 | 84 | 86 | 90.30 |
|  | 83 | 61 | 59 | 90 | 60 | 89 | 72 | 61 | 59 | 179 | 152 | 148 | 196 | 145 | 134 | 140 | 90 | 88 | 80.96 |
| Mich | 58 | 35 | 31 | 71 | 41 | 53 | 46 | 30 | 56 | 160 | 105 | 89 | 135 | 92 | 95 | 95 | 34 | 50 | 57.00 |
| W is | 60 | 38 | 38 | 62 | 34 | 54 | 45 | 30 | 45 | 147 | 90 | 80 | 140 | 86 | 88 | 95 | 33 | 50 | 48. 00 |
| Minn | 56 | 35 | 64 | 58 | 28 | 52 | 47 | 32 | 39 | 130 | 91 | 75 | 153 | 80 | 86 | 90 | 35 | 55 | 52.80 |
| Iowa | 60 | 55 | 60 | 73 | 46 | 82 | 63 | 59 | 54 | 175 | 131 | 133 | 192 | 122 | 124 | 140 | 67 | 77 | 64. 68 |
| Mo. | 74 | 67 | 68 | 102 | 69 | 93 | 80 | 73 | 60 | 180 | 137 | 153 | 184 | 151 | 134 | 135 | 92 | 88 | 88.00 |
| N. Dak | 56 | 45 | 91 | 55 | 28 | 56 | 55 | 42 | 41 | 115 | 130 | 73 | 160 | 98 | 94 | 70 | 31 | 35 | 29. 05 |
| S. Dak | 51 | 63 | 85 | 70 | 36 | 63 | 63 | 47 | 35 | 137 | 111 | 93 | 190 | 97 | 101 | 107 | 44 | 50 | 44.00 |
| Nebr | 55 | 60 | 84 | 92 | 51 | 78 | 73 | 54 | 42 | 150 | 107 | 118 | 190 | 120 | 112 | 120 | 47 | 80 | 64. 00 |
| Kans | 83 | 79 | 90 | 106 | 73 | 91 | 88 | 77 | 74 | 165 | 152 | 144 | 190 | 150 | 136 | 135 | 92 | 99 | 85.14 |
| Kу. | 81 | 64 | 62 | 107 | 67 | 102 | 80 | 84 | 55 | 142 | 140 | 165 | 210 | 150 | 135 | 165 | 100 | 120 | 102. 00 |
| Tenn | 71 | 71 | 65 | 108 | 70 | 97 | 82 | 91 | 63 | 149 | 126 | 165 | 172 | 160 | 132 | 165 | 110 |  | 100.80 |
| Ala | 95 | 98 | 94 | 118 | 90 | 105 | 101 | 101 | 90 | 169 | 182 | 181 | 215 | 200 | 163 | 170 | 150 | 150 | 120.00 |
| Miss | 93 | 95 | 94 | 115 | 90 | 100 | 99 | 95 | 84 | 160 | 168 | 165 | 185 | 200 | 151 | 200 | 160 | 154 | 113.96 |
| La | 92 | 91 | 90 | 100 | 83 | 96 | 92 | 97 | 95 | 167 | 184 | 150 | 220 | 203 | 159 | 180 | 150 | 150 | 94. 50 |
| Tex | 98 | 106 | 110 | 126 | 105 | 112 | 112 | 104 | 105 | 190 | 210 | 200 | 210 | 220 | 177 | 190 | 160 | 160 | 88.00 |
| Okla | 98 | 95 | 100 | 124 | 93 | 105 | 103 | 90 | 84 | 195 | 180 | 195 | 205 | 180 | 161 | 185 | 123 | 128 | 84.48 |
| Ark. | 86 | 92 | 85 | 115 | 92 | 100 | 97 | 97 | 76 | 190 | 157 | 184 | 205 | 175 | 155 | 180 | 130 | 136 | 80.24 |
| Mont | 70 | 51 | 85 | 74 | 40 | 67 | 63 | 64 | 50 | 120 | 102 | 80 | 160 | 105 | 97 | 80 | 40 | 73 | 80.30 |
| W yo. | 66 | 63 | 82 | 140 | 60 | 65 | 82 | 70 | 60 | 128 | 104 | 85 | 190 | 120 | 108 | 118 | 50 | 93 | 88.35 |
| Colo. | 60 | 57 | 55 | 99 | 41 | 65 | 63 | 50 | 55 | 135 | 91 | 99 | 170 | 80 | 97 | 73 | 37 | 65 | 79.95 |
| N. Me | 90 | 101 | 104 | 100 | 65 | 140 | 102 | 95 | 95 | 175 | 165 | 160 | 190 | 210 | 156 | 180 | 145 | - 160 | 80.00 |
| Ariz |  | 130 | 126 | 140 | 125 | 135 | 131 | 120 | 100 | 180 | 150 | 205 | 195 | 190 | 163 | 140 | 90 | 140 | 84.00 |
| Utah | 55 | 43 | 59 | 85 | 49 | 58 | 59 | 60 | 63 | 130 | 78 | 97 | 137 | 80 | 92 | 85 | 40 | 70 | 117. 60 |
| Nev | 75 | 85 | 80 | 93 | 60 | 68 | 77 | 70 | 70 | 130 | 120 | 123 | 150 | 156 | 117 | 120 | 60 | 105 | 182. 70 |
| Idaho | 60 | 48 | 65 | 65 | 29 | 50 | 51 | 48 | 56 | 127 | 79 | 81 | 151 | 68 | 87 | 77 | 31 | 50 | 87.50 |
| Wash | 67 | 47 | 73 | 68 | 36 | 60 | 57 | 55 | 53 | 98 | 92 | 101 | 145 | 95 | 91 | 99 | 45 |  | 108. 50 |
| Oreg | 68 | 60 | 70 | 67 | 31 | 58 | 57 | 60 | 60 | 90 | 80 | 100 | 150 | 80 | 89 | 109 | 52 | 70 | 66. 50 |
| Calif------ | 77 | 77 | 85 | 90 | 65 | 70 | 77 | 70 | 75 | 140 | 150 | 120 | 171 | 150 | 125 | 130 | 72 | 130 | 195.00 |
| U. S.- | 69.7 | 54.2 | 55. 7 |  |  | 68.7 | 61.84 | $48.76$ | $61.71$ | $146.1 \mid$ |  | 19.3 | 59.5 | 114. 51 | 10.4 | 10.1 | $58.1$ | 82. 3 | 88.92 |

## Division of Crop and Livestock Estimates.

${ }^{1}$ Based upon farm price Dec. 1

Table 254.-Potatoes: Monthly average jobbing prices, per 100 pounds, at ten markets, 1919-1923.

| Market, and crop movement seasor. | Apr. | May. | June. | Juiy. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919 | \$6.25 | \$4. 29 | \$4.37 | \$3. 43 | \$3. 39 | \$2. 79 | \$2. 57 | \$2. 63 | \$3.09 | \$4.23 | \$4.49 | \$5.49 | \$7. 58 | \$7. 19 |
| 1920-21 |  | 9.03 | 6.93 . | 5. 54 | 2.56 | 1.83 | 1.93 | 1.96 | 1.82 | 1.80 | 1.31 | 1.51 | 1.28 | 1. 22 |
| 1921-22 | 4.41 | 4.18 | 1.90. | 2.23 | 2.90 | 2.11 | 2.09 | 1.92 | 2.07 | 2.33 | 2.18 | 2.03 | 1. 79 | 1.58 |
| 1922-23 | 4.07 | 3.27 | 3.03 . | 1.81 | 1.04 | . 95 | . 96. | 1.22 | 1. 36 | 1.39 | 1.44 | 1.87 | 2.09 | 1. 76 |
| 1923-24 | 7.24 | 4.13 | 3.08 | 3.08 | 2. 57 | 1.49 | 1.85 | 1.67 | 1. 59 |  |  |  |  |  |
| Chicago: 1919-20. |  |  |  |  |  |  | 12.40 |  | 3.83 | 5.54 | 4.80 | 6.00 | 16.98 | 7.40 |
| 1920-21. |  | 9.14 | 8.38 | 16.44 | 13.42 | 12.40 | 11.85 | 12.13 | 11.58 | 11.29 | 11.15 | 11.25 | 1.98 | 1.87 |
| 1921-22 | 4.83 | 4. 50 | 12.42 | 12.33 | 13.11 | 12.65 | 12.00 | 11.75 | 1 1.83. | ${ }^{1} 1.98$ | 11.96 | 11.80 | 11.69 | 11.70 |
| 1922-23 | 4.16 | 3. 57 | 13.03 | 12.29 | 11.63 | 11.17 | 11.00 | 11.05 | 1.96 | 11.02 | 11.07 | 11.35 | 11.53 | 11.13 |
| 1923-24 |  | 4.80 | -13.15 | :12.76 | 12.18 | 11.70 | 1.1.14 | 11.24 | 11.27 |  |  |  |  |  |
| Philadelphia: <br> 1919-20 |  |  |  | 61 |  | 51 |  |  |  |  |  |  |  |  |
| 1920-21 | ${ }^{2} 11.00$ | 8. 39 | 6.87 | 5. 58 | 2. 59 | 1.89 | 1. 87 | 2.09 | 1: 48 | 1. 65 | 1.20 | 31.07 | 1. 05 | 1.03 |
| 1921-22 | 3. 96 | 4.14 | 1.93 | 2.11 | 3.07 | 2.41 | 2.19 | 2.01 | 2. 00 | 2.29 | 2.23 | 1.98 | 1. 69 | 1.39 |
| 1922-23 | 3.76 | 3.13 | $2.89{ }^{-}$ | 1. 77 | 1.10 | 1.00 | 1.09 | 1. 25 | 1.32. | 1.36 | 1. 36 | 1. 79 | 2.17 | 1.61 |
| 1923-24: | 7.21 | 4.03 | 3.02 | 3.24 | 2.84 | 2.06 | 1.96 | 1.66 | 1.73 |  |  |  |  |  |
| Pittsburgh: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919-20 | 6.59 | 4. 99 | 4.56 7.48 | 4.07 5.98 | 4.10 3.01 | 3.18 2.31 | 2.74 2.38 | 2.80 2.48 | 3.33 <br> 1.84 | 4.51 1.60 | 4. 52 | 5. 57 1.48 | 7.00 | 7.66 1.08 |
| 1921-22 | 4.50 | 4.37 | 2. 28 | 2. 73 | 3.43 | 2.71 | 2.30 | 2.10 | 2.01 | 2.26 | 2.13 | 2.01 | 1.85 | 1.61 |
| 1922-23 | 4.36 | 3.47 | 3.19: | 2. 20 | 1.43 | 1.39 | 1.33 | 1.30 | 1.11 | 1.16 | 1. 20 | 1. 67 | 1. 60 | 1.36 |
| 1923-24. | 7.30 | 4.44= | 3.35 | 3.44 | 3.13 | 2.38 | 1.67 | 1.46 | 1.33 |  |  |  |  |  |
| Dt. Louis: 1919-20 |  |  |  |  |  |  |  | 2.99 |  | 4.61 | 4.49 |  | 7.55 | 7.57 |
| 1920-21 |  | 10.75 | 8.35 | 6. 60 | 3.69 | 2.71 | 2.25 | 2.33 | 1.87 | 1. 58 | 1. 39 | 1.48 | 1.23 | 1.22 |
| 1921-22 | 5.76 | 3.48 | 2.77 | 2.84 | 3.16 | 2.83 | 2.28 | 1.89 | 1.93 | 2.27 | 2.14 | 1.98 | 1.89 | 1.91 |
| 1922-23 | 5. 87 | 3.81 | 2.90 | 2.49 | 1.73 | 1. 53 | 1. 26 | 1.20 | 1.10 | 1.16 | 1.18 | 1.44 | 1. 59 | 1.45 |
| 1923-24.--- | 7.32 | 5.56 | 3.05 |  |  | 1.94 | 1.38 | 1.40 | 1.44 |  |  |  |  |  |
| Cincinnati: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919-20. | 5. 54 |  |  |  |  |  |  |  |  |  |  | 5. 51 |  |  |
| 1920-21-22 | 4.12 | 8.65 | 7.59: | 6.49 2.65 | 3.41 3.52 | 2. 2.97 | 2. 19 | 2.60 1.93 | 1.92 ( | 1.68 2.30 | 1. 58 | 1.77 2.06 | 1. 22 | 1.13 1.93 |
| 1922-23. | 3. 96 | 3. 28 | 3.01. | 2.44 | 1. 74 | 1.48 | 1. 30 | 1. 17 | 1.15 | 1. 20 | 1.21 | 1. 46 | 1. 45 | 1.27 |
| 1923-24: | 6: 62 | 4.43 | 3.33 |  |  | 1.85 . | 1.36 | 1.24 | 1.26 |  |  |  |  |  |
| St. Paul: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 |  |  | 8.80 : | 8. 44 |  |  |  |  |  |  |  |  |  |  |
| 1921-22 |  |  | 3.06 | 3.05 | 3:49 |  |  |  |  |  |  |  |  |  |
| $1922 \sim 23$ |  |  | 3.46 |  |  |  |  |  |  |  |  |  |  |  |
| 1923-24 |  |  | 3.55 | 3. 18 |  |  |  |  |  |  |  |  |  |  |
| Minneapolis: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919-20. |  |  | 44.73 | 4.13 |  |  |  |  |  |  |  |  |  |  |
| 1920-21 |  |  | 9.02 | 8. 29 |  |  |  |  |  |  |  |  |  |  |
| 1921-22 |  |  | 3.05 | 2.90 | 3.43 |  |  |  |  |  |  |  |  |  |
| 1922-23 |  |  | 3.36 | 2.86 |  |  |  |  |  |  |  |  |  |  |
| 1923-24. |  |  | 3.37 . | 3.04 |  |  |  |  |  |  |  |  |  |  |
| Kansas City: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919-20. | 8.11 | 7.01 | 3.32 |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21. |  |  | 8. 77 |  | 2.81 | 2.69 | 12.06 | 2. 27 |  |  |  |  | ${ }^{1} 1.37$ | 11.29 |
| 1921-22. | 6. 36 | 3. 93 . | 3.06 |  | 3.09 | 2.63 | ${ }^{1} 1.97$ | ${ }^{1} 1.51$ | 11.65 | 12. 24 | 11.99 | 11.88 | ${ }^{1} 1.77$ | 1.84 |
| 1922:23. | 5.62 | 3.93. | 2.87 |  |  | ${ }^{1} 1.23$ | ${ }^{1} 1.12$ | ${ }^{1} 1.07$ | $11: 03$. | ${ }^{1} 1.05$ | 11.07 | 11.24 | 11.21 | 11.05 |
| 1923 $+24 .-5$ |  | 6.14 | 2.99 |  | 11.79 | 11.52 | ${ }^{1} 1.16$ | 11.30 | ${ }^{1} 1.30$ |  |  |  |  |  |
| Washington: ${ }^{5}$ 1919-20. | 6.45 | 5.33 | 4.58 | 3.88 | 3.98 | 3.03 | 2.86 | 2.96 | 3: 44 | 4.59 | 4.81 | 5. 54 | 7.48 | 7.95 |
| 1920-21. |  | 9.05 | 6. 81 | 5.82 | 3.26 | 2.23 | 2.22 | 2.52 | 2.32 | 2.12 | 1.69 | 1.71 | 1. 53 | 1.26 |
| 1921-22. | 4.73 | 4.32. | 2.11 | 2.39 | 3.27 | 2.83 | 2.61 | 2. 43 | 2.28 | 2. 62 | 2.58 | 2.44 | 2. 27 | 2.18: |
| 1922-23 | 4.48 | 3. 60 | 2.91. | 2.21 | 1.49 | 1.37 | 1.39 | 1.49 | 1. 48 . | 1.48 | 1.41 | 1.73 | 1.99 | 1:69 |
| 1923-24. | 7. 73 | 4.67 | 3.25 | 3. 64 | 3.44 | 2.43 | 1.83 | 1.54 | 1.70 |  |  |  |  |  |

Division of Statistical and Historical Research: Compiled from data of the Fruit and Vegetable Division. Crop movement season for each crop extends from April-of one year through May of the following year, with irregular quotations continuing through June and July. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[^187]Table 255.-Potattes, "Maine" and "State and Western": Average whotesale prices per bushel at New York, 1900-1923.

| Year beginning Sept, 1. | Sept. | Oct. | Now. | Dec. | Jan. | Feb. | Mar. | Apr. | May. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900-1 | \$0.50 | \$0. 45 | \$0.46 | \$0. 56 | \$0.56 | \$0. 52 | \$0. 48 | \$0.48 | \$0.61 |
| 1901-2 | . 76 | . 72 | . 76 | . 78 | . 76 | . 75 | . 84 | . 85 | . 75 |
| 1902-3 |  | . 62 | . 58 | . 60 | . 68 | . 66 | . 68 | . 64 | . 67 |
| 1903-4 | . 48 | . 60 | . 59 | . 74 | . 81 | . 94 | . 96 | 1.16 | 1.02 |
| 1904-5 | . 48 | . 51 | . 51 | . 50 | . 49 | . 46 | . 42 | . 36 | . 30 |
| 1006-6 | . 62 | . 67 | . 74 | . 68 | . 66 | . 60 | . 68 | . 80 | 76 |
| 1906-7 | . 55 | . 58 | . 51 | . 48 | . 48 | . 57 | . 60 | . 56 | . 74 |
| 1997-8 | . 56 | . 63 | . 58 | . 64 | . 70. | . 81 | . 83 | . 84 | . 80 |
| 100-9 | 74 | 69 | 78 | 79 | 79 | 81 | 88 | . 92 | 91 |
| $1909-10$ | 65 | . 56 | . 56 | . 56 | . 58 | . 54 | 49 | . 40 | . 39 |
| 1990-11. | . 55 | . 55 | . 51 | .49 | . 52 | . 49 | .47 | . 62 | . 57 |
| 1911-12 | . 81 | . 79 | . 90 | . 95 | 1.12. | 1. 14 | 1.28 | 1.38 | 1.25 |
| 1912-13 | . 80 | . 59 | . 64 | . 68 | . 63 | . 67 | . 62 | . 66 | . 77 |
| 1913-14 | 74 | . 69 | . 71 | . 70 | . 80 | 83 | . 81 | . 85 | . 85 |
| A verage 1909-1913 | 67 | 64 | 66 | . 88 | 73 | 73 | . 73 | . 78 | . 77 |
| 1914-15 | 62 | 56 | . 54 | . 51 | 51 | 48 |  | 50 |  |
| 1915-16 |  | . 78 | . 76 | . 90 | 1.22 | 1.21 | 1.23 | 1.14 | 1. 12 |
| 1916-17 | 1. 18 | 1.25 | 1. 69 | 1.61 | 1.98 | 2.67 | 2.67 | 3.00 | 3.18 |
| 1977-18 | 1. 20 | 1.62 | 1.37 | 1.39 | 1.66. | 1.47 | 1.14 | 1.11 | . 82 |
| 1918-19. | 1. 58 | 1.44 | 1.37 | 1.50 | 1.42 | 1.26 | 1.11 | 1.43 | 1.49 |
| 1910-20 | 1.51 | 1.37 | 1.57 | 1.79 | 2.31 | 2. 64 | 3.33 | 4.28 | 4.17 |
| 1920-21 ${ }^{1}$ |  | 1.26 | 1.38 | 1.27 | 1.16 | . 88 | . 88 | . 78 | 66 |
| Average 1014-1920 |  | 1.18 | 1.24 | 1.28 | 1.47 | 1.52 | 1.55 | 1.75 | 1.70 |
| 1981-22 | 1.37 | 1.16 | 1.25 | 1.23 | 1.43 | 1.35 | 1.25 | 1.12 |  |
| 1922-23 | 86 | . 78 | . 82 | . 86 | . 93 | . 96 | 1.21 | 1.25 | 1.10 |
| 1903-24. | 1.46 | 1.13 | 1.06 | 1.05 |  |  |  |  |  |

Divtsion of Statisticaliand Fistorical Research. Compiled from Friday or Saturday issues, New York Producer's Price Current.
${ }^{1}$. First two weeks of October, 1920, are quotations on Jerseys.
SWEET POTATOES.
Table 256.-Sweet potatoes: Acreage, production, and value, United States, 18491923.

| Calendar year. | Acreage. | Average yield per aere. | Production. | $\begin{gathered} \text { Average } \\ \text { farm price } \\ \text { per bushel } \\ \text { Dec. 1. } \\ \hline \end{gathered}$ | Farm value Dec. 1. | Value per acre. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & 1,000 \\ & \text { acres. } \end{aligned}$ | Bushels. | $\begin{gathered} 1,000 \\ \text { bushels. } \end{gathered}$ $38,268$ | Cents. | $\begin{gathered} 1,000 \\ \text { dollars. } \end{gathered}$ | Dollars. |
| 1859 |  |  | 48,095 |  |  |  |
| 1809 |  |  | 21,710 |  |  |  |
| 1879 |  |  | 39, 379 |  |  |  |
| 1889. |  |  | 43, 850 |  |  |  |
| 1890: | 557 | 77.5 | 41,59\% | 53.0 | 22, 065 | 41.09 |
| 1900 | 544 | 88.9 | 48,346 | 50.6 | 24, 478 | 45.00 |
| 10015 | 547 | 81.7 | 44,697 | 57.5 | 25, 720 | 47.02 |
| 1902 | 532 | 85.2 | 45, 344 | 58.1 | 26,358 | 49.55 |
| 1908. | 548 | 89.2 | 48, 870 | 58.3 | 28,478 | 51.97 |
| 1904 | 548. | 88.9 | 48, 705 | 60.4 | 29,424 | 53. 69 |
| 1905 | 551 | 92.6 | 51, 034 |  | 29,734 |  |
| 1906 | 554 | 90.2 | 49, 948 | 62. 2. | 31, 063 | 56.07 |
| 1907 | 585 | 88.2 | 49, 813 | 70.0 | 34, 858 | 61.70 |
| 1908 | 599 | 92.4 | 55, 352 | 66.1 | 36,564 | 61.04 |
| 1609. | 6.41 | 901 | 57,764 | 685 | 39,585 | 61.76 |
| 1910. | 641 | 93.5 | 59,938 | 67.1 | 40,216 | 62.74 |
| 1911 | 605 | 90.1 | 54, 538 | 75. 5 | 41, 202 | 68.10 |
| 1912 | 583 | 95.2 | 55, 478 | 726 | 40, 264 | 69.68 |
| 1913 | 625 | 94.5 | 59,057 | 72:6 | 42,884 | 68.61 |
| Average, 1900-1913 | 619 | 92.7 | 57,355 | 71.2 | 40,839 | 65.98. |
| 1914. | 603 | 98.8 | 56,574 | 73:0 | 41,294 | 88.48 |
| 1915. | 731 | 103.5 | 75, 639 | 62.1. | 46, 9 S 0 | 64. 27 |
| 1916 | 774 | 91.7 | 70, 955 | 84. 8 | 60,141 | 77.70 |
| 1917 | 919 | 91.2 | 83, 822 | 110:8 | 92,916 | 101. 11 |
| 1918 | 94t0 | 93, 5 | 87, 924 | 135: 2 | 118, 863 | 128. 45 |
| 1919 | 941 | 103. 2 | 97, 128 | 134. 4 | 130, 514 | 138.70 |
| 1920 | 982 | 104.8 | 103, 925 | 113.4 | 117,834 | 118.78 |
| A verage, 1914-1920. | 848 | 97.6 | 82,281 | 105.7 | 86,935 | 103. 18 |
| 1921. | 1,086: | 92.5 | 98, 654 | 88.1 | 86,894 |  |
| 1922 | 1,117 | 97.9. | 109, 394 | 77.1 | 84, 295 | 75.47 |
| $1923{ }^{2}$ | 993 | 97.9 | 97, 177 | 97.9 | 95, 091 | 95.76 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on farm price Dec. 1.
${ }^{2}$ Preliminary.

Table 257.-Sweet potatoes: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

| State. | Thousands of acres. |  |  | Production, thousands of bushels. |  |  | Total value, basis Dec. 1 price, thousands of dollars. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
| New Jersey | 17 | 20 | 18 | 1,870 | 3, 500 | 2, 196 | 3, 179 | 2, 520 | 3,184 |
| Pennsylvania | 2 | 2 | 2 | 248 | 280 | 260 | 446 | 311 | 364 |
| Delaware. | 9 | 11 | 9 | 900 | 1,716 | 1,008 | 990 | 858 | 1,159 |
| Maryland | 9 | 10 | 9 | 900 | 1,530 | 1, 170 | 1, 260 | 765 | 1,346 |
| Virginia. | 44 | 46 | 44 | 4,180 | 6, 210 | 5,280 | 5, 225 | 5,403 | 5,544 |
| West Virginia. | 3 | 3 | 3 | 345 | 402 | 390 | 621 | 563 | 577 |
| North Carolina | 102 | 110 | 100 | 10,302 | 12, 430 | 10, 500 | 9, 993 | 9, 944 | 10,290 |
| South Carolina | 83 | 104 | 94 | 7, 885 | 9, 568 | 9, 118 | 7,096 | 6,793 | 7,841 |
| Georgia. | 146 | 152 | 137 | 12, 410 | 12, 616 | 11, 508 | 7,818 | 7,696 | 8,746 |
| Florida. | 32 | 32 | 30 | 2, 720 | 2, 720 | 2, 940 | 2,611 | 2,557 | 3,410 |
| Ohio. | 3 | 3 | 3 | 321 | 360 | 336 | 571 | 486 | 504 |
| Indiana | 3 | 3 | 3 | 396 | 375 | 354 | 594 | 450 | 442 |
| Illinois | 9 | 9 | 8 | 990 | 855 | 880 | 891 | 898 | 968 |
| Iowa. | 3 | 4 | 4 | 312 | 312 | 280 | 546 | 437 | 420 |
| Missouri | 14 | 14 | 14 | 1,400 | 1,330 | 1,512 | 1, 400 | 1,396 | 1,633 |
| Kansas. | 4 | 4 | 3 | 500 | 416 | 321 | 575 | 437 | 401 |
| Kentucky | 18 | 20 | 20 | 1,872 | 2, 020 | 2, 060 | 2,153 | 2, 222 | 2,472 |
| Tennessee | 44 | 44 | 35 | 4, 400 | 4,180 | 3,850 | 4,180 | 3,260 | 3,850 |
| Alabama. | 135 | 142 | 113 | 12, 150 | 13, 490 | 11, 752 | 8,870 | 10,118 | 9,754 |
| Mississippi | 107 | 109 | 101 | 8, 560 | 11, 445 | 9,898 | 6, 334 | 7, 897 | 9,007 |
| Louisiana. | 88 | 85 | 78 | 8, 272 | 7, 820 | 7, 020 | 5,377 | 4,770 | 6, 669 |
| Texas. | 100 | 105 | 86 | 8, 200 | 8, 715 | 6, 880 | 6, 970 | 7, 408 | 7,843 |
| Oklahoma | 27 | 27 | 30 | 2, 646 | 2,052 | 2, 700 | 2, 805 | 2, 421 | 3, 051 |
| Arkansas | 54 | 47 | 40 | 5,670 | 3, 760 | 3, 800 | 4,649 | 3,346 | 3,496 |
| New Mexico | 1 | 1 | 1 | 120 | 112 | 134 | 312 | 224 | 268 |
| Arizona. | 1 | 2 | 2 | 125 | 300 | 340 | 228 | 525 | 714 |
| California | 8 | 8 | 6 | 960 | 880 | 690 | 1, 200 | 590 | 1,138 |
| United State | 1, 066 | 1,117 | 993 | 98, 654 | 109, 394 | 97, 177 | 86, 894 | 84, 295 | 95, 091 |

Division of Crop and Livestock Estimates.
1 Preliminary.
Table 258.-Sweet potatoes: Yield per acre, by States, calendar years, 1908-1923.

| State | 1908 | 1909 | 10 | 1911 | 1912 | 1913 | $\left\{\begin{array}{l} \text { Av. } \\ 1909 \\ 1913 \end{array}\right.$ | 1914 | 1915 | 1916 | 1917 | 1 | 1919 | 1920 | $\left\|\begin{array}{c} \text { Av. } \\ 1914- \\ 1920 \end{array}\right\|$ | 1921 | 922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $B u$ | Bu. | $B u$ | $B u$. | Bu. | Bu. | $B u$. | Bu. | Bu. | Bu. | $B u$. | $u$. | $u$. | $u$. | $u$. | Bu. | $u$. |
| New Jer | 133 | 123 | 140 | 130 | 120 | 138 | 130 | 100 | 155 | 100 | 120 | 115 | 125 | 143 | 123 | 110 | 175 | 122 |
| Pennsylv | 102 | 88 | 105 | 121 | 120 | 110 | 109 | 105 | 105 | 100 | 110 | 120 | 148 | 128 | 125 | 100 | 140 | 130 |
| Delaware | 125 | 125 | 115 | 140 | 12 | 135 | 127 | 120 | 135 | 125 | 112 | 120 | 138 | 128 | 125 | 100 | 156 | 112 |
| Maryland | 110 | 115 | 110 | 115 | 125 | 141 | 121 | 12 | 110 | 126 | 118 | 120 | 140 | 27 | 118 | 95 | 135 | 120 |
| Virginia | 95 | 100 | 100 | 0 | 90 | 108 |  | 2 | 110 | 130 |  | 120 |  | 27 |  |  |  | 120 |
| West Virginia | 72 | 100 | 101 | 110 | 115 | 91 | 103 | 92 | 110 | 140 | 5 | 106 | 115 | 119 | 17 | 15 | 134 | 130 |
| North Carolina | 93 | 99 | 105 | 86 | 90 | 100 | 96 | $\stackrel{90}{85}$ | 105 | 107 | 9 | 110 | 107 | 105 |  | 101 | 113 | ${ }_{97}^{105}$ |
| South Carolin | 86 | ${ }_{93}^{95}$ | 91 83 | 84 | 105 | 87 | 7 | 8 | 85 | 80 | ${ }_{93}^{95}$ | 92 | 92 | 105 | 94 89 | 95 | 83 | 84 |
| Florida | 115 | 105 | 108 | 108 | 112 | 110 | 109 | 120 | 112 | 100 | 95 | 110 | 100 | 95 | 105 | 85 | 85 | 98 |
| Ohio | 83 | 110 | 98 | 113 | 118 | 90 | 106 | 110 | 95 | 99 | 95 | 96 | 100 | 103 | 100 | 107 | 120 | 112 |
| Indiana | 71 | 101 | 104 | 114 | 116 | 78 | 103 | 100 | 104 | 100 | 106 | 108 | 105 | 120 | 106 | 132 | 125 | 118 |
| Illinois | 80 | 110 | 110 | 89 | 98 | 70 | 95 | 84 | 110 | 90 | 97 | 82 | 95 | 97 | 94 | 11 | 95 | 110 |
| Iowa | 93 | 110 | 98 | 105 | 90 | 80 | 97 | 100 | 95 | 91 | 90 | 93 | 67 | 104 | 91 | 10 | 78 | 70 |
| Missour | 91 | 90 | 102 | . 91 | 88 | 56 | 85 | 84 | 100 | 70 | 112 | 91 | 104 | 110 | 96 | 10 | 95 | 108 |
| Kansas | 105 | 96 | 101 | 75 | 99 | 50 | 84 | 110 | 110 | 92 | 92 | 80 | 109 | 13 | 104 | 125 | 104 | 107 |
| Kentucky | 84 | 88 | 85 | 9 | 0 | 8 |  | 105 | 105 | 90 | 95 | ${ }_{98}^{95}$ | 105 | 105 | 100 | 104 | 101 | 110 |
| Tenness | 89 | 87 | 85 | 85 | 90 | 80 | 85 | 100 | 100 | 100 | 90 | 96 | $\stackrel{1}{12}$ | 102 | $\stackrel{1}{91}$ | 100 | 95 | 1104 |
| Alabam | 85 | 80 | 85 | 97 | 100 | 95 | 91 |  | 0 |  |  |  |  | , | 1 |  |  |  |
| Mississipp | 92 | 82 | 94 | 85 | 97 | 98 | ${ }_{9}^{91}$ | 87 | 110 | 82 | 65 | 95 | 105 | 110 |  | 80 | 105 | 98 |
| Louisiana | 86 | 90 | 93 | 90 | 84 | 85 | 66 | 87 | 2 | 90 | 79 |  | 110 | 105 | 91 | 2 | $831$ | 80 |
| Tex | 88 | 50 | 56 70 | 71 | 75 92 | ${ }_{64}^{80}$ | 66 74 | 102 | 115 | 74 | $\begin{aligned} & 78 \\ & 90 \end{aligned}$ | 65 | 110 | 115 | 96 | $98$ | 76 | 80 90 |
|  |  |  |  |  | 88 |  |  | 95 | 130 | 91 | 110 | 0 | 100 | 10 | 103 | 105 | 80 |  |
| Arkansas | 120 | 180 | 100 | 150 | 141 | 125 | 139 | 143 | 160 | 125 | 118 | 125 | 120 | 118 | 13 | 120 | 112 | 134 |
| New M | 140 | 163 | 120 | 200 | 140 | 135 | 152 | 200 | 150 | 160 | 150 | 135 | 150 | 12 | 153 | 125 | 150 | 170 |
| Californi | 105 | 160 | 160 | 140 | 156 | 170 | 157 | 161 | 135 | 160 | 16 | 170 | 130 | 127 | 150 | 120 | 110 | 115 |
| Unite | 92.4 | 90.1 | 93. 5 | 90. 1 | 95.2 | 94.5 | 92.7 | 3.8 |  | 1. |  |  | 103.2 | 04 | 97.4 | 92.5 | 97. | 9 |

[^188]Table 259.-Sweet potatoes: Condition of crop, 1st of month, and yield per acre, United States, 1869-1923.

| Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. | Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. ct. | P.ct. | $P . c t$. | $\boldsymbol{P} . c t$. | Bush. |  | P. ct. | $P . c t$. | $P$. ct. | P.ct. | Bush. |
| 1869 | 98.9 | 97.0 | 106.8 | 80.2 | 78.7 | 1899. | 85.1 | 84.1 | 80.7 | 74.9 | 77.5 |
| 1870 | 99.3 | 100.8 | 101.9 | 104.3 | 107. 4 | 1900 | 93.7 | 92.2 | 83.6 | 80.0 | 88.9 |
| 1871 | 98.6 | 93.9 | 90.5 | 88.5 | 99.0 | 1901 | 93.1 | 80.7 | 78.7 | 79.0 | 81.7 |
| 1872 | 95.9 | 98.1 | 95.1 | 87.4 | 83.5 | 1902 | 83.6 | 78. 3 | 77.2 | 79.7 | 85.2 |
| 1873 | 98.8 | 97.9 | 100.3 | 100.8 | 97. 2 | 1903. | 90.2 | 88.7 | 91.1 | 83.7 | 89.2 |
| 1874 | 95.2 | 95.2 | 86.5 | 88.5 | 82.4 | 1904 | 87.3 | 88.5 | 89.9 | 86.1 | 88.9 |
| 1875 | 97.8 | 94.2 | 96.1 | 94.8 | 89.0 | 1905 | 90.6 | 90.1 | 89.5 | 88.6 | 92.6 |
| 1876 | 102.6 | 101. $\theta$ | 100.6 | 96.5 |  | 1906 | 90.9 | 91.2 | 88.7 | 86. 0 | 90.2 |
| 1877 | 96.2 | 95.7 | 91.4 |  |  | 1907 | 85.9 | 85.7 | 85.7 | 82.7 | 88.2 |
| 1878. | 100.3 | 98.9 | 98.2 |  | 98.9 | 1908 | 89.8 | 88.8 | 88.7 | 85.5 | 92.4 |
| 1879 | 87.1 | 82.1 | 90.5 |  | 90.4 | 1909 | 89.7 | 86. 9 | 81.3 | 77.8 | 90.1 |
| 1880 | 99.2 | 98.3 | 99.6 |  | 101.8 | 1910 | 87.3 | 85.4 | 83.9 | 80.2 | 93.5 |
| 1881 | 91.5 | 78.5 | 70.4 |  |  | 1911 | 78.4 | 77.7 | 79.1 | 78.1 | 90.1 |
| 1882 | 100.6 | 102.0 | 104.4 | 104. 6 | 96.2 | 1912 | 86.9 | 85.0 | 84.1 | 82.0 | 95.2 |
| 1883 | 95.5 | 90.3 | 82.1 | 77.3 | 78.0 | 1913. | 86.5 | 85.8 | 81.4 | 80.1 | 94.5 |
| 1884 | 96.1 | 96.9 | 91.6 | 83.4 | 78.8 | A $\overline{\text { r }}$ 1909-1913 | 85.8 | 84.2 | 82.0 | 79.6 | 92.7 |
| 1885 | 97.5 | 97.8 | 95. 0 | 95.6 | 96.4 |  |  |  |  |  |  |
| 1886 | 95.3 | 94.8 | 93.1 | 91.7 | 87.5 | 1914 | 77. 1 | 75.5 85.5 | 81.8 87.5 | 80.7 85.0 | 93.8 103.5 |
| 1887 | 97.2 | 95.7 | 89.8 | 83.4 | 80.8 | 1915 | 88.7 | 85.5 | 87.5 | 85.0 | 103.5 91.7 |
| 1888 | 95.6 |  | 93.0 | 94.6 | 97.2 | 1916 | 90.4 81.9 | 85.9 84.8 | 82.7 85.7 | 79.2 83.2 | 91.7 91.2 |
| 1889 | 92.9 | 93.2 | 93.9 |  | 87.2 |  |  |  |  |  |  |
| 1890 | 96.0 | 89. 9 | 88.7 | 90.3 | 99.3 | 1918 | 86.4 | 78.3 | 74.5 | 77.4 | 93.5 |
| 1891 | 93.7 | 93.7 | 92.0 | 87.5 | 88.5 | 1919 | 90.1 | 87.1 | 86.0 | 83. 9 | 103.2 |
| 1892 | 95.0 | 92.2 | 90.8 | 89.8 | 88.0 | 1920 | 87.2 | 86.9 | 86.8 | 87.1 | 104.8 |
| 1893 | 93.7 | 89.4 | 88.8 | 84.2 | 87.2 | Av.1914-1920. | 86.0 | 83.4 | 83.6 | 82.4 | 97.4 |
| 1894 | 88.4 | 89.7 | 91.4 | 91.6 | 92.4 |  |  |  |  |  |  |
| 1895 | 91.4 | 91.0 | 89.3 | 81.2 | 79.1 | 1921---------- | 85.1 | 84.5 | 80.7 | 77.0 | 92.5 |
| 1896 | 89. 3 | 87.1 | 71.7 | 71.1 | 70.8 | 1922 | 88. 2 | 86.3 80 | 82.4 | 79.0 80.2 | 97.9 97.9 |
| 1897 | 86.5 | 86.4 | 85.4 |  | 72.0 98.3 | 1923. | 82.8 | 80.0 | 79.1 | 80.2 | 97.9 |
| 1898 |  | 92.0 | 90.6 | 89.9 | 98.3 |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Condition at time of harvest.
Table 260.-Sweet potatoes: Carlot shipments, by States of origin, 1917-1922.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{State.} \& \multicolumn{5}{|c|}{Year beginning July 1-} \& \multicolumn{5}{|c|}{Quarters, 1922-23} \\
\hline \& 1917-18 \& 1918-19 \& 1919-20 \& 1920-21 \& 1921-22 \& \[
\begin{aligned}
\& \text { July- } \\
\& \text { Sept. }
\end{aligned}
\] \& \begin{tabular}{l}
Oct.- \\
Dec.
\end{tabular} \& \[
\begin{aligned}
\& \text { Jan.- } \\
\& \text { Mar. }
\end{aligned}
\] \& Apr.June. \& Total. \\
\hline New Jersey \& Cars. \& \[
\begin{aligned}
\& \text { Cars. } \\
\& 1,785
\end{aligned}
\] \& \[
\begin{aligned}
\& \text { Cars. } \\
\& 2,237
\end{aligned}
\] \& Cars. \& Cars. \& \[
\begin{gathered}
\text { Cars. } \\
557
\end{gathered}
\] \& \[
\begin{aligned}
\& \text { Cars. } \\
\& 1,215
\end{aligned}
\] \& Cars. 938 \& \[
\begin{gathered}
\text { Cars. } \\
1488
\end{gathered}
\] \& Cars.
\[
2,858
\] \\
\hline Delaware \& 1,670 \& 1, 377 \& 1,212 \& 1,799 \& 1,722 \& 2 \& 1,677 \& 1,592 \& 361 \& 2,632 \\
\hline Maryland. \& 607 \& 441 \& 1,179 \& 1,473 \& 1,325 \& 349 \& 697 \& 535 \& 168 \& 1,749 \\
\hline Virginia: \& \& \& \& \& \& \& \& \& \& \\
\hline Eastern Shore... \& 5,476 \& 2,948 \& 5,561 \& 4,899 \& 4,786

334 \& 3,083

222 \& 3,184
60 \& 12 \& 13 \& 6,328 <br>
\hline Other \& 139 \& 76 \& 179
750 \& 634
884 \& $\begin{array}{r}334 \\ 1,015 \\ \hline\end{array}$ \& 222
357 \& 60
57 \& 113 \& 138 \& 307
679 <br>
\hline North Carolina \& 463 \& 708 \& 750 \& $\begin{array}{r}884 \\ 58 \\ \hline\end{array}$ \& 1,015 \& 357
1 \& 57
35 \& 126 \& ${ }^{152}$ \& ${ }_{235}^{639}$ <br>
\hline South Carolin \& 152 \& 525 \& 481 \& 58
966 \& 1,375 \& 80 \& 209 \& ${ }_{335}^{126}$ \& 157 \& ${ }_{781}^{238}$ <br>
\hline Tennesse \& 114 \& 545 \& 1,212 \& 901 \& 1,568. \& 94 \& 326 \& 770 \& 301 \& 1,491 <br>
\hline Alabama \& 225 \& 342 \& 401 \& 482 \& 680 \& 364 \& 31 \& 81 \& 61 \& 537 <br>
\hline Louisiana \& 51 \& 150 \& 211 \& 647 \& 912 \& 266 \& 262 \& 365 \& 140 \& 1,033 <br>
\hline Texas... \& 186 \& 329 \& 506 \& 622 \& 752 \& 244 \& 369 \& 319 \& 42 \& 974 <br>
\hline Arkansas. \& 159 \& 149 \& 355 \& 498 \& 578 \& $\begin{array}{r}7 \\ \hline\end{array}$ \& $\begin{array}{r}68 \\ 605 \\ \hline\end{array}$ \& 151 \& 14 \& 240
982 <br>
\hline California
All other \& 314

146 \& | 800 |
| :--- |
| 365 | \& 640

561 \& 708
415 \& 998
918 \& 169
2165 \& 605
230 \& 194
280 \& 14
65 \& 982
740 <br>
\hline Total. \& 10,657 \& 10, 540 \& 15, 485 \& 17, 934 \& 19,310 \& ${ }^{2} 5,960$ \& 8,025 \& 5,852 \& ${ }^{1} 1,727$ \& 21,564 <br>
\hline
\end{tabular}

[^189] Shipments as shown in carlots include those by boat reduced to carlot basis.
$$
{ }^{1} \text { Includes } 4 \text { cars in July. } \quad 2 \text { Includes } 2 \text { cars in June. }
$$

Table 261.-Sueet potatoes: Farm price per bushel, 1 g of month, United States, -1910-1923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan: | Feb | Mar. | Apr. | May. | Juner | Weightedav. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts | Cts | Cts | Cts. | Cts | Cts | Cts. | Cts. | Cts. | Cts. | Cts. | Ct |  |
| 1910 | 75.1 | 78.2 | 81.2 | 77.6 | 71.8 | 67.1 | 75.0 | 80.4 | 84.4 | 91.2 | 99.3 | 98.7 | 77.9 |
| 1911-12 | 99.0 | 105.8 | 102.6 | 91.8 | 80.8 | 75. 5 | 83.0 | 90. 2 | 98. 0 | 109.8 | 118.0 | 115.0 | 92.5 |
| 1912-13 | 112.2 | 107.8 | 96. 7 | 84.4 | 76:8 | 72.6 | 80.4 | 85.4 | 88.9 | 92.6 | 98.8 | 92.0 | 87.1 |
| 1913-14 | 90.1 | 94.1 | 943 | 83.9 | 75.7. | 72:6 | 79.2 | 84.3 | 86.7 | 89.6 | 94.5 | 94.2 | 84. 6 |
| Av. 1910-1913 | 91.4 | 96.5 | 93.4 | 84.4 | 76.3 | 72.0 | 79.4 | 85.1 | 89.5 | 95.8 | 101. 4 | 100.0 | 85.5 |
| 1914-15 | 82.6 | 97.5 | 92.8 | 87.3 | 76.3 | 73.0 | 79.0 | 82.0 | 84. 7 | 90.7 | 95.6 | 96.7 | 85.0 |
| 1915-16 | 88.9 | 85.8 | 84.6 | 72.7 | 63.7 | 62.1 | -64.9 | 71. 2 | 77.3 | 78.0 | 80.5 | 83.4 | 73.5 |
| 1916-17 | 79.4 | 87.1 | 83.9 | 83.7 | 80.6 | 84.8 | 90.1 | 95.8 | 110.7 | 124.0 | 141.3 | 149.4 | 91.4 |
| 1917-18 | 140.5 | 129.3 | 132. 6 | 116. 1 | 111.2 | 110.8 | 117.2 | 123. 1 | 142.7 | 151.6 | 155.0 | 148. 8 | 124. I |
| 1918-19 | 134.3 | 144.7 | 156. 2 | 160.6 | 146. 0 | 135.2 | 142.1 | 143.1 | 153.7 | 160.7 | 174.6 | 173.7 | 149.8 |
| 1919-20 | 159.8 | 167.9 | 175. 4 | 154. 7 | 143. 9 | 134.4 | 138. 2 | 156. 6 | 172. 2 | 185. 8 | 205. 2 | 216. 6 | 157.8 |
| 1920-21 | 213.6 | 223.5 | 200.7 | 160.8 | 122. 1 | 113.4 | 113.0 | 117.8 | 119.8 | 127.4 | 127.2 | 128.8 | 149.7 |
| AF. 1914-1920 | 128.4 | 133.7 | 133. 2 | 119. 4 | 1063 | 102.0 | 106. 4 | 112.8 | 123:0 | 131. 2 | 139.9 | 142.5 | 118:8 |
| 1921-22 | 125. 0 | 144. 1 | 135. 6 | 108.3 | 89.5 | 88.1 | 95. 1 | 96.8 | 110.7 | 111.7 | 114. 1 | 121.2 | 109.8 |
| 1922-23 | 119.0 | 128. 4 | 107.6 | 94.8 | 80.7 | 77.1 | 82.9 | 87.3 | 92: 3 | 98.6 | 103.8. | 105.8 | 95.0 |
| 1923-24 | 114. 0 | 123.3 | 133. 7 | 111.6 | 102. 2 | 97.9 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 262.-Sweet potatoes: Farm price per bushel, by States, December 1, calendar years, 1908-1923, and value per acre 1929.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\begin{gathered} A \nabla . \\ 1909 \\ 1913 . \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\left\|\begin{array}{c} A \nabla . \\ 1914- \\ 1920 . \end{array}\right\|$ | 1921 | 1922 | 1923 | Value per acre 1923.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts | Dolls. |
| N. J.----- | 82 | 79 | 61 | 100 | 84 | 78 | 80 | 95 | 70 | 120 | 160 | 190 | 220 | 155 | 144 | 170. | 72 | 145 | 176.90 |
| Pa | 93 | 89. | 75 | 105 | 75 | 90 | 87 | 86 | 75 | 135 | 140 | 185 | 180 | 155 | 137 | 180 | 111 | 140 | 182.00 |
| Del | 70 | 60 | 55 | 70 | 68 | 60 | 63 | 70 | 62 | 81 | 120 | 125 | 110 | 109 | 95 | 110 | 50 | 115 | 128.80 |
| Md | 70 | 68 | 58 | 75 | 63 | 60 | 65 | 70 | 70 | 88 | 100 | 150 | 133 | 115 | 104 | 140 | 50 | 115 | 149. 50 |
| Va | 68 | 70 | 63 | 74 | 75 | 70 | 70 | 76 | 65 | 90 | 110 | 145 | 155 | 95 | 105 | 125 | 87 | 105 | 123.00 |
|  | 94 | 85 | 88 | 100 | 90 | 100 | 93 | 98 | 92 | 126 | 140 | 204 | 210 | 150 | 146 | 180 | 140 | 148 | 192.40 |
|  | 53 | 57 | 55 | 63 | 62 | 81 | 60 | 65 | 50 | 75 | 105 | 132 | 138 | 114 | 98 | 97 | 80 | 98 | 102. 90 |
| S. | 61 | 63. | 64 | 72 | 68 | 75 | 68 | 70 | - 65 | 85 | 104 | 142 | 148 | 117 | 104 | 90 | 71 | 86 | 83.42 |
| Ga | 58 | 62 | 65 | 73 | 66 | 68 | 67 | 69 | 61 | 81 | 105 | 125 | 110 | 97 | 93 | 63 | 61 | 76 | 3. 84 |
|  | 70 | 71. | 75 | 83 | 73 | 75 | 75 | 80. | -68 | 86 | 115 | 125 | 140 | 120 | 105 | 96 | 94 | 116 | 113.68 |
|  | 101 | 84 | 86 | 100 | 87 | 106 | 98 | 96 | 98 | 150 | 175 | 175 | 215 | 175 | 155 | 178 | 135 | 150 | 168.00 |
| , | 102 | 84 | 83 | 96 | 89 | 103 | 91 | 90 | 90 | 150 | 165 | 195 | 215 | 160 | 152 | 150 | 120 | 125 | 147.50 |
| III. | 102 | 84 | 89 | 110 | 95 | 106 | 97 | 95 | 82 | 125 | 150 | 175 | 175 | 135 | 134 | 90 | 105 | 110 | 121.00 |
| Iow | 100 | 92 | 105 | 110 | 108 | 150 | 113 | 127 | 108 | 192 | 210 | 210 | 250 | 247 | 192 | 175 | 140 | 150 | 105. 00 |
| Mo | 87 | 88 |  | , 105 | 95 | 105 | 95 | - 96 | - 82 | 150 | 141 | 186 | 187 | 155 | 142 | 100 | 105 | 108 | 116.64 |
| Kı3n | 105 | 107 | 103 | 130 | 103 | 110 | 111 | 108 | 100 | 150 | 160 | 222 | 185 | 160 | 155 | 115 | 105 | 125 | 138.75 |
| Ki | 82 | 73 | 75 | 88 | 85 | 94 | 83 | 77 | 70 | 100 | 125 | 175 | 160 | 150 | 122 | 115 | 110 | 120 | 123.60 |
| Ten | 63 | 68 | 69 | 75 | 72 | 80 | 73 | 69 | - 59 | 87 | 105 | 136 | 117 | 123 | 99 | 95 | 78 | 100 | 110.00 |
| Ala, | 63 | 68 | 65 | 68 | 71 | 67 | 68 | 65 | 57 | 74 | 92 | 115 | 113 | 100 | 88 | 73 | 75 | 83 | 86.32 |
| M1s | 63 | 69 | 60 | 62 | 62 | 62 | . 63 | , | 55 | A | 97 | 104 | 112 | 105 | 86 | 74 | 69 | 97 | 89. 18 |
| La | 63 | 59 | 65 | 60 | 65 | 70 | 64 | 64. | 50 | 66 | 104 | 128 | 115 | 93 | 89 | 65 | 61 | 95 | 85.50 |
| Tex | 77 | 99 | 108 | 104 | 104 | 95 | 102 | 87 | 70 | 90 | 140 | 175 | 150 | 130 | 120 | 85 | 85 | 114 | 91. 20 |
| Orka. | 82 | 114 | 110 | 125 | 109 | 104 | 112 | 80 | 73 | 135 | 160 | 220 | 180 | 132 | 141 | 106 | 118 | 113 | 101.70 |
| Ark | 71 | 90 | 73 | 82 | 90 | 80 | 83 | 77 | 61 | 90 | 96 | 138 | 115 | 105 | 97 | 82. | 8 | 92 | 87.40 |
| N. M | 108 | 120 | 118 | 144 | 105 | 130 | 123 | 113. | 120 | 180 | 205 | 250 | 225 | 220 | 188 | 260 | 200 | 200 | 268.00 |
| Ariz: | 140 | 140 | 140 | 160 | 150 | 170 | 152 | 150. | - 150 | 185 | 227 | 238 | 250 | 230 | 204 | 182 | 175 | 210 | 357.07 |
| Catif. | 80 | 90. | 95 | 110 | . 94 | 100 | 98 | 87 | 80 | 100 | 150 | 150 | 179 | 160 | 129 | 125 | 67 | 165 | 189.75 |
| U. S.- | 66.1 | 70.8 | 67. 1 |  |  | 72.0 | 71.7 | 73.0 | , 62.1 | 84.8 | 110.8 | 135. 2 | 134.4 |  |  |  | 77.1 | 97. 9 | 95. 76 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based upon farm price Dec. 1.

Table 263.-Sweet potatoes: Average jobbing prices per bushel at 10 markets, 1920-1923.


Table 263.-Sweet potatoes: Average jobbing prices per bushel at 10 markets, 1920-1923-Continued.

| Market, and year beginning Aug. 1. | August. ${ }^{1}$ |  | September. ${ }^{2}$ |  | October average. | November average. | December average. | January average. | February average. | March average. | April. |  | May. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Range. | Average. | Range. | A verage. |  |  |  |  |  |  | Range. | Average. | Range. | A verage. |
| Kansas City: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21-22 | \$2.00-\$2. 25 | \$2.15 | \$1.50-\$2.00 | \$1.75 |  | \$1. 62 | \$1. 48 | \$1. 59 | \$1. 64 | \$1. 66 | \$1. 75-\$2. 25 | \$1. 92 | \$1.85-\$2. 25 | \$2. 01 |
| 1921-22- | 1.50-1.65 | 1.56 | $1.00-1.50$ $.75-1.00$ | 1.25 .89 | $\$ 1.01$ .78 | 1.10 .62 | 1.21 1.04 | 1.30 1.12 | 1.22 1.12 | 1.19 1.13 | +85-1.25 | 1.09 1.19 | .85-1.00 | . 92 |
| 1923-24 |  |  |  |  |  |  | 1.54 |  | 1.12 | 1.13 | . $90-1.75$ | 1.19 |  |  |
| Washington: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920-21 ${ }^{3}$.- | 2.15-2.62 | 2.36 | 1.08-2.46 | 1. 63 | 1.17 | 1.06 | 1.09 | 1. 66 | 1.73 | 1. 72 | 1.38-2.00 | 1.59 | 1.62-2.50 | 1.89 |
| 1921-22-23 ${ }^{3}$. | 1.27-1.62 | 1.40 | .85-1.35 | 1. 10 | . 97 | . 96 | 1.26 | 1. 58 | 1.68 | 1.68 | 1.08-1.50 | 1.32 | $1.00-1.40$ | 1.14 |
| 1922-23 ${ }^{\text {a }}$. |  |  | $.46-1.69$ $.77-1.38$ | .62 1.06 | .58 .95 | .73 1.19 | .68 1.87 | 1.06 | 1.06 | . 96 | . $62-1.25$ | . 96 |  |  |

[^190] made from larger to smaller units or vice versa, in order to obtain comparability
${ }^{1}$ Quotations began Aug. 23, 1920 and 1921.
${ }^{2}$ Quotations began Sept. 18, 1923.
${ }^{B}$ Sales direct to retailers.

## TOMATOES.

Table 264.-Tomatoes: Commercial acreage, yield per acre, and production, for table and canning stock, 1921-1923.

| State. | Acreage. |  |  | Yield per acre. |  |  | Production. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | 1923 | 1921 | 1922 | 19231 |
| Arkansas | Acres. 1, 030 | Acres. <br> 5,780 | Acres. | Tons. | Tons. | Tons. | Tons. | Tons. | $T \mathrm{ons}$. |
| California | 15, 230 | 31,310 | 43, 860 | 3. 4 | 7.0 | 2.4 |  |  | 19, 000 |
| Colorado | -910 | 2, 430 | 43,830 3,830 | 6. 2 | 8.3 | 5. 2. | $\begin{array}{r}\text { 52, } \\ 5 \\ \hline\end{array}$ | 219,200 20 | 293, 1900 1900 |
| Delaware. | 2, 530 | 12,640 | 24, 590 | 4.9 | 3.9 | 5.4 | 12,400 | 49, 300 | 132, 800 |
| Florida | 18,040 | 33, 710 | 36, 360 | 4.0 | 3.6 | 3.1 | 72, 200 | 121, 400 | 112, 700 |
| Illinois. | 6, 080 | 12,500 | 9, 270 | 3.5 | 4.5 | 3.4 | 21,300 | 56, 200 | 31, 500 |
| Indiana | 25, 150 | 56, 040 | 69, 490 | 5.0 | 5.8 | 3.0 | 125, 800 | 325, 000 | 208, 500 |
| Iowa-- | 2,240 | 3, 180 | 3, 980 | 3.3 | 6.7 | 5. 5 | 7, 400 | 21, 300 | 21, 900 |
| Kentucky | 4, 300 | 8,820 | 9, 350 | 3.4 | 3.9 | 2.6 | 14, 600 | 34, 400 | 24, 300 |
| Maryland | 12,830 | 41,300 | 49, 140 | 4.2 | 3.6 | 5.4 | 53,900 | 148, 700 | 265, 400 |
| Michigan | 1,920 | 5, 100 | 3,900 | 5.6 | 4.8 | 3.7 | 10,800 | 24, 500 | 14,400 |
| Mississipp | 7,150 | 11, 180 | 11, 110 | 3.1 | 3.7 | 2. 4 | 22, 200 | 41, 400 | 26,700 |
| Missouri | 5,410 | 17, 510 | 22, 490 | 2.9 | 3.2 | 2.5 | 15,700 | 56, 000 | 56, 200 |
| New Jersey | 23, 360 | 27, 160 | 30,740 | 5.0 | 5.2 | 4.8 | 116, 800 | 141, 200 | 147, 600 |
| New York | 6,360 | 14, 680 | 16, 560 | 8.2 | 7. 9 | 4.2 | 52, 200 | 116, 000 | 69, 600 |
| Ohio. | 7,860 | 16, 850 | 17, 880 | 5.5 | 5. 4 | 4.7 | 43, 200 | 91, 000 | 84, 000 |
| Pennsylvania | 1, 480 | 4,280 | 5,200 | 4.9 | 5. 7 | 4.5 | 7,300 | 24, 400 | 23,400 |
| South Carolina | 350 | 1,100 | 1,600 | 2. 9 | 3. 0 | 2.9 | 1,000 | 3,300 | 4,600 |
| Tennessee | 2, 890 | 9, 220 | 9, 020 | 2.7 | 3.3 | 2.1 | 7,800 | 30,400 | 18,900 |
| Texas. | 8,730 | 12,490 | 8, 590 | 3.3 | 2.1 | 2.4 | 28,800 | 26, 200 | 15, 800 |
| Utah | 1,250 | 3,820 | 4, 890 | 12.3 | 10.0 | 8.8 | 15,400 | 38, 200 | 43,000 |
| Virginia | 3,460 | 10,710 | 15, 650 | 3.0 | 4.3 | 4.2 | 10,400 | 46, 100 | 65, 700 |
| West Virginia | 1,110 | 570 | 490 | 3.0 | 4.3 | 2.9 | 3,300 | 2,500 | 1,400 |
| Wisconsin | 200 | 220 | 360 | 3.2 | 4. 0 | 6.1 | 600 | 900 | 2, 200 |
| Other States | 430 | 820 | 1,720 | 4.0 | 4.5 | 3.2 | 1,700 | 3,700 | 5,500 |
| Total | 160, 300 | 343, 420 | 405, 990 | 4.6 | 4.8 | 4.2 | 736, 000 | 1,664,600 | 1,708,900 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 265.—Tomatoes: Carlot shipments by States of origin, calendar years, 1917-1923.

| State. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York | Cars. $143$ | Cars. 381 | Cars. 457 | Cars. 845 | Cars. $1,098$ | Cars. <br> 1,902 | Cars. 1, 112 |
| New Jersey | 2, 239 | 2,006 | 1,012 | 2,356 | 2,130 | 1,930 | 1, 621 |
| Delaware. | 877 | 1,130 | - 502 | 153 | 189 | - 413 | 1, 321 |
| Maryland | 237 | 200 | 206 | 138 | 128 | 278 | 267 |
| Florida. | 4,695 | 3,700 | 4, 501 | 3, 749 | 5,774 | 10,288 | 9,957 |
| Ohio | 628 | 799 | 489 | 330 | 351 | 557 | 934 |
| Indiana | 524 | 1, 150 | 948 | 1, 148 | 528 | 1, 303 | 1,106 |
| Illinois | 487 | 393 | 234 | 340 | 155 | 229 | 1249 |
| Tennessee | 947 | 654 | 368 | 805 | 357 | 920 | 494 |
| Mississippi | 1,063 | 1,379 | 1,388 | 1,363 | 1,961 | 3,441 | 2, 144 |
| Texas | 1, 278 | 1, 123 | 1,205 | 1,286 | 1,954 | 1,844 | 1,085 |
| California | 519 | 1, 514 | 2,186 | 1,958 | 1,714 | 2,305 | 3,273 |
| All other | 478 | 1,042 | 1,007 | 1, 085 | . 860 | 1,258 | 1,229 |
| Total | 14, 115 | 15, 471 | 14, 503 | 15, 556 | 17, 199 | 26, 668 | 23,792 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.
Table 266.-Tomatoes: Farm price, per bushel, 15th of month, United States, 1913-1923.

| Month. | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| July | 161. 4 | 167. 4 | 141. 4 | 161. 5 | 194. 3 | 219. 1 | 240.3 | 324. 4 | 319.6 | 270.0 | 310.7 |
| August | 95.8 | 92. 5 | 66. 4 | 88.4 | 124. 3 | 133. 1 | 177. 0 | 168. 4 | 142. 4 | 102.0 | 165. 2 |
| Septembe | 68. 0 | 63. 0 | 56. 9 | 75.6 | 109. 5 | 103. 0 | 137. 2 | 104. 4 | 103. 6 |  | 106. 6 |
| October | 73. 0 | 60.3 | 67.9 | 82.1 | 117.6 | 108.6 | 117.7 | 98.9 | 113.5 | 79.6 | 122.8 |

Division of Crop and Livestock Estimates.
$85813^{\circ}$ - чвк 1923--50

Table 267.-Tomatoes: Average jobbing prices, per 4-basket and 6-basket carriers at 10 markets, 1921-1923.

| Market, and calendar year. | 4-basket carrier. |  | 6-basket carrier, June. | Market, and calendar year. | 4-basket carrier. |  | 6-basket carrier, June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | June. | July. |  |  | June. | July. |  |
| New York: |  |  |  | Cincinnati: |  |  |  |
| 1922 | 11.70 | \$1. 20 | \$2. 96 | 1921-.-- | \$1. 52 | \$1. 05 | \$2. 63 |
| 1923 | 2.32 |  | 4. 23 | 1923 |  |  |  |
| Chicago: |  |  |  | St. Paul: |  |  |  |
| 1921. | 1.59 | 1. 05 |  | 1921 |  |  |  |
| 1922 | 1. 18 |  | 2.98 | 1922. | 1. 23 |  | 2.80 |
| 1923--7-- | 2.13 |  |  | 1923----- | 2.11 |  |  |
| Philadelphia: | 1.41 |  |  | Minneapolis: |  |  |  |
| 1922------- | 1.06 |  | 1,77 | 1922-- | 1.30 |  |  |
| 1923-- | 2.11 |  | 3. 46 | 1923 | 2. 20 |  |  |
| Pittsburgh: |  |  |  | Kansas City: |  |  |  |
| 1921--- | 1.58 | 1. 22 | 3. 19 | 1921..---- | 1.68 | . 67 |  |
|  | 215 |  | 3. $8{ }^{-1}$ | 1923 | 2.34 |  |  |
| St. Lotis: |  |  |  | Washington: 1 |  |  |  |
| 1921.- | 1.61 | . 71 |  | 1921-..-- |  | 1. 32 | 3.03 |
| 1922 |  |  |  | 1922 | 1.21 |  | 3. 21 |
| 1923. | 215 |  |  | 1923 | 2.19 |  | 4.31 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.
${ }^{1}$ Sales direct to retailers.
Table 268.-Tomatoes, canned: Production in the United States, calendar years, 1891-1923.

| State. | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cases. 1 | Cases ${ }^{1}$ | Cases. 1 | Cases. ${ }^{1}$ | Cases. 1 | Cases. ${ }^{1}$ |
| Massachusetts | 10, 000 | 6,557 | 3, 400 | 9,800 | 5,000 |  |
| Connecticut | 14, 400 | 14, 750 | 9,500 | 19,325 | 18,000 | 10,200 |
| New York | 114, 774 | 146, 290 | 160,887 | 164,378 | 150, 617 | 96, 308 |
| New Jersey | 950, 833 | 862,692 | 977, 242 | 1,378,090 | 756, 041 | 686,490 |
| Pennsylvania | 15, 000 | 18,920 | 24, 304 | 21,099 | 10,825 | 7,450 |
| Delaware | 264, 950 | 175, 700 | 271,277 | 399, 125 | 280,934 | 362,319 |
| Maryland | 744, 010 | 977, 742 | 1,417,628 | 2, 158, 878 | 1,317,606 | 1, 031,500 |
| Virginia ${ }^{2}$ | 88, 360 | 60, 386 | 45, 020 | 67, 125 | 87, 830 | 49,830 |
| North Carolina | 3, 900 | 1,500 | 7,350 | 8,879 | 22, 210 |  |
| South Carolina |  | 7,500 | 2,950 | 4,800 | 20, 500 |  |
| Georgia | 3,000 | 12,400 | 4,700 | 3,500 | 3,166 |  |
| Ohio. | 90,950 | 87, 840 | 64,720 | 249, 391 | 178, 247 | 150, 140 |
| Indiana. | 341, 217 | 282, 717 | 347, 260 | 912, 856 | 435, 557 | 447,283 |
| mlinois | 68, 324 | 42, 200 | 64, 400 | 159, 360 | 101, 539 | 82, 965 |
| Míchigan | 73, 506 | 39, 602 | 30, 502 | 59,100 | 59, 238 | 20,650 |
| Wisconsin. |  |  | 3,250 |  | 2,900 | 9,736 |
| Iowa | 94, 800 | 57, 500 | 82, 719 | 86, 373 | 91, 641 | 61,437 |
| Missouri | 90, 350 | 64, 621 | 122,493 | 186, 210 | 155, 900 | 110, 729 |
| Nebraska | 26, 900 | 2,210 | 16,900 | 32,950 | 13,710 | 8,070 |
| Kansas | 50,700 | 30,833 | 76,815 | 85, 050 | 33,700 | 32, 650 |
| Kentucky | 10,000 | 2,200 | 6,500 | 30, 893 | 13,700 | 10,800 |
| Alabama |  | 1,170 | 2, 200 | 4,350 | 2,850 |  |
| Mississippi | 4,500 | 100 | 2,300 7,521 | 5,500 7,816 |  |  |
| Oklahoma | 4, 30 |  | 2,500 | 2,500 | 9,600 |  |
| Arkansas. | 14,500 | 2,500 | 14,000 | 20,300 | 9, 100 | 4,000 |
| Colorado. | 12, 600 | 39, 262 | 49,500 | 79,110 | 21,000 | 55, 500 |
| Utah |  | 55, 000 | 29,009 | 46, 000 |  |  |
| California | 218, 311 | 230, 943 | 451, 547 | 222, 913 | 233, 259 | 183, 317 |
| All other- |  |  |  |  |  | 2,523 |
| Ưited States | 3,315, 885 | 3, 223, 135 | 4, 298, 443 | 6, 426, 669 | 4, 034, 670 | 3, 423,900 |

[^191]${ }^{1}$ Stated in cases of 24 No. 3 cans. ${ }^{2}$ Includes West Virginis.

Table 268.-Tomatoes, canned: Production in the United States, calendar years, 1891-1923-Continued.


[^192]2 Includes West Virginia.

[^193]Table 268.-Tomatoes, canned: Production in the United States, calendar years, 1891-1923-Continued.

| State. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922. | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ | Cases. ${ }^{1}$ |
| New York | 256, 000 | 174, 000 | 552, 830 | 395, 904 | 436, 509 | 515, 000 | 214,000 | 340, 000 | 266, 000 |
| New Jersey .- | 325, 000 | 712, 000 | 380, 116 | 667, 063 | 59, 678 | 517, 000 | 116, 000 | 337, 000 | 412,000 |
| Delaware..-- | 711, 000 | 1, 199, 000 | 1, 380, 805 | 879, 070 | 188, 920 | 553, 000 | 176, 000 | 590, 000 | 1,216,000 |
| Maryland. | 3,084,000 | 6, 042, 000 | 5, 933, 239 | 6,649, 475 | 2, 528, 927 | 3, 347, 000 | 1,656,000 | 3, 205, 000 | 5,722,000 |
| Virginia ${ }^{2}$ | 969, 000 | 928, 000 | 1, 170, 504 | 1, 547, 291 | 852, 991 | 1, 162, 000 | 217,000 | 891, 000 | 963, 000 |
| Ohio...-- | 157, 000 | 186, 000 | 107, 491 | - 357, 283 | 172, 367 | 142,000 | 71, 000 | 179, 000 | 174,000 |
| Indiana | 419, 000 | 760, 000 | 398, 327 | 968, 219 | 875, 598 | 778, 000 | 530, 000 | 1, 312, 000 | 717,000 |
| Missouri. | 252, 000 | 211, 000 | 704, 347 | 352, 821 | 438, 720 | 715, 000 | 136, 000 | 775, 000 | 839, 000 |
| Utah | 329, 000 | 373, 000 | 512, 546 | 952, 539 | 594, 066 | 444, 000 | 132, 000 | 664, 000 | 584,000 |
| California | 1,281,000 | 1, 635, 000 | 2, 603, 019 | 1, 789, 904 | 3, 051, 688 | 1, 773, 000 | 339, 000 | 1, 701, 000 | 2, 397, 000 |
| All other | 686, 000 | 922, 000 | 1, 332, 850 | 1,322, 803 | 1, 510, 106 | 1, 422, 000 | 430, 000 | 1,544, 000 | 1,382, 000 |
| U. S. | 8,469,000 | 13,142,000 | 15,076,074 | 15,882,372 | 10,709,660 | 11,368,000 | 4,017,000 | 11,538,000 | 14, 672,000 |

Division of Statistical and Historical Research. Compiled from National Canners' Association data ${ }^{1}$ Stated in cases of 24 No. 3 cans.
${ }^{2}$ Includes West Virginia.

## TURNIPS.

Table 269.-Turnips: Farm price, per bushel, 15th of month, United States, 1914-1923.

| Month. | 1914-15 | 1915-16 | 1916-17 | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| November | 47.4 | 45.9 | 68.4 | 76.4 | 79.6 | 98.9 | 94.1 | 88.5 | 83.1 | 87.8 |
| December | 48.4 | 45.1 | 73.3 | 81.1 | 79.0 | 101.8 | 85.9 | 86.5 | 81.9 | 92.2 |
| January | 49.2 | 48.6 | 78. 6 | 88.4 | 82.1 | 112.4 | 88.7 | 87.5 | 91.9 |  |
| February | 51.1 | 49.6 | 91.1 | 89.9 | 84.7 | 124.1 | 88.7 | 90.3 | 91.3 |  |

Division of Crop and Livestock Estimates.

## WATERMELONS.

Table 270.-Watermelons: Carlot shipments, by States of origin, calendar years, 1917-1923.

| State. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| Delaware | 511 | 303 | 327 | 177 | 499 | 289 | 246 |
| Maryland | 1, 019 | 388 | 515 | 458 | 763 | 379 | 580 |
| Virginia-- | 728 | 244 | 283 | 312 | 364 | 156 | 159 |
| North Carolina | 1,201 | 727 | 891 | 799 | 1,530 | 987 | 1,506 |
| South Carolina | 4,107 | 2,787 | 2,673 | 4,735 | 4, 427 | 4,677 | 4,078 |
| Georgia | 9,530 | 6,782 | 8,984 | 11, 103 | 16, 140 | 12, 973 | 7,572 |
| Florida_ | 3,622 | 2, 179 | 3,878 | 6,807 | 5,772 | 11, 337 | 4,217 |
| Indiana | 630 | 191 | 581 | 661 | 742 | 542 | 498 |
| Illinois. | 386 | 68 | 190 | 251 | 459 | 289 | 433 |
| Iowa | 238 | 132 | 321 | 348 | 867 | 665 | 506 |
| Missouri | 2, 533 | 1,196 | 3,516 | 3, 012 | 3,188 | 2, 752 | 1,707 |
| Alabama | 1,634 | 806 | 708 | 1,160. | 1,486 | 1,941 | 1,249 |
| Texas. | 2,871 | 2,290 | 3,007 | 4,845 | 4,298 | 4,131 | 5,282 |
| Oklahoma | 505 | 189 | 870 | 465 | 566 | 308 | 64 |
| Arkansas | 449 | 93 | 268 | 314 | 577 | 325 | 165 |
| California | 1,137 | 1,689 | 3, 300 | 3,276 | 3;796 | 4,289 | 4,028 |
| All other | 402 | 328 | 568 | 532 | 989 | 1,026 | 751 |
| Total | 31, 503 | 20,392 | 30, 860 | 39,255 | 46,463 | 47,066 | 33, 041 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

TRUCK CROPS.
Table 271.-Truck crops: Commercial acreage and production, United States, 1919-1923.
acreage.

| Crop. | Number of States producing. | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Acres. | Acres. | Acres. | Acres. | Acres. |
| Asparagus.-. | 12 | 28, 290 | 31, 440 | 33, 230 | 33, 970 | 43, 520 |
| Beans (snap) | 30 | 38, 560 | 34, 550 | 34,370 | 50, 030 | 55, 390 |
| Cabbage ---- | 28 | 92, 020 | 119, 210 | 100, 430 | 131, 780 | 98, 200 |
| Cantaloupes | 23 | 72, 950 | 74, 530 | 77, 840 | 103, 040 | 82, 040 |
| Cauliflower. | 3 | 8,640 | 8,200 | 8,940 | 9,220 | 10, 520 |
| Celery ----- | 9 | 13, 760 | 15, 790 | 14, 880 | 18, 090 | 18, 910 |
| Corn (sweet) | 20 | 250, 030 | 261, 580 | 136,270 | 198, 960 | 250, 160 |
| Cucumbers | 29 | 64, 810 | 66, 450 | 80, 360 | 81, 780 | 100, 980 |
| Lettuce | 14 | 18, 360 | 31, 930 | 31, 240 | 44, 230 | 56, 630 |
| Onions..- | 22 | 52, 520 | 64, 940 | 57, 070 | 63, 290 | 61, 100 |
| Peas (green) | 23 | 135, 430 | 149, 340 | 138, 380 | 177, 710 | 207, 590 |
| Potatoes (early Irish) | 19 | 225, 450 | 262, 750 | 267, 540 | 306, 090 | 279, 770 |
| Strawberries.. | 27 | 86, 910 | 93, 410 | 109, 590 | 132, 800 | 147, 710 |
| Tomatoes. | 33 | 376, 260 | 333, 560 | 160, 300 | 343, 420 | 405, 990 |
| Watermelons | 22 | 122, 310 | 149, 640 | 155, 980 | 211, 060 | 155, 730 |

## PRODUCTION.

|  | 1919 | 1920 | 1921 | 1922 | 19231 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Asparagus.--.-----.-.-.-crates_- | 3, 669,000 | 3, 842, 000 | 3,678, 000 | 4,541,000 | 6, 707, 000 |
| Beans (snap) --------------tons-- | 76,500 | 64, 200 | 65, 400 | 81,900 | 97, 500 |
| Cabbage----.-.---.-.-..-do. | 613, 800 | 1,062, 300 | 654, 000 | 1, 062,800 | 740,000 |
| Cantaloupes...-.-.-.-.-.-.crates.- | 10, 188, 000 | 10, 508,000 | 10, 730, 000 | 12, 942, 000 | 11, 197, 000 |
| Cauliflower-.--.-........-- ${ }^{\text {do. }}$ | 2, 245, 000 | 2, 190, 000 | 2, 409, 000 | 2, 578, 000 | 3, 024, 000 |
| Celery-------------------do. | 2, 732, 000 | 3, 435, 000 | 3, 446, 000 | 4, 017,000 | 4, 309, 000 |
|  | 587, 400 | 594, 900 | 360, 600 | 478, 200 | 588,700 |
| Cucumbers .---.-------bushels.- | 6, 629, 000 | 5, 385, 000 | 8, 224, 000 | 8, 804, 000 | 7, 972, 000 |
| Lettuce...-.-....-.......-crates.- | 5,517,000 | 9, 425, 000 | 11, 056, 000 | 11, 176, 000 | 13, 270, 000 |
| Onions-.---.------.-.-.-. - bushels.- | 14, 548, 000 | 21, 343, 000 | 14, 165, 000 | 18, 763, 000 | 16, 318, 000 |
|  | 124, 700 | 169, 300 | 131, 100 | 188, 000 | 179, 300 |
| Potatoes (early Irish) .--bushels_- | 24, 667, 000 | 30, 056, 000 | 30, 557, 000 | 35, 607, 000 | 26, 697,000 |
| Strawberries .-.---------quarts.- | 155, 800, 000 | 155, 588, 000 | 189, 677, 000 | 260, 394, 000 | 254, 691, 000 |
| Tomatoes...-.-.-.-.-.-.-.--tons.- | 1,436, 000 | 1,532, 800 | 736,000 | 1, 664, 600 | 1, 708,900 |
| W atermelons----------number.- | 41, 354, 000 | 57, 521, 000 | 61, 122, 000 | 71, 148, 000 | 42, 477, 000 |

VEGETABLE SEED.
Table 272.-Vegetable seed: Commercial acreage, average yield per acre, and production, United States, 1917-1923.
COMMERCIAL ACREAGE PLANTED FOR SEED.

| Kind of seed. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 : |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Acres. | Acres ${ }^{\text {a }}$ | Acres. | Acre | Acr | Acres. |  |
| Beans, dwarf, snap | 63, 524 | 70, 867 | -48, 658 | 30, 059 |  |  |  |
| Beans, garden, po | 4, 022 | 6,297 2,748 | 7, ${ }_{2}, 666$ | 11,573 400 | 3, 380 | 4,430 633 | 5, 699 |
| Beet, mangel | 20 | 424 | 619 | 123 | $\left.{ }^{3}\right)$ | 112 |  |
| Beet, sugar | 4,638 | 6,014 | 11,139 | 7,919 | 3,699 | 1,129 |  |
| Cabbage. | 737 | 974 | 1,978 | 1,135 | 636 | 730 | 1,167 |
| Carrot. | 1,965 | 4,622 | 3, 465 | 538 | 196 | 493 | 750 |
| Celery .- | 84 | 176 | 135 | 60 | 100 | 70 | 115 |
| Corn, sweet | 12,975 | 14,759 | 14, 565 | 12, 024 | 4, 064 | 7, 405 | 8,690 |
| Cucumber | 4, 694 | 3, 053 | 3, 582 | 3, 598 | 3, 577 | 4,180 | 5,037 |
| Kale. | 18 | 71 | 106 | 61 | 39 | 132 | 108 |
| Lettuce. | 1, 979 | 2,291 | 2, 283 | 2,010 | 1,185 | 1,929 | 2,200 |
| Muskmelon | 1,827 | 1,671 | 1,467 | 1,898 | 2,223 | 1,985 | 2,720 |
| Watermelon | 8, 929 | 10,507 | 5, 508 | 5, 914 | 6,558 | 9, 480 | 8,450 |
| Onion, seed | 3, 782 | 7,260 | 6,730 | 2, 392 | 1,108 | 1,295 | 2, 138 |
| Onion, sets | 2, 637 | 3, 818 | 3, 708 | 3,998 | 3, 225 | 3, 183 | 2,753 |
| Parsley. | 109 | 155 | 146 | 186 | 90 | 84 | 80 |
| Parsnips | 137 | 267 | 303 | 111 | 48 | 121 | 147 |
| Peas, garden | 110, 129 | 102, 095 | 104, 172 | 113, 844 | 35, 680 | 54, 462 | 86, 659 |
| Pepper- | 686 | 720 | 160 | 431 | 1,308 | 671 | 503 |
| Pumpkin | 1,512 | 1,380 | 1,156 | 2, 164 | 905 | 992 | 319 |
| Radish. | 3, 521 | 8,760 | 10,870 | 3, 396 | 1,717 | 2, 485 | 3,400 |
| Salsify | 131 | 124 | 205 | 52 | 9 | 33 |  |
| Spinach | 1,415 | 4,259 | 1,139 | 141 | 32 | 655 | 234 |
| Squash, summe | 836 | 1, 004 | 1,153 | 1,000 | 1,128 | 612 | 684 |
| Squash, winter | 1,328 | 2, 539 | 2, 912 | 2,109 | 1,310 | 836 | 1,525 |
| Tomato | 3, 204 | 3,832 | 3, 604 | 2, 711 | 1,296 | 3, 824 | 2, 592 |
| Turnip, English. | 24 | 936 | 1,207 | 239 | 336 | 200 |  |
| Turnip, Swede | 21 | 279 | 205 | 136 |  | 90 | 75 |

Table 272.—Vegetable seed: Commercial acreage, average yield per acre, and production, United States, 1917-1923—Continued.

AVERAGE YIELD PER ACRE.

| Kind of seed. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 19231 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. |
| Beans, dwarf, snap | 233 | 412 | 516 | 501 | 712 | 585 | 673 |
| Beans, gardien, pole ${ }^{2}$ | 315 | 820 | 552 | 474 | 660 | 920 | 816 |
| Beet, garden | 562 | 913 | 697 | 295 | - 474 | 678 | 934 |
| Beet, mangel. | 1,500 | 877 | 1,003 | 561 | ${ }^{(3)}$ | 911 |  |
| Bect, sugar | 1,094 | 981 | 601 | 855 | 966 | 935 |  |
| Cabbage -- | 396 | 166 | 699 | 138 | 352 | 504 | 384 |
| Carrot | 575 | 460 | 451 | 541 | 388 | 371 | 287 |
| Celery | 333 | 227 | 400 | 467 | 460 | 471 | 385 |
| Corn, sweet. | 640 | 807 | 902 | 1,070 | 1,029 | 1,181 | 1,016 |
| Cucumber | 219 | 179 | 214 | 161 | 136 | 169 | 260 |
| Kale...- | 278 | 239 | 406 | 189 | 769 | 341 | 398 |
| Letuce | 456 | 326 | 298 | 292 | 262 | 444 | 173 |
| Muskmelon. | 160 | 117 | 102 | 89 | 178 | 186 | 184 |
| Watermelon | 71 | 91 | 91 | 104 | 112 | 127 | 84 |
| Omion, seed. | 259 | 232 | 389 | 335 | 301 | 347 | 437 |
| Onion, sets | 11, 850 | 12, 066 | 5,906 | 11, 106 | 8, 304 | 9,802 | 8,427 |
| Parstey | 771 | 471 | 767 | 629 | 311 | 524 | 312 |
| Parsnips | 496 | 625 | 733 | 622 | 542 | 702 | 497 |
| Peas, garden | 444 | 569 | 460 | 767 | 762 | 855 | 765 |
| Pepper--- | 31 | 78 | 75 | 63 | 76 | 70 | 54 |
| Pumpkin | 71 | 96 | 95 | 114 | 117 | 120 | 135 |
| Radish | 176 | 221 | 233 | 181 | 150 | 299 | 176 |
| Salsify | 427 | 250 | 454 | 308 | 333 | 455 |  |
| Spinach | 212 | 387 | 317 | 716 | 781 | 479 | 842 |
| Squash, suminer | 145 | 99 | 103 | 131 | 166 | 185 | 175 |
| Squash, winter | 70 | 50 | 152 | 121 | 110 | 79 | 119 |
| Tomato ------ | 71 | 80 | 67 | 80 | 62 | 62 | 58 |
| Turnip, English | 125 429 | 215 97 | 378 600 | ${ }_{287}^{142}$ |  | 75 |  |
| Turnip, Swede. | 429 | 97 | 600 | 287 | ${ }^{(3)}$ | 511 | 307 |

${ }^{1}$ Preliminary.
${ }^{2}$ Not including Lima beans.
${ }^{3}$ Not reported for 1921.
PRODUCTION.

|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. |
| Beans, dwarf, snap- | 14,809 | 29, 216 | 25, 093 | 15, 069 | 8,985 | 19, 600 | 28, 333 |
| Beans, garden, pole ${ }^{2}$ | 1,268 | 5, 166 | 4, 395 | 5, 480 | 2, 582 | 4, 074 | 4,310 |
| Beet, garden. | 464 | 2, 509 | 1,858 | 118 | 180 | 429 | 653 |
| Beet, mangel | 30 | 287 | 621 | 69 | (3) | 102 |  |
| Beet, sugar | 5,076 | 5,909 | 6,700 | 6, 770 | 3,575 | 1, 056 |  |
| Cabbage. | . 292 | 162 | 1,383 | 157 | 224 | 368 | 448 |
| Carrot-- | 1,129 | 2,125 | 1,562 | 291 | 76 | 183 | 215 |
| Celery | 1,28 | 2, 40 | 1, 54 | 28 | 46 | 33 | 42 |
| Corn, sweet | 8, 303 | 11,917 | 13, 143 | 12, 870 | 4, 183 | 8,749 | 8,825 |
| Cucumber | 1,026 | 548 | 766 | 580 | 487 | 707 | 1,312 |
| Kale | - 5 | 17 | 43 | 11 | 30 | 45 | 1, 43 |
| Lettuce. | 903 | 747 | 680 | 587 | 310 | 858 | 380 |
| Muskmelon | 293 | 196 | 150 | 169 | 395 | 359 | 501 |
| W atermelon | 633 | 960 | 500 | 614 | 732 | 1,200 | 711 |
| Onion, seed | 980 | 1, 685 | 2, 618 | 801 | 334 | , 450 | 935 |
| Onion, sets | 31, 249 | 46, 069 | 21,900 | 44,402 | 26, 780 | 31,200 | 23, 200 |
| Parsley | 84 | 73 | 112 | 117 | 28 | 44 | 25 |
| Parsn!ps. | 68 | 167 | 222 | 69 | 26 | 85 | 73 |
| Peas, garden | 48, 868 | 58, 127 | 47, 968 | 87, 310 | 27, 197 | 46, 588 | 66, 300 |
| Pepper-. | - 21 | - 56 | -12 | - 27 | -99 | - 47 | 27 |
| Pumpkin | 108 | 133 | 110 | 247 | 106 | 119 | 47 |
| Radish | 621 | 1, 935 | 2, 537 | 614 | 258 | 743 | 600 |
| Salsify | 56 | , 31 | 2, 93 | 16 | 3 | 15 |  |
| Splinach | 300 | 1,650 | 361 | 101 | 25 | 314 | 197 |
| Squash, summer | 121 | 99 | 223 | 131 | 187 | 114 | 116 |
| Squash, wintor. | 83 | 128 | 443 | 255 | 144 | 66 | 182 |
| Tomato - | 227 | 308 | 243 | 218 | 81 | 238 | 150 |
| Turnip, English | 3 | 201 | 456 | 34 | 59 | 15 |  |
| Turnip, Swede. | 9 | 27 | 123 | 39 | $\left.{ }^{3}\right)$ | 46 | 23 |

Division of Statistical and Historical Research. Compiled from data of Hay, Feed, and Seed Division.

$$
{ }^{1} \text { Preliminary. } \quad{ }^{2} \text { Not including Lima beans. } \quad{ }^{3} \text { Not reported for } 1921 .
$$

Table 273.-Vegetable seed: Imports into United States, 1910 to 1922.

| Kind of seed. | Fiscal year ending June 30- |  |  |  |  |  |  |  |  | Calendar year. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1910 | 1811 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Beet, su | 1,000 13bs. 10,309 | 1,000 $i b s$ 11,109 | 1,000 libs. 11,390 | 1,000 | 1,000 lbs. 10, 490 | 1,000 | 1,000 libs 9,048 | 1,000 | 1,000 lbs. $1.5,637$ | $\begin{aligned} & 1,0 c 0 \\ & \text { los. } \\ & 9,830 \end{aligned}$ | 1,000 lbs. 23,446 | $\begin{aligned} & 1,000 \\ & \text { lbs. } \\ & 7720 \end{aligned}$ | ${ }_{1}^{1}$ 1000 |
| Beet, all other | 624 | 639 | 872 | 887 | 1, 077 | ${ }^{991}$ | 786 | 483 | 144 | ${ }_{161}$ |  |  | 72 |
| Cabbage | 162 | 261 | 311 | 273 | 255 | 425 | 278 | 108 | 83 | 169 | 391 | 253 | 181 |
| Carrot | 176 | 155 | 97 | 149 | 172 | 87 | 38 | 15 | 33 | 16 | 69 | 48 | 37 |
| Castor bean | 37, 240 | 39, 512 | 48, 913 | 41,229 | 52, 196 | 46,230 | 53, 598 | 38, 353 | 52, 201 | 60, 413 | 61, 961 | 36, 565 |  |
| Cauliflowe |  | 10 | 7 | 9 | 11 | 13 |  |  |  | 12 | 17 | 12 | 13 |
| Celery 1 | 189 | 341 | 39 | 23 | 406 | 640 | 608 | 756 | 168 | 768 | 594 | 426 | 604 |
| Corn salad | 1 | 10 | ${ }^{(2)} 8$ | $\stackrel{2}{6}$ | ${ }^{(2)} 6$ | 5 | (2) ${ }_{5}$ | ${ }^{(2)}$ | $\left.{ }^{2}\right)$ | 1 | ${ }^{(2)}$ | $\left.{ }^{2}\right)$ |  |
| Eggplant | 3 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | $\stackrel{2}{2}$ | 1 | 1 |  |  |
| Kale --- | 17 | 25 | 39 | 32 | 38 | 49 | 40 | 16 | 8 | 19 | 77 | 40 | 25 |
| Kohl-rabi- | 50 | 17 | 11 | 14 | 16 | 16 | 10 | 9 | 17 | 17 | 23 | 14. | 10 |
| Mushroom spawn | 368 | 423 | 168 | 240 | 195 | 124 | 66 | 48 | 17 | 23 | 19 | 23 |  |
| Mustard | 9, 124 | 8,512 | 12, 198 | 12, 720 | 11, 544 | 10, 158 | 16,402 | 9,962 | 13, 036 | 14, 227 | 9,063 | 7, 564 |  |
| Parsley. | 75 | 75 | 56 | 129 | 255 | 139 | 70 | 38 | 66 | 53 | 180 | 151 | 144 |
| Parsnips | 89 | 57 | 55 | 117 | 130 | 100 | 100 | 65 | 7 | 44 | 17 | 57 | 40 |
| Pepper | 16 470 | 16 | 18 | 10 | 12 | 15 | 15 309 | 119 | ${ }_{103}^{22}$ | ${ }_{112}^{6}$ | ${ }_{32}^{2}$ | ${ }^{9}$ | 4 |
| Spinach |  | 972 | 1,218 | 1,698 | 1,386 | 1,136 | 838 | 634 | 805 | 367 | 1,139 | 1,222 | 1,927 |
| Turnips and ruta baga | 1,234 | 1,759 | 2,868 | 1,233 | 1,581 | 2,112 | 1,816 | 1,066 | 2,151 | 1,810 | 1,847 | 2, 242 | 1,360 |

Hay, Feed and Seed Division.
${ }^{1}$ Imported for planting and for other purposes.
${ }^{2}$ Less than 500 pounds.
Table 274.-Average wholesale prices per pound of standard varieties of vegetable seeds in United States, 1917-1923.

| Kind of seed. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beans, dwarf snap. | \$0. 18 | \$0. 26 | \$0. 21 | \$0.16 | \$0.15 | \$0.13 | \$0.15 |
| Beans, garden, pole ${ }^{1}$ | . 14 | . 24 | . 23 | . 21 | . 19 | . 15 | . 15 |
| Boet, garden...----- | . 90 | 1.45 | 1. 07 | . 64 | . 48 | . 38 | . 52 |
| Beet, mangel. | . 35 | . 90 | . 68 | . 36 | . 31 | . 27 | . 29 |
| Cabbage.--- | 1.90 | 3.80 | 8.00 | 2. 75 | 2. 40 | 2.00 | 1. 90 |
| Carrot. | 1. 00 | 1. 75 | . 90 | . 50 | . 50 | . 40 | . 56 |
| Celery, domestic | 1. 50 | 2.25 | 1. 85 | 1. 60 | 2. 00 | 1. 60 | 1. 60 |
| Celery, imported | 10.00 | 10.00 | 5.00 | 4.09 | 4. 00 | 3.00 | 3. 00 |
| Cucumber-- | . 54 | . 83 | . 85 | . 86 | . 80 | . 81 | . 60 |
| Lettuce. | . 65 | . 85 | . 90 | . 72 | . 76 | . 76 | . 74 |
| Muskmelon | . 54 | . 78 | . 81 | . 73 | . 79 | . 76 | . 7.7 |
| Watermelon | . 42 | . 70 | . 54 | . 46 | . 45 | . 46 | . 44 |
| Onion seed | 1.90 | 4.50 | 2. 65 | 1. 80 | 1. 60 | 1. 20 | 1. 50 |
| Parsley | . 35 | . 60 | 1.00 | . 60 | . 60 | . 50 | . 50 |
| Parsnip. | . 30 |  | 1.00 | . 40 | . 35 | . 35 | 1. 00 |
| Peas, garden. | . 12 | . 19 | . 19 | . 24 | . 19 | . 14 | . 13 |
| Radish. | . 40 | 1. 60 | 1. 30 | . 60 | . 50 | . 50 | . 45 |
| Spinach | . 60 | 2.00 | . 75 | . 35 | . 20 | . 20 | . 21 |
| Squash, summer | . 65 | . 80 | 1. 05 | 1. 00 | . 90 | . 75 | . 67 |
| Squash, winter | . 55 | 1. 00 | 1. 10 | 1. 10 | 1.00 | . 80 | . 67 |
| Sweet corn. | . 20 | . 25 | . 17 | . 15 | . 13 | . 10 | . 11 |
| Tomato. | 2. 75 | 3. 60 | 4.00 | 3. 25 | 3.10 | 2.80 | 2. 70 |
| Turnip, English | . 35 | 1. 75 | 1.35 | . 65 | . 50 | . 35 | . 46 |
| Turnip, Swede. | . 32 | 1. 50 | 1. 25 | . 45 | . 37 | . 27 | . 40 |

Division of Statistical and Historical Research. Compiled from reports of Hay, Feed, and Seed Division.
${ }^{1}$ Not including Lima beans.

Table 275.—Vegetable seed: Average yearly import price, per pound, 1910-1922. ${ }^{1}$

| Kind of seed. | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Beet, garde | 9. 4 | 10. 3 |  | 15.7 | 15. 0 | 11. 0 | 12.0 | 17.2 | 49.2 | 67.2 | 21.1 | 14. 2 | 18. |
| Beet, suga | 6. 5 | ${ }^{6.6}$ | 9.7 | 7.2 | 7.6 | 8.8 | 11. 2 | 11. 6 |  |  | 22.2 | 19.6 |  |
| Cabbage | 22.9 | 34.1 | 37. 6 | 47. 6 | 49.0 | 35. 0 | 42.2 | 44. 4 | 170.8 | 211.8 | 76.6 | 57.0 | 61.0 |
| Carrot | 15.2 | 17.0 | 36. 3 | 25.1 | 30.6 | 25.0 | 34. 0 | 45.4 | 86.1 | 120.4 | 22.6 | 27.0 | 31.3 |
| Caulifiow | 534.0 | 400.0 | 562.0 | 537.0 | 381.0 | 343.0 | 524.0 | 606.0 | 458.7 | 382.3 | 820.9 | 813.4 | 688.2 |
| Celery ${ }^{2}$ | 9. 4 | 9.3 | 25. 1 | 87.2 | 21.4 | 18.3 | 26.6 | 18.8 | 38.0 | 40.0 | 19.6 | 14.3 | 21.0 |
| Collard | 19.6 | 12. 4 | 14. 3 | 13.1 | 17.0 | 13.4 | 24.0 | 77.0 |  |  | 26.0 | 23.1 |  |
| Corn sala | 15.6 | 12. 7 | 20.7 | 14.6 | 12.6 | 13. 5 | 15.0 | 16.8 | 38. 1 | 49. 1 | 44.9 | 47. 3 |  |
| Eggplan | 78.6 | 71.9 | 61. 1 | 80.8 | 80.6 | 80. 5 | 86.2 | 68. 7 | 157.1 | 219.7 | 187. 6 | 143.5 |  |
| Kale | 22.9 | 15. 5 | 14.8 | 19.3 | 25.8 | 20. 9 | 17.3 | 27.1 | 75.3 | 63.9 | 26.7 | 26.7 | 29.2 |
| Kohl-rab | 11.0 | 18.9 | 28.0 | 28.0 | 35. 2 | 28.0 | 28. 4 | 40. 6 | 78. 1 | 98.5 | 52.8 | 46.7 | 54.0 |
| Parsley | 8. 5 | 9. 0 | 19.2 | 28.1 | 18. 6 | 11. 0 | 12.2 | 14.4 | 19.7 | 39.3 | 11.9 | 12.5 | 12.7 |
| Parsnip | 7.2 | 7.6 | 10. 4 | 8.6 | 8.2 | 7.0 | 8.1 | 8. 4 | 49.2 | 60.4 | 21.9 | 13.2 | 27.0 |
| Pepper | 42.3 | 41.4 | 40.9 | 44.0 | 38.2 | 41.0 | 41.0 | 57.0 | 88.4 | 151.9 | 109.5 | 68.3 | 105.3 |
| Radish | 11.6 | 12.3 | 13. 0 | 13.4 | 14. 5 | 12.4 | 13. 2 | 17.8 | 67. 6 | 57.5 | 24.0 | 21.8 | 20.0 |
| Spinach -- | 46.0 | 5. 0 | 5.7 | 5. 2 | 4. 6 | 4.8 | 8.0 | 12.6 | 33.2 | 21.9 | 11.6 | 9.7 | 9.2 |
| $\begin{aligned} & \text { Turnp } \text { and } \\ & \text { baga } \end{aligned}$ | 8.5 | 8.6 | 7.9 | 9.3 | 9.1 | 8.7 | 8.9 | 11.8 | 31.5 | 36.9 | 22.8 | 14.6 | 16.8 |

Hay, Feed, and Seed Division.
${ }^{1}$ Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.
2 Imported for planting and other purposes.
Table 276.-Vegetable seed: Retail catalogue prices, calendar years, 1917-1923.

| Kind of seed. | 1917 |  | 1918 |  | 1919 |  | 1920 |  | 1921 |  | 1922 |  | 1923 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Per oz. | $\begin{aligned} & \text { Per } \\ & \text { lb. } \end{aligned}$ | $\begin{array}{\|l} \text { Per } \\ \text { oz. } \end{array}$ | $\begin{aligned} & \text { Per } \\ & \text { lb. } \end{aligned}$ | $\begin{aligned} & \text { Per } \\ & \text { oz. } \end{aligned}$ | $\begin{aligned} & \text { Per } \\ & \text { lb. } \end{aligned}$ | $\begin{aligned} & \text { Per } \\ & \text { oz. } \end{aligned}$ | $\begin{aligned} & \text { Per } \\ & \text { lb. } \end{aligned}$ | Per <br> oz. | $\begin{array}{\|l} \text { Per } \\ \text { lb. } \end{array}$ | $\begin{aligned} & \text { Per } \\ & \text { oz. } \end{aligned}$ | $\begin{aligned} & \text { Per } \\ & \text { lb. } \end{aligned}$ | $\begin{gathered} \text { Per } \\ \text { oz. } \end{gathered}$ | $\begin{aligned} & \text { Per } \\ & \text { lb. } \end{aligned}$ |
| Beans, dwarf sna |  | \$0. 32 |  | \$0. 43 |  | \$0.41 |  | \$0.39 |  | \$0. 39 |  | \$0. 37 |  | \$0. 36 |
| Beans, garden po |  | 26 |  |  |  | 43 |  | 40 |  | 41 |  | 39 |  | . 37 |
| Beets, garden | \$0.15 | 1. 30 | \$0. 20 | 2. 35 | \$0. 20 | 1.75 | \$0. 15 | 1.35 | \$0. 15 | 1.15 | \$0. 14 | 1. 00 | \$0. 14 | 1.05 |
| Beet, mangel | . 10 | . 55 |  | 1. 30 | . 15 | 1. 20 | . 10 | 90 | . 10 |  | . 10 |  | . 10 | . 70 |
| Cabbag | . 25 | 3.00 | . 45 | 5. 05 | . 90 | 11. 10 | . 50 | 5. 25 | . 35 | 3. 90 | . 30 | 3.15 | . 29 | 3.05 |
| Carrot | . 15 | 1. 40 | . 20 | 2. 25 | . 20 | 1.70 | . 15 | 1.30 | . 15 | 1. 10 | . 13 | 1. 00 | . 13 | 1.05 |
| Celery, domest | 25 | 2. 60 | . 30 | 2.85 | . 35 | 2.90 | . 30 | 3. 20 | . 30 | 3. 00 | . 27 | 2. 75 | . 29 | 3.00 |
| Celery, import | 1. 45 | 17.00 | 1. 40 | 15. 35 | 1.30 | 13. 55 | . 95 | 10. 45 | . 85 | 9. 85 | . 85 | 9.05 | 1.05 | 11. 20 |
| Cucumber | . 10 | . 95 | . 15 | 1. 75 | . 15 | 1. 30 | . 15 | 1. 30 | . 15 | 1. 40 | . 15 | 1. 35 | . 15 | 1.30 |
| Lettuce - | . 15 | 1. 35 | . 15 | 1. 40 | . 15 | 1. 50 | 15 | 1. 55 | . 20 | 1. 60 | . 17 | 1. 55 | . 17 | 1.60 |
| Muskmelon | . 15 | 1. 10 | . 15 | 1. 30 | . 15 | 1. 35 | . 15 | 1. 50 | . 15 | 1. 50 | . 17 | 1. 50 | . 16 | 1. 45 |
| Watermelo | . 10 | . 80 | . 10 | . 95 | . 15 | 1. 15 | . 15 | 1. 10 | . 15 | 1. 15 | . 14 | 1. 05 | . 14 | 1. 00 |
| Onion seed | . 25 | 2. 50 | . 55 | 5. 15 | . 35 | 3. 80 | . 30 | 3. 15 | . 30 | 3. 00 | . 26 | 2. 55 | . 25 | 2. 55 |
| Parsley | . 10 | . 90 | . 15 | 1. 05 | . 15 | 1. 25 | . 15 | 1. 10 | . 15 | 1. 10 | . 14 | 1. 10 | . 14 | 1.10 |
| Parsnip | . 10 | . 70 | . 20 | 1. 75 | . 20 | 1. 80 | 15 | 1. 25 | . 15 | $1.05$ | . 14 | 1. 00 | . 17 | 1. 60 |
| Peas, gar |  | . 23 |  | . 37 |  | . 38 |  |  |  | $\begin{array}{r} .42 \\ 1.15 \end{array}=$ |  |  |  | . 37 |
| Radish Spinach | 10 <br> .10 | . 65 | . 15 | 1. 2.10 | . 15 | 1. 1.25 | . 15 | 1.30 .80 | . 15 | 1.15 .70 | . 14 | 1.10 .60 | . 11 | 1.10 .60 |
| Squash, summ | . 10 | . 95 | . 15 | 1. 40 | .15 | 1. 50 | . 15 | 1. 65 | . 20 | 1.65 | .17 | 1. 50 | . 16 | 1. 40 |
| Squash, winter | . 10 | . 95 | . 15 | 1. 50 | . 15 | 1. 60 | . 20 | 1. 70 | . 20 | 1.60 | . 17 | 1. 40 | . 16 | 1.35 |
| Sweet corn |  | 26 |  | . 38 |  | 35 |  | 8 |  | 36 |  | 32 |  | 31 |
| Tomato | . 30 | 2. 95 | . 40 | 4. 10 | . 40 | 4. 00 | . 40 | 4. 45 | . 40 | 4. 25 | . 37 | 3. 90 | . 36 | 3. 90 |
| Turnip, Englis | . 10 | . 70 | . 20 | 1. 95 | . 20 | 2. 05 | . 15 | 1.40 | 15 | 1.15 | . 13 | . 95 | . 13 | 95 |
| Turnip, Swede |  | . 65 | . 20 | 2. 35 | . 20 | 2.05 | . 15 | 1.35 | . 15 | 1.00 | . 13 | . 90 | . 12 | . 85 |

Hay, Feed, and Seed Division. Average of prices quoted for standard varieties of vegetable seed by a number of representative mail-order dealers.
${ }^{1}$ Not including Lima beans.

Table 277.-Fruits and vegetables: Carlot shipments of 15 commedities, United States, 1917-1923.

| Commodity, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apples: | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| 1917 | 2,380 | 2,153 | 2, 175 | 1,239 | 965 | 301 |  | 1,308 | 5,719 | 21, 895 | 14, 165 | 3, 993 | 57, 048 |
| 1918 | 2,362 | 3,232 | 2,882 | 1,647 | 347 | 229 | 1,149 | 2, 359 | 8, 070 | 26, 680 | 13, 563 | 6,320 | 68, 840 |
| 1919 | 4, 044 | 3,679 | 2,063 | 1,006 | ${ }^{430}$ | 189 |  | 2,712 | 12, 259 | 32, 666 | 15, 854 | 5,301 | 81,552 |
| 1920 | 4,393 | 4, 419 | 4,378 | 2,229 | 1,276 | 262 | 1, 855 | 3, 861 | 11, 043 | 37, 284 | 23, 087 | 8, 875 | 102, 962 |
| 1921 | 6,046 | 6,698 | 5,695 | 2, 819 | 1, 496 | 1422 | 1,220 | 3,384 | 13, 146 | 35, 117 | 14, 464 | 5,991 | 96, 498 |
| 1922 | 4,199 | 4,756 | 2, 903 | 1,763 | 1, 117 | 1,177 | 2, 592 | 4,924 | 14, 969 | 34, 007 | 20, 617 | 8, 816 | 101, 780 |
| ${ }^{1923}$ | 8,573 | 6,611 | 5,502 | 2, 807 | 1,617 | 507 | 3, 324 | 3,908 | 14, 818 | 44, 477 | 25, 187 | 7,746 | 125, 077 |
| Beans, dry: |  |  |  | 122 | 343 | 166 | 186 | 201 | 264 |  | 870 | 902 | 4, 144 |
| 1919 | 699 | 406 | 602 | 715 | 754 | 474 | 338 | 611 | 375 | 1,019 | 1,040 | 758 | 7,791 |
| 1920 | 661 | 421 | 442 | 441 | 812 | 466 | 331 | 305 | 271 | 845 | 1,136 | 864 | 6,995 |
| 1921 | 1,239 | 1,236 | 967 | 690 | 675 | ${ }_{6}^{612}$ | 492 | 749 | 1,187 | 2, 461 | 1, 532 | 874 | 12,714 |
| 1922 | 1,168 | 1, 124 | 921 | 479 | 492 | 393 | 232 | 163 | 797 | 1,986 | 2,167 | 1,544 | 11,466 |
| 1923 | 1,251 | 724 | 680 | 580 | 486 | 558 | 407 | 453 | 610 | 2, 353 | 2,478 | 1,605 | 12, 185 |
| 1917 | 1, | 463 | 503 | 457 | 1,634 | 2, 121 | 753 | 1,015 |  |  |  |  |  |
| 1918 | 1,49 | 1,735 | 1,790 | 3, 379 | 3, 734 | 1, 594 | 645 | 1, 305 | 3, 261 | 5, 051 | 3, 29 | 1, 371 | 28,661 |
| 1919 | 2,182 | 2, 017 | 1, 977 | 1, 831 | 2,469 | 1, 438 | 557 | 1,152 | 2,465 | 5,137 | 2, 411 | 1, 346 | 24, 982 |
| 1920 | 1,931 | 2, 518 | 3, 328 | 3, 935 | 2,941 | 1,508 | 612 | 1,095 | 1,791 | 5,399 | 4,607 | 1,355 | 31, 020 |
| 1921 | 2, 852 | 2,293 | 2, 929 | 4, 100 | 3,186 | 1,727 | 459 | 1,393 | 2,818 | 5,467 | 2, 560 | 1,934 | 31, 718 |
| 1922 | 3, 344 | 3, 422 | 4,185 | 3, 831 | 4, 006 | 2, 252 | 660 | 1,436 | 3, 523 | 7,060 | 3, 817 | 2, 529 | 40, 065 |
| 1923 | 2, 985 | 2,299 | 2, 630 | 3, 779 | 4, 130 | 2, 243 | 817 | 1, 599 | 3, 023 | 6, 373 | 3, 920 | 2,270 | 36, 068 |
| Cantaloupes: 1917 |  |  |  |  |  | $3,468$ | 5,882 | 5, 564 | $2,184$ |  |  |  | 17, 430 |
| 1918 |  |  |  |  | 51 | 4,348 | 3, 949 | 3, 922 | 1, 339 | 10 |  |  | 13, 619 |
| 1919 |  |  |  |  | 66 | 6,902 | 7, 144 | 4,755 | 2, 834 | 338 |  |  | 22, 039 |
| 1920 |  |  |  |  | 475 | 6,781 | 5, 318 | 6, 867 | 2,784 | 152 |  |  | 22, 377 |
| 1921 |  |  |  |  | 638 | 7,974 | 8, 635 | 5,986 | 2,153 | 171 | 12 |  | 25, 569 |
| 1922 |  |  |  | 4 | 135 | 10, 371 | 10, 173 | 5,334 | 3, 294 | 603 |  |  | 29, 917 |
| 1923 |  |  |  |  | 917 | 10, 190 | 6,107 | 5,334 | 2, 671 | 538 | 34 |  | 25, 791 |
| Celerv: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | ${ }_{816} 16$ | 1,0 | 1,206 | 708 | 320 | 21 | 69 | $\begin{aligned} & 141 \\ & 150 \end{aligned}$ | $\begin{aligned} & 258 \\ & 421 \end{aligned}$ | 1, 256 | 1,210 | 1, 488 | 6,449 9 |
| 1921 | 1,675 | 1,746 | 1, 754 | 866 | 255 | 105 | 137 | 262 | 516 | 1, 815 | 1,443 | 1,909 | 12, 483 |
| 1922 | 1,423 | 1,392 | 1,749 | 1,204 | 466 | 93 | 201 | 369 | 829 | 2,107 | 2,040 | 2, 278 | 14, 151 |
| 1923 | 1,999 | 1,894 | 2,510 | 1,681 | 393 | 87 | 218 | 359 | 603 | 1,970 | 2,352 | 2, 521 | 16,587 |
| Grapes: 1919 |  |  |  |  |  |  | 60 |  |  |  |  | 10 | 30,349 |
| 1920 |  |  |  |  |  | 12 | 366 | 4, 647 | 12,001 | 19, 358 | 2, 808 | 13 | 39, 205 |
| 1921 |  |  |  |  |  | 12 | 425 | 3, 376 | 16, 743 | 14, 671 | 1,968 |  | 37, 202 |
| 1922 |  |  |  |  |  | 1 | 324 | 4,723 | 22, 420 | 25, 797 | 6,366 | 225 | 59, 858 |
| 1923 |  |  |  |  |  | 33 | 600 | 5, 683 | 22, 042 | 26, 523 | 7, 574 | 755 | 63, 217 |
| Lettuce: | 76 |  | 829 | 1,09 | 831 | 181 | 395 |  |  | 58 |  | 33 | 8, 018 |
| 1920 | 2,025 | 1,622 | 1,353 | 1,063 | 1,172 | 365 | 980 | 934 | 832 | 596 | 1,388 | 1, 491 | 13, 821 |
| 1921 | 2,356 | 1,984 | 2,219 | 1,974 | 1,067 | 670 | 1,399 | 1,140 | 1,302 | 1,253 | 1,481 | 1,771 | 18, 616 |
| 1922 | 2,245 | 1,919 | 2,584 | 3,181 | 1, 855 | 801 | 1, 536 | 1,787 | 1, 303 | 1, 503 | 1,444 |  | 22, 240 |
| 1923 | 3, 119 | 2,741 | 4,071 | 2, 515 | 2,015 | 1,308 | 2,236 | 2, 454 | 1,781 | 2, 013 | 2, 219 | 2, 814 | 29, 286 |
| Onions: | 986 | 355 | 232 | 2,679 | 2,960 | 1,156 | 678 | 1,434 | 2,740 | 4, 068 | 1,348 | 516 | 19,152 |
| 1918 | 901 | 1,062 | 1,023 | 1,799 | 2, 290 | 1,141 | 1,177 | 1, 921 | 3, 075 | 4, 211 | 2,410 | 1, 017 | 22, 027 |
| 1919 | 1,488 | 1,213 | 949 | 1,189 | 2, 462 | 646 | 1, 844 | 1, 909 | 3, 522 | 2, 963 | 1, 702 | 987 | 20, 874 |
| 1920 | 1,368 | 1,159 | 999 | 1, 938 | 4,242 | 607 | 1,030 | 1,918 | 3, 675 | 4,910 | 2, 918 | 1,186 | 25, 950 |
| 1921 | 2,038 | 1,769 | 1,724 | 2, 511 | 2, 559 | 822 | 1,482 | 2,048 | 3,362 | 2,608 | 1,248 | 1,148 | 23, 119 |
| 1922 | 1,724 | 1,011 | 1, 719 | 3, 085 |  |  |  |  |  | 5,129 4,759 | $\xrightarrow{2,185}$ |  | 27, 563 26,396 |
| Peaches: | 2, 110 | 1,484 | 1,569 | 1,370 |  |  |  | 2, 233 | 3,800 | 4, 759 | 2, 622 | 1,683 | 26,396 |
| 1917. |  |  |  |  | 41 | 1,294 | 5,149 | 5,743 | 11, 031 | 3,968 | 11 |  | 27, 237 |
| 1918 |  |  |  |  | 1,119 | 4,021 | 6,336 | 5, 185 | 3, 625 | 123 |  |  | 20,409 |
| 1919 |  |  |  |  | 328 | 3, 513 | 9,216 | 11, 277 | 6, 485 | 104 |  |  | 30, 923 |
| 1920 |  |  |  |  | 45 | 1,588 | 6,881 | 6, 284 | 10,528 | 1,638 |  |  | 26, 967 |
| 1921 |  |  |  |  | 1,429 | 4,012 | 9,387 |  | 5, 116 |  |  |  | 27, 300 |
| 1922 |  |  |  |  | 695 | - ${ }_{2,184}$ | $\begin{array}{r}7,5 \\ 10 \\ \hline\end{array}$ | 11,8 | 13, ${ }^{\mathbf{9}, 478}$ | $1,208$ |  |  | 38, 291 |

[^194] Shipments as shown in carlots include those by boat reduced to carlot basis.

Table 277.-Fruits and vegetables: Carlot shipments of 15 commodities, United States, 1917-1923-Continued.

| Commodity, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Tota!. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pears: | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |
| 1919 | 11 |  |  |  |  |  | 1, 954 | 3, 820 | 2,753 | 1, 389 | 190 | 40 | 10, 158 |
| 1929 |  |  | 8 | 3 |  | 23 | 2, 417 | 3, 079 | 4, 850 | 3, 634 | 779 | 157 | 14, 950 |
| 1.921 | 49 | 29 | 20 |  |  | 1 | 1,511 | 5, 582 | 3, 872 | 1,290 | 285 | 82 | 12, 821 |
| 1922 | 9 | 2 | 2 |  |  | 1 | 1,659 | 6, 965 | 6, 613 | 4, 160 | 625 | 112 | 20, 138 |
| 1923 | 121 | 40 | 37 | 7 | 1 | 109 | 3, 527 | 5, 233 | 4,900 | 2.907 | 419 | 118 | 17, 419 |
| Potatoes: |  |  |  |  | 9, 7.46 | 14, 719 | 15,488 | 12, 910 | 14, 292 | 23, 542 | 3, 536 | 7, 120 | 144, 656 |
| 1917 | 10,331 9,489 | 8, 10,943 | 12,558 | 11, 528 | 12, 720 | 16, 989 | 14, 156 | 11, 805 | 19,841 | 24,902 | 15, 442 | 8, 891 | 169, 264 |
| 1919 | 12, 753 | 8, 998 | 13, 744 | 13, 429 | 9, 883 | 13, 303 | 13,855 | 13, 628 | 22, 257 | 32, 535 | 17, 362 | 9, 532 | 181, 277 |
| 1920 | 12, 883 | 8,725 | 12, 772 | 8, 445 | 6, 960 | 14, 777 | 15, 622 | 13, 592 | 18, 155 | 31, 522 | 25, 075 | 9,755 | 178, 283 |
| 1921 | 14, 106 | 11, 970 | 16, 154 | 14, 893 | 14, 987 | 17, 645 | 17, 041 | 16, 115 | 26, 040 | 43, 250 | 16, 729 | 10,496 | $219,426$ |
| 1922 | 16, 705 | 13, 718 | 22, 330 | 20, 047 | 20, 214 | 22, 050 | 18, 829 | 18, 252 | 24,420 | 35,188 33 | 19, 400 | 12, 437 | 245, 221 |
| 1923 | 17, 255 | 14, 605 | 24, 450 | 23, 186 | 16,277 | 20, 402 | 16,343 | 16,695 | 23, 185 | 33,435 | 19,400 | 11, 421 | 236,654 |

## Strawberries:



weet potatoes:
1919
1920
1921
1922
1923

Tom
1917----.-.-.--

1918
1919--------------
1920--------------
1922-----------------
Watermelons:
1919.-.

1920------------------

1923
Total (15 commod-
ities):
1917 $\qquad$ 15, $09811,463|9,11215,04324,813| 32$
$\qquad$ ,
1919 $23,71218,62522,55421,830 \mid 24,56337,00953,82954,57074,297.93,64545,47321,488491,601$


1923 $\qquad$


Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

Table 278.-Fruits and vegetables: Unloads of nine commodities at 10 markets, in carlots, 1917-1923.

| Commodity, and calendar year. | New York. | $\begin{aligned} & \text { Chi- } \\ & \text { cazo. } \end{aligned}$ | Phila-delphia. | Pittsburgh. | St. Louis. | $\begin{aligned} & \text { Cin- } \\ & \text { cin- } \\ & \text { nati. } \end{aligned}$ | St. Paul. | Min-neapolis. | $\begin{aligned} & \text { Kan- } \\ & \text { sas } \\ & \text { City. } \end{aligned}$ | $\begin{aligned} & \text { Wash- } \\ & \text { ing- } \\ & \text { ton. } \end{aligned}$ | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Car | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. |  |
| 1917 | 17,996 | 4,335 | 2,343 | 2, 498 | 2, 117 | 636 | - 284 |  |  |  | 1 1 22,116 26,514 |
| 1918 | 11,336 | 4,536 | 2,701 | 2, 951 | 1,540 | 1, 130 | 4 | 568 <br> 348 | 709 674 | 633 387 | 26,514 26,215 |
| 1919 | 10, 601 | 6, 069 | 2, 864 | ${ }_{2}^{2,216}$ | 1, 379 | 1, 1,617 | 401 | 348 464 | 1,006 | 590 | 30, 222 |
| 1920 | 11, 058 | 7, 102 | 3, ${ }^{3}, 217$ | ${ }_{2}^{2,792}$ | 1,975 | 1,617 1,810 | 451 | 422 | 1, 002 | 369 | ${ }_{2} 30,652$ |
| 1921 | 211,984 212 | 6, 675 |  | $\xrightarrow{2,808} 3$ | 1, 1,111 | 1, 1,257 | 496 | 712 | 1,775 | 454 | ${ }^{2} 30,703$ |
| 1922 | ${ }_{2}^{2} 12,7638$ | - $\begin{array}{r}6,575 \\ 10,364\end{array}$ | 3, 211 | 3,020 | 2, 736 | 1, 659 | 428 | 681 | 1, 507 | 674 | ${ }^{2} 39,803$ |
| Cabbage: |  |  |  |  |  |  |  | 81 | 375 | 186 | 17,503 |
| 1917 | 12,027 | 1, 142 | 1, 3236 | 1,670 | 1,858 | 577 | 54 | 57 | 580 | 371 | 10, 305 |
| 1918 | 2, 201 | 1,837 | 1, 662 | 1, 172 | 746 | 557 | 53 | 49 | 421 | 287 | 9,085 |
| 1920 | 2, 306 | 1,355 | 1,906 | 1,287 | 864 | 596 | 74 | 121 | 399 | 393 |  |
| 1921 | 23 , 030 | 1,780 | 1,962 | 1, 105 | 1,049 | 669 | ${ }^{68}$ | 75 | 400 515 | 388 468 | ${ }_{2}^{2} 11,506$ |
| 1922 | 2 3, 333 | 1,697 | 2,166 | 1,219 | 1,121 | 781 | 102 78 | 104 | 503 | 390 | ${ }^{2} 11,972$ |

Footnotes on p. 789.

Table .278.-Fruits and vegetables: Unloads of nine commodities at 10 markets, in carlots, 1917-1923-Continued.

| Commodity, and calendar year. | New | $\begin{aligned} & \text { Chi- } \\ & \text { cago. } \end{aligned}$ | Phila-delphia. | Pittsburgh | St. Louis. | $\begin{aligned} & \text { Cin- } \\ & \text { cin- } \\ & \text { nati. } \end{aligned}$ | St. | Min-neapolis. | $\begin{aligned} & \text { Kan- } \\ & \text { sas } \\ & \text { City. } \end{aligned}$ | Wash-ing- <br> ton. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cantaloupes: | Cars. | Cars: | Cars. | Cars: | Cars. | Cars. | Cars. | Cars. | Cars. | Cars. | Car |
| 1917-- | 3, 365 | 793 | 815 | 1,140 | 285 | 418 | 85 | 142 | 360 | 99 | 7, 502 |
| 1918 | 3, 029 | 1,059 | 493 | 1, 068 | 286 | 389 | 38 | 118 | 128 | 126 | 6, 734 |
| 1919 | 3,867 | 1,936 | 1,049 | 1,702 | 305 | 597 | 92 | 171 | 448 | 230 | 10,397 |
| 1920 | 4, 213 | 2,081 | 1,091 | 1, 275 | 452 | 554 | 60 | 94 | 396 | 266 | 10,462 |
| 1921 | $2{ }^{2}$ 4,781 | 2, 308 | 1,258 | 1,322 | 530 | 640 | 115 | 168 | 452 | 242 | ${ }^{2} 11,823$ |
| 1922 | ${ }^{2} 5,535$ | 2, 800 | 1, 542 | 1,244 | 618 | 676 | 122 | 214 | 422 | 306 | ${ }^{2} 13,479$ |
| 1923 | ${ }^{2} 4,521$ | 2,237 | 1, 228 | 1,203 | 512 | 461 | 76 | 199 | 309 | 253 | ${ }^{2} 10,996$ |
| Onions: | 14,660 | 1,146 | 1,606 | 1,178 | 753 | 286 | 50 | 149 | 407 | 108 | 1 10,349 |
| 1918 | 4,465 | , 695 | 1, 542 | 1, 208 | 549 | 276 | 25 | 75 | 389 | 220 | 9,444 |
| 1919. | 4,801 | 1,403 | 1,398 | 976 | 438 | 226 | 61 | 83 | 284 | 174 | 9, 844 |
| 1920 | 4,072 | 1,237 | 1,554 | 1,115 | 687 | 283 | 40 | 107 | 426 | 226 | 9,747 |
| 1921 | ${ }^{2} 4,429$ | 1,545 | 1,482 | ${ }^{922}$ | 559 | 314 | 71 | 91 | 345 | 196 | ${ }^{2} 9.954$ |
| 1922 | 24,933 | 1,673 | 1,698 | 951 | 672 | 400 | 65 | 115 | 453 | 235 | ${ }^{2} 11,195$ |
| 1923 | ${ }^{2} 8,338$ | 1,951 | 1,790 | 941 | 664 | 394 | 64 | 95 | 454 | 247 | ${ }^{2} 14,938$ |
| aches: |  |  |  |  |  |  |  |  |  |  |  |
| 1917 | 3,620 | 1,067 | 827 | 1,167 | 348 | 495 | 69 | 190 | 292 | 120 | 8,195 |
| 1918 | 3, 683 | 1,060 | 892 | 1, 010 | 188 | 415 | 97 | 83 | 205 | 138 | 7,771 |
| 1919 | 3,935 | 1,357 | 944 | 1,221 | 334 | 631 | 128 | 112 | 285 | 158 | 9,105 |
| 1920 | 3, 506 | 1,287 | 847 | 849 | 347 | 481 | 36 | 64 | 158 | 263 | 7,818 |
| 1921 | ${ }^{2} 4,143$ | 1,326 | 1, 056 | 759 | 481 | 600 | 77 | 101 | 268 | 148 | 2 8, 959 |
| 1022 | 24,617 | 2, 107 | 1,016 | 1,071 | 438 | 609 | 161 | 192 | 331 | 294 | 2 10, 836 |
| 1923 | 23,496 | 1,404 | 778 | 745 | 542 | 649 | 136 | 158 | 320 | 220 | ${ }^{2} 8,448$ |
| Potatoes: | *20,601 | 9,609 | 6, 441 | 5,185 | 2,904 | 1,573 | 410 | 1,198 | 2,546 | 439 | 150,804 |
| 1918 | 19,330 | 12,477 | 6,823 | 6, 516 | 2,739 | 1, 538 | 125 | 1,397 | 2, 602 | 1,213 | 53, 760 |
| 1919 | 18, 378 | 12,158 | 7,668 | 7, 326 | 2, 756 | 2,047 | 150 | 498 | 2, 521 | 1,000 | 54, 502 |
| 1920 | 17, 424 | 11, 302 | 7, 190 | 5, 614 | 2,512 | 2, 189 | 487 | 756 | 2,145 | 885 | 50,454 |
| 1921 | 217, 888 | 13, 077 | 7, 460 | 5, 396 | 3, 592 | 2,857 | 594 | 845 | 2, 257 | 1,153 | ${ }^{2} 55,217$ |
| 1922 | $22^{20,100}$ | 13, 912 | 8,023 | 5,009 | 4, 290 | 3,447 | 351 | 717 | 2, 433 | 1, 623 | ${ }_{2}^{2} 59,905$ |
| 1823 | 221,330 | 14, 436 | 8, 519 | 4, 806 | 3,012 | 2,942 | 263 | 735 | 2, 417 | 1,646 | ${ }^{2} 80,204$ |
| Strawberries: | 2,771 | 910 | 679 | 435 | 89 | 287 | 82 | 199 | 173 | 10 | 5,635 |
| 1918 | 1,206 | 876 | 304 | 271 | 77 | 255 | 52 | 119 | 100 | 18 | 3,278 |
| 1919 | 898 | 1,246 | 243 | 166 | 45 | 232 | 58 | 101 | 50 | 50 | 3,089 |
| 1920 | 1,202 |  | 291 | 185 | 85 | 80 | 49 | 84 | 68 | 75 | 3, 028 |
| 1921 | ${ }^{2} 1,101$ | 1,499 | 300 | 321 | 132 | 356 | 72 | 147 | 180 | 50 | ${ }^{2} 4,158$ |
| 1922 | 2 $\begin{aligned} & 2,193 \\ & 2 \\ & 2\end{aligned}$ | 1,719 | 568 750 | 497 516 | 265 277 | 474 559 | 160 130 | 351 246 | 262 129 | 48 | 26,537 26,872 |
| Sweet potat | 2 2, 507 | 1,696 | 750 | 516 | 277 | 559 | 130. | 246 | 129 | 62 | ${ }^{2} 6,872$ |
| 1921. | ${ }^{2} 1,592$ | 1,231 | 440 | 913 | 194 | 368 | 38 | 91 | 180 | 197 | ${ }^{2}$ 2, 244 |
| 1922 | 2 1, 625 | 1,315 | 378 | 962 | 127 | 461 | 65 | 141 | 147 | 183 | ${ }^{2} 5,504$ |
| 1023. | ${ }^{2} 1,255$ | 1,497 | 409 | 944 | 136 | 413 | 58 | 133 | 102 | 180 | ${ }^{2} 5,127$ |
| Tomatoes: | 13,310 | 1,333 | 696 | 945 | 237 | 347 | 27 | 75 | 266 | 105 | ${ }^{1} 7,341$ |
| 1018 | 3,229 | 1,008 | 698 | 1,016 | 64 | 191 | 39 | 64 | 185 | 115 | 6, 609 |
| 1919 | 2,986 | 1,020 | 943 | 993 | 178 | 202 | 24 | 50 | 235 | 158 | 6,789 |
| 1920 | 3, 153 | 1,199 | 826 | 765 | 220 | 218 | 15 | 49 | 214 | 180 | 6,839 |
| 1921 | ${ }^{2} 2,872$ | 1,588 | 1,105 | 919 | 327 | 287 | 34 | 58 | 252 | 193 | ${ }^{2} 7,645$ |
| 1922 | ${ }^{2} 3,974$ | 1,918 | 1,382 | 1,219 | 444 | 438 | 75 | 121 | 330 | 254 | ${ }^{2} 10,155$ |
| 1923. | ${ }^{2} 3,981$ | 1,652 | I; 436 | 1,321 | 309 | 339 | 34 | 106 | 302 | 228 | ${ }^{2} 9,705$ |
| Total (nine gommodities): |  |  |  |  |  |  |  |  |  |  |  |
| 1917 | 148, 356 | 20,234 | 14,732 | 13, 444 | 7,734 | 4,467 | 1,053 | 2, 618 | 5,407 | 1,400 | 1119,545 |
| 1918 | 49, 158 | 23, 033 | 15, 389 | 15, 710 | 6,301 | 4,771 | 840 | 1,481 | 4,898 | 2,834 | 124, 415 |
| 1819 | 47, 767 | 27,026 | 16,771 | 15, 772 | ${ }_{6} 181$ | 5, 942 | ${ }^{793}$ | 1, 412 | 4,918 | 2, 444 | 129, 026 |
| 1920 | 456934 | 26,432 | 16, 922 | 13,892 14.405 | 7,142 8829 | 6,018 | 1, 112 | 1,739 | 5,346 | 2, ${ }_{\text {2, }}^{234}$ |  |
| 1921 |  |  |  |  |  |  |  |  | 5,346 5,668 | 2,934 3,885 | $\begin{aligned} & 2144,173 \\ & 2159,720 \end{aligned}$ |
| 1922 | 250,074 | 33,716 36,922 | 10, 312 | 15, 185 | 10,088 9,208 | 8, 8 , 145 | 1,267 | 2, , , 2, 434 | 5, 668 $\mathbf{6 , 0 4 3}$ | - | 21 169,065 <br> 1808 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Unloads as ahown in carlots include those by boat reduced to carlot basis.

[^195]
## CROPS OTHER THAN GRAINS, FRUITS, AND VEGETABLES.

## BEANS.

Table 279.-Beans, dry: Acreage, production, and total farm value, United States, 1914-1923; by States, 1922 and 1923.

| Calendar year, and state. | Thousands of acres. |  | Average yield in bushels per acre. |  | : Production, thousands of bushels. |  | A verage farm price per bushel Nov. 15. |  | Farm value, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | $\begin{array}{r} 875 \\ 928 \\ 1,107 \\ 1,821 \\ 1,744 \\ 1,060 \\ 847 \\ 777 \end{array}$ |  | $\begin{array}{r} 13.2 \\ 11.1 \\ 9.7 \\ 8.8 \\ 10.0 \\ 12.6 \\ 10.8 \\ 11.8 \end{array}$ |  | $\begin{array}{r} 11,585 \\ 10,321 \\ 10,715 \\ 16,045 \\ 17,397 \\ 13,349 \\ 9,185 \\ 9,150 \end{array}$ |  | $\begin{array}{r} \$ 2.26 \\ 2.59 \\ 5.10 \\ 6.50 \\ 6.58 \\ 5.28 \\ 4.26 \\ 2.95 \\ 2.67 \end{array}$ |  | 26, 213 <br> 26, 771 <br> 104, 350 <br> 91, 863 <br> 56,811 27,134 <br> 24, 399 |  |
| 1915 |  |  |  |  |  |  |  |  |  |  |
| 1916 |  |  |  |  |  |  |  |  |  |  |
| 1917 |  |  |  |  |  |  |  |  |  |  |
| 1918 |  |  |  |  |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |  |  |  |  |
| 1921 |  |  |  |  |  |  |  |  |  |  |
| Leading States. | 1922 | 19231 | 1922 | 1923 | 1922 | 19231 | 1922 | 1923 | 1922 | 1923 ${ }^{1}$ |
|  | 1,074 | 1,297 | 11.9 | 12.1 | 12,734 | 15,740 | 3.74 | 3.65 | 47,640 | 57,480 |
| New York | 108 | 130 | 14.0 | 13.0 | 1,512 | 1,690 | 3.80 | 3.90 | 5,746 | 6,591 |
| Michigan | 458 | 568 | 10.5 | 11.5 | 4,809 | 6, 532 | 3. 65 | 3. 30 | 17, 553 | 21,556 |
| Wisconsin. |  | 10 | 9.5 | 9.0 | 76 | 90 | 3. 60 | 4. 00 | 274 | 360 |
| Colorado. | 81 | 170 | 5.0 | 8.0 | 405 | 1,360 | 4.40 | 3. 70 | 1,782 | 5,032 |
| New Mexico | 62 | 69 | 3.2 | 5.0 | 198 | 345 | 4.50 | 4.20 | 891 | 1,449 |
| Arizona | 7 | 6 | 3.5 | 6.5 | 24 | 39 | 4. 50 | 3.90 | 108 | 152 |
| Idaho | 26 | 45 | 14.0 | 22.0 | 364 | 990 | 3.40 | 3.60 | 1,238 | 3,564 |
| California | 324 | 299 | 16. 5 | 15.7 | 5,346 | 4,694 | 3. 75 | 4.00 | 20,048 | 18,776 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 280.-Beans, dry: Farm price per bushel, 15th of month, United States, 1910-1923.

| Year beginning Sept. 1- | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug | Weighted av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | \$2. 28 | \$2. 25 | \$2. 14 | \$2. 20 | \$2. 20 | \$2. 23 | \$2. 17 | \$2. 20 | \$2. 17 | \$2. 19 | \$2. 23 | \$2. 20 | \$2. 21 |
| 1911-12 | 2. 26 | 2.27 | 2. 34 | 2. 42 | 2.38 | 2.38 | 2. 42 | 2. 37 | 2. 52 | 2. 62 | 2. 47 | 2. 40 | 2. 37 |
| 1912-13 | 2. 38 | 2. 34 | 2. 25 | 2. 31 | 2. 26 | 2. 19 | 2. 10 | 2. 11 | 2. 18 | 2.23 | 2. 22 | 2. 11 | 2. 25 |
| 1913-14 | 2. 08 | 2.25 | 2. 20 | 2.12 | 2. 17 | 2. 09 | 2. 05 | 2.11 | 2. 31 | 2. 23 | 2. 22 | 2. 54 | 2.17 |
| Av. 1910-1913 | 2.25 | 2.28 | 2. 23 | 2.26 | 2.25 | 2.22 | 2. 18 | 2.20 | 2. 30 | 2. 32 | 2. 28 | 2.31. | 2.25 |
| 1914-15 | 2. 46 | 2. 17 | 2. 28 | 2. 40 | 2. 63 | 3.02 | 2. 89 | 2.81 | 2.93 | 2. 87 | 2. 75 | 2. 67 | 2.56 |
| 1915-16 | 2. 70 | 2. 93 | 3.03 | 3. 30 | 3. 47 | 3. 43 | 3.34 | 3. 42 | 3. 56 | 3. 72 | 5. 09 | 4. 59 | 3. 27 |
| 1916-17 | 4.60 | 4. 47 | 5. 53 | 5. 77 | 5.71 | 6.07 | 6. 49 | 7.37 | 8.94 | 8. 99 | 8.07 | 7. 29 | 5.92 |
| 1917-18. | 6. 69 | 7. 48 | 7.33 | 7. 00 | 7.00 | 7.08 | 6. 95 | 6. 95 | 6. 67 | 6. 28 | 5. 88 | 6. 11 | 7.04 |
| 1918-19 | 5. 67 | 5. 52 | 5. 46 | 4. 86 | 4.98 | 4. 52 | 4.40 | 4. 44 | 4. 19 | 4.39 | 4. 25 | 4. 30 | 4.98 |
| 1919-20 | 4. 36 | 4. 27 | 4. 42 | 4.41 | 4. 70 | 4.47 | 4.32 | 4. 41 | 4. 36 | 4. 49 | 4. 47 | 4. 17 | 4.41 |
| 1920-21. | 3.83 | 3. 46 | 3. 27 | 2. 99 | 2. 95 | 2. 85 | 2. 89 | 2.69 | 2. 73 | 2. 82 | 2. 75 | 2.83 | 3.12 |
| Av. 1914-1920 | 4. 33 | 4. 33 | 4.47 | 4.39 | 4. 49 | 4.49 | 4.47 | 4. 58 | 4. 77 | 4. 79 | 4.75 | 4.57 | 4.47 |
| 1921-22 | 2. 99 | 2. 87 | 2.85 | 2.83 | 2. 86 | 3. 04 | 3. 64 | 3. 77 | 4.02 | 4. 48 | 4. 29 | 4. 09 | 3.18 |
| 1922-23 | 3. 22 | 3.36 | 3. 71 | 3. 91 | 4. 24 | 4. 42 | 4. 30 | 4.32 | 4. 26 | 4.05 | 3.94 | 3. 62 | 3.88 |
| 1923-24 | 3. 78 | 3. 87 | 3.83 | 3.44 |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 281.-Beans, dry: Carlot shipments by States of origin, calendar years, 1918-1923.

| State. | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York | Cars. | Cars. | Cars. 351 | Cars. | Cars. | Cars. |
| Michigan. | -833 | 1,765 | 2,123 | 1,305 | 1,599 4,955 | 1,771 |
| Colorado- | 763 | +478 | 2, 186 | -524 | -483 | ${ }^{593}$ |
| New Mexico | 133 | 422 | 821 | 974 | 288 |  |
| Idaho---- | 177 | 232 | 147 | 145 | 236 | 48 |
| California | 2, 080 | 4,681 | 3,481 | 3,759 | 3, 821 | 3, 269 |
| All other | 89 | 69 | 86 | 152 | 84 | 151 |
| Total | 4, 144 | 7, 791 | 6,995 | 12, 714 | 11, 466 | 12, 185 |

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

Table 282.-Beans: Wholesale price per 100 pounds, 1914-1923.

| Calendar year- | Boston, pea. |  |  | Chicago, pea. |  |  | Detroit, pea. |  |  | San Francisco, small white. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Low. | High. | $\begin{array}{\|c} \text { Aver- } \\ \text { age. } \end{array}$ | Low. | High. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ | Low. | High. | Aver- age | Low. | Migh. | Average. |
| 1914 | \$2. 10 | \$3. 10 | \$2. 10 | \$1. 60 | \$3. 10 | \$2. 22 | \$1.80 | \$2. 90 | \$2. 22 | \$4. 00 | \$6.00 | \$4.98 |
| 1915 | 2.85 | 4.10 | 3.36 | 2. 40 | 4. 10 | 3.19 | 2. 00 | 3.60 | 3.06 | 4. 50 | 6. 40 | 5.30 |
| 1916 | 3. 80 | 7.25 | 4. 96 | 3. 00 | 8. 00 | 4.24 | 3. 50 | 7.00 | 4.82 | 6.25 | 11. 50 | 8.05 |
| 1917 | 6. 50 | 15. 00 | 9.24 | 6. 40 | 14.50 | 9.09 | 6. 25 | 13. 25 | 8. 60 | 10. 50 | 16. 00 | 13.20 |
| 1918. | 9.00 | 14.00 | 12.08 | 8.25 | 15. 00 | 11.49 | 8. 63 | 13. 25 | 10.75 | 8. 90 | 12.75 | 11.64 |
| 1919 | 6. 00 | 10. 00 | 7. 74 | 6. 50 | 9. 50 | 7.92 | 6. 50 | 9.00 | 7. 54 | 5. 75 | 8.90 | 7.05 |
| 1920 | 4.75 | 8. 25 | 6. 98 | 4.25 | 9. 25 | 6.76 | 3.90 | 7. 90 | 6. 25 | 3. 75 | 6. 75 | 5. 72 |
| Low, high, and average, 1914-1920 | 2.10 | 15. 00 | 6. 64 | 1.60 | 15.00 | 6. 42 | 1.80 | 13. 25 | 6.18 | 3.75 | 16.00 | 7. 99 |
| 1921 | 4. 25 | 5. 50 | 4. 88 | 3. 60 | 5. 50 | 4.61 | 3.30 | 4.78 | 3. 99 | 3. 20 | 4.90 | 4.03 |
| 1922 | 5.00 | 10. 50 | 7. 60 | 4. 60 | 11. 15 | 7.46 | 4.30 | 9. 65 | 6. 86 | 4.75 | 7. 75 | 6. 18 |
| 1923. | 6. 75 | 8.00 | 7.44 | 5. 30 | 9.00 | 7.04 |  |  |  | 5. 75 | 7.75 | 6. 67 |
| January 1923. |  |  | 762 |  | 9.00 | 8.25 |  |  |  |  |  |  |
| February | 7.50 | 7.85 | 7.71 | 8. 25 | 8. 50 | 8. 43 |  |  |  | 7.00 | 7.45 | 7.23 |
| March | 7.50 | 7.75 | 7.66 | 8.00 | 8.25 | 8.18 |  |  |  | 7.25 | 7.30 | 7.27 |
| April | 7.50 | 7.75 | 7.60 | 7.75 | 8.00 | 7.83 |  |  |  | 7.15 | 7. 25 | 7.22 |
| May | 7.15 | 7.50 | 7.27 | 7.75 | 7.90 | 7.79 |  |  |  | 6.50 | 7.15 | 6. 76 |
| June. | 7.20 | 7.50 | 7.35 | 7. 50 | 7.90 | 7.76 |  |  |  | 6.50 | 7.00 | 6.81 |
| July | 7.00 | 7.35 | 7.18 | 6. 25 | 7.50 | 6. 60 |  |  |  | 6.15 | 6. 50 | 6.42 |
| August | 6. 75 | 7.00 | 6.89 | 5. 50 | 5. 85 | 5. 68 |  |  |  | 5. 75 | 6.25 | 6.05 |
| September | 7.25 | 7.50 | 7.40 | 5. 85 | 6. 30 | 5. 99 |  |  |  | 6. 50 | 7.00 | 6. 75 |
| October- | 7.75 | 7.75 | 7.75 | 6. 30 | 6. 50 | 6. 35 |  |  |  | 5. 75 | 7.00 | 6. 05 |
| November | 7.50 | 8.00 | 7.79 | 5. 70 | 6. 50 | 6. 10 |  |  |  | 6. 00 | 6.25 | 6.09 |
| Decembe | 7.00 | 7.25 | 7.12 | 5. 30 | 5. 70 | 5. 54 |  |  |  | 5. 75 | 6.15 | 5. 92 |

Division of Statistical and Historical Research. Compiled from Boston Chamber of Commerce, Chicago Daily Trade Bulletin, Michigan Elevator Exchange, San Francisco Daily Commercial News.

## SOY BEANS.

Table 283.-Soy beans: Farm price per bushel, 15th of month, United States, 1913-1923.

| Year beginning Oct. 1- | October. | November. | December. | January. | February. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913-14 | \$1.96 | \$1. 57 | \$1. 72 | \$1.96 | \$1. 80 | \$1. 76 |
| 1914-15. | 2.08 | 2.15 | 2. 24 | 2. 35 | 2. 26 | 2. 18 |
| 1915-16. | 1. 88 | 2.08 | 2. 23 | 2.31 | 2. 39 | 2. 11 |
| 1916-17. | 2. 13 | 2.13 | 2.18 | 2. 20 | 2.45 | 2. 16 |
| 1917-18. | 2. 73 | 2.86 | 3.33 | 3.47 | 3.82 | 3. 05 |
| 1918-19.- | 3. 36 | 3. 20 | 3. 29 | 3. 00 | 3. 00 | 3. 23 |
| 1919-20. | 3. 34 | 3.35 | 3.44 | 3.76 | 4.05 | 3.45 |
| 1920-21 | 3. 41 | 3. 00 | 2. 28 | 2.18 | 2.17 | 2. 80 |
| 1921-22 | 2. 20 | 2.22 | 2.08 | 2.11 | 2.16 | 2. 17 |
| 1922-23. | 1. 89 | 2.06 | 1. 97 | 2. 07 | 2.13 | 2. 00 |
| 1923-24.- | 2. 09 | 2.11 | 2.11 |  |  |  |

Table 284.-Soy beans: Acreage, yield per acre, and production, by States, calendar years, 1922 and 1923.

| State. | Equivalent solid acreage utilized. ${ }^{1}$ |  |  |  |  |  |  |  | Beans gathered. ${ }^{2}$ |  |  |  |  |  |  |  | Hay. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Primarily for beans. |  | Primarily for hay. |  | Primarily for grazing, hogging, etc. |  | Total. |  | Yield per acte from acreage grown primarily for beans. |  | Production. |  |  |  |  |  | Yield per acre from acreage primarily for hay. |  | Production from acreage primarily for hay. |  |
|  |  |  | From acreage grown primarily for beans. | From acreage utilized primarily for other purposes. |  | Total. |  |  |  |  |  |  |  |
|  | 1922 | $1923{ }^{3}$ |  |  | 1022 | $1923{ }^{3}$ |  |  | 1922 | $1923{ }^{3}$ | 1922 | $1923{ }^{3}$ | 1922 | 1923 | 1922 | $1923{ }^{3}$ | 1922 | $1923{ }^{3}$ | 1922 | $1923{ }^{\text {a }}$ | 1922 | 1923 | 1922 | $1923{ }^{8}$ |
|  | 1,000 acres. | 1,000 | 1,000 | 1,000 |  |  | 1,000 | 1,000 | 1,000 |  |  |  |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  | 1,000 |  |
| Delaware | acres. | acres. | acrès. | actes. | acres. | acres. | acres. | acres. | Bush. | Bush. | bush. | bush. | bush. | bush. | bush. | bush. | Tons. | Tons. | toms. | tons. |
| Maryland. | 5 | 7 | 10 | 12 | $\frac{1}{3}$ | 5 | 18 | 24 | 16.0 | 17.5 | 280 | r 122 |  |  | 29 <br> 80 | 46 122 | 1.75 2.00 | 1. 40 | 5 20 | 4 18 |
| Virginia | 13 | 14 | 40 | 48 | 10 | 10 | 63 | 72 | 16.0 | 19.0 | 208 | 266 | 69 | 89 | 277 | 355 | 1.80 | 1.80 | 72 | 86 |
| West Virginia | 1 | 1 | 5 | 5 | 1 | 1 | 7 | 7 | 15.0 | 15. 0 | 15 | 15 | 1 | 1 | 16 | ${ }^{35}$ | 1.70 | 1.70 | 8 | 8 |
| North Carolina | 100 | 10.5 | 65 | 70 | 60 | 65 | 225 | 240 | 16.0 | 17.0 | 1,600 | 1,785 | 400 | 446 | 2,000 | 2,231 | 1.30 | 1.40 | 84 | 98 |
| South Carolina. | 3 | 5 | 4 | $\theta$ | 3 | 7 | 10 | 21 | 11.0 | 12.0 | 33 | 60 | 10 | 30 | 43 | 90 | . 90 | 90 | 4 | 8 |
| Georgia. | 3 | 7 | 7 | 20 | 2 | 5 | 12 | 32 | 12. 2 | 11.0 | 37 | 77 | 29 | O1 | 66 | 138 | . 93 | . 80 | 7 | 16 |
| Ohio. | 31 | 50 | 30 | 50 | 29 | 28 | 90 | 128 | 15.0 | 16.0 | 465 | 800 | 2 | 0 | 465 | 800 | 1. 70 | 1. 50 | 51 | 75 |
| Indiana | 20 | 40 | 29 | 95 | 64 | 64 | 113 | 190 | 12. 0 | 14.0 | 240 | 560 | 220 | 550 | 460 | 1,110 | 1. 50 | 1. 1.40 | 44 | 134 |
| Inlinois. | 65 | 92 | 70 | 137 | 58 | 213 | 193 | 442 | 12.5 | 14.0 | 812 | 1,288 | 388 | 484 | 1,200 | 1, 722 | 1.50 | 1.80 | 105 | 247 |
| Michigan. | 4 | 6 | 4 | 4 | 4 | 4 | 12 | 14 | 10.2 | 11.0 | 41 | 66 | 10 |  | 51 | 66 | 1.32 | 1. 50 | 5 | 6 |
| Wisconsin | 7 | 4 | 11 | 14 | 30 | - 30 | 48 | 48 | 11.0 | 8.0 | 77 | 32 |  | ...-- | 77 | 32 | 1.20 | 1.30 | 13 | 18 |
| Iowa... | 6 | 10 | 7 | 10 | 100 | 150 | 113 | 170 | 22.0 | 17.0 | 132 | 170 |  |  | 132 | 170 | 1.40 | 1.90 | 10 | 19 |
| Missouri | 15 | 70 | 33 | 68 | 51 | 112 | 99 | 250 | 11.0 | 12.0 | 165 | 840 | 41 | 95 | 206 | 935 | 1. 25 | 1.40 | 41 | 9. |
| Kentucky. | 6 | 6 | 38 | 38 | 21 | 21 | 65 | 65 | 13.0 | 14.0 | 78 | 84 | 84 | 94 | 162 | 178 | 1.25 | 1.45 | 48 | 55 |
| Tennessee. | ${ }_{6}^{6}$ | ${ }_{6}^{6}$ | 125 | 130 | 23 | 23 | 154 | 159 | 9.0 | 9.0 | 54 | 54 | 63 | 63 | 117 | 117 | 1.35 | 1. 35 | 169 | 176 |
| Alabama. | 18 | 17 | 60 | 52 | 35 | 37 | 113 | 106 | 8. 6 | 8. 5 | 155 | 144 | 83 | 78 | 238 | 222 | 1.20 | 1.03 | 72 | ${ }^{6} 4$ |
| Mississippi | 8 | 8 | 19 | 23 | 16 | 14 | 43 | 45 | 12.0 | 14. 5 | 96 | 116 | 96 | 116 | 192 | 232 | 1. 20 | 1.35 | 23 | 81 |
| Louisiana. | 1 | 1 | 1 | 6 | 1 | 1 | 3 | 8 | 12.1 | 16.0 | 12 | 16 | 9 | 13 | 21 | 29 | 1.00 | 1. 40 | 1 | 8 |
| Total. | 314 | 452 | 561 | 794 | 512 | 791 | 1,387 | 2,037 | 13.78 | 14.47 | 4,329 | 6,541 | 1,503 | 2,070 | 5, 832 | 8,611 | 1. 394 | 1. 455 | 782 | 1,155 |

[^196]${ }^{1}$ Interplanted acreage is included as its equivalent solid acreage.

[^197]${ }^{3}$ Prelliminary.

COWPEAS.
Table 285.-Cowpeas: Acreage, yield per acre, and production, by States, calendar years, 1922 and 1929.

| State. | Equivalent solid acreage utilized. 1 |  |  |  |  |  |  |  | Peas (gathered). ${ }^{2}$ |  |  |  |  |  |  |  | Нау. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Primarily for peas. |  | Primarily for hay. |  | Primarily for grazing, hogging, etc. |  | Total. |  | Yield per acre from acreage grown primarily for peas. |  | Production. |  |  |  |  |  | Yield per acre from acreage primarily for hay. |  | Production from acreage primarily for hay. |  |
|  |  |  | From grown rily fo | creage primapeas. |  |  | From utilize rily fo purp | creage primaother ses. |  |  |  | al. |  |  |  |  |
|  | 1922 | $1923{ }^{3}$ |  |  | 1922 | $1923{ }^{3}$ |  |  | 1922 | -1923 ${ }^{3}$ | 1922 | $1923{ }^{3}$ | 1922 | 1923 | 1922 | $1923{ }^{3}$ | 1922 | $1923{ }^{3}$ | 1922 | 19238 | 1922 | 1923 | 1922 | 19238 |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  | 1,000 | 1,000 |
|  | acres. | acres. | acres. | acres. | aeres. | acres. | acres. | acres. | Bush. | Bush. | bush. | bush. | bush. | bush. | bush. | bush. | Tons. | Tons. | tons. | tons. |
| Delaware | 2 |  | 10 | 17 | 1 |  | 13 | 20 | 13. 5 | 14.0 | 27 | 28 |  |  | 27 | 28 | 1.75 | 1.40 | 18 | 24 |
| Maryland. | 3 | 4 | 14 | 20 | 4 | 4 | 21 | 28 | 14.4 | 13.0 | 43 | 58 |  |  | 43 | 52 | 2. 00 | 1. 50 | 28 | 30 |
| Virginia-- | 22 | 20 | 84 | 90 | 14 | 14 | 120 | 124 | 12. 0 | 14. 0 | 264 | 280 | 113 | 120 | 377 | 400 | 1.70 | 1. 70 | 143 | 153 |
| West Virginia.. | 1 | 1 | 8 | 8 | 1 | 1 | 10 | 10 | 13. 0 | 14.0 | 13 | 14 | 1 | 1 | 14 | 15 | 1.55 | 1.50 | 12 | 12 |
| North Carolina | 110 | 100 | 170 | 160 | 120 | 98 | 400 | 358 | 12.0 | 10.0 | 1, 320 | 1,000 | 809 | 613 | 2, 129 | 1,613 | 1.10 | 1.00 | 187 | 160 |
| South Carolina | 300 | 304 | 277 | 208 | 150 | 130 | 727 | 727 | 7.5 | 10.0 | 2, 250 | 3,040 | 750 | 960 | 3,000 | 4,000 | . 85 | . 80 | 235 | 234 |
| Georgia.... | 230 | 181 | 333 | 380 | 140 | 160 | 703 | 721 | 8.9 | 8.5 | 2, 047 | 1,538 | 1,482 | 1,180 | 3, 529 | 2,718 | . 90 | . 70 | 800 | 266 |
| Florida. | 11 | 14 | 33 | 36 | 42 | 44 | 86 | 94 | 11.0 | 11.0 | 121 | 154 | 246 | - 313 | 367 | 467 | . 73 | . 95 | 24 | 34 |
| Indiana | 18 | 23 | 66 | 95 | 17 | 20 | 101 | 138 | 12. 0 | 10.0 | 216 | 230 | 130 | 180 | 346 | 410 | 1. 50 | 1. 50 | 99 | 142 |
| Inlinois. | 53 | 45 | 90 | 97 | 19 | 19 | 162 | 161 | 7.0 | 0.5 | 371 | 427 | 161 | 114 | 532 | 541 | 1.50 | 1.57 | 135 | 152 |
| Missouri | 21 | 23 | 74 | 97 | 30 | 30 | 125 | 150 | 9.0 | 9. 0 | 189 | 207 | 83 | 107 | 272 | 314 | 1.18 | 1.00 | 87 | 97 |
| Kentucky | 10 | 10 | 58 | . 58 | 28 | 28 | 96 | 96 | 12. 0 | 12.0 | 120 | 120 | 150 | 150 | 270 | 270 | 1.30 | 1.45 | 75 | 84 |
| Tennessee. | 14 | 19 | 175 | 168 | 40 | 36 | 229 | 216 | 7.0 | 7.0 | 98 | 84 | 106 | 91 | 204 | 175 | 1.30 | 1. 10 | 228 | 185 |
| Alabama.. | 240 | 179 | 220 | 182 | 209 | 154 | 669 | 515 | 9.0 | 8.5 | 2,160 | 1,522 | 1,379 | 974 | 3,539 | 2,496 | . 90 | . 78 | 198 | 142 |
| Mississippi | 160 | 154 | 160 | 163 | 127 | 104 | 447 | 421 | 8.0 | 7.5 | 1,280 | 1,155 | 1,135 | 1,025 | 2,415 | 2,189 | 1.00 | 1. 10 | - 160 | 179 |
| Louisiana. | 55 | 48 | 75 | 65 | 105 | 95 | 235 | 206 | 14.6 | 13.5 | 803 | 621 | 657 | 508 | 1,460 | 1,129 | 1. 10 | 1.20 | 82 | 78 |
| Texas .-.-- | 44 | 55 | 22 | 28 | 110 | 81 | 176 | 162 | 9.1 | 12.0 | 400 | 660 | 176 | 121 | ${ }^{576}$ | ${ }^{7} 781$ | 1.25 | . 80 | 28 | 21 |
| Arkansas. | 50 | 45 | 120 | 110 | 62 | 57 | 232 | 212 | 10.0 | 10.0 | 500 | 450 | 350 | 220 | 850 | 870 | 1.10 | 1. 10 | 132 | 121 |
| Total | 1,344 | 1,218 | 1,989 | 2,065 | 1,219 | 1,076 | 4,552 | 4,359 | 9.21 | 9.50 | 12,222 | 11, 582 | 7,728 | 6,677 | 19,950 | 18, 259 | 1,092 | 1,024 | 2,171 | 2, 110 |

[^198]Table 286.-Cowpeas: Farm price per bushel, 15th of month, United States, 19151923.

| Year begin: ning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1915-16 | 174.4 | 155.4 | 156.0 | 151.4 | 151.8 | 156.3 | 157.2 | 153.7 | 150.2 | 148.8 | 140.0 | 135.1 | 151.9 |
| 1916-17 | 141.3 | 142.4 | 148. 1 | 161.6 | 177.0 | 192. 2 | 210.0 | 231.8 | 253.4 | 293.1 | 309.1 | 303. 2 | 189.7 |
| 1917-18 | 265.4 | 217.0 | 219. 5 | 227.1 | 237.5 | 262.2 | 292.5 | 301.5 | 292.8 | 283.3 | 257.4 | 248.4 | 236. 2 |
| 1918-19 | 241.3 | 226. 2 | 233.9 | 231.4 | 237.6 | 238.9 | 252.1 | 248.8 | 267.6 | 292. 3 | 343. 9 | 342.8 | 254.3 |
| 1919-20 | 310.3 | 269.4 | 260.9 | 270.7 | 280.6 | 312.9 | 372.4 | 394.0 | 421.4 | 484.4 | 483.7 | 470.8 | 319.4 |
| 1920-21 | 422.7 | 368.8 | 273.7 | 243.4 | 229.0 | 197.2 | 204.2 | 204.7 | 215. 5 | 242.7 | 265.1 | 287.2 | 273.8 |
| 1921-22 | 240.9 | 199.7 | 201. 2 | 184.8 | 176. 1 | 171.9 | 179.7 | 185. 8 | 184.8 | 189. 5 | 184.0 | 170. 0 | 190.7 |
| 1922-23 | 166. 5 | 157.4 | 153.6 | 160.7 | 167.4 | 187.0 | 197. 6 | 198.2 | 208.0 | 208.5 | 217.2 | 221.3 | 172.8 |
| 1923-24 | 208. 1 | 187. 2 | 195.4 | 194. 7 | 200.9 |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

## VELVET BEANS.

Table 287.-Velvet beans: Acreage, yield per acre, and production, calendar years, 1922 and 1923.

| State. | Equivalent solid acreage utilized. ${ }^{1}$ |  |  |  |  |  | Beans gathered. ${ }^{2}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Primarily for beans. |  | Primarily for grazing, hogging, etc. |  | Total. |  | Yield per acre from acreage grown primarily for beans. |  | Production. |  |  |  |  |  |
|  |  |  | From acreage grown primarily for beans. | From acreage utilized primarily for other purposes. |  | . Total. |  |
|  | 1922 | $1923{ }^{3}$ |  |  | 1922 | $1923{ }^{3}$ |  |  | 1922 | $1923{ }^{3}$ | 1922 | 1923 | 1922 | $1923{ }^{3}$ | 1922 | $1923{ }^{3}$ | 1922 | 1923 ${ }^{2}$ |
|  | 1,000 | 1,000 | 1,000 | 1,000 |  |  | 1,000 | 1,000 | Bush- | Bush- | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | acres. | acres. | acres. | acres. | acres. | acres. | els. | els. | bush. | bush. | bush. | bush. | bush. | bush. |
| North Carolina | 5 | 6 | 36 | 39 | 41 | 45 | 11. 0 | 11.0 | 55 | 66 | 68 | 75 | 123 | 141 |
| South Carolina | 50 | 50 | 175 | 195 | 225 | 245 | 13. 0 | 13.0 | 650 | 650 | 533 | 490 | 1,183 | 1,140 |
| Georgia------- | 22 | 218 | 520 | 510 | 742 | 728 | 11. 8 | 11.9 | 2,620 | 2, 594 | 1,124 | 1,000 | 3,744 | 3, 594 |
| Florida...-..-- | 30 | 25 | 210 | 225 | 240 | 250 | 12.0 | 13.0 | 360 | 325 | 200 | 178 | 560 | 503 |
| Alabama--- | 250 | 225 | 450 | 366 | 700 | 591 | 11.3 | 11.0 | 2, 825 | 2,475 | 1,130 | 990 | 3,955 | 3,465 |
| Mississippi..-- | 40 | 38 | 216 | 205 | 256 | 243 | 10.0 | 12.0 | 400 | 456 | 200 | 185 | 600 | 641 |
| Louisiana....- | 35 | 30 | 132 | 132 | 167 | 162 | 11. 2 | 8.6 | 392 | 258 | 482 | 204 | 874 | 462 |
| Texas. | 8 | 9 | . 40 | 42 | 48 | 51 | 13. 0 | 9.0 | 104 | 81 | 110 | 75 | 214 | 156 |
| Total | 640 | 601 | 1,779 | 1,714 | 2,419 | 2,315 | 11.57 | 11.49 | 7,406 | 6,905 | 3, 847 | 3, 197 | 11,253 | 10,102 |

[^199]
## BROOM CORN.

Table 288.-Broom corn: Acreage, production, and total farm value, United States, 1915-1923; by States, 1922 and 1923.

| Calendar year, and State. | Acreage. |  | Average yield in pounds per acre. |  | Production (tons). |  | Average farm price per ton Nov. 15. |  | Farm value, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915 | $\begin{aligned} & 230,100 \\ & 235,200 \\ & 345,000 \\ & 366,000 \\ & 352,000 \\ & 275,500 \\ & 222,000 \end{aligned}$ |  | 454.1 <br> 329.3 <br> 332.8 <br> 340.4 <br> 303.4 <br> 344.2 |  | $\begin{aligned} & 52,242 \\ & 38,726 \\ & 57,400 \\ & 62,300 \\ & 53,400 \\ & 36,500 \\ & 38,200 \end{aligned}$ |  | $\begin{array}{r} 91.67 \\ 172.75 \\ 292.75 \\ 233.87 \\ 234.57 \\ 154.57 \\ 126.16 \\ 72.20 \end{array}$ |  | $\begin{array}{r} 4,789 \\ 6,690 \\ 16,804 \\ 14,570 \\ 8,254 \\ 4,60 \\ 2,658 \end{array}$ |  |
| 1916 |  |  |  |  |  |  |  |  |  |  |
| 1917. |  |  |  |  |  |  |  |  |  |  |
| 1918 |  |  |  |  |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |  |  |  |  |
| 1921 |  |  |  |  |  |  |  |  |  |  |
| Leading States. | 1922 | 19231 | 1922 | 1923 | 1922 | 19231 | 1922 | 1923 | 1922 | $1923{ }^{1}$ |
| Total | 275, 000 | 498,000 | 271.3 | 278.3 | 37,300 | 69,300 | 219.46 | 160.61 | 8,186 | 11, 130 |
| Illinois | 21,000 | 37,000 | 680 | 475 | 7, 100 | 8,800 | 260 | 235 | 1,846 | 2,088 |
| Missourí | 3,000 | 4,000 | 560 | 500 | 800 | 1,000 | 225 | 188 | 180 |  |
| Kansas. | 16,000 | 58,000 | 390 | 370 | 3, 100 | 10,700 | 221 | 118 | 685 | 1,263 |
| Texas | 16,000 | 30,000 | 375 | 363 | 3,000 | 5,400 | 200 | 150 | 600 | 810 |
| Oklahoma | 195, 000 | 271, 000 | 200 | 220 | 19,500 | 29,800 | 213 | 170 | 4,154 | 5, 066 |
| Colorado. | 10,000 | 48, 000 | 350 | 300 | 1,800 | 7,200 | 195 | 145 | 351 | 1,044 |
| New Mexico | 14, 000 | 50, 000 | 290 | 255 | 2,000 | 6,400 | 185 | 108 | 370 | 691 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 289.-Broom corn: Farm price per ton, 15th of month, United States, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov: | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910. | \$190 | \$197 | \$200 | \$204 | \$199 | \$151 | \$180 | \$142 | \$139 | \$108 | \$96 | \$93 |
| 1911 | 81 | 80 | 78 | 74 | 81 | 69 | 68 | 72 | 92 | 121 | 124 | 108 |
| 1912 | 100 | 86 | 99 | 101 | 83 | 79 | 85 | 83 | 77 | 70 | 69 | 57 |
| 1913 | 49 | 56 | 57 | 58 | 53 | 61 | 57 | 91 | 106 | 102 | 100 | 92 |
| Av.1910-1913 | 105 | 105 | 108 | 109 | 104 | 90 | 98 | 97 | 104 | 100 | 97 | 88 |
| 1914. | 94 | 95 | 91 | 89 | 85 | 88 | 88 | 91 | 77 | 67 | 66 | 58 |
| 1915 | 66 | 78 | 68 | 71 | 75 | 77 | 79 | 83 | 75 | 80 | 92 | 101 |
| 1916 | 104 | 104 | 104 | 96 | 101 | 102 | 103 | 120 | 129 | 168 | 173 | 172 |
| 1917 | 184 | 201 | 212 | 227 | 252 | 223. | 194 | 308 | 240 | 270 | 296 | 280 |
| 1918. | 249 | 254 | 242 | 222 | 206 | 222 | 235 | 232 | 300 | 265 | 205 | 172 |
| 1919 | 169 | 141 | 174 | 149 | 152 | 106. | 119 | 124 | 154 | 162 | 161 | 163 |
| 1920 | 163 | 123 | 130 | 145 | 146 | 145 | 113 | 142 | 125 | 126 | 123 | 88 |
| Av. 1914-1920 | 147 | 142 | 146 | 143 | 145 | 138 | 133 | 157 | 157 | 163 | 159 | 148 |
| 1921. | 70 | 71 | 72 | 69 | 66 | 76 | 75 | 67 | 68 | 72 | 68 | 86 |
| 1922 | 71 | 88 | 80 | 76 | 82 | 87 | 84 | 122 | 175 | 193 | 221 | 238 |
| 1923. | 229 | 256 | 242 | 254 | 223 | 233 | 214 | 195 | 169 | 197 | 161 | 172 |

[^200]$85813^{\circ}$ - твк 1923——51

## COTTON.

Table 290.-Cotton: Acreage, production, value, exports, etc., United States, 1869 1923.

| Calendar year. | $\begin{gathered} \text { Acre- } \\ \text { age } \\ \text { picked. } \end{gathered}$ | Average yield per acre. | Pro-duction. | Average farm price per pound, Dec. 1 | Farm value, Dec. 1. | Value per acre, Dec. $1 .{ }^{1}$ | New York closing prices per pound on middling upland. |  |  |  | Domestic exports, fiscal year beginning July 1. | Imfiscal year beginning July 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Decem-  <br> ber. Follow- <br> ing May. |  |  |  |  |  |
|  |  |  |  |  |  |  | 웅 | $\begin{aligned} & \frac{0}{60} \\ & \text { 0 } \end{aligned}$ |  | 安 |  |  |
|  | $1,000$ | Lbs. | $1,000$ <br> bales. | Cents. | $\begin{gathered} \text { 1,000 } \\ \text { dollars. } \end{gathered}$ | Dol- <br> lars. | Cts. | Cts. | Cts. | Cts. | Bales. ${ }^{2}$ | Bales. ${ }^{2}$ |
|  | $\begin{gathered} \text { acres. } \\ 7.743 \end{gathered}$ | 196.9 | 8,012 | Cents. |  |  | 25. 00 | 25.50 | 22. 50 | 23.50 | 1,917, 117 | 3,396 |
| 1870 | 885 | 198.9 | 3,800 |  |  |  | 15.00 | 15.88 | 14.88 | 17.62 | 2, 925, 856 | 2,394 |
|  |  |  | 2, |  |  |  | 19. 12 | 20. 25 | 23. 75 | 26.38 | 1, 867, 075 | 5,788 |
| 1872 | 8,483 | 188.7 | 3,920 |  |  |  | 19.12 | 20. 25 | 19. 25 | 19. 62 | 2, 400, 127 | 8,851 |
| 1873 | 9,510 | 179.7 | 3, 683 |  |  |  | 15. 62 | 16. 50 | 17. 75 | 18.88 | 2, 717, 205 | 7,252 |
| 1874 | 11, 764 | 147. 5 | 3,941 |  |  |  | 14. 12 | 14. 88 | 16. 12 | 16.38 | 2, 520, 838 | 4,299 |
| 1875 | 11.034 | 190.6 | 5, 123 |  |  |  | 13. 06 | 13.31 | 11.81 | 13.12 | 2,982, 811 | 4,903 |
| 1876 |  |  | 4,438 | 9.0 |  | 14.96 | 12. 06 | 12. 50 | 10.81 | 11.38 | 2, 890, 738 | 5,313 |
| 1877 | 12, 133 | 163.8 | 4,370 |  |  |  | 11. 25 | 11. 50 | 10.62 | 11. 25 | 3, 215, 067 | 6,064 |
| 1878 | 12, 344 | 191. 2 | 5,244 | 8.2 | 192, 515 | 15.60 | 8.81 | 9. 50 | 11.88 | 13. 75 | 3, 256, 746 | 5,987 |
| 1879 | 14, 480 | 181.0 | 5,755 | 10.3 | 269, 305 | 18. 60 | 12.38 | 13. 44 | 11.69 | 11.88 | 3, 644, 363 | 096 |
| 1880 | 15, 951 | 184.5 | 6,343 | 9.8 | 289, 083 | 18. 12 | 11.88 | 12. 00 | 10. 44 | 10.88 | 4, 382, 009 | 8,900 |
| 1881 | 16,711 | 149.8 | 5 , |  |  |  | 11. 88 | 12. 12 | 12.06 | 12.38 | 3, 480, 792 | 8,680 |
| 1882 | 16, 277 | 185.7 | 6,957 | 9.1 | 275, 513 | 16.93 | 10. 25 | 10. 44 | 10. 50 | 11.12 | 4, 576, 378 | 8,164 |
| 1883 | 16, 778 | 164.8 | 5,701 | 9.1 | 250, 977 | 14.96 | 10. 88 | 10. 56 | 11. 50 | 11.75 | 3, 725, 145 | 14, 039 |
| 1884 | 17, 440 | 153.8 | 5, 682 | 9.2 | 246, 575 | 14.14 | 10. 44 | 11. 44 | 10.69 | 11. 00 | 3, 783, 319 | 10, 231 |
| 1885 | 18, 301 | 164.4 | 6,575 | 8.4 | 251, 775 | 13. 76 | 9.19 | 9.44 | 9.19 | 9.31 | 4, 116, 149 | 10,145 |
| 1886 | 18, 455 | 169. 5 | 6,446 | 8.1 | 251, 856 | 13. 65 | 9. 19 | 9. 56 | 10.75 | 11.44 | 4, 338, 915 | 7,849 |
| 1887 | 18, 641 | 182. 7 | 7,020 | 8.5 | 290, 901 | 15.61 | 10. 50 | 10.62 | 9. 94 | 10.06 | 4, 528, 883 | 10,995 |
| 1888 | 19, 059 | 180.4 | 6,941 | 8.5 | 292, 139 | 15.33 | 9. 75 | 9.88 | 11.00 | 11. 19 | 4, 770, 065 | 15,946 |
| 1889 | 20, 175 | 159.7 | 7, 478 | 8. 5 | 275, 249 | 13. 64 | 10. 25 | 10. 25 | 11. 94 | 12. 75 | 4, 943, 925 | 17, 212 |
| 1890 | 19, 512 | 187.0 | 8, 674 | 8.6 | 313, 360 | 16.06 | 9.19 | 9.44 | 8.88 |  | 5, 814, 718 | 8 |
| 1891 | 19, 059 | 179.4 | 9,018 | 7.2 | 247,638 | 12.99 | 7. 75 | 8. 06 | 7.25 | 7.44 | 5, 870, 440 | 57, 328 |
| 1892 | 15, 911 | 209.2 | 6, 664 | 8. 3 | 277, 194 | 17.42 | 9.38 | 10.00 | 7.62 | 7.81 | 4, 424, 230 | 86, 736 |
| 1893 | 19, 525 | 149.9 | 7,493 | 7. 0 | 204, 983 | 10.50 8 | 7.81 | 8.06 5.81 | 6. 75 | 7.38 | 5, 366, 565 | 65, 412 |
| 1894 | 23, 688 | 195. 3 | 9,476 | 4. 6 | 212, 335 | 8.96 11.82 | 5. 69 | 5.81 | 6. 8.00 | 7.38 8.38 | 4, 770,453 | 110, 701 |
| 1895 | 20, 185 | 155. 6 | 7, 161 | 7.6 | 238, 503 | 11.82 | 8. 25 | 8. 7.69 | 8. 7.62 | 8.38 7.81 | 4, 07, 4075 |  |
| 1896 | 23, 273 | 184.9 | 8, 533 | 6. 7 | 286, 169 | 12.30 | 7.06 | 7.69 5.94 | 7.62 | 7.81 6.56 | 6, 207, 510 $7,725,572$ | 103,798 105,321 |
| 1897 | 24, 320 | 1827 | 10, 898 | 6.7 | 296, 816 | 12.20 | 5.81 5.62 | 5. 94 5.88 | 6. 12 | 6. 56 | 7, 775,438 | 100, 316 |
| 1898 | 24, 967 | 220.6 | 11, 189 | 5.7 | 315, 449 | 12. 63 | 5. 62 | 5. 7.75 | 6. 6.12 | 9.88 | 6, 252, 451 | 134, 797 |
| 1899 | 24, 327 | 183.8 | 9,345 | 7.0 | 326,215 <br> 463,310 | 13. 41 | 7.50 9.75 | 7.75 10.31 | 8. 06 | 9.88 8.31 | 6, 718,125 | 93, 263 |
| 1900 | 24, 933 | 194.4 | 10,123 | 9.2 | 463, 310 | 18.58 | 9.75 | 10.31 | 8. 06 | 8.31 | 6, 718, 12 | -83, 203 |
| 1901 | 26, 774 | 170.0 | 9,510 | 7.0 | 334, 088 | 12.48 | 8. 00 | 8.75 | 9.38 | 0. 75 | 7, 057, 949 | 197, 431 |
| 1902 | 27, 175 | 187.3 | 10,651 | 7.6 | 403, 718 | 14.86 | 8. 50 | 8. 88 | 10.75 | 12.15 | 7, 138, 284 | 149, 749 |
| 1903 | 27, 052 | 174.3 | 9,851 | 10. 5 | 516, 763 | 19. 10 | 11. 95 | 14.10 | 12.75 | 13.90 8.85 | 6, 179, 712 $8,678,644$ | 97,081 121,017 |
| 1904 | 31, 215 | 205. 9 | 13, 488 | 9.0 | 603; 438 | 19.33 | 6.85 <br> 11.65 | 12. 00 | 7.85 | 8. 85 | 7, $7,268,090$ | 141, 927 |
| 1905 | 27, 110 | 186.6 | 10,575 | 10.8 | 569, 791 | 21. 02 | 11.65 | 12. | 11. 25 | 12. 00 | 7, 268, 0.0 | 141, 827 |
| 1906 | 31, 374 | 202.5 | 18, 274 | 9.6 | 635, 534 | 20.26 | 10.45 | 11. 25 | 11. 50 | 12. 90 | 9, 036, 434 | 209, 584 |
| 1907 | 29, 660 | 179.1 | 11,107 | 10.4 | 575, 226 | 19.39 | 11.70 | 12.20 | 10.20 | 11.50 | $7,633,997$ <br> 8,895 | 142, 143 |
| 1908 | 32, 444 | 194.9 | 13,242 | 8.7 | 575, 092 | 17.73 | 9.10 | 9.35 | 10.85 | 11.80 | 8, 895, 970 | 173,036 |
| 199 | 30, 938 | 154. 3 | 10,005 | 13.9 | 697, 681 | 22.55 | 14. 65 | 16. 15 | 14. 50 | 16. 05 | 6, 413, 416 | 172, 075 |
| 1910 | 32, 403 | 170.7 | 11, 609 | 14.1 | 820, 407 | 25.32 | 14.80 | 15. 25 | 15. 35 | 16. 15 | 8, 067, 882 | 227, 537 |
| 1911 | 36, 045 | 207.7 | 15, 698 | 8.8 | 687, 888 | 19.08 | 9. 20 | 9. 65 | 11. 30 | 11.9 | 1, 124, 591 |  |
| 1912 | 34, 283 | 190.9 | 13, 708 | 11. 9 | 817, 055 | 23.83 | 12.75 | 13. 20 | 11.80 | 12. 12 | $\mathbf{9}, 124,591$ $9,521,881$ | 243,704 246,694 |
| 1913 | 37, 089 | 182.0 | 14,156 | 12.2 | 862, 708 | 23.26 | 12. 50 | 13. 50 | 12.90 | 14. 50 | 9,521, 881 | 246,694 |
| Av. 1909-1913 | 34, 152 | 182.5 | 13, 038 | 12.5 | 777, 148 | 22.76 | 12.78 | 13. 55 | 13. 17 | 14. 14 | 8, 839, 604 | 221, 914 |
| 1914 | 36, 832 | 209.2 | 16,135 | 6.8 | 549, 036 | 14.91 | 7.25 | 7.80 | 9. 50 | 10.40 | 8, 807, 157 | 370, 409 |
| 1915 | 31, 412 | 170.3 | 11,192 | 11.3 | 631, 460 | 20.10 | 11.95 | 12. 75 | 12. 30 | 13. 35 | 6, 168, 140 | 465, 602 |
| 1916 | 34, 985 | 156. 6 | 11,450 | 19.6 | 1, 122, 295 | 32. 08 | 16. 20 | 20. 30 | 19. 60 | 22. 10 | 6, 176, 162 | 294, 123 |
| 1917 | 33, 841 | 159.7 | 11, 302 | 27.7 | 1, 566, 198 | 46. 28 | 29.85 | 31. 85 | 25. 70 | 30.10 | 4, 641, 023 | 206, 651 |
| 1918 | 36, 008 | 159.6 | 12,041 | 27.6 | 1, 663, 633 | 46. 20 | 27. 50 | 33. 00 | 25. 90 | 34.00 | 5, 525, 894 | 207, 184 |
| 1919 | 33, 566 | 161.5 | 11, 421 | 35.6 | 2, 034, 658 | 60.62 | 38. 00 | 10. 25 | 40. 00 | 13.00 | 7, 587,487 |  |
| 1920 | 35, 878 | 178.4 | 13, 440 | 13.9 | 933, 658 | 26.02 | 14. 50 | 16. 70 | 12.45 | 13.15 | 5, 622, 777 | 251, 878 |
| Av. 1914-1920 | 34, 646 | 171.6 | 12,426 | 20.4 | 1, 214, 420 | 35. 05 | 20.75 | 23. 24 | 20.78 | 23.73 | 6, 289, 806 | 355, 211 |
| 1921 | 30, 509 | 124.5 | 7,954 | 16.2 | 643, 933 | 21. 05 | 17. 50 | 19.45 | 18. 95 | 21.80 | .6, 717, 757 | 358, 330 |
| 1922 | 33, 036 | 141.5 | 9,760 | 23.8 | 1, 161, 846 | 35. 03 | 24. 55 | 26.80 | 25.30 | 28.9 | 5, 253, 464 | 472, 185 |
| $1923{ }^{3}$ | 37, 420 | 128.8 | 10, 281 | 31.0 | 1, 563, 347 | 41.98 | 34. 35 | 37.65 |  |  |  |  |

[^201]Table 291.-Cotton ginned to specified dates and throughout the season, United States, 1902-192s..

| Growth year. | Cotton ginned to- |  |  |  |  |  |  |  |  | Total ginned. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sept. 1. | Sept. 25. | Oct. 18. | Nov. 1. | Nov. 14. | Deo. 1. | Dec. 13. | Jan. 1. | Jan. 16. |  |
| 902 | Bales. | Bales. | Bales. <br> 5, 683, 006 | Bales. | Bales. | Bales. | Bales: | Bales. | Bales. | Bales. |
| 1903. | 17,302 |  | 3, 706, 248 |  | 6, 815,162 |  | 8, $8.526,544$ |  | 9, 485, 537 | 10, 588, 250 |
| 1904 | 374,821 |  | 6, 417, 894 |  | 9, 786, 646 |  | 11, 971, 477 |  | $9,485,537$ $12,767,600$ | 9, $13,419,969$ |
| 1905 | 476, 655 | 2, 355, 716 | 4,990, 566 | 6, 457, 595 | 7, 501, 180 | 8,689, 683 | 9, 297, 819 | 9,725, 426 | 9, 989, 634 | 10, 495, 105 |
| 1906 | 407, 551 | 2, 057, 283 | 4, 981, 621 | 6,906, 395 | 8,562, 242 | 10, 027 , 868 | 11, 112, 789 | 11,741, 039 | 12,176, 199 | 12, 983, 201 |
| 1907 | 200, 278 402,229 | 1, 532, 2, 590, 639 | $4,420,258$ $6,296,166$ | 6, 128, 562 | $7,300,685$ $9,595,809$ | $8,343,396$ $11,008,661$ | $11,124,070$ $11,904,269$ | $1,911,505$ $9,965,598$ | $12,139,151$ $12,666,203$ | 11, 057, 822 |
| 1909. | 388, 242 | 2, 568, 150 | 5,530,967 | 7,017, 849 | 8,112, 199 | 8,876, 886 | 9, 358, 085 | 9, 647, 327 |  |  |
| 1910 | 353, 011 | 2, 312, 074 | 5, 423, 628 | 7, 345,953 | 8,780, 433 | 10,139, 712 | 10, 695, 443 | 11, 084, 515 | -9,787, $11,253,147$ | 10, 072, 731 |
| 1911 | 771, 297 | 3, 676, 594 | 7,758, 621 | 9,970,905 | 11, 313, 236 | 12, 816, 807 | 13, 770, 727 | 14, 317, 002 | 14, 515, 799 | 15,553, 073 |
| 1912. | 730, 884 | 3, 007, 271 | 6, 874, 206 | 8, 869, 222 | 10, 299, 646 | 11,854; 541 | 12, 439, 036 | 12, 907, 405 | 13, 088, 930 | 13, 488 , 539 |
| 1913 | 799,099 | 3,246, 655 | 6, 973, 518 | 8, 830, 396 | 10, 444, 529 | 12, 088, 412 | 12, 927, 428 | 13, 347, 721 | 13, 582, 036 | 13, 082,811 |
| At. 1909-1913 | 608, 507 | 2, 062, 149 | 6,512, 188 | 8, 406, 865 | 9,790, 529 | 11,155, 272 | 11, 838, 144 | 12, 260, 794 | 12, 445, 501 | 12, 933, 098 |
| 1914 | 480, 317 | 3, 383, 752 | 7, 619, 747 | 9,826, 912 | 11, 688,240 | 13, 073, 386 | 13, 972, 229 | 14,443, 146 | 14, 915, 850 | 15, 905, 840 |
| 1915 | 463, 883 | 2,903, 829 | 5,708, 730 | 7, 378, 886 | 8, 771, 275 | 9, 703, 612 | 10, 306, 309 | 10, 636, 778 | 10,751,990 | 11, 068, 173 |
| 1918 | 850, 668 | 4, 081,980 | 7, 303, 183 | 8, 623, 893 | 9, 615, 003 | 10, 352, 031 | 10, 838, 799 | 11, 039, 49.1 | 11, 137, 712 | 11, 363, 915 |
| 1917 | 614,787 | 2, 511, 658 | 5, 573, 606 | 7, 185, 178 | 8, 571, 115 | - 9, 713,529 | 10, 131, 594 | 10, 434, 852 | 10,570, 733 | 11, 248, 242 |
| 1918. | 1,038, 078 | 3, 770, 611 | 6,811, 351 | 7,777, 159 | 8,706, 420 | 9,571,414 | 10,281, 139 | 10, 773, 863 | 11, 048, 652 | 11, 906, 480 |
| 1919 | 142, 625 | 1,835, 214 | 4, 929, 104 | 6, 305, 054 | 7,604, 320 | 8,844, 368 | 9,396, 646 | 10, 008, 920 | 10, 307, 120 | 11, 325, 532 |
| 1920 | 351, 589 | 2, 249, 606 | 5, 754, 582 | 7, 508, 033 | 8,914, 642 | 10, 141, 293 | 10,876, 263 | 11, 554, 648 | 12, 014, 742 | 13, 270, 970 |
| Av 1914-1920 | 563, 135 | 2, 963, 808 | 6, 242, 000 | 7,800,816 | 9, 121, 574 | 10, 199, 948 | 10, 828, 997 | 11, 270, 243 | 11,535, 257 | 12,208, 450 |
| 1921 | 485, 787 | 2, 920, 392 | 5, 497, 364 | 6,646, 354 | 7,274, 201 | 7,639,961 | 7,790,656 | 7, 882, 356 |  |  |
| 1929 | 808, 189 | 3, 866, 396 | 6, 978, 321 | 8,139, 215 | 8, 869, 978 | $9,319,601$ | 9, 488, 852 | 9, 597, 330 | $9,648,261$ | $9,729,306$ |
| 1923. | 1,135, 880 | 3,235, 974 | 6, 415, 145 | 7, 565, 868 | 8,374, 148 | $9,251,264$ | 9, 554, 177 | 9,811, 038 | - ${ }^{9} 9,946 ; 462$ | 10, 159, 498 |
| Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census; quantities are given in running bales, except that round bales are counted as half bales. Linters not included. |  |  |  |  |  |  |  |  |  |  |

âverage weight of bagging and ties, by States.
${ }_{2}$ Preliminary.

Table 292.-Cotton (linters): Production, United States, 1899-1922.

| $\begin{aligned} & \text { Year beginning } \\ & \text { Aug. 1. } \end{aligned}$ | Production, in $500-\mathrm{lb}$. gross-weight bales. | Year beginning Aug. 1. | Production, in $500-\mathrm{lb}$. gross-weight bales. | Year beginning Aug. 1. | Production, in $500-1 \mathrm{~b}$. gross-weigh bales. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1899-1900 | 114,544 | 1909-10. | 310,433 | 1916-17 |  |
| 1900-1 | 143, 500 | 1910-11. | 397, 072 | 1917-18. | 1, 125, 719 |
| 1901-2 | 166, 026 | 1911-12 | 557, 575 | 1918-19. | 929,516 |
| 1902-3. | 196, 223 | 1912-13. | 609,594 | 1919-20 | 607, 969 |
| 1903-4- | 194, 486 | 1913-14 | 638, 881 | 1920-21 | 440, 313 |
| 1905-6. | 229, 539 | Av. 1909-1913 | 502, 711 | Av. 1914-1920 | 903, 182 |
|  | 268, 282 | 1914-15 |  | 192 |  |
| 1908-9. | 345, 507 | 1915-16 | 931, 141 | 1922-23 | 607,779 |

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.
Table 293.-Cotton: Acreage harvested, by States, calendar years, 1914-1923.

| State. | 1914 | 1915 | . 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Virginia | acres. | acres. | acres. | acres. 50 | acres. | acres. | acres. | acres. 34 | acres. | acres. |
| North Carolina | 1,527 | 1,282 | 1,451 | 1,515 | 1,600 | 1,490 | 1, 587 | 1,403 | 1,625 | 1,678 |
| South Carolina | 2, 861 | 2, 516 | 2,780 | 2,837 | 3,001 | 2,835 | 2,964 | 2, 571 | 1,912 | 2,030 |
| Georgia | 5,433 | 4,825 | 5,277 | 5,195 | 5, 341 | 5,220 | 4,900 | 4,172 | 3, 418 | 3, 433 |
| Florida. | 221 | 193 | 191 | 183 | 167 | 103 | 100 | 65 | 118 | 143 |
| Alabama | 4,007 | 3,340 | 3,225 | 1,977 | 2, 570 | 2, 791 | 2,858 | 2,235 | 2, 771 | 3,149 |
| Mississipp | 3, 054 | 2,735 | 3, 110 | 2, 788 | 3, 138 | 2,848 | .2,950 | 2,628 | 3, 014 | 3, 298 |
| Louisiana. | 1,298 | 990 | 1,250 | 1,454 | 1,683 | 1,527 | 1,470 | 1,168 | 1,140 | 1,395 |
| Texas. | 11,931 | 10,510 | 11,400 | 11, 092 | 11, 233 | 10, 476 | 11,898 | 10, 745 | 11, 874 | 14, 081 |
| Arkansas | 2, 480 | 2,170 | 2,600 | 2,740 | 2,991 | 2,725 | 2,980 | 2, 382 | 2, 799 | 3, 054 |
| Tennessee | 915 | 772 | 887 | 882 | 902 | 758 | 840 | 634 | 985 | 1,167 |
| Missouri | 145 | 96 | 133 | 153 | 148 | 125 | 136 | 103 | 198 | 1, 339 |
| Oklahoma | 2,847 | 1,895 | 2,562 | 2, 783 | 2,998 | 2, 424. | 2,749 | 2, 206 | 2,915 | 3, 295 |
| California ${ }^{\text {a }}$ | 47 | 39 | 52 | 136 | 173 | 185 | 275 | 140 | 202 | 233 |
| Arizona. |  |  |  | 41 | 95 | 107 | 230 | 90 | 101 | 128 |
| All other | 20 | 15 | 25 | 15 | - 12 | 10 | 24 | 18 | 44 | 72 |
| Unit | 36, 832 | 31, 412 | 34, 985 | 33, 841 | 36, 008 | 33, 566 | 35,878 | 30, 509 | 33, 036 | 37, 420 |

## Division of Crop and Livestock Estimates.

${ }^{1}$ Preliminary.
${ }^{2}$ Lower Calfornia ( 148,000 acres in 1923, 135,000 in 1922, 85,000 in 1921, 125,000 in 1920, 100,000 in 1919, and 88,000 in 1914) included in California figures but excluded from United States totals.
Table 294.-Cotton: Production of lint (excluding linters) in 500-pound grossweight bales, by States, year beginning Aug. 1, 1914-1923.
[Thousands of bales, as finally reported by U.S. Bureau of the Census.]

| State. | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | ${ }_{\text {1923 }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Virginia | 25 | 16 | 27 | 19 | 25 | 23 | 22 | 17 | 27 | 50 |
| North Carolina | 931 | 699 | 655 | 618 | 898 | 830 | 925 | 776 | 852 | 1,020 |
| South Carolina | 1,534 | 1,134 | 932 | 1,237 | 1,570 | 1,426 | 1,623 | 755 | 493 | 795 |
| Georgia_ | 2,718 | 1,909 | 1,821 | 1,884 | 2,122 | 1,660 | 1,415 | 787 | 715 | 590 |
| Florida, | 81 | 48 | 41 | 38 | 29 | 16 | 18 | 11 | 25 | 12 |
| Alabama | 1,751 | 1, 021 | 533 | 518 | 801 | 713 | 663 | 580 | 824 | 600 |
| Mississippi | 1,246 | 954 | 812 | 905 | 1, 226 | 961 | 895 | 813 | 989 | 615 |
| Louisiana | 449 | 341 | 443 | 639 | 588 | 298 | 388 | 279 | 343 | 365 |
| Texas | 4,592 | 3, 227 | 3, 726 | 3, 125 | 2,697 | 3, 099 | 4,345 | 2,198 | 3,222 | 4,290 |
| Arkansas. | 1,016 | 816 | 1, 134 | 974 | 987 | 884 | 1,215 | 797 | 1,011 | 620 |
| Tennessee. | 384 | 303 | 382 | 240 | 330 | 310 | 325 | 302 | 391 | 220 |
| Missouri- | 82 | 48 | 63 | 61 | 62 | 64 | 79 | 70 | ${ }^{2} 149$ | 15 |
| Oklahoma | 1,262 | 640 | 823 | 959 | 577 | 1,016 | 1,336 | 481 | 627 | 620 |
| California. | 50 | 29 | 44 | 58 | 67 | 56 | 75 | 34 | 28 | 49 |
| Arizona. |  |  |  | 22 | 56 | 60 | 103 | 45 | 47 | 83 |
| Allother. | 14 | 7 | 14 | 5 | 6 | 5 | 13 | 9 | 19 | 37 |
| United States. | 16, 135 | 11, 192 | 11,450 | 11,302 | 12, 041 | 11, 421 | 13, 440 | 7, 954 | 9, 762 | 10,081 |

[^202]Table 295.-Cotton: Yield per acre, by States, calendar years, 1908-1923.


Division of Crop and Livestock Estimates.

Table 296.-Cotton: Condition of crop, with yield per acre,United States, 1867192 S.

| Calendar year. | $\begin{aligned} & \text { May } \\ & 25 . \end{aligned}$ | June | $\begin{aligned} & \text { July } \\ & 25 . \end{aligned}$ | Aug. | Sept. 25. | Yield per acre. | Calendar year. | $\begin{gathered} \text { May } \\ 25 . \end{gathered}$ | $\operatorname{June}_{25}$ | $\begin{aligned} & \text { July } \\ & 25 . \end{aligned}$ | Aug. | $\begin{aligned} & \text { Sept. } \\ & 25 . \end{aligned}$ | Yield peracre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P.ct. | P.ct. | P. ct. | Pounds of lint. |  | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | Pounds of lint. |
| 1867 |  | 110.7 | 117.8 | 118.4 | 104.6 | 189.8 | 1901 | 81.5 | 81.1 | 77.2 | 71.4 | 61.4 | 170.9 |
| 1868 |  | 110.4 | 115. 0 | 89.1 | 88.2 | 192.2 | 1902 | 95.1 | 84.7 | 81.9 | 64.0 | 58.3 | 187.3 |
| 1869 |  | 90.2 | 101.6 | 99. 1 | 85.3 | 196.9 | 1903 | 74.1 | 77. 1 | 79.7 | 81. 2 | 65. 1 | 174.3 |
| 1870 |  | 98.0 | 99.3 | 105. 7 | 98.8 | 198.9 | 1904 | 83.0 | 88.0 | 91.6 | 84.1 | 75.8 | 205.9 |
| 1871 | 86.7 | 85.8 | 85.6 | 81.5 | 76.7 | 148.2 | 1905 | 77.2 | 77.0 | 74.9 | 72.1 | 71.2 | 186.6 |
| 1872 | 99.7 | 103.0 | 104.0 | 90.7 | 81.8 | 188.7 | 1906 | 84. 6 | 83.3 | 82.9 | 77.3 | 71.6 | 202.5 |
| 1873 | 91.3 | 87.5 | 90.0 | 87.9 | 79.3 | 179.7 | 1907 | 70.5 | 72.0 | 75.0 | 72.7 | 67.7 | 179.1 |
| 1874 | 82.2 | 91.0 | 92.0 | 71.0 | 71.7 | 147.5 | 1908 | 79.7 | 81.2 | 83.0 | 76.1 | 69.7 | 194.9 |
| 1875 | 96.1 | 100.0 | 96. 0 | 89. 2 | 88.0 | 190.6 |  |  |  |  |  |  |  |
| 1876 | 94.4 | 97.6 | 99.4 | 90.5 | 82.7 | 167.8 | 1909 | 81.1 | 74.6 | 71: 9 | 63.7 | 58.5 | 154.3 |
|  |  |  |  |  |  |  | 1910 | 82.0 | 80.7 | 75. 5 | 72.1 | 65.9 | 170.7 |
| 77 | 92.9 | 93.0 | 93.0 | 86.0 | 82.0 | 163.8 | 1911 | 87.8 | 88.2 | 89. 1 | 73. 2 | 71.1 | 207.7 |
| 1878 | 99.0 | 99.0 | 95.0 | 90.0 | 90.0 | 191.2 | 1912 | 78.9 | 80.4 | 76.5 | 74.8 | 69.6 | 190.9 |
| 1879 | 96.0 | 93.0 | 91.0 | 85.0 | 81.0 | 181.0 | 1913 | 79.1 | 81.8 | 79, 6 | 68.2 | 64.1 | 182.0 |
| 1880 | 99.0 | 100.0 | 102. 0 | 91.0 | 84.0 | 184.5 |  |  |  |  |  |  |  |
| 1881 | 93.0 | 95.0 | 88.0 | 72.0 | 66.0 | 149.8 | $\begin{array}{r} \text { Av. 1909- } \\ 19133_{-} \end{array}$ | 81.8 | 81.1 | 78.5 | 70.4 | 65.8 | 181.1 |
| 1882 | 89.0 | 92.0 | 94.0 | 92.0 | 88.0 | 185.7 |  |  |  |  |  |  |  |
| 1883 | 86.0 | 90.0 | 84.0 | 74.0 | 68.0 | 164.8 | 1914 | 74.3 | 79.6 | 76.4 | 78. 0 | 73.5 | 209.2 |
| 1884 | 87.0 | 86.0 | 87.0 | 82.5 | 74.7 | 153.8 | 1915 | 80.0 | 80.2 | 75. 4 | 69.2 | 60.8 | 170.3 |
| 1885 | 92.0 | 96.0 | 96. 5 | 87.0 | 78.0 | 164.4 | 1916 | 77.5 | 81.1 | 72.3 | 61,2 | 56.3 | 156.6 |
| 1886 | 88.7 | 86.1 | 81.3 | 82.1 | 79.3 | 169.5 | 1917 | 69.5 | 70.3 | 70.3 | 67.8 | 60.4 | 159.7 |
| 1887 | 96.9 | 96.9 | 93.3 | 82.8 | 76.5 | 182.7 | 1918 | 82.3 | 85.8 | 73.6 | 55.7 | 54.4 | 159.6 |
| 1888 | 88.2 | 86.7 | 87.3 | 83.8 | 78.9 | 180.4 | 1919 | 75. 6 | 70.0 | 67.1 | 61.4 | 54.4 | 161.5 |
| 1889 | 86.4 | 87.6 | 89.3 | 86. 6 | 81.5 | 159.7 | 1920 | 62.4 | 70.7 | 74.1 | 67.5 | 59.1 | 178.4 |
| 1890 | 88.8 | 91.4 | 89.5 | 85.5 | 80.0 | 187.0 |  |  |  |  |  |  |  |
| 1891 | 85.7 | 88.6 | 88.9 | 82.7 | 75.7 | 179.4 | $\begin{gathered} A \nabla .1914- \\ 1920 \end{gathered}$ | 74.5 | 76.8 | 72.7 | 65.8 | 59.8 | 170.8 |
| 1892 | 85.9 | 86.9 | 82.3 | 76.8 | 73.3 | 209.2 |  |  |  |  |  |  |  |
| 1893 | 85.6 | 82.7 | 80.4 | 73.4 | 70.7 | 149. 9 | 1921 | 66.0 | 69.2 | 64.7 | 49.3 | 42.2 | 124.5 |
| 1894 | 88.3 | 89.6 | 91.8 | 85. 9 | 82.7 | 195. 3 | 1922 | 69.6 | 71.2 | 70.8 | 57. 0 | 50.0 | 141.5 |
| 1895 | 81.0 | 82.3 | 77.9 | 70.8 | 65.1 | 155.6 | 1923 | 71.0 | 69.9 | 67.2 | 54.1 | 49.5 | 128.8 |
| 1896 | 97.2 | 92.5 | 80.1 | 64.2 | 60.7 | 184.9 |  |  |  |  |  |  |  |
| 1897. | 83.5 | 86.0 | 86.9 | 78.3 | 70.0 | 182.7 |  |  |  |  |  |  |  |
| 1898 | 89.0 | 91.2 | 91. 2 | 79.8 | 75.4 | 220. 6 |  |  |  |  |  |  |  |
| 1899 | 85. 7 | 87.8 | 84.0 | 68.5 | 62.4 | 183.8 |  |  |  |  |  |  |  |
| 1900 | 82.5 | 75.8 | 76.0 | 68.2 | 67.0 | 194.4 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 297.-Cotton: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

| Calendar year. | Deficient moisture. | Ex- ces- sive moist- ure. | Floods. | $\begin{aligned} & \text { Frost } \\ & \text { or } \\ & \text { freeze. } \end{aligned}$ | Hail. | Hot | Storms. | Total cli-matic. | Plant disease. |  | $\begin{gathered} \text { Ani- } \\ \text { mal } \\ \text { pests. } \end{gathered}$ | De-fective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. ct. | P. ct. | $\boldsymbol{P} . c t$. | $\boldsymbol{P} . c t$. | P. ct. | $P, ~ c t$. | P.ct. | $\boldsymbol{P} . c t$ | P. ct. | P. $\overline{c t}$. | $\boldsymbol{P} . c t$. | $P$, ct. | $P . c t$. |
| 1909 | 14.9 | 6.0 | P. 1.1 | 1.0 | $\therefore .6$ | 3.0 | 1.4 | 28.6 | 4.2 | 7.9 | $\left.{ }^{2}{ }^{2}\right)$ | .1 | 42.0 |
| 1910 | 12. 2 | 5.1 | . 9 | 2.1 | . 3 | 1.6 | . 1 | 22.6 | . 4 | 7.5 | ( ${ }^{2}$ | . 3 | 35.6 |
| 1911 | 9. 8 | 2. 6 | $\left.{ }^{2}\right)$ | . 3 | . 1 | 1.6 | . 3 | 15. 4 | .4 | 7.9 | (2) | . 2 | 26.1 |
| 1912 | 8.1 | 7. 6 | 1.2 | 1. 0 | . 6 | 1. 2 | . 2 | 20.7 | 4.3 | 6.5 | ${ }^{-1}$ | 3 | 32.7 |
| 1913---------------- | 15.2 | 2.0 | . 8 | 1.1 | . 4 | 2.4 | . 5 | 23.1 | . 5 | 8.9 | $\left.{ }^{2}\right)$ | 4 | 33.7 |
| 1914 | 7. 9 | 2. 9 | . 5 | . 9 | . 4 | . 6 | $\cdot 1$ | 13.8 | .2 | 9.8 | ${ }^{(2)}$ | . 2 | 25.4 |
| 1915 | 6. 8 | 5.7 | 1.9 | . 6 | . 7 | 1. 1 | 2.0 | 19.3 | 1.9 | 12.2 | (2) | . 1 | 36.8 |
| 1916 | 9. 2 | 9.1 | 3.1 | . 4 | . 7 | . 6 | 2.0 | 25. 2 | . 9 | 15.7 | ${ }^{2}$ | . 1 | 42.4 |
| 1917 | 15.1 | 1.7 | . 5 | 6.0 | 1.0 | . 7 | .2 | 25. 5 | 1.3 | 12.3 | $\left.{ }^{2}\right)$ | . 1 | 39.9 |
| 1918 | 23.8 | . 9 | . 3 | . 6 | , | 2.8 | .3 | 29.2 | 2. 0 | 7.9 | $\left.{ }^{2}\right)$ | 1 | 40.3 |
| 1919 | 2. 7 | 15.3 | 1. 6 | . 3 | . 2 | . 4 | . 5 | 21. 2 | 1. 4 | 18.8 | (2) | . 2 | 41.9 |
| 1920 | 2. 2 | 8. 8 | . 8 | . 8 | . 2 | 1 | 2.0 | 13.1 | 1.1 | - 24.0 | . 2 | . 2 | 39.0 |
| 1921 | 8. 6 | 4. 3 | . 7 | . 4 | . 2 | . 6 | 1. 2 | 16.0 | 1. 0 | -35.4 |  | ?. 1 | 52.9 |
| 1922 | 10.2 | 4.9 | . 8 | . 1 | . 3 | 1.0 | . 1 | 17. 5 | : 8 | $-26.7$ | ${ }^{(2)}$ | . 1 | 45.2 |

${ }^{1}$ Includes all other causes.
${ }^{2}$ Less than 0.05 per cent.

Table 298.-Cotton: Percentage reduction from full yield per acre due to boll weevil, as reported by crop reporters, calendar years, 1910-1922.

| State. | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| North Carolina | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P. ct. | P.ct. |
| South Carolina |  |  |  |  |  | 0.02 | 0.02 | 0.01 |  |  |  | 31.58 | 12.27 |
| Georgia |  |  |  | 0.10 |  | . 28 | 0.02 3.44 | 0.01 9.06 | ${ }^{10.07}$ | 19. 36 | 13. 26 | ${ }^{31} 48$ | 40.48 |
| Florida |  |  | 0.30 | 11.80 |  | 13.14 | 20.98 | 27. 07 | 23. 85 | 40. 46 | 32. 10 | 27.62 | 44.28 32.50 |
| Tennessee |  |  |  | 10 | 0.08 | . 04 | 1.23 | 1.74 | . 37 | . 17 | . 57 | 7.21 | 8.84 |
| Alabama | 0.05 | 0.20 | 1. 50 | 4.80 | 6.02 | 16. 16 | 27.91 | 28.88 | 12. 14 | 28.77 | 36.03 | 32. 39 | 25.51 |
| Mississippi | 14.66 | 5. 10 | 18.00 | 33. 90 | 24.14 | 24. 68 | 31. 73 | 22.22 | 10.41 | 19.56 | 32. 25 | 30.38 | 27.65 |
| Louisiana | 40. 80 | 11. 40 | 13. 70 | 25. 10 | 17.66 | 19.85 | 24. 31 | 11. 89 | 9.79 | 24.84 | 25:99 | 34. 80 | 24.61 |
| Texas--.-- | 6. 52 | . 90 | 2.80 | 6. 80 | $\begin{array}{r}7.86 \\ \hline 89\end{array}$ | 16. 28 | 18. 53 | 7.28 | 4.43 | 13.96 | 19. 90 | 33. 66 | 16. 25 |
| Arkansas | 7.23 | 2.00 | 2. 40 | 2. 80 | 2. 93 | 2.60 4.60 | 3. 7 | 4.35 8.96 | 1.30 3.14 | 1.48 4.79 | 8.81 9.41 | 41. 36 21. | 25.69 18.15 |
| S. average | 5. 30 | 1.28 | 3. 26 | 6.69 | 5.91 | 9. 93 | 13.36 | 9.34 | 5.83 | 13.20 | 19.95 | 30.98 | 24.17 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Average is weighted and includes cotton States in which there was no damage by boll weevil.
Table 299.-Cotton: Area and yield per acre in undermentioned countries, 19091923.

| Country. | Area. |  |  |  |  | A verage yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { A ver- } \\ \text { age } \\ 1909 \text {. } \\ 1913 . \end{gathered}$ | 1920-21 | 1921-22 | 1922-23 | 1923-24 | $\begin{aligned} & \text { Aver- } \\ & \text { qge } \\ & 1909- \\ & 1913 . \end{aligned}$ | 1920-21 | 1921-22 | 1922-23 | 1923-24 |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |  | , |  |
|  | actes. | acres. | acres. | acres. | acres. | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. |
| United States | 34, 152 | 35,878 | 30, 509 | 33, 036 | 37,420 | 182 | 179 | 125 | 141 | 129 |
| India- | 22, 503 | 21,340 | 18, 451 | 21, 154 | 21, 845 | 76 | 67 | 97 | 98 |  |
| Egypt | 1,743 | 1, 897 | 1,341 | 1,888 | 1,649 | 398 | 315 | 321 | 299 | 352 |
| China ${ }^{1}$ |  | 4, 300 | 4,284 | 3, 947 |  |  |  |  |  |  |
| Brazsila, Asiatic |  | 805 | 1,420 | 1,512 |  |  | 219 | 170 | 175 |  |
| Russia, As | 1,490 | 374 265 | 296 230 | 174 | - $\begin{array}{r}541 \\ 2989\end{array}$ | 306 | 74 | 70 | 152 |  |
| Chosen (Korea) | ${ }^{3} 146$ | 359 | 362 | 370 | 378 | 57 | 134 | 122 |  | 140 |
| Uganda | 58 | 238 | 170 | 334 |  | 169 | 137 | 88 | 107 |  |
| Perü------------ |  | 163 | 161 |  |  |  |  |  |  |  |
| Anglo-Egyptian Su- |  |  |  |  |  |  |  |  |  |  |
| Argentina. | 8 | 59 | 39 | 262 |  | $243^{-1}$ | 200 | 200 |  |  |
| Total coun- |  |  |  |  |  |  |  |  |  |  |
| tries report- |  |  |  |  |  |  |  |  |  |  |
| ing, 1909-1922 | 60,098 | 60,145 | 51, 168 | 56, 998 |  |  |  |  |  |  |
| world total.. | 67, 298 | 66, 707 | 58,356 | 63,995 |  |  |  |  |  |  |

[^203]Table 300.-Cotton (bales of 478 pounds net): Production in undermentioned countries, 1909-1923.

NORTHERN HEMISPHERE.

| Country. | $\begin{gathered} \text { Average } \\ 1909-1913 . \end{gathered}$ | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24, preliminary. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NORTH AMERICA. | Bales. | Bales. | Bales. | Bales. | Bales. | Bales. | Bales. | Bales. |
| United States ${ }^{1}$ | 13, 033, 235 | 11, 302, 375 | 12, 040, 532 | 11, 420, 763 | 13, 439, 603 | 7, 953, 641 | 9, 761, 817 | 10, 081, 0 |
| Mexico .-.-- | 193,000 | ${ }^{2} 135,000$ | 23203,000 | 23199,000 | 23188,000 | 147, 302 | 178, 243 | 138, 000 |
| Total North American countries reporting 1909- | 13, 226, 235 | 11, 437, 375 | 12, 243, 532 | 11, 619, 763 | 13, 627, 603 | 8, 100, 943 | 9, 940, 060 |  |
| SOUTH AND CENTRAL AMERICA AND WEST indies. |  |  |  |  |  |  |  |  |
| Colombia. |  | 5,753 | 6, 276 |  |  |  |  |  |
| Venezuela | 10,000 |  |  |  |  |  |  |  |
| Guatemala | ${ }^{4} 144$ |  |  |  |  | 215 | 646 |  |
| Dutch West Indies---- | \% <br> 8161 <br> 08910 | 180 6,005 | 7, 393 | 7 ${ }^{15} 18294$ | 79, 2132 | 7 ${ }_{7} \mathbf{4 5}$ | 715,000 |  |
| Dominican Republic ${ }^{7}$ | $\bigcirc 1,066$ | 304 | 239 | 411 | 150 | 405 |  |  |
| Porto Rico-------- | 41,319 | 343 | 368 | 2, 201 | 1,400 | 920 | 1,046 |  |
| St. Croix (U. S. Virgin Islands) | 519 | 280 | 14 | 94 | 61 |  |  |  |
| British West Indies: |  | 125 |  | 196 |  | 63 |  |  |
| Antigua------------- | ${ }_{657} 64$ | 125 | 195 | 1,147 | 826 | - 732 | 941 |  |
| St. Kitts-Nevis | 1,347 | 1,088 | 1,186 | 1,158 | 1,615 | $\therefore 732$ | 885 |  |
| Grenada --- | 703 | 507 | 644 | 785 |  |  |  |  |
| St. Vincent | 1,026 | 768 | 988 | 1,161 | 1, 363 | 523 | 705 |  |
| Barbadoes | 1,061 | 403 | 238 | 211 | 185 | 419 |  |  |
| Trinidad and Tobago ${ }^{7}$ | 19 |  |  | 71 | 103 |  |  |  |
| Virgin Islands ${ }^{7}$...-- | 81 | 27 | 59 | 71 |  |  |  |  |
| Total Central |  |  |  |  |  |  |  |  |
| and South |  |  |  |  |  |  |  |  |
| American | : |  |  |  |  |  |  |  |
| West Indies re- |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { porting } \\ & 1922-\ldots-190-1 \end{aligned}$ | 13, 259 | 9,061 | 10,852 | 20, 896 | 14,336 | 24, 460 | 18,577 |  |
| EUROPE. |  |  |  |  |  |  |  |  |
| Italy | 5,212 |  |  |  |  |  | 4,603 |  |
| Yugoslavia | 412,614 | 6, 189 |  | 10, 224 | 1,037 | 798 | 858 |  |
| Bulgaria | ${ }_{8} 842$ | ${ }^{7} 71$ | 1,163 | - 993 | 1,212 | 1,840 | 3, 600 | 1,799 |
| Malta-- | 433 | 269 | 263 | 287 | 238 | 485 | 167 |  |
| Spain:- |  |  |  |  |  |  |  |  |
| Russia, European (Northern Caucasia) | ${ }^{9} 680$ |  |  |  |  |  |  |  |
| Turkey, European ${ }^{8}$ | ${ }^{4} 10,000$ |  |  |  |  |  |  |  |
| Total European countries reporting 1909- | 1,275 | 1,030 | 1,426 | - 1,280 | 1,450 | 2, 325 | 3, 767 |  |

[^204]Table 300.-Cotton (bales of 478 pounds net): Production in undermentioned countries, 1909-1923-Continued.

NORTHERN HEMISPHERE-Continued.

:From an unofficial source.
${ }^{4}$ For one year.
${ }^{6}$ Average for 4 years.
${ }^{7}$ Exports.
${ }^{10}$ Territory formerly German Togo, and exports for 4 years only.
${ }^{11}$ The official estimate is $1,015,000$ bales, but receipts into Alexandria and exports indicate a larger crop.
${ }^{12}$ The commercal crop of India according to figures compiled by the United States Department of Commerce, was $3,448,000$ bales in 1921-22, 4,048,000 bales in 1922-23 and 3,811,000 bales in 1923-24.
${ }^{13}$ Official estimates which include the most important cotton producing provinces where the commercial crop is grown. Cotton grown in other provinces is used for home rand loom consum ption. Various estimates made from time to time of the total production of China range from $2,000,000$ to $7,000,000$ bales but are considered unreliable. The commercial crop for China, according to figures compiled by the United States Department of Commerce, was 1,175,000 bales for 1921-22, 1,300,000 bales for 1922-23, and 1,450,000 bales for 1923-24.

Table 300.-Cotton (bales of 478 pounds net): Production in undermentioned
SOUTHERN HEMISPHERE.

| Country. | $\begin{gathered} \text { Average } \\ 1909-1913 . \end{gathered}$ | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | $\begin{aligned} & \text { 1923-24, } \\ & \text { prelim- } \\ & \text { inary: } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Peru | Bales. 110, 000 | Bales. 125, 104 | Bales. <br> 141, 533 | Bales. 154, 774 | Bales. 163, 732 | Bales. <br> 156, 814 | Bales. <br> ${ }^{2} 137,000$ | Bales. |
| Ecuador |  |  |  |  |  | ${ }^{2} 12,000$ |  |  |
| Brazil. | 2322,000 | 344, 597 | 338, 743 | 505, 820 | 369, 841 | 505, 000 | 552, 857 |  |
| Paraguay |  | 115 | 460 | 460 | 1,200 | 1,500 |  |  |
| Argentina | ${ }^{6} 3,045$ | 16, 142 | 16, 297 | 16,450 | 24, 650 | 16, 130 |  |  |
| Belgian Congo |  | 1,245 | 2,075 | 3,459 | 4,151 | 4,520 | 4,603 |  |
| Tanganyika Terri- | ${ }^{5} 7,971$ |  |  |  | 2,402 | 6,132 | 6, 004 |  |
| Nyasaland.--- | 4, 536 | 5,128 | 2, 107 | 1,651 | 2,900 | 3,285 | 4,601 | 5,439 |
| Union of South Africa. |  | 592 |  | 2, 290 | 2, 245 | 1,778 | 3,138 |  |
| Angola ${ }^{7}$ | 510 | 456 | 1,058 | 904 | 2, 349 | 2, 067 |  |  |
| Mozambique ${ }^{7}$ | 766 | 954 | 991 | 954 | 997 |  |  |  |
| Dutch East Indies | 13,981 | 10,141 | 9, 642 | 10, 769 | 14,046 |  |  |  |
| French establishments in Oceania |  |  |  |  |  |  |  |  |
| New Hebrides.------ | ${ }^{4} 7303$ | ${ }^{7} 2,121$ | ${ }^{7} 2,219$ | 72,282 | 1,796 | 3, 124 |  |  |
| Australia.-- | 91 | 53 | 71 | 19 | 656 | 2, 720 | 7, 531 |  |
| Total Southern Hemisphere countries reporting 19091922. | 436, 703 | 475, 474 | 484, 053 | 664, 554 | 539, 374 | 669, 597 | 705, 127 |  |
| Total all countries reporting 1909-1922 | 23, 197, 440 | 19, 443, 875 | 20, 396, 082 | 21, 140, 498 | 20, 588, 467 | 15, 159, 480 | 8, 495, 763 |  |
| Estimated world |  |  |  | 21, 384, 000 | 20, 875, 000 | 15, 330, 000 | 8, 705, 000 | 19, 125, 000 |
| tota |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Bales of 478 pounds net. Data for crop year as given at the head of the table are for crops harvested between August 1 and July 31 of the following year. This applies to both northern and southern hemisperes.
${ }^{2}$ From an unofficial source. ${ }^{4}$ For 1 year. ${ }^{5}$ Average for 4 years. ${ }^{6}$ Average for 3 years. ${ }^{7}$ Exports.
Table 301.-Cotton: World production, 1900-1923.

| Year beginning Aug. 1. | Production in countries reporting all years, 1900-1923. | Production asfar as reported. | Estimated world totals (preliminary). | Three principal producing countries. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | United States | India. | Egypt. |
| 00-1901 | Bales. <br> 14, 692, 623 | Bales. <br> 14, 809, 578 | $\begin{gathered} \text { Bales. } \\ 15,931,000 \end{gathered}$ | Bales. $10,123,027$ | Bales. <br> 2, 47.1, 000 | Bales. $1,126,000$ |
| 1901-02 | 14,046, 282 | 14, 226, 730 | 15, 292, 000 | 9, 509, 745 | 2, 297, 000 | 1, 320, 000 |
| 1902-03 | 15, 503,888 | 16, 823, 334 | 16, 948, 000 | 10, 630, 945 | 2, 818, 000 | 1,210, 000 |
| 1903-04 | 14,795, 269 | 16, 185, 114 | 16, 253, 000 | 9,851, 129 | 2, 645, 000 | 1,349,000 |
| 1904-05 | 19, 029, 776 | 20, 007, 125 | 20, 079, 000 | 13, 438, 012 | 3, 172, 000 | 1, 308, 000 |
| 1905-06 | 15, 834, 191 | 16,856, 569 | 16, 925, 000 | 10, 575, 017 | 2, 859, 000 | 1, 235, 000 |
| 1906-07 | 20, 187, 593 | 21, 259, 290 | 21, 357, 000 | 13, 273, 809 | 4, 129, 000 | 1, 440, 000 |
| 1907-08 | 16, 196, 535 | 17, 357, 753 | 17, 458, 000 | 11, 107, 179 | 2, 613, 000 | 1, 499, 000 |
| 1908-09 | 18,942, 894 | 21, 144, 006 | 21, 267, 000 | 13, 241, 799 | 3, 090, 000 | 1, 399, 000 |
| 1909-10 | 16, 422, 785 | 19, 289, 657 | 19, 329, 000 | 10, 004, 949 | 3, 998, 000 | 1,036, 000 |
| 1910-11. | 18, 029,374 | 21, 873, 607 | 21, 915, 000 | 11, 608, 616 | 3, 254, 000 | 1,555, 000 |
| 1911-12 | 21, 493, 861 | 25, 322, 333 | 25, 356, 000 | 15, 692, 701 | 2, 730, 000 | 1,530, 000 |
| 1912-13 | 20, 620, 689 | 24, 994, 921 | 25, 043, 000 | 13, 703, 421 | 3, 702, 000 | 1, 554, 000 |
| 1913-14 | 21, 756, 976 | 26, 214, 631 | 26, 259, 000 | 14, 156, 486 | 4,239, cco | 1, 588, 000 |
| 1914 | 23, 748, 650 | 28, 556, 341 | 28, 687, 000 | 16, 134, 930 | 4, 359, 000 | 1,337, 000 |
| 1915-16 | 17, 328, 125 | 17, 605, 635 | 20, 689, 000 | 11, 191, 820 | 3, 128, 000 | 89,000 |
| 1916-17 | 17, 988, 805 | 19, 768, 309 | 19, 845, 000 | 11, 449, 930 | 3, 759, 000 | 1, 048, 000 |
| 1917-18 | 17, 250, 025 | 19, 598, 564 | 19, 675, 000 | 11, 302, 375 | 3, 393, 000 | 1, 304, 000 |
| 1918-19 | 17, 224, 909 | 20, 556, 648 | 20, 613, 000 | 12, 040, 532 | 3, 328, 000 | 999,000 |
| 1919-20 | 18, 390, 278 | 21, 319, 924 | 21, 384, 000 | 11, 420, 763 | 4, 853, 000 | 1,155, 000 |
| 1920-21 | 18, 510, 812 | 20, 795, 387 | 20, 875, 000 | 13, 439, 603 | 3, 013, 000 | 1, 251, 000 |
| 1921-22 | 13, 481,953 | 15, 265, 137 | 15, 330, C¢0 | 7, 953, 641 | 3, 748, 000 | 902,000 |
| 1922-23 | 16, 236, 474 | 18, 560, 030 | 18, 705, 000 | 9, 761, 817 | 4, 348, 000 | ${ }^{1} 1,170,000$ |
| 1923-24 |  | 17, 925, 148 | 19, 125, 000 | 10,081, 000 | 4, 111,000 | 1,213,000 |

Division of Statistical and Historical Research. Bales of 478 pounds net.
${ }^{1}$ The official estimate is $1,015,000$ bales, but receipts into Alexandria and exports indicate a larger crop.

Table 302.-Cotton: Estimated monthly marketings by farmers, 1912-1922.

| Year beginning Aug. 1. | Percentage of year's sales. ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Sea- <br> son. |
| 1912-13. |  | 17. 2 | 25.8 | 20.3 | 12.8 | 8. 0 | 5. 2 | 4. 5 | 2.6 | 1.5 | 1.1 | 21.0 | 100 |
| 1913-14 |  | 18. 2 | 24.4 | 19.7 | 13.3 | 8. 3 | 5. 3 | 4.4 | 2. 7 | 1.5 | 1.2 | ${ }^{2} 1.0$ | 100 |
| 1914-15 | 1.2 | 6.8 | 14.8 | 18. 0 | 16. 1 | 11.0 | 8. 3 | 7.7 | 6.1 | 2.5 | 37.5 |  | 100 |
| 1915-16 | 2.7 | 11.3 | 19.3 | 20.4 | 16. 4 | 8.4 | 5. 4 | 5. 2 | 3. 9 | 3. 6 | 33.4 |  | 100 |
| 1916-17 | 3.9 | 14.6 | 23.0 | 21.6 | 15. 0 | 6. 4 | 4.0 | 3. 9 | 3. 0 | 2.5 | 1. 6 | . 5 | 100 |
| 1917-18. | 2.5 | 11.3 | 23.0 | 22.7 | 16.2 | 8.2 | 5. 8 | 4. 5 | 2.6 | 1.3 | 1.0 | . 9 | 100 |
| 1918-19 | 3.3 | 10.9 | 18.1 | 16.4 | 13.6 | 5.4 | 4.4 | 4.6 | 4.6 | 7.5 | 6.8 | 4.4 | 100 |
| 1919-20 | 1.4 | 9.5 | 21. 0 | 22. 2 | 17.4 | 8. 8 | 5. 6 | 4. 9 | 3.2 | 2.7 | 1.7 | 1. 6 | 100 |
| 1920-21 | 3. 1 | 10.0 | 16. 2 | 15. 7 | 11. 0 | 6. 4 | 5. 6 | 6. 0 | 6.7 | 6.9 | 6.8 | 5. 6 | 100 |
| 1921-22 | 3.6 | 14.0 | 22.3 | 17.1 | 12. 1 | 5. 9 | 4.3 | 4. 6 | 4.6 | 5.9 | 3. 0 | 2.6 | 100 |
| 1922-23 | 5.2 | 16.8 | 25.3 | 19.8 | 12.8 | 5. 9 | 4.4 | 3. 7 | 2.0 | 1.0 | 1. 5 | 1. 6 | 100 |
| Average.- | 2.5 | 12.8 | 21.2 | 19.4 | 14.2 | 7.5 | 5. 3 | 4.9 | 3.8 | 3.4 | 3.2 | 1.8 | 100 |

## Division of Crop and Livestock Estimates.

${ }^{1}$ As reported by about 7,500 cotton growers, supplemented by records of State weighers, cooperative associations, and cotton dealers.
${ }_{2}$ Includes August.
${ }^{8}$ Includes July.
Table 303.-Cotton: International trade, calendar years, 1909-1922.

| Country. | Average, 1909-1913. |  | 1920 |  | 1921 |  | $\begin{gathered} 1922, \\ \text { preliminary. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\text { ports. }}{\text { Im- }}$ | Exports. | Imports. | Exports. | Im- | Exports. | Im- | Exports. |
| PRINCTPAL EXPORTING COUNTRIES. | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000. | 1,000 | bales. |
| Brazil | bales. | bales. 83 | bales. | bales. | bales. | bales. |  | bales. $157$ |
| British India | 60 | 1,966 | 24 | 3, 052 | 130 | 2, 240 | 73 | 2,447 |
| Egypt | (1) | 1,442 |  | 829 | ${ }^{(1)}$ | 993 | (1) | ${ }^{2} 1,343$ |
| Persia | (1) | 109 | 2 | 5 | ${ }^{2} 1$ | 28 |  |  |
| Pera | (1) | 87 | 2 | 160 |  | 168 |  | 184 |
| United States | 215 | 9,008 | 628 | 6,359 | 291 | 6,678 | 390 | 6,307 |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Austria |  |  | 55 | (1) | 116 | 21 | ${ }^{2} 122$ | 23 |
| Austria-Hungary | 906 | 12 |  |  |  |  |  |  |
| Belgium... | 496 | 159 | 689 | 221 | 428 | 227 | 283 | (1) 64 |
| Canada | 137 |  | 241 |  | 182 |  | 232 | (1) ${ }^{235}$ |
| China | 43 | 240 | 189 | 105 | 469 | 170 | 497 | 235 |
| Czechoslovaki |  |  | ${ }^{2} 293$ | ${ }^{2} 2$ | 423 | 8 | 355 | 23 |
| France.- | 1,435 | 316 | 1,083 | 151 | 976 | 100 | 1,213 | 112 |
| Germany | 2, 258 | 232 | 691 | 3 | ${ }^{2} 1,533$ | 876 | 1,314 | 160 |
| Hungary. |  |  | ${ }^{(1)} 8$ |  | +14 |  | 15 820 |  |
| Italy | 886 | (1) | 825 | 1 | 728 | 3 | 820 | 2 |
| Japan | 1,405 |  | 2,176 |  | 2,420 |  | 22,389 | ${ }^{(3)} 2$ |
| Netherlands | 277 | 145 | 124 | 8 | 120 | 2 | 117 | 2 |
| Norway | 18 |  | 12 |  | 2158 |  | 2202 |  |
| Poland. |  |  | 106 |  | ${ }^{2} 158$ | ------ | 2 221 21 | (1) |
| Russia | 886 | (1) |  |  | 22 380 |  | 21 382 8 |  |
| Spain.-. | ${ }_{93} 88$ |  | 375 107 | 3 4 | 380 59 | 4 | 382 | 1 |
| Sweden | 93 | 1 | 107 | - 4 | 59 | 1 | 84 |  |
| Switzerland | 113 |  | 97 |  | 114 |  | 99 |  |
| United Kingdom | 4,164 |  | 3,457 |  | 2,137 |  | 2, 823 |  |
| Other countries. | 220 | 155 | 198 | 237 | 166 | 250 | 167 | 228 |
| Total | 14, 005 | 13, 956 | 11, 374 | 10, 254 | 10,844 | 11,019 | 11, 599 | 11, 268 |

[^205]${ }^{1}$ Less than 500 bales.
${ }^{2}$ International Institute of Agriculture.
${ }^{3}$ Eight months, May-December.

Table 304.-Cotton: Farm price per pound, 1st of month, United States, 19081923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Weight ed average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. 10. 3 | Cts. 0.4 | Cts. | Cts. $8.7$ | Cts. <br> 8.7 | Cts. <br> 8.4 | Cts. <br> 9.0 | Cts. 9.0 | $\begin{gathered} C t s . \\ 9.1 \end{gathered}$ | Cts. <br> 9. 6 | $\begin{gathered} C t s . \\ 10.1 \end{gathered}$ | $\begin{gathered} C t s . \\ 10.3 \end{gathered}$ | Cts. 8. 9 |
| 1909-10 | 11. 3 | 11. 7 | 12.6 | 13. 7 | 13.9 | 14. 6 | 14.0 | 14. 0 | 14. 1 | 14. 0 | 14. 2 | 13. 9 | 13.8 |
| 1910-11 | 14. 3 | 14. 4 | 13. 3 | 14. 0 | 14.1 | 14. 4 | 14.3 | 13. 9 | 13. 9 | 14. 2 | 14.6 | 14. 4 | 14.0 |
| 1911-12 | 13. 2 | 11.8 | 10. 2 | 8. 9 | 8. 8 | 8. 4 | 9.0 | 9.8 | 10.1 | 10.9 | 11.0 | 11. 2 | 9.4 |
| 1912-13 | 12.0 | 11.3 | 11. 2 | 10. 9 | 11. 9 | 12. 2 | 11.9 | 11.8 | 11.8 | 11. 6 | 11. 5 | 11.6 | 11.6 |
| 1913-14 | 11.5 | 11.8 | 13. 3 | 13. 0 | 12. 2 | 11.7 | 11.9 | 12.6 | 11.9 | 12. 2 | 12.4 | 12.4 | 12.4 |
| Av. 1909-1913 | 12.5 | 12. 2 | 12.1 | 12. 1 | 12.2 | 12.3 | 12.2 | 12.4 | 12.4 | 12.6 | 12. 7 | 12. 7 | 12.2 |
| 1914-15 | 12. 4 | 8.7 | 7.8 | 6. 3 | 6.8 | 6.6 | 7.4 | 7.4 | 8.1. | 9.1 | 8. 6 | 8. 6 | 7.2 |
| 1915-16 | 8. 1 | 8. 5 | 11. 2 | 11. 6 | 11.3 | 11. 4 | 11. 5 | 11. 1 | 11.5 | 11. 5 | 12. 2 | 12.5 | 11.4 |
| 1916-17 | 12. 6 | 14. 6 | 15. 5 | 18. 0 | 19.6 | 17.1 | 16. 8 | 15. 9 | 18. 0 | 18. 9 | 20. 2 | 24. 7 | 17. 7 |
| 1917-18 | 24.3 | 23.4 | 23.3 | 27. 3 | 27.7 | 28. 9 | 29.7 | 30.2 | 31. 8 | 28.5 | 27.4 | 28.6 | 27.7 |
| 1918-19 | 27.8 | 32. 2 | 31.8 | 29.3 | 27.6 | 28.7 | 24. 9 | 24. 0 | 24.5 | 26. 0 | 29. 5 | 31. 1 | 28.2 |
| 1919-20 | 32. 5 | 30.3 | 31. 3 | 36. 5 | 35.6 | 35.9 | 36. 2 | 36. 2 | 37. 3 | 37. 7 | 37. 2 | 37. 4 | 35.5 |
| 1920-21 | 36.8 | 31.1 | 25.5 | 19.4 | 13. 9 | 11.5 | 11.8 | 10.3 | 9.4 | 9.4 | 9.8 | 9.6 | 15.8 |
| Av. 1914-1920 | 22.1 | 21.3 | 20.9 | 21. 2 | 20.4 | 20.0 | 19.8 | 19.3 | 20.1 | 20.2 | 20.7 | 21.8 | 20.5 |
| 1921-22 | 9.8 | 12. 6 | 19.8 | 17. 7 | 16. 2 | 16.3 | 15. 5 | 15.9 | 16. 0 | 15.9 | 18.7 | 20.4 | 17.0 |
| 1922-23 | 20.7 | 21. 1 | 20. 0 | 22.4 | 23. 8 | 24.5 | 25.9 | 27. 7 | 28. 4 | 26.9 | 25.6 | 26. 2 | 23.9 |
| 1923-24. | 23.5 | 24.1 | 27.2 | 28.8 | 31.0 |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 305.-Cotton: Farm price per pound, December 1, by States, calendar years, 1908-1923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\left\lvert\, \begin{gathered} \text { Av. } \\ 1909 \\ 1913 \end{gathered}\right.$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{gathered} A v . \\ 1914- \\ 1920 \end{gathered}$ | 1921 | 1922 | 1923 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Dolts. |
| Virg | 9.0 | 13. 2 | 13.8 | 9.0 | 12.0 | 13.1 | 12. 2 | 7.3 | 11.4 | 19. 4 | 27.8 | 26.5 | 35. 0 | 15.0 | 20.3 | 16.4 | 23. | 32. | 104.00 |
| North Carolina- | 9.0 | 13. 9 | 14.1 | 8.8 | 12.2 | 12.6 | 12.3 | 6.9 | 11.2 | 19.4 | 27.7 | 26.4 | 35. 21 | 14.5 | 20.2 | 16.4 | 24. 5 | 30.8 | 32 |
| South Carolina. | 8.8 | 14.1 | 14.2 | 8. 8 | 12.4 | 12.7 | 12.4 | 6.9 | 11.3 | 19.6 | 28. 4 | 27.6 | 35.71 | 14.5 | 20.6 | 16.0 | 24.3 | 32.0 | 84 |
| Georgia | 8. 7 | 14.2 | 14.2 | 8.9 | 12.4 | 12.8 | 12.5 | 6. 9 | 11.4 | 19.9 | 28.8 | 27. 5 | 35.8 | 15. 3 | 20.8 | 16.6 | 23.9 | 32.0 | 26. 24 |
| Florida. | 12.2 | 19.3 | 21.0 | 12.0 | 15. 7 | 17.0 | 17.0 | 12.2 | 14.8 | 31.0 | 50.5 | 43.0 | 42.0 | 17.0 | 30.1 | 18.0 | 23.0 | 28.8 | 11. 52 |
| Alabama | 7 |  | 4. 2 | 8.8 | 12. 1 | 12.7 | 12.4 | 6.7 |  |  | 28. | 27.0 | 34.8 | 15.0 | 20.3 | 16.0 | 24.0 | 31.8 | 28. 94 |
| Mississipp | 8. 8 | 14.3 | 14.4 | 9. 2 | 12. 3 | 12.6 | 12. 6 | 6. 8 | 11. | 20. | 28.5 | 27.8 | 37. 5 | 15.3 | 21.1 | 16. 6 | 24.1 | 32.5 | 23.92 |
| Louisiana | 8.7 | 13. 7 | 14.4 | 8. 9 | 11.5 | 11.7 | 12.0 | 6. 9 | 11.2 | 19.1 | 26. 7 | 27.5 | 35. 01 | 14.2 | 20.1 | 15.0 | 24. 0 | 30.3 | 37.88 |
| Texas. | 8. 5 | 13.6 | 14.0 | 8. 6 | 11.5 | 11.5 | 11.8 | 6. 8 | 11.1 | 19.4 | 25.7 | 28. 2 | 35. 0 | 13.2 | 20.1 | 16. 1 | 23.5 | 30.4 | 44.38 |
| Arkansas | 8.8 | 14.0 | 14.4 | 8.9 | 12.3 | 11.6 | 12.2 | 6.6 | 11.6 | 19.6 | 28. 2 | 27.8 | 36.4 | 13.3 | 20.5 | 16.1 | 23.6 | 31.9 | 30: 94 |
| Tenness | 9.0 |  | 14.1 |  | 12.4 | 12. 7 | 12.3 | 6.4 | 11.3 | 19.5 | 27.3 | 26.7 | 33.5 | 13.0 | 19.7 | 16.0 | 24.5 | 32. 0 | 28.80 |
| Missouri | 9.0 | 13. 5 | 13.0 | 8.8 | 11.3 | 11.5 | 11. 6 | 6. 5 | 11.0 | 19. | 27. | 27.0 | 34. 0 | 13.5 | 19.8 | 15.0 | 21.5 | 32.5 | 52.65 |
| Oklahoma | 8.2 | 13. 0 | 13.3 | 8.0 | 11. 3 | 11.4 | 11.4 | 6. 5 | 11.3 | 19.0 | 26. 5 | 25. 5 | 35. 2 | 10.5 | 19.2 | 15.4 | 23.0 | 29.6 | 26. 64 |
| Californi |  |  | 13.3 | 7.5 | 12.5 | 13.0 |  | 7.0 | 11.2 | 20.0 | 28.0 | 30.0 | 43.0 | 30.0 | 24.2 | 17.0 | 26.0 | 32.0 | 88.64 |
| Arizona. |  |  |  |  |  |  |  |  |  |  |  | 48.0 | 51.0 | 30.0 |  | 27.0 | 30.0 | 34.0 | 105. 74 |
|  | 8.7 | 13.9 | 14 | 8 |  | 12. 2 | 12.2 | 6. 8 | 11.3 | 19.6 | 27.7 | 27.6 | 35.6 | 13.9 | 20.4 | 16. 2 | 23.8 | 31.0 | 41.98 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on farm price Dec. 1.

Table 306.-Cotton, middling: Average spot price per pound at nine markets, 1914-1923.

NORFOLK.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aver age. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |  | ents. |
| 1914-15 |  |  |  |  |  |  | 7.89 | 8.33 | 9.38 | 9.12 | 8.97 | 8.43 |  |
| 1915-16 | 8. 77 | 10.30 | 11.87 | 11.39 | 11. 76 | 11. 92 | 11. 53 | 11.63 | 11. 76 | 12. 61 | 12. 83 | 13. 04 | 11.62 |
| 1916-17 | 14. 32 | 15.39 | 17.40 | 19.37 | 17.87 | 17. 50 | 16.54 | 18. 41 | 19.73 | 20. 09 | 24. 33 | 25.21 | 18. 85 |
| 1917-18 | 25.33 | 21. 92 | 26. 99 | 28. 35 | 29. 18 | 30. 47 | 30. 36 | 32. 42 | 32.99 | 29. 26 | 28.95 | 29.59 | 28. 82 |
| 1918-19 | 31.51 | 33. 28 | 30.23 | 27.59 | 27. 83 | 26.23 | 24.38 | 25.27 | 25.87 | 28.32 | 31.18 | 33.18 | 28.74 |
| 1919-20 | 30. 79 | 29.58 | 33.70 | 37.47 | 37. 99 | 38.84 | 38.60 | 39. 20 | 40.11 | 40. 50 | 40.50 | 40.50 | 37. 32 |
| 1920-21 | 37.00 | 29.06 | 21. 23 | 17.39 | 14. 46 | 14.85 | 12.89 | 11.37 | 11. 20 | 11. 60 | 10. 76 | 11. 31 | 16.93 |
| 1921-22 | 12. 57 | 19.10 | 18.66 | 17.12 | 17. 28 | 16.96 | 16.83 | 17.27 | 17.12 | 19.46 | 21. 44 | 22.17 | 18.00 |
| 1922-23 | 21.50 | 20.99 | 22.48 | 25. 40 | 25. 44 | 27.59 | 28.75 | 30.08 | 28.13 | 26.22 | 27.89 | 25. 96 | 25.87 |
| 1923-24 | 24.20 | 27. 79 | 28.65 | 33.16 | 34. 18 |  |  |  |  |  |  |  |  |

aUGUSTA.


SAVANNAH.

| 1914-1 |  |  |  |  |  |  | 8.14 | 8. 36 | 9.29 | 9.36 | 9.03 | 8.66 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915-16 | 8.62 | 10.24 | 11.95 | 11.60 | 12.11 | 12.20 | 11. 79 | 11.90 | 11.90 | 12. 61 | 12. 75 | 13.00 | 11.72 |
| 1916-17 | 14. 21 | 15.40 | 17.54 | 19.69 | 19.27 | 18.45 |  | 18.82 | 20.15 | 20.62 | 24. 83 | 25. 95 |  |
| 1917-18 | 25.20 | 21.87 | 27:05 | 28, 26 | 29. 28 | 31.12 | 30.94 | 32.53 | 33.42 | 31. 50 | 30.24 | 30.10 | 29. 29 |
| 1918-19 | 31.22 | 32.91 | 30.53 | 29.43 | 29.62 | 31.00 | 27.23 | 27.04 | 26.96 | 29.11. | 31.92 | 33.61 | 30. 04 |
| 1919 | 31. 64 | 29.66 | 34, 56 | 38.45 | 28.91 | 39.89 | 39:43 | 40:31 | 41. 60 | 41.53 | 41.74 | 40.87 | 38. 22 |
| 1920-21 | 34. 69 | 28.74 | 22.12 | 18.38 | 15.68 | 15. 62 | 13. 95 | 11. 75 | 11. 48 | 11.83 | 10.91 | 11.31 | 17.20 |
| -1921-22. | 12. 74 | 19.64 | 19.30 | 17.17 | 17. 38 | 17.06 | 16. 72 | 17.36 | 17.03 | 19.39 | 21. 52 | 22.09 | 18.12 |
| 1922-23 | 21.29 | 20.88 | 22. 37 | 25. 19 | 25. 61 | 27. 58 | 28.75 | 30.11 | 28.16 | 26.44 | 28.29 | 25.74 | 25.87 |
| 1923-24 | 24.45 | 27.85 | 28.77 | 33.09 | 34. 18 |  |  |  |  |  |  |  |  |

MONTGOMERY.

| 1914-15 |  |  |  |  |  |  | 7.70 | 8.04 | $9.04$ | 8.82 | 8. 70 | 8.38 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915-16 | 8.42 | 10.02 | 11.74 | 11. 27 | 11. 65 | 11.75 | 11.32 | 11. 37 | 11. 52 | 12.28 | 12.46 | 12. 60 | 11. 37 |
| 1916-17 | 13. 92 | 15. 21 | 17.43 | 19.34 | 18, 33 | 17.78 | 16.81 | 18. 64 | 19.88 | 20.14 | 24. 06 | 24. 82 | 18.86 |
| 1917-18 | 24. 67 | 21.47 | 26. 98 | 28. 43 | 29. 49 | 31. 28 | 31.30 | 33. 36 | 33. 88 | 29.48 | 29.80 | 29.63 | 29.15 |
| 1918-19 | 29.60 | 3239 | 30.24. | 28. 56 | 28.19 | 28. 48 | 27.00 | 25.98 | 26. 81 | 28.54 | 31.10 | 33.36 | 29. 19 |
| 1919-20 | 30.68 | 29. 20 | 34. 26 | 38. 16 | 38. 26 | 39. 29 | 38. 39 | 39. 41 | 40.90 | 40.67 | 40.88 | 40.15 | 37. 52 |
| 1920-21 | 36. 38 | 27.84 | 21. 24 | 17.97 | 14.40 | 13, 86 | 12. 32 | 10. 39 | 10.53 | 10. 89 | 10.09 | 10. 53 | 16. 37 |
| 1921-22 | 11.89 | 18.73 | 18. 46 | 16. 68 | 16.92 | 16. 46 | 16.18 | 16. 55 | 16.15 | 18. 66 | 21.08 | 22. 05 | 17. 48 |
| 1922-23 | 21. 28 | 20.17 | 21. 75 | 24.86 | 25. 02 | 27.05 | 28.61 | 29.81 | 27.85 | 25.97 | 27.86 | 25.70 | 25. 49 |
| .1923-24 | 24.23 | 27.61 | 28.68 | 32.87 | 34.00 |  |  |  |  |  |  |  |  |

## MEMPHIS.

| 191 |  |  |  |  |  |  | 7.87 | 8. 26 | 9. 24 | 9.17 | 8.99 | 8.69 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915-16 | 8.91 | 10.32 | 12.15 | 11.55 | 12. 12 | 12. 29 | 11. 79 | 11. 82 | 12.00 | 12.81 | 13.07 | 13.15 | 11.83 |
| 1916-17 | 14.35 | 15. 56 | 17.40 | 19.60 | 18.96 | 17.88 | 17.00 | 18. 17 | 19.97 | 20.34 | 24. 02 | 25. 75 | 19.08 |
| 1917-18 | 25.96 | 22. 97 | 27. 54 | 28.91 | 29.57 | 31.07 | 31.36 | 32.82 | 33. 57 | 30.08 | 30.00 | 30.00 | 29. 49 |
| 1918-19 | 30.98 | 33.89 | 31. 56 | 30.17 | 29.42 | 29. 29 | 27.18 | 26.86 | 26. 90 | 29.08 | 32. 16 | 33.80 | 20.11 |
| 1919-20 | 33.48 | 30. 96 | 35.94 | 41.17 | 39.88 | 40. 35 | 39.22 | 40.04 | 41.69 | 41.31 | 40.73 | 39.60 | 38. 70 |
| 1920-21 | 36. 35 | 31.00 | 21.68 | 18. 28 | 14.75 | 14.46 | 13. 48 | 11.65 | 11.25 | 11.63 | 11. 05 | 11.82 | 17.28 |
| 1921-22 | 12.17 | 19.46 | 19.71 | 18. 27 | 18.15 | 17.80 | 17. 01 | 17. 28 | 17.00 | 19.19 | 21.79 | 22. 72 | 18.38 |
| 1922-23 | 22.07 | 21.19 | 22. 09 | 25. 31 | 25. 80 | 27.68 | 28. 74 | 30.63 | 29.02 | 26.89 | 28.58 | 26.51 | 26. 21 |
| 1923-24 | 24.08 | 27. 73 | 29.28 | 33.54 | 34.67 |  |  |  |  |  |  |  |  |

Table 306.-Cotton, middling: Average spot price per pound at nine markets, 1914-1923-Continued.

## LITTLE ROCK.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb | Mar. | Apr. | May. | June. | July. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1914-15 |  |  |  |  |  |  | 7.67 | 8.15 | 9.04 | 9.07 | 8.89 | 8.58 |  |
| 1915-16 | 8.61 | 10.08 | 12. 32 | 11. 68 | 12.15 | 12.28 | 11.94 | 11.88 | 12. 25 | 12.80 | 12.96 | 13. 07 | 11.84 |
| 1916-17 | 14. 27 | 15. 26 | 17.33 | 19.58 | 18.80 | 17.70 | 16.81 | 17.89 | 19.71 | 19.99 | 23.90 | 25. 42 | 18.89 |
| 1917-18 | 25. 49 | 22.14 | 26. 72 | 28.26 | 29. 55 | 31. 02 | 30.96 | 32. 53 | 33.32 | 30.00 | 29. 28 | 29.35 | 29.05 |
| 1918-19 | 30.73 | 33. 99 | 31.70 | 30.11 | 29.37 | 28. 20 | 26.45 | 26.83 | 26. 40 | 28.33 | 31.34 | 33.55 | 29.75 |
| 1919-20 | 31.73 | 30.31 | 35. 32 | 40. 08 | 39.94 | 39.98 | 39. 10 | 40.19 | 42. 57 | 41.45 | 40.31 | 39.60 | 38.38 |
| 1920-21 | 34.89 | 28. 28 | 21.38 | 18. 23 | 14.96 | 14. 45 | 13.35 | 11. 49 | 10.63 | 11. 35 | 10.68 | 10. 58 | 16. 69 |
| 1921-22 | 11.81 | 19.60 | 19.75 | 18. 12 | 17. 84 | 17. 57 | 16.90 | 16. 89 | 16.87 | 18.90 | 21.17 | 22.07 | 18. 12 |
| 1922-23 | 21.47 | 20. 76 | 21.80 | 25. 22 | 25.53 | 27.15 | 28.46 | 30. 02 | 28. 24 | 26. 41 | 27.88 | 26.39 | 25. 78 |
| 1923-24 | 24.20 | 27. 64 | 29.10 | 33.55 | 34.41 |  |  |  |  |  |  |  |  |

DALLAS.

| 1914-15 |  |  |  |  |  |  | 7.87 | 8.25 | 9.15 | 8.71 | 8. 57 | 8.25 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915-16 | 8.56 | 10.17 | 11. 72 | 11.13 | 11. 73 | 11. 84 | 11.37 | 11. 63 | 11. 78 | 12. 47 | 12. 72 | 13. 04 | 11.51 |
| 1916-17 | 14. 14 | 14.83 | 16.81 | 19.18 | 17.63 | 17. 17 | 15.75 | 17. 77 | 19.09 | 19. 58 | 24. 17 | 25. 04 | 18.43 |
| 1917-18 | 24.86 | 21.88 | 26.16 | 27.46 | 28. 53 | 30. 74 | 30.71 | 32. 56 | 31.32 | 28.85 | 29. 76 | 28.79 | 28.47 |
| 1918-19 | 31.09 | 33.34 | 30.89 | 28.78 | 29.33 | 27.72 | 25.84 | 25.71 | 27.02 | 29.75 | 32. 10 | 34. 16 | 29.64 |
| 1919-20 | 31. 05 | 30.60 | 36. 65 | 40.58 | 41.11 | 42. 08 | 41.29 | 42.75 | 42.78 | 40.60 | 39. 64 | 38.30 | 38. 95 |
| 1920-21 | 32.74 | 26.40 | 20.69 | 17.08 | 13.70 | 13. 63 | 12. 16 | 10.64 | 10. 53 | 11.20 | 10.23 | 10.50 | 15. 79 |
| 1921-22 | 12.11 | 19.25 | 19.17 | 17.10 | 17.12 | 16.75 | 16. 44 | 16. 93 | 16. 69 | 19.08 | 21.37 | 22.05 | 17,84 |
| 1922-23 | 21. 19 | 20.14 | 21.67 | 24. 75 | 24. 79 | 26.68 | . 27.86 | 29.88 | 27.79 | 25.87 | 27. 72 | 25.34 | 25.31 |
| 1923-24 | 23. 49 | 27.05 | 28.51 | 32.92 | 33. 94 |  |  |  |  |  |  |  |  |

HOUSTON.

|  |  |  |  |  |  |  | 8.33 | 8.80 | 82 | 21 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915-16 | 9.04 | 10. 56 | 12. 11 | 11.62 | 12. 27 | 12.36 | 11.82 | 12.09 | 12. 27 | 12.99 | 13. 26 | 13.60 | 12.00 |
| 1916-17. | 14. 79 | 15.39 | 17. 42 | 19.80 | 18. 10 | 17.64 | 16.05 | 18. 18 | 19. 43 | 20.13 | 24. 60 | 25. 54 | 18.92 |
| 1917-18. | 25.67 | 22. 62 | 26. 62 | 27.87 | 28.77 | 31. 25 | 30.91 | 32. 94 | 31.80 | 28. 06 | 30.91 | 28.75 | 28.85 |
| 1918-19. | 31.26 | 33. 70 | 32.05 | 30.01 | 30. 26 | 28:56 | 27.00 | 26. 43 | 27.33 | 30.18 | 32.04 | 34. 24 | 30. 26 |
| 1919-20 | 31.65 | 31. 36 | 36.88 | 40.79 | 40.74 | 41.72 | 39.96 | 41.52 | 42.33 | 40.67 | 39.54 | 38, 10 | 38.77 |
| 1920-21. | 32.94 | 27.33 | 20.98 | 17. 56 | 14, 16 | 13.95 | 12. 62 | 10.95 | 10.89 | 11.85 | 11. 02 | 11.69 | 16.33 |
| 1921-22. | 13. 06 | 20, 02 | 19.64 | 17.65 | 17.73 | 17. 20 | 17.05 | 17.52 | 17.23 | 19.67 | 22. 18 | 22.51 | 18.46 |
| 1922-23. | 21. 59 | 20.69 | 22.20 | 25. 33 | 25. 45 | 27.51 | 28.71 | 30. 54 | 28. 59 | 26. 65 | 28.42 | 25.62 | 25.94 |
| 1923-24. | 24. 23 | 27.78 | 29.00 | 33.46 | 34. 63 |  |  |  |  |  |  |  |  |

GALVESTON.


Division of Statistical and Historical Research. Compiled from daily reports of the Cotton Division.

Table 307.-Cotton, middling: Average spot price per pound at New Orleans and New York, 1900-1923.
new orleans.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Not. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | $\begin{aligned} & \text { Aver } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cen |
| 1900-1901 |  | 10. 39 | 9. 57 | 9.48 | 9. 50 | 9.52 | 9.20 | 8.49 | 8.15 | 7.69 | 8. 05 | 8.33 | Cents. |
| 1901-2 | 8.28 | 8.15 | 7.99 | 7.32 | 7.93 | 7.88 | 8.08 | 8. 54 | 9.13 | 9.39 | 9.15 | 8.94 | 8. 70 |
| 1902-3 | 8.43 | 8.43 | 8.22 | 7.82 | 8. 14 | 8. 66 | 9.36 | 9. 73 | 10.05 | 11. 14 | 12.71 | 13. 02 | 9.64 |
| 1903 | 12. 70 | 10.72 | 9.66 | 10. 72 | 12. 52 | 14.06 | 14. 38 | 15. 07 | 14.45 | 13. 41 | 11.38 | 10. 86 | 12. 49 |
| 1904 | 10. 59 | 10. 54 | 9.80 | 9.50 | 7.48 | 6.83 | 7.45 | 7.45 | 7.39 | 7. 90 | 8.87 | 10. 61 | 8. 70 |
| 190 | 10. 48 | 10.26 | 10. 16 | 11. 28 | 11.88 | 11. 56 | 10.67 | 10.84 | 11. 28 | 11. 33 | 10.99 | 10.96 | 10.97 |
| 1906 | 9.99 | 9. 24 | 10. 76 | 10. 39 | 10. 53 | 10.46 | 10. 49 | 10.83 | 10. 79 | 11.85 | 12.81 | 12.89 | 10.92 |
| 1907 | 13.13 | 12.41 | 11. 19 | 10. 84 | 11. 54 | 11.84 | 11. 63 | 10.93 | 10. 20 | 10.86 | 11. 59 | 10.81 | 11.41 |
| 1908 | 9.92 | 9.11 | 8.92 | 8. 97 | 8.78 | 9.34 | 9.42 | 9.39 | 10. 03 | 10.59 | 11.04 | 12.13 | 9.80 |
| 1909-10 | 12.28 | 12. 66 | 13.48 | 14.40 | 14.96 | 15. 23 | 14.88 | 14. 74 | 14.80 | 14.64 | 14. 85 | 14.93 | 14. 33 |
| 1910-11 | 14.92 | 13. 49 | 14. 21 | 14. 50 | 14.85 | 14.95 | 14.62 | 14. 54 | 14. 70 | 15. 48 | 15. 26 | 14.30 | 14. 65 |
| 1911-12 | 11. 96 | 11. 29 | 9.61 | 9.35 | 9.17 | 9. 53 | 10.31 | 10. 65 | 11. 61 | 11. 72 | 12. 07 | 12. 93 | 10.85 |
| 1912-13 | 12. 07 | 11. 37 | 10. 95 | 12. 15 | 12.81 | 12. 58 | 12.51 | 12.45 | 12. 44 | 12. 29 | 12. 44 | 12. 34 | 12. 21 |
| 1913-14 | 12. 02 | 13.11 | 13.73 | 13.26 | 12.98 | 12.93 | 12.90 | 12.95 | 13.11 | 13.36 | 13. 79 | 13. 34 | 13. 12 |
| Av. 1909-1913 | 12. 65 | 12.38 | 12.40 | 12.73 | 12.95 | 13.04 | 13.04 | 13.07 | 13.30 | 13. 55 | 13.68 | 13.57 | 13. 03 |
| 1914-15 | (1) | ${ }^{2} 8.42$ | 7.02 | 7.43 | 7.18 | 7.87 | 8.01 | 8.34 | 9.43 | 9.04 | 9.12 | 8.71 |  |
| 1915-16 | 8.94 | 10.40 | 11.95 | 11. 50 | 11.89 | 12.04 | 11. 45 | 11.73 | 11.88 | 12. 61 | 12. 80 | 13.03 | 11. 68 |
| 1918-17 | 14. 26 | 15.27 | 17. 24 | 19.45 | 18.34 | 17.33 | 17. 14 | 17.94 | 19. 50 | 20.06 | 24. 17 | 25. 41 | 18. 84 |
| 1917-18 | 25. 10 | 21.68 | 26.76 | 28.08 | 29.07 | 31. 07 | 30.92 | 32.76 | 33. 05 | 28. 92 | 30. 71 | 29.50 | 28. 97 |
| 1918-19 | 30.23 | 33.28 | 31. 19 | 29.75 | 29. 44 | 28.84 | 26.97 | 26. 84 | 26. 70 | 29.36 | 32.09 | 33. 93 | 29.88 |
| 1919-20 | 31.38 | 30.38 | 35. 30 | 39. 58 | 39. 89 | 40. 28 | 39.40 | 40. 69 | 41. 41 | 40.32 | 40.49 | 39.41 | 38. 21 |
| 1920-21 | 34.03 | 27.35 | 20.97 | 17.65 | 14.64 | 14.53 | 12.85 | 11.08 | 11. 17 | 11.80 | 11.03 | 11.49 | 16. 55 |
| Av. 1914-1920. |  | 20.97 | 21. 49 | 21.92 | 21. 49 | 21. 71 | 20.96 | 21.34 | 21.88 | 21.73 | 22.92 | 23.07 |  |
| 1921-22 | 12.78 | 19.35 | 18.99 | 17.27 | 17.16 | 16. 53 | 16. 36 | 16. 74 | 16. 80 | 19.31 | 21.68 | 22.01 | 17.92 |
| 1922-23 | 21.55 | 20.74 | 22. 05 | 25. 34 | 25. 48 | 27.51 | 28.78 | 30. 43 | 28.42 | 26. 63 | 28.61 | 25. 73 | 25.94 |
| 1923-24 | 24. 22 | 27.71 | 29.18 | 33. 68 | 34.88 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Prior to February, 1915, compiled from quotations in Market Reports of the New York Cotton Exchange, except Sept. 23 to Nov. 16, 1914, when the exehange was closed, quotations for which time were taken from the New York Commercia land Financial Chronicle; from February, 1915, compiled from daily reports of the Cotton Division.
${ }^{1}$ Market closed. $\quad 2$ No quotations prior to Śept. 23. Average for 7 days' business.
NEW YORK.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1900-19 | 9.85 | 10.57 | 10.18 | 9.89 | 10.10 | 10. 32 | 9.52 | 8. 62 | 8.35 | 8.15 | 8.50 | 8. 47 | 9.38 |
| 1901-2. | 8.18 | 8. 40 | 8.35 | 7.95 | 8.45 | 8. 28 | 8.64 | 9.06 | 9.37 | 9. 55 | 9.33 | 9.22 | 8.73 |
| 1902-3 | 8. 97 | 8. 96 | 8.77 | 8. 45 | 8. 64 | 8: 95 | 9.65 | 10.08 | 10.44 | 11. 46 | 12. 40 | 12. 74 | 9. 96 |
| 1903 | 12.75 | 11. 99 | 9.94 | 11. 22 | 12.83 | 14.42 | 14.87 | 15. 58 | 14. 36 | 13.50 | 11.65 | 10.92 | 12.84 |
| 1904 | 10.82 | 11. 02 | 10. 26 | 10.00 | 7.90 | 7.17 | 7.75 | 8. 08 | 7. 91 | 8.26 | 9.05 | 10.96 | 9.09 |
| 1905-6 | 10.89 | 10.85 | 10.35 | 11. 45 | 12. 13 | 11.87 | 11. 13 | 11.35 | 11.72 | 11.87 | 11.06 | 10.89 | 11.30 |
| 1906-7 | 10.31 | 9.77 | 10. 93 | 10. 77 | 10.71 | 10.86 | 11.04 | 11.20 | 11.12 | 12.04 | 13.02 | 13.11 | 11. 24 |
| 1907-8 | 13.33 | 12.57 | 11.50 | 11. 03 | 11.89 | 11.73 | 11.53 | 11.01 | 10. 17 | 10.93 | 11.63 | 11.01 | 11. 53 |
| 1908 | 10,29 | 9.39 | 9.28 | 9, 40 | 9.23 | 9.67 | 9.82 | 9.77 | 10.49 | 11.31 | 11.51 | 12. 65 | 10. 23 |
| 1909 | 12.75 | 13.00 | 13.99 | 14. 77 | 15.25 | 14.87 | 14.84 | 15.05 | 15.10 | 15.45 | 15.10 | 15.74 | 14.66 |
| 1910-11 | 16. 27 | 13.96 | 14. 48 | 14. 77 | 15. 07 | 14.90 | 14.30 | 14.51 | 14.87 | 15.80 | 15. 48 | 13. 99 | 14.87 |
| 1911-12 | 12. 53 | 11.31 | 9.63 | 9. 43 | 9.37 | 9.55 | 10.34 | 10. 63 | 11.57 | 11. 62 | 11.65 | 12. 57 | 10.85 |
| 1912-13 | 12. 04 | 11. 73 | 11.12 | 12. 36 | 13. 01 | 13. 07 | 12.80 | 12. 61 | 12. 29 | 11. 98 | 12. 25 | 12. 26 | 12. 29 |
| 1913-14 | 12. 14 | 13, 44 | 14.08 | 13.68 | 13.04 | 12.72 | 12.83 | 13. 27 | 13. 23 | 13. 44 | 13.47 | 13.17 | 13.21 |
| Av. 1909-19 | 13. 15 | 12.69 | 12.66 | 13.00 | 13.15 | 13.02 | 13. 02 | 13.21 | 13. 41 | 13.66 | 13.59 | 13.55 | 13.18 |
| 1914-15 | (1) | (1) | ${ }^{1}$ ) | ${ }^{2} 7.67$ | 7.53 | 8.28 | 8. 54 | 9.01 | 10. 25 | 9.81 | 9.68 | 9.22 |  |
| 1915-16 | 9. 41 | 10.83 | 12.37 | 11.89 | 12.33 | 12.33 | 11. 73 | 11.90 | 12: 05 | 12.94 | 12.97 | 13. 05 | 11.8 |
| 1916-17 | 14. 64 | 15. 79 | 17.99 | 19.92 | 18.29 | 17. 59 | 15.90 | 18.46 | 20.38 | 20.74 | 25. 33 | 26. 30 | 19. 28 |
| 1917-18 | 25.49 | 23. 05 | 28.02 | 29.78 | 30.74 | 32.26 | 31. 76 | 33.74 | 31.85 | 27.57 | 30. 39 | 31. 54 | 29. 68 |
| 1918-19 | 33.88 | 35. 09 | 32. 42 | 29.69 | 30. 22 | 29.10 | 26. 27 | 27. 74 | 28.82 | 30.58 | 32. 96 | 35.33 | 31. 01 |
| 1919-20. | 32:10 | 30.60 | 34. 98 | 39. 40 | 39. 19 | 39. 26 | 38. 77 | 41. 20 | 42. 30 | 41.25 | -39. 27 | 41.20 | 38. 29 |
| 1920-21. | 36. 23 | 30.07 | 22.68 | 18.81 | 15.68 | 16.63 | 13. 44 | 11. 74 | 12.14 | 12.84 | 12. 00 | 12.41 | 17.89 |
| Av.1914-1920. |  | -- | - | 22.45 | 22.00 | 22.21 | 20.92 | 21. 97 | 22. 54 | 22.25 | 23.23 | 24.15 |  |
| 1921-22 | 13.79 | 19.95 | 19.63 | 18.01 | 18.30 | 17.94 | 17.90 | 18.32 | 18. 06 | 20.75 | 22.10 | 22.27 | 18.92 |
| 1922-23 | 21.86 | 21.35 | 22: 73 | 25.64 | 25. 65 | 27.55 | 28.63 | 30.55 | 28.88 | 27. 20 | 28.52 | 26.26 | 26. 24 |
| 1923-24 | 25.20 | 29.06 | 30.06 | 34. 73 | 35.92 |  |  |  |  |  |  |  |  |

[^206]Table 308.-Cotton: Average closing prices per pound, New York, for future delivery, August, 1922-December, 1923.

| Month. | For delivery in- |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aug. ${ }^{1}$ | Sept. ${ }^{1}$ | Oct. | Nov. ${ }^{1}$ | Dec. | Jan. | Feb. ${ }^{1}$ | Mar. | Apr. ${ }^{1}$ | May. | June. 1 | July. |
| 1922-23. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| August-.. |  | 21. 47 | 21.60 | 21. 61 | 21.63 | 21.48 | 21. 50 | 21.51 | 21.45 | 21. 42 | 21.27 | 121.25 |
| September |  | 21.17 | 21.08 | 21. 21 | 21. 33 | 21. 18 | 21. 22 | 21. 26 | 21. 22 | 21. 19 | 21.09 | ${ }^{1} 21.00$ |
| October |  |  | 22.01 | 22. 58 | 22. 79 | 22.52 | 22.58 | 22. 63 | 22.60 | 22. 56 | 22.45 | 22.35 |
| Novembe | 24. 36 | 23. 90 | 23.37 | 25. 40 | 25. 49 | 25.37 | 25. 36 | 25. 34 | 25. 25 | 25. 17 | 25. 01 | 24.85 |
| Decembé | 24. 91 | 24.33 | 23. 76 |  | 25. 14 | 25. 43 | 25. 52 | 25. 63 | 25. 64 | 25. 64 | 25. 50 | 25. 37 |
| January | 26. 84 | 26. 00 | 25. 50 | 25. 39 | 25. 28 | 27.18 | 27.38 | 27. 48 | 27.56 | 27.66 | 27.51 | 27. 36 |
| Februar | 27.51 | 26. 11 | 25. 56 | 25. 40 | 25. 25 | ${ }^{2} 25.06$ | 27.97 | 28. 52 | 28. 63 | 28. 74 | 28.44 | 28. 13 |
| March | 28.56 | 26. 80 | 26. 24 | 25. 91 | 25. 70 | 25.42 |  | 30. 73 | 30. 42 | 30. 44 | 30.01 | 29,59 |
| April | 26.70 | 25. 55 | 24. 97 | 24. 74 | 24. 51 | 24. 22 | 24.13 | 124.05 | 28.66 | 28. 66 | 28.20 | 27. 78 |
| May | 24.85 | 24.15 | 23. 62 | 23. 41 | 23. 20 | 22.91 | 22.90 | 222.89 |  | 26. 57 | 26. 22 | 25. 72 |
| June | 26. 44 | 25. 16 | 24. 49 | 24. 23 | 23. 94 | 23.66 | 23. 63 | 23.61 | 23. 57 | ${ }^{2} 23.50$ | 28.03 | 27.22 |
| July | 24. 69 | 23. 90 | 23.21 | 23.02 | 22.83 | 22. 59 | 22.60 | 22.61 | 22.57 | 22. 54 |  | 26.46 |
| Av. Aug. 1 July 31 | 25.60 | 24.41 | 23.78 | 23.90 | 23.92 | 23.92 | 24.07 | 24. 68 | 25. 23 | 25.34 | 25. 79 | 25.59 |
| 二2. 1923-24. |  |  |  |  |  |  |  |  |  |  |  |  |
| September |  | 27. 74 | 28.07 | 27.88 | 27.79 | 27.35 | 27.34 | 23.34 | 27.30 | 27. 28 | 27.01 | 26. 77 |
| October | 27.30 | 26. 44 | 29.03 | 29.18 | 29.12 | 28.61 | 28.63 | 28.64 | 28. 66 | 28.68 | 28.34 | 28.09 |
| November | 31.37 | 29.24 | 28.14 | 33. 53 | 34.19 | 33. 72 | 33.82 | 33. 92 | 33. 96 | 34.01 | 33. 71 | 33. 45 |
| December | 31.51 | 29.30 | 28.42 | 28.04 | 35.19 | 34. 62 | 34.80 | 34. 99 | 35.06 | 35.16 | 34. 74 | 34.32 |

Division of Statistical and Historical Research. Compiled from Market Reports of the New York Cotton Exchange.
${ }^{1}$ Based on nominal quotations.
${ }^{2}$ Largely nominal.
Table 309.-Cotton: Average spot prices per pound in specified foreign markets, 1912-1923.
LIVERPOOL, EGYPTLAN UPPERSGOOD. ${ }^{1}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1912 | 18. 0 | 16.9 | 17.6 | 19.3 | 19.5 | 21.3 | 21.3 | 20. 2 | 19.1 | 18.3 | 18. 9 | 19.3 | 19.1 |
| 1913 | 19:9 | 20.1 | 20.2 | 20.3 | 20.2 | 19.7 | 19.0 | 18.8 | 20.0 | 20.2 | 20.0 | 19.5 | 19.8 |
| 1914 | 18.9 | 17.9 | 17.3 | 17.9 | 18. 1 | 18. 2 | 17.6 | 16. 5 | 16. 1 | 13. 5 | 12.6 | 12. 2 | 16.4 |
| 1915 | 12.2 | 12.8 | 14.0 | 15.5 | 14. 5 | 14.4 | 13.8 | 14.1 | 15.4 | 18.1 | 17. 9 | 18. 6 | 15.1 |
| 1916 | 21. 9 | 22.5 | 22.4 | 21. 6 | 22.4 | 23.5 | 23. 7 | 23.7 | 27. 2 | 31.2 | 39. 5 | 39. 6 | 26.6 |
| 1917 | 39. 7 | 41.9 | 44. 5 | 50.5 | 52.0 | 55.4 | 60.3 | 60.9 | 52.0 | 46. 7 | 51.6 | 54.4 | 50.8 |
| 1918 | 53.8 | 51.5 | 54.9 | 56.3 | 54.0 | 52.6 | 54. 4 | 55. 8 | 55. 4 | 54.3 | 51.7 | 50.4 | 53.8 |
| 1919 | 50.3 | 50.0 | 49.3 | 48.3 | 48.3 | 48. 4 | 46. 4 | 48. 8 | 48.8 | 53. 4 | 67.0 | 76.3 | 52.9 |
| 1920 | 94. 0 | 105.0 | 108. 7 | 107.6 | 97.1 | '81.3 | 71.6 | 68: 6 | 53.4 | 37.0 | 29.4 | 23.4 | 73.1 |
| A verage 1914-1920 | 41.5 | 43.1 | 44.4 | 45.4 | 43.8 | 42.0 | 41.1 | 41.2 | 38.3 | 36.3 | 38.5 | 39.3 | 41.2 |
| 1921 | 24.6 | 20.8 | 19.6 | 21.5 | 18.8 | 18.8 | 18.0 | 18. 6 | 29.3 | 33.3 | 28.3 | 29. 4 | 23.4 |
| 1922 | 28.8 | 27.4 | 28.4 | 26.8 | 28.1 | 29.7 | 29.4 | 28.1 | 27.4 | 27.3 | 30.7 | 31.2 | 28.6 |
| 1923 | 31. 9 | 32.5 | 33.9 | 33.0 | 30.4 | 31.9 | 31.0 | 31.5 | 33.4 | 33.5 | 39.6 | 41.5 | 33.7 |

LIVERPOOL, NO. 1 OOMRAS, FULLY GOOD. ${ }^{1}$

| 1912 | 10.3 | 10.8 | 10.9 | 11.3 | 11.6 | 11.7 | 12.3 | 12. 2 | 11.9 | 11.6 | 12.1 | 12. 5 | 11. 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 12.7 | 12.8 | 12.7 | 12. 5 | 12.2 | 11.9 | 11.8 | 11.6 | 12.9 | 12.9 | 12.8 | 12.5 | 12. 4 |
| 1914 | 12. 0 | 11.5 | 11.5 | 11.5 | 11.4 | 11.0 | 10.6 | 9.7 | 9.1 | 8.8 | 7.9 | 7.7 | 10.2 |
| 1915 | 8. 5 | 8.4 | 8. 5 | 9.2 | 8.9 | 9.1 | 8.9 | 9.1 | 9. 7 | 10.9 | 10.7 | 11.9 | 9.5 |
| 1916 | 12. 6 | 12.4 | 12.1 | 11.9 | 13.0 | 12.8 | 12.9 | 14.2 | 15.0 | 15.8 | 17.6 | 16.6 | 13.9 |
| 1917 | 16. 9 | 17.3 | 20.2 | 21.0 | 22.1 | 31.2 | 33.4 | 34.2 | 31.9 | 36.9 | 37.6 | 37.2 | 28.3 |
| 1918 | 38. 2 | 37.6 | 38.2 | 38.2 | 35. 2 | 36. 8 | 36.8 | 37.8 | 44.1 | 42.4 | 37.5 | 34.3 | 38.1 |
| 1919 | 35.3 | 32. 6 | 27.7 | 28.9 | 30.1 | 32.4 | 32.2 | 30.7 | 29.0 | 30.5 | 32.1 | 32.0 | 31, 1 |
| 1920 | 32.6 | 30.0 | 32.3 | 31.8 | 30.2 | 29,1 | 26.1 | 23.8 | 21.6 | 18.5 | 15.7 | 12.0 | 25.3 |
| A verage 1914-1920.- | 22.3 | 21.4 | 21.5 | 26.8 | 21.6 | 23.9 | 23.0 | 22.8 | 22.9 | 23.3 | 22.7 | 21.7 | 22.4 |
| 1921 | 11.9 | 10.6 | 9.2 | 9.4 | 9.8 | 9.2 | 9.3 | 10.5 | 16.0 | 16. 9 | 15.3 | 15. 4 | 12.0 |
| 1922 | 15.3 | 14.9 | 15.4 | 16.0 | 15. 7 | 18. 9 | 19. 7 | 19.8 | 18.9 | 18.8 | 20.6 | 20.5 | 17.9 |
| 1923 | 21.9 | 22.2 | 21.7 | 20.7 | 19.4 | 20.8 | 20.2 | 19.6 | 21.8 | 22.0 | 25. 9 | 27.7 | 22.0 |

$\mathrm{T}_{\text {able }}$ 309.-Cotton: Average spot prices per pound in specified foreign markets, 1912-1923-Continued.

## ALEXANDRIA, EGYPT, EGYPTLAN UPPERS, GOOD. ${ }^{2}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver- age. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1912 | 15. 8 | 16. 6 | 16. 8 | 17.6 | 18.1 | 18. 9 | 19. 4 | 18. 5 | 17.2 | 15.8 | 17.0 | 18. 1 | 17.5 |
| 1913 | 18. 6 | 18.7 | 19. 0 | 19. 4 | 19.0 | 18. 5 | 18. 2 | 17.8 | 18. 5 | 18. 6 | 18. 6 | 18. 0 | 18.6 |
| 1914 | 17.4 | 17.0 | 16. 4 | 17. 0 | 16. 8 | 16. 7 | 16. 3 | (3) | ${ }^{(3)}$ | 9.6 | 11. 2 | 10.5 | 14.9 |
| 1915 | 11. 1 | 11. 9 | 13.0 | 14.3 | 13. 2 | 13. 1 | 12. 5 | 12. 6 | (3) | ${ }^{(3)}$ | 162 | ${ }^{(3)}$ | 13.1 |
| 1916 | 19.2 | 21.1 | 21. 0 | 20.3 | 20.6 | 21. 4 | 20.7 | 20.6 | 23.3 | 27.5 | 34.5 | 35.4 | 23.8 |
| 1917 | 35.1 | 37.3 | 39.6 | 48.7 | 49.3 | 51. 7 | 60.1 | 45.1 | 29.6 | 32.4 | 35.6 | 38.5 | 41.9 |
| 1918. | 37.9 | 36.6 | 38.0 | 38.3 | 36. 5 | 37.6 | 40.5 | ${ }^{(3)}$ | ${ }^{(3)}$ | ${ }^{(3)}$ | ${ }^{(3)}$ | ${ }^{(8)}$ |  |
| 1919 | ${ }^{(3)}$ | ${ }^{(3)}$ | ${ }^{(3)}$ | ${ }^{(3)}$ | ${ }^{(3)}$ | ${ }^{(8)}$ | ${ }^{(3)}$ | 47.1 | 42.6 | 45.6 | 60.5 | 71.9 |  |
| 1920 | 85.2 | 94. 6 | 87. 2 | 94. 0 | 82.7 | 69.8 | 61.2 | 54. 9 | 41. 9 | 32.5 | 24.2 | 19.5 | 62.3 |
| 1921 | 19. 9 | 15.1 | 16.3 | 16. 3 | 15.3 | 14. 2 | 14.9 | 14.9 | 25. 7 | 30. 9 | 26.0 | 27.3 | 19.7 |
| 1922 | 25.3 | 23.3 | 22.9 | 22.7 | 24. 7 | 26. 7 | 26.1 | 25.0 | 23.3 | 24.1 | 26.7 | 27.0 | 24.8 |

LIVERPOOL, AMERICAN MIDDLING. 4

| 1912 | 11. 16 | 11. 90 | 12. 34 | 13. 09 | 13. 03 | 13. 37 | 14. 46 | 13. 83 | 13. 55 | 12. 59 | 13.82 | 14. 31 | 13. 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 14.06 | 13.97 | 13.97 | 14.00 | 13.58 | 13.67 | 13. 61 | 13. 38 | 15. 10 | 15. 55 | 14.94 | 14. 54 | 14. 20 |
| 1914 | 14. 34 | 14. 25 | 14. 28 | 15. 02 | 15. 20 | 15. 71 | 14. 74 | 13. 23 | 12. 22 | 10. 53 | 9. 25 | 8.93 | 13. 14 |
| 1915 | 9. 77 | 10. 06 | 10. 46 | 11. 37 | 10. 42 | 10. 47 | 10. 32 | 10. 79 | 12. 24 | 13. 90 | 13. 74 | 15. 03 | 11. 55 |
| 1916 | 15. 99 | 15. 61 | 15. 48 | 15. 47 | 16. 77 | 16. 47 | 15. 94 | 17. 54 | 18. 99 | 20. 69 | 23. 05 | 22. 16 | 17.85 |
| 1917 | 21. 76 | 21. 34 | 24. 07 | 25. 23 | 26. 17 | 34. 07 | 37. 65 | 38. 21 | 35.96 | 34. 85 | 43. 38 | 44. 25 | 32. 24 |
| 1918 | 46. 16 | 45. 88 | 47. 19 | 46. 52 | 42. 28 | 43. 89 | 43. 09 | 45. 26 | 48. 44 | 46. 46 | 43.97 | 42.30 | 45. 12 |
| 1919 | 37. 66 | 34. 53 | 30. 39 | 33. 24 | 35. 70 | 38. 25 | 38. 33 | 34. 06 | 32. 20 | 38. 06 | 41.99 | 40. 92 | 36. 28 |
| 1920 | 43. 61 | 41. 61 | 45. 16 | 44. 17 | 42. 51 | 44. 48 | 41. 83 | 38.31 | 31. 33 | 24.41 | 19.18 | 14. 74 | 35. 94 |
| Average 1914-1920. | 27.04 | 26.18 | 26. 72 | 27.29 | 27.01 | 29.05 | 28.84 | 28.20 | 27. 34 | 26.99 | 27.79 | 26.90 | 27.45 |
| 1921 | 15. 32 | 12. 71 | 11. 78 | 12.07 | 12. 53 | 11. 66 | 11. 94 | 13. 34 | 20. 70 | 20.85 | 18. 46 | 18. 84 | 15. 02 |
| 1922 | 18. 12 | 17. 75 | 19. 21 | 18. 89 | 21. 42 | 23. 46 | 24.98 | 24. 90 | 23.98 | 24.55 | 27.96 | 28. 26 | 22. 79 |
| 1923 | 30. 64 | 30.93 | 31. 42 | 30. 29 | 28.43 | 31.53 | 29.28 | 28.18 | 31.99 | 31. 96 | 35. 74 | 30. 00 | 31.37 |

Division of Statistical and Historical Research. Conversions at monthly average rates of exchange as quoted by International Institute of Agriculture Annual, 1921, and Federal Reserve Board.

1 London Economist, average of weekly quotations.
${ }^{2}$ Monthly Agricultural Statistics, Ministry of Finance, Cairo, Egypt.
8 No quotations.
International Yearbook of Agricultural Statistics, 1921, p. 443. London Economist, 1922 and 1923. A verage of weekly quotations.

COTTONSEED.
Table 310.-Cottonseed: Production, 1874-1923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { Aug. } 1 . \end{aligned}$ | Production. | Year beginning Aug. 1. | Production. | Year beginning Aug. 1. | Production. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 |  | 1,000 |  | 1,000 |
|  | tons. |  | tons. |  | tons. |
| 1874-5. | 1,687 | 1890-1. | 4,093 | 1907-8... | 4,952 |
| 1875-6. | 2,057 | 1891-2. | 4, 274 | 1908-9. | 5,904 |
| 1876-7. | 1,969 | 1892-3. | 3, 183 |  |  |
| 1877-8. | 2,148 | 1893-4 | 3, 579 | 1909-10. | 4,462 |
| 1878-9. | 2, 268 |  |  | $\begin{aligned} & 1910-11 \\ & 1911-12 \end{aligned}$ | $\mathbf{5 , 1 7 5}$ |
|  |  | 1894-5. | 4,792 | 1911-12 | $\mathbf{6}, 997$ |
| 1879-80 | 2, 616 | 1895-6 | 3,416 | 1912-13. | 6,104 |
| 1880-1. | 3, 039 | 1896-7 | 4,070 | 1913-14. | 6,305 |
| 1881-2 | 2, 455 | 1897-8. | 5,253 |  |  |
| 1882-3-4. | 3; 266 | 1898-9. | 5,472 | 1914-15 | $7,186$ |
| 1883-4. | 2,639 | 1899-1900. | 4,668 | $\begin{aligned} & 1915-16 \\ & 1916-17 \end{aligned}$ | 4,992 5,113 |
| 1884-5. | 2, 625 | 1900-1. | 4,830 | 1917-18. | 5,040 |
| 1885-6 | 3, 045 | 1901-2 | 4,630 |  |  |
| 1886-7- | 3, 018 | 1902-3. | 5, 092 | 1918-19- | 5,360 |
| 1887-8. | 3, 291 | 1903-4 | 4,716 | 1919-20. | 5, 074 |
| 1888-9. | 3, 310 |  |  | 1920-21--------- | 5, 971 |
| 1889-1890 | 3,495 | $\begin{aligned} & 1904-5 \\ & 1905-6 \end{aligned}$ | 6,427 | 1921-22- | 3,531 4,336 |
|  |  | 1906-7. | 5,913 | 1923-24 | 4,476 |

[^207]${ }^{1}$ Preliminary estimate by Department of Agriculture.

Table 311.-Cottonseed: Production, and farm value, by States, 1919-1923.

| State. | Production, thousands of tons. Year beginning Aug. 1. |  |  |  |  | Total value, thousands of dollars. Year beginning Aug. 1. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | 19231 | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ |
| Virginia | 10 | 9 | ${ }^{7}$ | 12 | 22 | \$740 | \$230 | \$220 | \$480 | \$1, 012 |
| North Carolina | 368 | 410 | 344 | 378 | 453 | 27,340 | 10, 550 | 11, 420 | 15,600 | 21, 744 |
| South Carolina | 633 | 720 | 334 | 218 | 353 | 47, 460 | 16, 620 | 11, 510 | 9, 230 | 17, 703 |
| Georgia | 736 | 628 | 349 | 317 | 262 | 55, 260 | 16, 640 | 11, 070 | 12, 520 | 13, 558 |
| Florida | 8 | 8 | 5 | 12 | 5 | 530 | 220 | 160 | 380 | 223 |
| Alabama | 316 | 294 | 257 | 366 | 266 | 23, 020 | 7,840 | 7,890 | 13, 310 | 13, 074 |
| Mississippi | 427 | 397 | 361 | 439 | 273 | 28, 100 | 9, 570 | 10, 330 | 14,940 | 13,746 |
| Louisiana | 132 | 172 | 124 | 152 | 162 | 8, 660 | 4,490 | 3, 400 | 4, 760 | 6,723 |
| Texas.. | 1,379 | 1, 934 | 978 | 1,433 | 1,905 | 82,640 | 41, 350 | 27, 430 | 45, 370 | 79,724 |
| Arkansas. | 393 | 540 | 354 | 452 | 275 | 24,880 | 12,400 | 9,990 | 14, 910 | 13, 035 |
| Tennessee | 138 | 145 | 134 | 174 | 98 | 9,210 | 3,700 | 4,090 | 6,680 | 4,861 |
| Missouri. | 28 | 35 | 31 | 63 | 51 | 2,040 | 790 | ¢ 970 | 2,310 | 2,805 |
| Oklahoma | 452 | 594 | 214 | 279 | 275 | 27, 130 | 11, 210 | 5,300 | 8,780 | 11,399 |
| All other. | 54 | 85 | 39 | 41 | 76 | 3,460 | 1,380 | 780 | 1,130 | 2, 998 |
| United State | 5,074 | 5,971 | 3, 531 | 4,336 | 4,476 | 340, 470 | 136,990 | 104, 560 | 150, 400 | 202, 603 |

Division of Orop and Livestock Estimates. Compiled from reports of the Bureau of the Census.
${ }^{1}$ Preliminary estimate by Department of Agriculture.
Table 312.-Cottonseed, and cottonseed products: Production, 1900-1923.

| Year ending July 31. | Cottonseed, crushed. | Crude cottonseed products. |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Oil. | Cake and meal. | Hulls. |
|  | Tons. | Gallons. | Tons. | Tons. |
| 1899-1900. | 2, 479,000 | 93, 330,000 | 884,000 | 1, 169, 000 |
| 1990-1. | 2,415, 000 | 96, 610, 000 | 845, 000 | 1, 139, 000 |
| 1901-2. | 3, 154, 000 | 118, 610, 000 | 1,125, 000 | 1, 487, 000 |
| 1902-3. | 3, 269,000 | 122, 910,000 | 1, 165, 000 | 1,541,000 |
| 1903-4 | 3, 241, 000 | 121, 880, 000 | 1, 156,000 | 1,528, 000 |
| 1904-5. | 3,345, 000 | 133, 820, 000 | 1,360,000 | 1, 213,000 |
| 1905-6. | 3,131, 000 | 125, 700, 000 | 1,272,000 | 1, 135, 000 |
| 1906-7 | 3,844,000 | 153, 760, 000 | 1,563,000 | 1, 393, 000 |
| 1907-8. | 2, 565, 000 | 103, 050, 000 | 1,043, 000 | 927,000 |
| 1908-9. | 3, 670, 000 | 146, 790, 000 | 1,492,000 | 1,330, 000 |
| 1909-10. | 3, 269, 000 | 131,000, 000 | 1, 326,000 | 1,189,000 |
| 1910-11 | 4, 106, 000 | 167, 970, 000 | 1, 792, 000 | 1, 375, 000 |
| 1911-12 | 4, 921, 073 | 201, 650, 000 | 2, 151,000 | 1, 642, 000 |
| 1912-13. | 4, 579, 508 | 185, 750, 000 | 1,999,000 | 1,540, 000 |
| Av. 1909-1913 | 4, 109, 116 | 166, 632, 000 | 1, 752, 000 | 1,415, 000 |
| 1913-14 | 4, 847, 628 | 193, 330, 000 | 2, 220, 000 | 1, 400, 000 |
| 1914-15. | 5, 779, 665 | 229, 260, 000 | 2, 648, 000 | 1,677, 000 |
| 1915-16. | 4, 202, 313 | 167, 110, 000 | 1,923,000 | 1, 220, 000 |
| 1916-17 | 4, 479, 176 | 187, 688, 000 | 2,225,000 | 969,000 |
| 1917-18 | 4, 251, 680 | 174, 996, 000 | 2,068, 000 | 996,000 |
| 1918-19. | 4, 478,508 | 176, 711, 000 | 2, 170,000 | 1, 137, 000 |
| 1919-20 | 4,012, 704 | 161, 529, 000 | 1, 817, 000 | 1, 143, 000 |
| Av. 1914-1920. | 4, 578, 811 | 184, 375, 000 | 2, 153, 000 | 1,220, 000 |
| 1920-21. | 4, 069, 166 | 174, 558, 000 | 1, 786, 000 | 1, 256, 000 |
| 1921-22 | 3, 007, 717 | 124, 063, 000 | 1, 355,000 | 937,000 |
| 1922-23. | 3, 241, 557 | 133, 723, 000 | 1, 487, 000 | 944,000 |

Division of Orop and Livestock Estimates. Compiled from reports of Bureau of the Census.

Table 313.-Cottonseed: Farm price per ton, 15th of month, United States, 19101923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | $\begin{gathered} \text { Weight- } \\ \text { ed } \\ \text { average. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 |  | \$26. 23 |  |  |  |  |  |  |  | 25. 46 |  |  |  |
| 1911-12 | \$20.45 | 18.09 | 16.73 | 16. 69 | 16.70 | 16. 57 | 16.81 | 18.21 | 18.62 | 19.21 | 19.2 | 19.04 | 17. 13 |
| 1912-13 | 18. 02 | 17.61 | 18.04 | 18. 57 | 21.42 | 21.98 | 22.01 | 21. 55 | 21.89 | 21. 88 | 21.54 | 21.37 | 18.77 |
| 1913-14 | 20.24 | 21.07 | 22.01 | 22.46 | 23.48 | 22.70 | 23.37 | 23.60 | 24.17 | 23. 56 | 23.62 | 22. 78 | 22. 14 |
| A \%. 1910-1913 | 19.57 | 20.75 | 20.91 | 20.77 | 21.81 | 21.90 | 21.95 | 22.21 | 22.70 | 22.53 | 21. 94 | 21.47 | 20.86 |
| 1914-15 | 20. 16 | 13.88 | 15. 28 | 14.01 | 17.73 | 19.14 | 23.33 | 22.32 | 22.69 | 22.07 | 20. 82 |  |  |
| 1915-16 | 20. 14 | 20.98 | 33. 73 | 34. 01 | 35. 54 | 36. 85 | 36.75 | 36. 56 | 38.13 | 37.91 | 35. 79 | 36.06 | 30. 25 |
| 1916-17 | 35. 22 | 41.13 | 47.19 | 55. 82 | 56.35 | 52.53 | 51.43 | 53.18 | 55. 94 | 55.61 | 57.19 | 56. 90 | 48.11 |
| 1917-18 | 56. 61 | ${ }^{57} 58$ | 65. 02 | 69. 38 | 68. 29 | 67.51 | 66. 95 | 68. 27 | 68. 08 | 68.16 | 66.03 | 64.11 | 64.04 |
| 1918-19 | 61. 66 63 23 | 67.90 62.13 | 65. 85 | 64. 97 | ${ }_{69} 65$ | 64.93 | 64. 65 | 64.00 | 64. 28 | 63.83 | 63.80 | 64.24 | 65.62 |
| 1920-21 | 43.22 | 29.96 | 28.94 | 26. 00 | 19.83 | 69.88 18.96 | 19.76 | 67. 18 18.92 | ${ }_{17.23}^{68.71}$ | 69.88 17.28 | 66. 16 17.06 | 18.75 <br> 1 | 67.87 28.56 |
| A | 43.27 | 41.94 | 46. 14 | 48.12 | 47.41 | 47.11 | 47.46 | 47.20 | 47.87 | 47.82 | 46.69 | 45. 96 | 45. 72 |
| 1921-22 | 22.06 | 27. 19 | 31. 05 | 29. 15 | 28.78 | 29. 24 | 30. 17 | 32.72 |  |  |  |  |  |
| 1022-23 | 32.44 | 25.37 | 31. 79 | 40.18 | 42.93 | 43.35 | 45. 16 | 46.32 | 47.60 | 46. 58 | 43.14 | 41. 42 | 32.13 |
| 1923-24 | 37.47 | 40.88 | 40.90 | 45. 92 | 45.54 |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
COTTONSEED OIL.
Table 314.-Cottonseed oil: International trade, calendar years, 1909-1922.

| Country: | Average 1909-1913. |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\text { ports. }}{\text { Im- }}$ | Exports. | $\underset{\text { ports. }}{\text { Im- }}$ | $\underset{\text { ports }}{ }$ | Imports. | $\underset{\text { ports. }}{\text { por }}$ | Imports. | Exports. |
| PRENCIPAL EXPORTING COUNTRIES. | $\left\|\begin{array}{c} 1,000 \\ \text { gallons. } \end{array}\right\|$ | $\begin{gathered} 1,000 \\ \text { gallons. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { gallons. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { gallons. } \\ 1.013 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { gallons } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { gallons. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { gallons. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { gallons. } \end{gathered}$ |
| China |  | 281 |  | 1,608 |  | 1,416 400 |  | 136 |
| Egypt | 257 | 476 | 30 | ${ }^{1}, 427$ | 4 | 508 |  | 136 |
| Peru |  | 2321 |  | 455 |  | 557 |  | 718 |
| United Kingdom | 5, 899 | 7,189 | 2, $80-2$ | 5,162 | 5, 432 | 3,098 | 1,418 | 3,198 |
| United States. | ${ }^{1} 629$ | 38,968 | 1,261 | 24, 034 | -89 | 33, 673 | 1,4 | 1,004 |
| principal importing countries. |  |  |  |  |  |  |  |  |
| Algeria | 364 | 157 | 62 | 1 | 133 | 9 |  |  |
| Australia | 142 |  | 80 |  | 59 |  |  |  |
| Austria- |  |  | 393 |  | 61 |  |  |  |
| Belgium | $\stackrel{39}{29}$ | ${ }^{3} 5$ |  |  |  |  |  |  |
| Canada | 2,817 | 1,086 | 6, 091 | 159 | 563 | 225 | 156 | 29 |
| Czechosiovaki |  |  | 6, 242 | 25 | 5,781 |  | , 68 |  |
| Denmark | ${ }^{3} 944$ |  | 877 | 61 | 1,774 | 26 | 1,107 |  |
| Grance-.- | 3,289 6,918 | 335 | 2,677 | 84 | 1,214 | 104 | 625 | 39 |
| Greece-- | 6,918 |  | 719 |  | - ${ }^{1} 2885$ |  | 783 104 |  |
| Italy- | 4,600 |  | 4,029 | 1 | 3, 936 | 1 | 71 | 4 |
| Mexico-..-. | 3,607 | ${ }^{5} 341$ |  |  |  |  |  |  |
| Netherlands | 5,352 | 52 | 2, 602 | 731 | 10,897 | 2,153 | 1,681 | 285 |
| Numay | 1,504 |  | 2,828 | 138 | 1, 509 | 208 | 1,167 |  |
| 8weden.. | 696 | 43 | 277 | 130 | 315 | 67 |  |  |
| Uruguay | ${ }^{2} 525$ |  | 2264 |  | 1339 |  |  |  |
| Other countries | 3,933 | 33 | 1,802 | 565 | 782 | 102 | 45 |  |
| Total | 45, 023 | 48, 950 | 27, 590 | 35, 172 | 35, 998 | 42,545 | 11,316 | 5,389 |

Division of Statistical and Historical Research. Official sources except where otherwise noted.
1One year only.
${ }^{2}$ International Institute of Agriculture.

- Four-year average.

Threo-year average.
${ }^{5}$ Two-year average.

- Less than 500 gallons.

Table 315.-Cottonseed oil: Monthly average price, per hundredweight, spot prime summer yellow, New York, 1909-1923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10 | \$5. 46 | \$5. 94 | \$6.60 | \$6. 84 | \$7. 32 | \$7. 30 | \$7. 14 | \$7. 48 | \$7.76 | \$7. 99 | \$7.96 | \$8. 51 | \$7. 19 |
| 1910-11 | 10.84 | 10. 12 | 8.11 | 7.29 | 7.24 | 7.32 | 7.03 | 6. 60 | 6. 19 | 6. 55 | 6.43 | 5.89 | 7.47 |
| 1911-12 | 5.85 | 6.96 | 5.97 | 5.73 | 5.37 | 5.39 | 5. 54 | 5.69 | 6. 46 | 7.18 | 6.86 | 6. 67 | 6. 14 |
| 1912-13 | 6.47 | 6.38 | 6.22 | 6.01 | 6.30 | 6. 25 | 6.35 | 6. 44 | 6. 96 | 7.01 | 7.70 | 9.11 | 6. 77 |
| 1913-14. | 8.88 | 7.67 | 7.00 | 7.05 | 6.86 | 6.98 | 7.12 | 7.38 | 7.51 | 7.18 | 7.30 | 7.18 | 7.34 |
| Av. 1909-1913 | 7.50 | 7.41 | 6.78 | 6. 58 | 6.62 | 6.65 | 6. 64 | 6. 72 | 6.98 | 7.18 | 7.25 | 7.47 | 6.98 |
| 1914-15 | 6.67 | 5.87 | 5.22 | 5. 55 | 5.83 | 6. 56 | 7.08 | 6. 70 | 6.61 | 6.40 | 6. 18 | 6.06 | 6.23 |
| 1915-16 | 5.78 | 6. 30 | 7.71 | 7.93 | 8.38 | 8.99 | 9.59 | 10. 53 | 10.73 | 10.91 | 10.91 | 10.04 | 8. 98 |
| 1916-17 | 9.27 | 10.17 | 11. 75 | 12. 53 | 12.38 | 12. 32 | 12. 51 | 13. 62 | 15. 30 | 16. 23 | 16. 26 | 14. 52 | 13.07 |
| 1917-18 | 14.84 | 16. 44 | 17. 99 | 18. 59 | 18.65 | 20. 09 | 20.33 | 19.84 | 19.75 | 20.00 | 20. 25 | 20. 25 | 18.91 |
| 1918-19 | 20.25 | 20. 25 | 20. 25 | 20. 25 | 20. 25 | 20. 25 | 20. 25 | 20. 25 | 21. 25 | 21.25 | 25. 03 | 27.37 | 21. 41 |
| 1919-20 | 25. 88 | 21. 33 | 23. 00 | 22. 75 | 21. 50 | 21. 86 | 19.67 | 19. 07 | 18. 54 | 19.21 | 16. 70 | 13. 21 | 20.23 |
| 1920-21 | 12.32 | 13. 48 | 11. 43 | 10.14 | 8.91 | 8.59 | 7.34 | 6. 26 | 6. 24 | 7.22 | 7.46 | 8. 57 | 9.00 |
| Av. 1914-1920. | 13.57 | 13.41 | 13.91 | 13.96 | 13. 70 | 14.09 | 13.82 | 13. 75 | 14.06 | 14.46 | 14. 68 | 14. 29 | 13.98 |
| 1921-22 | 8.69 | 9.88 | 8.69 | 8.30 | 8.28 | 8.62 | 9.86 | 11. 48 | 11.57 | 11. 71 | 11.33 | 10.97 | 9.95 |
| 1922-23 | 9. 96 | 8.54 | 8.88 | 9. 51 | 9.81 | 10. 77 | 10.90 | 11.78 | 11.76 | 11.60 | 11.48 | 10.35 | 10. 44 |
| 1923-24. | 10.34 | 11.62 | 12.01 | 11.67 | 11.00 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from New York Produce Exchange reports prior to 1922; later years from quotations in the Oil, Paint and Drug Reporter.

## HAY.

Table 316.-Hay, tame: Acreage, production, value, exports, etc., United States, 1869-1923.

| Calendar year. | Acreage. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { yield } \\ \text { per } \\ \text { acre. } \end{gathered}$ | $\begin{aligned} & \text { Pro- } \\ & \text { duc- } \\ & \text { tion. } \end{aligned}$ | $\begin{gathered} \text { A ver- } \\ \text { age } \\ \text { farm } \\ \text { price } \\ \text { per } \\ \text { ton } \\ \text { Dec. } 1 . \end{gathered}$ | Farm value Dec. 1. | ValueperacreDec.1. | Chicago prices No. 1 timothy per ton by carload lots. |  |  |  | Domesports, fiscal year beging July 1. | $\begin{array}{\|c} \text { Im- } \\ \text { ports, } \\ \text { fiscal } \\ \text { year } \\ \text { begin- } \\ \text { ning } \\ \text { July } 1 . \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | December. |  | FollowingMay. |  |  |  |
|  |  |  |  |  |  |  | $\underset{\sim}{8}$ | 品 | Bo | $\begin{aligned} & \text { Bi } \\ & \text { 品 } \end{aligned}$ |  |  |
|  |  |  | 1,000 short | Dol- |  | Dol- |  |  |  |  | Short |  |
|  | acres. | ns. | tons. | lars. | dollars. | lars. | Dols. | Dols. | Dols. | Dols | tons. | tons. |
| 1869 | 18, 591 | 1.42 | 26, 420 | 10, 18 | 268, 933 | 14.47 |  |  |  |  | 7, 530 |  |
| 1870 | 19, 862 | 1. 23 | 24, 525 | 12. 47 | 301, 743 | 15. 39 |  |  |  |  | 5,131 |  |
| 1871 | 19, 009 | 1.17 | 22, 239 | 14. 30 | 317, 940 | 16. 73 |  |  |  |  | 5, 898 |  |
| 1872. | 20,319 | 1.17 | 23, 813 | 12.94 | 308, 025 | 15. 16 |  |  |  |  | 5, 104 |  |
| 1873 | 21, 894 | 1.15 | 25, 085 | 12.53 | 314, 241 | 14. 35 |  |  |  |  | 5,476 |  |
| 1874 | 21, 770 | 1.15 | 25, 134 | 11.94 | 300, 222 | 13. 79 |  |  |  |  | 8,045 |  |
| 1875 | 23, 508 | 1.19 | 27, 874 | 10.78 | 300, 378 | 12.78 |  |  |  |  | 8,431 |  |
| 1876 | 25, 283 | 1.22 | 30, 867 | 8.97 | 276, 991 | 10.96 |  |  | 9. 00 | 10. 00 | 8,161 |  |
| 1877 | 25, 368 | 1.25 | 31, 629 | 8.37 | 264, 880 | 10. 44 | 9. 50 | 10. 50 | 9. 75 | 10. 75 | 10,656 | 21, 124 |
| 1878 | 26, 931 | 1. 47 | 39, 608 | 7.20 | 285, 016 | 10. 58 | 8.00 | 8. 50 | 9.00 | 11. 50 | 9,102 | 11, 558 |
| 1879 | 30, 631 | 1.30 | 39, 862 | 9.31 | 371, 045 | 12. 11 | 14.00 | 14. 50 | 14.00 | 15.00 | 15,388 | 73, 929 |
| 1880 | 25, 864 | 1.23 | 31, 925 | 11.65 | 371, 811 | 14.38 | 15. 00 | 15. 50 | 17.00 | 19.00 | 14, 181 | 195, 195 |
| 1881 | 30, 889 | 1.14 | 35, 135 | 11. 82 | 415, 131 | 13. 44 | 16. 00 | 16. 50 | 15. 00 | 16. 50 | 11,838 | 96, 352 |
| 1882 | 32,340 | 1.18 | 38, 138 | 9.73 | 371, 170 | 11. 48 | 11.50 | 12. 25 | 12.00 | 13.00 | 14,906 | 109, 283 |
| 1883 | 35, 516 | 1.32 | 46, 864 | 8.19 | 383, 834 | 10.81 | 9. | 10 | 12 | 17. | 18, 937 | 133, 230 |
| 1884 | 38,572 | 1.26 | 48,470 | 8.17 | 396, 139 | 10.27 | 10.00 | 11. 50 | 15. 50 | 17. 50 | 12,479 | 180, 264 |
| 1885 | 39, 850 | 1.12 | 44,732 | 8.71 | 389, 753 | 9.78 | 11. 00 | 12. 00 | 10.00 | 12.00 | 14. 997 | 103, 172 |
| 1886 | 36, 502 | 1.15 | 41, 796 | 8.46 | 353, 438 | 9.68 | 9.50 | 10. 50 | 11.00 | 12.50 | 15, 538 | 87, 772 |
| 1887 | 37,665 | 1.10 | 41, 454 | 9.97 | 413, 440 | 10.98 | 13. 50 | 14. 50 | 17. 00 | 21. 00 | 20, 382 | 112,301 |
| 1888 | 38,592 | 1.21 | 46, 643 | 8. 76 | 408, 500 | 10.59 | 11. 00 | 11. 50 | 10.5 | 21.00 | 24, 559 | 118, 042 |
| 1889 | 39,004 | 1.26 | 49, 181 | 7.76 | 381, 481 | 9.78 | 9.00 | 10. 00 | 9.00 | 14.00 | 40,627 | 139,489 |
| 1890 | 40, 038 | 1.23 | 49, 057 | 8.18 | 401, 111 | 10. 02 | 9. 00 | 10. 50 | 12.50 | 15. 50 | 31, 433 | 65, 231 |
| 1891 | 41, 258 | 1.18 | 48, 759 | 8. 89 | 433, 276 | 10. 50 | 12.50 | 15. 00 | 13. 50 | 14. 00 | 39, 425 | 89, 281 |
| 1892 | 42, 191 | 1.17 | 49, 238 | 8.95 | 440, 710 | 10.45 | 11.00 | 11. 50 | 12.00 | 13. 50 | 37, 054 | 116,768 |
| 1893 | 42, 413 | 1.31 | 55,575 | 9. 48 | 527, 044 | 12.43 | 10.00 | 10. 50 | 10.00 | 10. 50 | 60, 980 | 97, 198 |

${ }^{1}$ Based on farm price Dec. 1 .

Table 316.-Hay, tame: Acreage, production, value, exports, etc., United States, 1869-1923-Continued.

| Calendar year. | Acreage. | Average yield per acre. | Pro-duction. | $\begin{gathered} \text { Ayer- } \\ \text { age } \\ \text { farm } \\ \text { price } \\ \text { per } \\ \text { ton } \\ \text { Dec. } 1 . \end{gathered}$ | Farm value Dec. 1. | ValueperacreDec.1. | Chicago prices No. 1 timothy per ton by carload lots. |  |  |  | Domes-ticexports, fiscal beginJuly 1. | Imports, year beginJuly 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | December. |  | FollowingMay. |  |  |  |
|  |  |  |  |  |  |  | ¢ | 通 | ¢ | 品 |  |  |
|  | 1,000. | Short | 1,000 short | Dol- |  |  |  |  |  |  |  |  |
|  | acres. | tons. | tons. | lars. | dollars. | lars. | Dols. | Dols. | Dot | Dols. | tons. | Short |
| 1895 | 40, 832 | 1.18 | 50, 468 | 8. 96 | 452, 079 | 10.57 | 10. 00 | 11. 00 | 10.00 | 10.25 | 52, 771 | 226, 128 |
| 1896 | 40,978 | 1.33 | 54,380 | 7.48 | 3906, 954 | 9. 99 | ${ }^{12.00}$ | 8 | ${ }^{11.50}$ | 12.00 | 66, 138 | 338,970 |
| 1897 | 41,336 | 1.42 | 58, 878 | 7.28 | 428, 919 | 10.38 | 8. 00 | 8. 50 | 9. 50 | 10. 50 | 69, 057 | 134,335 4,353 |
| 1898 | 43, 120 | 1.55 | 66,772 | 6. 63 | 442, 905 | 10. 27 | 8.00 | 8.25 | 9.50 | 10. 50 | 72. 708 | 22, 257 |
| 1899 | 43, 127 | 1. 33 | 57, 450 | 8.20 | 470, 844 | 10. 92 |  |  |  |  |  |  |
| 1900 | 42, 070 | 1.27 | 53, 231 | 9.72 | 517, 399 | 12. 30 | 11. 50 | 14.00 | 12. 50 | 13. 50 | 100, 08 | 159, 734 |
| 1901 | 42, 066 | 1.33 | 55, 819 | 9.91 | 553, 328 | 13.15 | 13. 00 | 13. 50 | 12.50 | 13. 50 | 171, 843 | 54, 225 |
| 1902 | 42, 962 | 1. 52 | 65, 296 | 9.19 | 599, 781 | 13. 96 | 12.00 | 12.50 | 13. 50 | 15. 00 | 57, 091 | 328, 285 |
| 1903 | 43, 400 | 1.57 | 68, 154 | 9.35 | 637, 485 | 14. 69 | 10.00 | 12.00 | 12.00 | 15.00 | 68, 018 | 128, 115 |
| 1904 | 44, 645 | 1. 55 | 69, 192 | 8.91 | 616, 369 | 13.81 | 10. 50 | 11.50 | 11.00 | 12.00 | 74, 544 | 51,760 |
| 1905 | 45, 991 | 1. 59 | 72, 973 | 8. 59 | 627, 023 | 13. 63 | 10.00 | 12.00 | 11. 50 | 12. 50 | 78,593 | 76, 765 |
| 1906 | 47,891 <br> 49 <br> 1 | 1.39 | 66, 341 | 10. 43 | ${ }^{652}, 116$ | 14. 45 | 15. 50 | 18.00 | 15.50 | 20.50 | 65, 634 | 68, 450 |
| 1908 | 51, 196 | 1.53 | 78, 440 | 11.78 9.14 | 816, 844 | 14.30 | 11. 50 | 12.00 | 12.00 | 14.00 | 86,555 | 11, 271 |
| 1909 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1910 |  |  |  |  | 786, 722 | 15.41 | 16.00 | 17.00 | 12.50 | 16.00 | 61, 608 | 108, 448 |
| 1911 | 48, 240 | 1.14 | 54,916 | 11. 29 | 8424,926 | 16.51 | 16.00 | 19.00 | 18.50 | 23.50 | 61,850 | 377, 168 |
| 1912 | 49, 530 | 1.47 | 72, 691 | 11.79 | 856, 695 | 17.30 | 13.00 | 18.00 | 14.00 | 16. 50 | 66, 898 | 782, 884 |
| 1918 | 48, 954 | 1. 31 | 64, 116 | 12.43 | 797, 077 | 16. 281 | 14.50 | 18. 00 | 15. 00 | 17.50 | 56, 169 | 191, 280 |
| Av. 1909-1913_ | 49, 756 | 1.35 | 67,097 | 12.12 | 813, 534 | 16.35 | 15.90 | 18.80 | 16.80 | 20.30 | 62, 906 | 326, 972 |
| 1914 | 49, 145 | 1.43 | 70, 071 | 11.12 | 779, 088 | 15.85 | 15.00 | 16.00 | 16.50 | 17.50 | 118, 169 | 22,609 |
| 1915 | 51, 108 | 1. 68 | 85, 920 | 10.63 | 913, 644 | 17.88 | 14.50 | 16. 50 | 17.50 | 20. 00 | 199, 736 | 48, 366 |
| 1916 | 55, 721 | 1. 64 | 91, 192 | 11.22 | 1, 222,930 | 18. 361 | 15. 00 | 17. 50 | 19.0 | 22.00 | 95, 792 | 65, 125 |
| 1917 | 55, 203 | 1. 51 | 83, 308 | 17.09 | 1, 423, 766 | 25. 79 | 26.00 | 28.00 | 20. 00 | 26.00 | 33, 762 | 460, 027 |
| 1919 | 56, 888 | 1. 1.52 | 76, 759 | 20.13 | 1, 543, 494 | 27. 8 |  | 31. |  | 37.00 | 32, 366 | 310, 742 |
| 1920 | 58, 101 | 1.51 | 87, 855 | 17.76 | 1,560, 235 | 26.85 | 26.00 | 32.00 | 21. 00 |  | - 55,142 | 251, 946 |
| Av.1914-1920 | 54, 560 | 1. 52 | 83, 052 | 15. 44 | 1,282, 460 | 23.51 | 21, 93 | 24.7 | 23. | 27.93 | 86, 059 | 183, 571 |
| 1921 | 58, 769 | 1.40 | 82,379 | 12.11 | 997, 527 | 16.97 | 20.00 | 24.00 | 26.00 | 28.00 | 61,240 |  |
| 1922 | 61, 159 | 1,57 | 95, 882 | 12.56 | 1, 204, 101 | 19.69 | 20.00 | 22.00 | 21.00 | 23.00 | 63, 096 | $\begin{array}{r} 5,357 \\ 35,430 \end{array}$ |
| 19232 | 60, 162 | 1. 48 | 89, 098 | 14.07 | 1, 253, 364 | 20.83 | 25.00 | 27.00 | 1. 0 |  | 63, 00 |  |

Division of Crop and Livestock Estimates; figures in italics are census returns.
${ }^{1}$ Based on farm price Dec. 1.
${ }^{2}$ Preliminary.
Table 317.-Wild, salt, and prairie hay: Acreage, production, and farm value, United States, 1909-1923.

| $\underset{\text { year. }}{\text { Calendar }}$ | Acreage. | Yield per acre. | Production. | Farm price per ton. | Farm value. | Calendar year. | $\begin{aligned} & \text { Acre- } \\ & \text { age. } \end{aligned}$ | Yield per acre. | Production. | Farm price per. ton. | Farm value. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 |  | 1,000 |  | 1,000 |  | 1,000 |  | 1,000 |  | 1,000 |
| 1909 | - | Tons. | tons. | Dolls. | dolls. |  | acres. | Tons. | tons. | Dolls. | dolls. |
| 1910 | 17, 187 | . 77 | 13, 151 |  |  | 1918 | 15, 365 | . 94 | 14, 479 | 15. 23 | 220, 487 |
| 1911 | 17, 187 | . 71 | 12, 155 |  |  | 1919 | 17, 150 | 1.07 | 18, 401 | 16. 50 | 303, 639 |
| 1912 | 17, 427 | 1.04 | 18, 043 |  |  | 1920 | 15, 787 | 1.11 | 17, 460 | 11.35 | 198, 115 |
| 1913 | 16, 341 | 92 | 15, 063 |  |  | 1921 | 15, 632 | . 98 | 15, 391 | 6. 63 | 101,991 |
| 1914. | 16, 752 | 1.11 | 18, 615 | 7.49 | 139, 500 | 1922 | 15, 871 | 1.02 | 16, 131 | 7.14 | 115, 176 |
| 1915 | 16, 783 | 1. 27 | 21, 343 | 6. 80 | 145, 125 | $1923{ }^{2}$ | 15, 722 | 1.11 | 17,528 | 7.85 | 137, 603 |
| 1916. | 16,635 | 1.19 | 19,800 | 7.90 | 156, 503 |  |  |  |  |  |  |

Table 318.-Hay: Acreage, production, and total farm value, by States, calendar years, 1922 and 1923.

| State. | Tame hay. |  |  |  |  |  | Wild, salt, or prairie hay. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands of acres. |  | Production, thousands of tons. |  | Total value, basis Dec. 1 price, thou sands of dollars. |  | Thousands of acres. |  | Production, thousands of tons. |  | Total value, basis Dec. 1 price, thousands of dollars. |  |
|  | 1922 | $1923{ }^{1}$ | 1922 | $1923{ }^{1}$ | 1922 | $1923{ }^{1}$ | 1922 | 19231 | 1922 | $1923{ }^{1}$ | 1922 | 1923 ${ }^{\text {l }}$ |
| Maine | 1,233 | 1,245 | 1,541 | 1,594 | 20,187 | 21, 519 | 15 | 16 | 16 | 18 | 176 | 198 |
| New Hampshire. | 450 | 441 | 590 | 529 | 11, 505 | 10, 051 | 12 | 12 | 12 | 11 | 144 | 126 |
| Vermont | 909 | 918 | 1,273 | 1,285 | 22, 278 | 21, 202 | 13 | 13 | 14 | 13 | 147 | 150 |
| Massachusetts | 430 | 434 | 568 | 595 | 13, 064 | 15, 470 | 12 | 12 | 12 | 12 | 174 | 192 |
| Rhode Island. | 45 | 45 | 58 | 56 | 1,537 | 1,501 | 1 | 1 |  | 1 | 18 | 18 |
| Connecticut | 320 | 320 | 432 | 422 | 11, 232 | 10,128 | 9 | 9 | 9 | 11 | 146 | 199 |
| New York | 4,870 | 4,919 | 6,818 | 6,690 | 96, 134 | 108, 378 | 67 | 67 | 79 | 79 | 790 | 924 |
| New Jersey | 303 | 312 | 488 | 328 | 8,833 | 8,823 | 22 | 22 | 31 | 26 | 372 | 390 |
| Pennsylvania | 2,920 | 2,920 | 4, 584 | 3,066 | 65, 551 | 65, 919 | 23 | 25 | 28 | 29 | 224 | 450 |
| Delaware | 77 |  |  |  | 2,204 | 1,953 | 2 | 2 |  | 3 | 20 | 32 |
| Maryland. | 406 | 400 | 658 | 420 | 12,173 | 9,912 | 4 | 4 | 4 | 5 | 60 | 80 |
| Virginia | 1,040 | 1,010 | 1,300 | 1,010 | 20,800 | 20,200 | 14 | 14 | 14 | 14 | 189 | 210 |
| West Virginia | 768 | 753 | 1,037 | 904 | 17,422 | 17,990 | 11 | 11 | 13 | 11 | 182 | 154 |
| North Carolina | 800 | 784 | 1,040 | 941 | 18,928 | 18,820 | 100 | 100 | 100 | 100 | 1, 550 | 1,550 |
| South Carolina-- | 455 | 480 | 455 | 408 | 7,962 | 7,344 | 6 | 6 | 6 | 5 | 89 | 8) |
| Georgia. | 728 | 772 | 612 | 510 | 10,404 | 9,639 | 16 | 16 | 15 | 14 | 202 | 207 |
| Florida | , 128 | - 132 | 5,89 | 1119 | 1,646 | 2,380 | 6 | 6 | 5 | 5 | 85 | 93 |
| Ohio | 3,374 | 3, 070 | 5,061 | 3,684 | 54, 659 | 61,523 |  |  |  |  | 30 |  |
| Indiana | 2,700 | 2,210 | 3,699 | 2,740 | 41,429 | 42,744 | 25 | 24 | 28 | 28 | 238 | 280 |
| Illinois | 3, 645 | 3,280 | 5,285 | 4,264 | 66,062 | 63,107 | 62 | 61 | 78 | 70 | 780 | 833 |
| Michigan. | 3, 074 | 3,105 | 4,457 | 3, 912 | 45, 016 | 56, 724 | 56 | 52 | 73 | 62 | 518 | 533 |
| Wisconsin | 3, 155 | 3,187 | 5,364 | 4,239 | 65, 977 | 67, 824 | 335 | 368 | 436 | 478 | 3,357 | 4,780 |
| Minnesota | 1, 988 | 2, 016 | 3,141 | 2, 520 | 33, 609 | 28, 476 | 2, 053 | 2,041 | 2,505 | 2, 347 | 19, 288 | 21,123 |
| Iowa | 3, 351 | 3,351 | 4,926 | 5, 060 | 49, 260 | 63, 250 | 425 | 404 | 484 | 485 | 4,066 | 4,996 |
| Missouri | 3,520 | 3,310 | 3,872 | 4,038 | 44,528 | 48,456 | 134 | 125 | 127 | 138 | 952 | 1,228 |
| North Dakota | 1,028 | 1,079 | 1,655 | 1,618 | 12,412 | 11,002 | 2,469 | 2,395 | 2,592 | 2,395 | 12,960 | 12,933 |
| South Dakota | 1,000 | 1,050 | 1,800 | 1,732 | 13,500 | 14,029 | 3, 675 | 3,491 | 3,308 | 4, 189 | 18, 194 | 24, 296 |
| Nebraska | 1,553 | 1,584 | 3,028 | 3, 849 | 33, 914 | 39, 260 | 2, 208 | 2, 296 | 1,877 | 2,526 | 15, 954 | 20, 208 |
| Kansas. | 1, 630 | 1,630 | 3, 504 | 3,602 | 32,587 | 38,181 | 887 | 892 | 976 | 1,053 | 5,856 | 7,792 |
| Kentucky | 1,177 | 1,130 | 1,471 | 1,186 | 21,330 | 20, 162 | 23 | 23 | 26 | 23 | 325 | 276 |
| Tennessee | 1,382 | 1,354 | 1, 866 | 1,557 | 30,602 | 28, 804 | 52 | 55 | 57 | 60 | 627 | 816 |
| Alabama | 760 | 761 | 730 | 616 | 12,410 | 11, 396 | 25 | 25 | 20 | 20 | 270 | 276 |
| Mississippi | 458 | 471 | 550 | 589 | 7,975 | 9, 130 | 41 | ${ }^{43}$ | $\stackrel{45}{ }$ | 52 | 518 | 614 |
| Louisiana. | 214 | 214 | 342 | 342 | 4,549 | 5,130 | 18 | 18 | 25 | 22 | 225 | 264 |
| Texas. | 671 | 711 | 1, 074 | 1,173 | 12, 351 | 18,768 | 201 | 207 | 221 | 228 | 2,210 | 2,850 |
| Oklahoma | 965 | 936 | 1,544 | 1,498 | 19,300 | 21,421 | 495 | 520 | 446 | 510 | 3,345 | 5,610 |
| Arkansas. | 585 | 556 | 731 | 712 | 9,942 | 11, 392 | 133 | 126 | 133 | 152 | 1,596 | 1, 900 |
| Montana | 1,045 | 1,087 | 1,975 | 2,044 | 17, 775 | 18, 192 | 660 | 653 | 594 | 594 | 4,752 | 4,752 |
| W yoming. | 715 | 750 | 1,366 | 1,425 | 11, 611 | 13, 680 | 310 | 315 | 294 | 331 | 2, 499 | 2,979 |
| Colorado-. | 1,191 | 1,203 | 2, 263 | 2,406 | 25, 346 | 27, 188 | 368 | 373 | 355 | 392 | 3, 195 | 4,116 |
| New Mexico. | 162 | 158 | 292 | 332 | 5,694 | 5,312 | 33 | 40 | 26 | 32 | 468 | 448 |
| Arizona | 165 | 175 | 578 | 612 | 10, 404 | 9, 180 | 10 | 12 | 5 | 15 | 60 | 243 |
| Utah. | 503 | 523 | 1,459 | 1,407 | 11,964 | 12,522 | 112 | 117 | 155 | 178 | 852 | 1,246 |
| Nevada. | 179 | 180 | 507 | 477 | 5,983 | 5,247 | 181 | 173 | 288 | 189 | 2, 736 | 1,890 |
| Idaho | 1, 029 | 1,060 | 2, 572 | 2, 650 | 25, 720 | 23,585 | 132 | 132 | 158 | 158 | 1,185 | 1,232 |
| Washington | 987 | 1, 005 | 1,974 | 2, 362 | 31,979 | 28, 344 | 27 | 27 | 31 | 43 | 372 | 400 |
| Oregon | 965 | 984 | 1,930 | 2, 214 | 26, 248 | 24, 354 | 228 | 226 | 228 | 249 | 1,596 | 2,116 |
| California | 2, 108 | 2,066 | 5,207 | 5,268 | 78, 105 | 73, 752 | 160 | 152 | 176 | 152 | 1,584 | 1,520 |
| United States. | 61, 159 | 0, 162 | 5, 882 | 39, 098 | 1,204, 101 | 253, 364 | 15, 871 | 15, 722 | 6, 131 | 17, 528 | 115, 176 | 137,603 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

Table 319.-Hay, tame: Yield in tons per acre, by States, calendar years, 1908-1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\left\|\begin{array}{c} A \nabla . \\ 1909- \\ 1913 \end{array}\right\|$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\left.\begin{gathered} 1914- \\ 1920 \end{gathered} \right\rvert\,$ | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $T$. | T | $T$ | $T$. | $T$. | T. | T. | T. | I. | T. | $T$. | T | T. | $T$ | $T$ | T. | $T$. | T. |
| Maine | 0.90 | 0.9 | 1. 251 | 1.10 | 1.16 | 1.00 | 1. 09 | 1.15 | 1. 15 | 1.45 | 1.35 | 1.15 | 1. 20 | 0.95 | 1. 20 | 0. 80 | 1. 25 | 1. 28 |
| New Hamp | . 92 | . 97 | 1. 201 | 1.05 | 1. 25 | 1. 00 | 1. 09 | 1.15 | 1. 00 | 1.45 | 1.35 | 1. 15 | 1. 20 | 1.10 | 1. 20 | . 95 | 1.31 | 1. 20 |
| Vermont | 1. 11 | 1.25 | 1.351 | 1.30 | 1. 50 | 1.28 | 1. 34 | 1.20 | 1. 35 | 1.70 | 1. 62 | 1.30 | 1. 50 | 1.35 | 1. 43 | 1.05 | 1. 40 | 1. 40 |
| Massachusetts | 1. 20 | 1. 15 | 1. 281 | 1.08 | 1. 25 | 1. 21 | 1. 19 | 1.32 | 1. 50 | 1. 56 | 1. 50 | 1. 20 | 1. 40 | 1.35 | 1. 40 | 1. 25 | 1.32 | 1.37 |
| Rhode Island | 1. 50 | 1.10 | 1. 181 | 1.00 | 1. 13 | 1. 17 | 1. 12 | 1. 17 | 1. 24 | 1.35 | 1. 50 | 1.30 | 1. 25 | 1. 10 | 1. 27 | 1. 10 | 1.30 | 1. 25 |
| Connecti | 1. 20 | 1.15 | 1.35 | 1.10 | 1.15 | 1. 14 | 1. 18 | 1. 25 | 1.35 | 1.55 | 1. 50 | 1.30 | 1.35 | 1. 20 | 1. 36 | 1.30 | 1. 35 | 1. 32 |
| New Yor | 1. 20 | 1. 05 | 1. 32 | 1. 02 | 1. 25 | 1. 14 | 1. 16 | 1. 20 | 1. 30 | 1. 62 |  | 1. 25 | 1. | $1.25$ | 1.35 |  | 1. 40 | 1.36 |
| New Jerse | 1. 60 | 1. 25 | 1. 501 | 1. 05 | 1. 44 | 1. 30 | 1.31 | 1.35 | 1. 45 | 1. 60 | 1. 45 | 1. 50 | 1. 50 | 1. 65 | 1. 50 | 1. 32 | 61 | 1.05 |
| Pennsylva | 1. 50 | 1.20 | 1. 381 | 1. 00 | 1. 43 | 1. 32 | 1. 27 | 1.28 | 1. 40 | 1. 60 | 1.41 | 1. 41 | 1.35 | 1.40 | 1. 41 | 1. 20 | 1. 57 | 1. 05 |
| Delaware | 1. 60 | 1.40 | 1. 43 | . 88 | 1. 33 | 1.30 | 1. 27 | 1.10 | 1. 20 | 1. 45 | 1.26 | 1. 25 | 1. 28 | 1. 40 | 1.28 | 1. 20 | 1.50 | 1. 15 |
| Mar | 1. 60 | 1.20 | 1. 35 | . 72 | 1. 51 | 1. 26 | 1. 21 | 1.15 | 1. 20 | 1. 48 | 1. 25 | 1. 35 | 1.40 | 1. 55 | 1. 34 | 1. 35 | 1. 62 | 1.05 |
| Virginia | 1.30 | 1.30 | 1. 19 | . 64 | 1. 20 | 1. 27 | 1. 12 | . 72 | 1.35 | 1.35 | 1.16 | 1.35 | 1. 20 | 1.30 | 1. 20 | $98$ | 25 | 1. 00 |
| West Virginia | 1.45 | 1. 25 | 1. 20 | . 66 | 1. 38 | 1. 25 | 1. 15 | 92 | 1. 50 | 1. 54 | 1. 27 | 1.30 | 1. 20 | 1. 25 | 1. 28 | 1. 20 | 35 | 1. 20 |
| North Caroling | 1. 50 | 1.38 | 1. 501 | 1. 05 | 1. 30 | 1. 31 | 1.31 | 1.15 | 1. 85 | 1. 30 | 1. 13 | 1. 20 | 1. 02 | 1. 05 | 1. 24 | 1.30 | 30 | 1. 20 |
| South Carolina | 1. 25 | 1.23 | 1. 251 | 1. 08 | 1. 15 | 1. 16 | 1. 17 | 1.15 | 1. 30 | 1.30 | 1. 08 | 1. 10 | . 90 | . 93 | 1.11 | . 81 | 1.00 | 85 |
| Geor | 1. 75 | 1.35 | 1.401 | 1.35 | 1.35 | 1.40 | 1.37 | 1.35 | 1. 15 | 1.15 | 1. 03 | 1.24 | . 85 | . 81 | 1. 08 | . 88 | 84 | 66 |
| Florid | 1.35 | 1.38 | 1. 331 | 1. 30 | 1. 25 | 1. 35 | 1. 32 | 1.35 | 1. 20 | 1. 25 | 1. 10 | 1. 14 | 77 | 65 | 1. 07 | 1.10 | 71 | 90 |
| Ohio | 1. 53 | 1.43 | 1.39 | . 98 | 1.36 | 1.30 | 1. 29 | 1.13 | 1. 44 | 1. 57 | 1.42 | 1. 40 | 1.35 | 1.35 | 1.38 | 1. 27 | . 50 | 1. 20 |
| Indiana | 1. 50 | 1.40 | 1.30 | . 94 | 1. 37 | 1. 00 | 1. 20 | 1.00 | 1. 50 | 1. 44 | 1. 45 | 1. 45 | 1. 22 | 1. 29 | 1.34 | 1.08 | 1.37 | 1. 24 |
| Illinois | 1.53 | 1.45 | 1.33 | . 82 | 1. 30 | . 98 | 1.18 | . 85 | 1. 54 | 1. 45 | 1. 25 | 1.35 | 1.35 | 1. 25 | 1. 29 | 1.18 | 1.45 | 1. 30 |
| Michiga | 1. 45 | 1.30 | 1.301 | 1.16 | 1.33 | 1.05 | 1. 23 | 1. 28 | 1. 40 | 1.70 | 1. 50 | 1. 03 | 1. 20 | 1. 20 | 1. 33 | 1.00 | 1.45 | 1. 26 |
| Wisconsin | 1. 70 | 1. 53 | 1. 00 | 1: 20 | 1. 60 | 1. 62 | 1. 39 | 1.75 | 1.75 | 1.70 | 1. 70 | 1. 40 | 1. 77 | 1. 70 | 1. 68 | 35 | 1. 70 | 1. 33 |
| Minnes | 1. 68 | 1. 75 | 1. 001 | 1. 00 | 1. 53 | 1. 50 | 1.36 | 1.89 | 1.91 | 1.85 | 1. 55 | 1. 40 | 1.90 | 1. 70 | 1. 74 | 1. 50 | 1. 58 | 1. 25 |
| Iowa | 1.70 | 1.64 | 1.05 | . 80 | 1. 40 | 1. 48 | 1.271 | 1. 38 | 1. 80 | 1. 60 | 1. 23 | 1. 30 | 1. 53 | 1. 52 | 1.48 | 1.48 | 1. 47 | 1. 51 |
| Missouri | 1.50 | 1.35 | 1. 30 | . 60 | 1. 30 | . 60 | 1.03 | . 70 | 1. 52 | 1.30 | 1. 15 | O | 1. 35 | 1. 24 | 1.17 | 1. 13 |  | 1. 22 |
| North Dakot | 1.30 | 1.37 | . 551 | 1. 10 | 1. 40 | 1.14 | 1.11 | 1. |  | 1. 70 | . 88 | 1. 10 | 1.00 | 1. 25 | 1. 27 | 1.35 | 1. 61 | 1.50 |
| South Dak | 1.50 | 1. 50 | . 80 | . 55 | 1. 46 | 1. 20 | 1. 10 | 1. | 2. | 1.90 | 1. 50 | 1.60 | 1. | 1. 75 | 1.74 | 1. 40 | 8 | 1. 65 |
| Nebrask | 1. 55 | 1. 50 | 1. 00 | . 85 | 1. 35 | 1.34 | 1. 21 | 1.69 | 2. 60 | 2.10 | 1.6 | 1.40 | 1.86 | 1.90 | 1.88 | 2.19 | 95 | 2.43 |
| Kamsas. | 1. 50 | 1. 45 | 1. 15 | . 85 | 1. 50 | . 90 | 1. 171 | 1. 51 | 2.30 | 1.55 | 2. 18 | 1.73 | 2.46 | 2.08 | 1.97 | 1.85 | 2.15 | 2.21 |
| Kentucky | 1.35 | 1.36 | 1. 29 | . 95 | 1. 23 | . 87 | 1. 14 | . 95 | 1.40 | 1. 40 | 1. 30 | 1. 30 | 1. 15 | 1. 20 | 1.24 | 1.65 | 1.25 | 1.05 |
| Tennessee | 1. 50 |  | 1.401 | 1. 00 | 1.30 | 1. 21 | 1. 28 | 1. 20 | 1.47 |  | 1. 20 | 1. 35 | 1. 161 | 1. 28 | 1. 29 | 1. 15 | 1.35 | 1. 15 |
| Alabama | 1. 60 | 1. 50 | 1.431 | 1. 40 | 1. 25 | 1.36 | 1.39 | 1.31 |  |  |  |  |  | . 86 | 1. 03 |  | 96 | . 81 |
| Mississip | 1.50 | 1. 47 | 1.421 | 1. 50 | 1. 48 | 1.33 | 1. 441 | 1.45 | 1.40 | 1. 40 | 1. | 1.20 | 1. 35 | . 44 | 1.381 | 1.15 | d | 1. 25 |
| Louisiana | 1. 40 | 1. 50 | 1. 75 | 1.30 | 1. 65 | 1. 50 | 1. 54 | 1.90 | 1.75 | 1. 70 | 1.60 | 1.30 | 1.4 | 1. 40 | 1. 58 | 1. 28 | 1. 60 | 1. 60 |
| Texas | 1. 65 | . 95 | 1. 151 | 1. 00 | 1. 40 | 1.16 | 1.13 | 1. 75 | 1. 70 | 1. 20 |  | 1.00 |  | 1.40 | 1.38 | 1.38 | 1. 60 | 1. 65 |
| Oklaho | 1. 45 |  |  |  |  |  |  | 1. 13 |  |  | 1. 60 |  |  | 1.60 | 1.62 | 1. 52 | 1. 60 | 1. 60 |
| Arkansas | 1. 50 | 1. 25 | 1. 351 | 1. 15 | 1. 23 | 1. 20 | 1. 241 | 1. 05 | 1. 60 | 1.25 | 1. 47 | 1. 30 | 1. 12 | 1.16 | 1. 28 | 1. 08 | 1. 25 | 1. 28 |
| Montana | 2. 00 | 1. 79 | 1. 40 | 2. 00 | 1. 90 | 1.80 | 1. 78 | 2. 50 | 2.00 | 1.70 | 1. 40 | 1. 60 | 1.00 | 1.80 | 1.71 | 1. 80 | 1. 89 | 1.88 |
| W yoming | 2.00 | 2. 40 | 2.40 | 2. 10 | 1. 90 | 1.90 | 2. 14 | 2.30 | 2.20 | 1.80 | 1.70 | 2. 10 | 1.40 | 2.00 | 1. 93 | 1. 80 | 1.91 | 1. 90 |
| Colorado | 2. 50 | 2. 50 | 2. 00 | 2. 00 | 2. 19 | 2.05 | 2.15 | 2.40 | 2. 20 | 2. 05 | 2. 45 | 2. 22 | 2.05 | 2.15 | 2. 22 | 2.10 | 1.90 | 2.00 |
| New | 2.00 | 2.60 | 2. 10 | 2. 60 | 2. 33. | 2.08 | 2.34 | 2.50 |  |  |  | 2.20 |  | 2.40 | 2.23 | 2.40 | 1. 80 | 2. 10 |
| Arizon | 3. 20 | 3. 30 | 2. 10 | 3. 86 | 3. 40 | 4.00 | 3. 333 | 3. 20 | 3. 20 | 3.80 | 3.50 | 3. 20 | 3. 50 | 3.10 | 3.36 | 3. 0 | 3. 60 | 3. 50 |
| Utah. | 2. 50 | 2.90 | 3. 00 | 2. 50 | 2. 78 | 2.33 | 2.70 | 275 | 2. 50 | 2. 20 | 2.90 | 2.35 | 1. 92 | 2.62 | 2. 46 | 2. 62 | 2. 90 | 2. 69 |
| Nevada | 2.00 |  |  |  |  |  |  |  |  |  |  |  | 2. 28 | 2.33 | 2.68 | 2. 67 | 2.83 | 2.65 |
| Idaho | 3. 25 | 2.85 |  |  |  |  | 2. 93 | 2.65 |  |  | 3. 00 |  |  | 2.70 | 2. 69 | 2.90 | 250 | 2. 50 |
| W ashing | 2. 25 | 2.10 | 2. 102 | 2. 40 | 2. 20 | 2.30 | 2.22 | 2.20 | 2.30 | 2. 40 | 2.20 | 1. 80 | 2. 40 | 2.00 | 2.19 | 2. 60 | 2. 00 | 2. 35 |
| Oregon- | 2. 00 | 2.05 | 2. 102 | 2.10 | 2.20 | 2.10 | 2.112 | 2.00 | 2.20 | 2. 30 | 1. 95 | 1. 80 | 1. 72 | 2.25 | 2. 03 | 2. 30 | 2. 00 | 2.25 |
| California | 1.35 | 1. 70 | 1.831 | 1. 75 | 1. 531 | 1. 50 | 1.661 | 1. 95 | 1.80 | 1. 75 | 2.00 | 1. 25 | 2. 25 | 2.30 | 1.90 | 2.35 | 2.4 | 2.55 |
| United States_- | 1. 53 | 1.46 | 1.36 | 1. 14 | 1.47 | 1.31 | 1.351 | 1. 43 |  | 1. 64 | 1. 51 | 1.37 | 1. 52 | 1. 51 | 1. 52 | 1.40 | 1. 57 | 1. 48 |

[^208]Table 320.—Hay, wild: Yield per acre, by States, calendar years, 1910-1923.

| State. | 1910 | 1911 | 1912 | 1913 | $\begin{gathered} A v . \\ 1910- \\ 1913 \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{gathered} A \nabla \\ 1914 \\ 1920 \end{gathered}$ | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons | Tons |
| Maine | 1.05 | 0.90 | 0.96 | 0.80 | 0.93 | 1.05 | 0.95 | 1.08 | 1.00 | 0.90 | 1.00 | 1.00 | 1.00 | 0.86 | 1.10 | 1. 10 |
| New Hampshire. | 1.05 | . 85 | 1.05 | . 80 | . 94 | 1. 00 | . 80 | 1. 05 | 1.00 | . 90 | 1. 00 | . 95 | . 96 | . 80 | 1. 00 | 94 |
| Vermont. | 1. 10 | 1. 05 | 1. 25 | 1. 03 | 1.11 | 1.07 | 1. 05 | 1. 35 | 1. 00 | 1. 00 | 1.10 | 1.00 | 1. 08 | 1. 00 | 1.10 | 1. 00 |
| Massachusett | 1. 05 | . 88 | 1.05 | 1. 01 | 1.00 | 1.10 | 1. 05 | 1.05 | 1.00 | 1.00 | 1. 10 | 1.10 | 1. 06 | 1. 00 | 1.00 | 1.00 |
| Rhode Island | 1.00 | . 80 | . 93 | . 97 | . 92 | 1.00 | 1.00 | 1.00 | . 90 | . 90 | . 90 | 1.00 | . 96 | . 88 | 90 | 95 |
| Connecticu | 1.00 | . 90 | . 95 | . 89 | . 94 | 1.15 | . 95 | 1.17 | 1.00 | 1.00 | 1. 08 | 1. 00 | 1. 05 | 1.10 | 1.00 | 1. 20 |
| New York | 1. 05 | . 87 | 1.10 | 1.00 | 1.00 | 1. 30 | 1. 00 | 1. 45 | 1. 25 | 1. 00 | 1.26 | 1.19 | 1. 21 | 1. 00 | 1. 18 | 1. 18 |
| New Jersey | 1.30 | . 90 | 1.30 | 1.15 | 1. 16 | 1.50 | 1. 15 | 1. 45 | 1. 45 | 1. 30 | 1. 20 | 1.35 | 1. 34 | 1. 23 | 1.40 | 1. 29 |
| Pennsylvan | 1.20 | . 85 | 1.25 | 1. 20 | 1.12 | 1. 16 | 1.00 | 1. 55 | 1. 30 | . 95 | 1. 25 | 1. 24 | 1.21 | 1. 20 | 1.20 | 1.15 |
| Delaware | 1.25 | . 80 | 1. 20 | 1.15 | 1.10 | 1.24 | 1. 20 | 1.28 | 1. 12 | 1. 14 | 1.33 | 1. 50 | 1.26 | . 87 | 1. 24 | 1.36 |
| Maryle | 1. 25 | . 65 | 1.35 | 1. 15 | 1.10 | 1.15 | 1. 10 | 1. 25 | 1. 14 | 1. 17 | 1. 38 | 1.45 | 1. 23 | 1. 20 | 1. 12 | 1.15 |
| Virginia | 1. 05 | . 60 | 1.10 | 1. 15 | . 98 | . 87 | 1. 10 | 1.05 | 1. 10 | 1. 05 | 1. 12 | 1. 25 | 1. 08 | . 75 | 1. 00 | 1. 00 |
| West Virginia | 1.10 | . 60 | 1.20 | 1.15 | 1.01 | $\stackrel{.}{95}$ | 1. 10 | 1. 20 | 1.20 | 1. 20 | 1. 14 | 1. 20 | 1. 14 | 1.10 | 1.20 | 1. 00 |
| North Carolina | 1. 20 | 1.00 | 1. 10 | 1. 15 | 1.11 | 1. 10 | 1.40 | 1.07 | 1. 01 | 1.00 | 1.00 | 1. 20 | 1. 11 | 1. 00 | 1.00 | 1.00 |
| South Carolina | 1. 20 | 1.05 | 1. 10 | 1. 15 | 1. 12 | 1. 15 | 1.40 | 1. 25 | 1. 25 | 1. 05 | 1. 10 | 1. 20 | 1.20 | . 81 | 1.00 | . 85 |
| Geor | 1. 30 | 1. 30 | 1.30 | 1.35 | 1.31 | 1.15 | 1. 20 | 1. 25 | 1.10 | . 91 | . 95 | . 90 | 1.07 | 1.00 | . 92 | 90 |
| Florid | 1. 20 | 1.15 | 1.10 | 1. 20 | 1. 16 | 1. 05 | 1. 15 | 1.00 | 1. 00 | 1. 10 | 1. 05 | . 95 | 1. 04 | . 90 | . 90 | 85 |
| Ohio | 1. 25 | . 90 | 1.30 | 1. 20 | 1. 16 | 1. 10 | 1. 42 | 1. 50 | 1.30 | 1. 50 | 1.30 | 1. 28 | 1. 34 | 1.40 | 1. 50 |  |
| Indiana | 1. 25 | . 90 | 1. 30 | 1.00 | 1.11 | 1.10 | 1. 20 | 1. 40 | 1. 20 | 1. 20 | 1. 20 | 1. 20 | 1. 21 | 1. 07 | 1.14 | 1.15 |
| Illinois | 1. 10 | . 75 | 1. 10 | . 85 | . 95 | 1.05 | 1.30 | 1. 20 | 1. 40 | 1.30 | 1.15 | 1. 20 | 1. 23 | 1. 20 | 1.25 | 1.15 |
| Michiga | 1. 10 | . 95 | 1. 10 | . 85 | 1. 00 | 1. 25 | 1. 15 | 1.33 | 1. 25 | 1.05 | 1. 25 | 1. 28 | 1. 22 | 1.10 | 1.30 | 1. 20 |
| Wiscons | . 90 | 1.00 | 1. 25 | 1.30 | 1. 11 | 1. 33 | 1.35 | 1. 47 | 1. 37 | 1.55 | 1. 36 | 1. 28 | 1. 39 | 1. 20 | 1.30 | 1. 30 |
| Minneso | . 70 | . 70 | 1. 10 | 1.10 | . 90 | 1. 44 | 1. 35 | 1. 52 | 1. 24 | 1.15 | 1. 46 | 1. 40 | 1.37 | 1. 28 | 1. 22 | 1.15 |
| Iowa | . 80 | . 60 | 1.00 | 1. 10 | . 88 | 1. 20 | 1.35 | 1.30 | 1. 15 | 1. 20 | 1.26 | 1. 27 | 1.25 | 1.16 | 1. 14 | 1. 20 |
| Misso | 1. 00 | . 50 | 1.00 | . 60 | . 78 | . 84 | 1.15 | 1. 10 | 1.00 | . 75 | 1.16 | 1. 12 | 1.02 | 1.10 | . 95 | 1.10 |
| North | . 50 | . 80 | 1.00 | . 90 | . 80 | 1.02 | 1. 15 | 1. 20 | . 65 | . 90 | . 90 | .95 | . 97 | 1.00 | 1.05 | 1.00 |
| South Dak | . 60 | . 40 | 1.00 | . 80 | . 70 | 1.10 | 1. 40 | 1. 25 | . 90 | 1.00 | 1.00 | 1.12 | 1.11 | . 80 | . 90 | 1. 20 |
| Nebrask | . 75 | . 65 | 1.00 | . 90 | . 82 | 1.07 | 1. 20 | 1.10 | . 85 | . 88 | 1. 02 | 1. 02 | 1. 02 | . 84 | . 85 | 1. 10 |
| Kansas | . 90 | . 60 | 1.05 | . 70 | . 81 | . 96 | 1. 40 | 1.10 | . 80 | . 60 | 1. 15 | . 97 | 1. 00 | 1.09 | 1. 10 | 1.18 |
| Kentuck | 1. 05 | . 90 | 1.05 | . 80 | . 95 | 1. 20 | 1. 20 | 1.15 | 1. 50 | 1.00 | 1. 10 | 1.00 | 1. 16 | . 90 | 1.15 | 1.00 |
| Tennesse | 1.15 | . 95 | 1.10 | 1.05 | 1.06 | 1. 20 | 1. 10 | 1. 20 | 1.10 | 1. 00 | 1.10 | 1. 15 | 1. 12 | 1.15 | 1. 10 | 1.10 |
| Alabama | 1. 20 | 1. 20 | 1. 10 | 1.15 | 1. 16 | 1. 38 | 1. 20 | 1.20 | 1. 05 | 1. 00 | 1.00 | 1. 00 | 1. 12 | $\begin{array}{r}.90 \\ \hline\end{array}$ | $\begin{array}{r}.80 \\ \hline 18\end{array}$ | $\begin{array}{r}.80 \\ \hline 1.20\end{array}$ |
| Mississipp | 1. 20 | 1.30 | 1. 25 | 1.15 | 1. 22 | 1.20 | 1. 10 | 1.25 | 1.22 | 1. 20 | 1.30 | 1.30 1.30 | 1. 22 | 1. 00 | 1. 10 | 1.20 |
| Louisiana | 1.35 | 1.00 | 1. 25 | 1. 20 | 1. 20 | 1.55 | 1. 40 | 1.40 | 1. 25 | 1. 00 | 1. 50 | 1.30 | 1.34 | 1.30 | 1.10 | 1.20 |
| Texas | . 90 | . 70 | 1.00 | . 90 | . 88 | 1. 25 | 1. 40 | 1.05 | . 75 | . 60 | 1. 25 | 1. 10 | 1. 06 | 1. 10 | 1.10 | 1.10 |
| Oklahom | . 80 | . 60 | . 90 | . 70 | . 75 | . 68 | 1. 25 | 1.00 | . 70 | . 56 | 1.20 | 1. 20 | . 94 | 1.00 | . 90 | . 98 |
| Arkansa | 1.05 | . 90 | 1.00 | 1.00 | . 99 | 1. 00 | 1. 20 | 1.00 | 1. 12 | . 90 | 1. 20 | 1.15 | 1. 08 | 1. 05 | 1.00 | 1. 21 |
| Montan | . 80 | 1. 10 | 1.00 | . 95 | . 96 | . 94 | 1. 10 | . 90 | . 75 | . 75 | . 35 | . 95 | . 82 | . 80 | . 90 | . 91 |
| W yoming | 1. 00 | .95 .9 | . 90 | . 90 | . 94 | 1. 00 | . 95 | . 95 | 1.00 | 1. 10 | . 92 | 1. 00 | . 99 | . 80 | . 95 | 1.05 |
| Colorado | 1. 90 | .90 | 1. 10 | . 95 | . 96 | 1. 20 | 1. 12 | . 92 | 1. 02 | . 94 | . 89 | 1.05 | 1. 02 | 1. 00 | . 97 | 1.05 |
| New 1 | . 70 | . 95 | . 90 | . 70 | . 81 | . 80 | . 90 | . 65 | . 87 | . 70 | . 90 | . 82 | . 81 | . 85 | . 80 | . 80 |
| Arizon | . 70 | 1. 05 | . 75 | 1. 00 | . 88 | . 80 | . 70 | 1. 00 | 1.25 | 1. 00 | 1.00 | . 80 | . 94 | 1. 00 | . 50 | 1. 25 |
| Utah. | 1. 60 | 1.55 | 1. 60 | 1. 50 | 1. 56 | 1. 60 | 1. 60 | 1. 50 | 1.75 | 1. 10 | 1.17 | 1. 23 | 1. 42 | 1. 10 | 1.38 | 1. 52 |
| Nevada | 1. 60 | 1.60 | 1.30 | 1. 10 | 1. 40 | 1. 50 | 1.30 | 1. 00 | 1. 50 | . 50 | . 84 | 1.00 | 1. 09 | 1. 11 | 1. 59 | 1.09 |
| Idaho | 1. 50 | 1.60 | 1.40 | 1. 50 | 1. 50 | 1. 25 | 1. 40 | 1. 20 | 1.40 | 1. 10 | 1.00 | 1. 20 | 1. 22 | 1. 50 | 1. 20 | 1. 20 |
| Washing | 1. 20 | 1. 40 | 1. 25 | 1. 25 | 1. 28 | 1.30 | 1. 20 | 1. 40 | 1.40 | 1.33 | 1.20 | 1.15 | 1.28 | 1. 50 | 1. 14 | 1. 58 |
| Oregon | 1.15 | 1. 20 | 1.25 | 1. 20 | 1.20 | 1.22 | 1. 30 | 1.10 | 1.10 | 1.00 | 1.18 | 1.20 | 1.16 | 1. 10 | 1.00 | 1. 10 |
| California | 1. 10 | 1.10 | 1.00 | 1.00 | 1.05 | 1. 20 | 1.10 | 1.00 | 1. 15 | . 95 | 1. 04 | 1. 04 | 1.07 | 1.10 | 1.10 | 1.00 |
| United States | . 77 | . 71 | 1.04 | . 92 | . 86 | 1. 11 | 1. 27 | 1. 19 | . 93 | . 94 | 1. 07 | 1. 11 | 1. 09 | . 98 | 1. 02 | 1. 11 |

[^209]Table 321.-Hay, alfalfa: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

| State. | Thousands of acres. |  |  |  |  | Yield per acre (tons). |  |  |  |  | Production, thousands of tons. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ | 1919 | 1920 | 1921 | 1922 | 1923 | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ |
| Vermont | 1 | 1 | 1 | 1 | 1 | 2.41 | 2.60 | 3. 00 | 3.00 | 2. 20 | 2 | 3 | 3 | 3 | 2 |
| Massachusetts | 1 | 1 | 1 | 1 | 1 | 3. 25 | 2.80 | 3. 00 | 3.10 | 3. 50 | 3 | 3 | 3 | 3 | 4 |
| Connecticut | 1 | 1 | 1 | 1 | 1 | 2. 23 | 2.60 | 3. 50 | 3. 50 | 2. 40 | 2 | 3 | 4 | 4 | 2 |
| New York | 120 | 132 | 145 | 155 | 163 | 2.72 | 2. 50 | 2. 50 | 2.75 | 2. 40 | 326 | 330 | 362 | 426 | 391 |
| New Jersey | 15 | 15 | 15 | 17 | 19 | 2.70 | 2. 70 | 2.62 | 2.85 | 2.19 | 40 | 40 | 39 | 48 | 42 |
| Pennsylvan | 31 | 30 | 32 | 35 | 36 | 2.60 | 2.45 | 2.55 | 2.70 | 2. 35 | 81 | 74 | 82 | 94 | 85 |
| Delaware. | 2 | 2 | 2 | 2 | 2 | 2.90 | 3. 00 | 2.70 | 2.90 | 2. 50 | 6 | 6 | 5 | 6 | 5 |
| Maryland | 12 | 12 | 11 | 16 | 16 | 2.60 | 2. 80 | 2.60 | 2.75 | 2. 25 | 31 | 34 | 9 | 44 | 36 |
| Virginia | 24 | 24 | 23 | 29 | 35 | 2. 20 | 2.37 | 1.80 | 2.30 | 2. 10 | 53 | 57 | 41 | 67 | 74 |
| West Virginia. | 5 | 5 | 5 | 6 | 6 | 2. 20 | 2.30 | 2. 40 | 2.45 | 2. 30 | 11 | 12 | 12 | 15 | 14 |
| North Carolina | 3 | 3 | 3 | 4 | 4 | 2. 40 | 2. 40 | 2.10 | 2.40 | 2.30 | 7 | 7 | 6 | 10 | 9 |
| South Carolina | 3 | 3 | 3 | 3 | 3 | 2. 04 | 2. 20 | 2.25 | 2. 20 | 2. 00 | 6 | 7 | 7 | 7 | 6 |
| Georgia. | 3 | 3 |  | 4 |  | 2.20 | 2. 00 | 2.25 | 2.40 | 2.10 | 7 | 6 | 9 | 10 | 8 |
| Florida |  | 3 |  |  |  |  | 2. 00 |  |  |  |  | 6 |  |  |  |
| Ohio.- | 94 | 89 | 90 | 118 | 113 | 2.31 | 2.50 | 2.50 | 2.50 | 2.60 | 217 | 222 | 225 | 295 | 294 |
| Indiana | 62 | 70 | 80 | 95 | 105 | 2.26 | 2. 50 | 2.10 | 2. 34 | 2. 40 | 140 | 175 | 168 | 222 | 252 |
| Illinois | 89 | 100 | 107 | 124 | 136 | 2.65 | 2. 70 | 2.59 | 2.70 | 2. 90 | 236 | 270 | 277 | 335 | 394 |
| Michigan | 74 | 95 | 143 | 246 | 338 | 2.00 | 2. 30 | 2.25 | 2.35 | 2. 10 | 148 | 218 | 322 | 578 | 710 |
| Wisconsin | 70 | 106 | 131 | 92 | 155 | 2.50 | 2. 70 | 266 | 2. 67 | 2.30 | 175 | 286 | 348 | 246 | 356 |
| Minnesota | 45 | 59 | 77 | 88 | 123 | 3.60 | 2. 90 | 2.60 | 2.61 | 2.34 | 124 | 171 | 200 | 230 | 288 |
| Iowa | 172 | 180 | 187 | 192 | 211 | 2.70 | 2. 84 | 2.91 | 2.67 | 3. 00 | 464 | 511 | 544 | 513 | 633 |
| Missouri | 152 | 168 | 164 | 170 | 185 | 2.40 | 2. 52 | 2.05 | 2.40 | 2. 35 | 365 | 423 | 336 | 408 | 435 |
| North Dakot | 58 | 56 | 56 | 65 | 70 | 1.72 | 1. 90 | 2.20 | 2. 50 | 2.10 | 100 | 106 | 123 | 162 | 147 |
| South Dak | 462 | 459 | 508 | 543 | 590 | 2.15 | 2.33 | 1.90 | 2. 22 | 2. 10 | 993 | 1,069 | 965 | 1,205 | 1,239 |
| Nebraska | 1,180 | 1,233 | 1,196 | 1, 163 | 1,163 | 2.60 | 2. 70 | 2.36 | 2. 07 | 2.60 | 3, 068 | 3,239 | 2, 823 | 2,407 | 3, 024 |
| Kansas | 1, 243 | 1, 231 | 1,065 | 919 | 885 | 2.18 | 2.20 | 1.80 | 2.45 | 2. 51 | 2,710 | 2,708 | 1, 917 | 2, 252 | 2, 221 |
| Kentucky | 56 | 51 | - 53 | 58 | 58 | 2. 00 | 2.00 | 1.80 | 2.30 | 2. 20 | 112 | 102 | 195 | 133 | 128 |
| Tennessee | 17 | 19 | 20 | 25 | 27 | 2.46 | 2. 20 | 2.25 | 2.30 | 2.25 | 42 | 42 | 45 | 58 | 61 |
| Alabama | 10 | 10 | 10 | 20 | 25 | 2.30 | 1.87 | 1.70 | 1.50 | 1.50 | $\stackrel{23}{ }$ | 19 | 17 | 30 | 38 |
| Mississippi | 30 | 28 | 24 | 24 | 22 | 2.80 | 2.30 | 2.50 | 2.30 | 2. 41 | 84 | 64 | 60 | 55 | 53 |
| Louisiana | 8 | 8 | 12 | 18 | 21 | 2.40 | 2.90 | 2.80 | 2.75 | 2.33 | 19 | 23 | 34 | 50 | 48 |
| Texas. | 58 | 56 | 57 | 60 | 62 | 2. 70 | 2. 60 | 2. 50 | 240 | 2.50 | 157 | 146 | 142 | 144 | 155 |
| Oklahom | 370 | 355 | 348 | 362 | 366 | 2.20 | 2.10 | 2.10 | 1.95 | 1.90 | 814 | 745 | 731 | 706 | 695 |
| Arkansas | 61 | 77 | 83 | 78 | 75 | 2.70 | 2.45 | 2.20 | 2.10 | 2.25 | 165 | 189 | 183 | 164 | 169 |
| Montana | 374 | 424 | 466 | 486 | 505 | 1.70 | 2.15 | 2. 25 | 2.20 | 2.15 | 636 | 912 | 1,048 | 1,069 | 1,086 |
| W yomin | 330 | 437 | 459 | 475 | 520 | 1.80 | 2.30 | 2.00 | 2.15 | 2.10 | 561 | 1, 005 | 918 | 1, 021 | 1,092 |
| Colorado | 782 | 845 | 818 | 818 | 834 | 2. 45 | 2.80 | 2.50 | 2.15 | 2. 25 | 1,916 | 2,366 | 2,045 | 1,759 | 1,876 |
| New Mex | 125 | 127 | 132 | 107 | 104 | 2. 70 | 2.70 | 2.60 | 2.40 | 2.60 | 338 | 343 | 343 | 257 | 270 |
| Arizona | 125 | 94 | 121 | 134 | 148 | 4. 30 | 3. 80 | 3. 50 | 3. 70 | 3. 90 | 538 | 357 | 424 | 495 | 577 |
| Utah | 365 | 380 | 412 | 431 | 458 | .2.10 | 2.80 | 2.70 | 2.92 | 2.81 | 766 | 1,064 | 1,113 | 1,259 | 1,288 |
| Nevadr | 117 | 110 | 120 | 121 | 124 | 2.80 | 2.80 | 3.20 | 3.39 | 3. 23 | 328 | 308 | 384 | 411 | 400 |
| Idaho | 651 | 665 | 652 | 648 | 657 | 2. 85 | 3.30 | 3.40 | 3.10 | 3. 00 | 1,855 | 2, 194 | 2, 217 | 2,008 | 1,971 |
| Washingt | 229 | 230 | 230 | 222 | 235 | 2. 98 | 280 | 3. 50 | 3. 56 | 3. 60 | 682 | 644 | 805 | 790 | 846 |
| Oregon | 211 | 217 | 220 | 240 | 246 | 3.11 | 3. 50 | 3.50 | 3. 40 | 3. 50 | 656 | 760 | 770 | 816 | 861 |
| California | 909 | 920 | 941 | 952 | 981 | 3.65 | 3.70 | 3.70 | 3.80 | 3.80 | 3, 318 | 3, 404 | 3,482 | 3, 618 | 3,728 |
| United States. | 8,750 | 9, 134 | 9,228 | 9,368 | 9, 833 | 2. 55 | 2. 59 | 2.58 | 2.61 | 2.63 | 22, 325 | 24, 763 | 23, 786 | 24, 433 | 26, 013 |

[^210]${ }^{1}$ Preliminary.

Table 322.-Hay, clover: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

| State. | Thousands of acres. |  |  |  |  | Yield per acre (tons). |  |  |  |  | Production, thousands of tons. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ | 1919 | 1920 | 1921 | 1922 | 1923 | 1919 | 1920 | 1921 | 1922 | 19231 |
| Maine | 36 | 31 | 31 | 38 | 38 | 1. 58 | 1. 40 | 1.10 | 1. 60 | 1. 70 | 54 | 43 | 34 | 61 | 65 |
| New Hampshire.- | 10 | 11 | 10 | 14 | 14 | 1. 70 | 1.60 | 1. 30 | 1. 60 | 1. 80 | 17 | 17 | 13 | 22 | 25 |
| Vermont.. | 21 | 20 | 18 | 25 | 28 | 1.70 | 1. 60 | 1. 30 | 1. 60 | 1. 80 | 36 | 32 | ${ }^{23}$ | 40 | 47 |
| Massachusetts | 14 | 12 | 11 | 14 | 14 | 1.75 | 1. 70 | 1. 50 | 1. 70 | 1. 90 | 24 | 20 | 18 | 24 | 27 |
| Rhode Island. | 1 |  |  | 1 | 1 | 1.60 | 1.60 | 1. 60 | 1. 70 | 1. 70 | 2 | 2 | 2 | 2 | 2 |
| Connecticut | 11 | 10 | 12 | 14 | 14. | 1.80 | 1.60 | 1. 65 | 1. 70 | 1. 90 | 20 | 16 | 20 | 24 | 7 |
| New York | 482 | 477 | 435 | 472 | 481 | 1. 60 | 1.30 | 1.02 | 1. 60 | 1. 60 | 771 | 620 | 444 | 755 | 770 |
| New Jersey | 29 | 28 | 29 | 32 | 33 | 1. 50 | 1.60 | 1. 22 | 1. 50 | 1.00 | 44 | 45 | 35 | 48 | 33 |
| Pennsylvani | 317 | 308 | 311 | 300 | 294 | 1.35 | 1. 48 | 1. 15 | 1. 54 | 1. 05 | 428 | 456 | 358 | 462 | 309 |
| Delaware. | 19 | 18 | 17 | 19 | 18 | 1.30 | 1.45 | 1.00 | 1.34 | 1.02 | 25 | 26 | 17 | 25 | 18 |
| Maryland | 106 | 108 | 97 | 106 | 100 | 1.35 | 1.50 | 1.10 | 1. 50 | 90 | 143 | 162 | 107 | 159 | 0 |
| Virginia. | 200 | 180 | 180 | 192 | 168 | 1.30 | 1. 24 | 1. 00 | 1. 20 | 80 | 260 | 223 | 180 | 230 | 34 |
| West Virginia | 66 | 63 | 66 | 79 | 74 | 1.30 | 1.40 | 1.26 | 1. 45 | 1.30 | 86 | 88 | 83 | 115 | 96 |
| North Carolina | 90 | 84 | 84 | 101 | 105 | 1.40 | 1.45 | 1.30 | 1. 40 | 1. 40 | 126 | 122 | 109 | 141 | 147 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Georgia | 3 | 3 | 4 | 3 | 3 | 1. 50 | 1.54 | 1.34 | 1. 50 | 1. 20 | 4 | ${ }^{5}$ |  |  |  |
| Ohio | 711 | 693 | 691 | 844 | 743 | 1.30 | 1.25 | 1. 19 | 1. 50 | 1. 10 | 924 | 886 | 822 | 1, 266 | 817 |
| Indiana | 563 | 591 | 561 | 710 | 426 | 1. 23 | 1. 23 | . 93 | 1. 43 | 1. 10 | 692 1.203 | 727 | 5272 | 1, 1215 | ${ }_{928}$ |
| Illinois | 802 | 801 | 799 | 1, 093 | 773 | 1. 50 | 1. 18 | 1.10 | 1.50 | 1. 20 | 1, 203 | ${ }_{611}^{945}$ | 879 | 1,640 | ${ }_{953} 928$ |
| Michigan | 563 | 541 | 584 | 738 | 808 | 1.20 | 1.13 | . 90 | 1. 40 | 1.18 | 676 | 611 | 526 | 1, 033 | 953 |
| Wisconsin | 648 | 784 | 753 | 789 | 668 | 1.90 | 1.75 | 1.25 | 1. 70 | 1. 42 | 1,231 | 1,372 | 941 | 1,341 | 949 |
| Minnes | 398 | 455 | 391 | 430 | 368 | 1.89 | 1.85 | 1. 60 | 1. 60 | 1. 26 | 752 | - 842 | 626 | ${ }^{688}$ | \% |
| Iowa | 741 | 720 | 749 | 890 | 838 | 1. 70 | 1.45 | 1. 40 | 1. 41 | 1. 44 | 1, 260 | 1,044 | 1,049 |  | 1, 207 |
| Missouri | 449 | 511 | 544 | 704 | 598 | 1. 25 | 1.35 | 1. 20 | 1.35 | 1. 30 | 561 | 690 | 55 | 950 | 777 |
| North Dakot | 16 | 23 | 38 | 124 | 136 | 1.30 | 1.37 | 1. 45 | 1.75 | 1.85 | 21 | 32 | 55 | 217 | 252 |
| South Dak | 33 | 35 | 40 | 60 | 57 | 1. 60 | 1. 50 | 1.30 | 1.40 | 1. 50 | 53 | 52 | 52 | 84 | 86 |
| Nebraska | 60 | 60 | 66 | 74 | 70 | 1. 65 | 1.70 | 1.50 | 1. 40 | 1. 70 | 99 | 102 | 99 | 104 | 119 |
| Kansas | 49 | 62 | 84 | 104 | 119 | 1.57 | 1.68 | 1.31 | 1. 43 | 1. 60 | 77 | 104 | 110 | 149 | 190 |
| Kentucky | 200 | 188 | 194 | 204 | 184 | 1. 32 | 1.35 | 1. 00 | 1. 45 | 1. 40 | ${ }_{362} 26$ | 254 | 194 | 298 43 | 358 |
| Tennessee | 290 | 319 | 271 | 310 | 298 | 1. 25 | 1.30 | 1. 05 | 1. 40 | 1. 20 | 362 | 415 | 285 | 434 |  |
| Alabama. | 10 | 15 | 20 | 35 | 46 | 1. 40 | 1. 39 | 1. 35 | . 90 | . 83 | 14 | 21 | 27 | 32 | 38 |
| Mississipp | 100 | 105 | 110 | 99 | 92 | 1.30 | 1.35 | 1. 20 | 1. 25 | 1. 25 | 130 | 142 | 132 | 124 | 115 |
| Louisiana | 38 | 39 | 41 | 39 | 34 | 1. 20 | 1.50 | 1. 50 | 1. 50 | 1. 70 | 6 | 8 | 10 | 8 | 10 |
| Oklahoma | 5 | , | 6 | 6 | 6 | 1. 30 | 1. 60 | 1. 60 |  |  | 88 | 8 77 | 10 68 | 8 <br> 75 | 84 |
| Arkansas. | 55 | 53 | 57 | 60 | 60 | 1.60 | 1.45 | 1.20 | 1. 25 | 1.41 | 88 | 77 | 68 | 75 |  |
| Montana | 38 | 42 | 44 | 45 | 52 | 1. 05 | 1.60 | 1.60 | 1.80 | 1. 80 | 40 | 67 | 㖪 | 81 | 94 |
| W yoming | 12 | 15 | 16 | 25 | 27 | 1. 10 | 2. 00 | 1. 60 | 1. 60 | 1. 50 | ${ }_{2}^{13}$ | 30 | 28 | 40 | 40 |
| Colorado. | 15 | 20 | 12 | 20 | 19 | 1.80 | 2.00 | 1.80 | 1. 60 | 1. 80 | 4 | 4 | 4 |  | 4 |
| New Mexico | 2 | 2 | 2 | 2 | $\stackrel{2}{2}$ | 2. 180 | 2.00 | 2. 00 | 1. 50 | 2. 11 | [4884 | 4 <br> 12 | $\stackrel{4}{8}$ | $\stackrel{3}{2}$ | 6 |
| Utah. | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nevada | 3 | 3 | 3 | 1 | 1 | 1. 50 | 1.90 | 1. 95 | 1. 89 | 1. 73 | 4 | ${ }^{6}$ | 6 | 2 | 2 |
| Idaho. | 45 | 42 | 43 | 31 | 32 | 1. 60 | 2. 00 | 2.30 | 1. 60 | 2. 00 | $\begin{array}{r}72 \\ 150 \\ \hline\end{array}$ | 84 159 | -99 | 180 | ${ }^{64}$ |
| Washingto | 70 | 69 | 75 | 74 | 74 | 2. 14 | 2.30 |  |  |  | 176 | 196 | ${ }_{212}^{180}$ | 1808 | 397 |
| Oregon. Californ | 88 15 | 91 15 | 94 15 | 140 15 | 147 | 2. 1.62 | 2. 1.70 | 2.25 1.90 | 2. 20 | 2. 70 | 176 25 | 196 | 212 | 308 | I |
| United States_ | 7, 434 | 7, 659 | 7, 613 | 9, 079 | 8, 078 | 1.48 | 1.42 | 1. 21 | 1.50 | 1.34 | 11, 028 | 10, 863 | 9,216 | 13, 610 | 10,785 |

[^211]${ }^{1}$ Preliminary.

Table 323.-Hay, clover and timothy (mixed): Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

| State. | Thousands of acres. |  |  |  |  | Yield per acre (tons). |  |  |  |  | Production, thousands of tons. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | 19231 |  | 19192 | 20192 |  | 1923 | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ |
| Maine | 696 | 620 | 628 | 604 | 610 |  | 250.9 | 950.8 | 851.40 | 1. 40 | 0870 | 589 | 534 | 846 | 854 |
| New Hampshire | 171 | 178 | 172 | 180 | 174 |  | 201.1 | 151. 0 | 00 1. 30 | 1. 40 | 0205 | 205 | 172 | 234 | 244 |
| Vermont.---.--- | 549 | 547 | 531 | 545 | 550 | 01.6 | 601.40 | 40 1. 00 | 001.45 | 1. 50 | 0878 | 766 | 531 | 790 | 825 |
| Massachusetts | 149 | 135 | 132 | 144 | 146 | 61.40 | 401.5 | 551.35 | 351.50 | 1. 60 | 209 | 209 | 17 | 21 | 234 |
| Rhode Island.--- | 16 | 15 | 5 | 16 |  |  | 501.35 | 351.40 | 401.45 | 1. 40 | - | 20 | 1 | 23 | 22 |
| Connecticut | 83 | 84 | 84 | 84 |  |  | 501.45 |  | 601.65 | 1. 50 | 124 | 122 | 134 | 139 | 124 |
| New York | 2, 298 | 2, 286 | 2, 786 | 2, 248 | 2, 256 | 61.4 | 44 1. 25 | 25.90 | 011.42 | 1. 40 | 3, 308 | 2, 857 | 2,507 | 3, 192 | 3, 158 |
| New Jersey | 116 | 136 | 123 | 138 | 142 | 1. 45 | 451.65 | 651.30 | 301.60 | 1. 04 | 4. 168 | 224 | 160 | ${ }^{2} 21$ | 148 |
| Pennsylvania. | 1,458 | 1,534 | 1,596 | 1,568 | 1, 560 | 1. 35 | 351.40 | 401.18 | 181.60 | 1. 04 | 1,968 | 2, 148 | 1, 883 | 2, 509 | 1,622 |
| Delaware | 25 | 26 |  |  | 24 |  | 301.45 | 451.20 | 201.45 | 1. 00 | - 32 | 38 | 29 | 36 | 24 |
| Marylan | 140 | 151 | 148 | 147 | 140 |  | 401.50 | 501.30 | 31.60 | 1.00 | 196 | 226 | 192 | 235 | 140 |
| Virginia | 251 | 239 | 250 | 324 | 324 | 1. 25 | 251.35 | 351.05 | 50. 1.25 | 85 | 314 | 323 | 262 | 405 | 272 |
| West Virginia | 265 | 275 | 275 | 288 | 292 | 1. 25 | 251.30 | 301.15 | 51.35 | 1. 20 | 33 | 358 | 316 | 389 | 350 |
| North Carolina - | 40 | 42 | 40 | 38 | 39 | 1.30 | 301.35 | 351.35 | 51.40 | 1. 30 | 52 | 57 | 54 | 53 | 51 |
| South Carolina-- | 3 | 3 |  |  |  | 1. 60 | 601. 40 | 401.20 |  |  |  |  |  |  |  |
| Georgia | 2 | 2 | 2 | 2 |  | 1.40 | 01. 30 |  |  | 1. 00 | , | 3 | 2 | 4 | 2 |
| Ohio | 731 | 893 | 941 | 964 | 874 | 1.40 | 401.35 | 1. 28 | 81.55 | 1.15 | 1,023 | 1,206 | 1, 204 | 1,494 | 1,005 |
| Indiana | 518 | 639 | 730 | 690 | 528 | 1.20 | 201.25 |  |  | 1.16 | B 622 | 799 | 803 | 945 | 612 |
| Illinois | 543 | 720 | 739 | 803 | 722 | 1. 45 | 51.15 | 51.15 | 51.48 | 1. 21 | 787 | 828 | 850 | 1,188 | 874 |
| Michigan | 1,410 | 1,436 | 1,312 | 1,291 | 1,123 | 1. 19 | 91.15 | 5.92 | 21.38 | 1. 15 | 1,678 | 1,651 | 1,207 | 1, 782 | 1,291 |
| W isconsin. | 1, 555 | 1,549 | 1,362 | 1,470 | 1,625 | 1.77 | 71.70 | 21. 28 | 1.76 | 1. 30 | 2,752 | 2,633 | 1,744 | 2,587 |  |
| Minnesota | 636 | 608 | 642 | 738 | 701 | 1.88 | 81.70 | 01.52 | 21.60 | 1. 23 | 1,196 | 1,034 | 976 | 1, 181 | 862 |
| Iowa.- | 1,238 | 1,306 | 1,286 | 1,353 | 1,400 | 1.55 | 551.45 | 51.42 | 21.45 | 1. 50 | 1,919 | 1, 894 | 1, 826 | 1,962 | 2, 100 |
| Missouri | 574 | 908 | 864 | 1,060 | 1, 002 | 1.30 | 01.24 | 41.15 | 51.00 | 1. 22 | 746 | 1,126 | 994 | 1, 050 | 1,222 |
| North Dakot | 16 | 19 | 20 | 18 | 20 | 1. 20 | 201.25 | 51.40 | 01.60 | 1. 40 | 19 | 24 | 28 | 29 | 28 |
| South Dakota.-- | 48 | 72 | 74 | 96 |  |  |  |  |  | 1.30 | 72 | 108 | 96 | 125 | 120 |
| Nebrask | 185 | 125 | 96 | 76 |  |  | 1. 65 | 1. 40 | 0 1. 60 | 1. 70 | 288 | 206 | 134 | 122 | 143 |
| Kansas. | 44 | 54 | 49 | 82 |  |  | 01.40 | O 1.30 | 0 1. 35 | 1. 57 | 62 | 76 | 64 | 111 | 237 |
| Kentucky | 163 | 190 | 149 | 220 | 200 | 1. 30 | 0130 | 0, 1.05 | 51.35 | 1:30 | 212 | 247 | 156 | 297 | 280 |
| Tennessee | 163 | 166 | 176 | 205 | 200 | 1. 25 | 51.20 | 21.15 | 5.140 | 1.30 | 204 | 199 | 202 | 287 | 260 |
| Alabama |  |  |  | 3 |  | 1.35 | 1.40 |  | 1. 40 | i. 10 |  | 3 | 3 |  |  |
| Mississippi |  |  |  |  |  | 1.30 | 1.40 | 1. 20 |  | 1. 47 | -9 | 11 | 10 |  |  |
| Louisiana |  |  |  | 3 |  | 1. 50 | 1. 50 | 01.50 | 01. 25 | 1. 25 | - 3 | 4 | 4 | 5 | 1 |
| Texas---- | 7 | 6 | 5 | 4 |  | 1. 30 | 01.80 | 01.30 |  | 2. 00 | 9 | 11 | 6 | 6 | 6 |
| Oklahoma | 5 |  | 5 | 6 |  | 1. 30 | 1.80 | 01.45 | 51.30 | 1.10 | 6 | 9 | 7 | 8 | 7 |
| Arkansas | 64 | 60 | 62 | 60 |  |  |  |  |  | 1. 10 | 90 | 84 | 74 | 66 | 61 |
| Montana | 116 | 140 | 154 | 150 | 156 | 1. 10 | 11.80 | 1. 70 | 1.90 | 2. 00 | 128 | 252 | 262 | 285 | 312 |
| Wyoming | 26 | 28 | 28 | 34 | 37 | 1. 10 | 1.70 | 1.50 | 1. 40 | 1. 50 | 29 | 48 | 42 | 48 | 56 |
| Colorado. | 115 | 112 | 112 | 95 | 95 | 1. 50 | 2. 00 | 1.60 | 1. 60 | 1. 70 | 172 | 224 | 179 | 152 | 162 |
| New M | 2 | 2 | 2 | 2 |  |  |  |  | 1.00 | 1.50 | 4 | 4 |  | 2 | 3 |
| Arizon | 1. |  | 1 | 1 |  | 1. 50 | 2.00 | 1. 50 | 01. 50 | 1. 50 | 2 | 2 | 2 | 2 | 2 |
| Utah. | 26 | 25 | 29 | 32 | 25 | 1.80 | 0200 | 1.90 | 02. 10 | 208 | 46 | 50 | 55 | 67 | 52 |
| Nevada | 13 | 14 | 13 | 14 | 12 | 1.37 | 1.70 | 1.90 | 01. 95 | 1. 47 | 18 | 24 | 25 | 27 | 18 |
| Idaho | 77 | 75 | 75 | 103 |  | 1. 50 | 1.75 | 2. 00 | 1.80 | 1.90 | 116 | 131 | 150 | 185 | 180 |
| Washingt | 93 | 93 | 98 | 94 | 96 | 2. 25 | 2. 10 | 2. 20 | 02.00 | 2. 55 | 209 | 195 | 216 | 188 | 245 |
| Oregon. | 47 | 48 | 50 | 30 | 30 | 1.90 | 2. 00 | 2. 10 | 2. 30 | 2. 50 | 89 | 96 | 105 | 69 | 75 |
| California | 52 | 52 | 52 | 52 | 52 | 1. 44 | 1. 50 | 1.70 | 1.40 | 1.70 | 75 | 78 | 88 | 73 | 88 |
| United States_- | 14, 7391 | 5, 632 | 5,948 | 16, 100 | 15,687 | 1. 44 | 1. 37 |  | 1.47 |  | 21, 273 | 21, 408 | 18,495 | 23,649 | 20,371 |

Division of Crop and Livestock Estimates.
1Preliminary.

Table 324.-Hay, timothy: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.


## Division of Crop and Livestock Estimates.

${ }^{1}$ Preliminary.

Table 325.-Hay, grains cut green: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

| State. | Thousands of acres. |  |  |  |  | Yield per acre (tons). |  |  |  |  | Production, thousands of tons. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | 19231 | 1919 | 1920 | 1921 | 1922 | 1923 | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ |
| Maine | 15 | 13 | 20 | 16 | 16 | 1.70 | 1.70 | 1.45 | 2.10 | 2.20 | 26 | 22 | 29 | 34 | 35 |
| New Hampshire.- | 11 | 10 | 12 | 10 | 10 | 1. 90 | 1.70 | 1.60 | 1.30 | 2. 00 | 21 | 17 | 19 | 13 | 20 |
| Vermont-.-.-...-- | 17 | 16 | 18 | 16 | 16 | 1.70 | 2. 00 | 1.90 | 1.80 | 2. 00 | 29 | 32 | 34 | 29 | 32 |
| Massachusetts | 17 | 15 | 18 | 14 | 14 | 1.70 | 1.95 | 1.85 | 1.90 | 2. 00 | 29 | 29 | 33 | 27 | 28 |
| Rhode Island.. | 3 | 3 | 3 | 3 | 3 | 1.60 | 1. 55 | 1.60 | 1.60 | 1. 60 | 5 | 5 | 5 | 5 | 5 |
| Connecticu | 14 | 12 | 15 | 12 | 12 | 1. 40 | 1.60 | 1. 50 | 1.80 | 2. 00 | 20 | 19 | 22 | 22 | 24 |
| New York | 89 | 65 | 130 | 80 | 86 | 1.40 | 2.00 | 1.80 | 1.50 | 1.40 | 125 | 130 | 234 | 120 | 120 |
| New Jersey | 9 | 7 | 10 | 5 | 7 | 1.45 | 1.60 | 1.20 | 1.30 | 1.08 | 13 | 11 | 12 | 6 | 8 |
| Pennsylvania | 13 | 11. | 20 | 16 | 18 | 1. 50 | 1.60 | 1.40 | 1.60 | 1.50 | 20 | 18 | 28 | 26 | 27 |
| Delaware..... | 3 | 3 | 4 | 3 | 2 | 1.35 | 1.40 | 1. 20 | 2. 00 | 1.75 | 4 | 4 | 5 | 6 | 3 |
| Maryland | 6 | 6 | 10 | 8 | 8 | 1.30 | 1.30 | 1.20 | 1.75 | 1. 50 | 8 | 8 | 12 | 14 | 12 |
| Virginia | 56 | 53 | 50 | 50 | 41 | 1. 20 | 1.40 | 1.40 | 1.25 | 1. 00 | 67 | 74 | 70 | 62 | 41 |
| West Virginia | 26 | 30 | 35 | 39 | 39 | 1.20 | 1.30 | 1.25 | 1.40 | 1.40 | 31 | 39 | 44 | 55 | 55 |
| North Carolina. | 59 | 56 | 50 | 78 | 80 | 1. 00 | . 95 | 1. 40 | 1. 20 | 1.30 | 59 | 53 | 70 | 93 | 104 |
| South Carolina. | 65 | 68 | 60 | 34 | 35 | . 95 | . 71 | . 85 | 1.30 | 1.20 | 62 | 100 | 51 | 44 | 42 |
| Georgia | 57 | 60 | 63 | 65 | 70 | . 80 | . 85 | . 83 | . 80 | . 61 | 46 | 51 | 52 | 52 | 43 |
| Florida | 7 | 8 | 5 | 5 | 6 | . 80 | 1. 00 | 1.20 | 1. 00 | . 95 | 6 | 8 | 6 | 5 | 6 |
| Ohio | 20 | 21 | 38 | 50 | 40 | 1.20 | 1.70 | 1.40 | 1.50 | 1.40 | 24 | 36 | 53 | 75 | 56 |
| Indiana | 61 | 44 | 94 | 300 | 147 | 1.10 | 1.60 | 1.20 | 1. 00 | 1. 20 | 67 | 70 | 113 | 300 | 176 |
| Illinois. | 70 | 37 | 64 | 73 | 62 | 1.40 | 1.40 | 1.34 | 1.50 | 1.54 | 98 | 52 | 86 | 110 | 95 |
| Michigan | 59 | 28 | 86 | 15 | 27 | 94 | 1. 42 | 1.25 | 1.10 | 1.25 | 55 | 40 | 108 | 16 | 34 |
| W isconsin | 28 | 20 | 60 | 36 | 45 | 1.30 | 1.60 | 1.40 | 1. 30 | 1.30 | 36 | 32 | 84 | 47 | 58 |
| Minnesota | 89 | 28 | 29 | 40 | 80 | 1.40 | 1.60 | 1.45 | 1.40 | 1.30 | 125 | 45 | 42 | 56 | 104 |
| Iowa. | 47 | 31 | 32 | 27 | 34 | 1. 50 | 1.60 | 1.50 | 1.40 | 1.70 | 70 | 50 | 48 | 38 | 58 |
| Missouri | 190 | 128 | 192 | 87 | 45 | 1. 20 | 1.40 | 1.25 | . 45 | 1.10 | 228 | 179 | 240 | 39 | 50 |
| North Dakota | 324 | 327 | 269 | 279 | 316 | . 80 | 1.20 | 1.20 | 1.40 | 1. 25 | 259 | 392 | 323 | 391 | 395 |
| South Dakota | 109 | 107 | 78 | 80 | 80 | 1.00 | 1.20 | 1.20 | 1.10 | 1.20 | 109 | 128 | 94 | 88 | 96 |
| Nebraska....- | 40 | 27 | 27 | 39 | 34 | 1.15 | 1.40 | 1.30 | 1.10 | 1. 25 | 46 | 38 | 35 | 43 | 42 |
| Kansas... | 36 | 23 | 47 | 43 | 30 | 1. 40 | 1.80 | 1.50 | 1. 20 | 1. 20 | 50 | 41 | 71 | 52 | 36 |
| Kentucky | 98 | 90 | 135 | 123 | 130 | 1. 20 | 1.20 | 1.00 | 1.20 | 1.10 | 118 | 108 | 135 | 148 | 143 |
| Tennessee | 129 | 133 | 130 | 90 | 95 | . 95 | 1.10 | 1.00 | 1. 20 | . 80 | 123 | 146 | 130 | 80 | 76 |
| Alabama | 54 | 59 | 118 | 100 | 118 | 1. 00 | . 90 | . 90 | 1.00 | . 75 | 54 | 53 | 106 | 100 | 88 |
| M ississippi | 15 | 15 | 17 | 10 | 10 | 1.10 | . 95 | 1.00 | . 95 | 1. 02 | 16 | 14 | 17 | 10 | 10 |
| Louisiana | 6 | 6 | 15 | 10 | 20 | 1.15 | 1.25 | 1.20 | 1.20 | 1. 50 | 7 | 8 | 18 | 12 | 30 |
| Texas.. | 167 | 151 | 136 | 109 | 50 | 1. 30 | 1.05 | 1.00 | 1. 00 | 1.90 | 217 | 159 | 136 | 109 | 95 |
| Oklahoma | 94 | 100 | 112 | 48 | 53 | 1. 30 | 1.20 | 1.20 | 1.10 | 1. 10 | 122 | 120 | 134 | 53 | 58 |
| Arkansas | 193 | 170 | 112 | 82 | 75 | . 95 | 1.00 | 1.10 | 1. 00 | . 80 | 183 | 170 | 123 | 82 | 60 |
| Montana | 467 | 313 | 202 | 195 | 197 | . 45 | 1.15 | 1.20 | 1. 40 | 1.37 | 210 | 360 | 242 | 273 | 270 |
| W yoming | 101 | 91 | 73 | 71 | 75 | . 65 | 1.25 | 1. 20 | 1. 50 | 1.70 | 66 | 114 | 88 | 106 | 128 |
| Colorado | 132 | 98 | 105 | 110 | 107 | 1.15 | 1.10 | 1.20 | 1.10 | 1. 20 | 152 | 108 | 126 | 121 | 128 |
| New Mexico. | 27 | 25 | 24 | 11. | 11 | 1. 50 | 1. 20 | 1.50 | . 40 | 1. 20 | 40 | 30 | 36 | 4 | 18 |
| Arizona. | 23 | 18 | 24 | 22 | 20 | 1. 20 | 1.10 | 1.30 | 1. 50 | 1. 20 | 128 | 20 | 31 | 33 | 24 |
| Utah | 16 | 13 | 15 | 14 | 11 | 1.10 | 1.20 | . 95 | . 88 | 1. 17 | 18 | 16 | 14 | 12 | 13 |
| Nevada. | 7 | 9 | 7 | 8 | 6 | 1.00 | 1.20 | 1.22 | 1. 24 | 1. 28 | 7 | 11 | 9 | 10 | 8 |
| Idaho | 168 | 154 | 149 | 134 | 149 | 1.10 | 1. 50 | 1.70 | 1. 20 | 1. 50 | 185 | 231 | 253 | 161 | 224 |
| Washington | 477 | 477 | 491 | 490 | 490 | 1.50 | 1.60 | 1.70 | 1.25 | 1.75 | 715 | 763 | 835 | 613 | 858 |
| Oregon. | 467 | 452 | 489 | 410 | 413 | 1.30 | 1.70 | 1.60 | 1.20 | 1.50 | 607 1 | $\begin{array}{r}764 \\ 1 \\ \hline\end{array}$ | 782 1 | 492 1.400 | 620 1.302 |
| California | 1, 085 | 1, 070 | 1, 032 | 1,000 | 930 | 1.20 | 1.20 | 1.20 | 1.40 | 1.40 | 1,302 | 1,284 | 1, 238 | 1,400 | 1,302 |
| United States_ | 5, 266 | 4, 701 | 4, 925 | 4, 560 | 4,363 | 1.15 | 1.32 | 1.31 | 1.36 | 1.36 | 6,008 | 6, 202 | 6,476 | 5, 687 | 5,953 |

Division of Crop and Livestock Estimates.
'Preliminary.

Table 326.-Hay, legumes: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

| State. | Thousands of acres. |  |  |  |  | Yield per acre (tons). |  |  |  |  | Production, thousands of tons. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | 19231 | 1919 | 1920 | 1921 | 1922 | 1923 | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ |
| Maine | 2 | 3 | 4 | 2 | 2 | 1. 20 | 1.20 | 1. 10 | 1.30 | 1. 20 | 2 | 4 | 4 |  |  |
| New Hampshire-- | 1 | 1 | 2 | 2 | 2 | 1. 20 | 1.10 | 1.00 | 1. 20 | 1. 30 | 1 | 1 | 2 |  | 3 |
| Vermont-- | 1 | 1 | 2 | 1 | 1 | 1.50 | 1.40 | 1.30 | 1.50 | 1.40 | 2 | 1 | 3 |  |  |
| Massachusetts | 1 | 1 | 2 | 1 | 1 | 1. 50 | 1.50 | 1.60 | 1. 40 | 1. 50 | 2 | 2 | 3 |  | 2 |
| Rhode Island. | 1 | 1 | 1 | 1 | 1 | 1.50 | 1.40 | 1.30 | 1.40 | 1.40 | 2 | 1 |  |  |  |
| Connecticut | 2 | 2 | 1 | 1 | 1 | 1. 20 | 1.30 | 1.30 | 1. 40 | 1. 50 | 2 | 3 |  | 1 | 2 |
| New York | 5 | 5 | 5 | 5 | . 5 | 1. 20 | 1.28 | $\begin{array}{r}.80 \\ \hline 180\end{array}$ | 1.20 | 1. 20 | 5 | 6 |  |  |  |
| New Jersey | 3 | 3 | 3 | 3 | 3 | 1. 60 | 1.40 | 1.30 | 1. 60 | 1.30 | 5 | 4 |  |  |  |
| Pennsylvani | 4 | 4 |  | 4 | 4 | 1. 80 | 1.80 | 1.80 | 1.90 | 1. 50 | 7 | 7 | 7 |  | ${ }^{6}$ |
| Delaware.-- | 7 | 8 | 9 | 13 | 20 | 1.35 | 1. 40 | 1.45 | 1. 75 | 1.40 | 9 | 1 | 13 | 3 | 28 |
| Maryland | 15 | 16 | 18 | 24 | 32 | 1. 40 | 1.50 | 1.50 | 2.00 | 1.50 | 21 | 24 | 27 | 48 | 48 |
| Virginia | 210 | 227 | 240 | 225 | 237 | 1.10 | 1.20 | . 70 | 1.30 | 1.25 | 231 | 272 | 168 | 291 | 298 |
| West Virginia | 9 | 12 | 13 | 15 | 15 | 1. 20 | 1.20 | 1.00 | 1.40 | 1.60 | 11 | 14 | 13 | 21 | 24 |
| North Carolina | 320 | 286 | 344 | 396 | 386 | . 90 | . 95 | 1.05 | 1.05 | 1.00 | 288 | 272 | 361 | 416 | 386 |
| South Carolina.-- | 190 | 196 | 250 | 341 | 385 | . 85 | . 95 | . 82 | . 85 | . 80 | 162 | 186 | 205 | 291 | 310 |
| Georgia | 407 | 434 | 469 | 504 | 562 | . 88 | . 90 | . 88 | . 78 | . 64 | 358 | 391 | 413 | 395 | 359 |
| Florida | 53 | 55 | 53 | 50 | 59 | . 80 | . 80 | 1.00 | . 68 | . 90 | 42 | 44 | 53 | 34 | 53 |
| Ohio | 6 | 10 | 10 | 17 | 20 | 1.50 | 1.60 | 1.50 | 1.70 | 1.50 | 9 | 16 | 15 | 29 | 30 |
| Indiana | 19 | 35 | 50 | 95 | 190 | 1.05 | 1.40 | 1.20 | 1.50 | 1.40 | 20 | 49 | 60 | 142 | 266 |
| Illinois | 72 | 84 | 92 | 160 | 239 | 1.30 | 1. 20 | 1.30 | 1.50 | 1. 70 | 93 | 101 | 120 | 240 | 406 |
| Michigan | 7 | 6 | 12 | 25 | 36 | 1. 05 | 1.30 | 1. 20 | 1.32 | 1. 50 | 7 | 8 | 14 | 3 | 54 |
| Wisconsin | 5 | 8 | 24 | 30 | 35 | 1.50 | 1. 50 | 1. 70 | 1.20 | 1. 30 | 8 | 12 | 41 | 36 | 45 |
| Minnesota | 6 | 19 | 19 | 30 | 45 | 1. 60 | 1.40 | 1.40 | 1. 20 | 1.10 | 10 | 27 | 27 | 36 | 50 |
| Iowa- | 7 | 9 | 10 | 7 | 10 | 1.50 | 1.60 | 1.80 | 1. 40 | 1.90 | 10 | 14 | 18 | 10 | 19 |
| Missouri | 47 | 63 | 70 | 107 | 165 | 1.10 | 1.15 | 1.10 | 1.20 | 1.15 | 52 | 72 | 77 | 128 | 190 |
| North Dakota | 28 | 28 | 28 | 28 | 25 | . 90 | 1.10 | 1. 20 | 1.40 | 1. 40 | 25 | 31 | 34 | 39 | 35 |
| South Dakot | 5 | 24 | 19 | 12 | 12 | 1.20 | 1.30 | 1.10 | 1.40 | 1.00 | 6 | 31 | 21 | 17 | 12 |
| Nebraska | 8 | 6 | 5 | 4 | 5 | 1. 20 | 1.30 | 1.40 | 1.40 | 1. 50 | 10 | 8 | 7 | 6 | 8 |
| Kansas. | 5 | 3 | 4 | 6 | 8 | 1.30 | 1.50 | 1.80 | 1.40 | 1.31 | 7 | 4 | 7 | 8 | 10 |
| Kentucky | 35 | 45 | 67 | 96 | 96 | 1.10 | 1.10 | 1.00 | 1.95 | 1.40 | 38 | 50 | 67 | 117 | 134 |
| Tennessee | 280 | 260 | 280 | 313 | 311 | 1.05 | 1.30 | 1. 20 | 1.30 | 1. 19 | 294 | 338 | 336 | 407 | 371 |
| Alabama: | 456 | 458 | 444 | 380 | 376 | . 80 | . 80 | . 80 | . 80 | . 61 | 365 | 366 | 355 | 304 | 246 |
| Mississippi | 68 | 92 | 128 | 193 | 202 | 1. 10 | 1.10 | 90 | . 98 | 1.10 | 75 | 101 | 115 | 191 | 222 |
| Louisiana. | 85 | 87 | 93 | 105 | 101 | 1.40 | 1.35 | 1.10 | 1.10 | 1.13 | 119 | 117 | 103 | 116 | 114 |
| Texas----- | 57 | 60 | 54 | 50 | 66 | 1.20 | 1.30 | 1.20 | 1.04 | . 80 | 68 | 78 | 65 | 52 | 53 |
| Oklahoma | 25 | 24 | 30 | 33 | 33 | 1.30 | 1.30 | 1.10 | 1.30 | 1.30 | 32 | 31 | 33 | 43 | 43 |
| Arkansas. | 77 | 97 | 108 | 128 | 117 | 1.00 | 1.15 | 1.00 | 1.10 | 1.10 | 77 | 112 | 108 | 141 | 129 |
| Montana | 6 | 6 | 5 | 4 | 4 | . 80 | 1.20 | 1.30 | 1.30 | 1.35 | 5 | 7 |  | 5 | 5 |
| W yoming | 2 | 2 | 2 |  |  | 1.00 | 1.50 | 1.50 |  |  | 2 | 3 | 3 |  |  |
| Colorado.- | 13 | 10 | 10 | 15 | 14 | 1.20 | 1.40 | 1.50 | 30 | 1.40 | 16 | 14 | 15 | 19 | 20 |
| New Mex | 3 | 3 | 3 | 3 | 3 | 1.30 | 1.30 | 1.30 | 1.00 | 1.50 | 4 | 4 | 4 | 3 | 4 |
| Arizona | 1 | 1 |  |  |  | 1.50 | 1.50 |  |  |  | 2 | 2 |  |  |  |
| Utah. | 2 | 1 | 1 |  |  | 1.50 | 1.40 | 1.60 |  |  | 3 | 1 | 2 |  |  |
| Nevada | 1 | 1 | 1 |  |  | 1.60 | 1.80 | 1.75 |  |  | 2 | 2 | 2 |  |  |
| Idaho. | 4 | 1 |  |  |  | 1.05 | 1.60 | 1.20 |  |  | 4 | 2 | 1 |  |  |
| Washingto | 7 | 7 | 7 | 7 | 8 | 1.60 | 1. 50 | 1.60 | 2.17 | 2.25 | 11 | 10 | 11 | 15 | 16 |
| Oregon. | 25 | 25 | 25 | 48 | 49 | 1.75 | 1.60 | 1.50 | 2.00 | 2.00 | 44 | 40 | 38 | 96 | 98 |
| California | 26 | 26 | 26 | 26 | 20 | 1.16 | 1. 20 | 1.30 | 1.20 | 1.50 | 30 | 31 | 34 | 31. | 30 |
| United States- | 2, 619 | 2, 756 | , 048 | 3, 510 | 3, 905 | . 99 | 1.06 | . 99 | 1.09 | 1.06 | 2, 599 | 2,925 | 3, 021 | 3,812 | 4,143 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

Table 327.-Hay, millet, sudan grass, and other: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

| State. | Thousands of acres. |  |  |  |  | Yield per acre (tons). |  |  |  |  | Production, thousands of tons. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 | 1920 | 1921 | 1922 | $1923{ }^{1}$ | 1919 | 1920 | 1921 | 1922 | 1923 | 1919 | 1920 | 1921 | 1922 | 19231 |
| Maine | 311 | 416 | 421 | 430 | 435 | 1.04 | 0. 79 | 0. 64 | 0.95 | 1. 03 | 323 | 327 | 269 | 408 | 448 |
| New Hampshire.- | 188 | 191 | 194 | 182 | 179 | 1.03 | 98 | 82 | 1. 07 | . 94 | 194 | 187 | 160 | 195 | 169 |
| Vermont-------- | 223 | 224 | 239 | 218 | 220 | 1. 22 | 1. 04 | 96 | 1.16 | 1.06 | 272 | 233 | 230 | 252 | 234 |
| Massachusetts | 150 | 184 | 188 | 185 | 187 | 1.25 | 1.15 | 1.10 | 1. 01 | 1. 06 | 188 | 212 | 206 | 187 | 198 |
| Rhode Island.. | 15 | 17 | 17 | 16 | 16 | 1. 07 | 1.18 | 1.06 | 1. 00 | 1.00 | 16 | 20 | 18 | 16 | 16 |
| Connecticut | 152 | 169 | 167 | 165 | 166 | 1. 22 | . 98 | 1.01 | 1. 05 | 1. 10 | 185 | 165 | 168 | 174 | 183 |
| New York | 630 | 600 | 597 | 610 | 615 | . 89 | . 98 | . 95 | . 89 | . 83 | 561 | 615 | 565 | 542 | 510 |
| New Jersey | 26 | 31 | 35 | 28 | 31 | 1.31 | 1. 29 | 1. 14 | 1. 46 | . ${ }^{\mathbf{9}} 14$ | 34 | 40 | 40 | - 41 | 8 |
| Pennsylvan | 86 4 | 80 | 90 | 72 4 | 72 | 1. 1.50 | 1. 22 | 1. 21 | 1. 22 | 1. 1.50 | 114 | 98 | 109 | 102 | 82 |
| Maryland | 18 | 20 | 26 | 20 | 20 | 1. 22 | 1. 25 | 1. 19 | 1. 90 | . 90 | 22 | 25 | 31 | 38 | 18 |
| Virginia | 108 | 105 | 105 | 112 | 103 | 1.15 | 1. 30 | . 97 | 1.15 | 1.11 | 124 | 137 | 102 | 129 | 114 |
| West Virginia | 90 | 99 | 101 | 105 | 100 | 1. 13 | 1.33 | 1. 35 | 1. 20 | 1. 10 | 102 | 132 | 136 | 126 | 120 |
| North Carolina | 150 | 145 | 142 | 157 | 147 | . 90 | 1.01 | 1.31 | 1. 40 | 1. 50 | 135 | 147 | 186 | 220 | 221 |
| South Carolina | 90 | 87 | 80 | 75 | 55 | . 84 | . 82 | . 75 | 1. 40 | 1.00 | 76 | 71 | 60 | 105 | 55 |
| Georgia | 148 | 156 | 148 | 148 | 128 | 85 | 80 | 90 | 96 | . 69 | 127 | 12 | 133 | 43 | 89 |
| Florida | 60 | 52 | 52 | 71 | 67 | 77 | . 79 | 1.06 | . 70 | . 20 | 46 | 41 | 55 | 50 | 60 |
| Ohio | 26 | 26 | 29 | 31 | 30 | 1.04 | 1. 50 | 1.34 | 1. 61 | 1. 60 | 36 | 39 | 39 | 50 | 48 |
| Indiana | 69 | 66 | 80 | 80 | 70 | 1.34 | 1.33 | 1.18 | 1. 25 | 1. 10 | 91 | 88 | 94 | 100 | 77 |
| Illinois | 355 | 314 | 342 | 335 | 344 | 1. 11 | 1.09 | 1.17 | 1.09 | 1.20 | 411 | 343 | 399 | 365 | 413 |
| Michigan | 48 | 40 | 81 | 83 | 87 | 1.25 | 1.18 | 1. 31 | 1. 23 | 1. 25 | 00 | 47 | 106 | 102 | 109 |
| Wisconsin | 60 | 70 | 196 | 75 | 79 | 1. 57 | 1. 21 | 1. 41 | 1. 20 | 1. 40 | 94 | 85 | 277 | 90 | 111 |
| Minnes | 205 | 186 | 159 | 116 | 128 | 1.92 | 1. 50 | 1. 57 | 1. 40 | 1.35 | 393 | 279 | 250 | 162 | 173 |
| Iowa | 72 | 62 | 67 | 84 | 70 | 1. 62 | 1. 65 | 1. 63 | 1. 50 | 1.74 | 118 | 102 | 109 | 126 | 122 |
| Missour | 141 | 137 | 150 | 160 | 173 | 1.56 | 1. 45 | 1.41 | 1. 14 | 1. 60 | 220 | 208 | 211 | 182 | 280 |
| North Dakota | 264 | 284 | 368 | 360 | 350 | 1. 50 | 1.18 | 1.38 | 1. 55 | 1. 56 | 397 | 334 | 507 | 658 | 648 |
| South Dako | 95 | 113 | 83 | 75 | 90 | 1. 62 | 1. 60 | 1.28 | 1. 63 | 1. 62 | 154 | 181 | 106 | 122 | 140 |
| Nebraska | 249 | 182 | 139 | 175 | 208 | 1. 69 | 1.70. | 1.76 | 1.83 | 2.30 | 420 | 309 | 244 | 320 | 478 |
| Kansas | 220 | 220 | 183 | 375 | 426 | 2. 13 | 2.33 | 2.36 | 2.11 | 2. 10 | 469 | 514 | 431 | 818 | 89 |
| Kentucky. | 281 | 258 | 234 | 253 | 243 | 1. 27 | 1.31 | 1. 23 | 1.35 | 1. 20 | 331 | 335 | 288 | 331 | 292 |
| Tennessee | 372 | 378 | 376 | 334 | 323 | 1. 12 | 1.26 | 1. 22 | 1. 23 | 1.00 | 439 | 463 | 458 | 412 | $32 \%$ |
| Alabams | 230 | 218 | 240 | 220 | 196 | 1.07 | 1.00 | 1.05 | 1. 14 | 1. 07 | 250 | 218 | 251 | 251 | 210 |
| Mississippi | 172 | 150 | 139 | 130 | 143 | 1.28 | 1.23 | 1.08 | 1. 37 | 1. 29 | 212 | 184 | 150 | 176 | 8 |
| Louisiana | 59 | 61 | 42 | 37 | 37 | 1. 44 | 1.15 | 1.07 | 1.10 | 1.20 | 85 | 70 | 45 | 41 | 4 |
| Texas | 261 | 283 | 387 | 448 | 532 | 1.60 | 1. 55 | 1.41 | 1. 65 | 1.60 | 418 | 426 | 544 | 738 | 861 |
| Oklahom | 363 | 373 | 404 | 506 | 468 | 1. 62 | 1. 55 | 1.37 | 1. 64 | 1. 67 | 589 | 577 | 555 | 786 | 754 |
| Arkansas | 148 | 165 | 159 | 152 | 154 | 1.08 | 1.62 | 1.13 | 1.20 | 1. 20 | 160 | 267 | 179 | 182 | 185 |
| Montana. | 76 | 90 | 93 | 82 | 90 | . 88 | 1.45 | 1.38 | 1. 66 | 1. 56 | 66 | 131 | 128 | 136 | 140 |
| W yoming | 67 | 77 | 80 | 60 | 39 | 1. 07 | 1.32 | 1. 50 | 1.35 | 1. 59 | 72 | 122 | 120 | 81 | 62 |
| Colorado. | 125 | 127 | 90 | 88 | 90 | 1.34 | 1.41 | 1.30 | 1.33 | 1.30 | 168 | 179 | 117 | 117 | 117 |
| New Mex | 24 | 23 | 23 | 35 | 34 | 1. 25 | 1.70 | 1. 52 | $\bigcirc 60$ | 1. 00 | 40. | 39 | 35 | 20 | 34 |
| Arizon | 10 | 9 | 4 | 8 | 6 | 1. 50 | 1. 56 | 1. 75 | 1. 50 | 1. 50 | 15 | 14 | 7 | 12 | 9 |
| Utah. | 25 | 23 | 17 | 16 | 14 | 1.30 | 1.10 | 1. 40 | 1.70 | 1. 69 | 33 | 25 | 24 | 27 | 24 |
| Nevada | 30 | 30 | 28 | 30 | 31 | 1.35 | 1. 50 | 1.50 | 1.56 | 1.32 | 40 | 45 | 42 | 48 | 40 |
| Idaho | 21 | 32 | 30 | 20 | 21 | 1. 20 | 1.40 | 1. 60 | 1.40 | 1. 45 | 25 | 45 | 48 | 30 | 30 |
| Washingt | 52 | 53 | 54 | 50 | 51 | 1.90 | 1.50 | 1. 50 | . 90 | 2.00 | 99 | 80 | 81 | 102 | 102 |
| Oregon | 82 | 85 | 85 | 77 | 79 | 1. 60 | 1. 40 | 1. 40 | 1. 50 | 1. 60 | 131 | 119 | 119 | 116 | 126 |
| Californis | 26 | 50 | 50 | 50 | 53 | 1.16 | 1.30 | 1. 30 | 1.10 | 1.30 | 30 | 65 | 65 | 55 | 9 |
| United States | 6,658 | 6, 766 | 7, 021 | 7, 143 | 7, 206 | 1. 29 | 1.26 | 1. 21 | 1.31 | 1.32 | 8, 494 | 8, 591 | 8,505 | 9,389 | 9, 547 |

Division of Crop and Livestock Estimates.
1Preliminary.

Table 328.-Hay, tame: Condition of crop, 1st of month, and yield per acre, United States, 1908-1923.

| Calendar year. | May. | June. | July. | Aug. | Yield per acre. | Calendar year. | May. | June. | July. | Aug. | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908.--------- | $\begin{gathered} P . c t . \\ 93.5 \end{gathered}$ | $\begin{gathered} \text { P.ct. } \\ 96.8 \end{gathered}$ | $\begin{gathered} P_{9 .}, c t .6 \end{gathered}$ | $\underset{92.1}{P . c t .}$ | Tons. 1. 53 | 1916...-.-.-.-- | $\begin{gathered} P . c t . \\ 88.4 \\ 88.5 \end{gathered}$ | P.ct. | P.ct. | P.ct. | Tons. |
| 1909 | 84.5 | 87.6 | 87.8 | 86.8 | 1.46 | 1918 |  | 84.3 <br> 89.5 | 85.1 | 87.3 83.3 | 1. 51 |
| 1910 | 89.8 | 85.9 | 80.2 | 83.1 | 1.36 | 1919 | 94.0 | 93.5 | 90.7 | 91.2 | 1. 52 |
| 1911 | 84.7 | 77.4 | 64.9 | 68.6 | 1.14 | 1920 | 89.4 | 87.9 | 85.5 | 89.8 | 1.51 |
| 1912 | 85.7 | 89.8 | 85.2 | 91.0 | 1.47 |  |  |  | 86.1 |  |  |
| 1913 | 88.5 | 86.9 | 80.5 | 82.3 | 1.31 | Av. 1914-1920. | 90.1 | 88.7 | 86.1 | 88.7 | 1.52 |
| A v. 1909-1913. | 86.6 | 85.5 | 79.7 | 82.4 | 1.35 | 1921 | 91.7 | 84.2 | 78.7 | 82.2 | 1.40 |
| 1914 | 90.9 | 87.6 | 80.8 | 85.0 | 1.43 | 1923 | 86.8 | 84.1 | 80.3 | 81.0 | 1.48 |
| 1915. | 89.8 | 87.8 | 85.2 | 89.0 | 1.68 |  |  |  |  |  |  |

Division of Orop and Livestock Estimates.
Table 329.-Hay: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

| Calendar year. | Deficient mois | Ex-cessive moisture. | Floods. | Frost or freeze. | Hail. | $\underset{\text { winds. }}{\text { Hot }}$ | Storms. | $\begin{aligned} & \text { Total } \\ & \text { cli- } \\ & \text { mat- } \\ & \text { ic. } \end{aligned}$ | Plant disease. | Insect pests. | Animal pests | De-fective seed. | Total ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P .ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. | P.ct. |
| 1909 | 10.7 | 2.2 | 0.6 | 1.2 | 0.1 | 0.3 | 0.3 | 15.7 | 0.1 | 0.5 | 0.1 | 0.1 | 17.6 |
| 1910 | 17.4 | 1.2 | . 3 | 1.2 | . 1 | . 5 | . 1 | 21.2 | . 1 | . 5 | . 2 | . 1 | 23.6 |
| 1911 | 27.7 | . 8 | ${ }^{(2)}$ | 9 | . 1 | 1.9 | ${ }^{(2)}$ | 31.9 | . 1 | . 6 | . 1 | $\mathrm{c}^{1}$ | 34.7 |
| 1915 | 3.7 | 4.9 | . 6 | 1.8 | . 1 | . 1 | . 3 | 11.9 | 2 | . 5 | 1 | (2) | 13.9 |
| 1916 | 5.5 | 1.0 | . 3 | 1.1 | . 1 | . 2 | . 1 | 8.6 | ${ }^{(1)}$ | . 3 | ${ }^{(2)}$ | ${ }^{(2)}$ | 9.6 |
| 1917. | 11.5 | 1.3 | . 2 | 2.9 | . 2 | . 3 | . 1 | 16.8 | . 1 | . 4 | . 1 | ${ }^{(2)}$ | 18.3 |
| 1918. | 17.5 | 7 | 2 | 2.7 | . 1 | . 8 | . 1 | 22.7 | . 1 | . 9 |  | ${ }^{(2)}$ | 24.9 |
| 1919 | 9.9 | 1.9 | . 3 | 1.0 | . 1 | . 4 | . 1 | 13.9 | . 1 | 1.0 | ${ }^{(2)}$ | .1 | 15.5 |
| 1920 | 7.2 | 1.4 | . 2 | 4 | . 2 | . 2 | . 1 | 10.8 | . 2 | 1.0 |  | . 1 | 12.7 |
| 1921. | 15.1 | . 9 | . 2 | 1.4 | . 2 | . 7 | . 2 | 19.5 | . 2 | . 9 | 1 |  | 21.0 |
| 1922. |  |  |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Includes all other causes.
${ }^{2}$ Less than 0.05 per cent.
Table 330.-Hay, all: Stocks on farms May 1, United States, 1910-1923.

| Calendar year. | Production of all hay preceding year (tons) | Per cent on farms May 1. | Tons on farms May 1. | Price per ton May 1. | Calendar year | Production of all hay preceding year (tons). | Per cent on farms May 1. | Tons on farms May 1. | Price perton May 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 92, 767, 000 | 11.6 | 10, 745, 000 | \$11. 08 | 1917 | 110, 992, 000 | 11.4 | 12, 659,000 | \$13.94 |
| 1911. | 82, 529, 000 | 12.4 | 10, 222, 000 | 11.69 | 1918 | 98, 439, 000 | 11.7 | 11, 476, 000 | 17.97 |
| 1912 | 67, 071, 000 | 8.5 | 5, 732, 000 | 16. 31 | 1919 | 91, 139, 000 | 9.4 | 8, 559, 000 | 22. 31 |
| 1913 | 90, 734, 000 | 14.9 | 13, 523,000 | 10.42 | 1920 | 104, 760, 000 | 10.1 | 10, 618,000 | 24. 22 |
| 1914 | 79, 179, 000 | 12.2 | 9, 631, 000 | 11.63 | 1921 | 105, 315, 000 | 17.8 | 18, 771, 000 | 13. 08 |
| 1915 | 88, 686, 000 | 12.2 | 10, 797, 000 | 11.03 | 1922 | 97, 770, 000 | 11. 2 | 10, 919,000 | 12.98 |
| 1916... | 107, 263, 000 | 13.5 | 14, 452, 000 | 11. 27 | 1923 | 112, 013, 000 | 12.0 | 13, 392, 000 | 12.69 |

Division of Crop and Livestock Estimates.

Table 331.-Hay: Receipts at 12 markets, 1910-1923.

| Year beginning July 1. | Baltimore. | Boston. | $\begin{aligned} & \text { Chi- } \\ & \text { cago. } \end{aligned}$ | Kansas City. | Mil-waukee. | Min-neapolis. | New York. | Peo- ria. | Phil-adelphia. | Pittsburgh. | St. Louis. | San <br> Francisco. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Short | Short | Short | Short | Short | Short | t | rt | rt |  | $r t$ | rt | rt |
|  |  | $162,42$ |  |  |  |  |  |  |  |  |  |  |  |
| 1911-12 | 69, 284 | 164, 196 | 351, 630 | 318, 948 | 44, 199 | 63, 570 | 286, 474 | 41, 822 | 86 | 115, 608 | 20, |  |  |
| 1912-13 | 58, 939 | 139, 92 | 274, 76 | 343, 392 | 47, 138 | 37, 290 | 296, 866 | 38, 131 | 82,063 | 106, 993 | 222, 998 | 141, 22 | $1,789,723$ |
| 1913 | 63, 186 | 117, 740 | 369, 032 | 285, 288 | 36, 283 | 38, 280 | 317, 543 | 43, 660 | 75, 630 | 103, 466 | 261, 155 | 133, 598 | 1, 844, 861 |
| 14-15 |  | 115 |  |  |  |  |  |  |  | 83, | 30 |  |  |
| 1915-16 | 50, 415 | 126, 590 | 273, 181 | 398, 172 | 34, 637 | 45, 376 | 294, 39 | 1, 299 | 84, 006 | 106, 710 | 232, 628 | 146, 560 | 969 |
| 1916-17 |  | 123, 780 | 237, 932 | 359, 316 | 24, 360 | 35, 652 | 212, 256 | 48, 870 | 78, 284 | 92, 202 | 210, 591 | 104, 468 | 1,578, 585 |
| 1917-18 | 64, 053 | 97, 150 | 352, 730 | 419, 964 | 23, 131 | 39, 126 | 199, 7 | 40, | 61, 618 | 74, 07 | 237, 506 | 82, | 691, 790 |
| 1918-19 | 41, 870 | 67, 000 | 287, 031 | 386, 460 | 16, 656 | 28, 457 | 221, 580 | 35, 05 | 31, 571 | 72, 72 | 213, 043 | 72, 440 | 1, 473, 879 |
| 1919-2 | 32, 650 | 58, 740 | 225, 050 | 599, 340 | 19, 053 | 22, 601 | 167, 088 | 33, 30 | 52, 466 | 63, 68 | 254, 042 | 85, 80 | 1, 613, 823 |
| 1920 | 19, 559 | 50, 220 | 149, 801 | 337, 169 | 19, 466 | 23, 015 | 150, 338 | 21, 140 | 40, 057 | 79, 062 | 188, 550 | 75, 272 | 1, 153, 649 |
| $1920$ | 44, 904 | 91, 234 | 264, 403 | 414, 146 | 26, 052 | 34, 249 | 225, 068 | 37, 696 | 60, 941 | 81,768 | 235, 012 | 104, 108 | 1, 619, 581 |
| 1921 | 13, 730 | 51, 250 | 135, 625 | 196, 534 | 19, 0 | 23, 467 | 98, 904 | 10, 970 | 51, 226 | 76, 162 | 121, 104 | 59, 185 | 857, 195 |
| 1922 | 15,536 | 47, 010 | 152, 632 | 244, 169 | 17,626 | 25, 972 | 92, 516 | 33, 060 | 42, 188 | 61, 769 | 138, 312 | 60, 017 | 930, 807 |
| $\begin{array}{r} 1922 \\ \text { July } \end{array}$ | 1,169 | 2,070 | , 906 | 14, 190 | 348 | 2, 244 | 10, | 2,300 | 4 | 4, 122 |  |  |  |
| Augu | 1,780 | 4,110 | 9,861 | 21, 978 | 1, 140 | 2, 263 | 6,000 | 6, 380 | 6, 100 | 5, 508 | 13,0 | 9, 270 |  |
| Septembe | 1,314 | 3, 890 | 9,864 | 13, 937 | 1, 080 | 1, 921 | 10,677 | 3, 750 | 2,96 | 5,808 | 9, 712 | 5, 180 | 70,097 |
| October |  | 3, 390 | 14,443 | 18, 975 | 1, 344 | 2,183 | 10, 052 | 3, 410 |  | 5, 008 |  | 3, 159 | 76, 178 |
| Novembe | 781 | 6,080 | 11,879 | 31, 438 | 2, 270 | 2, 245 | 9, 532 | 2,700 | 3, 532 | 6, 944 | 13, 401 | 5, 017 | 95, 819 |
| December | 1,083 | 2, 790 | 17, 654 | 25, 071 | 1, 520 | 2, 254 | 6,795 | 2, 610 | 3, 000 | 5, 764 | 11, 664 | 4,058 | 84, 263 |
| $1923 .$ |  |  |  |  |  | 2,799 |  | 2, 290 | 5, | 3, 564 |  |  |  |
| February | 814 | 4,080 | 9, 884 | 21, 681 | 1, 546 | 2, 141 | 3, 6 | 1,890 | 2, 676 | 4, 610 | 13, 854 | 2,829 | 695 |
| March | 1, 022 | 5,450 | 10, 333 | 27, 456 | 1,344 | 3, 154 | 8,088 | 1,450 | 2,520 | 5,466 | 13, 011 | 5,228 | 84, 523 |
| April | 2, 202 | 4,820 | 11, 536 | 21, 582 | 1,320 | 1, 502 | 5, 488 | 2, 710 | 2,580 | 6,98 | 12,858 | 5, | 79,024 |
| May | 2,025 | 3, 680 | 17, 156 | 11, 642 | 1,438 | 1,667 | 6, 320 | 2,670 | 2,772 | 3, 625 | 11,267 | 4,790 | 69, 061 |
| June | 1, 584 | 3,540 | 14, 650 | 8,953 | 1,488 | 1,589 | 6, 892 | 900 | 3,048 | 4,367 | 11, 400 | 6,941 | 64, 352 |
| Total | 15,536 | 47, 010 | 152, 632 | 244, 169 | 17, 626 | 25, 972 | 92, 51 | 33, 06 | 42, 188 | 61,76 | 138, 312 | 60, 01 | 230, 807 |
| July. | 1, 452 | 4, 650 | 10, 616 | 15, 224 | 1, 008 | 2, 23 | 7,7 | 3220 | 2,57 | 3, 6 | 10 | 7,0 | 83, 913 |
| August | 1,837 | 1,930 | 6, 5 | 23, 958 | 996 | 1,79 | 5,385 | 3, 95 | 2, 53 | 2,097 | 10,228 | 14,00 | 75, 217 |
| September. | 2,708 | 4,080 | 11, 724 | 20,977 | 1,152 | 1,800 | 7,672 9,306 | 5, ${ }^{4} 890$ | 2, 70 | ${ }_{9} \mathbf{0}, 1218$ | 12, 11.504 | 6, ${ }_{9}$ | 83,310 101,717 |
| October---- | 2, 263 | 4, 430 | 10, 775 | 21, 582 | 1, 6972 | 2,875 | 9, 806 | 2, 670 | 4, 295 | 9, 2107 | 13, 200 | 7, 496 | 101,713 89,513 |
| December | 1,446 | 3, 760 | 10,334 | 17, 446 | 1,571 | 3, 516 | 9, 183 | 1,120 | 4,620 | 5, 105 | 8,652 | 8,640 | 75, 393 |
| T | 12,544 | 22,000 | 68, 854 | 120, 588 | 8,891 | 14, 744 | 47, 679 | 18, 550 | 22, 974 | 35, 306 | 63, 764 | 53, 169 | 489, 063 |

Division of Statistical and Historical Research. Compiled from Hay Trade Journal; Annual Reports of San Francisco Merchants' Exchange; Minneapolis Chamber of Commerce Reports and Daily Market Record; Chicago Board of Trade and Daily Trade Bulletin; Kansas City Grain Market Review.

[^212]Table 332.-Hay: Shipments from eight markets, 1910-1923.

| Year beginning July 1. | Baltimore. | Chicago. | $\begin{gathered} \text { Kansas } \\ \text { City. } \end{gathered}$ | $\begin{aligned} & \text { Mil- } \\ & \text { waukee. } \end{aligned}$ | Minneapolis. | Peoria. | Pittsburgh. | st. Louis. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Short | Short | Short | Short | Short | Short | Short | Short | Short |
|  | tons. | tons. | tons. | tons. | tons. | tons. | tons. | tons. | ton |
| 1910-11 | 11,864 | 18, 011 | 93, 828 | 5,958 | 31, 350 | 10,373 | 76,631 | 112, 435 | 360,450 |
| 1911-12 | 13,257 | 49, 160 | 58,896 | 4,445 | 28, 910 | 17,222 | 75,420 | 146, 285 | 393, 595 |
| 1912-13 | 8, 313 | 22, 681 | 85, 176 | 3,159 | 4,820 | 7,819 | 65, 800 | 105, 533 | 303, 301 |
| 1913-14 | 8,995 | 39, 184 | 78,756 | 9, 718 | 5,500 | 16, 077 | 65, 148 | 139, 376 | 362,754 |
| 1914-15. | 8,896 | 83, 414 | 67,608 | .17,308 | 5,390 | 19,788 | 37, 512 | 172, 590 | 412, 504 |
| 1915-16 | 9,681 | 55, 791 | 73, 668 | 6, 841 | 4,156 | 9, 678 | 87, 216 | 90, 415 | 337, 444 |
| 1916-17 | 13,657 | 33, 439 | 138, 432 | 5, 765 | 4,351 | 15, 324 | 55, 032 | 103, 990 | 369,990 |
| 1917-18 | 26, 913 | 62, 665 | 222, 912 | 5,293 | 7,042 | 10, 621 | 20, 536 | 177, 240 | 533, 222 |
| 1918-19 | 20, 221 | 52,802 | 143,040 | 2,986 | 4,147 | 7,650 | 23, 511 | 119, 625 | 373, 982 |
| 1919-20 | 4,118 | 32, 637 | 276, 492 | 5,270 | 6,925 | 6,151 | 26, 267 | 111, 695 | 469, 555 |
| 1920-21 |  | 18, 631 | 153, 648 | 3,863 | 2,020 | 7, 100 | 40,480 | 63, 250 | 288, 992 |
| Av. 1914-1920 |  | 48, 483 | 153, 686 | 6,761 | 4,862 | 10,901 | 41, 508 | 119, 829 | 397, 956 |
| 1921-22 |  | 9,700 | 50, 748 | 10, 435 | 3,531 | 4, 520 | 31, 509 | 43, 610 | 154, 053 |
| 1922-23 |  | 10,951 | 78, 660 | 14, 879 | 2,625 | 3,460 | 7,323 | 61, 720 | 179, 618 |
| July |  | 531 | 3,636 | 1,684 | 35 | 400 | 1,188 | 2, 610 | 10,094 |
| August |  | 323 | 3, 840 | 1, 438 | 82 | 480 | 4,820 | 3,970 | 14, 953 |
| Septembe |  | 725 | 3,000 | 1, 171 | 81 | 120 | 1,305 | 3,465 | 9,867 |
| October |  | 496 | 4,704 | 1,380 | 172 | 170 |  | 2,970 | 9,892 |
| November |  | 392 | 6,492 | 1, 464 | 228 | 220 |  | 5, 315 | 14, 111 |
| December |  | 528 | 7,644 | 1, 178 | 307 | 180 |  | 4,320 | 14, 153 |
| 1923. |  | 601 | 14, 820 | 960 | 289 | 710 |  | 5, 910 | 23, 290 |
| February |  | 278 | 9,540 | 1,699 | 233 | 340 |  | 6,120 | 18,210 |
| March |  | 833 | 10, 716 | 1,678 | 341 | 220 |  | 8,415 | 22, 203 |
| April |  | 1,663 | 8,184 | 724 | 425 | 230 |  | 7,720 | 18,976 |
| May. |  | 2,948 | 4,092 | 670 | 154 | 270 |  | 5, 660 | 13,794 |
| June. |  | 1,635 | 1,992 | 835 | 278 | 90 |  | 5,245 | 10,075 |
| Total. |  | 10,951 | 78,660 | 14, 879 | 2,625 | 3,460 | 7, 323 | 61,720 | 179,618 |
| July. |  | 716 | 5,324 | 708 | 90 | 70 |  | 3, 657 | 10,565 |
| August |  | 582 | 4,488 | 432 | 148 | 50 |  | 3, 555 | 9, 255 |
| Septembe |  | 1,522 | 4, 896 | 516. | - 131 | 180 |  | 4, 245 | 11,490 |
| October |  | 358 | 4,476 | 382 | 328 | 160 |  | 3, 315 | 9, 017 |
| November |  | 723 | 6,720 | 584 | 286 | 280 |  | 4,555 | 13, 148 |
| December |  | 750 | 7,968 | 499 | 495 | 100 |  | 3,450 | 13,262 |
| Total |  | 4,651 | 33, 872 | 3, 121 | 1,476 | 840 |  | 22, 777 | 66,737 |

Division of Statistical and Historical Research. Compiled from Hay Trade Journal; Chicago Board of Trade, and Daily Trade Bulletin; Kansas City Board of Trade, and Grain Market Review; Minneapolis Daily Market Record; Peoria Board of Trade.

Table 333.-Hay, tame: Farm price per ton December 1, by States, calendar years, 1908-1923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\begin{gathered} \text { Av. } \\ 1909- \\ 1913 \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{gathered} \text { AV. } \\ 1914- \\ 1920 \end{gathered}$ | 1921 | 1922 | 1923 | Value per acre, $1923 .{ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. |
| Maine | 14.00 | 14.70 | 12.80 | 14. 40 | 13.70 | 13.90 | 13.90 | 13. 10 | 14. 90 | 12. 40 | 11. 10 | 13. 90 | 18. 70 | 24. 60 | 15. 53 | 20.00 | 13. 10 | 13. 50 | 17.28 |
| New Hampshi | 16.00 | 17. 90 | 15.80 | 17.20 | 15.00 | 17. 20 | 16. 62 | 17.00 | 17.40 | 14. 50 | 12. 00 | 18. 80 | 24. 00 | 25.00 | 18. 39 | 28. 00 | 19. 50 | 19. 00 | 22. 80 |
| Vermont. | 13. 50 | 14.70 | 12. 40 | 14.00 | 14.00 | 14. 50 | 13.92 | 14.60 | 15. 50 | 12. 60 | 11.50 | 16. 30 | 20.10 | 23.00 | 16. 23 | 22. 00 | 17.50 | 16. 50 | 23. 10 |
| Massachusetts | 17.00 | 18.90 | 19.10 | 23.00 | 21. 50 | 21. 10 | 20.72 | 21.50 | 22.00 | 19.00 | 19.90 | 26. 00 | 27.00 | 28.00 | 23. 34 | 27.00 | 23.00 | 26.00 | 35. 62 |
| Rhode Island | 17. 25 | 18.60 | 19.60 | 24. 10 | 22. 20 | 21.20 | 21. 14 | 20. 20 | 22. 50 | 20.00 | 20.30 | 25.50 | 32.00 | 33.20 | 24.81 | 27.00 | 26.50 | 26.80 | 33.50 |
| Connecticut | 15.75 | 19.30 | 19.00 | 23. 50 | 22. 50 | 20.10 | 20.88 | 19.50 | 20.00 | 18. 50 | 19.50 | 24.00 | 30. 20 | 30.00 | 23. 10 | 26.00 | 26.00 | 24.00 | 31.68 |
| New York | 12.25 | 14. 20 | 13.70 | 17.90 | 14.90 | 15.30 | 15. 20 | 14. 60 | 15. 70 | 11.90 | 15.10 | 20.40 | 20.50 | 23. 60 | 17. 40 | 18.00 | 14. 10 | 16. 20 | 22. 03 |
| New Jersey | 14.00 | 16. 50 | 18. 20 | 22.00 | 20.00 | 19.00 | 19.14 | 19. 50 | 19.00 | 17.60 | 20.00 | 28.00 | 29. 10 | 27.50 | 22.96 | 18.00 | 18. 10 | 26.90 | 28. 24 |
| Pennsylvani | 12.00 | 14.60 | 15.00 | 20.00 | 15. 60 | 14.90 | 16.02 | 14.50 | 15.60 | 13.80 | 17.50 | 23.70 | 24, 00 | 23. 50 | 18.94 | 17.00 | 14. 30 | 21. 50 | 22. 58 |
| Delaware | 12. 50 | 15.00 | 14.80 | 22.50 | 15.00 | 15. 70 | 16.60 | 17.00 | 17.00 | 15.90 | 20.50 | 28.00 | 26.00 | 21. 50 | 20.84 | 17.50 | 19.00 | 21.00 | 24. 15 |
| Maryland | 12.00 | 14.40 | 15. 40 | 22. 40 | 14. 40 | 15. 20 | 16. 36 | 15. 30 | 16. 20 | 14.00 | 19.90 | 26.80 | 24. 00 | 25. 00 | 20.17 | 15. 10 | 18. 50 | 23.60 | 24. 78 |
| Virginia | 12. 25 | 13.30 | 14. 60 | 20.50 | 15. 20 | 15. 60 | 15.80 | 17. 20 | 15.70 | 15.00 | 21.30 | 23.00 | 23.70 | 23. 60 | 19.91 | 17.70 | 16.00 | 20.00 | 20.00 |
| West Virginia | 11. 00 | 13.30 | 15.00 | 20.00 | 15.00 | 14.90 | 15. 64 | 17.20 | 15.00 | 14.50 | 21.10 | 23.50 | 25.60 | 24. 20 | 20.16 | 17.50 | 16.80 | 19.90 | 23.88 |
| North Carolina | 13. 50 | 14. 40 | 14. 60 | 17.00 | 16. 70 | 16. 50 | 15.84 | 17.10 | 16. 50 | 17.50 | 19.70 | 21.00 | 24. 20 | 23.90 | 19.84 | 19.80 | 18.20 | 20.00 | 24.00 |
| South Carolina | 14.80 | 15. 50 | 16.00 | 17.00 | 18.00 | 18.70 | 17.04 | 17.00 | 15.60 | 16.70 | 20.60 | 26.10 | 31.00 | 25.00 | 21.71 | 20.00 | 17.50 | 18.00 | 15. 30 |
| Georgis | 14.35 | 15. 80 | 16. 40 | 17.00 | 17.00 | 17.90 | 16.82 | 16. 20 | 15. 10 | 16. 20 | 20. 00 | 23.50 | 25. 30 | 23. 50 | 19.97 | 15. 80 | 17.00 | 18.90 | 12. 47 |
| Florida | 14.80 | 15. 00 | 17.00 | 18.50 | 18. 10 | 18. 20 | 17.36 | 17.20 | 16. 00 | 16.00 | 18. 20 | 18. 50 | 23.00 | 19.00 | 18.27 | 19.50 | 18. 50 | 20.00 | 18. 00 |
| Ohio. | 8. 70 | 10.90 | 12.50 | 18.90 | 13.00 | 12. 80 | 13. 62 | 13. 40 | 12. 70 | 10.60 | 19.00 | 22. 20 | 21.80 | 19.50 | 17.03 | 11. 50 | 10.80 | 16. 70 | 20.04 |
| Indians. | 8.80 | 10.50 | 11. 90 | 16. 80 | 11.40 | 14.10 | 12. 94 | 14. 10 | 11.00 | 10.90 | 18.70 | 19.80 | 21.60 | 19. 30 | 16. 49 | 13.00 | 11. 20 | 15.60 | 19.34 |
| Illinois. | 8.20 | 9.90 | 12.00 | 17.00 | 12.60 | 14. 10 | 18. 12 | 14. 40 | 10.80 | 11.30 | 20.00 | 21.00 | 21.40 | 20.60 | 17.07 | 13.50 | 12. 50 | 14.80 | 19.24 |
| Michigan | 8.75 | 11.40 | 13. 60 | 17.00 | 12.70 | 13.10 | 13. 56 | 12.00 | 12. 20 | 10.00 | 17. 20 | 23.50 | 23.40 | 21.00 | 17.04 | 13.00 | 10. 10 | 14.50 | 18. 27 |
| Wisconsin | 8.00 | 9.60 | 15. 10 | 15. 60 | 12. 10 | 11. 10 | 12. 70 | 9. 30 | 9.90 | 11.60 | 17.30 | 21.60 | 20.30 | 20,40 | 15.77 | 15.40 | 12.30 | 16.00 | 21. 28 |
| Minnesot | 5. 40 | 6.00 | 9.10 | 11.90 | 6. 40 | 6. 60 | 8. 00 | 6.10 | 6.40 | 7.00 | 12.10 | 14. 10 | 14. 50 | 11, 20 | 10.20 | 8.60 | 10.70 | 11. 30 | 14. 12 |
| Iowa. | 5. 70 | 7.10 | 9. 60 | 12. 50 | 9.50 | 9.60 | 9.68 | 10. 10 | 8.70 | 9. 00 | 16. 80 | 18. 20 | 17.40 | 16, 24 | 13.78 | 9. 30 | 10.00 | 12.50 | 18.88 |
| Missouri | 7.00 | 8.30 | 9. 20 | 13.80 | 9.80 | 14. 50 | 11.02 | 13.60 | 8. 50 | 9. 30 | 17.50 | 20.50 | 19.50 | 15, 70 | 14.94 | 9.80 | 11. 50 | 12.00 | 14. 64 |
| North Dakota. | 4.80 | 5. 00 | 7.60 | 7.00 | 5. 50 | 5.80 | 6. 18 | 5. 20 | 5. 70 | 6.00 | 11. 50 | 14. 60 | 14. 10 | 9.90 | 9.57 | 7.70 | 7.50 | 6.80 | 10. 20 |
| South Dakota. | 4.10 | 5. 10 | 7.10 | 8. 50 | 6. 10 | 6. 50 | 6. 66 | 5. 70 | 5.30 | 5. 40 | 10.60 | 10.00 | 13.50 | 8. 50 | 8.43 | 6. 40 | 7.50 | 8.10 | 13. 36 |
| Nebraska | 4.90 | 6.00 | 8.90 | 9.70 | 8.40 | 8.70 | 8. 34 | 6.90 | 5.80 | 7.10 | 15. 20 | 17. 20 | 14.00 | 9. 00 | 10.74 | 7.00 | 11. 20 | 10.20 | 24. 79 |
| Kansas. | 5.70 11.00 | 6.00 11.90 | 7. 13 13.10 | 9.90 17.30 | 7. 60 | 12.50 | 8.76 14.50 | 7. 40 16.00 | 5. 60 | 7. 60 | 16.60 20.30 | 19.40 | 15.80 25.40 | 10.20 | 11.80 18.93 | 8. 00 | 9. 30 14.50 | 10.60 17.00 | 23.43 17.85 |

Table 333.-Hay, tame: Farm price per ton December 1, by States, calerdar years, 1908-1923, and value per acre, 1923-Continued.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\begin{gathered} \text { AV. } \\ 1909 \\ 1913 \end{gathered}$ | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1820 | $\begin{gathered} A \nabla . \\ 1914- \\ 1920 \end{gathered}$ | 1921 | 1922 | 1923 | Value per acre, 1923. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. | Dols. |
| Tennessee. | 11.80 | 12.80 | 13. 40 | 16. 70 | 15. 80 | 16. 20 | 14. 98 | 17.00 | 13.90 | 15.00 | 19.30 | 24. 00 | 27. 00 | 20.50 | 19.53 | 15. 50 | 16. 40 | 18. 50 | 21. 28 |
| Alabama | 12.50 | 13. 50 | 13. 20 | 12.80 | 14. 60 | 14. 20 | 13. 66 | 13. 80 | 12. 40 | 13.00 | 16. 20 | 20.30 | 22. 30 | 19.50 | 16. 79 | 15.60 | 17.00 | 18. 50 | 14.98 |
| Mississippi | 11.00 | 11. 50 | 12. 20 | 11.00 | 12. 50 | 13. 50 | 12. 14 | 12.00 | 11. 00 | 11.00 | 15. 30 | 18.50 | 20. 50 | 17. 20 | 15. 07 | 14. 50 | 14. 50 | 15. 50 | 19.38 |
| Louisiana. | 11.00 | 10.70 | 11.50 | 12.00 | 12.70 | 12.50 | 11.88 | 12.00 | 10.30 | 11.00 | 14. 30 | 21. 20 | 23. 00 | 16. 00 | 15. 40 | 14.00 | 13. 30 | 15. 00 | 24. 00 |
| Texas. | 8.25 | 11.90 | 12.00 | 11.90 | 10.40 | 11.80 | 11.60 | 9.80 | 7.90 | 10. 50 | 20.00 | 24.90 | 18.00 | 13.40 | 14.93 | 9.90 | 11.50 | 16.00 | 26. 40 |
| Oklahoma. | 5.00 | 7.30 | 8.40 | 8.00 | 7.40 | 10. 40 | 8.30 | 7.90 | 5. 60 | 9.00 | 15. 40 | 19.50 | 15. 10 | 10. 50 | 11. 86 | 8. 20 | 12.50 | 14. 30 | 22. 88 |
| Arkansas.. | 9. 75 | 10.80 | 11.00 | 13.00 | 12.00 | 13. 50 | 12.06 | 12. 90 | 10. 30 | 12. 50 | 15. 40 | 19.50 | 20.50 | 16. 00 | 15. 30 | 12. 50 | 13. 60 | 16. 00 | 20. 48 |
| Montana. | 8. 35 | 10.00 | 12.50 | 10.00 | 8.30 | 9.60 | 10.08 | 8.70 | 7.50 | 11.00 | 18.60 | 19. 60 | 23.00 | 12.00 | 14. 34 | 8.70 | 9.00 | 8.90 | 16. 73 |
| W yoming | 7.40 | 8.90 | 12.50 | 10.30 | 8. 60 | 6.70 | 9.40 | 7. 50 | 7.80 | 12.00 | 17.00 | 14.00 | 23. 00 | 12.00 | 13. 33 | 7. 50 | 8. 50 | 9.60 | 18. 24 |
| Colorado. | 8.75 | 10.00 | 10.80 | 9.30 | 8.70 | 10.00 | 9.76 | 7.40 | 7.60 | 11.00 | 16. 60 | 15. 50 | 18.50 | 12.00 | 12.66 | 6. 90 | 11.20 | 11.30 | 22.60 |
| New Mexico | 9.50 | 11.10 | 11. 50 | 13.00 | 8.50 | 12.10 | 11. 24 | 9. 30 | 8.80 | 14.00 | 21.00 | 20.00 | 18. 20 | 17.00 | 15. 47 | 12.70 | 19. 50 | 16. 00 | 33. 60 |
| Arizona | 12.20 | 12.80 | 13.00 | 12.00 | 12.00 | 11. 00 | 12.16 | 8.80 | 9.60 | 14. 50 | 24. 80 | 24. 00 | 20.00 | 29.00 | 18.67 | 13.00 | 18.00 | 15.00 | 52. 50 |
| Utah | 7.40 | 9.00 | 9.00 | 9.00 | 8.00 | 9.10 | 8:82 | 7.70 | 8.00 | 15.00 | 15.00 | 17.10 | 21. 90 | 13.00 | 13.96 | 6.20 | 8.20 | 8.90 | 23. 94 |
| Nevada. | 8.80 | 10.50 | 10.80 | 9. 50 | 8.70 | 11.00 | 10.10 | 8.30 | 7. 50 | 9.60 | 15.90 | 19.90 | 19.60 | 16.00 | 13.83 | 9.00 | 11.80 | 11.00 | 29.15 |
| Idaho. | 7.10 | 9.10 | 9.00 | 7.60 | 6.30 | 7.20 | 7.84 | 7.30 | 7.70 | 12. 10 | 16.00 | 17.60 | 22.00 | 12. 50 | 13.60 | 6.70 | 10.00 | 8.90 | 22. 25 |
| Washington | 11. 00 | 14. 00 | 15. 70 | 12.00 | 10.10 | 10.90 | 12. 54 | 11.00 | 10.80 | 13. 80 | 20.00 | 25. 40 | 23.00 | 18. 50 | 17.50 | 10. 50 | 16. 20 | 12.00 | 28. 20 |
| Oregon.-- | 9.30 | 11.70 | 12.10 | 9. 60 | 8. 30 | 9. 00 | 10. 14 | 9. 20 | 9. 50 | 10. 90 | 17. 50 | 20.00 | 19. 10 | 14.50 | 14. 39 | 9.80 | 13. 60 | 11.00 | 24. 75 |
| California | 13. 25 | 11. 50 | 9. 60 | 10.90 | 13.70 | 13.50 | 11.84 | 8.20 | 11. 20 | 12.60 | 19.20 | 20.00 | 17.20 | 20.00 | 15. 49 | 11.00 | 15.00 | 14.00 | 35. 70 |
| United States. | 9.14 | 10.58 | 12.14 | 14.29 | 11.79 | 12.43 | 12.25 | 11.12 | 10.63 | 11. 22 | 17.09 | 20.13 | 20.08 | 17.76 | 15. 43 | 12.11 | 12. 56 | 14.07 | 20.83 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on farm price Dec. 1 .

Table 334.-Hay, tame: Farm price per ton, 1st of month, United States, 19081923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June | Weighted av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908-9 | \$9.79 | \$9.28 | \$9. 18 | \$9.23 | \$9. 22 | \$9.02 | \$9.09 | \$9.27 | \$9.47 | \$9.65 | \$10. 12 | \$10. 70 | \$9.43 |
| 1909-10 | 10. 50 | 9. 74 | 9.67 | 10.03 | 10. 35 | 10. 50 | 11.37 | 12. 35 | 12.71 | 12. 73 | 12. 21 | 11. 80 | 11. 04 |
| 1910-11 | 11. 71 | 11. 29 | 11. 87 | 11. 82 | 11. 96 | 12. 14 | 12. 24 | 12. 29 | 12. 09 | 11. 89 | 12. 29 | 13. 16 | 12. 03 |
| 1911-12 | 13. 99 | 14.67 | 14.61 | 14. 50 | 14. 62 | 14. 29 | 14. 85 | 15. 44 | 15. 69 | 16. 79 | 17. 64 | 17. 54 | 15. 22 |
| 1912-13 | 15. 57 | 12.98 | 12.14 | 11. 76 | 11.80 | 11. 79 | 11. 86 | 11. 64 | 11. 34 | 11. 15 | 11.13 | 11.30 | 12. 06 |
| 1913-14 | 11. 19 | 11. 16 | 11.89 | 12. 22 | 12. 26 | 12. 43 | 12.42 | 12.41 | 12.37 | 12. 20 | 12.32 | 12.34 | 12. 10 |
| Av. 1909-1913 | 12. 59 | 11. 97 | 12. 04 | 12. 07 | 12. 20 | 12. 23 | 12. 55 | 12.83 | 12.84 | 12.95 | 13. 12 | 13. 23 | 12. 49 |
| 1914-15 | 12.01) | 11. 52 | 11.91 | 11. 77 | 11. 57 | 11. 12 | 11. 29 | 11. 69 | 11. 71 | 11. 74 | 11. 82 | 11. 96 | 11. 65 |
| 1915-16 | 11.70 | 11. 02 | 10.80 | 10. 69 | 10.83 | 10.63 | 10.94 | 11.40 | 11. 62 | 11. 78 | 12. 22 | 12. 46 | 11.25 |
| 1916-17 | 12. 09 | 10. 68 | 10. 42 | 10. 36 | 10.68 | 11. 22 | 11. 49 | 11. 96 | 12.14 | 13. 05 | 14.44 | 15. 25 | 11. 76 |
| 1917-18 | 14. 56 | 13.42 | 13. 68 | 14. 29 | 15. 66 | 17.09 | 18.56 | 19. 43 | 19.80 | 19.40 | 18. 63 | 17. 75 | 16. 69 |
| 1918-19 | 16. 60 | 16. 40 | 17.94 | 19. 15 | 20. 01 | 20.13 | 20.49 | 20.45 | 20.35 | 21. 05 | 22.95 | 23. 92 | 19. 79 |
| 1919-20 | 22. 65 | 20. 97 | 21. 27 | 20. 54 | 20.09 | 20.08 | 21. 23 | 22. 54 | 23. 26 | 24. 03 | 25.37 | 26. 11 | 22. 02 |
| 1920-21 | 24.86 | 22.07 | 20.96 | 20.05 | 18. 50 | 17. 76 | 17.10 | 16. 20 | 15. 22 | 14. 51 | 13.84 | 13.30 | 18. 13 |
| Av. 1914-1920 | 16.35 | 15. 15 | 15. 28 | 15. 26 | 15.33 | 15. 43 | 15.87 | 16. 24 | 16.30 | 16.51 | 17.04 | 17. 25 | 15.90 |
| 1921-22 | 12.91 | 12.47 | 12. 44 | 12.11 | 11. 88 | 12. 11 | 11. 98 | 12. 06 | 12.40 | 12.86 | 13. 59 | 13. 32 | 12. 43 |
| 1922-23 | 12. 59 | 11. 58 | 11. 17 | 11. 38 | 11. 54 | 12. 56 | 12.39 | 12. 70 | 12. 50 | 12.95 | 13. 22 | 13.51 | 12. 25 |
| 1923-24. | 13.06 | 12.46 | 12.71 | 13.07 | 13. 12 | 14.07 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 335.-Hay, alfalfa: Farm price per ton, 15th of month, United States, 191女1923.

| Year beginning July 1. . | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weight ed av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914-15 | \$8.65 | \$8.38 | \$8.72 | \$8.96 | \$9. 20 | \$9.05 | \$9.48 | \$9.32 | \$9.79 | \$9. 81 | \$9.58 | \$8.50 | \$9. 12 |
| 1915-16 | 8.28 | 8. 28 | 8. 22 | 8.14 | 8.72 | 9.52 | 9.89 | 10.35 | 10. 74 | 10.73 | 10. 56 | 10. 49 | 9.39 |
| 1916-17 | 9.87 | 9.80 | 10.06 | 10. 25 | 11. 37 | 12.31 | 12.79 | 13.63 | 14.68 | 17.68 | 17.92 | 16. 77 | 12.76 |
| 1917-18 | 14. 13 | 15. 28 | 16. 33 | 17. 59 | 19. 19 | 20.39 | 21.27 | 21.38 | 20.82 | 18. 97 | 17.84 | 16. 74 | 18. 42 |
| 1918-19 | 16.58 | 18. 22 | 19.72 | 20. 23 | 20.42 | 20.74 | 20.42 | 20.91 | 21.40 | 22. 28 | 23.32 | 20.89 | 20.35 |
| 1919-20. | 20.15 | 20.72 | 20.89 | 20.56 | 21. 63 | 22. 95 | 24. 13 | 24. 41 | 24. 68 | 24.57 | 25.68 | 24. 20 | 22. 70 |
| 1920-21 | 21. 70 | 20.43 | 19. 12 | 18. 03 | 17. 10 | 16. 59 | 14.98 | 13. 55 | 12.88 | 11.35 | 10.88 | 10. 64 | 15.96 |
| 1921-22 | 9.85 | 9. 66 | 9.86 | 9.82 | 9. 67 | 10. 46 | 10. 55 | 11. 04 | 11.80 | 12.39 | 12.28 | 10. 98 | 10. 58 |
| 1922-23 | 10.61 | 10. 54 | 11. 15 | 11.87 | 12. 70 | 13.31 | 14.06 | 14. 02 | 14.33 | 14.09 | 14.40 | 13.63 | 12.82 |
| 1923-24 | 12. 45 | 12. 01 | 12. 78 | 13.37 | 13. 59 | 14.39 | -...-- |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 336.-Hay, clover: Farm price per ton, 15th of month, United States, 19141923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 . \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weight ed av., crop year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914-15 | \$11. 85 | \$12. 09 | \$12. 44 | \$12. 47 | \$12.70 | \$12.76 | \$13.07 | \$13. 36 | \$13. 41 | \$13. 65 | \$13.79 | \$12.78 | \$12.83 |
| 1915-16 | 11.65 | 10.87 | 10.82 | 10.60 | 10. 59 | 10.95 | 11.24 | 11.41 | 11.70 | 11.87 | 12. 52 | 12.46 | 11.29 |
| 1916-17 | 10. 84 | 9. 93 | 10. 01 | 10. 08 | 10. 46 | 10.86 | 11. 38 | 11. 65 | 11. 90 | 13. 06 | 13. 94 | 14. 22 | 11.33 |
| 1917-18 | 12.95 | 12.76 | 13. 79 | 15.01 | 17.14 | 18. 67 | 19.82 | 21. 11 | 21.37 | 19.68 | 18.30 | 16. 54 | 17.21 |
| 1918-19. | 15. 73 | 17.18 | 19.27 | 20.60 | 21. 13 | 21. 26 | 21.69 | 21. 11 | 21.25 | 23.36 | 25.33. | 25. 48 | 20.93 |
| 1919-20. | 22.02 | 21. 58 | 21. 74 | 21. 17 | 21.61 | 22.60 | 23.78 | 24. 94 | 26.13 | 26. 93 | 28.31 | 27.80 | 23.69 |
| 1920-21 | 24.62 | 22.82 | 22.57 | 21. 29 | 20.60 | 19.96 | 19.17 | 17. 39 | 16. 44 | 15. 47 | 14.90 | 14. 52 | 19.48 |
| 1921-22 | 13. 89 | 14. 17 | 14. 37 | 13. 99 | 13.83 | 14. 17 | 13. 90 | 14. 10 | 14. 06 | 14. 51 | 14. 90 | 14.33 | 14. 15 |
| 1922-23 | 12. 82 | 12. 66 | 12. 54 | 12. 51 | 12. 67 | 13. 03 | 13.39 | 13. 35 | 13. 24 | 13. 47 | 13.58 | 13.70 | 13.03 |
| 1823-24. | 13. 52 | 13. 51 | 14. 12 | 14. 73 | 14.94 | 15. 82 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 337.-Hay, timothy: Farm price per ton, 15th of month, United States, 19141923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914-15 | \$13. 06 | \$13. 09 | \$13.54 | \$13. 66 | \$13. 69 | \$13. 69 | \$14. 07 | \$14. 28 | \$14. 28 | \$14. 53 | \$14. 74 | \$14. 33 | \$13. 87 |
| 1915-16 | 13.43 | 12.39 | 12. 32 | 12.14 | 12. 24 | 12. 73 | 13. 11 | 13. 39 | 13. 61 | 14.00 | 14. 50 | 14.71 | 13.09 |
| 1916-17 | 12. 97 | 11. 74 | 11. 57 | 11. 54 | 12. 03 | 12. 29 | 12. 61 | 12.91 | 13. 20 | 14. 26 | 15. 31 | 15. 76 | 12. 83 |
| 1917-18 | 14. 68 | 14. 11 | 14. 89 | 16. 23 | 18. 33 | 20.31 | 21.37 | 22. 25 | 22. 53 | 21. 47 | 20. 40 | 18. 55 | 18. 67 |
| 1918-19. | 17.61 | 18. 98 | 20. 85 | 22. 60 | 22.93 | 22.94 | 23.48 | 22.69 | 22.68 | 24. 74 | 27. 27 | 27. 50 | 22.66 |
| 1919-20. | 24. 22 | 23.89 | 23. 65 | 23.04 | 22.90 | 23.71 | 24. 59 | 25. 49 | 26. 75 | 27.99 | 29.92 | 30. 05 | 25. 13 |
| 1920-21 | 26. 59 | 24. 35 | 24.15 | 22. 74 | 22. 09 | 21. 22 | 19.88 | 18. 30 | 17. 04 | 16. 09 | 15. 44 | 15. 16 | 20.64 |
| 1921-22 | 14. 51 | 15. 01 | 14. 83 | 14. 39 | 14. 22 | 14. 31 | 14. 51 | 14. 77 | 15. 06 | 15. 52 | 16. 10 | 15. 75 | 14.82 |
| 1922-23 | 14. 33 | 13. 61 | 13. 44 | 13.70 | 13.93 | 13.91 | 14.41 | 14. 46 | 14. 59 | 14. 64 | 14. 96 | 14.95 | 14. 18 |
| 1923-24 | 14.86 | 14.68 | 15.13 | 16. 22 | 16.78 | 16.95 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 338.-Hay, prairie: Farm price per ton, 15th of month, United States, 19141923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 . \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weight ed av., crop year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914-15 | \$7. 49 | \$7. 29 | \$7. 33 | \$7. 59 | \$7.47 | \$7.37 |  | \$7.86 | \$8.03 | \$8.58 | \$8. 29 |  |  |
| 1915-16 | 7.37 | 6.83 | 6.64 | 6. 44 | 6.75 | 6. 95 | 7.38 | 7.34 | 7.39 | 7.56 | 7.71 | 7.97 | 7. 13 |
| 1916-17 | 7.25 | 6. 96 | 7.21 | 7.26 | 7.85 | 8. 14 | 8. 58 | 8. 60 | 9.32 | 10. 94 | 12. 02 | 11. 84 | 8.61 |
| 1917-18 | 10.11 | 10.82 | 11.40 | 12.29 | 13.32 | 14.91 | 15. 39 | 15.74 | 15.47 | 14.47 | 12.75 | 12. 78 | 13.31 |
| 1918-19 | 12.51 | 13. 26 | 14.35 | 15.06 | 15.47 | 16. 30 | 16. 33 | 16.35 | 17. 38 | 18.85 | 20. 22 | 18.71 | 16.03 |
| 1919-20. | 16. 10 | 16.10 | 15.90 | 15.88 | 16.91 | 17. 19 | 17. 54 | 17.36 | 16. 52 | 16. 66 | 18.06 | 17. 59 | 16.78 |
| 1920-21 | 15. 38 | 13. 74 | 12.93 | 11.83 | 11.47 | 10.80 | 10. 20 | 9.46 | 8. 70 | 8. 43 | 8.05 | 8. 02 | 10.94 |
| 1921-22 | 7.67 | 7.50 | 7.52 | 6. 78 | 7.49 | 7.47 | 7.39 | 7.67 | 7.94 | 8.02 | 8. 24 | 8. 40 | 7.62 |
| 1922-23 | 7.68 | 7.76 | 7. 54 | 7. 74 | 8.13 | 8.98 | 9.44 | 9. 52 | 9.61 | 9.74 | 10.64 | 10.07 | 8. 79 |
| 1923-24 | 9.17 | 8.97 | 8. 58 | 9.19 | 9.07 | 9. 26 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 339.-Hay, alfalfa No. 1, Kansas City: Monthly average price per ton, 1910-1923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | \$12.08 | \$13. 50 | \$13.89 | \$14. 25 | \$14. 25 | \$14. 23 | \$13. 51 | \$12.93 | \$13. 07 | \$13. 67 | \$13. 29 | \$12. 38 | \$13. 42 |
| 1911-12 | 15.13 | 14.44 | 14.87 | 15. 00 | 15. 27 | 15. 50 | 17. 72 | 18.37 | 20.49 | 22.73 | 19.34 | 11.62 | 16. 71 |
| 1912-13 | 12. 59 | 13. 00 | 13. 58 | 15. 11 | 15. 11 | 15. 00 | 14. 79 | 12. 86 | 14. 06 | 13. 75 | 13. 28 | 10. 70 | 13. 65 |
| 1913-14 | 12. 12 | 14.80 | 16. 14 | 16.54 | 16. 00 | 16. 01 | 15.96 | 15. 25 | 15.18 | 15.30 | 15. 54 | 14.23 | 15. 26 |
| 1914-15 | 12.38 | 13. 42 | 13. 33 | 12. 51 | 13. 21 | 13. 79 | 13. 75 | 13. 73 | 14. 75 | 15. 11 | 13. 73 | 13. 42 | 13.59 |
| 1915-16 | 11. 54 | 11.90 | 12. 25 | 13. 11 | 12. 83 | 14. 35 | 14.54 | 15. 34 | 13.92 | 14. 44 | 14. 45 | 11. 42 | 13. 34 |
| 1916-17 | 11. 29 | 13.40 | 13. 58 | 15. 68 | 18. 50 | 19.33 | 19.81 | 20.25 | 21. 10 | 24.33 | 24. 52 | 21.87 | 18. 64 |
| 1917-18 | 21.18 | 24. 09 | 24. 07 | 27.43 | 31.10 | 32. 76 | 30. 01 | 31.33 | 27. 56 | 24.11 | 22. 64 | 20.57 | 26. 40 |
| 1918-19 | 22. 60 | 29.08 | 31.45 | 30.14 | 31. 21 | 31.01 | 32.85 | 31.01 | 34.56 | 37.90 | 36. 20 | 36. 43 | 32.04 |
| 1919-20 | 26. 93 | 27.63 | 24.86 | 30. 24 | 33. 39 | 35. 10 | 35. 75 | 34.83 | 33. 79 | 34.10 | 35. 46 | 31. 75 | 31. 99 |
| 1920-21 | 27. 21 | 29.49 | 27.22 | 23.95 | 25. 05 | 23.01 | 23.30 | 20.30 | 20.30 | 21.00 | 22. 20 | 18.40 | 23.45 |
| Av. 1914-1920. | 19.02 | 21. 29 | 20.97 | 21.87 | 23.61 | 24. 19 | 24. 29 | 23.83 | 23. 71 | 24. 43 | 24.17 | 21.98 | 22. 78 |
| 1921-22 | 17. 50 | 19.00 | 17. 20 | 19.80 | 20.40 | 19.60 | 20.00 | 19.60 | 22.10 | 22. 50 | 22.10 | 15.40 | 19.60 |
| 1922-23 | 15. 50 | 15.80 | 18.30 | 22. 60 | 23.80 | 23. 00 | 23.40 | 23. 70 | 24.60 | 26.25 | 25.90 | 22.90 | 22.15 |
| 1923-24 | 18.90 | 20.90 | 22. 80 | 24.90 | 24.80 | 24.90 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Kansas City Daily Price Current and Kansas City Grain Market Review.

Table 340.-Hay, prairie No. 1, Kansas City: Monthly average price per ton, 1910-1923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 . \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{aligned} & \text { A ver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | \$10.83 | \$10. 82 | \$11. 67 | \$11. 34 | \$11. 16 | \$10.86 | \$11.07 | \$10.95 | \$10. 84 | \$11. 31 | \$11. 55 | \$13. 61 | \$11. 33 |
| 1911-12 | 15. 93 | 12.93 | 11. 50 | 11. 60 | 12. 07 | 12.61 | 13.84 | 13. 66 | 16. 70 | 20.85 | 20. 48 | 15. 16 | 14.78 |
| 1912-13 | 8. 79 | 7.96 | 8.39 | 8.96 | 8.91 | 9.39 | 10. 45 | 9.37 | 9. 19 | 9.56 | 9.53 | 9.97 | 9. 21 |
| 1913-14 | 10.60 | 13. 62 | 15.76 | 16. 00 | 15. 66 | 15.57 | 14. 20 | 14.50 | 14. 40 | 16. 00 | 16. 42 | 15.43 | 14. 85 |
| 1914-15. | 12.10 | 9.96 | 11. 58 | 11. 35 | 10. 94 | 10.98 | 11. 25 | 10. 89 | 11. 26 | 11. 41 | 11.02 | 11.03 | 11. 15 |
| 1915-16 | 11. 32 | 8.65 | 8. 63 | 9.71 | 9. 54 | 8. 97 | 8. 84 | 9.15 | 8. 96 | 9.50 | 9. 74 | 8. 65 | 9. 30 |
| 1916-17 | 8. 50 | 8. 06 | 9.36 | 9.47 | 10.74 | 11. 15 | 10. 57 | 10. 92 | 12.92 | 18. 68 | 19.74 | 20.57 | 12.56 |
| 1917-18 | 18. 14 | 18. 57 | 18. 06 | 19.60 | 25. 07 | 25. 47 | 24.00 | 23.79 | 23.42 | 21. 13 | 19. 17 | 17.66 | 21.17 |
| 1918-19 | 19. 26 | 25. 25 | 26. 57 | 27. 58 | 26.84 | 24.04 | 28.25 | 26.82 | 32.35 | 36. 63 | 38. 91 | 37. 34 | 29.15 |
| 1919-20 | 20.89 | 19.98 | 19.32 | 19.75 | 21. 12 | 25. 34 | 21. 40 | 20.68 | 20.64 | 21. 70 | 24. 02 | 18.95 | 21. 15 |
| 1920-21 | 17.21 | 19.52 | 18. 47 | 16. 45 | 16. 13 | 14. 49 | 14.00 | 13. 10 | 14. 10 | 13. 70 | 14.10 | 13.40 | 15. 39 |
| Av. 1914-1920 | 15. 35 | 15. 71 | 16.00 | 16. 27 | 17. 20 | 17. 21 | 16.90 | 16. 48 | 17.66 | 18. 96 | 19.53 | 18.23 | 17. 12 |
| 1921-22 | 12. 30 | 11. 40 | 11. 30 | 12. 40 | 12.00 | 11. 30 | 11.10 | 10.30 | 11. 50 | 11.90 | 12. 40 | 11.90 | 11. 65 |
| 1922-23 | 12.90 | 10.70 | 11. 00 | 14.00 | 14. 20 | 12. 70 | 12.60 | 13.25 | 14.60 | 19.10 | 19.10 | 18.60 | 14. 40 |
| 1923-24 | 11.80 | 11. 50 | 13.80 | 14.60 | 14. 75 | 14.75 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Kansas City Daily Price Current and Kansas City Grain Market Review.

Table 341.-Hay, timothy No. 1, Chicago: Monthly average price per ton, 19101928.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$18.75 | \$19.50 | \$17. 25 | \$17. 25 | \$17. 50 | \$17. 50 | \$18. 00 | \$16. 25 | \$16. 25 | \$17. 75 | \$21.00 | \$21.75 | \$18. 23 |
| 1911-12 | 23.50 | 21. 50 | 20.00 | 20.50 | 21. 25 | 21. 00 | 21. 75 | 20.75 | 21. 50 | 24. 00 | 26. 00 | 21. 25 | 21.92 |
| 1912-13 | 19. 75 | 18. 50 | 18. 50 | 18.00 | 17.00 | 15. 50 | 15. 75 | 14. 25 | 14. 75 | 15.50 | 15. 25 | 14. 25 | 16. 42 |
| 1913-14 | 15. 00 | 17. 75 | 17. 75 | 18.00 | 17.00 | 16. 25 | 15.50 | 14.75 | 15.25 | 16.00 | 16.25 | 15. 25 | 16. 23 |
| 1914 | 16. 25 | 16. 75 | 15. 50 | 15. 25 | 15. 50 | 15. 50 | 16.25 | 15. 50 | 15. 25 | 16. 25 | 17.00 | 17.50 | 16. 04 |
| 1915-16 | 19. 25 | 20. 25 | 19. 00 | 17. 00 | 15. 50 | 15. 50 | 16. 25 | 15. 50 | 16. 75 | 18. 75 | 18. 75 | 18. 00 | 17. 54 |
| 1916-17 | 16. 00 | 16. 00 | 15. 50 | 16. 25 | 16. 25 | 16. 25 | 15. 50 | 15. 75 | 15. 75 | 18. 00 | 20. 50 | 18.75 | 16. 71 |
| 1917-18 | 17.75 | 19.25 | 21. 00 | 25.00 | 27. 25 | 27.00 | 28. 25 | 29.00 | 28. 00 | 24. 00 | 23. 00 | 19. 00 | 24. 04 |
| 1918-19 | 21. 50 | 26. 50 | 32. 00 | 31. 00 | 30.00 | 30.00 | 29. 50 | 26. 00 | 30.50 | 33.50 | 35. 50 | 33. 00 | 29.92 |
| 1919-20 | 34. 50 | 35. 00 | 29.00 | 28.00 | 29.50 | 30.00 | 32. 50 | 34.00 | 35. 25 | 43.00 | 46. 50 | 42.75 | 35.00 |
| 1920-21 | 38. 50 | 40.25 | 33.75 | 32. 25 | 32.00 | 28.50 | 26.90 | 24.40 | 25. 30 | 23. 80 | 21.90 | 22. 50 | 29.17 |
| Average, 1914-1920. | 23.39 | 24.86 | 23.68 | 23. 54 | 23.71 | 23.25 | 23. 59 | 22.88 | 23.83 | 25.33 | 26.16 | 24. 50 | 24.06 |
| 1921-22 | 24.40 | 24. 00 | 24. 20 | 22.60 | 22.90 | 21. 90 | 22. 50 | 21.80 | 23.60 | 26.80 | 25. 70 | 23. 60 | 23.67 |
| 1922-23 | 24.50 | 22. 00 | 20.90 | 22.40 | 23.00 | 21. 10 | 21. 75 | 21.50 | 23.00 | 23.00 | 23.10 | 24.00 | 22. 52 |
| 1923-24 | 24, 00 | 25. 20 | 26.60 | 26. 50 | 26.80 | 27.10 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and Daily Trade Bulletin.

Table 342.-Hay: Monthly average price per ton at three markets, 1923.
CHICAGO.

| Grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alfalfa No. 1 | \$23. 75 | \$23.00 | \$23.00 | \$23. 00 | \$23. 00 | \$23. 20 | \$23. 00 | \$23. 40 | \$25. 25 | \$26. 25 | \$27. 40 | \$28. 75 | \$24. 42 |
| Alfalfa, standa | 20.00 | 20.00 | 20.00 | 20.00 | 20.75 | 20.40 | 19.50 | 21.00 | 21. 50 | 22. 25 | 23.40 | 23. 25 | 21.00 |
| Alfalfa No. 2 | 17. 25 | 16. 75 | 17.00 | 17.00 | 17.00 | 17.80 | 16. 75 | 18.80 | 18. 50 | 18. 75 | 20.40 | 20.50 | 18.04 |
| Clover No. 1 | 15. 50 | 15.50 | 15.80 | 16.00 | 16.00 | 16.80 | 17.25 | 19.00 | 20. 50 | 22.00 | 22. 80 | 23. 00 | 18. 35 |
| Clover No. 1, light-- | 18. 25 | 18.50 | 19.80 | 20.00 | 19.25 | 21. 20 | 21. 75 | 23. 30 | 24. 75 | 24.50 | 25. 20 | 25. 40 | 21.82 |
| Clover No. 2, light.- <br> Clover No. 1, medium |  | 16.50 | 16. 80 | 17.00 | 17.00 | 18.30 18.40 | 19.25 19.70 | 20.60 20.60 | 22.00 20.50 | 22.00 21.50 | 22.40 22.40 | 22.75 22.00 |  |
| Prairie Midland No. 1. | 13. 75 | 11. 25 | 12.40 | 12. 00 | 12.00 | 14. 20 | 13. 00 | 15. 00 | 15. 25 | 14. 75 | 14.80 | 14.00 | 13. 53 |
| Prairie Upland No. 1. | 16. 75 | 16. 00 | 17.00 | 17. 75 | 18. 00 | 19.60 | 18. 90 | 18.00 | 19. 75 | 19.50 | 19.60 | 19.75 | 18. 38 |
| Prairie Upland No. 2. | 14. 25 | 13. 00 | 14. 20 | 15.00 | 15. 00 | 17.40 | 17.00 | 16. 60 | 17. 75 | 16. 10 | 17.20 | 17.00 | 15. 88 |
| Timothy No. 1 | 21. 75 | 21. 50 | 23. 00 | 23.00 | 23. 10 | 24. 00 | 24. 00 | 25. 20 | 26. 60 | 26. 50 | 26. 80 | 27.10 | 24. 38 |
| Timothy No. 2 | 18.00 | 17.50 | 19.00 | 19.00 | 18. 25 | 20.50 | 20.50 | 22. 40 | 24. 25 | 24. 10 | 24. 40 | 24. 25 | 21.01 |

Table 342.-Hay: Monthly average price per ton at three markets, 1923-Con. KANSAS CITY.

| Grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{array}{\|l} \text { Aver- } \\ \text { age. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alfalfa No. 1 | \$23.40 | \$23.70 | \$24.60 | \$26. 25 | \$25. 90 | \$22. 90 | \$18.90 | \$20.90 | \$22. 80 | \$24.90 | \$24.80 | \$24. 90 | 223.66 |
| Alfalfa, stand | 20.10 | 20.40 | 22.40 | 23.80 | 24.40 | 20.60 | 16.80 | 19.00 | 20.40 | 23. 00 | 22. 40 | 22. 30 | 21. 30 |
| Alfalfa No. 2 | 16. 70 | 17.70 | 19.20 | 20.60 | 19.90 | 16. 70 | 14.10 | 15. 70 | 16. 90 | 19.25 | 18. 80 | 18.70 | 17.85 |
| Clover No. 1 | 15. 50 | 15.75 | 16. 40 | 18. 40 | 18. 90 | 18.75 | 14.30 | 15. 70 | 19. 00 | 19. 00 | 19.00 | 18.50 | 17.43 |
| Clover No. 1, mixed- | 14. 10 | 14.60 | 15. 80 | 18.70 | 18.90 | 19.00 | 14. 20 | 13. 00 | 14.75 | 15. 50 | 16. 10 | 16. 75 | 15.95 |
| Clover No. 1, light | 16. 00 | 16. 00 | 16.80 | 19.50 | 19.80 | 19.80 | 15. 60 | 13. 90 | 16. 00 | 17.00 | 17.70 | 18. 00 | 17.18 |
| Prairie Upland No. 1 - | 12. 60 | 13. 25 | 14. 60 | 19.10 | 19. 10 | 18. 60 | 11.80 | 11. 50 | 13.80 | 14. 60 | 14. 75 | 14. 75 | 14. 87 |
| Prairie Upland No. 2. | 11.10 | 11. 60 | 13. 40 | 17.60 | 16. 75 | 16. 60 | 10. 60 | 10. 60 | 12. 60 | 13. 70 | 13. 40 | 13. 40 | 13.45 |
| Timothy No. 1 | 15.90 | 15.90 | 17.30 | 19.60 | 19.90 | 20.20 | 15.80 | 14. 10 | 16. 40 | 17. 50 | 18. 40 | 18.50 | 17.46 |
| Timothy No. 2. | 13.25 | 13.00 | 15.40 | 18. 70 | 18.00 | 18.40 | 13.60 | 11.90 | 13.50 | 14.50 | 14.75 | 16. 25 | 15.10 |

ST. LOUIS.

| Alfalis No. 1 | \$28. 50 | \$26.00 | \$28. 75 |  | \$25. 75 |  |  | \$26.00 | \$29. 50 | \$28.00 |  | $\|\$ 31.30\|$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alfalfa, standar |  | 23.00 | 23.00 | \$2A.00 |  | \$29.00 |  |  | 25.00 |  | 28.00 | 27.00 |  |
| Alfalfa No. 2 |  |  | 18.00 |  |  | 19.00 |  |  | 20.00 | 19.00 | 21. 75 | 21.00 |  |
| Clover No. 1 | 18.10 | 17.00 | 18.70 | 20.10 | 21.40 | 22. 20 | \$20.25 | 24. 50 | 24. 50 | 25. 70 | 27. 90 | 29.75 | \$22.51 |
| Clover No. 1, mixed. |  |  |  | 20.00 |  |  |  |  | 22. 00 | 24.00 | 23.00 |  |  |
| Clover No. 1, light.-- |  |  | 20.00 |  | 22.00 | 23.00 |  | 16. 00 |  | 24. 00 | 24.00 | 24.50 |  |
| Prairie Midland No. 1- | 17.00 | 16.75 | 18.20 | 19.75 | 22.00 | 23.00 | 16.50 | 16. 50 | 16. 80 | 19.30 | 19. 20 | 19.50 | 18.71 |
| Prairie Upland No. 1. |  | 16.00 |  |  |  | 23.00 | 19.00 |  |  |  | 18. 25 |  |  |
| Prairie Upland No.2- | 16.00 20.50 |  |  |  | 21.00 | 20.00 24.20 |  |  |  |  |  | 17.00 |  |
| Timothy No. 1-...-- | 20.50 16.90 | 19.30 16.00 | 21.30 17.50 | 22.75 | 23.75 18.90 | 24. 20 20.25 | 18.00 | 22. 20 | 24. 40 | 26.40 | 24.70 | 22. 90 | 23.12 19.08 |

Division of Statistical and Historical Research. Compiled from reports of the Hay, Feed, and Seed Division.

Table 343.-Hay: Average price per ton, 1923.
No. 1 ALFALFA.
( 14 markets.)

| Market. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{array}{\|l\|} \text { A ver- } \\ \text { age. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlanta | \$32. 50 | \$35. 75 | 35.00 | \$35. 90 | \$35.00 | \$31. 80 | 31. 25 | \$31.40 | \$34. 75 | \$33.75 | \$35. 80 | \$36. 25 | \$34. 10 |
| Chicago | 23.75 | 23. 00 | 23.00 | 23.00 | 23. 00 | 23. 20 | 23. 00 | 23.40 | 25.25 | 26. 25 | 27.40 | 28.75 | 24. 42 |
| Cincinnati | 23.25 | 22. 25 | 25. 30 | 24.25 | 23.25 | 20. 20 | 20.75 | 22. 60 | 26.40 | 28.00 | 29.60 | 29.00 | 24.57 |
| Jacksonville |  | 35. 50 | 34. 00 | 30.00 | 31. 00 | 30. 00 | 29.00 | 28.00 |  |  |  |  |  |
| Kansas City | 23.40 | 23.70 | 24. 60 | 26. 25 | 25.90 | 22.90 | 18.90 | 20.90 | 22.80 | 24.90 | 24.80 | 24.90 | 23.66 |
| Los Angeles | 22. 25 | 21.75 | 21.60 | 22. 00 | 20.00 | 22. 00 | 21. 25 | 18.60 | 20.00 | 21. 00 | 23.20 | 24. 75 | 21. 53 |
| Memphis | 30. 60 | 30.50 | 31.40 | 31.50 | 32. 50 | 29. 25 | 23.10 | 26. 20 | 30.50 | 29. 25 | 32. 20 | 32.75 | 29. 98 |
| Minneapolis | 22. 40 | 21.40 | 21. 20 | 21.75 | 22. 00 | 20. 75 | 21. 00 | 24.00 | 23.25 | 23. 75 | 23. 60 | 22.90 | 22. 33 |
| New Orleans | 33. 00 |  | 30.80 | 30.70 | 31.90 | 26. 50 | 27. 25 | 29. 00 | 31.40 | 32.30 | 34.25 | 34. 50 |  |
| Omaha. | 20. 70 | 20.50 | 20.60 | 21.40 | 21. 50 | 20.70 | 16.40 | 17.30 | 19.25 | 20.00 | 21.10 | 20.25 | 19.98 |
| Richmond | 22. 50 | 23.00 | 23.30 | 23.00 | 22. 90 | 23.20 | 24. 00 | 26.00 | 28.50 | 29. 25 | 31.75 | 34.00 | 25.95 |
| St. Louis | 28. 50 | 26. 00 | 28.75 |  | 25.75 |  |  | 26.00 | 29.50 | 28. 00 | 31.30 | 31.30 |  |
| San Francisc | 18.75 | 17.75 | 18.00 | 17.50 | 17.00 | 16. 40 | 16. 00 | 16. 25 | 16. 00 | 16.00 | 16. 60 | 21.00 | 17.27 |
| Savannah. |  |  |  |  |  | 27.75 | 28.00 | 25. 00 | 36. 00 |  | 33.75 | 34. 00 |  |

No. 1 CLOVER.
(8 markets.)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chic | \$15.50 | \$15. 50 | 15.80 | 16. 00 | 16. 00 | 16.80 | 17.25 | 19.00 |  |  | \$22.80 | 23.00 | 18. $3 \overline{5}$ |
| Cincinnat | 15.90 | 15.75 | 17: 20 | 17.90 | 16. 75 | 17.20 | 17.00 | 19.50 | 23.50 | 25.50 | 26.90 | 26. 25 | 19.95 |
| Kansas City | 15. 50 | 15.75 | 16. 40 | 18. 40 | 18. 90 | 18. 75 | 14.30 | 15. 70 | 19. 00 | 19.00 | 19.00 | 18. 50 | 17. 43 |
| Minneapolis | 16. 00 | 15. 20 | 15. 00 | 15. 00 | 15. 10 | 14.10 | 15. 00 | 16. 10 | 17.50 | 17.50 | 17.80 | 17.50 | 15. 98 |
| tsburg | 16. 75 | 16. 90 | 17.90 | 17.40 | 17. 00 | 17.00 | 17.40 | 20. 00 | 22.00 | 25. 25 | 25.90 | 25. 50 |  |
| Richmond | 20.50 | 20.00 | 21. 00 | 19.50 | 20.00 | 20.00 | 20.75 | 22.90 | 24. 80 | 25. 40 | 28.30 | 28. 60 | 22. 65 |
| St. Louis | 18.10 | 17.00 | 18.70 | 20.10 | 21.40 | 22. 20 | 20. 25 | 24.50 | 24.50 | 25. 70 | 27.90 | 29.75 | 22. 51 |

Table 343.-Hay: Average price per ton, 1923-Continued.
No. 1 TIMOTHY.
(17 markets.)

| Market. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlanta | \$24. 75 | \$24. 50 | \$25. 75 | \$26. 90 | \$26. 00 | \$26. 20 | \$26. 10 | \$26. 40 | \$28.75 | \$29. 25 | \$29. 30 | \$30.90 | \$27.07 |
| Baltim |  |  | 21. 20 | 21.25 | 21.90 | 2.40 |  | 26. 30 | 27. 50 | 27.00 |  |  |  |
| Boston | 26. 00 | ${ }_{22}^{26.50}$ | 25. 80 | 25. 80 | 25. 90 | 27. 00 | 25. 60 | 27. 70 | 28.10 | 28.40 | 29.10 | 29.60 | 27.12 |
| Chicago | 21.75 | 22.50 | 23.00 | 23.00 | 23.10 | 24. 00 | 24.00 | - 25.2 | 26.60 | 26.50 | 26.80 | 27.10 | 24.38 |
| Cincinnati | 17. 75 | 17.60 | 19.60 | 20.25 | 20. 60 | 20.20 | 21.10 | 22. 10 | 22.75 | 24. 75 | 24.30 | 24.40 | 21. 28 |
| Jacksonville | 24. 50 | 24. 00 | 25.60 | 26.30 | 26. 10 | 26.60 | 25.60 | 26.50 | 28.50 |  |  |  |  |
| Kansas City | 15.90 | 15.90 | 17.30 | 19.60 | 19.90 | 20.20 | 15.80 | 14.10 | 16. 40 | 17.50 | 18. 40 | 18.50 | 17.46 |
| Memphis | 22.60 | 22. 25 | 23. 90 | 25. 10 | 24. 25 | 26.25 | 23.75 | 23. 00 | 25. 75 | 25. 00 | 25.70 | 27.00 | 24. 55 |
| Minneapolis | 16.40 | 16.10 | 16. 50 | 17. 10 | 17.75 | 17.40 | 17.75 | 18.75 | 20.25 | 19.75 | 19.60 | 18.75 | 18. 01 |
| New Orlean | 24. 50 |  | 25. 60 | 26.40 | 27.40 | 28. 25 | 26. 50 | 24.70 | 26.20 | 27.80 | 29.20 | 30.75 |  |
| New York | 24.40 | 26. 00 | 28.00 | 26. 75 | 26.40 | 26. 50 | 27.25 | 30. 40 | 29.25 | 29.90 | 29. 90 | 30. 10 | 27. 90 |
| Philadelphia | 23.00 | 22.90 | 23.00 | 23.00 | 23.00 | 23.40 | 24.60 | 27.40 | 28.75 | 28.00 | 28.70 | 28.90 | 25. 39 |
| Pittsburgh | 19. 50 | 19.60 | 21. 20 | 20. 75 | 21.50 | 21.75 | 22.50 | 25. 30 | 24.75 | 26. 50 | 26. 30 | 26. 50 | 23. 01 |
| Richmond | 22. 50 | 22.00 | 23. 10 | 23. 50 | 23.00 | 23.80 | 24.40 | 26.75 | 26.80 | 27.75 | 29.40 | 28.50 | 25. 12 |
| St. Louis | 20. 50 | 19.30 | 21. 30 | 22.75 | 23.75 | 24. 20 | 21. 40 | 22. 20 | 24. 40 | 26. 40 | 24. 70 | 26. 60 | 23. 12 |
| Savannah | 24.25 | 24.00 | 26. 20 | 26.75 | 26. 50 | 27.30 | 27. 50 | 27.00 | 29.40 | 31. 00 | 32.40 | 33.25 | 27. 96 |

Division of Statistical and Historical Research. Compiled from reports of the Hay, Feed, and Seed Division.

PASTURE.
Table 344.—Pasture: Condition, 1st of month, United States, 1866-1923.

| Calendar year. | May. | June. | July. | Aug. | Calendar year. | May. | June. | July. | Aug. | Sept. | Oct. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P.ct. | $\boldsymbol{P} . c t$ |  | $\boldsymbol{P}$. ct. | P. ct. | P.ct. | P. ct. | P.ct. | $P . c t$. |
| 1866 |  | 87.0 | 99.1 | 104.0 | 1897 | 93.4 | 96.7 | 97.0 | 95.3 |  |  |
| 1867 |  | 101. 0 | 116. 2 | 110.6 | 1898 | 91.2 | 99.5 | 100.0 | 88.5 |  |  |
| 1868 |  | 109. 1 | 108.6 | 96.5 | 1899 | 83.5 | 91.6 | 87.8 | 89.7 |  |  |
| 1869 |  | 105. 7 | 112.8 | 113.1 | 1900 | 91.3 | 90.8 | 83.9 | 85.7 |  |  |
| 1870 |  | 100. 1 | 91.0 | 87.7 | 1901 | 91.5 | 95.5 | 90.4 | 72.1 |  |  |
| 1871 |  | 96.4 | 94.5 | 92.2 | 1902 | 84.9 | 91.6 | 93.3 | 97.1 |  |  |
| 1872 |  | 93.4 | 99.1 | 101.4 | 1903 | 92.0 | 84.3 | 92.6 | 94.9 |  |  |
| 1873 |  | 99.0 | 93.2 | 96.1 | 1904 | 80.5 | 95.4 | 95.8 | 95.5 |  |  |
| 1874 |  | 99.0 | 99.6 | 92.6 | 1905. | 92.3 | 95.9 | 97.0 | 96.1 |  |  |
| 1875 |  | 89.6 | 96.9 | 101.6 | 1906 | 91.4 | 88.0 | 89.6 | 87.7 |  |  |
| 1876 |  | 104.9 | 105.7 | 104. 3 | 1907 | 79.6 | 80.6 | 88.9 | 91.7 |  |  |
| 1877 |  | 99.4 | 101. 8 | 100.2 | 1908 | 92.6 | 97.7 | 94.6 | 86.4 |  |  |
| 1878 |  | 108. 6 | 109. 0 | 102. 5 |  |  |  |  |  |  |  |
| 1879 |  | 88.7 | 90.9 | 91.8 | 1909 | 80.1 | 89.3 | 93.1 | 84.8 |  |  |
| 1880 |  | 94.0 | 93.9 | 94.8 | 1910 | 89.3 | 88. 5 | 81.6 | 73. 0 |  |  |
|  |  |  |  |  | 1911 | 81.3 | 81.8 | 69.6 | 59.6 |  |  |
| 1881 |  | 102. 4 | 102.6 | 94.4 | 1912 | 81.7 | 93.7 | 84.9 | 86.6 |  |  |
| 1882 | 91.1 | 92. 2 | 102.0 | 103. 1 | 1913 | 87.1 | 89.2 | 81.2 | 73.7 |  |  |
| 1883 | 93.9 | 98. 7 | 69.9 | 104. 2 |  |  |  |  |  |  |  |
| 1884 | 94. 7 | 99.8 | 97.1 | 96.3 | Av. 1909-1913. | 83.9 | 88.5 | 82.1 | 75. 5 |  |  |
| 1885 | 90.0 | 93.8 | 95.2 | 93.3 | 1914 | 88.3 | 89.8 | 82.1 | 76.2 |  |  |
| 1886 | 100.0 | 101. 7 | 95.5 | 80.7 | 1915 | 87.2 | 91.3 | 91.3 | 96.1 | 98.5 | 96.5 |
| 1887 | 91.8 | 92.6 | 86.7 | 73.8 | 1916 | 85.2 | 93.4 | 97.7 | 86. 9 | 80.4 | 76.9 |
| 1888 | 84.9 | 91.8 | 92.6 | 92.3 | 1917 | 81.9 | 83.8 | 89.9 | 85. 5 | 82.4 | 78.4 |
| 1889 | 96.6 | 97.6 | 96.6 | 99. 0 | 1918 | 83.1 | 92.5 | 84.5 | 75.4 | 69.9 | 77.3 |
| 1890 | 93.0 | 96.1 | 96.4 | 82.4 | 1919 | 90.3 | 97.4 | 95.2 | 83.9 | 80.2 | 78.2 |
|  |  |  |  |  | 1920 | 79.8 | 88.8 | 89.5 | 86.3 | 86.2 | 86.2 |
| $\begin{aligned} & 1891 \\ & 1892 \end{aligned}$ | 97.8 87.5 | 90.5 95.9 | 92.3 98.4 | 92.2 95.6 | Av. 1914-1920. | 85.1 | 91.0 | 90.0 | 84.3 | 82.9 | 82.2 |
| 1893 | 87.2 | 93.4 | 94. 0 | 82.3 |  |  |  |  |  |  |  |
| 1894 | 92.7 | 92.0 | 83.2 | 66. 0 | 1921 | 91.8 | 90.1 | 80.8 | 74.3 | 81.6 | 84.8 |
| 1895 | 89.7 | 88.1 | 78.7 | 77.8 | 1922 | 84.5 77.0 | 93.8 84.8 | 89.0 85.5 | 87.9 77.6 | 81.3 78.8 | $\begin{aligned} & 76.0 \\ & 83.1 \end{aligned}$ |
| 1896.- | 93.2 | 94.5 | 91.0 | 93.9 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

HOPS.
Table 345.-Hops: Acreage, production, and farm value, United States, 19151923; by States, 1922 and 1923.

| Calendar year, and State. | Acreage. |  | A verage yield in pounds per acre. |  | Production, thousands of pounds. |  | A verage farm price, cents per pound, Dec. 1. |  | Farm value, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915. | 44,60343,90029,90025,90021,00028,00027,000 |  | $\begin{array}{r} 1,186.6 \\ 1,152.5 \\ 982.9 \\ 829.4 \\ 1,189.0 \\ 1,224.3 \\ 1,086.7 \end{array}$ |  | $\begin{aligned} & 52,986 \\ & 50,595 \\ & 29,38 \\ & 21,481 \\ & 24,970 \\ & 34,280 \\ & 29,34 \end{aligned}$ |  | $\begin{aligned} & 11.7 \\ & 12.0 \\ & 33.3 \\ & 19.3 \\ & 77.6 \\ & 35.7 \\ & 24.1 \end{aligned}$ |  | $\begin{array}{r} 6,203 \\ 6,273 \\ 9,795 \\ 4,150 \\ 19,376 \\ 12,236 \\ 7,080 \end{array}$ |  |
| 1916 |  |  |  |  |  |  |  |  |  |  |
| 1917 |  |  |  |  |  |  |  |  |  |  |
| 1918 |  |  |  |  |  |  |  |  |  |  |
| 1919. |  |  |  |  |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |  |  |  |  |
| 1921 |  |  |  |  |  |  |  |  |  |  |
| Leading States. | 1922 | 19231 | 1922 | 1923 | 1922 | 19231 | 1922 | 1923 | 1922 | 1923 ${ }^{1}$ |
| Total.........- | 23, 400 | 15, 800 | 1,185. 6 | 1,124. 7 | 27, 744 | 17,770 | 8.6 | 18.7 | 2,383 | 3,329 |
| W ashington <br> Oregon <br> California | $\begin{array}{r} 2,400 \\ 12,000 \\ 9,000 \end{array}$ | 1,800 | 1, 410 | 2, 151 | 3, 384 | 3,872 | 10.0 | 18.0 | 338 | 697 |
|  |  | 9,000 | 800 | ${ }^{2} 722$ | 9,600 | 6,498 | 9.0 | 20.0 | 864 | 1,300 |
|  |  | 5,000 | 1,640 | 1,480 | 14,760 | 7,400 | 8.0 | 18.0 | 1,181 | 1,332 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 346.-Hops: Area and yield per acre in undermentioned countries, 19091923.

| Country. | Area. |  |  |  |  | Yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average 1909 1909 19. | 1920 | 1921 | 1922 | 1923, <br> pre- <br> limi- <br> nary. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ 1909- \\ 1913 . \end{gathered}$ | 1920 | 1921 | 1922 | 1923, prelimi. nary. |
| NORTH AMERICA. |  |  |  | Acres. | Acres. | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. |
| Canada ${ }^{1}$ | ${ }^{2} 718$ | 509 | $507$ | 507 |  | 2 1, 429 | 1, 695 | 1,705 | 1,343 | ----- |
| United States ${ }^{3}$ | 45, 000 | 28, 000 | 27, 000 | 23, 400 | 15,800 | 11, 192 | 1,224 | 1,087 | 1,186 | 1,125 |
| EUROPE. |  |  |  |  |  |  |  |  |  |  |
| United Kingdom: England | 33, 797 | 21, 002 | 25, 133 | 26, 452 | 24, 893 | 977 | 1,499 | 998 | 1,274 | 1,030 |
| Belgium | 5,312 | 3, 504 | 3, 731 | 4,258 | 3,408 | 1,319 | 1, 438 | 998 | 785 | 892 |
| France. | 5 7, 037 | 10, 403 | 10, 774 | 10,430 |  | ${ }^{5} 5987$ | 998 | 617 | 857 |  |
| Germany | ${ }^{5} 67,756$ | 28, 651 | 27, 870 | 29,687 | 29,000 | 5444 | 468 | 255 | 462 | 247 |
| Austria | ${ }^{5} 51,599$ | 200 | 240 | 242 |  | ${ }^{5} 533$ | 435 | 396 | 355 |  |
| Czechoslovakia |  | 20,660 | 18, 952 | 19,408 | 19, 180 |  | 562 | 338 | 641 | 334 |
| Hungary | ${ }^{5} 3,901$ | 630 | - 502 |  |  | ${ }^{5} 778$ | 554 | 558 |  |  |
| Yugoslavia | 62,589 | 2,849 | 2,980 | $\begin{aligned} & 3,788 \\ & 4,823 \end{aligned}$ | 4,900 | ${ }^{-750}$ | 496 | 381 | 832 | ---------- |
| OCEANIA. |  |  |  |  |  |  |  |  |  | - |
| Australia |  | 1, $497{ }^{\circ}$ | 1, 562 |  |  | 1,285 | 1, 336 | 1,537 |  |  |
| New Zealand ------- | 14653 | ${ }^{1} 484$ | 1,540 | 675 |  |  | 1,340 | 1,258 |  |  |
| Total | 219, 613 |  | ---- |  |  | ------- | ------- |  |  |  |
| Total com parable with 1923. |  |  |  | 108, 028 | 97, 181 |  |  |  |  |  |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.
Figures are for 1909-1923 in Northern Hemisphere and for seasons 1909-10 through 192i-24 in Southern Hemisphere.
${ }^{1}$ British Columbia only.
; Two-year average.
${ }^{3}$ Principal producing States.

- One year.
${ }^{5}$ Old boundaries.
- Congress Poland

Table 347.-Hops: Production in undermentioned countries, 1909-1923.


Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.
Figures are for 1909-1923 in Northern Hemisphere and for seasons 1909-10 through 1923-24 in Southern Hisphar.
${ }^{1}$ British Columbia only.
${ }^{2}$ Two-year average.
${ }^{1}$ Principal producing States.
IOld boundaries.
${ }^{5}$ Commercial estimates.
${ }^{6}$ Congress Poland.
'Russia exclusive of Congress Poland.
Table 348.-Hops: Consumption and movement, 1910-1923. $_{\text {and }}$

| Year ending <br> June 30- | $\begin{gathered} \text { Consumed } \\ \text { by } \\ \text { brewers. } \end{gathered}$ | Exports. |  | Total of brewers consumption and exports. | Imports. | Net domestic movement. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Domestic. | Foreign. |  |  |  |
|  | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. |  |
| 1910-11- | 43, $498,088,764$ | 10, 589, 254 | 14, 590 | 53, 897, 608 | 3, 200, 560 | 50, 697,048 |
| 1911-12 | 42, 436, 665 | 12, 199, 663 | 17,974 <br> $\mathbf{3 5 , 8 6 9}$ <br>  | 54, ${ }_{56}$ | 8, 557, 531 | 49, 634,028 |
| 1912-13 | 44, 237, 735 | 17, 591, 195 | 35, 859 | 61, 864,789 | 2, 8 891, 494,144 | 51, 772,072 |
| 1913-14 | 43, 987, 623 | 24, 262, 896 | 30,224 | 68, 280, 743 | 8, 8824,144 | 53, 370, 645 |
| 1914-15 | 38, 839, 294 | 16, 210, 443 | 16,947 | 55, 066, 684 | 11, 651,332 | - $43,415,358$ |
| 1915-16-17 | 37, 451, 610 | 22, 409, 818 | 134, 571 | 59, 995, 999 | 675, 704 | 59, 320, 295 |
| 1917-18. | 41, 481, 415 | 4, ${ }^{\text {3 }}$, 494,878 | 26, 215 | 46, 850, 316 | 236, 849 | 46, 613, 437 |
| 1918-19 | 13, 924, 650 | 7, 466, 952 | 37,823 4,719 | 37,013, 817 | 121, 288 | 36, 892, 529 |
| 1919-20 | ${ }^{1} 6$ 6, 440, 894 | 30, 779, 508 |  | - $37,324,600$ |  | 21, 398, 315 |
| 1920-21 | ${ }^{1} 5,988,982$ | 22, 206, 028 | 1827, 803 | -29, 222,813 | $2,696,264$ $4,807,998$ | $34,628,336$ $24,214,815$ |
| 1921-22 | ${ }^{1} 4,452,676$ | 19, 521, 647 | 487, 633 | 24, 461, 956 | -893, 324 | 24, 214, 815 |
| 1922-23 | 14, 555, 759 | 13, 497, 183 | 198, 006 | 18, 250, 948 | 1, 294, 644 | 17, 956,304 |

Division of Crop and Livestock Estimates. Compiled from records of the Treasury Department.
Exports and imports are as reported by the Department of Commerce.
1Hops used to make "cereal beverages."

Table 349.-Hops: International trade, calendar years, 1909-1922.

| Country. | Average, 1909-1913. |  | 1920 |  | 1821 |  | preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{array}{\|c\|} \text { 1,000 } \\ \text { pounds. } \end{array}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| Austria-Hungary Czechoslovakia. |  |  | 1-7,539 | 14, 961 | 2, 403 | 6, 625 |  | 10,586 |
| Germany | 7,688 | 17, 564 | 87 | 21, 624 | ${ }^{2} 1,714$ | ${ }^{2} 5,712$ | 4,806 | 7,444 |
| Hungary |  |  |  | ${ }^{1} 532$ | ${ }^{1} 146$ | 139 | ${ }^{1} 225$ | 1179 |
| New Zealand | 61 | 352 | 19 | 181 | 19 | 235 |  | 221 |
| Russia- ${ }^{\text {United }}$ - ${ }^{\text {atas }}$ | 1,258 | 2,348 15,416 | 5,949 | 25,624 | 1,629 | 18,460 | 1,201 | 14,882 |
| PRINCIPAL IMPORTING countries. |  |  |  |  |  |  |  |  |
| Argentina | 618 |  | 723 |  |  |  |  |  |
| Australia | 1,106 | 22 | 1,254 | 7 | 754 | 1 |  |  |
| Austria- |  |  | 1,117 | 69 | 1,247 | 650 | 11,281 | 1141 |
| Belgium | 6,915 | 4,814 | 16,457 | 12, 222 | 8,507 | 4, 228 | 4,626 | 2,072 |
| British Indi | 246 |  | 122 |  | 272 |  | 282 |  |
| Canada. | 1,396 | 176 | 1,657 | 63 | 2,140 | 321 | 1,905 | 826 |
| Denmar | 1,027 | ${ }^{3} 1$ | 526 | 28 | 388 |  | 653 | 11 |
| France | 5,436 | 335 | 5,877 | 4, 170 | 2, 862 | 5,806 | 3,032 | 3,329 |
| Italy-- | ${ }_{253}$ | 10 | 1,284 | 5 | 846 658 | 11 | $\begin{array}{r}778 \\ 1754 \\ \hline\end{array}$ | 87 |
| Japan | 253 2,938 | 1,405 | 1,506 1,562 | 3, 013 | 658 1,072 | 1,311 | $\begin{array}{r}1 \\ 1 \\ 1,354 \\ \hline\end{array}$ | 549 |
| Norway... | , 289 |  | 471 |  | , 422 |  | +533 |  |
| Sweden. | 987 | 1 | 998 | 766 | 685 | 152 | 867 | 185 |
| Switzerland. | 1,257 | 42 | 153 |  | 492 |  | 749 |  |
| Union of South Africa. | 187 |  | 51457 |  | 390 |  | 4404 |  |
| United Kingdom.- | 21, 028 | 2,162 | 51,049 2,303 | 411 8 | $\begin{array}{r} 24,256 \\ 2,846 \end{array}$ | $\begin{array}{r} 246 \\ 55 \end{array}$ | 14, 288 | $\begin{aligned} & 317 \\ & 399 \end{aligned}$ |
| Tot | 62, 969 | 62, 941 | 96, 110 | 83, 684 | 53, 748 | 43, 853 | 38, 502 | 41, 118 |

Division of Statistical and Historical Research. Official sources except where otherwise noted.
Lupulin and hopfenmehl (hop meal) are not included.
$\begin{array}{ll}{ }^{1} \text { International Institute of Agriculture. } & \text { Eight months, May-December. }\end{array}$
Table 350.-Hops: Wholesale price per pound, 1913-1923.

| Calendar year. | New York, State, prime to choice. |  |  | San Francisco. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Low. | High. | Average. ${ }^{1}$ | Low. | High. | Average. ${ }^{1}$ |
| 1913 | Cents. | Cents. | Cents. | Cents. 19 | $\begin{gathered} \text { Cents. } \\ 30 \end{gathered}$ | Cents. |
| 1914 | 23 | 50 |  | 10 | 30 |  |
| 1915 | 13 | 30 |  | 10 | 15 |  |
| 1916 | 15 | 55 |  | 7 | 14 |  |
| 1917 | 34 | 90 |  | 6 | 40 |  |
| 1918 | 23 | 54 | 37.9 | 19 | 22.5 | 19.5 |
| 1919... | 37 | 85 | 59.9 | 34 | 84 | 59.2 |
| 1920 | 41 | 105 | 80.2 | 33 | 85 | 61.6 |
| 1921 | 26 | 50 | 37.0 | 12 | 35 | 24.4 |
| 1922 | 19 | 40 | 25.3 | 9 | 30 | 17.6 |
| 1923. | 19 | 58 | 32.5 | 10 | 35 | 17.2 |
| 1923. |  |  |  |  |  |  |
| January--- | 22 | 24 |  | 10 |  |  |
| February | 22 | 24 | ${ }_{29}^{23} 0$ | 10 | 15 | 12.5 |
| March | 20 19 | 24 21 | 22.3 19.6 | 10 10 | 12 | 12.3 110 |
| April | 19 | 21 | 19.6 | 10 | 12 | 11.0 |
| May -- | 19 | 20 | 19.5 | 10 | 12 | 11.0 |
| June | 19 | 27 | 19.7 | 10 | 12 | 11.0 |
| July .- | 22 | 29 | 26. 5 | 10 | 12 | 1.0 |
| August.- | 28 | 30 | 29.0 | 10 | 30 | 15.3 |
| September | 28 | 57 | 41.3 | 25 | 30 | 27.5 |
| October-.- | 55 | 58 | 56.3 | 25 | 35 | 29.1 |
| November | 53 | 57 | 55.3 | 20 | 35 | 26.4 |
| December | 53 | 55 | 54.0 | 20 | 30 | 26.4 |

[^213]
## PEANUTS.

Table 351.-Peanuts: Acreage, production, and farm value, United States, 1916-1923; by States, 1922 and 1923.

| Calendar year, and State. | Thousands of acres. |  | Average yield in pounds per acre. |  | Production, thousands of pounds. |  | Average farm price, cents per pound Nov. 15. |  | Farm value, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1916 | $\begin{aligned} & 1,043 \\ & 1,842 \\ & 1,865 \\ & 1,132 \\ & 1,181 \\ & 1,214 \end{aligned}$ |  | $\begin{aligned} & 881.1 \\ & 77.7 \\ & 664.9 \\ & 691.9 \\ & \text { 712. } 5 \\ & 683.1 \end{aligned}$ |  | $\begin{array}{r} 919,028 \\ 1,432,581 \\ 1,240,102 \\ 783,273 \\ 841,474 \\ 829,307 \end{array}$ |  | $\begin{aligned} & 4.5 \\ & 6.9 \\ & 6.5 \\ & 9.3 \\ & 5.3 \\ & 4.0 \end{aligned}$ |  | $\begin{aligned} & 41,243 \\ & 98,512 \\ & 80,271 \\ & 73,094 \\ & 44,256 \\ & 33,097 \end{aligned}$ |  |
| 1917. |  |  |  |  |  |  |  |  |  |  |
| 1918. |  |  |  |  |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |  |  |  |  |
| 1921. |  |  |  |  |  |  |  |  |  |  |
| Leading States. | 1922 | 19231 | 1922 | 1923 | 1922 | 19231 | 1922 | 1923 | 1922 | $1923{ }^{1}$ |
| Total | 1,005 | 884 | 630.0 | 720.0 | 633, 114 | 636, 462 | 4.7 | 6.8 | 29, 613 | 43,078 |
| Virginia | 130 | 124 | 600 | 990 | 78, 000 | 122, 760 | 5. 5 | 6.5 | 4, 290 | 7,979 |
| North Carolina. | 145 | 148 | 840 | 1, 100 | 121,800 | 162, 800 | 4.0 | 7.4 | 4,872 | 12, 047 |
| South Carolina | 36 | 38 | 760 | 850 | 27, 360 | 32, 300 | 5.0 | 7.2 | 1,368 | 2,326 |
| Georgia --- | 160 | 152 | 602 | 512 | 96, 320 | 77,824 | 4.7 | 6.9 | 4, 527 | 5,370 |
| Florida | 72 | 80 | 625 | 600 | 45, 000 | 48,000 | 5.0 | 7.0 | 2, 250 | 3,360 |
| Tennessee | 14 | 14 | 750 | 935 | 10, 500 | 13,090 | 4.5 | 7.0 | 472 | 916 |
| Alabama | 205 | 142 | 550 | 469 | 112,750 | 66,598 | 4.8 | 5.8 | 5,412 | 3,863 |
| Mississippi. | 18 | 15 | 675 | 600 | 12,150 | 9,000 | 6.0 | 6.0 | 729 | 540 |
| Louisiana. | 18 | 17 | 600 | 450 | 10,800 | 7,650 | 6.9 | 7.5 | 745 | 574 |
| Texas.. | 172 | 122 | 560 | 620 | 96, 320 | 75, 640 | 4.0 | 6.4 | 3,853 | 4,841 |
| Oklahoma | 17 | 15 | 620 | 650 | 10,540 | 9, 750 | 3.8 | 5.0 | 401 | 488 |
| Arkansas. | 18 | 17 | 643 | 650 | 11, 574 | 11,050 | 6.0 | 7.0 | 694 | 774 |

Division of Crop and Livestock Estimates.
1 Preliminary.
Table 352.-Peanuts: Farm price per pound, 15th of month, United States, 19101923.

| Year beginning Nov. 1. | Nov. | Dec. | Jan. | Feb. | Mar | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Weight ed av., year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1910-11 | ${ }_{\text {Cts }}^{4 .} \mathrm{F}$ | Ctr. 4.5 | ${ }_{4.4}$ | ${ }_{\text {cts. }}^{\text {cti }}$ | ${ }_{\text {Cts. }}$ | ${ }_{4}^{\text {cts. }}$ | ${ }_{\text {Cts. }}^{4 .}$ | ${ }_{\text {cts }}{ }_{\text {5. }}$ | Cts. 5.0 | $\xrightarrow{\text { Cts. }}$ | Cts. | Cts. <br> 4.6 <br> 1 | 4.8. |
| 1911-12 | 4.4 | 4.4 | 4.3 | 4.7 | 5. 0 | 4.9 | 4.9 | 5. 2 | 4.9 | 5.0 | 4.8 | 4.7 | 4.4 |
| 1912-13 | 4.7 | 4.6 | 4.6 | 4.5 | 4.7 | 4.8 | 4.7 | 5.0 | 5.1 | 4.9 | 4.9 | 4.8 | 4.6 |
| 1913-14 | 4.4 | 4.8 | 4.7 | 4.7 | 4.7 | 4.9 | 5.1 | 5. 1 | 5. 2 | 4.9 | 5.0 | 4.5 | 4.6 |
| Av. 1910-1913. | 4.6 | 4.6 | 4.5 | 4.7 | 4.8 | 4.9 | 4.9 | 5. 1 | 5.0 | 5.0 | 5. 0 | 4.6 | 4.6 |
| 1914-15 | 4.4 | 4.3 | 4.5 | 4.4 | 4.2 | 4.5 | 4.8 | 4.8 | 4.7 | 4.5 | 4.4 | 4.3 | 4.4 |
| 1915-16 | 4.2 | 4.2 | 4.3 | 4.4 | 4.4 | 4. 6 | 4.6 | 4.7 | 4.6 | 4.6 | 4.4 | 4.4 | 4.3 |
| 1916-17 | 4. 4 | 4.7 | 4.9 | 5. 3 | 5. 5 | 6. 2 | 7. 2 | 7.7 | 7.6 | 7.2 | 6.6 | 6.1 | 4.8 |
| 1917-18 | 7.1 | 7.1 | 7.0 | 7.2 | 7.4 | 8.3 | 8. 2 | 7.9 | 7.8 | 7.9 | 8. 3 | 6. 9 | 7.1 |
| 1918-19 | 6. 6 | 6.1 | 6.0 | 6. 9 | 7.0 | 6.9 | 7.2 | 7.7 | 8.2 | 8.1 | 8.3 | 8.1 | 6.5 |
| 1919-20 | 9.1 | 9.1 | 9.9 | 10.5 | 11.2 | 10.9 | 11.2 | 11.2 | 11.0 | 8.5 | 8.0 | 5.8 | 9.2 |
| 1920-21 | 5. 3 | 4.7 | 4.4 | 4.1 | 4.0 | 3.5 | 3.4 | 3.8 | 3.8 | 3.9 | 4.0 | 4.0 | 4.7 |
| Av. 1914-1920. | 5.9 | 5.7 | 5.9 | 6.1 | 6.2 | 6.4 | 6.7 | 6.8 | 6.8 | 6.4 | 6.3 | 5.7 | 5.9 |
| 1921-22 | 3. 7 | 3. 5 | 3.6 | 4.0 | 4.3 | 3.9 | 3.9 | 4.2 | 4.4 | 4.4 | 4.7 | 3.6 | 3.7 |
| 1922-23. | 5. 2 | 5.0 | 5. 9 | 6.5 | 6.7 | 7.1 | 7.1 | 7.3 | 6.9 | 6.7 | 6.7 | 7.0 | 5.5 |
| 1923-24 | 6. 8 | 6.2 |  |  |  |  |  |  |  |  |  |  |  |

[^214]Table 353.-Peanuts: International trade, calendar years, 1911-1922.


Division of Statistical and Historical Research. Official sources except where otherwise noted. Includes shelled and unshelled, assuming the peanuts to be unshelled unless otherwise stated. When shelled nuts were reported they have been reduced to terms of unshelled at the ratio of 3 pounds unshelled to 2 pounds shelled.

1 Java and Madura only.
8 International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
${ }^{3}$ Two-year average.
4 One year only.
${ }^{5}$ Eight months, May-December.
${ }^{6}$ Reports include some sesamum.
Table 354.-Peanuts used in the production of oil, United States, 1919-1924.

| Year ending June 30. | JulySept. | Oct.Dec. | Jan.Mar. | Apr.June. | Year. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | 1,000 pounds. | 1,000 pounds. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| 1918-19. | 12,694 | 4, 350 | 70, 5,861 | 116,240 9,261 | 32,166 |
| 1920-21- | 15, 715 | 27,351 | 26, 202 | 42,990 | 112, 258 |
| 1921-22 | 37, 538 | 38, 281 | 43, 038 | 26, 159 | 145, 016 |
| 1922-23-- | 4,690 | 13, 126 | 7,054 | 8,409 | 33, 279 |
| 1923-24.- | 938 | 6,137 |  |  |  |

[^215]
## PEANUT OIL.

Table 355.-Peanut oil: International trade, calendar years, 1909-1922.


Division of Statistical and Historical Research. Official sources except where otherwise noted.
Conversions made on the basis of 7.5 pounds to the gallon.
'International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
: Not separately stated.
${ }^{8}$ Four-year average.

- Two-year average.
${ }^{\circ}$ Three-year average.

SUGAR.
Table 356.-Sugar beets and beet sugar: Production in the United States, 19141923.

| State and year. ${ }^{1}$ | Acreage. ${ }^{2}$ |  |  | Production. |  | Yield per acre. |  | Averageprice per ton to ers. | Farm value. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Planted. | Harvested. |  | Quantity harvested. | Quantity worked (sliced). | $\begin{gathered} \text { As } \\ \text { har- } \\ \text { vested. } \end{gathered}$ | $\left\lvert\, \begin{gathered} \text { As } \\ \text { worked } \\ \text { (sliced) } \end{gathered}\right.$ |  |  |
|  |  | Area. | Per cent of plant ed. |  |  |  |  |  |  |
|  |  |  | Prt. | Sho |  | hort | Short | Dol- |  |
| $1919$ | Acres. | Acres. 107,000 | cent. $82.76$ | $816,000$ | 805, 000 | tons. 7.61 | $\begin{array}{r}\text { tons. } \\ 7.51 \\ \hline\end{array}$ | lars. <br> 14. 17 | Dollars. |
| 1920 | 136, 000 | 123, 000 | 90.50 | 1, 074, 000 | 1, 052, 000 | 8. 74 | 8.56 | 13. 13 | 14,09 |
| 1921. | 136, 000 | 121, 000 | 88.89 | 1,046, 000 | 1,040, 000 | 8.67 | 8.62 | 7.51 | 7, 851, 000 |
| 1922 | 62, 000 | 57, 000 | 92.29 | 424, 000 | 424, 000 | 7.40 | 7.38 | 10.14 | 4,306, 000 |
| $1923{ }^{3}$ | 70, 000 | 61, 000 | 86. 25 | 581, 000 | 579, 000 | 9. 59 | 9.5 | 13.57 | 7,883, 000 |
| Colorado: <br> 1919 | 236, 00 | 183, 000 | 77. 28 | 1,765, 000 | 1,656, 000 | 9. 66 | 9.07 | 10.85 | 19, 143, 000 |
| 1920 | 254, 000 | 220, 000 | 86. 69 | 2, 325, 000 | 2, 166,000 | 10.58 | 9.85 | 11. 88 | 27, 627,000 |
| 1921 | 214, 000 | 200, 000 | 93. 49 | 2, 279, 000 | 2,159,000 | 11. 39 | 10. 79 | 6.37 | 14, 521,000 |
| 1922 | 165, 000 | 148, 000 | 89. 33 | 1, 466, 000 | 1,422,000 | 9.93 | 9.63 | 7.79 | 11, 426,000 |
| $1923{ }^{3}$ | 182, 000 | 164, 000 | 90.44 | 1,996, 000 | 1,890,000 | 12.15 | 11. 50 | 7.59 | 15, 156, 000 |
| Idaho: <br> 1919 |  | 30, |  |  |  | 6. 70 | 6.49 | 11.00 | 000 |
| 1920 | 58, 000 | 45, 000 | 78.32 | 396, 000 | 405, 000 | 8. 77 | 8.97 | 12. 10 | 4, 787, 000 |
| 1921 | 53, 000 | 41, 000 | 78.49 | 380, 000 | 355, 000 | 9.18 | 8.57 | 6.00 | 2, 279, 000 |
| 1922 | 33, 000 | 24, 000 | 71.08 | 273, 000 | 258, 000 | 11.59 | 10.94 | 8.28 | 2, 262, 000 |
| $1923{ }^{3}$ | 47, 000 | 43, 000 | 90.00 | 498, 000 | 447, 000 | 11.68 | 10.95 | 7.21 | 3, 590, 000 |
| 1920 | 164, 000 | 150, 000 | 91. 31 | 1, 313, 000 | $1,244,000$ | 8.78 | 8.32 | 10.08 | 13, 236,000 |
| 1921 | 164, 000 | 148, 000 | 90.27 | 1,153, 000 | 1, 117, 000 | 7.80 | 7.55 | 6.10 | 7, 041, 000 |
| 1922 | 106, 000 | 84, 000 | 78.98 | 692, 000 | 648, 000 | 8.23 | 7.72 | 7.22 | 4,994, 000 |
| $1923{ }^{3}$ | 131, 000 | 109, 000 | 83.31 | 883, 000 | 815, 000 | 8.11 | 7.49 | 9.33 | 8, 240, 000 |
| Nebraska: | 65, 000 | 59, | 91.22 | 601, 000 | 554 | 10. 16 | 9.37 | 10.90 | , 546, 000 |
| 1920 | 79, 000 | 72,000 | 91.63 | 718, 000 | 670, 000 | 9. 93 | 9.26 | 11. 96 | 8, 587, 090 |
| 1921 | 72, 000 | 72,000 | 100.65 | 773, 000 | 730, 000 | 10. 72 | 10. 12 | 6.59 | 5, 093, 000 |
| 1922 | 55, 000 | 55, 000 | 100.66 | 703, 000 | 671, 000 | 12.78 | 12. 21 | 7.79 | 5, 477, 000 |
| $1923{ }^{3}$ | 60,000 | 58, 000 | 96. 38 | 640, 000 | 597, 000 | 11. 04 | 10. 30 | 7.45 | 4, 769, 000 |
| Ohio: |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 1919- \\ & 1920 . \end{aligned}$ | 37,000 54,000 | 31,000 49,000 | 83.29 91.28 | 327,000 436,000 | 292,000 382,000 | 10.58 8.86 | 9.43 7.77 | 12.75 9.89 | $4,168,000$ $4,313,000$ |
| 1921 | 36, 000 | 33, 000 | 91.20 | 264, 000 | 248, 000 | 8.10 | 7.61 | 6.05 | 1, 596, 000 |
| 1922 | 28, 000 | 26, 000 | 91.85 | 220, 000 | 206, 000 | 8.51 | 7.98 | 6. 88 | 1,512,000 |
| $1923{ }^{3}$ | 46, 000 | 41, 000 | 90.94 | 391, 000 | 367, 000 | 9.43 | 8.85 | 9. 25 | 3, 616,000 |
| Utah: 1919 | 110,000 | 103, 000 |  | 1,016,000 | 908, 000 | 9.84 | 8. 80 | 10.97 |  |
| 1920 | 116,000 | 113, 000 | ${ }_{96.96}^{94.12}$ | 1,390, 000 | 1, 261, 000 | 12. 35 | 11. 20 | 12. 03 | 16, 713, 000 |
| 1923 | 111,000 | 112, 000 | 101. 24 | 1,152, 000 | 1, 084,000 | 10. 26 | 9. 66 | 5. 47 | 6, 300, 000 |
| 1922 | 80, 000 | 73, 000 | 90.77 | 819,000 | 775, 000 | 11. 29 | 10. 69 | 7.96 | 6, 519,000 |
| $1923{ }^{3}$ | 84, 000 | 83, 000 | 98.56 | 1, 075, 000 | 1, 008, 000 | 12.91 | 12. 10 | 7.08 | 7,611,000 |
| Wisconsin: |  | 12,000 | 74.69 | 117,000 | 106, 000 | 9.71 | 8.73 | 12.02 | 1, 411, 000 |
| 1920 | 29, 000 | 21, 000 | 71. 33 | 190, 000 | 169, 000 | 9.19 | 8.16 | 10.20 | 1,940, 000 |
| 1921. | 18, 000 | 17, 000 | 91. 48 | 148, 000 | 133, 000 | 8.82 | 7.96 | 7.00 | 1, 034, 000 |
| 1922 | 13, 000 | 8,000 | 63.42 | 67, 000 | 65, 000 | 8.27 | 7.96 | 7. 22 | 484, 000 |
| $1923{ }^{3}$ | 20,000 | 15, 000 | 73.87 | 122, 000 | 113, 000 | 8.36 | 7.75 | 8.70 | 1,064,000 |
| Other States: |  |  |  |  |  |  |  |  |  |
| 1919 | 76,000 88,000 | 44,000 79,000 | 56.61 88.54 | 365,000 696,000 | $\begin{aligned} & 338,000 \\ & 642,000 \end{aligned}$ | 8.39 8.75 8. | 7. 77 8.07 8. | 11.08 | $4,050,009$ $8,025,000$ |
| 1921 | 78, 000 | 71, 000 | 89. 66 | 587, 000 | 548, 000 | 8.23 | 7.69 | 6.26 | 3, 677,000 |
| 1922 | 64, 000 | 55, 000 | 88.35 | 519, 000 | 494, 000 | 9.23 | 8.79 | 7.77 | 4, 036, 000 |
| $1923{ }^{3}$ | 92, 000 | 83, 000 | 90.99 | 820,000 | 749, 000 | 9.82 | 8.9 | 8.37 | 6,860,000 |
| United ${ }_{1914}$ |  |  |  |  |  |  |  |  |  |
| 1914 | 515, 000 | 483, 000 | ${ }^{93} 94$ | 5, 585, 000 | 5, 288, 000 | 11.60 | 10. 90 | 5. 45 | 30, 438, 030 |
| 1915 | 664,000 | 611, 000 | 92. 02 | 6, 511, 000 | 6,150, 000 | 10. 70 | 10. 10 | 5. 67 | 36, 950, 000 |
| 1916 | 768, 000 | 665, 000 | 86. 57 | 6, 228, 000 | 5, 920, 000 | 9. 36 | 8.90 | 6. 12 | 38, 139, 000 |
| 1917 | 807, 000 | 665, 000 | 82.43 | 5, 980, 000 | 5, 626, 000 | 9. 00 | 8.46 9 | 7.39 | 44, 192, 000 |
| 1918. | 690, 000 | 594, 000 | 86.13 | 5, 949, 000 | 5,578, 000 | 10. 01 | 9.39 8.50 | 10.00 11.74 | 59, 49, ${ }^{590} 000$ |
| ${ }_{1920}^{1919}$ | $\begin{aligned} & 890,000 \\ & 978.000 \end{aligned}$ | $\begin{aligned} & 692,000 \\ & 872,000 \end{aligned}$ | 77. <br> 89 <br> 89 | $\begin{aligned} & 6,421,000 \\ & 8,538,000 \end{aligned}$ | $\begin{aligned} & 5,888,000 \\ & 7,991,000 \end{aligned}$ | 9.27 9.79 | 8.50 9.17 | 11.74 11.63 | $\begin{aligned} & 75,420,000 \\ & 99,324,000 \end{aligned}$ |
| Av. 1914-1920. | 759,000 | 655, 000 | 86. 27 | 6, 459, 000 | 6, 063, 000 | 9.87 | 9.26 | 8.49 | 54, 851, 000 |
| 1921. | 882, 000 | 815, 000 | 92.36 | 7,782, 000 | 7,414, 000 | 9.55 | 9.10 | 6.35 | 49,392, 000 |
| 1922 | 606, 000 | 530,000 | 87.50 | 5, 183, 000 | 4, 963, 000 | 9.77 | 9. 36 | 7.22 | 40, 950, 000 |
| $1923{ }^{3}$ | 732, 000 | 657, 000 | 89.82 | 7,006, 000 | 6,565, 000 | 10. 66 | 9. | 8.39 | 58,789,000 |

## Division of Crop and Livestock Estimates.

${ }^{1}$ Acreage and production of beets are credited to the State in which the beets are made into sugar. Year shown is that in which beets were grown. Sugar-making campaign extends into succeeding year. ${ }^{2}$ The planted acreage is that covered by factory contracts, agreements, understandings, all of which is not always actually planted by growers. Therefore abandonment may not represent actual loss of acreage.
${ }^{3}$ Preliminary.

Table 356.-Sugar beets and beet sugar: Production in the United States, 1914-1923-Continued.

| State and year. ${ }^{1}$ | Factories oper-ating. | Averlength of cam paign. | Sugar made (chiefly refined). | Beets worked (sliced). | Analysis of beets. |  | Recovery of sucrose. ${ }^{4}$ |  | Loss. ${ }^{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Per-centage of sucrose. ${ }^{2}$ | Purity coefficient. ${ }^{3}$ | Per-centage of weight of beets. | Percentage of total sucrose in beets. |  |
| California: | $N$ | Days. | Shor tons. | Shorttons. | Per ct. | Per ct. | Per ct. | Per ct. | Per ct. |
|  | 10 |  | 131, 000 | 805,000 | 17.87 | 82.02 | 16. 30 | 91. 21 | 1. 57 |
| 1920 | 10 | 90 | 168, 000 | 1, 052, 000 | 17.66 | 81.44 | 15.97 | 90.43 | 1.69 |
| 1921 | 9 | 84 | 171, 000 | 1, 040, 000 | 17.80 | 81.46 | 16. 48 | 92.58 | 1.32 |
| 1922 | 7 | 74 | 73, 000 | 424, 000 | 18. 48 | 82.71 | 17. 28 | 93. 51 | 1.20 |
| ${ }^{1923}{ }^{6}$ | 6 | 88 | 100, 000 | 579, 000 | 18.35 | 82.94 | 17.33 | 94.44 | 1.02 |
| Colorado: |  |  |  |  |  |  |  |  |  |
| 1920 | 17 | 98 | 294, 000 | 2, 166, 000 | 15. 81 | 85.15 | 13.60 | 86.02 | 2.21 |
| 1921 | 15 | 95 | 295, 000 | 2, 159, 000 | 15.66 | 83.28 | 13.66 | 87.23 | 2.00 |
| 1922 | 15 | 63 | 183, 000 | 1, 422, 000 | 14.66 | 82.69 | 12.90 | 87.99 | 1.76 |
| ${ }^{1923}{ }^{6}$ | 16 | 78 | 240, 000 | 1, 890, 000 | 14.59 | 82.34 | 12. 73 | 87.25 | 1. 86 |
| Idaho: ------------ |  |  |  |  |  |  |  |  |  |
| 1920 | 8 | 72 | 57,000 | 405, 000 | 16. 26 | 86.42 | 13. 98 | 85. 98 | 2.28 |
| 1921 | 7 | 60 | 57, 000 | 355, 000 | 17.45 | 86.54 | 15. 98 | 91.63 | 1.46 |
| 1922 | 5 | 55 | 40, 000 | 258, 000 | 16. 58 | 86. 21 | 15. 44 | 93.12 | 1. 14 |
| $1923{ }^{6}$ | 9 | 61 | 68, 000 | 447, 000 | 16.39 | 86.74 | 14.64 | 89.32 | 1.75 |
| Michigan: |  |  |  |  |  |  |  |  |  |
| 1920 | 17 | 87 | 166, 000 | 1, 244, 000 | 15.79 | 84.04 | 13. 34 | 84. 48 | 2.45 |
| 1921. | 17 | 71 | 122, 000 | 1, 117, 000 | 13. 28 | 81. 68 | 10.95 | 82.45 | 2.33 |
| 1922 | 15 | 48 | 81, 000 | 648, 000 | 14.38 | 84.16 | 12. 52 | 87.07 | 1.86 |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919 | 4 | 112 | 61, 000 | 554, 000 | 13. 14 | 82.80 | 10.99 | 83. 64 | 2.15 |
| 1920 | 5 5 | -110 | 90,000 105,000 | 670,000 730,000 | 15.74 16.60 18 | 83.94 <br> 84.55 | 13. 37 | 84.94 86.93 | 2.37 2.17 |
| 1922 | 5 | 92 | 87, 000 | 671,000 | 14.79 | 84. 26 | 12. 94 | 87. 49 | 1.85 |
| $1923{ }^{6}$ | 5 | 83 | 74, 000 | 597, 000 | 14.48 | 82.38 | 12.32 | 85.08 | 2.16 |
| Ohio: |  |  |  |  |  |  |  |  |  |
| 1920 | 5 | 100 | 47, 000 | 382, 000 | 15. 44 | 82.45 | 12. 31 | 79. 73 | 3.13 |
| 1921. | 5 | 62 | 26, 000 | 248, 000 | 13.41 | 81.41 | 10. 46 | 78. 00 | 2.95 |
| 1922 | 4 | 60 | 25, 000 | 206, 000 | 14. 65 | 82.81 | 11. 94 | 81.50 | 2.71 |
| $1923{ }^{6}$. | 5 | 79 | 39, 000 | 367, 000 | 13. 39 | 82.02 | 10.54 | 78.72 | 2.85 |
|  |  |  |  |  |  |  |  |  |  |
| 1919 | 18 | 84 102 | 101, 000 | 908,000 $1,261,000$ | 13.87 15.62 | 82.39 84.27 | 11. 12.89 | 80.17 82.52 | 2.75 2.73 |
| 1921 | 18 | 78 | 156, 000 | 1, 084, 000 | 16. 52 | 84.72 | 14.37 | 86.99 | 2.15 |
| 1922 | 16 | 55 | 110, 000 | 775, 000 | 16. 11 | 85.17 | 14. 16 | 87. 90 | 1. 95 |
| $1923{ }^{6}$ | 17 | 67 | 137, 000 | 1,008, 000 | 15. 66 | 85.02 | 13.59 | 86.78 | 2.07 |
|  |  |  |  |  |  |  |  |  |  |
| 1920 | 5 | 80 | 21, 000 | 169, 000 | 15. 86 | 82.53 | 12. 40 | 78.18 | 3. 46 |
| 1921 | 5 | 51 | 14,000 | 133, 000 | 13. 47 | 82.11 | 10. 59 | 78. 62 | 2.88 |
| 1922 |  | 31 | 8,000 | 65, 000 | 16. 06 | 83.14 | 13. 08 | 81.44 | 2. 98 |
| $1923{ }^{6}$ | 4 | 51 | 14, 000 | 113, 000 | 15. 71 | 85.32 | 12.33 | 78.49 | 3.38 |
|  |  |  |  |  |  |  |  |  |  |
| 1919-- | 11 | 52 70 | 40,000 83,000 | 338, 0000 | 14. 27 | 83.14 83.12 | 11.95 13.06 | 83. 74 <br> 84.48 <br> 8. | 2.32 2.40 |
| 1921 | 11 | 60 | 74, 000 | 548, 000 | 15. 41 | 81.89 | 13. 50 | 87.61 | 1.91 |
| 1922 | 10 | 54 | 68,000 | 494, 000 | 15. 91 | 83.54 | 13. 79 | 86.68 | 2.12 |
| $1923{ }^{6}$ | 11 | 71 | 99, 000 | 749, 000 | 15.08 | 82.55 | 13.12 | 87.00 | 1.96 |
|  |  |  |  |  |  |  |  |  |  |
| 1914 | 60 | 85 | 722, 000 |  |  |  |  |  |  |
| 1915 | ${ }_{74}^{67}$ | 92 80 | 874,000 821,000 | $\begin{aligned} & 6,150,000 \\ & 5,920,000 \end{aligned}$ | 16. 49 | 84.38 84.74 | 14. 21 | 86.17 <br> 85.03 | 2. 28 |
| 1917 | 91 | 74 | 765, 000 | 5, 626, 000 | 16. 28 | 83.89 | 13.60 | 83.54 | 2.68 |
| 1918 | 89 | 81 | 761, 000 | 5, 578, 000 | 16. 18 | 84, 70 | 13. 64 | 84. 30 | 2. 54 |
| 1919 | 89 | 78 | 726, 000 | 5, 888, 000 | 14. 48 | 82.84 | 12.34 | 85. 22 | 2. 14 |
| 1920. | 97 | 91 | 1,089, 000 | 7,991, 000 | 15. 99 | 83.96 | 13. 63 | 85.24 | 2.36 |
| A verage 1914-1920 | 81 | 83 | 823, 000 | 6,063,000 | 16. 01 | 84.07 | 13. 57 | 84.75 | 2.44 |
| 1921 | 92 | 76 | 1,020,000 | 7,414,000 | 15.77 | 83.09 | 13.76 | 87.25 | 2.01 |
| 1922 | 81 | 58 | 675, 000 | 4, 963, 000 | 15. 44 | 83.76 | 13. 61 | 88.15 | 1. 83 |
| $1923{ }^{6}$ | 89 | 70 | 881, 000 | 6, 565, 000 | 15.34 | 83. 43 | 13.41 | 87.42 | 1.93 |

## Division of Crop and Livestock Estimates.

${ }^{1}$ Acreage and production of beets are credited to the State in which the beets are made into sugar. Year shown is that in which beets were grown. Sugar-making campaign extends into succeeding year.
${ }^{2}$ Based upon weight of beets.
${ }^{3}$ Percentage of sucrose (pure sugar) in the total soluble solids of the beets.
${ }^{4}$ Percentage of sucrose actually extracted by factories.
${ }^{6}$ Percentage of sucrose (based upon weight of beets) remaining in molasses and pulp.
${ }^{6}$ Preliminary.

Table 357.-Cane sugar: Production in Louisiana, 1911-1923.


## Division of Crop and Livestock Estimates.

${ }^{1}$ Sugar "campaign," usually not ended before February following season of growth of cane.
${ }_{3}^{2}$ Chiefly raw. for later years as reported by Division of Crop and Livestock Estimates.

Table 358.-Cane sugar: Production in Hawaii, 1913-1923.


Division of Crop and Livestock Estimates.
1915-1920 average.

Table 359.-Sugar: Production in the United States and its possessions, 1866-1923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 \end{aligned}$ | Beet sugar (chieflyrefined). | Cane sugar (chiefly raw). |  |  |  |  | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Louisiana. | Other States. | Porto Rico. ${ }^{1}$ | Hawaii. ${ }^{2}$ | Philippine Islands. ${ }^{3}$ |  |
|  | Short tons.444814484448444844484 |  | Short tons. | Short tons. | Shorttons. | Short tons. | Short tons. |
| ${ }_{1867-68}^{186-}$ |  | - $\begin{array}{r}\text { Short tons. } \\ 21,450\end{array}$ | Shortions. | 76,4 | Shortons. | 61,818 82,971 | 163,882 191986 180 |
| 1868 -69 |  | ${ }_{47,526}$ | $\xrightarrow{5,875}$ | 91, 280 <br> 18 |  | 77,076 | 219, 205 |
| 1869-70 |  |  |  | 114,363115,700 |  | 87,60097,961 | ${ }^{24503,932}$ |
| 1870-71. |  | 84, 439 | 4,713 |  |  |  |  |
| 1871-72 | 448 | 73,453 | 4,723 | 100,30698,156 | ------ | $\begin{array}{r} 108,989 \\ 9,929 \end{array}$ |  |
| 1872-73 |  | 62, 673 |  |  |  |  |  |
|  | $\begin{array}{r}784 \\ \hline 112 \\ \hline 12\end{array}$ | 51,621 67253 68 |  |  | ---------------- | - 1111,742 | ${ }^{247}$ 24, 212 |
| 7-76- | ${ }^{112}$ | 81,708 | - ${ }_{4,532}$ | 80,418 | 13, 312 | 143, ${ }^{143}$ | 321,709 |
| 1876-77- | 112 | 95, 337 | 4,34 5 5 | 69, 821 | 12, | 135,578 | 317,980 32780 |
| 1877-78- | ${ }^{112}$ | $\begin{array}{r}73,551 \\ 119739 \\ \hline 18\end{array}$ |  | $\stackrel{94}{85}$ | +19,510 | 134,588 <br> 145,50 <br> 15 | 327,826 <br> 381,104 <br> 386 <br> 204 |
| 1878-79 | 224 | - 119,739 | 5,701 |  |  |  |  |
| 1880-81 | 1,344 1660 | 136, 91 | ${ }_{6,160}^{3,183}$ | 69, 121 | 46, 994 | 230, 169 | 489,395 |
| 1881-82 | - 5600 | 79, 938 | 5,600 | 89, 674 | 57,089 | 165, 813 | 398,674521,764 |
| 18888 |  | 151, 533 | 7,8407,6167 |  | 57,910 |  |  |
|  | - 5999 | 143, 856 |  | 110,505 78 7800 | 71, 622 |  | 4638821 503,241 |
| $1884-85$ $1885-8$ | ${ }_{6} 67$ | 105, 1413 | 7,064 8,280 | 71, 680 | 108, 080 | 203, 2061 | 535, 670 |
| 1886-87 | 896 | 90, 562 | 5, 079 11,024 10 | 96 | 106, | 189 | 488,582 |
|  | - ${ }_{\text {2, } 284}^{2,46}$ | 176,928 <br> 162,263 <br> 1 |  | 69,660061,600 | $\begin{aligned} & 134,400 \\ & 134,400 \end{aligned}$ | $\begin{aligned} & \mathbf{c} 51,840 \\ & \mathbf{1 5 9}, 860 \end{aligned}$ |  |
| - |  | 146, 062 |  |  |  |  | 630,146 508,769 |
| 1890-91 | 3,874 | 241, 745 | 6,840 | 56,000 | $\begin{aligned} & 134,400 \\ & 140,000 \end{aligned}$ | $\begin{aligned} & 159,660 \\ & 152,359 \end{aligned}$ | 600, 818 |
| 1891-92 | 6,002 | 180, 250 | 5,040 | 78,400 | 129,470 |  | 677, 825 |
| 92-9 | $\begin{array}{r}13,542 \\ 22,596 \\ \hline 1\end{array}$ | 243, 628 | ${ }^{7,676}$ | ${ }^{67}{ }^{68}, 200$ |  | $\begin{aligned} & 2888,663 \\ & 238,297 \\ & 232,197 \\ & 376,405 \end{aligned}$ | 780, 498 969, 907 |
| 1893-94 |  | 297, 737 |  |  |  |  |  |
| 待-95 | 22,503 <br> 32,726 | 355, 114 | ${ }_{5,570}$ | 56,000 | 225, 828 |  |  |
| 1895-96 |  | 266, 248 |  | c, | 251, 124 |  |  |
| 1896-97 | $\begin{aligned} & \begin{array}{l} 4,040 \\ 45,246 \\ 36,368 \\ 81,729 \\ 86,082 \end{array} \end{aligned}$ | 315 |  |  |  | 226,240 | 906, 452 |
| 1897-98 |  | 347,701 <br> 278,497 | 6,425 5,897 | 60, 680 | - 282,488 | 199,360 104,160 | 888, 625 |
| 1899-19 |  | 159, 583 | 1,691 | 39, 200 | 289, 544 | 81,976 | 653, 723 |
| 1900-1 |  | 308, 648 | 3, 238 | 81, 536 | 360, 036 | 61,873 | 901, 413 |
| 1901-2 |  | $\begin{aligned} & 360,277 \\ & 368,7{ }^{2} 4 \end{aligned}$$\begin{aligned} & 306,594,894 \\ & 255,89 \end{aligned}$ | $\begin{array}{r} 4,048 \\ 4,169 \\ 22,176 \end{array}$ | 103,152 100,576 <br> 138,096 | $\begin{aligned} & \begin{array}{l} 355,61 \\ 437, \\ 437,91 \\ 367,475 \end{array} \end{aligned}$ | 75, 011 123, 108$\qquad$ | 1,082, 705 |
| 02- |  |  |  |  |  |  | ${ }^{1} 1,252,1084$ |
|  |  | - ${ }^{2595} \times 195$ |  |  |  | 125, 271 | 1, 359,715 |
| 1905 | $\begin{aligned} & 312,921 \\ & 483,612 \\ & 463,628 \\ & 425,884 \\ & 42 \end{aligned}$ | 377,162257,600380,800 380,800397,600 | $\begin{aligned} & 13,440 \\ & 14,560 \\ & 13,440 \\ & 16,800 \\ & \hline \end{aligned}$ | $\begin{aligned} & 24,4848 \\ & 206,864 \\ & 230 \\ & 270 \\ & 277,093 \end{aligned}$ | $\begin{aligned} & 429,212 \\ & 440,017 \\ & 521, \\ & 535,123 \\ & 535 \end{aligned}$ | $\begin{aligned} & 138,645 \\ & 132,62 \\ & 167,24 \\ & 123,876 \\ & \hline \end{aligned}$ |  |
| 1906-7 |  |  |  |  |  |  |  |
| 1907 |  |  |  |  |  |  |  |
| 1908 |  |  |  |  |  |  |  |
| 1909 | 512,469510,172599,500692,556733,401 | $\begin{aligned} & \hline 320,526 \\ & 342,720 \\ & 352,874 \\ & 153,573 \\ & 292,698 \\ & \hline \end{aligned}$ | $\begin{gathered} \hline 1,2000 \\ 12,300 \\ 8,200 \\ 9,000 \\ 7,840 \\ \hline \end{gathered}$ | 346,786349,840371,076398,004351,666 | $\begin{aligned} & 517,090 \\ & 566,821 \\ & 595,838 \\ & 546,524 \\ & 612,000 \end{aligned}$ |  | $\xlongequal{1,776,409}$ |
| 1910-1 |  |  |  |  |  |  | $\begin{aligned} & 1,946,531 \\ & 2,131,534 \\ & 2,144,734 \\ & 2,405,944 \\ & \hline \end{aligned}$ |
| 1911-12 |  |  |  |  |  |  |  |
| ${ }_{1913}^{1912}$ |  |  |  |  |  |  |  |
| Av. 1909 | 609, 620 | 292, 478 | 9,672 | 363, 474 | 567, 495 | 252, 781 | 2,095,519 |
| 1914-15 |  | 242,700 <br> 137500 <br> 303,500 <br> 243,600 <br> 280,900 <br> 121,000 <br> 169,127 | $\begin{aligned} & \hline 3,920 \\ & 1,120 \\ & 7,000 \\ & 2,240 \\ & 3,500 \\ & 1,125 \\ & 6,987 \\ & \hline \end{aligned}$ |  | 644,000592,76364,663576,70060,312555,727521,579 | 8421,192 <br> 8412,274 <br> $\delta 425,266$ <br> $\delta 474,745$ <br> 8453,346 <br> $\delta 466,912$ <br> 8608,499 | $\begin{aligned} & 2,382,356 \\ & 2,501,467 \\ & 2,704,567 \\ & 2,516,286 \\ & 2,50,56,010 \\ & 2,356,286 \\ & 2,885,031 \\ & \hline \end{aligned}$ |
| 1915-1 | $\begin{array}{r} 722,054 \\ 874,220 \\ 820,657 \\ 765,207 \\ 700,950 \\ 726,451 \\ 1,089,021 \end{array}$ |  |  |  |  |  |  |
| 1916-17 |  |  |  |  |  |  |  |
| 1917-18 |  |  |  |  |  |  |  |
| ${ }^{191919-20-}$ |  |  |  |  |  |  |  |
| 1920-21. |  |  |  |  |  |  |  |
| Av. 1914 | 822, 651 | 214, 104 | 3,699 | 452, 549 | 591, 106 | ${ }^{5} 466,033$ | 2,550,143 |
|  | $\begin{aligned} & 1,020,489 \\ & 675,00 \\ & .884,000 \\ & \hline \end{aligned}$ | $\begin{aligned} & 324,431 \\ & 295,095 \\ & 168.748 \end{aligned}$ | $\begin{aligned} & 3,270 \\ & 3,640 \end{aligned}$ | $\begin{aligned} & 408,325 \\ & 379,172 \end{aligned}$$\text { 379, } 172$ | $\begin{aligned} & 592,000 \\ & 537,000 \end{aligned}$ |  | 2,881,704 |
| ${ }_{1923-24}^{1922-23}$ |  |  |  |  |  |  |  |
| 223-24- |  |  |  |  |  |  |  |

Division of Statistical and Historical Research.
Beetsugar production preceding 1897-98 and for 1898-99 through 1900-1901 from Willett \& Gray "Weekly Statistical Sugar Trade Journal" annual reports; 1897-98, 1901-2 and subsequently from United States Department of Agriculture. Cane sugar production previous to 1903-4 from Bouchereau's annual "Louisiana Sugar Report"; 1903-4 through 1910-11 from Willett \& Gray; 1911-12 and subsequently from United States Department of Agriculture. Porto Rico production previous to 1885-86 from Rueb \& Co.; 1885-86 through 1899-1900 from Willett \& Gray; 1900-1901 through 1906-7 are shipments to the Continental United States. Hawaii from Rueb \& Co., previous to 1885-86; 1885-86 through 1900-1901 from Willett \& Gray; 1901-2 and subsequently from Hawaitian Sugar Planters Association.

[^216]Table 360.-Sugar: Production, trade, and consumption of continental United States, 1866-1923. ${ }^{1}$

| Year beginning July 1. | Production. | Brought from insular possessions. ${ }^{2}$ | Net imports from foreign countries. | Domestic exports. ${ }^{4}$ | Consumption. ${ }^{5}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Total. | Per capita. |
| 1866-67 | 1,000 pounds. 51, 296 | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 836,844 \end{gathered}$ | $1,000$ <br> pounds. $8,130$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 880,010 \end{gathered}$ | Pounds. $24.4$ |
| 1867-68. | 52, 416 |  | 1,105, 078 | 2,218 | 1,155, 276 | 31.4 |
| 1868-69 | 101, 697 |  | 1,230, 005 | 3,168 | 1,328, 534 | 35.4 |
| 1869-70 | 87, 939 |  | 1, 196, 774 | 4, 428 | 1,280, 285 | 33.5 |
| 1870-71 | 179, 201 |  | 1,267, 111 | 3,841 | 1, 442, 471 | 36.8 |
| 1871-72 | 157, 248 |  | 1, 497, 065 | 4,478 | 1,649,835 | 40.8 |
| 1872-73 | 135, 953 |  | 1,544, 378 | 10,083 | 1, 670, 248 | 40.2 |
| 1873-74. | 110, 208 |  | 1, 681,988 | 10, 133 | 1,782, 063 | 41.7 |
| 1874-75 | 142, 466 |  | 1,786, 310 | 24, 152 | 1,904, 624 | 43.4 |
| 1875-76. | 172, 705 |  | 1, 478, 111 | 51, 864 | 1, 598, 952 | 35.5 |
| 1876-77 | 199, 586 |  | 1,651, 435 | 39,751 | 1,811, 270 | 39.2 |
| 1877-78 | 159, 265 |  | 1,531, 422 | 44, 093 | 1,646, 594 | 34.8 |
| 1878-79 | 251, 328 |  | 1, 823, 977 | 72, 353 | 2, 002, 952 | 41.3 |
| 1879-80. | 181, 560 |  | 1,818, 803 | 30, 142 | 1,970, 221 | 39.7 |
| 1880-81 | 286, 423 |  | 1, 937, 137 | 22, 253 | 2, 201, 307 | 43.2 |
| 1881-82 | 172, 195 |  | 1, 984, 821 | 13, 814 | 2, 143, 202 | 41.1 |
| 1882-83. | 319, 866 |  | 2, 135, 809 | 28,542 | 2, 427, 133 | 45.4 |
| 1883-8 | 304, 143 |  | 2, 747, 007 | 76, 123 | 2, 975, 027 | 48.0 |
| 1884-8 | 228, 098 |  | 2, 712, 461 | 252, 740 | 2, 687, 819 | 54.3 |
| 1885 | 304, 098 |  | 2, 678, 475 | 164, 429 | 2, 818, 144 | 49.2 |
| 1886-87. | 193, 074 |  | 3, 123, 007 | 190, 805 | 3,125, 276 | 53.4 |
| 1887-88. | 376, 475 |  | 2, 674, 531 | 34, 646 | 3, 016, 360 | 50.4 |
| 1888-89 | 348, 925 |  | 2, 756, 711 | 14, 259 | 3, 091, 377 | 50.6 |
| 1889 | 306, 219 |  | 2, 913, 741 | 27, 225 | 3, 192, 735 | 51.2 |
| 1890 | 504, 918 |  | 3, 478,960 | 108, 433 | 3,875, 445 | 60.8 |
| 1891-92. | 382, 584 |  | 3,551,945 | 14, 850 | 3, 919, 679 | 60.3 |
| 1892-93 | 525, 539 |  | 3, 757, 959 | 20,746 | 4, 262, 752 | 64.3 |
| 1893-94 | 656, 018 | --1- | 4, 296, 338 | 15, 468 | 4, 936, 888 | 73.0 |
| 1894-95 | 774, 399 |  | 3, 556, 805 | 9,529 | 4, 321, 675 | 62.7 |
| 1895 | 609, 087 |  | 3, 894, 998 | 9, 403 | 4, 494, 682 | 64.0 |
| 1896-97. | 728, 257 |  | 4, 878, 440 | 8, 305 | 5, 598, 392 | 78.3 |
| 1897-98- | 798, 744 |  | 2, 676, 502 | 6,508 | 3, 468, 738 | 47.6 |
| 1898-99 | 641, 525 |  | 3, 973, 152 | 9, 865 | 4, 604, 812 | ${ }_{69}^{62.1}$ |
| 1899-1900 | 486, 007 |  | 4, 013, 683 | 22, 515 | 4, 477, 175 | 59.3 |
| 1800-1. | 795, 836 | 832, 776 | 3, 965, 050 | 8, 532 | 5, 585, 230 | 72.6 |
| 1901-2. | 1, 097, 862 | 915, 794 | 3, 014, 342 | 9, 126 | 5, 018, 872 | 63.9 |
| 1902 | 1, 182, 616 | 1, 019, 742 | 4, 193, 568 | 14, 214 | 6, 381, 712 | 79.6 |
| 1903 | 1, 037, 348 | 1, 057, 294 | 3, 619, 966 | 19,644 | 5, 694, 964 | 69.6 |
| 1904 | 1, 314, 216 | 1, 182, 038 | 3,600,842 | 21, 498 | 6, 075, 598 | 72.8 |
| 1905-6. | 1, 407, 046 | 1, 226, 520 | 3, 904, 594 | 26, 532 | 6, 511, 628 | 76.6 |
| 1906-7. | 1,511, 544 | 1, 254, 330 | 4, 358, 318 | 29,696 | 7, 094, 496 | 81.9 74 |
| 1907-8 | $1,715,736$ $1,680,568$ | $1,585,184$ 1 1 | $3,327,498$ $4,103,126$ | 34,010 89,226 | $\begin{aligned} & 6,594,408 \\ & 7,289,432 \end{aligned}$ | 74.7 81.1 |
| 190 | 1,680,568 | 1,594,964 | 4, 103, 126 | 89,226 | 7,289, 432 | 81.1 |
| 1909-10. | 1,765, 260 | 1,855, 504 | 3, 869, 508 | 144, 764 | 7, 345, 508 | 80.3 |
| 1910-11 | 1, 806, 950 | 1, 887, 402 | 3, 690, 558 | 73, 195 | 7,311, 715 | 78.6 |
| 1911-12 | 2, 010, 673 | 2, 375, 326 | 3, 664, 848 | 100, 760 | 7, 950, 087 | 84.2 |
| 1912-13 | 1, 814, 141 | 2, ${ }^{\text {2 }}$, 872,752 | $4,532,852$ $4,926,504$ | 61,926 74,381 | $8,339,011$ $8,902,763$ | 87.0 91.6 |
| 1913-14. | 2, 177, 888 | 1,872, 752 | $4,926,504$ | 74,381 | 8, 902, 763 | 91.6 |
| Av. 1909-1913. | 1,914,982 | 2, 008, 986 | 4, 136, 854 | 91,005 | 7,969, 817 | 84.3 |
| 1914-15 | 2, 045, 656 | 2, 196, 628 | 5, 059, 926 | 605,283 | 8, 696, 927 | 88.2 |
| 1915-16 | 2, 156, 813 | 2, 204, 114 | $5,378,134$ | 1,765, 728 | 7, 973, 333 | 79.7 |
| 1916-17. | 2, 386, 213 | 2, 407, 876 | 5, 055, 968 | 1,353, 505 | 8, 496, 552 | 83.7 |
| 1917-18 | 2, 136, 875 | 1, 951, 368 | 4, 689, 632 | 610, 858 | $8,167,017$ | $\begin{array}{r}79.4 \\ 84 \\ \hline\end{array}$ |
| 1918-19. | 2, 204, 842 | 2, 147, 888 | 5, 599, 924 | 1,137, 133 | 8,815, 521 | 84. 5 |
| 1919-20 | $1,806,120$ $2,693,623$ | $\begin{aligned} & 1,915,470 \\ & 2 \end{aligned}$ | 7, 625, 910 <br> 6, 456, 558 | $\begin{array}{r} 1,553,005 \\ 638,178 \end{array}$ | 9, 830, $10,664,687$ | 93.0 99.6 |
| 1920-21 | 2, 693, 623 | $2,152,684$ | $6,456,558$ | $638,178$ | 10,664, 687 | 99.6 |
| A V. 1914-1920. | 2, 204, 306 | 2, 144, 575 | 5, 695, 150 | 1,094, 813 | 8,949, 219 | 86.9 |
| 1921-22. | 2, 849, 453 | 2, 681, 734 | 7,881, 554 | 2,170, 698 | 11, 242, 043 | 103.6 |
| 1922-23 | 2, 042, 720 | 2, 470, 098 | 7,825, 406 | 824, 394 | 11, 513, 830 | 104.7 |
| 1923-24 | 2, 245, 096 |  |  |  |  |  |

Division of Statistical and Historical Research.
See Table 359 for source of production figures. Trade figures, Department of Commerce.
${ }^{1}$ Predominately raw except beet sugar production and domestic exports which are chiefly refined; 1903
to date production and domestic exports converted to raw.
${ }^{2}$ From Hawaii, Porto Rico, and Philippine Islands (Virgin Islands included, 1917-18 and subsequently).
${ }^{3}$ Cuba included. Philippine Islands excluded 1900-1901 and subsequently.
4 Shipments to Hawaii and Porto Rico included.
${ }^{6}$ Consumption for all purposes. No account taken of stocks at beginning or end of year.

Table 361.-Sugar: Quantity and per cent of total consumption supplied the United States by Cuba, 1866-1922.

| Year beginning July 1. | Quantity. | Per cent of United States consumption. | Year beginning July 1. | Quantity. | Per cent of United States consump tion. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 |  |  |  |  |
|  | pounds. | Per cent. |  |  |  |
| 1866-67- | 642, 191 | 73.0 | 1896-97 | pounds. | Per cent. |
| 1867-68- | 861, 149 | 74. 5 | 1897-98- | - 440,225 | 12.3 |
| 1868-69 | 904, 764 | 68.1 | 1898-99. | 440, 225 | 12.7 |
| 1869-70 | 801, 637 | 62. 6 | 1899-1900. | 663,544 705,456 | 14.4 |
| 1870-71. | 759, 995 | 52.7 | 1900-1... | 705,456 1, 099, 404 | 15.8 19.7 |
| 1871-72 | 877, 166 | 53.2 | 1901-2 | 984,217 |  |
| 1872-73 | 940, 069 | 56. 3 | 1902-3. | 2, 396,498 | 19.6 |
| 1873-74 | 1, 223, 665 | 68. 7 | 1903-4. | 2, 396, 498 | 37.6 49.5 |
| 1874-75 | 1,090, 654 | 57.3 | 1904-5. | 2, 819, 2,057 | 49.5 33.9 |
| 1875-76. | 1, 008, 415 | 63.1 |  |  | 33.9 |
| 1876-77 |  |  | 1905-6. | 2, 781, 901 | 42.7 |
| 1877-78- | 926, 164 | 51.1 | 1906-7-8 | 3, 236, 466 | 45. 6 |
| 1878-79 | 1,275, 839 | 63. 7 | 1907-8 | $2,309,189$ $2,862,260$ | 35.0 |
| 1879-80 | 1, 087, 332 | 55. 2 | 1908-9 | 2,862, 260 | 39.3 |
| 1880-81. | 1,056, 905 | 48.0 | 1909-10 | 3, 509, 658 | 48.2 |
| 1881-82 | 1,107, 580 |  | 1910-11 | 3, 347, 606 | 46.2 |
| 1882-83 | 1, 139, 794 | 51.7 47.0 | 1911-12-13 | 3, 186, 634 | 40.5 |
| 1883-84- | 1,191, 234 | 47.0 40.0 | 1912-13 | 4, 311, 782 | 52.3 |
| 1884-85. | 1, 115, 046 | 41.5 | 1913-14 | 4, 926, 606 | 56.0 |
| 1885-86. | 1,210, 504 | 43.0 | A F., 1909-1913 | 3, 856, 457 | 48.7 |
| 1886-87 | 1, 394, 716 | 44.6 | 1914-15 | 4, 784, 888 |  |
| 1887-88- | 1,209,175 | 40.1 | 1915-16 | $4,784,888$ $5,150,852$ | 55. 4 |
| 1888-89 | 1, 032, 086 | 33. 4 | 1916-17 | 5, 150, 852 | 64.7 55.1 |
| 1889-90 | 1,041, 076 | 32.6 | 1917-18 | 4, 560, 750 | 56.3 |
| 1890-91 | 1, 430, 566 | 36.9 | 1918-19 | 5, 488, 711 | 62.5 |
| 1891-92 |  |  | 1919-20 | 6, 905, 710 | 70.3 |
| 1891-92-93. | $1,983,540$ $1,843,652$ | 50.6 43.3 | 1920-21 | 4, 925, 631 | 46.7 |
| 1893-94 | 2, 127, 502 | 43.1 | Av., 1914-1920. | 5, 212, 234 | 58.7 |
| 1894-95- | 1,845, 763 | 42.7 |  |  |  |
| 1895-96-.----------------- | 1,093, 171 | 24.3 | 1921-22. | 7,720, 255 | 68.7 |
|  |  |  | 1922-23 | 7,730, 592 | 67.5 |

[^217]Table 362.-Sugar beets: Area and yield per acre in undermentioned countries.

| Country. | Area. |  |  |  |  | Yield per acre. ${ }^{1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Aver- } \\ \text { age } \\ 1909- \\ 1913 . \end{gathered}$ | 1920 | 1921 | 1922 | 1923, pre-liminary. | $\begin{gathered} \text { A ver- } \\ \text { age } \\ \text { 19099- } \\ \text { 1913. } \end{gathered}$ | 1920 | 1921 | 1922 | 1923, pre- <br> limi- <br> nary |
| NORTH AMERICA. <br> Canada <br> United States | $\begin{array}{r} 1,000 \\ \text { acres. } \\ 17 \\ 485 \\ \hline \end{array}$ | $\begin{array}{r} 1,000 \\ \text { acres. } \\ 36 \\ \mathbf{8 7 2} \end{array}$ | 1,000 acres. 28 815 | 1,000 acres. 21 530 | $\begin{array}{r} 1,000 \\ \text { acres. } \\ 22 \\ 651 \end{array}$ | Short tons. $\begin{array}{r} 9.4 \\ 10.0 \\ \hline \end{array}$ | Short tons. <br> 11.4 9.8 | $\begin{array}{r} \text { Short } \\ \text { tons. } \\ 9.4 \\ 9.6 \end{array}$ | Short tons. $\begin{array}{r} 9.0 \\ 9.8 \\ \hline \end{array}$ | Short tons. $\begin{array}{r} 8.6 \\ 10.6 \end{array}$ |
| Total comparable with 1923 | 502 | 908 | 843 | 551 | 673 |  |  |  |  |  |
| England and Wales | 4 | 3 | 8 | 8 | 17 |  |  |  |  |  |
| Sweden ---- | 78 | 108 | 120 | 41 | 106 | 13.3 | 10.6 | 13.6 | 12.3 | 10.3 |
| Denmark. | ${ }^{2} 63$ | 95 | 86 | 60 | 78 | ${ }^{2} 13.7$ | 9.8 | 11.2 | 10.5 |  |
| Netherlands | 144 | 166 | 182 | 138 | 166 | 13.7 | 12.7 | 16.4 | 14. 5 | 11.4 |
| Belgium---- | , 144 | 131 | 143 | 149 | 179 | 12.3 | 12. 1 | 11.3 | 12.6 | 11.1 |
| France. | ${ }^{2} 609$ | 258 | 298 | 323 | 365 | ${ }^{2} 10.7$ | 10.5 | 7.6 | 11.2 | 9.7 |
| Spain | ${ }^{3} 114$ | 179 | 103 | 138 | 153 | ${ }^{3} 8.3$ | 11.3 | 7.9 | 11.8 | 8. 8 |
| Italy.- | ${ }^{2} 130$ | 114 | 159 | 203 | 210 | ${ }^{2} 15.2$ | 11.6 | 12.1 | 12.2 | 12.3 |
| Switzerland. | 42 | 2 | 3 | 3 | 3 |  |  |  |  |  |
| Germany - | ${ }^{2} 1,246$ | 805 | 962 | 1, 031 | 970 | ${ }^{2} 12.6$ | 10. 9 | 9.1 | 11.5 | 9.7 |
| Austria---- | ${ }^{2} 605$ | 18 | 19 | 28 | 32 | ${ }^{2} 11.5$ | 8.0 | 5. 4 | 6. 8 | 7.4 |
| Czechoslovakia |  | 517 | $544 \cdot$ | 519 | 571 |  | 10. 2 | 8. 2 | 11.1 | 10.0 |
| Hungary----------- | ${ }^{2} 362$ | 77 | 103 | 103 | 135 | ${ }^{2} 11.1$ | 9. 2 | 5. 8 | 7. 6 | 7.2 |
| Yugoslavia | ${ }^{5} 12$ | 39 | 41 |  |  | 58.8 | 5. 8 | 5. 1 | 7.2 |  |
| Bulgaria----------- |  | 23 | 30 | 24 | 31 | 8.1 | 3. 9 | 4. 3 | 9.8 | 5.5 |
| Rumania--------------- |  | 174 | $\begin{array}{r}57 \\ 197 \\ \hline\end{array}$ | 54 270 | $\begin{array}{r}91 \\ 354 \\ \hline\end{array}$ | 9.3 69.1 | 7. 7 | 6. 8 6 | 6.8 10.9 | 9.5 |
| Finland-- |  | 2 | 3 | 3 | 3 |  |  |  |  | 9.5 |
| Russia, excluding Congress Poland. | ${ }^{7} 1,532$ |  |  |  |  | ${ }^{7} 7.2$ |  |  |  |  |
| Total comparable with 1909-1913 | 5, 253 |  |  |  |  |  |  |  |  |  |
| Total comparable with 1923 |  | 2,687 | 3, 017 | 3,095 | 3,464 |  |  |  |  |  |
| $\begin{aligned} & \text { World total } \\ & \text { comparable } \\ & \text { with 1909- } \\ & 1913 \end{aligned}$ | 5,755 |  |  |  |  |  |  |  |  |  |
| World total comparable with $1923 \ldots$ |  | 3,595 | 3, 860 | 3,646 | 4,137 |  |  |  |  |  |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture.
${ }^{1}$ Yields per acre not calculated where total area was less than 10,000 acres.
${ }_{2}{ }^{2}$ Old boundaries.
${ }^{3}$ Three-year average.
${ }^{4}$ Two-year average.
Four-year average, Former Kingdom of Serbia.
${ }^{6}$ Congress Poland.
${ }^{7}$ Includes a small area in Siberia.

Table 363.-Sugar beets: Production in undermentioned countries.

| Country | Average 19091913. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923, pre-liminary. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| NORTH AMERICA. | short | short | shor t | short | short | short | short | short |
|  | tons. 160 | tons. | tons. | tons. | tons. | tons. | tons. | tons. |
| United States | $\begin{array}{r} 160 \\ 4,860 \end{array}$ | $\begin{array}{r} 118 \\ 5080 \end{array}$ | $180$ | $240$ | $412$ | $268$ | 190 | 189 |
| United States | 4,860 | 5,980 | 5,949 | 5,888 | 8,538 | 7, 782 | 5,183 | 6,893 |
| Totals comparable with 1923 | 5,020 | 6,098 | 6,129 | 6, 128 | 8, 950 | 8,050 | 5,373 | 7,082 |
|  |  |  |  |  |  |  |  |  |
| England and Wales |  |  |  |  |  |  |  |  |
| Sweden-- | 1, 036 | 920 |  |  |  | 1,636 | 62 503 |  |
| Denmark. | ${ }_{1}^{1861}$ | 973 | 895 1,041 | 1,036 | 1, 146 | 1,636 957 | 503 | 1,097 |
| Netherlands | 1,977 | 1, 607 | 1,372 | 1, 1247 | 2, 100 | 1,957 2,985 | 2,004 |  |
| Belgium.- | 1, 770 | 1,607 | 1,372 | 1,647 | 2, 100 1,585 | 2,985 1,613 | 2, 004 1,874 | 1,889 |
| France- | 1 6, 499 | 2,169 | 1,259 | 1, 375 | 1,585 | 1,613 | 1,874 | 1, 994 |
| Spain. | - 949 | 1, 341 | 1, 239 | 1,375 778 | 2, 025 | 2, 809 | 3, 626 | 3, 552 1,345 |
| Italy---.-- | 1 1,982 | 1, 164 | 1, 250 | 1,671 | 1,323 | 809 1,930 | 1,624 2,486 | 1, 3 245 |
| Switzerlan | 1,226 15.697 | 1,168 14 | $\begin{array}{r}1,250 \\ 10 \\ \hline\end{array}$ | 1, 11 | 1,323 31 | 1,930 47 | 2, 47 | 2, 35 |
| Germany | 15,697 | 10,971 | 10, 895 | 6, 413 | 8,748 | 8,796 | 11,896 | 9,381 |
| Austria------ | ${ }^{1} 6,953$ | 99 | 2. 186 | 83 4,008 | 5, 144 | 8, 103 | -190 | - 238 |
| Hungary ${ }_{\text {----- }}$ | 14,021 | 3,086 | 2, 560 | 4,008 | 5,270 705 | 4, 488 | 5,776 | 5,687 |
| Yugoslavia | 23105 |  |  |  | 226 | 598 | 784 | 972 |
| Bulgaria. | 57 | 107 | 64 | 193 | $\begin{array}{r}90 \\ \hline\end{array}$ | 129 | 236 | 169 |
| Rumania | 298 |  | 50 | 31 | 98. | 388 | 365 | 169 |
| Poland | ${ }^{4} 1,541$ |  |  | 1,368 | 1,526 | 1,244 | 2,945 | 3,353 |
| Finalnd. |  |  |  | 1,368 | 1, 11 | 1, 14 | 13 | 3,353 |
| Russia, excluding Congress Poland. | ${ }^{5} 10,977$ |  |  |  |  |  |  |  |
| Total comparable with 19091913 | 54, 749 |  |  |  |  |  |  |  |
| Total comparable with 1923 | 42, 508 |  |  |  | 27, 408 | 26, 649 | 33. 981 | 32, 300 |
| World total comparable with 1909-1913 | 59, 769 |  |  |  |  |  |  | 32,300 |
| World total comparable with | 47, 528 |  |  |  | 36, 358 | 34, 699 | 39, 354 | 39, 382 |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture.
${ }^{1}$ Old boundaries.
${ }_{5}^{4}$ Congress Poland.
${ }^{2}$ Four-year average.
${ }^{3}$ Former Kingdom of Serbia.
${ }^{5}$ Includes a small amount grown in Siberia.

Table 364.-Sugar: Production in undermentioned countries.
beet sugar, in terms of raw sugar.

| Country. | Average 1909-1913. | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24, preliminary. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NORTH AMERICA. | Shorttons. |  |  |  |  |  |  |  |
| Canada | 11, 160 | $12,303$ | $\begin{array}{r} 26 \text { rtons. } \\ 264 \end{array}$ | $\begin{array}{r} \text { Short tons. } \\ 19,916 \end{array}$ | $\begin{array}{r} \text { Short tons. } \\ 46,989 \end{array}$ | Short tons. $27,822$ | Short tons. $15,743$ | Short tons. 16,200 |
| United States | 641, 705 | 805, 481 | 801, 000 | 764, 685 | 1, 146, 338 | 1, 074, 000 | 711, 000 | 931, 000 |
| America | 652, 865 | 817, 784 | 827, 364 | 784, 601 | 1, 193, 327 | 1, 101, 822 | 726, 743 | 947, 200 |
|  |  |  |  |  |  |  |  |  |
| Sweden | 153, 739 | 151, 451 | 144, 442 | 140,537 | 181, 009 | 258, 788 | 79, 186 | 169,633 |
| Denmark | ${ }^{3} 127,091$ | 148, 700 | 155, 800 | 149, 053 | 168, 365 | 155, 755 | 94, 136 | 121, 000 |
| Netherlands | ${ }^{4} 246,341$ | ${ }^{4} 214,891$ | ${ }^{4} 181,986$ | 4251,891 | 342, 633 | 411, 534 | 308, 473 | 309, 000 |
| Belgium | - 276, 075 | 130, 797 | 66, 031 | 257, 997 | 264, 492 | 315, 372 | 292, 538 | 309, 000 |
| France | ${ }^{\mathbf{3}} \mathbf{8 0 7 , 8 8 7}$ | 234, 843 | 129, 105 | 181, 882 | 357, 711 | 318, 964 | 514, 798 | 515, 560 |
| Spain | 115,727 3 208,675 | 154, 317 | 169, 223 | 91, 089 | 234, 025 | 79, 649 | 176, 407 | 187, 000 |
| Switzerlan | 5 5 , 784 | 104,987 9,900 | 122, 904 | 190, 158 | 140, 994 | 233, 943 | 299, 519 | 339, 000 |
| Germany | ${ }^{3}$ 2, 251, 186 | 1, 726, 483 | 1, 483, 807 | 783, 123 | 1, 211, ${ }^{4}, 743$ | 1, $\begin{array}{r}6,559 \\ \hline\end{array}$ | 6,757 | 6,160 |
| Austria. | ${ }^{3} 1,079,708$ | 1, 542, 802 | 1, 48, 9111 | 6, 290 | 1, 211,943 | $1,415,606$ 18,036 | $1,604,680$ 26,963 | 1, 179, 579 |
| Czechoslovakia |  |  | 687, 553 | 559, 325 | 784, 726 | 726, 025 | 1820,605 | - 990, 000 |
| Hungary | ${ }^{3} 492,864$ |  | 44, 927 | 12, 592 | 36, 737 | 67, 096 | 190,086 | 132,000 |
| Jugoslavia | 5,69,676 |  |  |  | 24, 250 | 27, 230 | 136,927 | 139,831 |
| Bulgaria | 4,376 | 15, 207 | 7,103 | 13, 391 | 10, 452 | 14, 042 | 19, 333 |  |

[^218]Table 364.-Sugar: Production in undermentioned countries-Continued.
BEET SUGAR, IN TERMS OF RAW SUGAR-Continued.

| Country. | $\begin{gathered} \text { Average } \\ \text { 1909-1913. } \end{gathered}$ | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 | 1923-24, preliminary. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EUROPE-continued. | Short tons. | Shorttons. | Shorttons. | Shorttons. | Shorttons. | Short tons. | Shorttons. | Shorttons. |
| Ruman. | Sha, 229 | 9,193 | 2,759 | 5,439 | 18,921 | 33, 069 | 155,857 | $88,000$ |
| Poland. | 7 233, 641 | 263, 200 | 249, 200 | 106, 200 | 194, 800 | 198, 326 | 294, 000 | 397, 000 |
| Finland |  |  |  | 528 | 891 | 2, 244 | 1,746 |  |
| Russia | ${ }^{8} 1,594,371$ |  |  | 97, 307 | 110, 072 | ${ }^{\text {9 6 }}$ 61, 461 | ${ }^{1} 245,287$ | 330,000 |
| $\begin{aligned} & \text { Total European } \\ & \text { countries com } \\ & \text { parable with } \\ & 1909-1913 \end{aligned}$ | 7,644, 370 |  |  |  | 4, 101, 080 | 4, 341, 455 | 4, 965, 552 |  |
| Total European countries comparable with 1923-24. $\qquad$ |  |  |  |  | 4,090,628 | 4, 327, 413 | 4, 946, 219 | 5, 153, 863 |
| World total comparable with 1909-1913.......... | 8, 297, 235 |  |  |  | 5, 294, 407 | $5,443,277$ | $5,692,295$ |  |
| World total comparablewith 1923-24. | 8,297, 235 |  |  |  | 5, 283, 955 | 5, 429, 235 | $5,622,295$ $5,672,962$ | 6, 101, 063 |

Division of Statistical and Historical Research.
CANE SUGAR (RAW).


Table 364.-Sugar: Production in undermentioned countries-Continued.
CANE SUGAR (RAW)-Continued.


Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Figures are for the crop years 1909-10 to 1923-24 for the countries in which the sugar season begins in the autumn months and is completed during the following calendar year, except in the case of cane-sugar producing countries where the season begins in May or June and is completed in the same calendar year.

13 Three-year average.

Table 365.-Sugar, raw, cane and beet: World production, 1895-1923.

| Year. ${ }^{1}$ | Production in countries reporting all years 1895-1923. | Production as reported. | Estimated world totals (preliminary). | Three chief producing countries. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Cuba. | India. | Java. |
|  | Short tons. | Short tons. | Short tons. | Short tons. | Shorttons. | Shorttons. |
| 1895- | 7, 211, 438 | 7, 619, 883 | 10, 105, 883 |  |  | 628, 021 |
| 1896-97 | 7,894, 621 | 8,255, 405 | 10,761, 405 | 237, 497 |  | 575, 263 |
| 1897-98 | 8,077, 178 | 8, 436, 725 | 10, 942, 925 | 342, 208 |  | 623, 223 |
| 1898-99 | 8 8, 190, 919 | 10, 793, 709 | 11, 002, 309 | 375, 948 | 2, 325, 382 | 785, 638 |
| 1899-1900 | 8,840, 680 | 11, 203, 891 | 11, 409, 131 | 336, 082 | 2, 083, 206 | 821, 387 |
| 1900-1 | 9, 918, 015 | 12, 921,042 | 12, 962, 882 | 712, 159 | 2, 549, 958 | 819,943 |
| 1901-2 | 11, 313, 799 | 14, 017, 184 | 14, 123, 384 | 952, 203 | 2, 265, 173 | 891, 236 |
| 1902-3 | 10, 346, 777 | 12, 991, 634 | 13, 066, 234 | 1,118, 738 | 2, 135, 598 | 982, 781 |
| 1903-4 | 10,590, 317 | 13, 228, 731 | 13, 307, 431 | 1,165, 055 | 2, 096, 624 | 1,022,836 |
| 1904- | 10, 104, 951 | 13, 066, 932 | 13, 143, 732 | 1, 302, 849 | 2, 429, 000 | 1, 159, 866 |
| 1905-6. | 12, 588, 145 | 15, 202, 891 | 15, 227, 691 | 1,320, 199 | 1,932,560 | 1,146,037 |
| 1906-7 | 12, 567, 736 | 15, 789, 808 | 15, 815,608 | 1,598,994 | 2, 469, 936 | 1,092, 053 |
| 1907-8 | 12, 121, 445 | 15, 189, 827 | 15, 218, 527 | 1,077, 393 | 2, 292, 528 | 1, 215, 530 |
| 1908-9 | 12, 953,119 | 15, 846, 662 | 15, 876, 462 | 1,694,965 | 2, 097, 648 | 1, 274, 306 |
| 1909-10 | 13, 261, 726 | 16, 730, 318 | 16, 730, 318 | 2,020, 871 | 2, 480, 700 | 1,360, 353 |
| 1910-11 | 14, 931,316 | 18, 680, 900 | 18,680, 900 | 1,661, 465 | 2,587, 100 | 1,392, 842 |
| 1911-12 | 13, 882, 217 | 17, 765, 546 | 17, 784, 046 | 2, 123, 502 | 2, 744, 900 | 1,626,751 |
| 1912-13 | 16, 201, 290 | 20, 117, 285 | 20, 128, 785 | 2,719, 961 | 2,861, 500 | 1,467,901 |
| 1913-14 | 16, 933, 352 | 20, 793, 711 | 20, 812, 861 | 2,909, 460 | 2,573, 200 | 1, 578, 332 |
| 1914-15 | 16, 618, 454 | 20, 613, 043 | 20, 627, 143 | 2,921, 984 | 2, 736, 000 | 1,502, 852 |
| 1915-16 | 14, 503, 234 | 18, 887, 512 | 18, 900, 512 | 3, 398, 385 | 2, 949, 000 | 1,480, 725 |
| 1916-17 | 13, 892, 686 | 18, 508, 744 | 18,544, 544 | 3, 421, 597 | 3,093, 000 | 1,785, 293 |
| 1917-18 | 14, 868, 380 | 20, 172, 700 | 20, 196, 700 | 3, 889, 966 | 3, 846, 000 | 2,055, 839 |
| 1918-19 | 14, 133, 339 | 18, 279, 267 | 18, 310, 067 | 4, 490,902 | 2, 762, 000 | 1,988, 002 |
| 1919-20 | 13, 162, 918 | 17,841, 625 | 17, 866, 925 | 4,183, 676 | 3, 404, 000 | 1,540,666 |
| 1920-21 | 14, 710, 032 | 19, 198, 455 | 19, 245, 755 | 4, 406,413 | 2, 825, 000 | 1,747, 594 |
| 1921-22 | 15, 401, 769 | 20, 008, 272 | 20, 013, 172 | 4, 517,470 | 2, 925, 000 | 1,906, 032 |
| 1922-23 | 15, 336, 264 | 20, 307, 992 | 20, 455, 917 | 4, 033, 798 | $3,347,000$ | 1,992, 786 |
| 1923-24 | 15,832, 537 | 20, 206, 730 | 21, 175, 155 | 4,271, 000 | 3,388, 000 | 1,971,038 |

[^219]Table 366.-Sugar: International trade, calendar years, 1909-1922.


Division of Statistica land Historical Research. Official sources except where otherwise noted.
The following kinds and grades have been included under the head of sugar: Brown, white candied: caramel, chancaca (Peru), crystal cube, maple, muscovado, panela. The following have been excluded, "Candy" (meaning confectionery), confectionery, glucose, grape sugar, jaggery, molasses, and sirups.

[^220]Table 367.-Sugar, raw ( $96^{\circ}$ centrifugal): Average wholesale price per pound, New York, 1890-1923.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver |
| age. |  |  |  |  |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.
Table 368.-Sugar: Average retail price per pound in the United States, 19181923.

| Calendar year. | $\begin{gathered} \text { Jan. } \\ 15 . \end{gathered}$ | $\begin{gathered} \text { Feb. } \\ 15 . \end{gathered}$ | $\begin{gathered} \text { Mar. } \\ 15 . \end{gathered}$ | Apr. | $\begin{gathered} \text { May } \\ 15 . \end{gathered}$ | June | $\begin{array}{c\|c} \text { July } \\ 15 . \end{array}$ | $\begin{array}{\|l\|l} \text { Aug. } \\ 15 . \end{array}$ | $\begin{gathered} \text { Sept. } \\ 15 . \end{gathered}$ | Oct. $15 .$ | $\begin{aligned} & \text { Nov. } \\ & 15 . \end{aligned}$ | $\begin{array}{\|l\|l} \text { Dec. } \\ 15 . \end{array}$ | $\begin{aligned} & \text { A ver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | \$0. 058 | \$0. 055 | \$0. 054 | \$0. 054 | \$0. 054 | \$0. 053 | \$0. 055 | \$0. 056 | \$0. 057 | \$0. 055 | \$0. 054 | \$0. 054 | \$0.055 |
| 1914 | . 052 | . 052 | . 051 | . 050 | . 050 | . 051 | . 052 | . 079 | . 080 | . 072 | . 062 | . 061 | 059 |
| 1915 | . 060 | . 065 | . 066 | . 067 | . 068 | . 0689 | . 070 | . 067 | . 065 | . 061 | . 066 | . 088 | . 066 |
| 1916 | . 067 | . 069 | . 075 | . 080 | . 086 | . 087 | . 08 | . 085 | . 077 | . 082 | . 86 | . 083 | . 080 |
| 1917 | . 080 | . 081 | . 088 | . 096 | . 109 | . 094 | . 092 | . 100 | . 099 | . 098 | . 096 | . 095 | . 093 |
| 1918 | . 095 | . 106 | . 092 | . 091 | . 091 | . 091 | . 092 | . 093 | . 096 | . 106 | . 108 | . 108 | . 097 |
| 1919 | . 108 | . 107 | . 106 | . 106 | . 106 | . 106 | . 109 | . 111 | . 110 | . 114 | . 125 | . 145 | . 113 |
| 1920 | . 178 | . 188 | . 187 | . 202 | . 254 | . 267 | . 265 | . 229 | . 183 | . 139 | . 128 | . 105 | . 194 |
| Av. 1914-1920 | . 091 | . 095 | . 095 | . 099 | . 108 | . 109 | . 110 | . 109 | . 101 | . 096 | . 096 | . 095 | 10 |
| 1921 | . 097 | . 089 | . 097 | . 097 | . 084 | . 078 | . 071 | . 075 | . 073 | . 069 | . 067 | . 065 | 080 |
| 1922 | . 062 | . 064 | . 065 | . 067 | . 066 | . 071 | . 076 | . 081 | . 079 | . 079 | . 081 | . 083 | . 073 |
| 1923 | . 083 | . 087 | . 102 | . 106 | . 112 | . 111 | . 105 | . 096 | . 096 | . 106 | . 103 | 04 | . 101 |

[^221]Table 369.-Sugar, granulated: Average wholesale price per pound, New York, 1890-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1890 | \$0.063 | \$0. 062 | \$0. 061 | \$0. 060 | \$0.060 | \$0.063 | \$0.061 | \$0.061 | \$0.065 | \$0. 064 | \$0.060 | \$0.059 | \$0.062 |
| 1891 | . 059 | . 063 | . 063 | . 045 | . 043 | . 041 | . 043 | . 042 | . 043 | . 043 | . 041 | . 041 | . 047 |
| 1892 | . 040 | . 039 | . 042 | . 042 | . 042 | 043 | . 042 | . 043 | . 049 | . 047 | . 047 | . 046 | . 044 |
| 1893 | . 046 | . 046 | 045 | . 049 | 051 | 052 | . 053 | . 051 | . 051 | . 051 | . 045 | 042 | 048 |
| 1894 | . 040 | . 041 | . 041 | . 040 | . 039 | . 039 | . 041 | . 045 | . 046 | . 044 | . 040 | . 038 | . 041 |
| 1895 | . 037 | . 037 | . 038 | . 039 | . 043 | . 044 | . 044 | . 043 | . 043 | . 044 | . 043 | . 044 | . 042 |
| 1896 | . 046 | . 047 | . 048 | . 051 | . 050 | . 047 | . 044 | . 045 | . 045 | . 040 | . 041 | . 041 | . 045 |
| 1897 | 040 | . 041 | . 041 | . 043 | . 043 | . 044 | . 046 | . 047 | . 048 | . 048 | . 047 | . 048 | . 045 |
| 1898 | . 049 | . 049 | . 049 | . 050 | . 051 | . 051 | . 051 | . 051 | . 052 | . 047 | . 049 | . 048 | . 050 |
| 1899 | . 047 | . 047 | . 048 | . 049 | . 051 | . 052 | . 052 | . 051 | . 049 | . 048 | . 048 | . 048 | . 049 |
| 1900 | . 048 | . 050 | . 049 | . 049 | . 050 | . 055 | . 058 | . 059 | . 059 | . 055 | . 054 | . 053 | . 053 |
| 1901 | . 053 | . 052 | . 051 | . 051 | . 053 | . 052 | . 052 | . 051 | . 050 | . 048 | . 047 | . 046 | . 050 |
| 1902 | . 045 | . 045 | . 045 | . 045 | . 045 | . 044 | . 044 | . 044 | . 044 | . 044 | . 044 | . 046 | . 045 |
| 1903 | . 046 | . 046 | . 046 | . 047 | . 047 | . 047 | . 048 | . 048 | . 048 | . 046 | . 045 | . 044 | . 046 |
| 1904 | . 043 | . 043 | . 044 | . 044 | . 047 | . 048 | . 049 | . 050 | . 050 | . 048 | . 052 | . 055 | . 048 |
| 1905 | . 058 | . 059 | . 059 | . 059 | . 057 | . 055 | . 051 | . 051 | . 048 | . 045 | . 044 | . 045 | . 053 |
| 1906 | 044 | 043 | . 044 | . 044 | . 044 | . 044 | . 046 | . 047 | . 047 | . 046 | . 046 | . 046 | . 045 |
| 1907 | . 046 | . 045 | . 046 | . 046 | . 048 | . 049 | . 048 | . 047 | . 046 | . 046 | . 046 | 046 | 047 |
| 1908 | . 047 | . 046 | . 050 | . 053 | . 053 | . 052 | . 052 | . 050 | . 050 | . 048 | . 046 | 045 | 049 |
| 1909 | . 045 | . 044 | . 046 | . 048 | . 048 | . 047 | . 047 | . 048 | . 049 | . 049 | . 050 | . 049 | 048 |
| 1910 | . 049 | . 049 | . 052 | . 051 | . 052 | . 050 | . 051 | . 051 | . 050 | . 048 | . 046 | . 047 | . 050 |
| 1911 | . 047 | . 046 | . 047 | . 047 | . 048 | . 049 | . 051 | . 057 | . 066 | . 066 | 061 | . 056 | . 053 |
| 1912 | . 054 | . 055 | . 055 | . 051 | . 049 | . 050 | . 049 | . 049 | . 050 | . 048 | . 048 | . 048 | 050 |
| 1913. | . 045 | . 042 | . 042 | . 041 | . 041 | . 041 | . 045 | . 046 | . 045 | . 042 | . 042 | . 041 | . 043 |
| Av. 1909-1913 | . 048 | . 047 | . 048 | 048 | . 048 | 047 | . 049 | . 050 | 052 | . 05 | . 049 | . 048 | . 049 |
| 1914 | . 039 | . 039 | . 038 | . 037 | . 040 | . 042 | . 042 | . 065 | . 068 | 059 | 049 | 048 | 047 |
| 1915 | . 049 | . 055 | . 057 | . 058 | . 059 | . 059 | . 058 | . 055 | . 051 | . 050 | 057 | . 059 | 056 |
| 1916 | . 057 | . 060 | . 066 | . 071 | . 075 | . 074 | . 075 | . 070 | . 064 | . 071 | . 074 | . 069 | 069 |
| 1917 | . 066 | . 069 | . 071 | . 082 | . 079 | . 075 | . 075 | . 082 | . 082 | . 082 | . 082 | . 080 | . 077 |
| 1918 | . 074 | . 073 | . 073 | . 073 | . 073 | . 073 | . 074 | . 074 | . 085 | . 088 | . 088 | . 088 | . 078 |
| 1919 | . 088 | . 088 | . 088 | 088 | 088 | 088 | . 088 | . 088 | . 088 | . 088 | . 088 | . 109 | . 090 |
| 1920 | . 154 | . 150 | . 137 | ${ }^{1} .192$ | ${ }^{1} .225$ | 1.212 | ${ }^{1} .191$ | . 167 | . 143 | . 108 | . 096 | . 081 |  |
| Av. 1914-1920. | . 075 | . 076 | . 076 |  |  |  |  | . 086 | . 083 | . 078 | . 076 | . 076 |  |
| 1921 | . 076 | . 071 | . 078 | . 073 | . 063 | . 057 | . 055 | . 058 | . 056 | . 052 | . 052 | 050 | . 062 |
| 192 | . 048 | . 049 | . 052 | . 052 | . 053 | . 059 | . 066 | . 067 | . 063 | . 066 | . 068 | . 069 | . 059 |
|  | . 067 | . 073 | . 086 | . 092 | . 094 | . 092 | . 085 | . 076 | . 082 | . 090 | . 087 | . 088 | . 084 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.
${ }^{1}$ No quotations. Prices shown estimated by Bureau of Labor Statistics by applying manufacturing differential to prices or raw sugar.

Table 370.-Area of sugar cane and production of cane sirup, by States, calendar years, 1920-1923.

| State. | Area of sugar cane. ${ }^{1}$ |  |  |  |  |  |  |  | Production of sirup. ${ }^{2}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total. |  |  |  | Harvested for sirup. |  |  |  | 1920 | 1921 | 1922 | $1923{ }^{3}$ |
|  | 1920 | 1921 | 1922 | $1923{ }^{3}$ | 1920 | 1921 | 1922 | $1923{ }^{3}$ |  |  |  |  |
| South Carolina <br> Georgia <br> Florida | Acres. | $\left.\begin{array}{\|} \text { Acres. } \\ 8,700 \end{array} \right\rvert\,$ | $\left.\begin{array}{\|c} \text { Acres. } \\ 9,600 \end{array} \right\rvert\,$ | $\begin{array}{r} \text { Acres. } \\ 9,600 \end{array}$ | Acres. | $\left\|\begin{array}{c} \text { Acres. } \\ 8,200 \end{array}\right\|$ | $\begin{array}{\|c\|} \text { Acres. } \\ 8,900 \end{array}$ | $\begin{gathered} \text { Acres. } \\ 8,800 \end{gathered}$ | 1,000 | $\begin{aligned} & 1,000 \\ & \text { gals. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { gals. } \\ & 1,288 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { gals. } \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 53, 100 | 61,00034,000 | $\begin{aligned} & 50,000 \\ & 29,000 \end{aligned}$ | $\begin{aligned} & 45,000 \\ & 28,000 \end{aligned}$ | 44,10024,000 | 45, 000 | 40,000 | 37, 800 | 9,697 | 7, 335 | 7, 04 <br> 4,800 | 1,1034,255 |
|  | 55, 000 |  |  |  |  | $\begin{aligned} & 30,000 \\ & 60,000 \end{aligned}$ | 24,00069,000 | $\begin{array}{\|} 23,000 \\ 61,900 \end{array}$ | 6,110 | 6, 300 |  |  |
| Alabama.....--- |  | 71,000 | $\begin{aligned} & 29,000 \\ & 79,000 \end{aligned}$ | $78,300$ | $\begin{aligned} & 24,000 \\ & 42,000 \end{aligned}$ |  |  |  | 7,665 | 8,760 | 11, 937 | 9,904 |
| Mississippi | 33, 100 | 39, 200 | 37, 000 | 33,300331,700 | 28, 300 | 33,700 | 32, 000 | 29, 600 | 7,3584,640 | 7,582 | 7,0406,490 | 5,565 |
| Louisiana. | 268, 300 | 294,500 | 319,600 |  |  | 18,900 |  |  |  |  |  |  |
| Texas. | 16, 400 |  | $\begin{array}{r} 18,800 \\ 3,60 \end{array}$ | $\begin{array}{r} 17,300 \\ 3,500 \end{array}$ | $\begin{array}{r} 0,000 \\ 7,100 \\ 2,500 \end{array}$ | $\begin{array}{r} 12,000 \\ 12,400 \end{array}$ | $\begin{array}{r} 21,200 \\ 1,200 \\ 3,100 \end{array}$ | $\begin{array}{r} 13,200 \\ 3,000 \end{array}$ | $\begin{array}{r} 2,215 \\ 437 \end{array}$ | $\begin{array}{r} 3,192 \\ 437 \end{array}$ | 2, 485 | 2, ${ }^{594}$ |
| Arkansas | 3, 200 3,000 |  |  |  |  |  |  |  |  |  |  |  |
| Total | 465, 300 | 529, 400 | 546, 600 | 538, 700 | 174, 100 | 210, 200 | 214, 300 | 200, 000 | 38, 980 | 41, 167 | 41, 611 | 33, 620 |

## Division of Crop and Livestock Estimates.

${ }^{1}$ Sorghum, sometimes confused with sugar cane, is not included.
: The production of molasses (a by-product from sugar) in Louisiana was 15,985,000 gallons in 1923, compared with 22,719,000 gallons in 1922, 25,423,000 gallons in 1921, and 16,857,000 gallons in 1920.
${ }^{8}$ Preliminary.

## SORGHUM FOR SIRUP.

Table 371.-Sorghum for sirup: Acreage, production, and farm value, United States, 1917-1923; by States, 1922 and 1923.

| Calendar year, and State. | Thousands of acres. |  | A verage yield, in gallons per acre. |  | Production, thousands of gallons. |  | Average farm price, cents per gallon Dec. 1. |  | Farm value, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 | $\begin{aligned} & 415 \\ & 422 \\ & 487 \\ & 536 \\ & 518 \end{aligned}$ |  | $\begin{aligned} & 90.3 \\ & 79.2 \\ & 80.9 \\ & 92.4 \\ & 88.0 \end{aligned}$ |  | $\begin{aligned} & 37,472 \\ & 33,387 \\ & 39,413 \\ & 49,505 \\ & 45,566 \end{aligned}$ |  | $\begin{array}{r} 69.5 \\ 93.4 \\ 110.8 \\ 106.9 \\ 62.9 \end{array}$ |  | $\begin{aligned} & 26,055 \\ & 31,191 \\ & 43,683 \\ & 52,943 \\ & 28,681 \end{aligned}$ |  |
| 1918 |  |  |  |  |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |  |  |  |  |
| 1921 |  |  |  |  |  |  |  |  |  |  |
| Leading States. | 1922 | $1923{ }^{1}$ | 1922 | 1923 | 1922 | $1923{ }^{1}$ | 1922 | 1923 | 1922 | $1923{ }^{1}$ |
| Total -------- | 447 | 380 | 81.5 | 84.2 | 36,440 | 32, 001 | 71.0 | 86.2 | 25, 855 | 27, 595 |
| Virginia | 13 | 12 | 94 | 95 | 1,222 | 1,140 | 85 | 89 | 1,039 | 1,015 |
| West Virginia | 8 | 8 | 105 | 109 | 840 | 872 | 100 | 108 | 840 | 942 |
| North Carolina | 30 | 32 | 98 | 92 | 2,940 | 2,944 | 80 | 85 | 2,352 | 2, 502 |
| South Carolina. | 21 | 20 | 83 | 82 | 1, 743 | 1,640 | 61 | 68 | 1,063 | 1,115 |
| Georgia | 30 | 26 | 83 | 83 | 2,490 | 2,158 | 55 | 69 | 1,370 | 1,489 |
| Florida | 1 | 1 | 130 | 110 | 130 | 110 | 52 | 71 | 68 | 78 |
| Ohio | 4 | 4 | 62 | 65 | 248 | 260 | 105 | 118 | 260 | 307 |
| Indiana | 11 | 11 | 85 | 80 | 935 | 880 | 95 | 100 | 888 | 880 |
| Illinois. | 9 | 9 | 72 | 80 | 648 | 720 | 94 | 100 | 609 | 720 |
| Wisconsin | 2 | 2 | 60 | 56 | 120 | 112 | 110 | 127 | 132 | 142 |
| Minnesota | 2 | 2 | 75 | 95 | 150 | 190 | 105 | 103 | 158 | 196 |
| Iowa. | 6 | 5 | 90 | 88 | 540 | 440 | 99 | 102 | 535 | 449 |
| Missouri | 24 | 22 | 80 | 88 | 1,920 | 1,936 | 85 | 130 | 1,632 | 2,517 |
| Nebraska | 2 | 2 | 83 | 90 | 166 | 180 | 95 | 97 | 158 | 175 |
| Kansas. | 3 | 3 | 84 | 70 | 252 | 210 | 88 | 91 | 222 | 191 |
| Kentucky | 48 | 46 | 83 | 93 | 3, 984 | 4,278 | 80 | 90 | 3,187 | 3,850 |
| Tennessee. | 35 | 30 | 84 | 92 | 2,940 | 2, 760 | 78 | 92 | 2,293 | 2,539 |
| Alabama | 74 | 30 | 81 | 80 | 5,994 | 2, 400 | 56 | 73 | 3,357 | 1,752 |
| Mississippi---------- | 42 | 38 | 88 | 82 | 3, 696 | 3,116 | 46 | 65 | 1, 700 | 2, 025 |
| Louisiana.. | 1 | 1 | 100 | 85 | 100 | 85 | 45 | 61 | 45 | 52 |
| Texas | 35 | 32 | 69 | 84 | 2,415 | 2, 688 | 72 | 80 | 1, 739 | 2,150 |
| Oklahoma | 17 | 16 | 66 | 57 | 1,122 | -912 | 72 | 83 | . 808 | 757 |
| Arkansas | 28 | 26 | 64 | 70 | 1, 792 | 1,820 | 75 | 88 | 1,344 | 1,602 |
| New Mexico | 1 | 2 | 53 | 75 | 53 | 150 | 106 | 100 | 56 | 150 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

## MAPLE SUGAR AND SIRUP.

Table 372.-Maple sugar and sirup production, 1917-1923.
[Figures for 1923 subject to revision.]

| State and year. | Trees tapped. | Sugar made. | Sirup made. | Total product in terms of sugar. ${ }^{1}$ | A verage per tree. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | As sugar. | As sirup. |
| Maine: | Number. | Pounds. | Gallons. | Pounds. | Pounds. | Gallons. |
| 1921 | 285, 000 | 12, 000 | 48, 000 | 398, 000 | 1.40 | 0.17 |
| 1922 | 290, 000 | 31,000 | 62, 000 | 522, 000 | 1.80 | . 22 |
| 1923-.--------- | 264, 000 | 33, 000 | 45, 000 | 393, 000 | 1. 50 | 19 |
| New Hampshire: | 800, 000 | 456, 000 | 133, 000 | 1,520,000 | 1.90 | 24 |
| 1922 | 800, 000 | 247, 000 | 189, 000 | 1,760, 000 | 2.20 | . 28 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 1922 | 5, 559, 000 | 3, 152, 000 | 1, 065,000 | 11, 674, 000 | 2.10 | 26 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 1921. | 269, 000 | 113, 000 | 50,000 | 512, 000 | 1.90 | . 24 |
| 1922 | 272, 000 | 134,000 87,000 | 82,000 49,000 | 788,000 483,000 | 1.90 1.85 | .36 .23 |
|  |  |  |  |  |  |  |
| 1921-- | 8,000 | 6, 000 | 2, 000 | 24, 000 | 3. 00 | . 38 |
| 1922 | 10, 000 | 2,000 | 4,000 | 35,000 15,000 | 3.50 1.68 | . 21 |
|  |  |  |  |  |  |  |
| 1921---- | 4, 193, 000 | 881, 000 | 624, 000 | 5,870, 000 | 1. 40 | . 17 |
| 1922 | 4, 487, 000 | 1, 185, 000 | 1, 085, 000 | 9, 865, 000 | 2. 20 | . 28 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 1922 | 815, 000 | 242, 000 | 245, 000 | 2, 201, 000 | 2.70 | . 34 |
| 1923 | 831, 000 | 209, 000 | 265, 000 | 2, 329, 000 | 2.80 | . 40 |
| Ohio: |  |  |  |  |  |  |
| 1921 | 1,832, 000 | 46, 000 | 280, 000 | 2, 283, 000 | 1.25 | . 16 |
| 1922 | 2, 088, 000 | 64, 000 | 420, 000 | 3, 424, 000 | 1. 64 | . 20 |
| 1923 | 1, 879, 000 | 112, 000 | 700, 000 | 5, 712, 000 | 3.04 | . 38 |
|  |  |  |  |  |  |  |
| 1922 | 558, 000 | 12, 000 | 143, 000 | 1, 156, 000 | 2. 07 | . 26 |
| 1923 | 536, 000 | 29, 000 | 180, 000 | 1, 469, 000 | 2.74 | . 34 |
|  |  |  |  |  |  |  |
| 1922 | 857,000 | 54,000 | 197, 000 | 1,628, 000 | 1.90 | 24 |
| 1923 | 900, 000 | 151, 000 | 285, 000 | 2, 431, 000 | 2.70 | . 34 |
| W isconsin: |  |  |  |  |  |  |
| 1921--- | 494, 000 | 17,000 | 100, 000 | 815, 000 | 1.65 | . 21 |
| 1922 | 538, 000 | 24,000 | 148, 000 | 1,210, 000 | 2. 25 | . 28 |
| 1923 | 570, 000 | 32, 000 | 119, 000 | 984, 000 | 1.73 | . 22 |
|  |  |  |  |  |  |  |
| 1918 | 19, 312, 000 | 12, 944, 000 | 4, 863, 000 | 51, 848, 000 | 2.71 | . 34 |
| 1919 | 18, 799, 000 | 9,787, 000 | 3, 804, 000 | 40, 224, 000 | 2.14 | . 27 |
| 1920 | 18, 895, 000 | 7, 324, 000 | 3,580, 000 | 35, 960, 000 | 1.90 | . 24 |
| 1921 | 15, 114, 000 | 4,730, 000 | 2, 386, 000 | 23, 820, 000 | 1. 58 | . 20 |
| 1922 | $16,274,000$ $15,291,000$ | $5,147,000$ $4,685,000$ | $3,640,000$ $3,605,000$ | 34, 3633,000 | 2. 2.11 | . 26 |

Division of Crop and Livestock Estimates.
${ }^{1}$ One gallon of sirup taken as equivalent to 8 pounds of sugar.
${ }^{2}$ These 11 States produced in 1919, 97.1 per cent of the maple sugar crops of the United States and 97.2 per cent of the maple sirus.

Table 373.-Maple sugar and sirup: Farm price, 15th of month, United States, 1917-1923.

| Month. | Sugar (cents per pound). |  |  |  |  |  |  | Sirup (dollars per gallon). |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| Feb. | 14.7 | 18.8 | 22.0 | 29.3 | 24.9 | 17.5 | 22.0 | 1.22 | 1. 58 | 1.86 | 2.35 | 2.27 | 1.84 | 1. 89 |
| Mar. | 14.7 | 20. 5 | 25.3 | 31. 6 | 25. 7 | 21. 9 | 23.2 | 1.30 | 1.76 | 1. 99 | 2. 58 | 2.17 | 1.95 | 1.96 |
| Apr. | 16.3 | 22.5 | 26.9 | 37. 0 | 25. 7 | 23.1 | 26. 0 | 1.33 | 1.80 | 2.03 | 2.92 | 2.21 | 1.93 | 2. 09 |
| May | 16.2 | 22.6 | 26.3 | 36. 0 | 21. 5 | 21. 6 | 26.4 | 1.34 | 1.85 | 2.02 | 2.93 | 2.08 | 1. 86 | 1.75 |
| June | 15.9 | 22.0 | 26.2 | 35.1 | 20.7 | 21.3 | 25.6 | 1.33 | 1.85 | 2.19 | 2. 84 | 2.10 | 1.86 | 2.05 |

Division of Crop and Livestock Estimates.
CLOVER, TIMOTHY, AND ALFALFA SEED.
Table 374.-Clover seed: Acreage, production, and farm value, United States, 1916-1923; by States, 1922 and 1923.

| - Calendar year, and State. | Thousands of acres. |  | A verage yield per acre (bushels). |  | Production, thousands of bushels. |  | A verage farm price per bushel Nov. 15. |  | Farm value, basis Dec. 1 price, thousands of dollars. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1916 | $\begin{array}{r} 939 \\ 821 \\ 820 \\ 942 \\ 1,082 \\ 889 \end{array}$ |  | $\begin{aligned} & 1.8 \\ & 1.8 \\ & 1.5 \\ & 1.6 \\ & 1.8 \\ & 1.7 \end{aligned}$ |  | $\begin{aligned} & 1,706 \\ & 1,488 \\ & 1,197 \\ & 1,484 \\ & 1,944 \\ & 1,538 \end{aligned}$ |  | $\begin{aligned} & \$ 9.18 \\ & 12.84 \\ & 19.80 \\ & 26.75 \\ & 11.95 \\ & 10.75 \end{aligned}$ |  | 15,66119,10723.70539,70023,22716,529 |  |
| 1917 |  |  |  |  |  |  |  |  |  |  |
| 1918 |  |  |  |  |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |  |  |  |  |
| 1921. |  |  |  |  |  |  |  |  |  |  |
| Leading States: | 1922 | 19231 | 1922 | 1923 | 1922 | $1923{ }^{1}$ | 1922 | 1923 | 1922 | 19231 |
|  | 1,156 | 800 | 1.6 | 1.5 | 1,887. | 1,233 | 10. 05 | 12. 19 | 18,971 | 15, 027 |
|  |  |  |  |  |  |  |  |  |  |  |
| New York | 11 | 14 | 2.51.4 | 1.1 | 25 | 15 | 10.0010.00 | 13. 90 | 280250 | 320190 |
| Pennsylvania | 18 |  |  |  |  |  |  |  |  |  |
| Ohio-- | 100 | 144 | 1.1 | 1.2 | 227 | 32 | 10. 70 | 12.10 | 1,176 | , 387 |
| Indiana |  | 35 | 1.2 | .91.1 | 120 |  | 9.80 |  |  |  |
| Illinois. |  | 116 |  |  | 315 | 128 | 9.60 | 13.00 | 3, 024 | 1,664 |
| Michigan | 150 | 105 | 1. 1.7 | 1. 4 | 240 | 147 | 10.5010.20 | 12. 11.10 | 2,520 <br> 2,723 <br> 1 | 1,6321,968 |
| Wisconsin | 150 | 126 |  |  |  |  |  |  |  |  |
| Minnesota | 118 | 65 | 1. 2.5 | 2.01.3 | ${ }_{1}^{171}$ | 130114 | 9.10.10 | 11.2012.70 | 1,419 | 1,456 |
| Iowa. |  | 88 |  |  |  |  |  |  | 1,841 | 1,448 |
| Missouri. | 21 | 16 | 1.7 | 1.6 | 36 | 26 | 9.00 | 12.90 | 324 | 335 |
| Nebraska. | 1821 | 12 | 2.71.5 | 1.6 | 2227469 | 111436 | 10. 00 | 12. 00 | 220 | 132168486 |
| Kansas.-. |  |  |  |  |  |  | 8.10.0010.70 | 12. 0013.50 | 216492 |  |
| Kentucky. |  | 18 | 1.8 | 1.7 |  |  |  |  |  |  |
| Tennessee. | 5 | 4 |  |  |  | 7 | 11. 00 | 11.70 | 99 | 82 |
| Mississippi | 20 | 19 | 6. 0 | 7.0 | 120725 | $\begin{array}{r} 133 \\ 60 \\ \quad 20 \end{array}$ | $\begin{array}{r} 10.00 \\ 9.70 \\ 12.00 \end{array}$ | $\begin{aligned} & \text { 13. } 00 \\ & 11.90 \\ & 12.00 \end{aligned}$ | 1.20069860 | 1,729714240 |
| Idaho... | 165 | 155 | $\begin{aligned} & \text { 4. } 5 \\ & \text { 1. } 0 \end{aligned}$ | $\begin{aligned} & .0 \\ & 4.0 \\ & 4.0 \end{aligned}$ |  |  |  |  |  |  |
| Oregon---- |  |  |  |  |  |  |  |  |  |  |

[^222]Table 375.-Clover seed: Receipts and shipments, Chicago, 19:0-1923.
RECEIPTS.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | libs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | libs. | libs. | libs. | lbs. | lbs. | lbs. |
| 1910-11 | 1,340 | 1,375 | 865 | 231 | 94 | 524 | 751 | 378 | 364 | 405 | 59 | 270 | 6, 656 |
| 1911-12 | 519 | 198 | 176 | 95 | 331 | 337 | 357 | 307 | 213 | 194 | 343 | 574 | 3, 644 |
| 1912-13 | 271 | 950 | 521 | 295 | 493 | 545 | 901 | 279 | 109 | 165 | 41 | 40 | 4,610 |
| 1913-14 | 188 | 225 | 939 | 1,446 | 1,035 | 418 | 837 | 412 | 210 | 836 | 429 | 1,180 | 8,155 |
| 1914-15 | 789 | 596 | 1,136 | 1,723 | 1,773 | 1,993 | 900 | 438 | 55 |  | 48 | 327 | 9, 778 |
| 1915-16 | 2,190 | 1,921 | 1,953 | 1,205 | 980 | 1,236 | 1,123 | 974 | 294 |  | 53 | 138 | 12, 067 |
| 1916-17 | 1,356 | 1,308 | 995 | 1,416 | 660 | 1, 192 | 833 | 798 | 393 | 307 | 2 | 602 | 9, 862 |
| 1917-18 | 1,346 | 945 | 1,149 | 587 | 1,079 | 1, 688 | 797 | 217 | 298 | 108 | 22 | 135 | 8,371 |
| 1918-19 | 192 | 1,597 | 1,337 | 1,146 | 1,974 | 1, 002 | 1,175 | 464 | 88 |  | 271 | 798 | 10, 044 |
| 1919-20 | 1,539 | 1, 816 | 1,941 | 1, 606 | 2, 840 | 2, 557 | 2, 239 | 884 | 7 | 200 | 195 | 213 | 16,037 |
| 1920-21 | 1,549 | 2, 448 | 1, 033 | 1,314 | 2, 762 | 3,150 | 3,996 | 1, 570 | 418 | 319 | 84 | 365 | 19, 008 |
| Average 1914-1920.- | 1,280 | 1,519 | 1,363 | 1,285 | 1,724 | 1,831 | 1,580 | 764 | 222 | 133 | 96 | 368 | 12, 167 |
| 1921-22 | 739 | 1, 235 | 2,040 | 2, 064 | 1,585 | 1,692 | 2, 448 | 1, 050 | 352 | 169 | 77 | 997 | 14, 448 |
| 1922-23 | 1, 368 | 1,299 | 1, 479 | 1,214 | 1,044 | 629 | 1,825 | 845 | 348 | 109 | 8 | 271 | 10, 439 |
| 1923-24. | 641 | 1,681 | 1,109 | 1, 039 |  |  |  |  |  |  |  |  |  |

SHIPMENTS.

| 1910-11 | 165 | 183 | 244 | 224 | 480 | 682 | 504 | 252 | 185 | 52 | 12 | 118 | 3,101 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1911-12 | 51 | 111 | 204 | 131 | 426 | 621 | 420 | 363 | 106 | 48 | 144 | 59 | 2, 684 |
| 1912-13 | 141 | 309 | 862 | 372 | 502 | 835 | 1,525 | 707 | 90 | 78 | 33 | 65 | 5,519 |
| 1913-14 | -138 | 152 | 264 | 668 | 882 | 1,576 | 1, 591 | 740 | 544 | 301 | 381 | 264 | 7, 501 |
| 1914-15 | 309 | 124 | 484 | 1, 665 | 1,197 | 1,583 | 1,290 | 792 | 188 | 13 | 69 | 104 | 7, 818 |
| 1915-16 | 714 | 596 | 1,506 | 879 | 1, 125 | 1, 438 | 2, 027 | 1,481 | 415 | 39 | 78 | 88 | 10, 386 |
| 1916-17 | 279 | 602 | 1, 021 | 962 | 1, 065 | 1,696 | 2,086 | 1, 606 | 583 | 157 | 309 | 429 | 10, 795 |
| 1917-18 | 423 | 483 | 430 | 1, 144 | 908 | 1,923 | 1,116 | 182 | 246 | 4 | 60 | 167 | 7,086 |
| 1918-19 | 191 | 527 | 1,447 | 787 | 984 | 1, 139 | 1,109 | 653 | 18 | 94 | 25 | 136 | 7,110 |
| 1919-20 | 271 | 386 | 952 | 888 | 2, 589 | 1,619 | 926 | 842 | 248 | 98 | 118 | 61 | 8,998 |
| 1920-21 | 107 | 589 | 691 | 769 | 1,554 | 2,997 | 3, 104 | 1,694 | 370 | 167 | 239 | 528 | 12, 809 |
| Average 1914-1920.- | 328 | 472 | 933 | 1, 014 | 1,346 | 1,771 | 1,665 | 1,036 | 295 | 82 | 128 | 216 | 0, 286 |
| 1921-22 | 371 | 781 | 691 | 1, 236 | 1,728 | 2,167 | 2, 416 | 1, 030 | 818 | 147 | 133 | 230 | 11, 748 |
| 1922-23 | 547 | 1, 172 | 1, 187 | 1, 169 | 1,430 | 906 | 1, 252 | 820 | 223 | 75 | 122 | 285 | 9,188 |
| 1923-24 | 530 | 514 | 705 | 670 |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research Compiled from Chicago Board of Trade and the Seed World.

Table 376.-Timothy seed: Receipts and shipments, Chicago, 1910-1929.
RECEIPTS.

| Year beginning Aug. 1- | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | libs. | lbs. | lbs. | lbs. | libs. | lbs. | lbs. | ibs. | libs. | libs. | lbs. | libs. |
| 1910-11 | 1,878 | 7, 509 | 3,778 | 1,741 | 1,563 | 1,311 | 1,560 | 1, 205 | 368 | 106 | 55 | 87 | 21, 161 |
| 1911-12 | 4,451 | 5, 829 | 4, 011 | 2, 649 | 1, 120 | 792 | 879 | 868 | 557 | 388 | 242 | 158 | 21, 944 |
| 1912-13 | 2,916 | 6, 875 | 5, 505 | 3, 608 | 2, 182 | 2, 361 | 3, 019 | 2,831 | 3, 964 | 1,509 | 1,764 | 2, 647 | 39,181 |
| 1913-14 | 3,601 | 5,947 | 4, 232 | 3, 421 | 2,131 | 2, 191 | 1,763 | 4,393 | 1,977 | 828 | 1,446 | 2,410 | 34, 340 |
| 1914-15 | 4, 914 | 11, 208 | 3,469 | 2, 650 | 3, 487 | 3, 050 | 3, 087 | 4,129 | 1,165 | 1,101 | 403 | 752 | 39,415 |
| 1915-16 | 1,201 | 9,894 | 5, 578 | 4,039 | 2, 416 | 1, 431 | 2, 203 | 2,167 | 1, 019 | 1, 039 | 704 | 296 | 31,987 |
| 1916-17 | 2,487 | 10, 565 | 5, 631 | 3, 989 | 3, 051 | 2, 149 | 2, 478 | 6, 279 | 3, 367 | 2, 442 | 1,117 | 924 | 44, 479 |
| 1917-18 | 3,810 | 6, 525 | 5, 172 | 2,966 | 1,915 | 2, 006 | 2, 242 | 2, 554 | 1, 434 | 1,250 | 392 | 677 | 30,943 |
| 1918-19 | 764 | 3, 198 | 5,175 | 3, 242 | 1, 463 | 1,578 | 2, 234 | 2, 985 | 3, 772 | 2, 398 | 1,348 | $\begin{array}{r}891 \\ \hline 1\end{array}$ | 29, 048 |
| 1919-20 | 7,450 | 13, 191 | 6, 124 | 2, 582 | 1, 643 | 3, 186 | 3,381 | 3, 118 | 1,338 | 1,093 | , 641 | 1, 135 | 44, 832 |
| 1920-21 | 3,313 | 12, 777 | 9,013 | 5,269 | 3, 445 | 2, 343 | 3,386 | 4, 056 | 2, 601 | 2,368 | 1, 249 | 531 | 50,351 |
| Av. 1914-1920.. | 3,420 | 9,622 | 5,737 | 3,534 | 2, 489 | 2,249 | 2,716 | 3, 613 | 2,099 | 1,670 | 836 | 744 | 38,729 |
| 1921-22 | 10, 849 | 6, 269 | 4, 586 | 3, 197 | 2, 668 | 2, 404 | 2, 899 | 2, 827 | 780 | 1, 215 | 472 355 | 119 | 38, 286 |
| 1922-23 | 8, 985 | 9, 600 | 4, 516 | 2, 048 | 1, 050 | 570 | 1,352 | 1,697 | 1,243 | 398 | 355 | 84 | 31, 898 |
| 1923-24 | 5, 061 | 13, 722 | 4,419 | 1,606 | 1, 299 |  |  |  |  |  |  |  |  |

Table 376.-Timothy seed: Receipts and shipments, Chicago, 1910-1923-Con. SHIPMENTS.

| Year beginning Aug. 1- | Aug. | Sept | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,0 | 1,000 | 1,000 | 1,000 | 0 | 00 |  |  |
|  | lbs. | lbs. | lbs. | lbs. | ilbs. | libs. | lbs. | libs. | libs. | lbs. | 1,000 | s. | lus, |
| 1910-11 | 1,825 | 4, 198 | 1,701 | 676 | 899 | 2, 078 | 2, 109 | 2,751 | 1,004 | 159 | 4 |  | 17, 407 |
| 1911-12 | 2, 452 | 5, 038 | 2, 035 | 2, 051 | 688 | 482 | 958 | 1,356 | 761 | 360 | 54 | 158 | 16, 393 |
| 1912-13 | 1,951 | 7, 504 | 4,373 | 4,912 | 2,224 | 3, 313 | 3, 152 | 4,426 | 4,629 | 2,229 | 1,521 | 1,344 | 41, 578 |
| 1913-14 | 1, 774 | 3,735 | 3, 285 | 1,896 | 1,893 | 2, 065 | 2, 021 | 3, 977 | 1,955 | 888 | 786 | 2, 592 | 26, 867 |
| 1914-15 | 2,056 | 4, 845 | 2, 511 | 2, 124 | 3, 549 | 2, 565 | 1,877 | 2,430 | 2, 623 | 1,727 | 955 | 1, 205 | 28, 467 |
| 1915-16 | 1,372 | 5, 344 | 5, 283 | 3, 796 | 2, 485 | 1, 892 | 2, 326 | 4, 203 | 2,715 | 1,212 | 162 | 395 | 31, 185 |
| 1916-17 | 2, 826 | 7,956 | 5, 363 | 4, 071 | 3,128 | 2, 921 | 4, 082 | 7, 775 | 4,321 | 2,288 | 779 | 729 | 46, 239 |
| 1917-18 | 2,605 | 3,887 | 2,816 | 1,511 | 1.291 | 1,720 | 2, 049 | 5, 160 | 1,459 | 147 | 509 | 427 | 23, 581 |
| 1918-19 | 1,218 | 1, 774 | 2, 674 | 3,903 | 2, 688 | 1,659 | 3, 178 | 3, 621 | 4, 579 | 1,817 | 780 | 1,253 | 29, 144 |
| 1919-20 | 2, 340 | 6,301 | 3, 142 | 1,964 | 2, 588 | 4,007 | 3, 737 | 3, 404 | 1,852 | 2, 497 | 735 | 1, 057 | 33, 624 |
| 1920-21 | 2, 233 | 4, 072 | 4, 150 | 1,787 | 1,594 | 3, 810 | 4,531 | 5, 410 | 2,708 | 1,550 | 587 | 1, 001 | 33, 433 |
| Av. 1914-1920. | 2,093 | 4,883 | 3,706 | 2, 737 | 2,475 | 2,653 | 3,111 | 4,572 | 2, 894 | 1,605 | 644 | 867 | 32, 239 |
| 1921-22 | 5, 233 | 8, 567 | 3, 750 | 2,340 | 2,846 | 2, 551 | 4, 108 | 5,187 | 2, 129 | 2, 598 | 336 | 352 | 39, 997 |
| 1922-23 | 3, 896 | 6, 303 | 4,580 | 3,943 | 1,895 | 2, 106 | 2, 451 | 3, 291 | 2, 221 | 1, 394 | 353 | 217 | 32, 650 |
| 1923-24 | 2, 481 | 3,926 | 1,804 | 1,573 | 1,001 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.

Table 377.-Forage plant seed: Imports into United States, 1911 to $1923 .{ }^{1}$

| Kind of seed. | For fiscal year ending June 30. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| Alfalfa | 1,000 lbs. 1,272 | 1,000 libs. 3,394 | 1,000 libs. 6, 104 | 1,000 libs. 5,203 | 1,000 libs. 6,930 | $\begin{aligned} & 1,000 \\ & l b s .5 \\ & 3,252 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { libs. } \\ & 3,170 \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { lbs. } \\ \hline \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { ibs. } \\ 770 \end{gathered}$ | $\begin{gathered} 1,000 \\ 18,85 \\ 18,81 \end{gathered}$ | 1,000 lbs. 942 | $\begin{aligned} & 1,000 \\ & \text { lbs. } \\ & 7,259 \end{aligned}$ | 1,000 libs. 8,784 8, |
| Canada bluegrass.- | ${ }^{1} 786$ | ${ }^{3} \mathbf{3} 6$ | 791 | 567 | 1,043 | 698 | 495 | 1,229 | 739 | 552 | 1,148 | 1,034 | 836 |
| Kentucky bluegrass - | ${ }_{165}^{25}$ |  |  |  |  |  |  |  |  |  | 9 |  |  |
| Awnless bromegrass <br> Alsike clover | 165 | 1, $\mathbf{r}^{6}$ | $\begin{array}{r} 75 \\ 760 \end{array}$ | 2, 688 | 778 | $\begin{gathered} (4) \\ 1,113 \end{gathered}$ | 4,329 | 3, 528 | 7,032 | 5,648 | 4, 121 | 7,057 | 5, 566 |
| Crimson clo | 3, 529 | 3,407 | 5, 377 | 8, 534 | 11,690 | 4, 504 | 5,776 | 1,603 | 1,484 | 10, 053 | 5,566 | 3, 443 | 2, 262 |
| Red clover | 6, 143 | 19,674 | 5,333 | 5,921 | 8, 932 | 32, 509 | 5, 344 | 768 | 1,051 | 19, 268 | 16, 333 | 10,391 | 448 |
| White clover | 473 | 543 | 979 | 640 | 373 | 149 | 158 | 53 |  | 189 | 516 | 1,623 | 520 |
| Biennial white sweet clover |  |  |  |  |  | ${ }^{(3)}$ | 95 | 71 | 941 | 2,215 | 3,133 |  |  |
| $\begin{aligned} & \text { Biennial yellow } \\ & \text { sweet clover } \end{aligned}$ |  |  |  |  |  |  |  |  |  |  | 35 |  |  |
| Clover mixtures. |  |  |  |  |  |  | 26 | 169 | 550 | 265 | 23 | 57. | 20 |
| Grass mixtures.-. |  |  |  |  |  |  | 124 |  | (4) | 3 |  | 43 | ${ }^{(4)}$ |
| Spring vetch and oats mixtures. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Meadow fescue |  |  |  |  |  |  |  |  |  | 2 |  |  |  |
| Broom-corn mille | 2, 254 | 3, 776 | 1,194 | 1,520 | 1,305 | 1,102 | 786 | 1,584 |  | 225 | 152 | 1, 496 | 5,360 |
| Foxtail millet | 482 | 137 | 291 | 1523 |  | 118 | 1, 268 | 9 | 138 | 2,771 | 434 | 2,922 | 768 |
| Orchard grass <br> Rape. | + ${ }_{\text {, } 516}$ | 1,266 | 1,194 | 2,989 | 3,966 | 4,019 | 2,286 | 11, 316 | 1779 | 5,766 | 4, 245 | 4,763 | 6, 384 |
| Redtop. |  |  |  |  |  |  |  |  |  |  | ${ }^{(4)}$ |  | 11 |
| Perennialryegra | 605 | 1,626 | 1,117 | 1,429 | 1,342 | 1,510 | 1,668 | 1,584 | 831 | 1,958 | 1,523 | 1,868 | 1,834 |
| Italian rye grass | 251 | 321 | 345 | 311 | 485 | 383 | 481 |  | 208 | 80 | 577 | 828 | 36 |
| Timothy | 320 | 378 |  |  | 18 |  |  |  | 155 | $\left\lvert\, \begin{array}{r} 37 \\ 1,220 \end{array}\right.$ | 1,387 |  | 32 1,599 |
| Hairy vetch | 965 2,076 | 646 531 | 1,948 1,390 | 2,477 | 466 <br> 221 | 68 62 | 296 30 | 118 | 435 | 1, 1248 | 1,387 542 | 1,941 | 1,858 |
| Spring vetch | 2,076 |  |  |  | 22 | 62 |  | - 118 |  |  |  |  |  |

## Hay, Feed, and Seed Division.

[^223]Table 378.-Alfalfa seed: Farm price per bushel, 15th of month, United States, 1912-1923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June | A verage |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | \$8. 32 |  | \$9. | \$7.87 |  |  |  |  |  |  |  | 08 | 21 |
| 1913 | 8. 20 | 7.96 | 7.42 |  | 6. 36 | 6. 60 | 6. 55 | 6. 88 | 6. 60 | 6. 77 | 6. 77 | 83 | ${ }^{96}$ |
| 1915-16 | 8.51 | 8.30 | 7.94 | 8.37 | 8.65 | 8.88 | 8.84 | 9. 20 | ${ }^{10.92}$ | 10. 39 | 10.70 | 10.10 | 16 |
| 1016-17 | 10.30 | 9. 33 | 9.27 |  |  |  |  |  |  |  |  |  |  |
| - 1917818 | ${ }_{968}^{8.71}$ | 8. 88 | 9.04 | 9. 94 | ${ }_{9}^{9.43}$ | ${ }_{9}^{9.58}$ | 10.14 | 9.900 | 10.60 | 10. ${ }^{33}$ | 10. 09 | 13 |  |
| 1919-20.... | 10.88 | 11.34 | 12.34 | 14.90 | 15.23 | 16.68 | 16.60 | 19.57 | 21.43 | 21.80 | 22.40 | 20.42 | ${ }^{16.97}$ |
| 1920-21 | 19.41 | 16.03 | 14.89 | 13.35 | 12.25 | 10. 24 | 5 | 9.01 |  |  |  |  |  |
| 1921 | 7.89 | 8. 51 | 8.53 | 8.33 | 8.09 | 7.63 | 7.39 | 8.45 | 7.50 |  | 8.89 |  | 8.22 |
| 1923-24 | -9.00 | 7.74 10.38 | 8. <br> 9.20 | r ${ }^{70.75}$ | -8. ${ }^{8} \mathbf{8 1}$ | 9.45 |  | 9.96 | 10.56 | 10.44 | 10.59 |  | 9.36 |

Division of Crop and Livestock Estimates.
Table 379.-Clover seed: Farm price per bushel, 15th of month, United States, 1910-1923.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 . \end{aligned}$ | Sept: | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -1910 | \$8. 27 | \$8. 13 | \$7. 70 | \$7.94 | \$8. 27 | \$8. 37 | \$8.56 | \$8.79 | \$8. 74 | \$8.80 | \$8.83 | \$9. 65 | \$8. 30 |
| 1911-12 | 10.19 | 10.33 | 10.37 | 10.62 | 10.89 | 12. 22 | 12.89 | 12.91 | 12. 53 | 11. 69 | 10.64 | 9.80 | 11. 25 |
| 1912-13 | 9. 39 | 9.37 | 9.06 | 9. 00 | 9.41 | 10.28 | 10.42 | 11. 00 | 10.74 | 9.77 | 9.78 | 9.37 | 9.71 |
| 1913-14 | 7.31 | 7.00 | 7.33 | 7. 70 | 7.99 | 8.07 | 8.17 | 8. 06 | 7.87 | 7.96 | 8.12 | 8.76 | 7.75 |
| Av. 1910-19 | 8. 79 | 8.71 | 8.62 | 8. 82 | 9.14 | 9.74 | 10.01 | 10.19 | 9.9 | 9. 56 | 9.34 | 9. 40 | 9.25 |
| 1914-15 | 9. 10 | 8.24 | 8.02 | 8.12 | 8.51 | 8.60 | 8. 5 | 8.36 | 8. 1 | 7.90 | 7. 9 | 7.9 | 8.41 |
| 1915-16 | 8.49 | 9.70 | 9.67 | 10. 01 | 10. 27 | 10.47 | 10.76 | 10. 58 | 9. 9 | 9.47 | 9. 15 | 9.12 | 9.98 |
| 1916-17 | 8.65 | 8.54 | 9. 20 | 9.40 | 9. 60 | 9.87 | 10.32 | 10.41 | 10. 40 | 10. 29 | 10. 50 | 10. 53 | 9.54 |
| 1917-18 | 10.89 | 11.92 | 12.91 | 13. 53 | 14. 48 | 16. 46 | 17.49 | 17. 86 | 16. 56 | 15. 88 | 14. 71 | 15. 20 | 14.48 |
| 1918-19 | 16.61 | 19.01 | 20. 03 | 20.67 | 21. 55 | 21.79 | 22.81 | 24.81 | 24. 48 | 23.37 | 23. 25 | 24. 33 | 21.01 |
| 1919-20 | 25.38 | 26.47 | 26. 53 | 27. 63 | 28, 06 | 31.21 | 31. 88 | 32. 23 | 29.84 | 26. 21 | 25. 52 | 19.97 | 28.34 |
| 1920-21 | 17.77 | 13. 18 | 11. 64 | 10. 28 | 10. 82 | 10.61 | 10.98 | 10.80 | 10.71 | 10. 20 | 10. 00 | 10.37 | 11. 81 |
| Av. 1914-1920 | 13. 84 | 13.87 | 14.00 | 14. 23 | 14.76 | 15. 57 | 16.08 | 16. 44 | 15.73 | 14.76 | 14. 44 | 13.92 | 14.80 |
| 1921-22 | 10.25 | 10. 21 | 10. 09 | 10.38 | 10. 69 | 11.88 | 13.00 | 13. 13 | 12.84 | 11. 60 | 11.00 | 9. 88 | 11. 14 |
| 1922-23 | 8.85 | 9. 66 | 10. 18 | 10.88 | 11. 16 | 11.52 | 11.71 | 11. 48 | 11.20 | 10.84 | 10.94 | 10.46 | 10.71 |
| 1923-24 | 11.07 | 12. 20 | 12.18 | 12. 22 |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 380.-Timothy seed: Farm price per bushel, 15th of month, United States, 1910-1923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 |  | \$3. 77 | \$4. 03 | \$4. 08 | \$4. 11 | \$4.12 | \$4. 51 | \$4.93 | \$5. 17 | \$5. 24 | \$5. 24 | \$5. 48 | \$4. 28 |
| 1911-12 | \$6. 52 | 6.65 | 6.91 | 6.90 | 6. 72 | 6.99 | 7.26 | 7.33 | 7.27 | 7.16 | 6.68 | 5. 96 | 6.87 |
| 1912-13 | 3. 20 | 2.09 | 1.95 | 1.82 | 1.79 | 1. 79 | 1.78 | 1. 72 | 1.74 | 1.76 | 1.77 | 1.94 | 2. 01 |
| 1913-14 | 2.01 | 2.13 | 2.02 | 2.08 | 2.10 | 2. 07 | 2.12 | 2.30 | 2. 28 | 2.38 | 2. 23 | 2.32 | 2. 13 |
| Av. 1910-1913 | 3.91 | 3. 66 | 3.72 | 3. 72 | 3.68 | 3. 74 | 3. 92 | 4.07 | 4. 12 | 4.14 | 3.98 | 3.92 | 3.82 |
| 1914-15 | 2.43 | 2.46 | 2. 34 | 2.34 | 2. 18 | 2.63 | 266 | 2.78 | 2.69 | 2. 7 | 2.65 | 2. 57 | 2.49 |
| 1915-16 | 2. 56 | 2.62 | 2.72 | 291 | 2.86 | 3. 05 | 3.19 | 3.28 | 3. 51 | 3.33 | 3.26 | 3. 08 | 2.89 |
| 1916-17 | 2. 36 | 2.22 | 2.27 | 2.25 | 2.31 | 2.44 | 2.46 | 2.70 | 2.76 | 3.09 | 3. 09 | 3.04 | 2.42 |
| 1917-18 | 3.23 | 3.31 | 3.61 | 3. 25 | 3.37 | 3. 57 | 3. 78 | 3.84 | 3. 74 | 3.84 | 3. 56 | 3.67 | 3. 50 |
| 1918-19 | 3. 87 | 3. 79 | 4.08 | 4.26 | 4.21 | 4. 34 | 4. 51 | 4. 54 | 4.69 | 5. 05 | 4. 63 | 4.49 | 4.19 |
| 1919-20 | 4. 58 | 4.55 | 4.78 | 4.67 | 4.98 | 5. 35 | 5. 62 | 5. 61 | 5. 63 | 5.61 | 5.46 | 5. 44 | 4.98 |
| 1920-21 | 4. 44 | 3. 52 | 3.25 | 3. 09 | 3.16 | 3. 04 | 2.75 | 2.97 | 2.84 | 2.90 | 2.99 | 2.98 | 3. 29 |
| Av. 1914-1820 | 3.35 | 3.21 | 3. 29 | 3. 25 | 3. 30 | 3.49 | 3. 57 | 3.69 | 3.69 | 3. 80 | 3. 66 | 3.61 | 3.39 |
| 1921-22 | 2.71 | 2.31 | 2.70 | 2.41 | 2. 57 | 2.70 | 2.82 | 2.95 | 3. 11 | 3.21 | 2.81 | 2. 53 | 2.64 |
| 1922-23 | 2.20 | 2. 28 | 2. 48 | 2.49 | 2. 69 | 3. 06 | 2.98 | 3.00 | 2. 99 | 2.87 | 2.92 | 3.16 | 2.60 |
| 1923-24 | 2. 63 | 3.01 | 3.12 | 3.15 | 3. 19 |  |  |  |  |  |  |  |  |

Table 381.-Field seeds: Average price per 100 pounds paid to growers for crops of 1919-1922.

ALFALFA SEED.

| State or State subdivision. | 1919 | 1920 | 1921 | 1922 | State or State subdivision. | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southern A | \$35. 50 | \$17.00 | \$14.35 | \$15.50 | Montana | \$26.00 | \$17.00 | \$17.85 | \$21. 05 |
| California | 30.00 | 15.90 | 14.00 | 14.75 | Nebraska | 26. 00 | 15.80 | 10.10 | 13.90 |
| Colorado. | 27.00 | 13.00 | 11.85 | 11.60 | Eastern New Mexico. | 27.50 | 14. 00 | 10.80 | 13.00 |
| Southern Idaho | 31.65 | 11.80 | 12.00 | 14.95 | Western Oklahoma-- | 22.30. | 12.85 | 11.20 | 13.30 |
| Northeastern Kansas.- | 25.05 | 13.60 | 11. 10 |  | Western Oregon. | $28.70{ }^{\circ}$ | 18.00 | 13.00 |  |
| Northwestern Kansas. | 26.75 | 14. 25 | 10.65 | 12.10 | South Dakota. | 31.45 | 18.75 | 13.20 | 17.00 |
| Southeastern Kansas.- | 28.30 | 16. 40 | 13.60 |  | Western Texas | 23.50 | 20.65 | 14.75 | 13.10 |
| Southwestern Kansas. | 26.60 | 14.70 | 11.35 | 12.90 | Northern Utah | 33.50 | 16. 00 | 11.75 | 15. 50 |

ALSIKE CLOVER SEED.

| Southern Idaho | \$40.15 | \$22.00 | \$14. 50 | \$13.60 | Western New York | \$39. 20 | \$21, 10 | \$14.50 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northern Illinoi | 39.60 | 22.05 | 14.65 | 13. 80 | Northwestern Ohio.- | 40.80 | 22. 30 | 13.30 | \$12.90 |
| Northern Indiana | 41.70 | 21. 75 | 14. 80 | 14.55 | Western Oregon. | 40.45 | 23.50 | 13.65 | 15.20 |
| Iowa | 40.35 | 19.95 | 15. 15 |  | Northeastern W is- |  |  |  |  |
| Southern Michiga | 44.90 | 20.90 | 13.50 | 13.50 | consin. | 40.25 | 18.95 | 14.30 | 11.80 |
| Minnesota.. | 39.25 | 19.25 | 13. 65 | 12.95 | Southeastern Wisconsin. | 41.20 | 20.20 | 14. 20 | 12.85 |

RED CLOVER SEED.

| Idaho | \$45. 60 | \$13.95 | \$15. 10 | \$16.75 | Missouri | \$39.25 | \$15.85 | \$16.05 | \$15. 55 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northern Illinois | 43.30 | 18. 70 | 16. 30 | 17.25 | Nebrask8 | 41.25 | 14.65 | 15.35 | 16. 15 |
| Central Illinois. | 43. 70 | 18.40 | 16. 55 | 16.55 | Northwestern Oh | 44. 40 | 19.05 | 17. 20 | 17.55 |
| Northern Indiana | 45. 50 | 19.10 | 17.00 | 17.20 | Western Oregon. | 47.50 | 22.35 | 15.30 | 20.10 |
| Central Indiana. | 45. 50 | 18. 50 | 16. 55 | 16. 15 | Washington. | 45.00 | 18.00 | 15.25 |  |
| Southern Indiana | 42. 50 | 16. 05 | 16. 45 | 15. 85 | Northeastern Wis- |  |  |  |  |
| Northeastern Iowa | 42.10 | 17.80 | 16. 45 | 16. 60 | consin. | 43.80 | 16.30 | 16.65 | 17.35 |
| Southeastern Iow | 40.50 | 18.30 | 15.40 | 16. 10 | Southeastern Wis- |  |  |  |  |
| Southwestern Iow | 42.70 | 17.25 | 15. 90 | 17. 05 | consin---------- | 45.60 | 18. 40 | 17.55 | 17.90 |
| Kansas.-.---- | 40.50 | 15. 65 | 15. 30 | 16.30 17.35 | Southwestern Wisconsin |  |  |  |  |
| Southern Michig | 45.00 43.10 | 17. 10 | 16.60 15.50 | 17.35 17.10 | consi | 43.55 | 16.75 | 16.85 | 17.45 |

SWEET CLOVER SEED.

| Colorado. | \$21. 60 | \$9.90 | \$4. 25 | \$4. 55 | Nebraska | \$25.00 | \$12.50 | \$6. 50 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Idaho | 24.75 | 10.00 | 6.50 |  | North Dakota | 23. 00 | 9.60 | 4.40 | \$7.35 |
| Illinois | 24. 00 | 16. 30 | 10.15 | 7.10 | Oklahoma. | 22.00 | 9.00 | 5.00 |  |
| Kansas | 23.50 | 8.15 | 5.10 | 7.75 | South Dakota | 21.00 | 9.50 | 5.00 | 7.00 |
| Minnesota | 21. 00 | 8.00 | 4. 50 | 6.85 | Utah | 26. 00 | 8. 50 | 3.00 |  |
| Montana | 23.25 | 11. 50 | 5.00 | 7.00 |  |  |  |  |  |

TIMOTHY SEED.

| Southern Idaho. | \$11. 25 | \$5. 25 | \$4.10 | \$4.45 | Northeastern Mis- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northern Illinois | 9.85 | 6. 50 | 4. 50 | 4.70 | souri.-.-.-.- | \$10. 55 | \$5. 75 | \$4. 30 | \$4.95 |
| Central Illinois. | 10. 50 | 6. 30 | 4.85 | 4.95 | Northwestern Mis- |  |  |  |  |
| Southern Illinois | 10. 15 | 6.75 | 4.95 | 5.15 | souri -------------- | 10.60 | 5.50 | 3.95 | 4.60 |
| Indiana. | 10. 75 | 6.25 | 4.70 | 5.15 | Southwestern Mis- |  |  |  |  |
| Northeastern Iowa | 10.10 | 5. 40 | 4.20 | 4.70 | souri | 10.35 | 4. 55 | 3.70 |  |
| Northwestern Iowa | 9. 76 | 5. 90 | 4.15 | 4.50 | Nebraska | 9.60 | 5. 50 | 5. 50 |  |
| Southeastern Iowa. | 10. 60 | 6. 05 | 4.50 | 4.60 | North Dakota | 9.35 | 5.80 | 5. 20 | 4. 55 |
| Southwestern Iowa | 10. 65 | 5. 50 | 4. 10 | 4.55 | Northeastern Ohio -.- | 11. 05 | 6.65 | 4. 85 | 4.95 |
| Kansas .-.-.-.------- | 10.00 | 5.25 | 5.60 |  | Northwestern Ohio.- | 10. 70 | 5.85 | 4.70 | 5.00 |
| Northwestern Minnesota | 9.56 | 5.10 | 4.35 | 4. 55 | Northeastern South <br> Dakota | 9.55 | 5.05 | 4.45 | 4.60 |
| East central Minne- |  |  |  |  | Southeastern South |  |  |  |  |
|  | 9.65 | 5.75 5.50 | 4.40 4.45 | 5.05 4.85 | Wisconsin | 9.95 10.00 | 5.65 5.90 | 4.05 4.80 | 4.60 5.05 |
| West central Minnesota | 9.90 | 5. 25 | 4.75 | 4.75 |  |  |  |  |  |

Division of Statistical and Historical Research. Weighted average price based on reports received annually from seed shippers.

Table 382.-Alfalfa seed: Average spot price per 100 pounds, Kansas City, 19101923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | (1) | (1) | \$13.34 | \$12.88 | \$12.88 | \$12.88 | \$12. 88 | \$12. 88 | \$12. 88 | (1) | (1) | (1) |  |
| 1911-12 | (1) | (1) | 11. 50 | 10.48 | 10.00 | 10. 17 | 11.03 | 10.90 | 10.91 | \$10. 45 | \$10. 25 | \$10. 41 |  |
| 1912-13 | \$10. 50 | \$10. 27 | 9.84 | 9.64 | 10. 00 | 10. 00 | 9.90 | 9.81 | 9.88 | 10. 09 | 10. 25 | 11.71 |  |
| 1913-14 | 10.00 | 9.57 | 8. 25 | 8.12 | 7.70 | 7. 75 | 8.00 | 8.00 | 9.88 8.00 | 10.09 8.42 | 10.25 9.35 | 11.51 9.50 | 8. 56 |
| 1914-15 | 9.50 | 10. 20 | 11.88 | 10. 34 | 10. 00 | 10.37 | 11. 87 | 13. 15 | 13. 11 | 12. 53 | 12. 25 | 12. 25 | 11.45 |
| 1915-16 | (1) | 14. 17 | 14.98 | 15. 69 | 15. 57 | 16. 08 | 17. 40 | 16. 23 | 17. 25 | 17. 25 | 17.25 | 17. 25 |  |
| 1916-17 | 17.81 | 17. 58 | 12. 63 | 11. 23 | 10. 50 | 10. 66 | 10. 62 | 11. 00 | 11. 00 | 11. 18 | 11.80 | 12. 00 | $12.3 \overline{3}$ |
| 1917-18 | 12. 00 | 12. 52 | 13. 25 | 13. 51 | 14. 00 | 14.00 | 13. 50 | 13. 50 | 13. 50 | 14.38 | 15. 00 | 12. 42 | 13. 47 |
| 1918-19 | 12. 90 | 13. 91 | 13. 02 | 13.12 | 13. 45 | 13. 31 | 13. 58 | 13. 75 | 13. 75 | 13. 04 | 14. 27 | 14. 21 | 13. 53 |
| 1919-20 | 14. 50 | 17. 70 | 20.00 | 23.50 | 27. 72 | 30. 00 | 30. 00 | 33. 77 | 20.73 | 25. 00 | 25. 00 | 25. 00 | 24. 41 |
| 1920-21 | 25. 00 | 25. 00 | 14. 79 | 14.67 | 12. 50 | 14. 00 | 15.00 | 14. 62 | 13. 25 | 13. 75 | 13. 25 | 12. 75 | 15. 72 |
| Av., 1914-1920. | 15.28 | 15.87 | 14. 36 | 14.58 | 14.82 | 15.49 | 16. 00 | 16.57 | 14.66 | 15.30 | 15.55 | 15.13 | 15.31 |
| 1921-22 | 12. 75 | 12. 75 | 12.12 | 11. 50 | 11. 50 | 11.00 | 11.12 | 12. 25 | 13. 88 | 14. 25 | 13. 00 | 13. 00 | 12. 43 |
| 1922-23 | (1) | 13. 12 | 14. 50 | 14. 25 | 16. 00 | 17. 50 | 17.85 | 17.35 | 16. 00 | 16. 10 | 15. 90 | 15. 00 |  |
| 1923-24 | $\left.{ }^{1}\right)$ | ${ }^{(1)}$ | 14.75 | 14.65 | 17.10 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Kansas City Price Current and the Seed World.
${ }^{1}$ No quotations.
Table 383.-Red clover seed, prime contract grade: Average spot price per 100 pounds, Chicago, 1910-1923.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | \$16. 13 | \$15. 13 | \$14.45 | \$14.86 | \$15. 04 | \$14.80 | \$15. 25 | \$15. 13 | \$15. 81 | \$16. 10 | \$15. 75 | \$19. 25 | \$15. 64 |
| 1911-12 | 20.10 | 20. 63 | 20.63 | 20.75 | 21. 81 | 23. 13 | 22.50 | 21. 63 | 20. 55 | 20.13 | 20.00 | 16. 00 | 20.66 |
| 1912-13 | 17. 56 | 18. 38 | 18. 05 | 18. 88 | 19. 90 | 19.88 | 19. 25 | 21. 38 | 18. 40 | 16. 00 | 15. 50 | 14. 70 | 18.16 |
| 1913-14 | 11.00 | 13. 35 | 13.96 | 14.88 | 14. 75 | 14. 46 | 14. 04 | 13.00 | 13.00 | 13.50 | 14. 15 | 17.81 | 13.99 |
| 1914-15 | 17. 19 | 15. 08 | 15. 00 | 15. 59 | 15. 84 | 15. 29 | 14. 30 | 13. 80 | 13.50 | 13. 50 | 13.50 | 15. 19 | 14.82 |
| 1915-16 | 18. 40 | 21. 05 | 20.06 | 20.72 | 19. 59 | 21. 19 | 18.00 | 16. 69 | 16. 00 | 14. 60 | 14. 00 | 15. 63 | 17. 99 |
| 1916-17 | 14. 85 | 16. 00 | 17. 50 | 17.91 | 18. 19 | 19.38 | 18. 81 | 17.90 | 18. 33 | 18. 39 | 19.08 | 20.33 | 18. 06 |
| 1917-18 | 22. 36 | 25. 16 | 26. 81 | 27. 45 | 31. 40 | 34. 35 | 33. 72 | 32. 15 | 30.51 | 30. 45 |  |  |  |
| 1918-19 | 35. 00 | 35. 50 | 36. 00 | 37. 50 | 42. 60 | 42. 60 | 51.60 | 50.00 | 46. 60 | 45.80 | 49.10 | 50.00 | 43.52 |
| 1919-20 | 50.00 | 53. 10 | 51. 20 | 52. 00 | 54. 23 | 55. 73 | 54. 22 | 44.96 | 35. 00 | 35. 00 | 35. 00 | 29.85 | 45.86 |
| 1920-21 | 26. 58 | 22. 28 | 21.67 | 20.00 | 21. 52 | 18. 55 | 18. 19 | 17.85 | 19.00 | 19.00 | 19.00 | 19.00 | 20. 22 |
| Av., 1914-1920 | 26. 34 | 26. 88 | 26. 89 | 27.31 | 29.05 | 29.58 | 29.83 | 27.62 | 25. 56 | 25. 25 |  |  |  |
| 1921-22 | 18. 01 | 18. 32 | 18. 50 | 18.50 | 20. 84 | 22. 49 | 24.52 | 22.00 | 21. 77 | 19.38 | 18.00 | 16. 22 | 19.88 |
| 1922-23 | 16. 42 | 19. 40 | 20.22 | 20.12 | 20.45 | 20. 50 | 19.65 | 18.00 | 16.90 | 17.46 | 17.50 | 17.52 | 18.68 |
| 1923-24 | 20.08 | 22.15 | 21. 00 | 20.62 |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.
Table 383 A.-Alsike clover seed: Average spot price per bushel, Toledo, 1914-1928.

| Year beginning Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914-15 |  |  |  |  |  | \$8.96 | \$8. 59 | \$8. 17 | \$8. 05 | \$7.90 | \$8.52 | \$9. 13 |  |
| 1915-16 | \$9.59 | \$10. 27 | \$10. 35 | \$10. 33 | \$10. 26 | 10.07 | 9. 40 | 9. 15 | 9. 10 | 9. 48 | 9. 53 | 9. 88 | \$9.78 |
| 1916-17 | 9. 83 | 10. 24 | 10. 72 | 11. 10 | 11. 30 | 11. 62 | 11.51 | 11. 56 | 11. 50 | 11. 40 | 11.62 | 11. 74 | 11.18 |
| 1917-18 | 12.57 | 13. 34 | 14. 35 | 14. 46 | 15.31 |  | 15. 59 | 15. 31 | 15. 22 | 12.37 |  |  |  |
| 1918 |  | 18.17 |  | 19.66 | 18.70 | 16.92 | 20. 09 | 25. 41 |  |  | 24. 23 | 25.00 |  |
| 1919-20 | 25.30 | 28.72 | 29.97 | 31. 47 | 34. 57 | 35.17 | 35.71 | 130.89 | 24. 37 | 25. 52 | 23.95 | 19.24 | 28.74 |
| 1920-21 | 16. 84 | 17. 35 | 17. 70 | 16. 96 | 16. 00 | 15. 34 | 14.98 | 13. 93 | 13. 50 | 12.43 | 10.82 | 10.71 | 14.71 |
| 1921-22 | 10. 62 | 10. 72 | 10. 64 | 11. 05 | 11. 64 | 12. 37 | 11.92 | 11. 46 | 11. 27 | 11. 71 | 10. 82 | 9.81 | 11. 17 |
| 1922-23. | 10. 11 | 10. 50 | 10. 74 | 10. 91 | 10.76 | 10. 54 | 10. 50 | 10. 50 | 10. 42 | 10. 25 | 10.16 | 10.48 | 10.49 |
| 1923-24 | 10. 52 | 10.18 | 9.67 | 9.43 |  |  |  |  |  |  |  |  |  |

[^224]Table 384.-Timothy seed, prime contract grade. Average spot price per 100 pounds, Chicago, 1910-1923.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | A pr. | May. | June. | July. | $\begin{array}{\|l} \text { A ver- } \\ \text { age. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | \$6.36 | \$9.45 | \$9. 32 | \$9.64 | \$9.97 | \$10.41 | \$11. 40 | \$12.03 | \$12. 00 | \$12.00 | \$11. 55 | \$13.50 | \$10. 64 |
| 1911-12 | 14.31 | 15. 20 | 15. 81 | 16. 00 | 16. 45 | 16. 25 | 16. 25 | 15. 60 | 14. 50 | 13. 70 | 11. 63 | 10. 25 | 14. 66 |
| 1912-13 | 6. 13 | 4. 81 | 4. 44 | 4.05 | 4. 13 | 4. 13 | 3. 88 | 3.76 | 3.88 | 4. 16 | 4. 69 | 5. 28 | 4.44 |
| 1913-14 | 5. 59 | 5. 58 | 5. 51 | 5. 41 | 5. 55 | 5. 53 | 5. 45 | 5.19 | 5. 30 | 5. 47 | 5. 63 | 5.87 | 5. 51 |
| 1914-15 | 6.31 | 6. 34 | 5. 64 | 5. 48 | 6.61 | 7. 89 | 7.45 | 7.35 | 8. 84 | 6.88 | 7.25 | 7. 40 | 6.95 |
| 1915-16 | 8. 19 | 9.19 | 8.35 | 8. 46 | 8. 73 | 8. 70 | 8. 75 | 8. 55 | 8. 50 | 8. 94 | 9. 20 | 8. 75 | 8.69 |
| 1916-17 | 7.00 | 4.99 | 5. 43 | 5. 50 | 5. 74 | 5. 55 | 5. 55 | 5. 78 | 6. 81 | 8. 20 | 8.14 | 8. 01 | 6. 39 |
| 1917-18 | 8. 25 | 8. 44 | 8. 56 | 7.82 | 7.63 | 8. 25 | 8.94 | 8. 55 | 8.25 | 8.41 | 7.81 | 8.88 | 8.32 |
| 1918-19 | 8. 90 | 10.00 | 10.00 | 10.30 | 11. 00 | 11. 00 | 10. 00 | 10. 50 | 11. 00 | 12. 00 | 12. 00 | 12.00 | 10.72 |
| 1919-20 | 11. 75 | 11. 50 | 11. 25 | 11. 50 | 12. 25 | 13. 62 | 14. 30 | 13. 07 | 11. 76 | 12. 00 | 12. 00 | 11. 85 | 12. 24 |
| 1020-21 | 8. 89 | 7. 50 | 6. 71 | 6.69 | 6. 13 | 5. 78 | 5. 05 | 4.65 | 5. 04 | 5. 30 | 5. 27 | 5.07 | 6.01 |
| AV., 1914-1920 | 8.47 | 8. 28 | 7.99 | 7. 96 | 8.30 | 8. 68 | 8. 58 | 8. 35 | 8. 60 | 8. 82 | 8.81 | 8.85 | 8. 47 |
| 1921-22 | 4. 50 | 4.30 | 4.85 | 5.31 | 5. 53 | 5. 94 | 6.00 | 5. 69 | 5. 22 | 5. 19 | 4. 67 | 4. 50 | 5. 14 |
| 1922-23 | 4. 59 | 4. 96 | 5.89 | 6. 26 | 6. 25 | 6. 25 | 6. 19 | 5.81 | 5. 50 | 5. 70 | 6.13 | 6. 04 | 5. 80 |
| 1023-24 | 5. 91 | 7.19 | 7.45 | 7. 24 | 7. 25 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.

Table 385.-Alfalfa seed: Price per bushel paid by farmers, 15th of month, United States, 1912-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 |  |  |  |  |  | \$10. 25 | \$10. 07 | \$10.07 | \$10. 52 | \$9. 84 | \$9. 73 | \$9.49 |
| 1913 | \$8.25 | \$9.60 | \$9.78 | \$9.99 | \$9. 75 | 9.73 | 9. 41 | 10. 06 | 8. 96 | 8. 73 | 7.65 | 7.25 |
| 1914 | 8. 30 | 7.98 | 8. 01 | 8.17 | 8.38 | 8.31 | 8. 29 | 7.79 | 8. 85 | 8.97 | 8. 45 | 8.81 |
| 1915. | 8. 79 | 9.29 | 9.58 | 9.50 | 9.62 | 9.61 | 9.61 | 9.14 | 9.60 | 10.00 | 9.71 | 0.75 |
| 1916 | 10. 27 | 11.04 | 12.21 | 12. 54 | 12. 10 | 12. 10 | 11. 67 | 11. 51 | 11. 30 | 10. 67 | 10.00 | 10.31 |
| 1917. | 9.72 | 9.98 | 10.34 | 10. 32 | 10.52 | 10.79 | 10.87 | 10. 52 | 10.72 | 11. 00 | 10.94 | 11. 16 |
| 1918 | 11. 84 | 12. 00 | 12.24 | 1234 | 12. 35 | 12.04 | 11. 70 | 13.06 | 12.43 | 11. 82 | 11.68 | 1200 |
| 1910 | 12. 48 | 12. 70 | 13. 12 | 13. 65 | 14.32 | 14. 24 | 14. 51 | 14. 11 | 15. 47 | 16. 57 | 17. 51 | 20.27 |
| 1920 | 21. 25 | 22.66 | 24.64 | 25. 22 | 25. 08 | 24. 22 | 23. 70 | 21. 05 | 21. 19 | 18. 32 | 16. 87 | 12.99 |
| 1921 | 10. 91 | 12. 74 | 12.47 | 11.62 | 11. 43 | 11. 84 | 10.70 | 11.00 | 11. 14 | 10.51 | 10. 14 | 11.38 |
| 1922 | 10. 33 | 10. 76 | 11. 37 | 11. 72 | 11. 45 | 11. 24 | 11.38 | 10.38 | 10. 67 | 10. 94 | 11. 19 | 11.69 |
| 1923. | 11. 99 | 12. 42 | 12.50 | 12.85 | 13.19 | 12.64 | 12.17 | 12. 05 | 12.15 | 12.86 | 12. 31 | 1244 |

Division of Crop and Livestock Estimates.
$\mathrm{T}_{\mathrm{able}}$ 386.-Cloverseed: Price per bushel paid by farmers, 15th of month, United States, 1912-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 |  |  |  |  |  | \$13.49 | \$12. 82 | \$11.78 | \$11. 61 | \$11.28 | \$11. 23 | \$11. 10 |
| 1913 | \$11. 39 | \$11. 62 | \$12. 30 | \$12.90 | \$12.90 | 12.47 | 12.12 | 11. 94 | 10. 22 | 9.32 | 9.13 | 9. 43 |
| 1914 | 9.82 | 9.77 | 9. 45 | 9.84 | 9. 77 | 9.86 | 9.79 | 10. 39 | 10. 76 | 11. 32 | 10.06 | 10. 04 |
| 1915 | 10. 34 | 10. 32 | 10. 33 | 10. 08 | 9. 99 | 9.89 | 10.05 | 9.79 | 10. 18 | 11. 14 | 10. 25 | 11. 56 |
| 1916 | 11.98 | 12. 22 | 12. 58 | 12. 59 | 12. 14 | 11. 71 | 11. 20 | 11. 27 | 10. 90 | 10. 61 | 10.87 | 11. 10 |
| 1917 | 11. 29 | 11.67 | 12.07 | 12. 28 | 12. 30 | 12. 23 | 12.36 | 12.38 | 12. 64 | 13.26 | 14.26 | 14.99 |
| 1918. | 16. 45 | 18.90 | 20.13 | 20.35 | 19.71 | 19. 15 | 18.71 | 17.84 | 19. 42 | 20.84 | 21.25 | 23.10 |
| 1919 | 24. 25 | 25. 04 | 25. 72 | 28. 24 | 28. 07 | 27.87 | 27. 22 | 27.82 | 28. 73 | 28.82 | 29.63. | 31.04 |
| 1920 | 32. 09 | 35. 00 | 35. 64 | 35. 73 | 34. 28 | 32. 05 | 31. 38 | 27.64 | 23. 31 | 18. 94 | 16. 13 | 14. 66 |
| 1921 | 14. 02 | 13. 62 | 13. 52 | 13. 56 | 13. 48 | 13. 38 | 13. 17 | 13. 55 | 13. 00 | 12. 84 | 12.89 | 12.82 |
| 1922 | 13. 44 | 14. 10 | 15. 39 | 15. 40 | 15. 12 | 14. 48 | 14. 04 | 13. 20 | 12. 11 | 12.64 | 12.85 | 13.32 |
| 1923.......... | 13. 76 | 14. 06 | 14. 12 | 14.02 | 13.94 | 13. 66 | 13. 55 | 13.41 | 13. 84 | 14.38 | 13.40 | 14.30 |

[^225]Table 387.-Timothy seed: Price per bushel paid by farmers, 15th of month, United States, 1912-1923.

| Calendar year. | Jan | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 |  |  |  |  |  | \$7.37 | \$6. 59 | \$3. 89 | \$3.06 | \$2. 84 | \$2. 67 | \$2. 47 |
| 1913 | \$2. 51 | \$2. 47 | \$2. 33 | \$2. 43 | \$2. 40 | 2.44 | 2.57 | 2.76 | 2.84 | 2.85 | 2.87 | 2.84 |
| 1914 | 2.90 | 2.94 | 2.97 | 2.95 | 2.97 | 2.98 | 2.99 | 3.17 | 3.25 | 3. 19 | 3.11 | 3.05 |
| 1915 | 3.42 | 3. 56 | 3. 60 | 3. 57 | 3. 46 | 3.48 | 3.49 | 3. 48 | 3. 59 | 3.74 | 3.69 | 3.73 |
| 1916 | 3.80 | 3.96 | 3. 98 | 4.03 | 4.04 | 4.01 | 3.99 | 3. 50 | 3.08 | 3. 01 | 3.05 | 3.11 |
| 1917 | 3.17 | 3. 22 | 3. 24 | 3. 27 | 3.60 | 3.81 | 3.93 | 3. 98 | 4.12 | 4.14 | 4.12 | 4. 20 |
| 1918 | 4.49 | 4. 55 | 4.67 | 4.58 | 4. 55 | 4.56 | 4. 55 | 4.71 | 4.98 | 5.10 | 5. 20 | 5.23 |
| 1919 | 5.43 | 5.45 | 5. 50 | 5. 56 | 5. 73 | 5.68 | 5.79 | 5.96 | 5.92 | 6.05 | 6. 06 | 6. 24 |
| 1920 | 6.43 | 6.87 | 6.94 | 7.03 | 6.91 | 6.88 | 6. 83 | 6.01 | 5.41 | 4.84 | 4.70 | 4.54 |
| 1921 | 4.40 | 4.27 | 4.05 | 4.08 | 4.02 | 4.10 | 3.91 | 3.65 | 3.41 | 3.48 | 3. 52 | 3.63 |
| 1922 | 3.83 | 4.04 | 4.00 | 4.03 | 4.04 | 3.88 | 3. 79 | 3. 56 | 3. 34 | 3. 48 | 3. 69 | 3. 74 |
| 1923 | 3.93 | 3.94 | 3.97 | 3.95 | 3.99 | 4.03 | 4.03 | 3.61 | 3.93 | 4.13 | 4. 24 | 4. 14 |

Division of Crop and Livestock Estimates.

## TOBACCO.

Table 388.-Tobacco: Acreage, production, value, exports, etc., United States, 1849-1923.

| Calendar year. | Acreage. | Average yield per acre. | Production. | Average farm price per pound Dec. 1. | Farm value Dec. 1. | $\begin{gathered} \text { Value } \\ \text { per } \\ \text { acre } \\ \text { Dec.1. } \end{gathered}$ | Domesitc exports of unmanufactured, fiscal year beginning July 1. | Imports of unmanufactured, fiscal year beginning July 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1849$ | Acres. | Pounds. | Pounds. $199,758,000$ | Cents. | Dollars. | Dollars. | Pounds. | Pounds. |
| 1859 |  |  | 454,209, 000 |  |  |  |  |  |
| 1869 |  |  | 868,785, 000 |  |  |  |  |  |
| 1879 | 639,000 | 793.1 | 506, 663, 000 | 6.0 | 30, 200, 000 | 47. 26 |  |  |
| 1889 | 695, 000 | 658.5 | 457, 881, 000 | 6. 9 | 31, 696, 000 | 45. 61 |  |  |
| 1899 | 1,102,000 | 728.5 | 802, 397, 000 | 7.1 | 57, 273, 000 | 51. 97 |  |  |
| 1900 | 1,046, 000 | 778.0 | 814, 345, 000 | 6.6 | 53, 661, 000 | 51.30 | 315, 787, 782 | 26, 851, 253 |
| 1901 | 1,039, 000 | 788.0 | 818,953, 000 | 7.1 | 58, 283, 000 | 56. 10 | 301, 007, 365 | 29, 428, 837 |
| 1902 | 1,031, 000 | 797.3 | 821, 824, 000 | 7.0 | 57, 564, 000 | 55.83 | 368, 184, 084 | 34, 016, 956 |
| 1903 | 1,038, 000 | 786.3 | 815, 972, 000 | 6.8 | 55, 515, 000 | 53.48 | 311, 971, 831 | 31, 162, 636 |
| 1904 | 806,000 | 819.0 | 660, 461, 000 | 8.1 | 53, 383, 000 | 66.23 | 334, 302, 091 | 33, 288, 378 |
| 1905 | 776, 000 | 815.6 | 633, 034, 000 | 8.5 | 53, 519, 000 | 68. 97 | 312, 227, 202 | 41, 125, 970 |
| 1906 | 796, 000 | 857.2 | 682, 429, 000 | 10.0 | 68, 233, 000 | 85, 72 | 340, 742, 864 | 40, 898, 807 |
| 1907 | 821, 000 | 850.5 | 698, 126, 000 | 10. 2 | 71, 411, 000 | 86. 98 | 330, 812, 658 | 35, 005, 131 |
| 1908 | 875, 000 | 820.2 | 718, 061, 000 | 10.3 | 74, 130, 000 | 84, 72 | 287, 900, 946 | 43, 123, 196 |
| 1909 | 1,295,000 | 814.8 | 1,055, 133, 000 | 10.1 | 106, 374, 000 | 82.14 | 357, 196, 074 | 46, 853, 389 |
| 1910 | 1,366, 000 | 807.7 | 1, 103, 415, 000 | 9.3 | 102, 142, 000 | 74.77 | 355, 327, 072 | 48, 203, 288 |
| 1911 | 1, 013, 000 | 893.7 | 905, 109, 000 | 9.4 | 85, 210, 000 | 84.12 | 379, 845, 320 | 54, 740, 380 |
| 1912 | 1,226, 000 | 785.5 | 962, 855, 000 | 10.8 | 104, 063,000 | 84.88 | 418, 796, 906 | 67, 977, 118 |
| 1913 | 1,216, 000 | 784.3 | 953, 734, 000 | 12.8 | 122, 481, 000 | 100. 72 | 449, 749, 982 | 61, 174, 751 |
| Av. 1909-1913. | 1, 223, 000 | 814.4 | 996, 049, 000 | 10.4 | 104, 054, 000 | 85.08 | 392, 183, 071 | 55, 789, 785 |
| 1914 | 1,224, 000 | 845.7 | 1, 034, 679, 000 | 9.8 | 101, 411, 000 | 82.85 |  |  |
| 1915 | 1,370, 000 | 775.4 | 1, 062, 237, 000 | 9.1 | 96, 281, 000 | 70.28 | 443, 293, 156 | $48,013,335$ |
| 1916 | 1, 413, 000 | 816.0 | 1, 153, 278, 000 | 14.7 | 169, 672, 000 | 120.08 | 411, 598, 860 | 46, 136, 347 |
| 1917 | 1, 518, 000 | 823.1 | 1, 249, 276, 000 | 24.0 | 300, 449, 000 | 197. 92 | 289, 170, 686 | 79, 367, 563 |
| 1918 | 1, 647, 000 | 873.7 | 1, 439, 071, 000 | 28.0 | 402, 264, 000 | 244. 24 | 629, 287, 761 | $83,951,103$ |
| 1919 | 1,951, 000 | 751.1 | 1, 465, 481, 000 | 39.0 | 570, 868, 000 | 292. 60 | 648, 037, 655 | 94, 005, 182 |
| 1920 | 1,960, 000 | 807.3 | 1, 582, 225, 000 | 21.2 | 335, 675, 000 | 171.26 | 506, 526, 449 | 58,923, 217 |
| Aจ. 1914-1920. | 1,583, 000 | 811.0 | 1,283, 750, 000 | 22.0 | 282, 374, 000 | 178.38 | 468, 037, 237 | 65, 165, 925 |
| 1921 | 1, 427,000 | 749.6 | 1, 069, 693, 000 | 19.9 | 212, 728, 000 | 149.07 | 451, 888, 436 | 65, 225, 437 |
| 1922 | 1,695, 000 | 735. 6 | 1, 246, 837, 000 | 23.2 | 289, 248, 000 | 170.65 | 445, 186, 472 | 75, 783, 440 |
| $1923{ }^{2}$ | 1,820, 000 | 810.3 | 1, 474, 786, 000 | 20.3 | 298, 936, 000 | 164. 25 |  |  |

## Division of Crop and Livestock Estimates.

${ }^{1}$ Based upon farm price Dec. 1.
2 Preliminary.

Table 389.-Tobacco: Acreage, production, and total farm value, by States, 1922 and 1923.

| State. | Thousands of acres. |  | Production, thousands of pounds. |  | Total value, thousands of dollars, basis Dec. 1 price. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1922 | 19231 | 1922 | 19231 | 1922 | 19231 |
| Massachusetts. | 9 | 10 | 9,612 | 14, 100 | 3,633 | 6,176 |
| Connecticut | 28 |  | 29, 260 | 40, 252 | 11,792 | 18,717 |
| New York | 2 | 2 | 2,2200 | 2, 250 | 821 | 450 |
| Pennsylvania | 43 | 45 | 56,760 | 58,950 | 9, 082 | 10,700 |
| Maryland.-. | 26 | 24 | 20, 020 | 19, 008 | 3, 504 | 4,182 |
| Virginia | 209 | 182 | 156,750 | 134, 680 | 37,620 | 26, 936 |
| West Virginia | 9 | 9 | 7,425 | 7,740 | 1,634 | 1,703 |
| North Carolina | 505 | 552 | 252,500 | 386, 400 | 76, 508 | 81, 144 |
| South Carolina | 85 | 102 | 54, 400 | 74,460 | 12,512 | 17,870 |
| Georgia-.-.--- | 11 | 17 | 5,940 | 11, 237 | 1,544 | 3,371 |
| Florida | 3 | 4 | 3,300 | 4,292 | 1,551 | 2, 146 |
| Ohio.... | 48 | 47 | 41, 400 | 42, 770 | 7,866 | 7, 271 |
| Indiana | 18 | 22 | 16, 200 | 19, 800 | 2,754 | 3, 287 |
| Wisconsin, | 40 | 44 | 45, 600 | 48, 092 | 9,120 | 11, 157 |
| Missouri | 5 | 6 | 4,500 | 6,600 | 1,305 | 1,848 |
| Kentucky | 525 | 578 | 446, 250 | 494, 190 | 87, 019 | 82, 036 |
| Tennessee. | 130 | 146 | 94, 250 | 109,500 | 20, 735 | 19, 710 |
| Louisiana | 1 | 1 | 450 | 465 | 248 | 232 |
| United States | 1,695 | 1,820 | 1,246, 837 | 1, 474, 786 | 289, 248 | 298, 936 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 390.-Tobacco: Acreage, production, and farm value, by types and districts, 1922 and 1923.

| Types and States. | Acreage. |  | Yield per acre. |  | Production. |  | Price per pound. ${ }^{1}$ |  | Farm value. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1922 | $1923{ }^{2}$ | 1922 | 1923 | 1922 | $1923{ }^{2}$ | 1922 | 1923 ${ }^{2}$ | 1922 | 19232 |
| Cigar types: | Acres. | Acres. | Lbs. | Lbs. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | Cents. | Cents. | 1,000 | 1,000 dolls. |
| Massachusetts | 9,000 | 10,000 | 1,068 | 1,410 | 10,612 | 14, 100 | 37.8 | 43.8 | 3,633 | 6,176 |
| Connecticut | 28, 000 | 29,000 | 1,045 | 1,388 | 29, 200 | 40, 252 | 40.2 | 46.5 | 11,792 | 18, 717 |
| New York | 2,000 | 2,000 | 1,110 | 1,125 | 2,220 | 2,250 | 37.0 | 20.0 | 821 | 450 |
| Pennsylvan | 43, 000 | 45, 000 | 1,320 | 1,310 | 56,780 | 58, 950 | 16.0 | 18.1 | 9,080 | 10,700 |
| Ohio | 28,900 | 27,600 |  |  | 26, 290 | 25,530 | 14.0 | 14.0 | 3, 682 | 3, 574 |
| Indiana | 500 | 600 | 800 | 870 | 400 | 522 | 10.0 | 13.5 | 40 | 70 |
| Wisconsi | 40,000 | 44,000 | 1,140 | 1,093 | 45,600 | 48,092 | 20.0 | 23.2 | 9, 120 | 11,157 |
| Georgia Florida | 1,500 | 1,800 | 1,033 1,100 | 1,000 1,073 | 1, 3500 | 1,800 4,292 | 54.0 47.0 | 52.4 50.0 | 837 1,551 | 944 2,146 |
| Total cigar types | 155, 000 | 164, 000 | 1,123 | 1,194 | 175, 001 | 195, 788 | 23.2 | 27.5 | 40,556 | 53,934 |
| Chewing, smoking, suuf, and export types: Burley- |  |  |  |  |  |  |  |  |  |  |
| Virginia | 1,800 | 2,200 | 1,000 | 1,100 | 1,800 | 2,420 | 26.6 | 20.0 | 479 | 484 |
| West Vir | 8,400 | 8,500 | 827 | 860 | 6,945 | 7,310 | 22.5 | 22.5 | 1,562 | 1,643 |
| Ohio- | 115,000 | 17,6000 | 885 | ${ }_{862}$ | 13,33 | 15, 176 | 19. | 15.0 | 2, 601 | 2,276 |
| Missouri | 5, 000 | 6, 000 | 900 | 1,100 | 4,500 | 12,4860 | 29.0 | 188.0 | 2, 1,305 | 1,948 |
| Kentack | 260, 000 | 206, 000 | 860 | 880 | 223, 600 | 260, 480 | 25.0 | 21.0 | 55, 900 | 54, 701 |
| Tenness | 18, 300 | 24, 600 | 830 | 880 | 16,018 | 21,648 | 31.0 | 23.0 | 4,966 | 4,979 |
| Total Burley | 321, 100 | 369,300 | 858 | 883 | 275, 601 | 326, 116 | 25.2 | 20.8 | 60, 445 | 67,929 |
| Paducah- |  |  |  |  |  |  |  |  |  |  |
| Kentacky | 72,000 | 78,500 | 825 | 810 | 59,400 | 63, 585 | 13.3 | 11.1 | 7,900 | 7,058 |
| Tennessee | 21, 500 | 25, 000 | 760 | 760 | 16,340 | 19,000 | 13.0. | 11.0 | 2,124 | 2,090 |
| Total Paducah | 93, 500 | 103, 500 | 810 | 798 | 75, 740 | 82, 585 | 13.2 | 11. | 10, 224 | 9, 148 |
| $\begin{gathered} \text { Henderson- } \\ \text { Kentucky } \end{gathered}$ | 80, 000 | 83, 500 | 893 | 880 | 71,440 | 73, 480 | 15.0 | 12.2 | 10,716 | 8,965 |

Table 390.-Tobacco: Acreage, production, and farm value, by types and districts, 1922 and 1923-Continued.


## Division of Crop and Livestock Estimates.

${ }^{1}$ The prices used in this report more nearly reflect the average price for the season than do the December 1 prices, and the values obtained differ from those published in the December, 1923, crop summary for that reason.
${ }^{2}$ Preliminary.

Table 391,-Tobacco: Yield per acre, by States, calendar years, 1908-1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | Av. 19091913 | 1914 | 1915 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - Massachusotis | 1, 580 | ${ }^{7}, 60000$ | 1, 73̇0 | 1, 650 | 1, 760 | 1,550 | 1,646 | 1,750 | 1,100 |
| Connecticut | 1,680 | 1,650 | 1, 730 | 1,625 | 1,700 | 1,550 | 1,651 | 1,770 | 1,350 |
| New York | 1, 175 | 1, 175 | 1, 250 | 1, 330 | 1, 300 | 1,020 | 1,215 | 1,300 | 1,200) |
| Pennsylvania | 1, 325 | 985 | 1,500 | 1, 420 | 1,450 | 1, 200 | 1,311 | 1,450 | 1, 350 |
| Maryland | 700 | 710 | 690 | 735 | 660 | 740 | 707 | 800 | 749 |
| Virginia | 815 | 775 | 780 | 800 | 600 | 770 | 745 | 650 | 750 |
| West Virginia | 750 | 875 | 640 | 750 | 760 | 680 | 741 | 820 | 870 |
| North Carolina | 670 | 600 | 600 | 710 | 620 | 670 | 640 | 650 | 620 |
| South Carolina | 865 | 800 | 630 | 810 | 700 | 760 | 740 | 730 | 580 |
| Georgia. | 975 | 700 | 680 | 900 | 830 | 1,000 | 822 | 1, 000 | 880 |
| Florida | 990 | 710 | 680 | 940 | 840 | 1,000 | 834 | 1,000 | 910 |
| Ohio | 670 | 925 | 810 | 925 | 920 | , 750 | 866 | 1,900 | 900 |
| Indiana | 700 | 950 | 880 | 910 | 800 | 750 | 858 | 900 | 840 |
| Wisconsin | 1, 130 | 1, 180 | 1, 050 | 1,250 | 1,290 | 1,180 | 1, 190 | 1, 180 | 900 |
| Missouri | 875 | 885 | 1, 050 | 800 | 1, 000 | 650 | 877 | 1,200 | 900 |
| Kentucky | 815 | 835 | 810 | 880 | 780 | 760 | 813 | - 910 | 810 |
| Tennessee | 800 | 730 | 760 | 810 | 660 | 720 | 736 | 820 | 750 |
| Louisiana | 850 | 550 | 550 | 450 | 300 | 450 | 460 | 400 | 420 |
| United States | 820.2 | 814.8 | 807.7 | 893.7 | 785. 5 | 784.3 | 815. 1 | 845.7 | 775.4 |
| State. | 1916 | 1917 | 1918 | 1919 | 1920 | $\begin{aligned} & \text { Av. } \\ & 1914- \\ & 1920 \end{aligned}$ | 1921 | 1922 | 1923 |
| Massachusetts | 1,660 | 1,400 | 1,500 | 1,540 | 1,550 | 1,500 | 1,370 | 1,068 | 1,415 |
| Connecticut | 1,630 | 1,400 | 1,500 | 1,565 | 1, 480 | 1,528 | 1,454 | 1,045 | 1,388 |
| New York | 1,230 | 1,250 | 1,250 | 1,290 | 1,280 | 1,257 | 1,250 | 1,110 | 1, 125 |
| Pennsylvania | 1,360 | 1, 400 | 1, 420 | 1, 320 | 1,510 | 1,401 | 1,460 | 1,320 | 1,310 |
| Maryland | 770 | 790 | 830 | -675 | 875 | - 783 | 715 | 770 | 792 |
| Virginia | 680 | 700 | 770 | 530 | 730 | 687 | 550 | 750 | 740 |
| West Virginia | 900 | 800 | 720 | 700 | 800 | 801 | 750 | 825 | 860 |
| North Carolina | 550 | 630 | 705 | 616 | 694 | 638 | 561 | 500 | 700 |
| South Carolina | 520 | 710 | 720 | 722 | 650 | 662 | 630 | 640 | 730 |
| Georgia. | 1, 180 | 1,000 | 800 | 530 | 600 | 856 | 564 | 540 | 661 |
| Florida | 1, 210 | 1,100 | 960 | 950 | 1, 050 | 1,026 | 900 | 1,100 | 1,073 |
| Ohio_ | 950 | 960 | 980 | 860 | 960 | 930 | 920 | 900 | 910 |
| Indiana | 930 | 950 | 930 | 800 | 900 | 893 | 875 | 900 | 900 |
| Wisconsin | 1,270 | 1,000 | 1,330 | 1,270 | 1,248 | 1,171 | 1,281 | 1, 140 | 1,093 |
| Missouri | 950 | 940 | 900 | 1,000 | 1,000 | 984 | 925 | 900 | 1,100 |
| Kentucky | 900 | 900 | 960 | 800 | 850 | 876 | 846 | 850 | 855 |
| Tennessee. | 800 | 810 | 800 | 810 | 730 | 789 | 750 | 725 | 750 |
| Louisiana | 450 | 350 | 420 | 434 | 500 | 425 | 450 | 450 | 465 |
| United States | 816.0 | 823.1 | 873.7 | 751.1 | 807. 3 | 813.2 | 749.6 | 735.6 | 810.3 |

Division of Crop and Livestock Estimates.

Table 392.-Tobacco: Condition of crop, 1 st of month, and yield per acre, United States, 1867-1923.

| $\begin{aligned} & \text { Calendar } \\ & \text { year. } \end{aligned}$ | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. | Calendar year. | July. | Aug. | Sept. | Oct. ${ }^{1}$ | Yield per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | P.ct. | P. ct. | P.ct. | $L b s$. |  | P. ct. | P.ct. | P. ct. | P.ct. | Lbs. |
| 1867 |  | 92.5 | 87.3 | 93.5 | 634.6 | 1900 | 88.5 | 82.9 | 77.5 | 76.1 | 778.2 |
| 1888 | 94.6 | 93. 7 | 92.4 | 98.9 | 751.4 | 1901 | 86.5 | 72.1 | 78.2 | 81.5 | 788.1 |
| 1869 | 100.0 | 92.7 | 78.1 | 83.7 | 569.1 | 1902 | 85.6 | 81.2 | 81.5 | 84.1 | 797.3 |
| 1870 | 101. 9 | 102.0 | 104.3 | 108.1 | 757.9 | 1903 | 85.1 | 82.9 | 83.4 | 82.3 | 786.3 |
| 1871 | 95.5 | 93.4 | 86.8 | 93.2 | 750.3 | 1904 | 85.3 | 83.9 | 83.7 | 85.6 | 819.0 |
| 1872 | 97.5 | 96.7 | 97.7 | 100.9 | 821.8 | 1905 | 87.4 | 84.1 | 85.1 | 85.8 | 815.6 |
| 1873 | 92.5 | 89.1 | 90.0 | 91.4 | 775. 3 | 1906 | 86.7 | 87.2 | 86.2 | 84.6 | 857.2 |
| 1874 | 75. 2 | 67.3 | 57.2 | 61.0 | 633.2 | 1907 | 81.3 | 82.8 | 82.5 | 84.8 | 850.5 |
| 1875 | 120.0 | 96.8 | 90.0 | 102.0 | 678.6 | $\begin{aligned} & 1908 \\ & 1909 \end{aligned}$ | 86.6 | 85.8 | 84.3 | 84.1 | 820.2 |
|  | 97.0 | 81.0 | 81.1 | 88.4 | 705.0 |  | 89.8 | 83.4 | 80.2 | 81.3 | 814.8 |
| 1877 | 102.0 | 100.6 | 97.3 |  |  | 1910 | 85.3 | 78.5 | 77.7 | 80.2 | 814.8 807.7 |
| 1878 | 95. 3 | 84.0 | 81.0 |  | 723.1 | 1911 | 72.6 | 68.0 | 71.1 | 80.5 | 893.7 |
| 1879 | 88.0 | 77.0 | 87.0 |  | 793. 1 | 1912 | 87.7 | 82.8 | 81.1 | 81.8 | 785. 5 |
| 1880 | 91.3 | 86.0 | 84.0 |  | 740.7 | 1913 | 82.8 | 78.3 | 74.5 | 76.6 | 784.3 |
| 1881-.-------- | 95.0 | 85.0 | 65.0 |  | 696.2 | Av. 1909-1913 | 83.6 | 78.2 | 76.9 | 80.1 | 817.2 |
| 1882 |  | 87.0 | 90.0 | 95.4 |  |  |  |  |  |  |  |
| 1883 | 95.0 | 88.0 | 80.0 | 77.9 | 706. 9 | 1914 | 66.0 | 66.5 | 71.4 | 81.8 | 845.7 |
| 1884 | 95.2 | 95.3 | 94.0 | 90.2 | 747.2 | 1915 | 85.5 | 79.7 | 80.7 | 81.9 | 775.4 |
| 1885-.------------ | 92.4 | 81.8 | 81.2 | 86.6 | 7409.9 | 1916 | 87.6 | 84.4 | 85. 5 | 85.6 | 816.0 |
|  |  |  |  |  |  | 1917 | 86.8 | 88.1 | 84.5 | 87.8 | 823.1 |
|  |  |  |  |  |  | 1918 | 83.1 | 83.6 | 82.5 | 87.4 | 873.7 |
| 1887. | 84.2 | 73.1 | 70.8 | 73.8 | 645.2 | 1919 | 83.6 | 75.1 | 71.8 | 73.6 | 751.1 |
| 1888 | 91.3 | 86.1 | 87.0 | 85. 7 | 757.1 | 1920 | 84.3 | 84.1 | 84.6 | 83.3 | 807.3 |
| 1889 | 89.9 | 84.4 | 76.2 | 80.7 | 658.5 |  |  |  |  |  |  |
| 1890 | 88.2 | 69.2 | 82.4 | 85.4 | 722.8 | Av. 1914-1920. | 82.4 | 80.2 | 80.1 | 83.1 | 813.2 |
| 1891-..-------- | 91.1 | 88.5 | 87.4 | 93.0 | 747.4 | Av.191------------- |  |  |  |  |  |
|  |  |  |  |  |  |  | 71.9 | 66.6 | 70.5 | 75.6 | 749.6 |
|  | 92.7 | 88.8 | 79.9 | 83.5 | 687.6 |  | 82.4 | 80.9 | 76.2 | 78.9 | 735. 6 |
| 1893. | 93.0 | 82.2 | 72.3 | 74.1 | 687.1 | 1923. | 82.5 | 83.1 | 86.6 | 84.6 | 810.3 |
| 1894 | 81.0 | 74.9 | 74.5 | 84.5 | 777.4 |  |  |  |  |  |  |
| 1895 | 85.9 | 82.7 | 82.6 | 80.3 | 775.4 |  |  |  |  |  |  |
| 1896 | 91.5 | 86.5 | 81.5 | 76.9 | 677.6 |  |  |  |  |  |  |
| 1897 | 78.5 | 78.7 | 75.5 | 70.3 | 645.9 |  |  |  |  |  |  |
| 1898 | 89.9 | 85.6 | 90.8 | 88.0 | 745.4 |  |  |  |  |  |  |
| 1899 | 83.7 | 80.0 | 84.0 | 81.9 | 728.5 |  |  |  |  |  |  |

Division of Crop and Live Stock Estimates.
${ }^{1}$ Condition at time of harvest.
Table 393.-Tobacco: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

| Calendar year. | De-ficient moisture. | Ex-cessive moisture. | Floods. | Frost and freeze. | Hail. | Hot winds. | Storms. | Total cli-matic. | Plant disease. | Insect pests | $\begin{gathered} \text { Ani- } \\ \text { mal } \\ \text { pests. } \end{gathered}$ | De-fective seed. | Total. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P.ct. | $\boldsymbol{P} . c t$. | P.ct. | P.ct. | P.ct. | $\boldsymbol{P} . c t$. | P.ct. | P. ct. | P. ct. | P. ct. | P.ct. | P.ct. | P.ct. |
| 1909. | 5. 5 | 6.8 | 1.1 | 0.7 | 0.8 | 0.1 | 0.2 | 15.3 | 0.7 | 2.6 |  | (2) | 19.6 |
| 1910 | 4. 8 | 6.8 | 1.2 | .4 | . 3 | ${ }^{2}$ ) | . 1 | 14.4 | . 7 | 2. 8 |  | 0.1 | 20.6 |
| 1911 | 16. 7 | . 9 |  | . 8 | . 1 | . 6 |  | 19.5 | .3 | 1. 0 |  | . 2 | 22.6 |
| 1912 | 7.6 | 4.8 | . 8 | . 5 | 1.0 | . 2 | . 2 | 15. 3 | . 7 | 2. 8 |  | . 1 | 21.2 |
| 1913. | 15.3 | . 7 | . 4 | 1.2 | 1.2 | . 3 | . 6 | 20.0 | . 1 | 3. 0 |  | ${ }^{(2)}$ | 25.0 |
| 1914 | 18.1 | . 2 | . 1 | . 4 | . 6 | . 3 | . 1 | 20.1 | $\left.{ }^{2}\right)$ | 2. 7 |  | . 1 | 24.8 |
| 1915 | 3. 9 | 8. 2 | . 9 | 1. 2 | . 8 | . 1 | . 9 | 16. 3 | . 6 | 4. 0 |  | . 1 | 23.5 |
| 1916 | 3. 5 | 5. 5 | 1.3 | 1. 3 | 1.0 | . 1 | . 8 | 14.0 | .3 | 2. 8 |  | (2) | 18.4 |
| 1917 | 3. 3 | 2.2 | . 5 | 3. 3 | 1.2 | . 1 | . 2 | 11.1 | . 2 | 2. 1 |  | . 1 | 15.2 |
| 1918 | 8.6 | . 4 | . 2 | . 7 | 1.1 | . 2 | . 2 | 11.4 | . 3 | 2.1 |  | . 1 | 14.2 |
| 1919. | 8. 9 | 7.9 | . 6 | . 2 | 1.1 | . 1 | . 2 | 19. 2 | . 6 | 2.8 |  | (2) | 23.0 |
| 1920 | 2. 3 | 7.0 | . 6 | . 7 | 1.0 |  | . 1 | 11. 7 | 5. 5 | 2.6 |  |  | 21.0 |
| 1921 | 18. 9 | 2. 2 | . 1 | . 3 | . 7 | . 4 | . 2 | 22.9 | 1.6 | 3. 2 |  |  | 28.2 |
| 1922 | 7.0 | 4. 5 | . 3 | . 4 | 1.4 | . 1 | . 2 | 14.3 | 1.6 | 2.5 | -- | (2) | 18.7 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Includes all other causes.
${ }^{2}$ Less than 0.05 per cent.

Table 394.-Tobacco: Area and yield per acre for nine of the largest producing countries, 1909-1923.

| Country. | Area. |  |  |  |  | Yield per acre. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { A ver- } \\ \text { age } \\ 1909- \\ 1913 . \end{gathered}$ | 1920 | 1921 | 1922 | 1923, <br> pre- <br> limi- <br> nary. | $\begin{gathered} \text { A ver- } \\ \text { age } \\ 1909- \\ 1913 \end{gathered}$ | 1920 | 1921 | 1922 | 1923, <br> pre- <br> limi- <br> nary. |
|  | 1,000 acres. | 1,000 acres. | 1,000 | 1,000 acres. | 1,000 acres. | Pounds. | Pounds. | Pounds. | Pounds. | Pounds. |
| United States. | 1,223 | 1,960 | 1,427 | 1,695 | 1,820 | 814.4 | 807.3 | 749.6 | 735. 6 | 810.3 |
| France.----- | 137 | ${ }^{1} 29$ | 1, 32 | 1, 33 | $\left.{ }^{2}\right)$ | 1,223. 6 | 1, 587. 3 | 1,643. 1 | 1,426. 1 |  |
| Italy. | 22 | 33 | 48 | 55 | 54 | 1,009. 1 | 856.5 | 898.9 | 917.9 |  |
| Germany | 39 | 32 | 25 | 28 | ( ${ }^{2}$ | 1, 706.1 | 2,064.4 | 2,639. 2 | (2) | (2) |
| Hungary | 121 | 51 | 49 | 44 | 42 | 1,211. 8 | 1,076. 7 | 830.7 | 782.5 |  |
| Bulgaria. | 20 | 95 | 58 | 54 | 77 | 692. 8 | 680.0 | 619.4 | 729.3 | 710.0 |
| Rumania | 24 | 58 | 43 | 53 | $\left.{ }^{2}\right)$ | 684.4 | 650.0 | 537.7 | 523.6 |  |
| Algeria_ | 25 | 47 | 54 | 27 | 51 | 936.8 | 856.0 | 919.1 | 762.2 | 785. 3 |
| Philippine Islands_- | ${ }^{3} 154$ | 250 | 225 | 148 | 158 | 422.1 | 572.3 | 517.3 | 445.8 | 441.8 |

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.
${ }^{1}$ Beginning with 1920, figures include Alsace Lorraine. ${ }^{2}$ Figures not available. ${ }^{1}$ Four-year average.
Table 395.-Tobacco: Production in undermentioned countries. NORTHERN HEMISPHERE.

| Country. | Average 1909-1913. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | $\begin{gathered} \text { 1923, } \\ \text { prelim- } \\ \text { inary. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NORTH America. | 1,000 | 1,000 |  |  |  |  |  | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| Canada | pounds. | $\underset{8,495}{ }$ | pounds. $14,232$ | pounds. <br> 33, 770 | pounds. <br> 48, 088 | pounds. <br> 13, 249 | pounds. $25,950$ | pounds. |
| United States | 996, 049 | 1, 249, 276 | 1, 439, 071 | 1, 465, 481 | 1, 582, 225 | 1, 069,693 | 1,246, 837 | 1, 474,786 |
| Mexico |  |  | 27, 963 |  |  | 14, 436 | 23, 085 |  |
| Guatemala | 256 |  | 1,049 |  |  |  | 143 |  |
| Cuba- | 73,666 | 61, 118 | 81, 039 |  | 120, 624 | 40, 299 | 30, 399 |  |
| Dominican Republic- | ${ }^{2} 25,417$ |  |  | 29, 983 | 50, 044 | 14, 991 | 14, 991 |  |
| Porto Rico-.-.-...--- | ${ }^{3} 10,828$ | 25, 410 | 25, 772 | 19,363 | 15, 474 | 24, 712 | 24, 710 | 26, 000 |
| Jamaica- |  |  |  |  |  |  |  |  |
| EUROPE. |  |  |  |  |  |  |  |  |
| Sweden | ${ }^{4} 1,744$ | 1,477 | 1,389 | 1,702 | 1,691 | 1,435 | 1,164 | 1,323 |
| France. | 845, 273 | 39, 361 | 25, 123 | 34, 666 | 46, 031 | 52, 578 | 47, 062 |  |
| Italy | 22, 200 | 11, 684 | ${ }^{\circ} 19,841$ | 21, 170 | 28, 263 | 43, 145 | 50, 485 |  |
| Swditzerlan | 41,374 |  |  | 661 | 860 |  | 790 | 790 |
| Germany - | ${ }^{5} 66,536$ | 59,815 | 45, 973 | 39,984 | 66, 061 | 65, 980 |  |  |
| Austria- | ${ }^{3} 13,693$ |  |  |  |  |  |  |  |
| Yugoslavia | 3,739 |  |  |  | 17,210 | 26, 046 | 20,700 | 45,000 |
| Greece ... | 28, 021 | 61, 233 | 66, 912 | 65, 463 | 69, 850 | 49, 863 | 38, 940 |  |
| Bulgaria | 13, 857 | 32, 647 | 57, 567 | 48, 284 | 64, 604 | 35, 923 | 39,380 | 54, 670 |
| Rumania. | 16,426 |  | 13, 481 | 27, 010 | 37, 699 | 23, 121 | 27,750 |  |
| Russia, included Ukraine and northern Caucasia | ${ }^{5}$ 232, 949 |  |  |  |  |  |  |  |
| AFRICA. |  |  |  |  |  |  |  |  |
| Algeria. Tunis.. | $\begin{array}{r} 23,421 \\ 265 \end{array}$ | 35, $\mathbf{3} \mathbf{3 7 4}$ | 49, 118 | 31,658 628 | 40, 234 671 | $\begin{array}{r} 49,630 \\ 1,069 \end{array}$ | 20,580 882 | 40,050 990 |
| ASIA. |  |  |  |  |  |  |  |  |
| India, British | 450,000 |  |  |  |  |  |  |  |
| British North Borneo |  |  | 1, 520 | 1,857 | 1, 265 | 1,160 |  |  |
| Ceylon---1.-.-- |  |  |  |  |  |  | 10,000 |  |
| Japanese Empire: <br> Japan | 93, 717 | 90, 607 | 79, 780 | 113, 361 | 137, 193 | 134, 899 | 149, 610 |  |
| Chosen. | 25, 510 | 31, 084 | 32, 124 | 31, 609 | 34, 190 |  |  |  |
| Formosa | 1, 120 | 1,610 | 880 | 1,495 | 2,250 | 4,270 | 3, 760 |  |
| Russia (Asiatic) | -30,939 |  |  |  |  |  |  |  |
| Philippines--- | 65, 005 | 107, 868 | 135, 705 | 124, 555 | 143, 064 | 116, 401 | 65, 977 | 69,798 |

[^226]Table 395.-Tobacco: Production in undermentioned countries.-Continued.
SOUTHERN HEMISPHERE.


Division of Statistical and Historical Research.
Official sources and International Institute of Agriculture, Rome, unless otherwise stated
Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
${ }^{3}$ One year only.
${ }^{4}$ Four-year average.
${ }^{7}$ Exclusive of native reserves (production of 2,428,553 pounds in 1917-18 and 1,614,400 pounds in 1920-21).
Table 396.-Tobacco: Farm price per pound, December 1, by States, calendar years, 1908-1923, and value per acre, 1923.

| State. | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | $\left\|\begin{array}{c} \mathrm{Av} . \\ 1909 \\ 1913 \end{array}\right\|$ | 1914 |  | 1916 | 1917 | 1918 | 1919 | 1920 | $\left\lvert\, \begin{gathered} \text { A } \sigma . \\ 1914- \\ 1920 \end{gathered}\right.$ | 1921 | 1922 | 192 | $\begin{aligned} & \text { Value } \\ & \text { per } \\ & \text { acre } \\ & 1923.1 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts |  | Cts | cts | Cts. | ts. | Cts. | cts | Cts. | ts. | Cts. | Cts | Cts | ts | Cts. | cts. | Cts. | Cts. | ol. |
| Massachusetts | 15.5 | 14.0 | 15.0 | 20.0 | 23.9 | 21.0 | 18.8 | 17.7 |  | 25.0 | 38.4 | 40. | 46. 3 | 40.6 | 31.8 | 36.0 | 37. | 43.8 | 17. 58 |
| Connecticut | 17.0 | 16.5 | 16.5 | 20.5 | 24.1 | 21.0 | 19.7 | 18.5 | 17.0 | 27.0 | 38.4 | 44.0 | 46. 3 | 35.0 | 32. | 41.0 | 40 |  | 645.42 |
| New York | 9.5 | 8. 0 | 8. 5 | 10.4 | 12.6 | 12.2 | 10.3 | 2.0 | 9.5 | 13.0 | 22.0 | 18.0 | 22.5 | 27.0 | 17.7 | 19.3 | 37. | . 0 | 225. 00 |
| Pennsylvanis | 10.5 | 9.0 | 9.3 | 9.5 | 8.5 | 7.5 | 8.8 | 8. 5 | 9. 2 | 14.2 | 21.0 | 14.0 | 17.0 | 20.0 | 14.8 | 14.4 | 11.0 | 18.1 | 237. 11 |
| Maryland... | 7.5 | 8.3 | 7.7 | 7.5 | 8.0 | 9.3 | 8.2 | 8.0 | 8.5 | 16.0 | 20.0 | 30.0 |  | 29.0 | 20. | 19.0 | 17 | 22 | 174. 24 |
| Virginia | 2 |  | 9.0 |  |  |  |  |  |  |  |  |  |  | 0 |  |  |  |  | 00 |
| West Virginia. | 14.0 | 13.2 | 10.3 | 8.0 | 11.0 | 12.0 | 10.9 | 11.0 | 10.0 |  |  | 36.6 | 50.0 | 25.0 | 25.4 | 24.0 | 22.0 | 22.0 | 189.20 |
| North Carolina- | 10.5 | 9.5 | 10.6 | 11.6 | 16.0 | 18.5 | 13.2 | 11.5 | 11.2 | 20.0 | 31.5 | 35.1 | 53.6 | 25.3 | 26.9 | 26.0 | 3.3 | 1.0 | 47. 00 |
| South Carolina | 10.0 | 7.3 | 8. 6 | 12.6 | 10.9 | 13.8 | 10.6 | 9.7 | 7.0 | 14.0 | 23.1 | 31.1 | 22.8 | 15.0 | 17.5 | 11.0 | 23.0 |  | 75. 20 |
| Georgia. | 35.0 | 34. 0 | 20.0 | 28.0 | 30.0 | 31.0 |  |  | 23.0 |  |  | 46.0 |  | 37.0 | 33.8 | 25.0 | 26.0 | 30 | 30 |
| Florid |  |  |  |  |  |  |  |  |  |  |  |  |  | 48.0 | 41. | 40.0 | 47.0 | 0.0 | 536. 50 |
| Ohio | 10.5 | 10.5 | 8.5 | 7.6 |  | 11.4 | 9.4 | 8.8 | 9.0 | 13.0 | 25.0 | 19.5 | 33.7 | 13.0 | 17.4 | 15.0 | 17. |  | 54. 70 |
| Indiana | 12.0 | 11.0 | 9.5 | 7.8 | 9. 0 | 11.0 | 9.7 | 9.0 | 7.3 | 13. | 24. | 20.7 | 35. 2 | 14.0 | 17.6 | 15.0 | 17.0 | 16. 6 | 149.40 |
| Wiscons | 10.0 |  |  |  |  |  |  |  |  |  |  |  |  | 25.9 |  |  |  |  |  |
| Missouri | 12.5 | 13.0 | 12.0 | 12.0 | 12.0 | 12.7 | 12.3 |  | 12.0 | 15.0 | 21.2 | 25. 0 | 36.0 | 33.0 | 22.2 | 20.0 | 29. |  | 308.00 |
| Kentucky | 9.1 | 10.6 | 8.7 | 7.7 | 8.7 | 10.0 | 9.1 | 8.4 | 7.8 | 12.7 | 22.7 | 26.3 | 38.2 | 5. 0 | 18.7 | 15.5 | 19.5 | 16. 6 | 141.93 |
| Tenness | 9. 0 | 7.8 | 8.4 | 8.5 | 7.1 | 8.4 |  |  | 6.3 | 10.1 | 17.0 | 21. 4 | 25.1 | 20.0 |  | 20.0 | 22.0 | $18.0$ |  |
| Louisian | 32.0 | 37.0 | 25.0 | 1. 0 | 30.0 | 25. | 29.6 | 35. 0 | 30 | 28.0 |  |  | 65.0 | 0.0 | 42.6 | 55.0 | 55. | 5. | 232. 50 |
| United States_ | 10.3 | 10.1 | 9.3 | 9.4 | 10.8 | 12.8 | 10.5 | 9.8 | 9.1 | 14.7 | $24.0 \mid 2$ | $28.0 \mid 3$ | $39.02$ |  | 20.8 |  |  |  | $164.25$ |

Division of Crop and Livestock Estimates.
${ }^{1}$ Based on farm price Dec. 1.

Table 397.-Tobacco (unmanufactured): International trade, calendar years, 1909-1922.

| Country. | A verage, 1009-1913. |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING countries. |  |  |  |  |  |  |  |  |
| Algeria | $\begin{array}{r} 1,000 \mathrm{lbs} \\ 4,776 \end{array}$ | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 11,681 \end{array}$ | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 6,408 \end{array}$ | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 23,724 \end{array}$ | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 6,781 \end{array}$ | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 21,896 \end{array}$ | $\begin{array}{r} 1,000 \mathrm{lbs} . \\ 8,513 \end{array}$ | $\begin{aligned} 1,000 ~ l b s . \\ 33,549 \end{aligned}$ |
| Brazil | 620 | 59, 991 | 2, 176 | 67,376 | 2, 024 | 71, 718 |  | 98,563 |
| British Indi | 6,538 | 28,874 | 10, 121 | 36,379 | 7,284 | 30,987 | 8,053 | 26,895 |
| Bulgaria | ${ }^{(1)}$ | 4,310 4,093 |  | 38,793 3 390 |  |  |  |  |
| Cublon. | 141 | 4,093 38,035 | (1) ${ }^{4}$ | 3,590 28,058 | 3 | 2,411 | 4 | 4,335 |
| Dominican Republic. |  | 22, 395 |  | 36, 225 |  | 20, 221 |  | 16,602 |
| Dutch East Indies.-- | 8, 074 | 163, 823 | 322 | 274, 379 | 491 | 100,250 | ${ }^{2} 455$ | ' 79, 598 |
| Greece. | 12,024 | 18, 113 | 157 | 59, 276 | 443 | 57, 750 | 128 | 81, 030 a |
| Persia | 797 | 11,384 | - 18,930 | 2,550 |  |  |  |  |
| Philippine Islands | 45 | 26, 018 | 763 | 45, 578 | 342 | 49, 270 | 181 | 35, 433 |
| Russia | - 52,084 | 23,283 381,127 | 82, 221 | 479, 900 | 52, 994 | 522, 756 | 77, 693 | 441, 868 |
| PRINCIPAL IMPORTING countries. |  |  |  |  |  |  |  |  |
| Aden. | 11,619 | 7,739 | 9,603 | 6,452 |  |  |  |  |
| Argentina | 14,988 |  | 21, 935 |  |  |  |  |  |
| Australia | 13,740 |  | 21,955 | ${ }^{(1)}$ | 17, 104 |  |  |  |
| Austria | 49,984 | 23, 192 | 14,461 | 287 | 24, 108 | 422 |  |  |
| Belgium | 22,094 | 33 | 36, 400 | 419 | 36, 142 | 220 | 44,734 | 702 |
| Canada | 17,891 | 433 | 21, 121 | 778 | 19,025 | 884 | 14, 454 | 1,735 |
| China | 15, 113 | 25, 487 | 30, 310 | 36, 882 | 29,504 | 26, 891 | 33, 871 | 26,260 |
| Czechoslovakia |  | 100 | 23,635 | 102 | 25,825 |  | 57,702 |  |
| Egypt. | 19,005 |  | 19,287 | 244 | 17, 394 | 13 | 9,200 |  |
| Finland | 9,597 |  | 4,947 |  | 2,984 |  | 4,297 |  |
| France. | 63, 914 | 26 | 76, 615 | 971 | 85, 027 | 2,599 | 128, 453 | 1,717 |
| Germany | 168, 437 | 116 | 196, 160 | 876 | ${ }^{3} 196,277$ | ${ }^{8} 961$ | 175, 323 | 989 |
| Italy. | 47,732 | 3, 008 | 74, 246 | 79 | 63,417 |  | 49,333 | 2 |
| Netherlan | 57, 218 | 3,786 | 86, 797 | 10, 175 | 64, 322 | 5, 009. | 49,643 | 4,667 |
| Norway | 3,994 |  | 6,874 14,376 |  | 4,750 |  | 4,982 |  |
| Poland | 6,565 | 279 |  | 252 |  |  |  |  |
| Spain. | 51, 026 |  | 73, 659 |  | 42,766 |  | 27,058 |  |
| Sweden | 9,772 | 1 | 12,778 | 110 | 8,783 | 394 |  |  |
| Switzerland. | 17,949 |  | 29, 003 | 112 | 5,792 |  | 10,641 | 11 |
| United Kingdom | 117, 956 | 4,603 | 209, 721 | 4,850 | 211, 500 | 5,273 | 173, 381 | 9,203 |
| Other countries. | 32,694 | 62,740 | 42,606 | 16,287 | 26, 285 | 10, 398 | 5,460 | 7,438 |
| Total | 846, 929 | 928, 609 | 1,163, 754 | 1, 175, 333 | 958, 244 | 930, 323 | 889, 160 | 878, 181 |

[^227]
## TOBACCO.

Table 398.-Tobacco: Wholesale price per pound, 1907-1923.

| Calendar year. | Hopkinsville. |  |  | Louisville. |  |  | Richmond. |  |  | Baltimore. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Leaf, common tofine. |  |  | Leaf (burley, dark red), common to good |  |  | Leaf, smokers', common to fine. |  |  | Leaf (Maryland), medium to fine red. |  |  |
|  | Low. | High. | $\begin{gathered} \text { Aver- } \\ \text { age. } \end{gathered}$ | Low. | High. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ | Low. | High. | $\underset{\text { age. }}{\substack{\text { ver }}}$ | Low. | High. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| 1907 | $\begin{array}{r} \text { Cents. } \\ 6.50 \\ 7.50 \end{array}$ | $\begin{aligned} & \text { Cents. } \\ & 16.00 \\ & 20.00 \end{aligned}$ | $\begin{array}{\|l\|} C e n t s \\ 11.19 \\ 12.75 \\ 10 \end{array}$ | $\begin{gathered} \text { Cents. } \\ 6.50 \\ 9.00 \end{gathered}$ | $\begin{array}{\|l\|l} \text { Cents. } \\ 14.50 \\ 19.00 \end{array}$ | $\begin{gathered} \text { Cents. } \\ 10.65 \\ 13.67 \end{gathered}$ | $\begin{aligned} & \text { Cents. } \\ & 8.00 \\ & 8.00 \end{aligned}$ | $\begin{aligned} & \text { Cents. } \\ & 13.00 \\ & 13.00 \end{aligned}$ | $\begin{aligned} & \text { Cents. } \\ & 10.50 \\ & 10.50 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Cents } \\ & 6.50 \end{aligned}$ | $\begin{aligned} & \text { Cents: } \\ & 12.00 \\ & 13.00 \\ & \hline \end{aligned}$ | $\begin{array}{r} \text { Cents. } \\ 9.48 \\ 9.85 \\ \hline \end{array}$ |
| 1809 | $\begin{array}{\|l\|} \hline 6.00 \\ 5.50 \\ 7.00 \\ 8.00 \\ 7.00 \end{array}$ | $\begin{aligned} & 14.00 \\ & 17.50 \\ & 18.00 \\ & 16.00 \\ & 14.00 \end{aligned}$ | $\begin{aligned} & 9.85 \\ & 11.89 \\ & 12.10 \\ & 11.69 \\ & 11.02 \end{aligned}$ | $\begin{array}{\|c} 12.00 \\ 8.00 \\ 6.00 \\ 7.00 \\ 7.00 \end{array}$ | $\begin{aligned} & 18.50 \\ & 17.00 \\ & 12.75 \\ & 13.00 \\ & 16.00 \end{aligned}$ | 15.35 <br> 13.55 <br> 9.39 <br> 9.32 <br> 11.23 <br> 1 | $\begin{aligned} & 7.00 \\ & 7.00 \\ & 7.00 \\ & 7.00 \\ & 7.00 \end{aligned}$ | $\begin{aligned} & 13.00 \\ & 13.00 \\ & 13.00 \\ & 15.00 \\ & 20.00 \end{aligned}$ | $\begin{aligned} & 10.28 \\ & 10.00 \\ & 10.00 \\ & 10.00 \\ & 10.83 \\ & 11.58 \end{aligned}$ | 8. 508.508.508. 508. 50 | 13.0013.0013.001515.0015 | $\begin{aligned} & 10.75 \\ & 10.75 \\ & 10.75 \\ & 11.75 \\ & 11.75 \end{aligned}$ |
| 1910 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1911 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1912 |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{gathered} \text { Low, high, } \\ \text { andavileog } \\ \text { and } 1913 \end{gathered}$ | 5.50 | 18.00 | 11. 15 | 6.00 | 18.50 | 11.83 | 7.00 | 20. | 10.54 | 8.50 | 15.00 | 11.00 |
| 1914 | $\begin{gathered} \hline 7.50 \\ 4.00 \\ 5.00 \\ 1.00 \end{gathered}$ | 14.00 | 11.05 | 9.00 | 16.00 |  |  |  | 13. 40 |  | 15.00 | 11.46 |
| 1915 |  |  | - $\begin{array}{r}\text { 8. } 08 \\ 13.45 \\ 13.61\end{array}$ | - |  | 13. 38 | 7.006. 009. 00a | 18.0020.0030.00 | 11.66 | 9.009.7.0017.a | 21.00 | 10.8314.692.21 |
| 1917 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1918 | 114.00 | - $\begin{aligned} & \text { 25. } 00 \\ & 36.50\end{aligned}$ | - $\begin{aligned} & 18.63 \\ & 23 \\ & 23\end{aligned}$ | $\begin{aligned} & 25.00 \\ & 10.00 \end{aligned}$ | $\begin{aligned} & \text { 44. } 00 \\ & 48.00 \end{aligned}$ | 36. 34 | $\begin{aligned} & \text { y. } 00 \\ & 16.00 \\ & 15.00 \end{aligned}$ | $\begin{array}{\|l} 45.00 \\ 45.00 \end{array}$ | 23. 3127. |  | 49.00 53 | 33.56 |
| ${ }_{1920}^{1919}$ |  |  |  |  |  |  |  |  |  | $\begin{aligned} & 26.00 \\ & 0 \end{aligned}$ $25,0$ | 53.00 58.00 | - ${ }_{41.19}$ |
| $\begin{gathered} \text { Low, high, } \\ \text { andav.1914- } \\ \text { 1920_-.--- } \end{gathered}$ | 4.00 | 53.00 | 15. 93 | 8.00 | 48.00 | 20.99 | 6.00 | 45. 00 | 18.24 | 8.00 | 58.00 | 24.45 |
| 19 | $\begin{array}{r} 8.00 \\ 10.00 \\ 10.00 \end{array}$ | $\begin{aligned} & 55.00 \\ & 40.00 \\ & 40.00 \end{aligned}$ | $\begin{aligned} & \begin{array}{l} 24.47 \\ 23.81 \\ 222.87 \end{array} \\ & \hline \end{aligned}$ | $\begin{array}{\|r} \hline 7.00 \\ 12.00 \\ 14.00 \\ \hline \end{array}$ | $\begin{aligned} & 30.00 \\ & 35.00 \\ & 35.00 \end{aligned}$ | $\begin{aligned} & 17.83 \\ & 22.12 \\ & 23.83 \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.00 \\ & 7.00 \\ & 7.00 \end{aligned}$ | $\begin{aligned} & 30.00 \\ & 11.00 \\ & 18.00 \end{aligned}$ | $\begin{aligned} & 12.66 \\ & 11.10 \\ & 12.46 \end{aligned}$ | $\begin{aligned} & 18.00 \\ & 18.00 \\ & 18.00 \end{aligned}$ | $\begin{aligned} & 58.00 \\ & 50.00 \\ & 56.00 \end{aligned}$ | $\begin{aligned} & 30.52 \\ & 3283 \\ & 33.12 \\ & \hline \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1923 |  |  |  |  |  |  |  |  |  |  |  |  |
| nuary | $\begin{gathered} 12.00 \\ 112.00 \\ 12.00 \\ 12.20 \\ 12.00 \\ 12.00 \end{gathered}$ | 40.00339.00334.50333.0033.00 | $\left\{\begin{array}{l} 23.38 \\ 24.50 \\ 22.25 \\ 22.33 \end{array}\right.$ | $\begin{aligned} & 18.00 \\ & 18.00 \\ & 18.00 \\ & 14.00 \end{aligned}$ | $\begin{aligned} & 35.00 \\ & 35.00 \end{aligned}$ | 26. 50 | 7.00 | 16.00 | ${ }_{11}^{11.50}$ | 18.00 | 50.00 | 34.00 |
| February |  |  |  |  |  |  |  |  |  |  |  |  |
| March |  |  |  |  |  |  |  | 16.00 | 11. 50 | 18.00 | 50.004200 | 29.2530.00 |
| ${ }_{\text {April }}$ |  |  |  | $\begin{aligned} & 14.00 \\ & 14.00 \\ & 14.00 \end{aligned}$ | 35.0035.0035.00 | ${ }_{24.50}^{25.00}$ | 7.00 |  | 11.50 |  |  |  |
| June. |  | $\left\{\begin{array}{l} 33.00 \\ 333.00 \end{array}\right.$ | --..- |  |  |  |  | 18.00 | 11. 50 | 18.00 18.00 | 42.00 | 30.00 30.00 |
| July-- |  |  |  | $\begin{aligned} & 14.00 \\ & 15.00 \\ & 15.00 \end{aligned}$ | 35.00 30.00 30. | ${ }_{22}^{22.50}$ | 7.00 9.00 |  |  | 18.00 18.00 | 42.00 | - $\begin{aligned} & 30.00 \\ & 30.00\end{aligned}$ |
| Septembe |  |  |  | 15.00 | 30. 00 | ${ }^{22} 50$ | 9.00 | 18.00 | ${ }^{13.50}$ | 18.00 | 50. 00 |  |
| October |  |  |  | $\begin{aligned} & 15.00 \\ & 14.00 \end{aligned}$ |  |  |  |  | 13.50 | 23.50 | ${ }_{50}^{50}$ |  |
| cember | 10.00 | 35.00 | 22. 50 |  | $\left\lvert\, \begin{aligned} & 30.00 \\ & 30.00 \end{aligned}\right.$ | 21.00 | 9.00 | 18.00 | 13. 50 | 26.00 | 56.00 |  |

[^228]
## COFFEE.

Table 399.-Coffee: International trade, calendar years, 1909-1922.

| Country. | Average 1909-1913. |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTing countries. | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ | 1,000$p o u n d s$.$1,672,282$27,780104,39827,51554,14985,95161,9438,26319,03362,830111,326 | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 1,524,478 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \\ 1,636,119 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 1,676,334 \\ 19,459 \end{gathered}$ |
| Brazil- | 1605 |  | 5,655 |  | 2, 366 |  | 5,595 |  |
| Colombia |  |  |  | $\begin{array}{r} 19,407 \\ 2190,962 \\ 230.860 \end{array}$ |  | $\begin{array}{r} 30,070 \\ \begin{array}{r} 310,205 \\ 29,408 \end{array} \end{array}$ |  |  |
| Costa Rica |  |  |  | $\begin{aligned} & 137,223 \\ & { }_{207} \end{aligned}$ |  |  | ${ }^{3} 37$ | $\begin{array}{r} 41,043 \\ 395,491 \\ 295,192 \end{array}$ |
| Dutch East Indi | 4, 227 |  | 2, 080 |  | ,961 | $\begin{array}{r} 96,323 \\ 295,199 \end{array}$ |  |  |
| Guatemala. |  |  |  | $\begin{array}{r} 68,292 \\ 4,622 \end{array}$ |  | $\begin{array}{r} 45,690 \\ 27,233 \end{array}$ |  |  |
| Haiti--- |  |  |  |  |  |  |  | ---77,081 |
| Nicaragua | $\begin{gathered} 4138 \\ 51,593 \end{gathered}$ |  |  | $\begin{array}{r} 215,344 \\ 82,865 \\ 73,727 \end{array}$ |  | $\begin{array}{r} 229,938 \\ 62,418 \\ 121,965 \end{array}$ |  | $\begin{array}{r} 294,972 \\ { }^{2} 143,248 \end{array}$ |
| Salvador |  |  |  |  | ${ }^{6}$ ) |  |  |  |
| Venezuela |  |  |  |  |  |  |  |  |
| PRINCTPAL IMPORTing countries. |  |  |  |  |  |  |  |  |
| Argentina | 28, 125 |  | 38,8116,274 | -------72 | 11, 909 | -----302- | - 29,794 | ${ }^{2} 185$ |
| Austria- | $\begin{array}{r} 128,304 \\ 111,738 \\ 27,524 \\ 13,378 \\ 24,906 \end{array}$ |  |  | 3,411 | 1, 0 | -..---.- | , |  |
| Belgium. |  | $\begin{array}{r}33,627 \\ 27,137 \\ \hline\end{array}$ | -84, 469 |  | $\begin{array}{r} 105,366 \\ 19,981 \\ 19,876 \end{array}$ | $\begin{array}{r} 21,538 \\ 15,121 \\ 10 \end{array}$ | $\begin{array}{r} 84,781 \\ 225,970 \\ 21,303 \end{array}$ | 2,437 <br> 22,160 <br> 21 |
| British Malaya |  |  | 27,025 19,493 | 27,742 17 |  |  |  |  |
| Canada |  | 55 4 | 19,493 | 17 |  |  |  |  |
| Cuba |  |  | 2 ${ }^{411,425}$ | ${ }^{2} 124$ | 25, 592 |  | 23, 933 |  |
| Czechoslo | 33, 102 | 152 | ${ }^{2} 14,2153$ | 402 | 43, 724 | 380 | 50, 815 | 214 |
| Egypt | $\begin{gathered} \text { or, } \\ 1554 \\ 28,624 \end{gathered}$ |  | 22, 530 | 3, 408 | 20,722 | 226 | ${ }^{2} 21,744$ | 37 |
| Finland |  | $\begin{array}{r} 41 \\ \mathbf{1}, 757 \end{array}$ |  |  | -339, 590 |  | 386, 293 | 685 |
| France | $\begin{aligned} & 245,752 \\ & 399,965 \end{aligned}$ |  | $\begin{array}{r} 323,254 \\ 90,602 \\ 33,043 \end{array}$ | 1,983 62 |  | $\begin{array}{r} 1,108 . \\ 7 \\ 211 \\ 213 \end{array}$ | 381,16281,11927,19 | $\begin{array}{r}172 \\ \\ \\ \hline 197\end{array}$ |
| Germany |  |  |  |  |  |  |  |  |
| Italy | 58,278  <br> 283,633 189,288 <br> 158  |  | 66, 509 | $37,551$ | $\begin{aligned} & 105,594 \\ & 136,567 \end{aligned}$ | 1366,568 | $\begin{array}{r} 104,195 \\ 129,148 \\ 39,425 \end{array}$ | 55,944 |
| Netherlan |  |  | 133, 749 |  |  |  |  |  |
| Norway | 29,309 |  | $24,853$ |  |  |  |  |  |
| Russia. | 29, 317 |  | 21,19848,519088 | -------- | 48, 219 | ------56 | -41, 235 | 17 |
| Spain-- |  | 24 <br> -62 |  | 2,355 | 88,70731,583 | 48 | 77,66029,259 | 1614317 |
| Sweden --- | $\begin{array}{r}74,486 \\ 25,029 \\ \hline\end{array}$ |  | 98, 2277 | 2, 75 |  |  |  |  |
| Union of South Arica | $\begin{array}{r} 26,458 \\ 28,581 \\ 907,898 \end{array}$ | 36 | 28,753 | 51 | 29, 906 | 84 | $\begin{array}{r}29,924 \\ 889 \\ \hline 897\end{array}$ |  |
| United Kingdom....- |  |  | $\begin{array}{r} 27,434 \\ 1,297,439 \\ 106908 \end{array}$ | $\begin{array}{r} 108 \\ 36,757 \\ 101,854 \end{array}$ | $\begin{array}{r} 165 \\ 1,340,980 \\ 135,318 \end{array}$ | $\begin{array}{r} 87 \\ 34,573 \\ 60,897 \end{array}$ | $\begin{array}{r} 89,797 \\ 1,246,061 \\ 80,336 \end{array}$ | $\begin{aligned} & 26,750 \\ & 78,928 \end{aligned}$ |
| United States.. |  |  |  |  |  |  |  |  |
| Other countries. | 82, 156 | 95,727 | 126,998 |  |  |  |  |  |
|  | $2,614,854$ | 2,608,347 | 2,615, 710 | 2, 571, 631 | $2,800,427$ | 2, 666,757 | 2, 616, 110 | 2, 360, 793 |

Division of Statistical and Historical Research. Official sources except where otherwise noted
Dand gate" coffee and chicory are excluded.

[^229]Table 400.-Coffee, Rio, No. 7: Average wholesale price per pound, New York, 1890-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver- <br> age |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1890 | 16.8 | 17. 0 | 18.0 | 18.7 | 17. 6 | 18. 1 | 17.6 | 17.9 | 18. 8 | 18.9 | 18.0 | 17.9 | 17.9 |
| 1891 | 17.4 | 17.5 | 18. 4 | 18. 5 | 18. 6 | 18. 2 | 17. 5 | 17. 5 | 16. 2 | 14.1 | 12.9 | 13.6 | 16.7 |
| 1892 | 13.0 | 13.9 | 15.0 | 14. 2 | 12. 8 | 12.9 | 12.9 | 13.3 | 14.8 | 15.4 | 16.3 | 17.1 | 14.3 |
| 1893 | 17.1 | 18. 1 | 18.0 | 17.4 | 15.5 | 17.0 | 16. 5 | 16. 2 | 16.6 | 18. 2 | 18.3 | 17.8 | 17.2 |
| 1894 | 18.4 | 17.4 | 17. 2 | 17.6 | 16.5 | 15.8 | 16.6 | 16.3 | 16.0 | 15.7 | 15.1 | 15.8 | 16.5 |
| 1895 | 15. 6 | 16. 2 | 16. 8 | 16. 5 | 16.0 | 15.9 | 15.6 | 16.2 | 16. 1 | 15.9 | 15.7 | 14.4 | 15.9 |
| 1896 | 14.2 | 13.1 | 13.3 | 13.8 | 13.9 | 13.2 | 13.0 | 11.5 | 10.6 | 10.4 | 11.0 | 10.0 | 12.3 |
| 1897 | 10. 2 | 9.8 | 9. 6 | 8.0 | 8.0 | 7.6 | 7.4 | 7.4 | 6. 9 | 7.1 | 6. 8 | 6.4 | 7.9 |
| 1898 | 6. 5 | 6.4 | 6. 2 | 6.0 | 7. 0 | 6. 5 | 6.3 | 6.1 | 6.4 | 6. 2 | 5. 9 | 6. 4 | 6.3 |
| 1899 | 6.8 | 6.8 | 6. 2 | 6.1 | 6.3 | 6. 2 | 6.1 | 5.8 | 5.6 | 5.5 | 6. 1 | 6.9 | 6.2 |
| 1900 | 7.2 | 8.4 | 8.4 | 7.7 | 7.9 | 8.2 | 8.9 | 9.4 | 8.5 | 8.2 | 8.4 | 7. 5 | 8.2 |
| 1901 | 7.2 | 7. 0 | 7. 6 | 6.8 | 6.2 | 6. 2 | 6. 0 | 5. 6 | 5. 6 | 5. 8 | 6. 4 | 7.1 | 6.5 |
| 1902 | 7.3 | 6. 0 | 5. 9 | 6.1 | 5. 7 | 5. 7 | 5. 5 | 6. 1 | 5. 8 | 5. 4 | 5. 5 | 5. 4 | 5. 9 |
| 1903 | 5.4 | 5. 4 | 5. 8 | 5.4 | 5. 2 | 5.2 | 5. 4 | 5. 2 | 5. 2 | 5. 8 | 6. 4 | 6.5 | 5. 6 |
| 1904 | 7.8 | 9.3 | 6.9 | 6. 9 | 7.2 | 7.0 | 7.2 | 7. 5 | 8.6 | 8.4 | 8.4 | 8.6 | 7.8 |
| 1905 | 9. 0 | 8. 7 | 7.9 | 7.8 | 7.9 | 7.9 | 7.8 | 8.6 | 8.9 | 8. 7 | 8.3 | 8.3 | 8.3 |
| 1906 | 8. 1 | 8.4 | 8. 4 | 8.1 | 8. 0 | 7.5 | 7.8 | 8. 9 | 8.4 | 8. 4 | 7. 8 | 7. 5 | 8.1 |
| 1907 | 7. 1 | 6. 9 | 7. 2 | 7.0 | 6. 8 | 6. 5 | 6. 3 | 6. 5 | 6. 3 | 6. 4 | 6. 0 | 5. 9 | 6. 6 |
| 1908 | 6. 1 | 6. 3 | 6. 3 | 6.1 | 6. 1 | 6.4 | 6. 4 | 6. 2 | 6.1 | 6. 3 | 6. 5 | 6. 6 | 6.3 |
| 1909 | 7. 1 | 7. 7 | 8. 2 | 8.2 | 8.3 | 8.1 | 7.4 | 7. 5 | 7.3 | 7.3 | 8.3 | 8. 6 | 7.8 |
| 1910 | 8. 7 | 8. 7 | 8. 8 | 8.8 | 8.4 | 8. 2 | 8.4 | 8. 7 | 10.2 | 11. 1 | 11. 1 | 13. 2 | 9.5 |
| 1911 | 13. 4 | 13.1 | 12. 6 | 12.3 | 12.4 | 12. 3 | 13.3 | 13. 2 | 13.4 | 14. 2 | 15. 8 | 14. 9 | 13.4 |
| 1912 | 14. 5 | 14. 2 | 14. 4 | 14.8 | 14. 4 | 14. 2 | 14.8 | 14.3 | 14. 6 | 14.8 | 15.0 | 15. 4 | 14.6 |
| 1913 | 13.9 | 13.5 | 12. 5 | 11.9 | 11.4 | 11. 1 | 9.8 | 9.6 | 9.2 | 10. 2 | 10.8 | 9.6 | 11.1 |
| Av. 1909-1913. | 11.5 | 11.4 | 11.3 | 11. 2 | 11.0 | 10.8 | 10.7 | 10.7 | 10.9 | 11.5 | 12. 2 | 12.3 | 11.3 |
| 1914 | 9.1 | 9. 5 | 9. 2 | 8.9 | 8.8 | 9. 1 | 8.8 | 7.5 | 7.6 | 6. 6 | 6. 4 | 6.3 | 8.2 |
| 1915 | 7. 2 | 8. 2 | 7.8 | 8.1 | 7.8 | 7. 0 | 7.4 | 7.4 | 6. 8 | 6. 8 | 7. 5 | 7.6 | 7.5 |
| 1916 | 7. 6 | 8. 2 | 9.2 | 9.5 | 9.8 | 9. 9 | 9.0 | 9.5 | 9.9 | 9.5 | 9. 5 | 9.2 | 9.2 |
| 1917 | 9. 8 | 10. 0 | 9.8 | 9.5 | 10.1 | 10. 4 | 9.5 | 9.1 | 9.1 | 8. 5 | 7.9 | 7.6 | 9.3 |
| 1918 | 8. 5 | 8. 4 | 8.9 | 9.0 | 8.7 | 8. 4 | 8.6 | 8.5 | 9.6 | 10.4 | 10.7 | 17.3 | 9.8 |
| 1919 | 15.5 | 15. 4 | 16. 0 | 17.0 | 19.3 | 21. 1 | 23.0 | 21.5 | 16. 6 | 16. 5 | 17.0 | 15.2 | 17.8 |
| 1920 | 16. 3 | 14.8 | 15. 0 | 15.1 | 15. 6 | 15.0 | 13. 1 | 9.4 | 8. 2 | 7. 6 | 7.5 | 6. 6 | 12.0 |
| Av. 1914-1920 | 10. 6 | 10. 6 | 10.8 | 11.0 | 11. 4 | 11. 6 | 11.3 | 10.4 | 9.7 | 9.4 | 9.5 | 10.0 | 10.5 |
| 1921 | 6. 7 | 6. 7 | 6. 4 | 6. 0 | 6. 2 | 6. 7 | 6. 5 | 7. 0 | 7.9 | 8. 1 | 8.8 | 9.3 | 7.2 |
| 1922 | 9. 6 | 9. 0 | 9. 6 | 10. 8 | 11. 0 | 11. 0 | 10. 4 | 10. 0 | 10.2 | 10. 2 | 10.8 | 11.1 | 10.3 |
| 1923 | 11.9 | 13. 0 | 13.0 | 11.5 | 11.6 | 11.7 | 10.9 | 10. 7 | 10. 7 | 11.1 | 11.0 | 10.9 | 11.5 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

$$
85813^{\circ} \text { —увк } 1923-56
$$

TEA.
Table 401.-Tea: International trade, calendar years, 1909-1922.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow{2}{*}{Country.} \& \multicolumn{2}{|l|}{A verage, 1909-1913.} \& \multicolumn{2}{|c|}{1920.} \& \multicolumn{2}{|c|}{1921.} \& \multicolumn{2}{|l|}{$$
\begin{gathered}
1922, \\
\text { prelimınary. }
\end{gathered}
$$} <br>
\hline \& Imports. \& Exports. \& Imports. \& Exports. \& Imports. \& Exports. \& Imports. \& Exports. <br>
\hline PRINCIPAL EXPORT-
ING COUNTRIES. \& 1,000 \& 1,000 \& 1,000 \& 1,000 \& 1,000 \& 1,000 \& 1,000 \& <br>
\hline \& pounds. \& pounds. \& pounds. \& pounds. \& pounds. \& pounds. \& pounds. \& $$
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
$$ <br>
\hline Ceylon....-.---------- \& 8,002 \& 267,887 \& 11,466 \& 270, 957 \& 11, 581 \& 349, 086 \& 14,603 \& 311, 633 <br>
\hline China \& 18,890 \& 197, 997 \& 6,069 \& 184, 40.537 \& 6,387 \& 160,732
57,358 \& 13, ${ }^{1}$ \& 171,808 <br>
\hline Dutch East Indies \& 6, 742 \& 46, 675 \& 6,730 \& 100, 703 \& 6,704 \& 77, 518 \& \& 76, 463 <br>
\hline Formosa \& 68 \& 23, 640 \& 155 \& 14,377 \& ${ }^{6} 89$ \& ${ }^{3} 17,931$ \& ${ }^{1}{ }^{6} 73$ \& a 76,678
311,271 <br>
\hline Japan. \& 590 \& 35, 823 \& 540 \& 26,438 \& 996 \& 15, 863 \& ${ }^{3} 1,469$ \& ${ }^{3} 181,271$ <br>
\hline PRINCTPAL IMPORTing countries. \& \& \& \& \& \& \& \& <br>
\hline Argentina \& 3,880 \& \& 3,262 \& \& \& \& \& <br>
\hline Australia \& 35, 442 \& (4) \& 34,060 \& \& 43, 402 \& \& 3 42,866 \& <br>
\hline Austria--.......-- \& \& \& 864 \& 28 \& 858 \& 74 \& ${ }^{\text {a }} 1,001$ \& ${ }^{3} 11$ <br>
\hline Austria-Hungary.-- \& 3,424

11,983 \& 8 ${ }^{\text {5,318 }}$ \& 11,453 \& 4,067 \& 7,191 \& 1,338 \& \& ${ }^{\text {3 3, }} 886$ <br>
\hline Canada-.-...--- \& 37, 927 \& \& 36, 740 \& 4,06 \& 35, 653 \& 1,388 \& 40,050 \& , 3,686 <br>
\hline Chile- \& 3, 505 \& \& 4,690 \& \& 3,036 \& \& ${ }^{3} 11,540$ \& <br>
\hline Czechoslo \& \& \& ${ }^{3} 1,066$ \& ${ }^{3} 3$ \& 1,132 \& 33 \& 1,009 \& ${ }^{3}$ <br>
\hline Egypt- \& 1,950 \& \& 4,327 \& 749 \& 3,938 \& 173 \& ${ }^{3} 4,670$ \& 157 <br>
\hline France--.-.-.-. \& 2, 806 \& \& 4,017 \& 160 \& 2,462 \& 195 \& , 2,740 \& 113 <br>
\hline French Indo-China \& 3, 295 \& 1,145 \& 2,726 \& 787 \& - ${ }^{3} 3,622$ \& ${ }^{3} 1,376$ \& ${ }^{8} 3,391$ \& ${ }^{\text {a }} 1,13 \mathrm{o}$ <br>
\hline Germany \& 8,964 \& 23 \& 3,850 \& 25 \& ${ }^{8} 11,854$ \& ${ }^{5} 16$ \& 6,178 \& 23 <br>
\hline Hungary \& \& \& ${ }^{8} 879$ \& \& 3528 \& \& ${ }^{3} 1,075$ \& ${ }^{8} 35$ <br>
\hline Moroce \& 6,696 \& \& 5, 697 \& \& 6, 011 \& \& ${ }^{3} 8,765$ \& <br>
\hline Netherlands \& 11,383 \& 45 \& 23,407 \& 63 \& 26, 697 \& 43 \& 26, 226 \& 31 <br>
\hline New Zealand \& 7,542 \& \& 12, 838 \& \& 6,195 \& \& 8,708 \& <br>
\hline Persia \& 9,446 \& 125 \& 6, 623 \& 490 \& ${ }^{3} 7,426$ \& ${ }^{3} 786$ \& \& <br>
\hline Poland \& \& \& 3,771 \& \& ${ }^{8} 3,917$ \& ${ }^{3} 56$ \& ${ }^{\text {a } 2,260}$ \& 8108 <br>
\hline Russia \& 157, 704 \& 866 \& ${ }^{3} 64$ \& \& ${ }^{3} 1,387$ \& \& \& <br>
\hline Union of South A frica. \& 5, 192 \& 61 \& 6, 673 \& 47 \& 8,136 \& 23 \& 9,326 \& 252 <br>
\hline United Kingdom.--- \& 293, 045 \& \& 389, 915 \& \& 412, 848 \& \& 376, 849 \& <br>
\hline United States \& 98, 897 \& \& 90, 247 \& \& 76,487 \& \& 97, 097 \& <br>
\hline Other countries. \& 31, 268 \& 7,237 \& 25, 569 \& 8, 670 \& 21, 419 \& 915 \& 19,241 \& 1,570 <br>
\hline Total \& 768, 652 \& 775, 922 \& 697, 499 \& 652, 871 \& 709, 957 \& 683, 486 \& 698, 135 \& 680, 475 <br>
\hline
\end{tabular}

Division of Statistical and Historical Research. Official sources except where otherwise noted.
"Tea" includes tea leaves only and excludes dust, sweepings, and yerba mate.

[^230]${ }^{4}$ Less than 500 pounds.
${ }^{1}$ Eight months, May-December

Table 402.-Tea, Formosa, fine: Average wholesale price per pound, New York, 1890-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1890 | 26. 5 | 26.5 | 26. 5 | 26.5 | 24. 0 | 24.0 | 24. 0 | 24. 0 | 34. 0 | 32. 0 | 32. 0 | 28.0 | 27.3 |
| 1891 | 28. 0 | 29. 0 | 29.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28. 0 | 28.0 | 28.0 | 28. 0 | 28. 2 |
| 1892 | 28.0 | 28.0 | 28.0 | 28.0 | 29.0 | 30.5 | 27.0 | 32.5 | 32.5 | 32.5 | 32.5 | 32.5 | -30.1 |
| 1893 | 32.5 | 29.0 | 29.0 | 29.0 | 29.0 | 29.0 | 29.0 | 28. 0 | 28.0 | 28.0 | 28.0 | 28. 0 | 28.9 |
| 1894 | 28.0 | 28.0 | 28.0 | 28.0 | 26.5 | 26.5 | 26.5 | 26.5 | 29.0 | 29.0 | 29.0 | 29.0 | 27.8 |
| 1895 | 29. 0 | 29.0 | 29.0 | 29.0 | 29.0 | 29.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 27.0 |
| 1896 | 25.0 | 25.0 | 25. 0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 26.5 | 26.5 | 28.5 | 28.5 | 25.8 |
| 1897 | 28.5 | 28.5 | 28.0 | 28.0 | 28.0 | 28.5 | 25.0 | 28.5 | 28.5 | 28.5 | 28.5 | 27.5 | 28.0 |
| 1898 | 27.5 | 26.5 | 26.5 | 26. 5 | 27.0 | 27.0 | 31.0 | 31.0 | 33.0 | 33.0 | 33.0 | 33.0 | 29.6 |
| 1899 | 29.5 | 32.5 | 32.5 | 32.5 | 31.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 31.2 |
| 1900 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 29.5 | 29.5 | 29.5 | 29.5 | 28.5 | 28.5 | 28. 5 | 29.8 |
| 1901 | 28.5 | 28.5 | 28.5 | 28.5 | 28.5 | 28.5 | 28.5 | 28.5 | 28.5 | 28.5 | 28.5 | 28. 5 | 28.5 |
| 1902 | 28.8 | 28.8 | 28.8 | 28.8 | 28.8 | 28.8 | 30.0 | 30.0 | 30.5 | 32.2 | 33.2 | 33.2 | 30.2 |
| 1903 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 22.5 | 22.0 | 22.0 | 21.5 | 20.5 | 26. 0 | 26.0 | 23.0 |
| 1904 | 26.0 | 26.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 27.5 | 27.5 | 27.6 |
| 1905 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | 25.5 | 25.5 | 25.5 | 24.5 | 24.8 |
| 1906 | 24. 5 | 24.5 | 24.5 | 24.5 | 24.5 | 24. 5 | 21. 5 | 21.5 | 23.0 | 23. 0 | 23.0 | 23.0 | 23.5 |
| 1907 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| 19 | 23.0 | 23.0 | 23.0 | 23.0 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 21.3 |
| 1909 | 24.0 | 18.5 | 18.5 | 23.5 | 25.0 | 25.0 | 25.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 23.3 |
| 1910 | 24.0 | 24. 0 | 24.0 | 24.0 | 24.0 | 24. 0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 |
| 1911 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.5 | 24.5 | 24. 5 | 24.5 | 24. 5 | 24.2 |
| 1912 | 24. 5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24. 5 | 24. 5 | 24.5 | 24. 5 | 24.5 |
| 1913 | 24.5 | 24.5 | 24.5 | 24.5 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25. 0 | 25.0 | 24.8 |
| Av. 1909-191 | 24.2 | 23.1 | 23.1 | 24.1 | 24.5 | 24.5 | 24.5 | 24.4 | 24.4 | 24.4 | 24.4 | 24.4 | 24. 2 |
| 1914 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 24.0 | 24.0 | 24.8 |
| 1915 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24. 0 | 24.0 |
| 1916 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24. 0 | 24.0 | 24.0 | 24.0 |
| 1917 | 24.0 | 24.0 | 24.0 | 24. 0 | 26.3 | 28.3 | 36.5 | 36.5 | 36.5 | 36. 5 | 35.5 | 35.5 | 30.6 |
| 1918 | 35. 5 | 35. 5 | 35.5 | 35.5 | 35.5 | 35.5 | 35.5 | 35.5 | 36.3 | 36.5 | 36.5 | 36. 5 | 35. 8 |
| 1919 | 36. 5 | 36.5 | 35.3 | 34.0 | 34.3 | 35.0 | 35.0 | 35.0 | 35.0 | 35.0 | 36.1 | 36. 5 | 35.4 |
| 1920 | 36.5 | 36. 5 | 36. 5 | 36.5 | 36.5 | 36.5 | 36.5 | 34.3 | 31.0 | 31.0 | 28.6 | 23.8 | 33.7 |
| AV. 1914-20 | 29.4 | 29.4 | 29.2 | 29.0 | 29.4 | 29.8 | 30.9 | 30.6 | 30.3 | 30.3 | 29.8 | 29.2 | 29.8 |
| 1921 | 24.5 | 24.5 | 24.5 | 24.1 | 22.4 | 22. 0 | 22.0 | 22.0 | 22.3 | 23.0 | 28.0 | 29.0 | 24.0 |
| 1922 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.5 | 30.5 | 31.0 | 31.0 | 30.2 |
| 1923 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 |

[^231]
## VEGETABLE OILS.

Table 403.-EXports of vegetable oils from the United States, 1910-1929.

| Year ending June 30. | Corn. | Cottonseed. | Linseed. | Cocoa butter or butterine. | Coconut. | Peanut. | Soy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909-10. | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 11,299 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 223,955 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { gallons. } \\ 228 . \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| 1910-11 | 25, 317 | 225, 521 | 175 |  |  |  |  |
| 1911-12 | 23, 866 | 399, 471 | 247 |  |  |  |  |
| 1912-13 | 19, 839 | 315, 233 | 1,734 | ---- |  |  |  |
| 1913-14 | 18, 282 | 192, 963 | 239 |  |  |  |  |
| 1914-15. | 17,790 | 318, 367 | 1,212 |  |  |  |  |
| 1915-16 | 8, 968 | 266, 512 | 714 |  |  |  |  |
| 1916-17 | 8,780 | 158, 912 | 1,202 |  |  |  |  |
| 1917-18 | 1,831 | 100, 780 | 1,188 |  |  |  |  |
| 1918-19 | 1,095 | 178, 709 | 1,096 |  |  |  |  |
| 1919-20 | 12, 483 | 159, 400 | 1,136 | 11, 048 | 141, 088 | 4,922 | 67, 782 |
| 1920-21 | 6,919 | 283, 268 | 561 | 3,171 | 6, 639 | 1,595 | 5,118 |
| 1921-22 | 5, 280 | ${ }_{61}^{91,615}$ | 366 | 1,856 | 10, 185 | 1,802 | ${ }^{537}$ |
| 1922-23 | 5,224 | 64, 301 | 404 | 957 | 12, 993 | 188 | 2, 495 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce.

Table 404.-Imports of vegetable oils into the United States, 1910-1923.

| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 \text {. } \end{aligned}$ | Castor. | Chinese nut. | Cocoa butter or but- terine. | Coconut. | Cot-tonseed. | $\begin{aligned} & \text { Lin- } \\ & \text { seed. } \end{aligned}$ | Olive. | Palm. | Palm kernel. | Peanut. | Rapeseed. | Soy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1;000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | galls. | galls. | los. | libs. | lbs. | galls. | galls. | lbs. |  |  |  |  |
| 1909 |  | 15,760 | 3, 370 | 48,346 | (2) | ${ }^{(2)}$ | 4,545 | 92, 772 | (2) | ${ }^{(3)}$ | ${ }^{4} 1,083$ | (2) |
| 1910-11 | 7 | ${ }^{1} 7,042$ | 4,279 | 51, 118 | (2) | (2) | 4,984 | 57, 100 | (2) | (3) | 41,363 | (2) |
| 1911-12 | 8 | 4,768 | 6,075 | 46, 371 | 1,513 | 737 | 5,473 | 47, 159 | 25, 393 | 896 | 1,183 | 28, 021 |
| 1912-13 | 5 | 5,997 | 3, 603 | 50, 504 | 3,384 | 174 | 5,840 | 50, 229 | 23, 569 | 1,196 | 1, 550 | 12,340 |
| 1913-14 | 189 | 4,932 | 2, 839 | 74, 386 | 17, 293 | 192 | 6,981 | 58, 040 | 34, 328 | 1,337 | 1,464 | 16,360 |
| 1914-15 | 63 | 4,940 | 150 | 63, 135 | 15, 162 | 535 | 7, 364 | 31,486 | 4,906 | 853 | 1,499 | 19,207 |
| 1915-16 | 253 | 4,968 | 400 | 66, 008 | 17, 181 | 50 | 8,109 | 40, 497 | 6,761 | 1,475 | 2,561 | 98, 120 |
| 1916-17 | 324 | 6, 864 | 166 | 79, 223 | 13, 703 | 111 | 8, 184 | 36, 074 | 1,857 | 3, 026 | 1,085 | 162, 690 |
| 1917-18 | 1,175 | 4,816 | ${ }^{5} 5$ | 259, 195 | 14, 291 | 51 | 2,652 | 27, 405 | 19 | 8,289 | 3, 056 | 336, 825 |
| 1918 |  | 6,217 |  | 344, 728 | 20, 410 | 990 | 4,398 | 19,281 | 1,945 | 11, 393 | 2, 091 | 236, 805 |
| 1919-20 |  | 10, 614 |  | 271, 540 | 24, 165 | 4, 550 | 7,029 | 50, 165 | 54 | 22, 064 | 1,230 | 195, 774 |
| 1920-21 |  | 4,440 | 915 | 173, 889 | 1,315 | 1,997 | 4,705 | 31, 076 | 2,769 | 2, 422 | 1,172 | 49, 331 |
| 1921-22 |  | 7,410 | 7,123 | 230, 236 | (5) | 168, 705 | 11, 112 | 39, 159 |  | 2, 878 | 1, 352 | 8,283 |
| 192 |  | 11, 916 | 3,010 | 212, 573 | 46 | 56, 764 | 15, 635 | 118, 816 |  | 7, 553 | 1,770 | 38, 635 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce.

[^232]FARM ANIMALS AND THEIR PRODUCTS-PART I. CATTLE AND HOGS. CATTLE.
Table 405.-Cattle: Number and value on farms in the United States January 1, 1867-1924.

| Jan. 1- | Milk cows. |  |  | Other cattle. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Price per head Jan. 1. | $\begin{gathered} \text { Farm value } \\ \text { Jan. 1. } \end{gathered}$ | Number. | Price per head Jan. 1. | $\begin{aligned} & \text { Farm value } \\ & \text { Jan. } 1 . \end{aligned}$ |
|  | $\begin{array}{r} 8,349,000 \\ 8,692,000 \\ 9,248,000 \\ 8,935,000 \\ 10,023000 \end{array}$ | Dollars. <br> 28. 74 <br> 29.15 <br> 32. 52 | Dollars. <br> 239, 947, 000 <br> 230, 817, 000 <br> 269, 610,000 <br> 290, 577,000 <br> 339, 701, 000 | 11, 731,000 | Dollars. | Dollars. |
| 1868 |  |  |  | 11,942,000 | 15.06 | 179, 888,000 |
| 1869 |  |  |  | 12, 185, 000 | 18.73 | 228, 183, 000 |
| 1870, June 1 |  |  |  | 14,885,000 | 18.67 | 277, 947,000 |
| 1871 |  |  |  | 16, 212, 000 | 20.78 | 336, 860, 000 |
| 1872 | $\begin{aligned} & 10,304,000 \\ & 10,576,000 \end{aligned}$ | 29.45 | 303, 438, 000 | 16,390, 000 | 18.12 | 296, 932,000 |
| 1873 |  | 26.72 | 282, 559, 000 | 16, 414,000 | 18. 06 | 296, 448, 000 |
| 1874 |  | 25. 74 | $284,326,000$2801,000 | 16, 313,000 | 17. 55 | 284, 706,000 |
| 1875 | 10,907, 000 |  |  |  |  |  |
| 1876. | 11,085, 000 | 25.61 | 283, 879, 000 | 16,785, 000 | 17.00 | 285, 387, 000 |
| 1877. | 11, 261,000 | 25. 47 | 286, 778, 000 | $17,956,000$$19,223,000$ | 15. 99 | 287, 156,000 |
| 1878 |  | 25.74 | 290, 898, 000 |  |  | 321, 346,000 |
| 1879 | $\begin{aligned} & 11,800,0000 \\ & 12,449,000 \end{aligned}$ | 21.71 | $256,721,000$$286,785,000$ | $21,408,000$$29,482,000$ | 15.38 | $329,254,000$$388,990,000$ |
| 1880, |  | 23.05 |  |  | 16. 57 |  |
| 1881 |  |  | 296, 277, 000 | 20, 939, 000 | 17.33 | 362, 862,000 |
| 1882 | $\begin{aligned} & 12,612,000 \\ & 13,126,000 \\ & 13,501,000 \\ & 13,905,000 \\ & 14,235,000 \end{aligned}$ | $\begin{aligned} & 25.89 \\ & 30.21 \\ & 31.37 \\ & 29.70 \\ & 27.40 \end{aligned}$ | $\begin{aligned} & 326,489,000 \\ & 396,575,000 \\ & 423,487,000 \\ & 412,903,000 \\ & 389,986,000 \end{aligned}$ | $\begin{aligned} & 23,280,000 \\ & 28,046,000 \\ & 29,046,000 \\ & 29,867,000 \\ & 31,275,000 \end{aligned}$ | $\begin{aligned} & 19.89 \\ & 21.81 \\ & 23.52 \\ & 23.25 \\ & 21.17 \end{aligned}$ | $\begin{aligned} & 463,070,000 \\ & 611,549,000 \\ & 683,229,000 \\ & 694,383,000 \\ & 661,956,000 \end{aligned}$ |
| 1883 |  |  |  |  |  |  |
| 1884 |  |  |  |  |  |  |
| 1885 |  |  |  |  |  |  |
| 1886 |  |  |  |  |  |  |
| 1887. | $\begin{aligned} & 14,522,000 \\ & 14,856,000 \\ & 15,299,000 \\ & 16,512,000 \\ & 16,020,000 \end{aligned}$ | $\begin{aligned} & 26.08 \\ & 24.65 \\ & 23.94 \\ & 22.01 \\ & 21.62 \end{aligned}$ | 378, 790, 000 <br> 366, 252, 000 <br> 366, 228, 000 <br> $363,352,000$ $346,398,000$ | $\begin{aligned} & 33,512,000 \\ & 34,378,000 \\ & 35,032,000 \\ & \$ 4,85,0,000 \\ & 36,876,000 \end{aligned}$ | $\begin{aligned} & 19.79 \\ & 17.79 \\ & 17.05 \\ & 15.63 \\ & 14.76 \end{aligned}$ | $\begin{aligned} & 663,138,000 \\ & 611,751,000 \\ & 597,237,000 \\ & 544,601,000 \\ & 544,128,000 \end{aligned}$ |
| 1888. |  |  |  |  |  |  |
| 1889 |  |  |  |  |  |  |
| 1890, J |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 1892. | $\begin{aligned} & 16,416,000 \\ & 16,424,000 \\ & 16,487,000 \\ & 16,505,000 \\ & 16,138,000 \end{aligned}$ | $\begin{aligned} & 21.40 \\ & 21.75 \\ & 21.77 \\ & 21.97 \\ & 22.55 \end{aligned}$ | 351, 378, 000 <br> 357, 300, 000 <br> 358, 999, 000 <br> 362, 602, 000 <br> 363, 956, 000 | $\begin{aligned} & 37,051,000 \\ & 35,054,000 \\ & 36,688,000 \\ & 34,364,000 \\ & 32,085,000 \end{aligned}$ | 15. 16 <br> 15. 24 <br> 14. 66 <br> 14. 06 <br> 15. 86 | $570,749,000$$547,882,000$$536,790,000$$482,999,000$$508,928,000$ |
| 1893 |  |  |  |  |  |  |
| 1894 |  |  |  |  |  |  |
| 1895 |  |  |  |  |  |  |
| 1896 |  |  |  |  |  |  |
| 1897. | $\begin{aligned} & 15,942,000 \\ & 15,841,000 \\ & 15,990,000 \\ & 17,156,000 \\ & 16,834,000 \end{aligned}$ | $\begin{aligned} & 23.16 \\ & 27.45 \\ & 29.66 \\ & 31.23 \\ & 30.00 \end{aligned}$ | $\begin{aligned} & 369,240,000 \\ & 434,81,000 \\ & 474,234,000 \\ & 535,091,000 \\ & .505,093,000 \end{aligned}$ | $\begin{aligned} & 20,508,000 \\ & 29,264,000 \\ & 27,994,000 \\ & 50,584,000 \\ & 45,500,000 \end{aligned}$ | $\begin{aligned} & 16.65 \\ & 20.92 \\ & 22.79 \\ & 24.73 \\ & 19.93 \end{aligned}$ | $\begin{array}{r} 507,929,000 \\ 612,297,000 \\ 637,931,000 \\ 1,251,080,000 \\ 906,644,000 \end{array}$ |
| 1898 |  |  |  |  |  |  |
| 1899. |  |  |  |  |  |  |
| 1900, June 1 |  |  |  |  |  |  |
| 1901. |  |  |  |  |  |  |
| 1902. | $\begin{aligned} & 16,697,000 \\ & 17,105,000 \\ & 17,420,000 \\ & 17,572,000 \\ & 19,794,000 \end{aligned}$ | $\begin{aligned} & 29.23 \\ & 30.21 \\ & 29.21 \\ & 27.44 \\ & 29.44 \end{aligned}$ | $\begin{aligned} & 488,130,000 \\ & 516,712,000 \\ & 508,841,000 \\ & 482,272,000 \\ & 582,789,000 \end{aligned}$ | $\begin{aligned} & 44,728,000 \\ & 44,659,000 \\ & 43,629,000 \\ & 43,669,000 \\ & 47,068,000 \end{aligned}$ | 18.7618.4516.3215.1515.85 | $\begin{aligned} & 839,126,000 \\ & 824,055, \text {, 000 } \\ & 712,178,000 \\ & 661,571,000 \\ & 746,172,000 \end{aligned}$ |
| 1903 |  |  |  |  |  |  |
| 1904 |  |  |  |  |  |  |
| 1905 |  |  |  |  |  |  |
| 1906 |  |  |  |  |  |  |
| 1907. | $\begin{aligned} & 20,968,000 \\ & 21,194,000 \end{aligned}$ | $\begin{aligned} & 31.00 \\ & 30.67 \end{aligned}$ | $\begin{aligned} & 645,497,000 \\ & \mathbf{6 5 0}, 057,000 \end{aligned}$ | $\begin{aligned} & 51,566,000 \\ & 50,073,000 \end{aligned}$ | 17.10 <br> 16.89 | $\begin{aligned} & 881,557,000 \\ & 845,938,000 \end{aligned}$ |
| 100 |  |  |  |  |  |  |
| 1909. | $\begin{aligned} & 21,720,000 \\ & 20,625,000 \\ & 20,823,000 \\ & 20,699,000 \\ & 20,497,000 \end{aligned}$ | $\begin{aligned} & 32.36 \\ & 35.29 \\ & 39.97 \\ & 39.99 \\ & \mathbf{4 5 . 0 2} \end{aligned}$ | $\begin{aligned} & 702,945,000 \\ & 727,802,000 \\ & 832,209,000 \\ & 815,414,000 \\ & 922,783,000 \end{aligned}$ | $\begin{aligned} & 49,379,000 \\ & 41,178,000 \\ & 39,679,000 \\ & 37,260,000 \\ & 36,030,000 \end{aligned}$ | $\begin{aligned} & 17.49 \\ & 19.07 \\ & 20.54 \\ & 21.20 \\ & 28.36 \end{aligned}$ | $\begin{aligned} & 863,754,000 \\ & 785,261,000 \\ & 815,184,000 \\ & 790,064,000 \\ & 949,645,000 \end{aligned}$ |
| 1910, Apr. 15 |  |  |  |  |  |  |
| 1911. |  |  |  |  |  |  |
| 1912 |  |  |  |  |  |  |
| 1913 |  |  |  |  |  |  |
| Av. 1909-1913. | 20, 873, 000 | 38.34 | 800, 231, 000 | 40, 705, 000 | 20.66 | 840, 782,000 |
| 1914 | $20,737,000$$21,262,000$$22,108,000$$22,894,000$$23,310,000$$23,475,000$$23,722,000$ | $\begin{aligned} & 53.94 \\ & 55.94 \\ & 53.92 \\ & 59.93 \\ & 70.54 \\ & 78.20 \\ & 85.86 \end{aligned}$ | $\begin{aligned} & 1,118,487,000 \\ & 1,176,338,000 \\ & 1,191,955,000 \\ & 1,365,251,000 \\ & 11,644,221,000 \\ & 1,835,770,000 \\ & 2,036,750,000 \end{aligned}$ | $\begin{aligned} & 35,855,000 \\ & .37,067,000 \\ & 39,812,000 \\ & 41,689,000 \\ & 44,112,000 \\ & 45,085,000 \\ & 43,398,000 \end{aligned}$ | $\begin{aligned} & 31.13 \\ & 33.38 \\ & 33.53 \\ & 35.88 \\ & 40.88 \\ & 44.22 \\ & 43.21 \end{aligned}$ | $\begin{aligned} & 1,116,333,000 \\ & 1,237,376,000 \\ & 1,334,928,000 \\ & 1,497,421,000 \\ & 1,803,482,100 \\ & 1,993,442,000 \\ & 1,875,043,000 \end{aligned}$ |
| 1915 |  |  |  |  |  |  |
| 1916 |  |  |  |  |  |  |
| 1917 |  |  |  |  |  |  |
| 1918. |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |
| 1920. |  |  |  |  |  |  |
| Av. 1914-1920.. | 22, 501, 000 | 65.83 | 1, 481, 255, 000 | 41,003, 000 | 37.83 | 1,551, 175, 000 |
| 1921. | $\begin{aligned} & 23,594,000 \\ & 24,082,000 \\ & 24,437,000 \\ & 24,675,000 \end{aligned}$ | $\begin{aligned} & 64.22 \\ & 50.98 \\ & 50.83 \\ & 52.16 \end{aligned}$ | $\begin{aligned} & 1,515,249,000 \\ & 1,227,703,000 \\ & 1,242,113,000 \\ & 1,287,044,000 \end{aligned}$ | $\begin{aligned} & 41,993,000 \\ & 41,977,000 \\ & 42,803,000 \\ & 42,126,000 \end{aligned}$ | $\begin{aligned} & \begin{array}{l} 31.36 \\ 23.79 \\ 25.57 \\ 24.99 \end{array} \end{aligned}$ | $\begin{aligned} & 1,316,727,000 \\ & 998,772,000 \\ & 1,094,469,000 \\ & 1,052,599,000 \end{aligned}$ |
| 1922 |  |  |  |  |  |  |
| 1923 |  |  |  |  |  |  |
| 19241 |  |  |  |  |  |  |

[^233]${ }^{1}$ Preliminary.

Table 406.-Cattle: Number and value on farms January 1, 1923 and 1924, by States.


Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

Table 407.-Cattle on farms: Cumulative percentage changes, 1920-1923. ${ }^{1}$

| Item. | $\begin{gathered} \text { To } \\ \text { Feb. } \\ \text { 1. } \end{gathered}$ | $\begin{gathered} \text { To } \\ \text { Mar. } \\ 1 . \end{gathered}$ | $\begin{gathered} \text { To } \\ \text { Apr. } \\ 1 \end{gathered}$ | $\begin{aligned} & \text { To } \\ & \text { May } \\ & 1 . \end{aligned}$ | $\begin{gathered} \text { To } \\ \text { June } \\ 1 . \end{gathered}$ | $\begin{aligned} & \text { To } \\ & \text { July } \\ & \text { 1. } \end{aligned}$ | To <br> 1. | $\begin{array}{c\|c} \text { To } \\ \text { Sept. } \\ 1 . \end{array}$ | $\begin{aligned} & \text { To } \\ & \text { Oct. } \\ & 1 . \end{aligned}$ | $\begin{gathered} \text { To } \\ \text { Nov. } \end{gathered}$ $1$ | To Dec. 1. | To Jan. 1 of suc-ceeding year. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Incre | $P$ | $P$ | Per | Per | 7 | Per | Per | Per | Per | Per | Per | $P$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 2.9 | 6.4 | 12.0 | 18.7 | 25.5 | 30.1 | 32.8 | 35.0 | 37.4 | 39.9 | 42.2 | 44.6 |
| 1921 | 2.8 | 6.2 | 11.4 | 17.7 | 23.3 | 27.0 | 29.3 | 31.2 | 33.6 | 36. 1 | 38.8 | 41.8 |
| 1822 | 3.0 | 7.0 | 12.5 | 18.6 | 23.6 | 26.9 | 29.5 | 31.7 | 34.1 | 36.7 | 39.0 | 41.9 |
| 1923 | 3.1 | 6.7 | 12.3 | 18.7 | 23.8 | 27.4 | 30.2 | 32.4 | 35.0 | 37.7 | 40.3 |  |
| Brought on farms ${ }^{2}$ | 2.6 | 4.9 | 7.3 | 9.4 | 11.2 | 12.9 | 14.4 | 16.7 | 20.6 | 26.4 | 29.5 | 31.4 |
| 1921 | 1.7 | 3. 6 | 5. 9 | 8.0 | 10.0 | 11.3 | 12.4 | 14.4 | 17.4 | 22.4 | 27.8 | 30.8 |
| 1922 | 1.9 | 4.1 | 6.1 | 9.4 | 11.6 | 13.5 | 15.2 | 17.3 | 21.0 | 27.2 | 29.8 | 32.8 |
| 1923 | 2.0 | 4.4 | 6.4 | 8.4 | 10.9 | 12.7 | 14.1 | 16.1 | 17.9 | 21.9 | 26.2 |  |
| Total increase |  | 11.3 | 19.3 | 28.1 | 36.7 | 43.0 | 47.2 | 51.7 | 58.0 | 66.3 | 71.7 | 76.0 |
| 1922 | 4. 5 | 1.3 9.8 | 17.3 | 25.7 | 33. 3 | 38.3 | 41.7 | 45.6 | 51.0 | 58.5 | 66.6 | 72.6 |
| 1922 | 4.9 | 11.1 | 18.6 | 28.0 | 35. 2 | 40.4 | 44.7 | 49.0 | 55.1 | 63.9 | 68.8 | 74.7 |
| 1923 | 5.1 | 11.1 | 18.7 | 27.1 | 34.7 | 40.1 | 44.3 | 48.5 | 52.9 | 59.6 | 66.5 |  |
| Decreases: <br> Moved off- |  |  |  |  |  |  |  |  |  |  |  |  |
| $1920 .$ | 4.6 | 9.3 | 14.9 | 20.4 | 25.5 | 30.9 | 35.0 | 40.4 | 47.8 | 55.1 | 61.0 | 65.8 |
| 1921 | 3.5 | 7.3 | 12.4 | 17.0 | 21.8 | 26.3 | 30.2 | 35.0 | 40.2, | 47.5 | 55.0 | 59.4 |
| 1922 | 3.6 | 7.3 | 12.3 | 17.4 | 22.7 | 27.5 | 31.9 | 37.2 | 43.5 | 51.8 | 58.3 | 63.1 |
| 1923 | 4.0 | 8.0 | 12.6 | 17.8 | 22.7 | 27.2 | 31.5 | 36.3 | 40.0 | 47.2 | 54.4 |  |
| Slaughtered on farms- |  |  |  |  |  | 2.6 | 2.9 | 3.3 | 3.9 | 4.5 | ${ }^{\text {- }} 5.3$ | 6.3 |
| 1920 | 0.6 0.6 | 1.0 | 1.4 | 1.8 | 2.2 | 2.5 | 2.9 | 3. 2 | 3. 6 | 4.1 | 4. 9 | 5.0 |
| 1922 | 0.7 | 1.2 | 1.7 | 1.9 | 22 | 2.5 | 2.8 | 3.2 | 3.6 | 4.2 | 4.7 | 5.6 |
| 1923 | 0.8 | 1.3 | 1.8 | 2.1 | 2.5 | 2.8 | 3.1 | 3.5 | 3.9 | 4.6 | 5.0 |  |
| Died- |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 0.7 | 1.5 | 2.6 | 3.8 | 4.6 2.6 | 5.0 3.0 | 5.2 3.3 | 5. 3.7 | 6. 0 | 6.4 4.3 | 6. 8 | 5.2 |
| 1921 | 0.5 | 1.1 | 1.6 1.9 |  |  |  | 5. 4.0 | 4. 4 | 4.8 | 5.1 | 5. 5 | 5.8 |
| 1922 | 0.5 0.5 |  | 1.9 | 2.7 3.2 | 3.2 3.6 | 3.6 4.0 | 4.4 | 4.8 . | 5.2 | 5. 6 | 6.2 |  |
| Total decreases1920 | 0.5 | 1.3 |  | 3.2 |  |  |  |  |  |  |  |  |
|  | 5.9 | 11.8 | 18.9 | 26.0 | 32.2 | 38.5 | 43.1 | 49.4 | 57.7 | 66.0 | 73.1 | 79.3 |
| 1921 | 4.6 | 9.6 | 15. 6 | 21.1 | 26.6 | 31.8 | 36. 4 | 41.8 | 47. 7 | 55.9 | 64.6 | 70.5 |
| 1922 | 4.8 | 9.6 | 15.9 | 22.0 | 28.1 | 33. 6 | 38.7 | 44.8 | 51.9 | 61.1 | 68.5 | 74.6 |
| 1923 | 5.3 | 10.6 | 16.8 | 23.1 | 28.8 | 34.0 | 39.0 | 44.6 | 49.1 | 57.4 | 65.6 | ----- |
| Net change: | -0.4 | -0.5 | +0.4 | +2.1 | +4. 5 | +4.5 | +4.1 | +2.3 | +0.3 | +0.3 | -1.4 | -3.3+2.1 |
| 1920 | -0.1 | +0.2 | +1.7 | +4.6 | +6.7 | +6.5 | +5.3 | +3.8 | +3.3 | +2. 6 | +2.0 |  |
|  | +0.1 | +1.5 | +2.7 | +6.0 | +7.1 | +6.8 | +6.0+5.3 | +4.2 | +3.2 | $+2.8$ | +0.3 | +0.1 |
| 1923 | $-0.2$ | +0.5 | +1.9 |  | +5.9 | +6.1 |  | +3.8 | +3.8 | +2. 2 | +0.9 |  |
| On hand compared with Jan. 1: |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 99.6 | 99.5 | 100.4 | 102.1 | 104.5 | 104.5 | 104.1 | 102.3 | 100.3 | 100.3 | 98.6 | 96.7 |
| 1921 | 99.9 | 100.2 | 101.7 | 104. 6 | 106. 7 | 106.5 | 105. 3 | 103.8 | 103. 3 | 102.6 | 102.0 | 102.1 |
| 1922 | 100.1 | 101. 5 | 102.7 | 106. 0 | 107.1 | 106.8 | 106. 0 | 104.2 | 103.2 | 102.8 | 100.3 | 100. 1 |
| 1923 | 99.8 | 100.5 | 101.9 | 104.0 | 105.9 | 106. 1 | 105.3 | 103.9 | 103.8 | 102.2 | 100.9 |  |

Division of Crop and Livestock Estimates. Based on reports of about 7,500 farmers reporting monthly for their own farms.
${ }^{1}$ Number on hand, Jan. 1, each year $=100$ per cent
${ }^{2}$ Corrective factor 0.96 applied to births and brought on farms figures.
Table 408.-Cattle: Yearly losses per 1,000 from disease and exposure, 1890-1924:

| $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { Apr. } 30 . \end{gathered}$ | Loss per 1,000. |  | Year ending Apr. 30. | Loss per 1,000. |  | Year ending Apr. 30. | Loss per 1,000. |  | Year ending Apr. 30. | Loss per 1,000. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | From disease. | From exposure. |  | From disease. | From exposure. |  | From disease. | From exposure. |  | From disease. | From exposure. |
| 1889-90 |  |  |  | 20.3 | 22.1 | 1907-08 | 18.9 | 12.0 | 1916-17 | 19.4 | 14.6 |
| 1890-91 | 14.3 | 15.3 | 1899-1900 | 19.9 | 13.7 | 1908-09 | 19.2 | 14.8 | 1917-18 | 18.2 | 13.3 |
| 1891-92 | 12.8 | 13.0 | 1900-01 | 22.3 | 11.5 | 1909-10 | 21.0 | 17.6 | 1918-19 | 17.4 | 15.9 |
| 1892-93 | 16.6 | 17.3 | 1901-02 | 21.3 | 18. 2 | 1910-11 | 19.7 | 13.3 | 1919-20 | 19.5 | 18.5 |
| 1893-94 | 19.0 | 12.5 | 1902-03 | 23.9 | 23.7 | 1911-12 | 21.6 | 21.5 | 1920-21 | 19.0 | 9.2 |
| 1894-95 | 21.4 | 20.7 | 1803-04 | 23.6 | 20.2 | 1912-13 | 20.5 | 14.1 | 1921-22 | 17.8 | 13. 1 |
| 1895-96 | 19.3 | 11.3 | 1904-05 | 20.6 | 23.3 | 1913-14 | 19.8 | 10.9 | 1922-23 | 16.7 | 13.1 |
| 1896-97 | 19.4 | 16.0 | 1905-06 | 20.1 | 14.9 | 1914-15 |  |  |  |  |  |
| 1897-98 | 19.7 | 13.0 | 1906-07 | 19.9 | 13.7 | 1915-16 | 19.5 |  |  |  |  |

Division of Crop and Livestock Estimates. As reported by crop reporters on May 1 for year ending April 30.

Table 409.-Cattle and calves: Receipts and shipments at principal markets and at all markets, 1900-1923.

RECEIPTS.

| Calendar year. | Chicago. | Denver. | $\left\|\begin{array}{r} \text { East } \\ \text { St. } \\ \text { Louis. } \end{array}\right\|$ | Fort Worth | Kansas City. | $\begin{aligned} & \text { Oma- } \\ & \text { ha. } \end{aligned}$ | $\begin{aligned} & \text { St. } \\ & \text { Jos- } \\ & \text { eph. } \end{aligned}$ | ${ }_{\text {St. }}^{\text {St }}$ | Sioux City. | Total. | All other markets reporting. | Total all marporting. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thor- | Thou- | Thou- | Thou- | Thou- |
|  | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. |
| 1900 | 2,865 | 240 | 698 | ${ }^{(1)}$ | 2, 083 | 828 | 390 | 221 | 300 | 7, 625 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| 1901 | 3, 213 | 227 | 892 | (1) | 2, 127 | 818 | 439 | 190 | 309 | 8, 215 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| 1902 | 3, 193 | 324 | 1,113 | 132 | 2, 279 | 1,011 | 517 | 306 | 405 | 9, 280 | $\left.{ }^{2}\right)$ | ${ }^{(2)}$ |
| 1903 | 3, 704 | 286. | 1,140 | 447 | 2,137 | 1,071 | 625 | 303 | 379 | 10, 092 | (2) | ${ }^{(2)}$ |
| 1904 | 3,527 | 265 | 1,074 | 643 | 2, 163 | 944 | 587 | 389 | 331 | 9,923 | ${ }^{(2)}$ | ( ${ }^{\text {( })}$ |
| 1905 | 3,791 | 294 | 1,124 | 812 | 2, 423 | 1,026 | 547 | 489 | 403 | 10,909 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| 1906 | 3,742 | 329 | 1, 121 | 838 | 2, 556 | 1,079 | 606 | 487 | 385 | 11, 143 | $\left.{ }^{2}\right)$ | $\left.{ }^{2}\right)$ |
| 1907 | 3,727 | 307 | 1, 133 | 1,022 | 2, 670 | 1,159 | 616 | 520 | 410 | 11, 564 | ${ }^{(2)}$ | ${ }^{2}$ |
| 1908 | 3,461 | 420 | 1,145 | 1,069 | 2,458 | 1,037 | 584 | 463 | 385 | 11, 022 | (2) | (2) |
| 1909 | 3, 340 | 426 | 1,241 | 1,197 | 2,660 | 1,125 | 592 | 497 | 426 | 11, 504 | (2) | ${ }^{2}$ |
| 1910 | 3, 553 | 399 | 1,208 | 1,071 | 2,507 | 1,224 | 665 | 604 | 439 | 11, 670 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| 1911 | 3,453 | 298 | 1, 072 | 884 | 2, 370 | 1,174 | 513 | 539 | 487 | 10, 790 | (2) | (2) |
| 1912 | 3, 158 | 416 | 1,200 | 1,039 | 2,147 | 1,017 | 494 | 524 | 431 | 10, 426 | (2) | ${ }^{2}$ |
| 1913 | 2, 888 | 499 | 1, 100 | 1,185 | 2,319 | 962 | 450 | 532 | 394 | 10, 329 | (2) | ${ }^{(2)}$ |
| 1914 | 2, 601 | 443 | 1,041 | 1,176 | 1,957 | 939 | 356 | 585 | 368 | 9,466 | ${ }^{(2)}$ | (2) |
| 1915-..-.-.-- | 2,685 | 424 | 992 | 944 | 1,963 | 1,218 | 441 | 856 | 534 | 10,057 | 4,496 | 14, 553 |
| 1916 | 3, 250 | 601 | 1,200 | 1,081 | 2,331 | 1,434 | 480 | 941 | 602 | 11,920 | 5,756 | 17, 676 |
| 1917 | 3, 820 | 653 | 1, 405 | 1,960 | 2,902 | 1,720 | 670 | 1,197 | 707 | 15, 034 | 8, 032 | 23, 066 |
| 1918 | 4,448 | 728 | 1, 509 | 1,665 | 3,320 | 1,993 | 870 | 1, 430 | 818 | 16, 781 | 8, 514 | 25, 295 |
| 1919 | 4,253 | 824 | 1,473 | 1,267 | 3,085 | 1,975 | 750 | 1,491 | 814 | 15, 932 | 8,691 | 24, 623 |
| 1920 | 3, 849 | 617 | 1,254 | 1,134 | 2, 500 | 1,603 | 643 | 1,373 | 752 | 13, 725 | 8,472 | 22, 197 |
| 1921 | 3, 540 | 482 | 1, 077 | 984 | 2,469 | 1,435 | 558 | 985 | 620 | 12,150 | 7,637 | 19,787 |
| 1922 | 3, 934 | 656 | 1,400 | 1,084 | 2,983 | 1,744 | 655 | 1,387 | 747 | 14, 590 | 8, 627 | 23, 217 |
| 1923 | 3,918 | 620 | 1,399 | 1,258 | 3, 208 | 1,793 | 709 | 1,349 | 759 | 15, 013 | 8,198 | 23, 211 |

SHIPMENTS.

| 1900 | 949 | (2) | 166 | ${ }^{(2)}$ | ${ }^{(2)}$ | 274 | 92 | 154 | 187 | 1,822 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1901 | 1,051 | (2) | 224 | (2) | (2) | 239 | 82 | 126 | 189 | 1,911 | (2) | (2) |
| 1902 | 937 | (2) | 316 | (2) | (2) | 365 | 112 | 230 | 283 | 2, 243 | (2) | (2) |
| 1903 | 1,296 | (2) | 318 | (2) | (2) | 301 | 174 | 212 | 279 | 2,580 | (2) | (2) |
| 1904 | 1,350 | (2) | 308 | (2) | (2) | 261 | 140 | 275 | 230 | 2,564 | (2) | (2) |
| 1905 | 1,437 | ${ }^{(2)}$ | 359 | ${ }^{(2)}$ | (2) | 315 | 133 | 352 | 237 | 2, 833 | ${ }^{(2)}$ | (2) |
| 1906 | 1,376 | (2) | 365 | (2) | (3) | 303 | 143 | 353 | 210 | 2, 750 | (2) | (2) |
| 1907 | 1,477 | (2) | 371 | (2) | (2) | 362 330 | 150 | 379 302 | 227 | 2, 9666 | (2) | (2) |
| 1908 | 1,387 | (2) | 347 374 | (2) | (2) | 330 374 | 178 185 | 302 322 | $\stackrel{213}{232}$ | 2,757 2,784 | (2) | (2) |
| 1909. | 1,297 | (2) | 374 | ${ }^{(2)}$ | ${ }^{(2)}$ | 374 | 185 | 322 | 232 | 2, 784 | ${ }^{(2)}$ | (2) |
| 1910 | 1,347 | (2) | 370 | (2) | (2) | 425 | 161 | 369 | 213 | 2,885 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| 1911 | 1,245 | (2) | 309 | (2) | (2) | 446 | 157 | 318 | 249 | 2, 724 | (2) | (2) |
| 1912 | 994 | (2) | 315 | (2) | (2) | 418 | 158 | 293 | 240 | 2,418 | (2) | (2) |
| 1913 | 1,001 | (2) | 344 | (2) | (2) | 432 | 157 | 322 328 | 228 | 2, 484 | (2) | (2) |
| 1914 | 824 | ${ }^{(2)}$ | . 306 | (2) | ${ }^{(2)}$ | 394 | 124 | 328 | 197 | 2, 173 | (2) | ${ }^{(2)}$ |
| 1915 | 392 | 359 | 269 | 506 | 1,032 | 536 | 175 | 523 | 289 | 4, 081 | 1,771 | 5,852 |
| 1916 | 726 | 512 | 313 | 511 | 1,028 | 591 | 149 | 556 | 369 | 4,755 | 2, 198 | 6,953 |
| 1917. | 867 | 521 | 317 | 838 | 1,202 | 723 | 211 | 723 | 410 | 5, 812 | 3, 661 | 9,473 |
| 1918 | 1,025 | 544 | 370 | 562 | 1,422 | 855 | 299 | 896 | 432 | 6,405 | 3,906 | 10,311 |
| 1919 | 1,221 | 642 | 454 | 475 | 1,467 | 840 | 220 | 935 | 459 | 6, 713 | 4,044 | 10,757 |
| 1920 | 1,247 | 471 | 510 | 544 | 1,209 | 689 | 234 | 634 | 410 | 5,948 | 3,883 | 9, 831 |
| 1921. | 1,163 | 360 | 611 | 412 | 1,244 | 635 | 188 | 391 | 346 | 5,350 | 3,250 | 8, 600 |
| 1922 | 1, 137 | 532 | 871 | 467 | 1,534 | 829 | 251 | 609 | 447 | 6, 677 | 3,988 | 10,665 |
| 1923 | 1,105 | 490 | 855 | 463 | 1,599 | 794 | 265 | 496 | 417 | 6,484 | 3, 576 | 10,060 |

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis ( 1900 to 1906 from the Fourteenth Annual Report of Bureau of Animal Industry; 1907 to 1914, from Merchants Exchange Annual Report); subsequent figures from data of the reporting service of the Livestock, Meats, and Wool Division.
${ }_{1}^{1}$ Not in operation.
${ }^{2}$ Figures not available prior to 1915.

Table 410.-Cattle and calves: Receipts at all public stockyards, 1915-1929.

| Galendaryear. | Jan. | Feb. | Mar. | Apr. | May: | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- |
| 1915 | sand | sands | san | sands. | san | san | san |  | san | sands. | sands. | sands. | sands. |
| 19161 | 1,202 | 1.055 | 1, 1 | 1.98 | ${ }_{1}^{1}, 385$ | 1, 319 | 1, 154 | 1, 584 | 1, 779 | ${ }_{2} 1,409$ | 1, 977 | 1, 460 | 17, 676 |
| 1917 | 1, 696 | 1, 302 | 1, 330 | 1,539 | 1,961 | 1,759 | 1, 729 | 1, 814 | 2, 357 | 3, 054 | 2, 626 | 1, 899 | 23,066 |
| 1918 | 1,727 | 1,498 | 1,713 | 2, 046 | 1, 863 | 1, 815 | 2, 128 | 2, 024 | 2,826 | 2, 865 | 2, 648 | 2, 142 | 25, 295 |
| 1919 | 2,119 | 1, 453 | 1,517 | 1, 767 | 1, 836 | 1, 588 | 2, 016 | 2, 039 | 2, 396 | 3,008 | 2, 702 | 2,182 | 24, 623 |
| 1920 | 1, 881 | 1,480 | 1,663 | 1,557 | 1,778 | 1,879 | 1,671 | 1,962 | 2, 294 | 2, 209 | 2,428 | 1,395 | 22, 197 |
| 1921 | 1, 644 | 1,190 | 1, 566 | 1, 494 | 1,542 | 1,580 | 1,343 | 1,867 | 1,906 | 2,310 | 1,928 | 1, 417 | 19,787 |
| 1922 | 1, 628 | 1,417 | 1,622 | 1,470 | 1,878 | 1,759 | 1,709 | 2,149 | 2, 397 | 2,936 | 2,427 | 1,825 | 23, 217 |
| 1923 | 1,877 | 1,427 | 1, 502 | 1,670 | 1,900 | 1, 629 | 1,903 | 2, 214 | 2, 295 | 2, 802 | 2, 182 | 1,810 | 23, 211 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
${ }^{1}$ Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many of the markets.

Table 411.-Cattle and calves: Receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1900-1923.

| Calendar year. | Jan. | Feb . | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands. | $\begin{aligned} & \text { Thou- } \\ & \text { sands. } \end{aligned}$ | Thousands. | Thousands. | Thousands. | Thousands. | Thou sands. | Thousands. | Thousands. | Thou sands. | Thousands. |
| 1900 | 496 | 420 | 460 | 445 | 532 | 436 | 491 | 646 | 688 | 786 | 615 | 461 |
| 1901 | 531 | 451 | 433 | 510 | 511 | 489 | 722 | 695 | 764 | 836 | 581 | 525 |
| 1902 | 588 | 471 | 477 | 472 | 408 | 495 | 628 | 737 | 994 | 941 | 721 | 686 |
| 1903 | 607 | 520 | 554 | 592 | 522 | 540 | 656 | 755 | 962 | 963 | 761 | 618 |
| 1904 | 631 | 588 | 594 | 545 | 524 | 619 | 352 | 668 | 827 | 970 | 826 | 585 |
| 1905 | 619 | 496 | 565 | 548 | 619 | 597 | 613 | 815 | 904 | 1,068 | 824 | 695 |
| 1906 | 715 | 576 | 555 | 574 | 660 | 591 | 687 | 733 | 833 | 1, 057 | 827 | 691 |
| 1907 | 786 | 585 | 571 | 701 | 605 | 631 | 748 | 788 | 1, 015 | 1, 031 | 634 | 598 |
| 1908. | 695 | 555 | 592 | 496 | 496 | 571 | 605 | 796 | 950 | 913 | 775 | 657 |
| 1909 | 628 | 491 | 593 | 489 | 558 | 558 | 610 | 810 | 879 | 982 | 914 | 753 |
| 1910 | 641 | 515 | 590 | 498 | 553 | 630 | 662 | 915 | 995 | 1,040 | 834. | 617 |
| 1911 | 700 | 516 | 555 | 498 | 612 | 620 | 680 | 764 | 768 | 1,044 | 757 | 555 |
| 1912 | 660 | 486 | 502 | 515 | 484 | 462 | 516 | 667 | 868 | 1, 010 | 674 | 676 |
| 1913 | 606 | 486 | 481 | 523 | 452 | 525 | 568 | 688 | 923 | 824 | 606 | 588 |
| Av. 1909-1913. | 647 | 499 | 544 | 505 | 532 | 559 | 607 | 769 | 886 | 980 | 757 | 638 |
| 1914 | 526 | 446 | 482 | 446 | 405 | 473 | 457 | 566 | 785 | 813 | 558 | 581 |
| 1915 | 518 | 377 | 523 | 485 | 461 | 474 | 462 | 811 | 730 | 834 | 798 | 605 |
| 1916 | 606 | 534 | 558 | 452 | 558 | 530 | 535 | 807 | 861 | 1,146 | 915 | 716 |
| 1917 | 807 | 567 | 533 | 600 | 708 | 701 | 773 | 808 | 1,029 | 1,309 | 1,148 | 864 |
| 1918 | 763 | 709 | 779 | 881 | 688 | 705 | 967 | 911 | 1,347 | 1,320 | 1,167 | 1,032 |
| 1919 | 998 | 682 | 646 | 706 | 668 | 641 | 881 | 928 | 1,131 | 1,362 | 1,169 | 976 |
| 1920 | 847 | 642 | 698 | 532 | 642 | 696 | 669 | 868 | 1,032 | 932 | 1,029 | 618 |
| Av. 1914-1920 | 724 | 565 | 603 | 583 | 590 | 603 | 678 | 785 | 988 | 1,102 | 969 | 770 |
| 1921 | 744 | 520 | 679 | 608 | 825 | 675 | 542 | 863 | 866 | 1,019 | 795 | 585 |
| 1922 | 717 | 617 | 682 | 577 | 748 | 750 | 719 | 981 | 1,096 | 1,338 | 1,045 | 789 |
| 1923 | 833 | 641 | 652 | 720 | 793 | 692 | 856 | 1,082 | 1,116 | 1,263 | 892 | 780 |

Division of Statistical and Historical Research. Figures prior to 1915 compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division.

Table 412.-Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923.

RECEIPTS.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thou. sands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thou. sands. |
| Albany, N. Y |  | . 42 | 107 | 46 | 39 | 36 | 23 |  | sands. |
| Amarillo, Tex | 116 | 133 | 352 27 | 272 22 | 185 18. | 147 | 113 | 140 | 115 |
| Augusta, Ca |  |  | 14 | 14 | 14. | ${ }_{13}^{21}$ | 29 12 | 30 | 59 |
| Baltimore, Md | 147 | 178 | 228 | 227 | 249 | 287 | 279 | 241 | 223 |
| Bilings, Mont | 2 | 5 | 8 | 8 | 16 | 2 | (1) |  |  |
| Birmingham, A |  | 19 | 18 | 22 | 24 | 24 | 20 | 8 | 2 |
| Boston, Mass | 43 | 90 | 91 | 104 | 98 | 75 | 61 | 77 | 67 |
| Buffalo, N. Y | 362 | 477 | 5.31 | 668 | 749 | 677 | 609 | 637 | 589 |
| Chattanooga, Tenn |  | 24 | 25 | 13 | 12 | 13 | 15 | 19 | 17 |
| Cheyenne, w yo |  |  | 40 | 47 | 47 | 23 | 9 | 9 | 22 |
| Chicago, III | 2, 685 | 3,250 | 3, 820 | 4, 448 | 4, 253 | 3,849 | 3,540 | 3,934 | 3,918 |
| Cincinnati, Ohio | 281 | 352 | 453 | 455 | - 460 | ${ }^{441}$ | , 454 | - 446 | ${ }_{426}$ |
| Cleveland, Ohio | 122 | 181 | 296 | 302 | 305 | 281 | 248 | 281 | 278 |
| Columbia, S. C |  | 6 | 4 | 5 | 6 | 6 | 5 | 7 | 10 |
| Columbus, Ohio | 1 | 2 | 1 | 3 | 3 | 2 | 3 | 4 | 3 |
| Dallas, Tex. |  | 9 |  | 12 | 9 | 8 | 8 | 8 | 7 |
| Dayton, Ohio | 18 | 21 | 26 | 30 | 31 | 33 | 31 | 33 | 34 |
| Deuver, Colo. | 424 | 601 | 653 | 728 | 824 | 617 | 482 | 656 | 620 |
| Detroit, Mich | 122 | 200 | 263 | 252 | 227 | 234 | 201 | 253 | 265 |
| Dublin, Ga. |  |  | 1 | 2 | 2 | 4 | 3 | 3 |  |
| East St. Louis, | 992 | 1,200 | 1,408 | 1, 509 | 1,473 | 1,254 | 1,077 | 1,400 | 1,399 |
| El Paso, Tex | 225 | 130 | 190 | 212 | 203 | ${ }^{1} 152$ | 170 | 149 | 103 |
| Emeryville, Cal |  |  | 38 | 32 | 36 | 38 | 35 | 35 |  |
| Erie, Pa |  |  |  | 57 | 38 | 28 |  |  |  |
| Evansville, Ind |  | 23 | 35 | 45 | 38 | 45 | 35 | 44 | 39 |
| Fort Wayne, Ind |  |  |  |  | 38 |  |  | 44 | 8 |
| Fort Worth, Te | 944 | 1, A81 | 1, 460 | 1,665 | 1,267 | 1,134 | 984 | 1,084 | 1,25s |
| Fostoria, Ohio | 9 | 12 | 12 | +10 | 11 | 1, 14 | 11 | ${ }^{15}$ | +12 |
| Indianapolis, Ind | 352 | 405 | 501 | 504 | 515 | 597 | 483 | 509 | 523 |
| Jacksonville, Fla |  | 3 | 9 | 40 | 16 | 7 | 6 | 5 |  |
| Jersey City, N. J | 491 | 746 | 755 | 850 | 745 | 833 | 844 | 905 | 6.3 |
| Kansas City, Mo | 1,963 | 2, 33! | 2,402 | 3,320 | 3, 085 | 2,500 | 2,469 | 2,983 | 3, 205 |
| Knoxville, Tenn | 14 | 17 | 20 | 19 | 21 | 21 | 18 | 2, 24 | -22 |
| Lafayette, Ind. | 10 | 10 | 14 | 14 | 17 | 19 | 18 | 13 | 13 |
| Lancaster, Pa | $1: 5$ | 144 | 258 | 304 | 239 | 287 | 205 | 234 | 229 |
| Laredo, Tex |  |  |  |  |  |  |  |  | 15 |
| Logansport, Ind <br> Los Angeles, Cali | (1) | (1) | 1 | 1 | 1 | 1 | 1 | $i^{-}$ |  |
| Louisville, Ky.. | 142 | 20 | 221 | 218 | 246 | 245 | 246 | 283 | 185 |
| Marion, Ohio |  |  |  | 2 | 13 | 32 | 7 | 16 | 9 |
| Memphis, Tern |  | 2 | 5 | 4 | 6 | 19 | 8 | 13 | 22 |
| Milwaukee, W | 224 | 244 | 295 | 370 | 398 | 444 | 439 | 504 | 512 |
| Mobile, Ala----- | 17 | 8 | 6 |  |  |  |  |  |  |
| Montgomery, Ala |  |  | 7 | 34 | 52 | 68 | 50 | 59 | 75 |
| Moultrie, Ga |  |  |  |  |  |  |  |  | 5 |
| Nashrille, Tenn. |  | 39 | 118 |  |  |  | 96 | 109 | 96 |
| Nebraska City, Nebr |  |  |  | 2 | 2 | 2 | 1 | 1 |  |
| New Brighton, Minn | 30 | 38 | \% 0 | 81 | 121 | 73 | 36 | 98 | 41 |
| New Orleans, La |  | 154 | 166 | 174 | 191 | 213 | 188 | 193 | 207 |
| New York, N. Y | 352 | 322 | 276 | 385 | 402 | 316 | 301 | 258 | 216 |
| No. Salt Iake, Utah |  | 12 | 42 | 54 | 67 | 49 | 57 | 88 | 74 |
| Ogden, ťtah.-. |  |  | 64 | 117 | 104 | 64 | 76 | 91 | 122 |
| Oklaboma, Okla. | 227 | 325 | 620 | 690 | 593 | 400 | 315 | 382 | 414 |
| Omaha, Nebr | 1,218 | 1,434 | 1,720 |  |  | 1,603 | 1,435 | 1,744 | 1,793 |
| Orangeburg, S. C |  |  |  |  | (1) |  |  |  | 1,93 |
| Pasco, Wash |  |  |  | 3 | 6 | 8 | 3 | 6 | 2 |
| Peoria, Ill. | 13 | 20 | 25 | 32 | 27 | 36 | 43 | 40 | 38 |
| Philadelphia, Pa | 136 | 180 | 192 | 194 | 201 | 226 | 227 | 264 | 179 |
| Pittsburgh, Pa . | 338 | 169 | 560 | 523 | 616 | 723 | 745 | 867 | 821 |
| Portland, Oreg | 75 | 83 | 105 | 120 | 125 | 141 | 120 | 140 | 168 |
| Pueblo, Colo | 130 | 130 | 186 | 205 | 217 | 178 | 79 | 199 | 151 |
| Richmond, Va | 23 | 29 | 26 | 22 | 29 | 30 | 28 | 32 | 32 |

1 Less than 500.

Table 412.-Cattle and caloes: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1929-Continued.

RECEIPTS-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands | Thousands | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. |
| St. Joseph, Mo | 441 | 480 | 670 | 870 | 750 | 643 | 558 | 655 | 709 |
| St. Louis, Mo. | 32 | 43 | 35 | 26 |  |  |  |  |  |
| St. Paul, Minn | 856 | 941 | 1,197 | 1,430 | 1, 491 | 1, 373 | 985 | 1, 387 | 1,349 |
| San Antonio, Tex | 139 | 208 | 193 | 176 | 250 | 233 | 151 | 198 | 163 |
| Seattle, Wash |  | 25 | 39 | 56 | 66 | 58 | 47 | 46 | 55 |
| Sioux City, Iowa | 534 | 602 | 707 | 818 | 814 | 752 | 620 | 747 | 759 |
| Sioux Falls, S. Dak |  |  | 7 | 7 | 8 | 14 | 17 | 33 | 30 |
| Spokane, Wash. | 1 | 17 | 26 | 51 | 74 | 67 | 41 | 49 | 45 |
| Springfield, Ohio |  |  |  |  |  |  |  |  | 7 |
| Tacoma, Wash |  | 16 | 20 | 27 | 29 | 22 | 25 | 28 |  |
| Toledo, Ohio | 34 | 26 | 32 | 44 | 57 | 64 | 25 | 25 | 25 |
| Washington, D. |  | 15 | 16 | 18 | 23 | 27 | 28 | 29 | 32 |
| Wichita, Kans. | 153 | 220 | 371 | 394 | 311 | 242 | 285 | 407 | 417 |
| Total | 14, 553 | 17,676 | 23, 066 | 25, 290 | 24,623 | 22, 197 | 19,787 | 23, 218 | 23, 211 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

LOCAL SLAUGHTER.

| Albany, N. Y |  |  | 8 | 6 | 4 | 3 | 2 | (1) 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlanta, Ca |  |  | 15 | 11 | 11 | 15 | 18 | ${ }^{(19}$ | ${ }^{(1)} 33$ |
| Augusta, Ga |  |  | 10 | 8 | 9 | 8 | 8 | 11 | 9 |
| Baltimore, Md | 92 | 112 | 122 | 126 | 145 | 170 | 150 | 157 | 158 |
| Billings, Mont |  |  | 2 | 1 |  | ${ }^{(1)}$ | (1) |  |  |
| Birmingham, Al |  | 15 | 15 | 21 | 22 | 23 | 19 | 8 | 2 |
| Buffalo, N. Y |  | 197 | 212 | 205 | 202 | 190 | 167 | 192 | 189 |
| Chattanooga, Ten |  |  |  | 9 | 10 | 10 | 11 | 13 | 13 |
| Chicago, Ill | 2, 293 | 2, 524 | 2, 953 | 3,422 | 3, 032 | 2, 603 | 2, 377 | 2, 797 | 2,813 |
| Cincinnati, Ohio | 187 | 233 | 300 | 303 | 305 | 283 | 302 | 252 | 230 |
| Cleveland, Ohio | 111 | 164 | 223 | 223 | 244 | 228 | 228 | 253 | 256 |
| Columbia, S. C. |  | 5 |  | 4 | 6 | 6 | 5 | 8 | 10 |
| Columbus, Ohio | 1 | 1 | 1 | ${ }^{(1)}$ | ${ }^{(1)}$ | 1 | 1 | 2 |  |
| Dallas, Tex. |  | 9 | 8 | 12 | 9 | 8 | 8 | 8 | 7 |
| Dayton, Ohio | 17 | 18 | 23 | 26 | 25 | 26 | 27 | 29 | 30 |
| Denver, Colo | 66 | 89 | 131 | 185 | 174 | 153 | 122 | 124 | 131 |
| Detroit, Mich. |  | 165 | 174 | 192 | 189 | 202 | 168 | 206 | 239 |
| East St. Louis, | 723 | 888 | 1,087 | 1,140 | 1, 019 | 744 | 466 | 530 | 544 |
| El Paso, Tex. |  |  | 10 | 19 | 24 | 21 | 24 | 20 | 26 |
| Emeryville, Calif |  |  | 38 | 32 | 36 | 38 | 35 | 35 |  |
| Erie, Pa---- |  |  |  | 13 | 13 | 9 |  |  |  |
| Evansville, Ind |  | 13 | 15 | 15 | 16 | 24 | 21 | 23 | 22 |
| Fort Wayne, Ind. |  |  |  |  |  |  |  |  | 4 795 |
| Fort Worth, Tex | 362 | 474 | 991 | 954 | 715 | 558 | 576 | 620 | 795 |
| Fostoria, Ohio |  |  | 2 | ${ }^{3}$ | 5 | 7 | 1 | 8 | 1 |
| Indianapolis, Ind | 175 | 208 | 270 | 268 | 245 | 257 | 230 | 238 | 247 |
| Jacksonville, Fla |  |  | 6 | 39 | 16 | 6 | 3 | 3 | 4 |
| Jersey City, N. J | 491 | 746 | 755 | 650 | 745 | 833 | 843 | 903 | 673 |
| Kansas City, Mo | 935 | 1,301 | 1,677 | 1,915 | 1,617 | 1,264 | 1,200 | 1,407 | 1,559 |
| Knoxville, Tenn | 11 | 13 | 10 | 9 | 9 | 11 | 10 | 13 | 12 |
| Lafayette, Ind. |  | 6 | 6 | 5 | 7 | 8 | 9 | 8 | 8 |
| Lancaster, Pa |  |  |  | 28 | 45 | 55 | 37 | 48 | 47 |
| Laredo, Tex- |  |  |  |  |  |  |  |  |  |
| Logansport, Ind | $\left.{ }^{1}\right)$ | ${ }^{1}$ ) | $\left.{ }^{1}\right)$ | ${ }^{1}$ | ${ }^{1}$ | $\left.{ }^{1}\right)$ | $\left.{ }^{1}\right)$ | ${ }^{(1)}$ |  |
| Los Angeles, Calif |  |  |  |  |  |  |  |  | 173 |
| Louisville, Ky | 54 | 70 | 76 |  |  |  | 81 | 89 |  |
| Marion, Ohio |  |  |  | (1) | 1 |  | 1 | 2 | 2 |
| Memphis, Tenn. |  |  |  |  | 1 | ${ }^{(1)}$ | 5 | 8 | 11 |
| Milwaukee, Wis | 179 | 214 | 263 | 321 | 334 | 390 | 402 | 458 | 471 |
| Mobile, Ala_ | 13 | 7 | 5 |  |  |  |  |  |  |
| Montgomery, Ala |  |  |  |  | 3 | 4 | 4 |  |  |
| Moultrie, Ga-. |  |  |  |  |  |  | 1 | 2 | 2 |
| Nashville, Tenn |  | 7 | 27 | 32 |  | 46 | 42 | 47 | 51 |
| Nebraska City, Neb |  |  |  |  | ${ }^{(1)}$ |  |  |  |  |
| Newark, N. J |  |  |  |  |  |  |  |  | 37 |
| New Orleans, La |  | 141 | 155 | 160 | 162 | 174 | 160 | 159 | 168 |
| New York, N. Y | 352 | 322 | 276 | 385 | 400 | 315 | 300 | 257 | 216 |
| North Salt Lake, Ut |  | 1 | 11 | 23 | 19 | 14 | 25 | 14 | 16 |
| Ogden, Utah.... |  |  | 12 | 12 | 11 | 16 | 13 | 12 | 16 |

[^234]Table 412.-Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923-Continued.

LOCAL SLAUGHTER-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Oklahoma, Okla | Thousands. 130 | Thousands. 221 | Thousands. 415 | Thousands. 528 | Thousands. 368 | Thousands. 228 | Thousands. 203 | Thousands. 219 | Thousands. 279 |
| Omaha, Nebr | 683 | 843 | 996 | 1,138 | 1,136 | 914 | 797 | 916 | 997 |
| Pasco, Wash. |  |  |  | (1) | (1) | (1) |  | -16 |  |
| Peoria, Ill. | 10 | 14 | 14 | 26 | 18 | 18 | 21 | 20 | 17 |
| Philadelphia, Pa |  |  | 183 | 186 | 196 | 221 | 225 | 261 | 172 |
| Pittsburgh, Pa | 51 | 92 | 168 | 163 | 151 | 171 | 175 | 161 | 176 |
| Portland, Oreg | 40 | 42 | 56 | 65 | 62 | 70 | 59 | 67 | 98 |
| Pueblo, Colo |  |  |  | (1) |  |  | 1 | (1) | 1 |
| Richmond, Va | 11 | 13 | 14 | 13 | 17 | 19 | 20 | 25 | 24 |
| Roanoke, V a. |  | 13 | 1 |  | 1 | 1 | 20 |  | (1) ${ }^{24}$ |
| St. Joseph, Mo | 267 | 331 | 459 | 569 | 531 | 410 | 370 | 403 | 444 |
| St. Louis, Mo. | 20 | 25 | 25 | 22 |  |  |  |  |  |
| St. Paul, Minn | 327 | 381 | 487 | 616 | 530 | 710 | 564 | 783 | 851 |
| San Antonio, Tex |  |  | 55 | 20 | 14 | 37 | 36 | 54 | 53 |
| Seattle, W ash. |  | 25 | 39 | 56 | 64 | 56 | 46 | 45 | 55 |
| Sioux City, Iowa | 244 | 233 | 296 | 385 | 363 | 342 | 273 | 301 | 341 |
| Sioux Falls, S. Dak |  |  | $\left.{ }^{1}\right)$ | 1 | 1 | 6 | 7 | 13 | 11 |
| Spokane, Wash | (1) | 3 | 14 | 36 | 36 | 35 | 23 | 26 | 28 |
| Springfield, Ohio. |  |  |  |  |  |  |  |  | 2 |
| Tacoma, Wash |  | 15 | 20 | 26 | 24 | 22 | 25 | 27 |  |
| Toledo, Ohio |  | 12 | 11 | 13 | 13 | 18 | 14 | 12 | 13 |
| W ashington, D. |  | 15 | 12 | 15 | 20 | 25 | 27 | 28 | 31 |
| Wichita, Kans. | 67 | 86 | 122 | 145 | 133 | 84 | 83 | 93 | 104 |
| Total | 7,912 | 10,294 | 13,275 | 14, 874 | 13, 633 | 12, 194 | 11, 078 | 12, 435 | 13,030 |

Division of Statistical and Historical Research. Compiled from reports of stock sold and driven out for local slaughter, made by stockyards to the Livestock, Meats and Wool Division.

STOCKER AND FEEDER SHIPMENTS.

| Market. | 1916. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Albany, N. Y | Thousands. | Thousands. 1 | Thousands. 1 | Thousands. 1 | Thousands. 1 | Thousands. <br> (1) | Thousands. <br> (1) | Thousands. <br> (1) |
| Amarillo, Texas | 110 | 262 | 197 | 122 | 91 | 84 | 103 | 74 |
| Atlanta, Ga |  |  | 2 | 4 | 1 | 3 | 2 | 6 |
| Augusta, Ga |  | 1 | 3 | 3 | 2 | 3 | 2 | 2 |
| Baltimore, Md | 7 | 8 | 11 | 5 | 5 | 3 | 3 | 3 |
| Billings, Mont |  | 5 | 4 | 9 |  |  |  |  |
| Birmingham, ${ }^{\text {Al }}$ | 26 | 2 2 | ${ }^{(1)} 31$ | 1 39 | ${ }^{(1)} 1$ | ${ }^{(1)} 8$ |  | ${ }^{(1)} 4$ |
| ${ }_{\text {Bufialo, N. }}$ Chattanooga, | 26 | 25 |  | 39 2 | ${ }_{2}^{14}$ | 8 4 4 | 7 4 | 4 |
| Chicago, Il . | 256 | 358 | 401 | 509 | 417 | 332 | 343 | 295 |
| Cincinnati, Ohio | 26 | 22 | 30 | 28 | 28 | 22 | 26 | 23 |
| Cleveland, Ohio |  | 3 | 4 | 6 | 3 | 6 | 5 | 4 |
| Columbia, S. C |  | ${ }^{(1)}$ | (1) | (1) |  |  |  |  |
| Columbus, Ohio | (1) |  | ${ }^{(1)}$ | (1) | (1) |  |  |  |
| Dayton, Ohio. |  | ${ }^{(1)}$ | 1 | (1) |  |  |  |  |
| Denver, Colo. | 386 | 397 | 402 | 483 | 407 | 274 | 413 | 361 |
| Detroit, Mich | 9 | 8 | ${ }^{6}$ | 17 | 16 | 14 | 14 | 11 |
| Dublin, Ga |  | 1 | ${ }^{(1)}$ | ${ }^{(1)}$ |  | 185 | 1 |  |
| El Past St. Louis, | 161 | 221 159 | 225 178 | ${ }_{151}^{234}$ | 168 115 | 185 |  | 281 40 |
| El Paso, Tex-- |  | 159 | ${ }_{(1)} 178$ | ${ }_{(1)}^{151}$ | 115 | 102 | 84 | 40 |
| Evansville, Ind. |  | 1 | 3 | 1 | 1 | 1 | 3 | (1) 3 |
| Fort Wayne, Ind |  |  |  |  |  |  |  |  |
| Fort Worth, Tex | 312 | 437 | 393 | 327 | 278 | 172 | 225 | 169 |
| Fostoria, Ohio- | ${ }^{6}$ | 4 | 3 | 5 | 5 | 3 | 7 | 5 |
| Indianapolis, Ind | 45 | 46 | 56 |  | ${ }_{(1)} 48$ | 41 | 4 | (1) 44 |
| Jacksonville, Fla | 1 | 948 |  |  |  |  | 1,151 |  |
| Kansas City, Mo | 893 1 | 948 6 | 1,053 8 | 1,036 8 | $\begin{array}{r}78 \\ 4 \\ \hline\end{array}$ | 78 3 | 1,151 6 | 1,162 4 |
| Lafayette, Ind. | ${ }^{(1)}$ | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| Lancaster, Pa. |  |  | 93 | 95 | 87 | 1 |  | 53 |
| Laredo, Tex. | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Los Angeles, Calif |  |  |  |  |  |  |  | 9 |
| Louisville, Ky |  |  | 24 |  |  |  |  |  |
| Marion, Ohio |  |  |  |  |  |  |  |  |
| Milwaukee, Wis |  |  | 11 | 16 | 15 | 12 | 13 | 16 |
| Mobile, Ala |  | (1) | 6 | 9 | 28 | 10 | 9 | 7 |

${ }^{1}$ Less than 500.

Table 412.-Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923-Continued.

STOCKER AND FEEDER SHIPMENTS-Continued.

| Market. | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.
1 Less than 500.
Table 413.-Cattle and calves: Stocker and feeder shipments from public stockyards, 1916-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thonsands. | Thousands. | Thousands. | Thousands | Thousands. | Thousands | Thousands. |
| $1916{ }^{1}$ | 221. | 197 | 250 | 262 | ${ }^{289}$ | 264 | 171 | 330 | 464 | 682 | 461 | 256 | 3, 847 |
| 1917. | 260 | 213 | 249 | 306 | 401 | 353 | 262 | 330 | 588 | 768 | 729 | 344 | 4,803 |
| 1918. | 222 | 214 | 319 | 385 | 491 | 393 | 274 | 418 | 604 | 704 | 623 | 366 | 5, 013 |
| 1919 | 364 | 264 | 277 | 391 | 442 | 272 | 236 | 397 | 611 | 839 | 723 | 470 | 5,286 |
| 1920 | 349 | 240 | 241 | 244 | 323 | 272 | 218 | 314 | 488 | 580 | 553 | 280 | 4,102 |
| 1921 | 205 | 166 | 236 | 238 | 214 | 209 | 122 | 355 | 395 | 622 | 497 | 245 | 3, 504 |
| 1922. | 233 | 243 | 282 | 235 | 365 | 318 | 223 | 469 | 630 | 864 | 710 | 357 | 4,929 |
| 1923. | 281 | 210 | 199 | 233 | 300 | 234 | 223 | 480 | 631 | 785 | 624 | 353 | 4,553 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
${ }^{1}$ Complete information for 1916 not obtainable from many markets.
Table 414.-Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1923.

| Stockyards. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thour | Thou- |
| Buffalo, N. Y.: | sands. | sands. | sands. | sands. | sands. |  |  |  |  |  |  |  |  |
| Receipts. | 49 13 | 40 | 49 15 | 57 19 | 49 14 | 50 15 | 50 17 | 45 16 | 40 | ${ }_{21}^{55}$ | 54 17 | 51 16 | 589 189 |
| $\begin{aligned} & \text { Local slaughter } \\ & \text { Stocker and } \\ & \text { feeder ship- } \end{aligned}$ | 13 $(1)$ | 11 | 15 (1) | 19 (1) | (1) 14 | 15 (1) | 17 (1) | 16 (1) | (1) | 21 | 17 | 16 | 189 |
| Chicago, Ill.: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts. | 340 | 278 | 293 | 335 | 356 | 286 | 315 | 318 | 319 | 411 | 331 | 335 | 3,918 |
| Local slaughter-- | 242 | 198 | 217 | 256 | 278 | 217 | 228 | 224 | 219 | 281 | 227 | 226 | 2,813 |
| Stocker and feeder shipments. | 16 | 14 | 16 | 17 | 14 | 14 | 13 | 24 | 40 | 54 | 41 | 32 | 295 |

[^235]Tabie 414.-Cattle and calves: Receipts, local slaughter, stocker and feeder shipments at public stockyards, 1923-Continued.


Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.
${ }^{1}$ Less than 500.

Table 415.-Cattle: Shipments of feeder cattle from public stockyards, 1923.
ORIGIN.

| Market. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. |
| Chicago, 11. | 15,569 | 13, 682 | 15, 829 | 15, 939 | 11,822 | 13, 375 | 11, 831 | 20,746 | 36, 203 | 50, 642 | 39,376 | 29, 988 | 275, 102 |
| Denver, Colo | 25, 145 | 11, 103 | 8, 318 | 10,696 | 42,588 | 18, 471 | 11,707 | 12, 652 | 35, 451 | 61, 220 | 71, 981 | 37, 943 | 347, 275 |
| Fort Worth, Tex | 8,800 | 6,019 | 8,521 | 19,313 | 23,532 | 10,059 | 7,651 | 8,610 | 13, 541 | 28, 262 | 18, 484 | 9, 532 | 162, 324 |
| Indianapolis, Ind | 3,208 | 2,465 | 2,866 | 1,869 | 1,815 | 4,223 | 7,185 | 5,309 | 8,923 | 11,689 | 5,210 | 4,399 | 59, 161 |
| Kansas City, Kans | 84, 291 | 48,462 | 43,575 | 40, 192 | 46,996 | 48,977 | 58,067 | 187, 261 | 193, 326 | 180, 410 | 130, 668 | 76,182 | 1,138, 407 |
| Louisville, Ky. | 2, 522 | 1,796 | 1,500 | 2, 288 | 1,922 | 1,263 | 2, 808 | 2, 289 | 6,767 | 6, 107 | 2, 534 | 1,180 | 32, 976 |
| National Stock Yards, I | 9, 322 | 9, 691 | 7,335 | 6, 379 | 6, 386 | 7, 427 | 10, 111 | 25, 500 | 27, 865 | 28, 240 | 18, 883 | 12,940 | 170, 079 |
| Oklahoma, Okla | 6,967 | 5, 864 | 8,057 | 6,545 | 4, 234 | 2, 625 | 4,497 | 5,527 | 7,345 | 6, 859 | 13, 514 | 5, 140 | 77, 174 |
| Omaha, Nebr.- | 37, 420 | 29,317 | 20, 214 | 22, 361 | 18,425 | 15, 118 | 13, 660 | 57, 273 | 100, 383 | 103, 383 | 76, 672 | 50,315 | 544, 541 |
| Sioux City, Iowa | 18, 247 | 13, 218 | 11,218 | 11,809 | 14,742 | 13, 377 | 10,500 | 23, 791 | 47, 978 | 58,918 | 33, 607 | 23,964 | 281, 369 |
| South St. Joseph, Mo | 5,439 | 3,707 | 3,283 | 3, 550 | 1,979 | 3,122 | 6, 547 | 16, 346 | 13, 877 | 19, 350 | 12, 326 | 7,005 | 96, 531 |
| South St. Paul, Minn | 12, 369 | 12, 199 | 11, 388 | 12,913 | 13,412 | 7,667 | 12, 211 | 22, 132 | 35, 126 | 39, 076 | 27,946 | 16, 088 | 222, 527 |
| Wichita, Kans.. | 16, 698 | 14,030 | 13, 223 | 34, 352 | 20,798 | 4,441 | 8,573 | 15, 889 | 14, 040 | 20,447 | 22, 371 | 12, 944 | 197, 606 |
| All other | 10, 708 | 6, 162 | 6, 199 | 10, 201 | 11, 152 | 10,928 | 9,791 | 12, 480 | 18, 996 | 46, 460 | 32,156 | 18,611 | 193, 842 |
| Total | 256, 705 | 177, 715 | 161, 526 | 198, 407 | 219, 803 | 161, 071 | 175, 239 | 415,605 | 559, 821 | 661, 063 | 505, 728 | 306, 231 | 3, 798, 914 |
| - DESTINATION. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| State. | 7,964 | 6,478 | 3,027 | 4,294 | $\begin{array}{r} 7,437 \\ 22,278 \end{array}$ | $\begin{array}{r} 5,466 \\ 17423 \end{array}$ | 6,958 | 4,157 | 17, 831 | 28,531 | 44,072 | 22,764 | 158, 979 |
| Colorado |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Illinois. | 30,877 | 24,9704,937 | 19,619 | 17,435 |  |  | 23,462 | 65, 915 | 86,074 | 98,595 57, 508 |  | 35, 970 | 500, 136 |
| Indiana | 8,608 |  | 6, 074 | 4, 143 | $\begin{array}{r} 22,278 \\ 3 \end{array}$ | 17,433 7,753 | 10,010 | 20,757 | 26, 291 | 98, 595 28,403 | 17,326 | 10, 364 | 148, 638 |
| Iowe. | $\begin{aligned} & 50,805 \\ & 39,608 \end{aligned}$ | 37, 397 | 27,788 | 30,445 | 32, 215 | 24, 247 | 31, 261 | 100, 096 | 140, 837 | 132, 579 | 80,887 | 54, 179 | 742, 236 |
| Kansas |  | 26,55021,817 | 30,482,203 | 50,422 | 36,194 | 16, 223 | 22, 269 | 48,759 | 50, 886 | 75, 676 | 70, 192 | 44,748 |  |
| Kentucky | 3,870 |  |  | 2,801 |  | 1,9453,622 | 3,7604,189 | 5,0863,965 | 8,2084,589 | 7,6638,542 | 7,608 | 1,2743,385 | 511, 454 |
| Michigan. | $\begin{array}{r}1,753 \\ \hline 597\end{array}$ | 1,817 | 1,985 | 2, 264 | 2,657 |  |  |  |  |  | 7,259 |  | 46, 027 |
| Minnesota |  | 21,088 | 1,168 | 622 | 1,667 | 1,002 | 1,637 | 1,634 | 2,407 | 3,739 | 4,266 | 1,932 | 21, 504 |
| Missouri | 43, 531 |  | 15,365 | 14,343 | $\begin{aligned} & 11,732 \\ & 51,588 \end{aligned}$ | $\begin{array}{r} 20,076 \\ 28,197 \end{array}$ | 17,345 | 58,766 | 64,463 | 69, 832 | 52,944 | 28,919 | 418, 404 |
| Nebraska | 37,1825,084 | 27,079 | 22,844 | 28, 399 |  |  | 26,317 | 70,723 | 102, 836 | 107, 655 | 85, 082 | 60,346 | 648, 248 |
| Ohio |  | 4,994 | 6,621 | 5,672 | $\begin{array}{r} 51,588 \\ 6,128 \end{array}$ | $\begin{array}{r} 28,197 \\ 6,305 \end{array}$ | 7,282 | 13,123 | 16,556 | $\begin{array}{r} 21,606 \\ 10,970 \end{array}$ | $\begin{aligned} & 13,433 \\ & 14,306 \end{aligned}$ | 6,051 |  |
| Oklahoma | 8,4471,778 | 6,913 | 10,347 | 19,295 | 14, 135 | 5,072 | 6,282 | 5,076 | 8,100 |  |  |  | 114, 994 |
| Pennsylvania |  | 596 | 1,072 | 3882,301 | 3666,878 | 1,2427,766 | $\begin{aligned} & 2,001 \\ & 3,306 \end{aligned}$ | 2,1433,992 | $\mathbf{2 , 9 5 9}$$\mathbf{9 , 8 2 9}$ | 5,30414,207 | 5,0257,639 | 4,5694,912 | 27,44369,583 |
| South Dakota | 2, 816 | 3,214 |  |  |  |  |  |  |  |  |  |  |  |
| Texas. | 6,861734 | 4,2403383,866 | $\begin{aligned} & 3,097 \\ & 1,809 \\ & 5,736 \end{aligned}$ | $\begin{aligned} & 4,745 \\ & 3,276 \\ & 7,502 \end{aligned}$ | $\begin{array}{r} 4,435 \\ 4,636 \\ 11,267 \end{array}$ | $\begin{aligned} & 4,619 \\ & 1,159 \\ & 8,944 \end{aligned}$ | $\begin{aligned} & 2,186 \\ & 1,213 \\ & 5,761 \end{aligned}$ | $\begin{aligned} & 3,235 \\ & 1,242 \\ & 6,936 \end{aligned}$ | $\begin{aligned} & 7,336 \\ & 1,404 \\ & 9,215 \end{aligned}$ | $\begin{array}{r} 23,124 \\ 2,962 \\ 21,675 \end{array}$ | $\begin{array}{r} 18,758 \\ 2,649 \\ 16,774 \end{array}$ | $\begin{array}{r} 12,713 \\ 1,070 \\ 7,237 \end{array}$ | $\begin{array}{r} 95,349 \\ 22,492 \\ 111,603 \end{array}$ |
| Wisconsin |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All other | 6,690 |  |  |  |  |  |  |  |  |  |  |  |  |
| Tot | 256, 705 | 177, 715 | 161, 526 | 198,407 | 219, 803 | 161, 071 | 175, 239 | 415, 605 | 559, 821 | 661,063 | 505, 728 | 306, 231 | 3,798, 914 |

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry inspection records.

Table 416.-Live cattle: United States exports and imports, 1910-1924.
EXPORTS.

| Year ending June 30. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num |
| 1909-10 | ber. | ber. | ber. | ber. | ber. | ber. | ber. | ber. | ber. | ber | ber. | ber. |  |
| 1910-11. |  | , 479 |  |  |  |  |  |  |  |  |  |  |  |
| 1911-12 | 16, 821 | 12, 709 | ${ }_{9}, 867$ | 9,950 | 8, 540 | 11, 799 | 11, 825 | 6,177 | 6,673 | 5,376 | 3, 189 | 2,580 |  |
| 1912-13 | 3,232 | 2, 493 | , 572 | 1, 591 | 1,289 | 1, 466 | 1,009 | 1,006 | 956 | 2, 367 | 1,269 | 7, 464 | 24, 714 |
| 1913-14 | 3, 058 | 967 | 1, 654 | 4,074 | 1,372 | 1,040 | 411 | 433 | 1,014 | 1,816 | 689 | 1,848 | 18,376 |
| 1914-15 | 484 | 405 | 895 | 388 | 164 | 147 | 162 | 175 | 133 | 233 | 85 | 2,213 | 484 |
| 1915-16 | 6,615 | 2,837 | 1,908 | 431 | 520 | 944 | 877 | 428 | 1,171 | 1,243 | 978 | 3, 335 | 21, 287 |
| 1916-17 | 467 | 713 | 972 | 551 | 917 | 527 | 488 | 313 | 1,314 | 1,918 | 882 | 4,325 | 13,387 |
| 1917-18 | 374 | 1,077 | 837 | 890 | 704 | 6, 887 | 669 | 508 | 1,245 | 1, 457 | 1,108 | 2, 457 | 18, 213 |
| 1918-19 | 427 | 542 | 243 | 418 | 3,598 | 4, 608 | 516 | 529 | 732 | 20, 291 | 4,336 | 6, 105 | 42,345 |
| 1919-20 | 3,884 | 10, 419 | 6,500 | 9,486 | 2,894 | 4,167 | 3, 056 | 2,687 | 3,247 | 11, 494 | 11,873 | 13, 332 | 83, 039 |
| 1920-21 | 9, 740 | 2,804 | 4, 174 | 5, 252 | 10, 080 | 7, 563 | 6, 004 | 7,498 | 11, 886 | 23, 066 | 28, 076 | 29, 530 | 145, 673 |
| 1921-22 | 20, 345 | 20, 662 | 14,541 | 11, 108 | 12, 536 | 11,281 | 10, 275 | 10, 219 | 11, 107 | 9, 563 | 10, 871 | 12, 773 | 155, 281 |
| 1922-23 | 9, 588 | 8, 806 | 4,965 | 9,521 | 8, 919 | 4, 600 | 3, 919 | 2,138 | 2,880 | 2, 924 | 1,706 | 1,520 | 61,486 |
| 19 | 2, 394 | 5,709 | 3, 378 | 4,629 | 2,946 | 3, 051 |  |  |  |  |  |  |  |

## IMPORTS.

| 1909 | 2, 724 | 5,707 | 7,199 | 789 | $\|32,464\|$ | $\|19,475\|$ | 440 | 4,283 | 5, 815 | $36,125$ | 56, 336 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 1,267 | 1,788 | $7{ }^{7} 5$ | 20, 377 | 33, 663 | 25, 963 | 13, 376 | 3,237 | 3, 136 | 19, 525 | 38, 245 | 14,754 | 182 |
| 1911-12 | 8, 826 | 10, 294 | 18, 204 | 39, 222 | 44, 927 | 38, 722 | 21, 262 | 8, 038 | 14, 822 | 31, 793 | 59, 229 | 23, 078 | 318, 417 |
| 1912-13 | 21, 637 | 15, 355 | 18, 527 | 27, 696 | 43, 758 | 40, 522 | 24, 111 | 30, 630 | 36, 105 | 47, 708 | 68, 607 | 46, 993 | 421, 649 |
| 1913-14 | 38, 937 | 47, 014 | 64, 605 | 130,639 | 123,118 | 78, 470 | 90, 694 | 72, 558 | 54, 786 | 65, 772 | 58, 647 | 43, 128 | 868, 368 |
| 1914-15 | 30, 217 |  | 53, 574 | 77, 219 | 73, 427 | 53, 410 |  | 51, 01 |  | 14, 538 | 15, 159 | 43, 022 | 538, 167 |
| 1915-16 | 58, 379 | 49, 985 | 57, 050 | 82, 276 | 83, 037 | 25, 901 | 9, 762 | 8, 662 | 9, 409 | 17, 285 | 23, 992 | 13, 447 | 439, 185 |
| 1916-17 | 15, 219 | 26, 121 | 37, 476 | 48, 907 | 51, 526 | 33, 841 | 22, 266 | 22, 094 | 23, 444 | 32, 181 | 33, 049 | 28, 702 | 374, 826 |
| 1917-18 | 18, 780 | 20, 881 | 39, 244 | 49, 061 | 37, 359 | 20, 449 | 9, 286 | 11, 924 | 14, 603 | 22,563 | 22, 112 | 27, 457 | 293, 719 |
| 1918-19 | 21,512 | 32, 517 | 47, 983 | 49, 439 | 54, 403 | 38, 802 | 29, 937 | 38,813 | 27,067 | 31, 592 | 44, 856 | 23, 478 | 440, 399 |
| 1919-20 | 32, 86 |  |  | 103,624 | 108,159 | 93, 082 | 26, 971 | 24, 590 | 16, 766 | 19,874 | 16, 094 | 24, 381 | 575, 328 |
| 1920-21 | 18, 333 | 32, 071 | 43, 055 | 48, 680 | 62, 049 | 46, 250 | 17, 469 | 8, 066 | 11, 677 | 23, 674 | 14, 498 | 4,152 | 329, 974 |
| 1921-22 | 5, 057 | 10,948 | 18, 814 | 28, 662 | 37, 955 | 13,899 | 2, 876 | 2, 482 | 2, 431 | 6,139 | 12, 030 | 10, 240 | 151, 533 |
| 1922-23 | 18, 164 | 41, 565 | 58, 388 | 40, 774 | 28, 923 |  | 5,795 | 16,998 | 5,230 | 7,459 | 9, 199 | 6, 325 | 238, 820 |
| 1923-24 | 6, 064 | 9, 604 | 19, 947 | 18, 383 | 17, 586 | 15, 891 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research.
Table 417.-Farm price of cattle other than milk cows, by age groups, United States, January 1, 1894-1924.

| Jan. 1. | Under 1 year old. | 1 and under 2 years. | 2 years and over. | Jan. 1. | Under 1 year old. | 1 and under 2 years. | 2 years and over. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1894 | \$6. 16 | \$10.56 | \$19. 59 | 1910 | \$10. 92 | \$17.89 | \$25. 96 |
| 1895 | 5.91 | 9. 94 | 18.69 | 1911 | 11.72 | 19. 37 | 27.90 |
| 1896 | 6.72 | 11.49 | 20.97 | 1912 | 12. 14 | 20.09 | 29.12 |
| 1897 | 7.47 | 12.51 | 21. 69 | 1913 | 14. 90 | 25. 11 | 36. 38 |
| 1898. | 10. 02 | 16. 17 | 26.85 | 1914 | 17.84 | 29.77 | 42.77 |
| 1899. | 11. 15 | 17. 78 | 29.10 | 1915 | 19. 06 | 31.21 | 45.92 |
| 1900 | 12. 35 | 19.35 | 31. 89 | 1916 | 19. 08 | 31.48 | 45. 81 |
| 1901 | 11. 18 | 17.92 | 27.57 | 1917 | 20.71 | 33. 93 | 48. 63 |
| 1902 | 10. 05 | 16. 56 | 26. 41 | 1918 | 23. 44 | 38. 63 | 55.62 |
| 1903 | 10.59 | 17.54 | 24.69 | 1919 | 24. 97 | 41. 74 | 60.41 |
| 1904 | 9.44 | 15. 66 | 21.74 | 1920 | 24.50 | 40. 69 | 59. 66 |
| 1905 | 8.91 | 14. 57 | 20.05 | 1921 | 17.42 | 29. 01 | 43. 72 |
| 1906 | 9.04 | 15. 13 | 21.40 | 1922 | 13. 41 | 22. 29 | 32. 77 |
| 1907. | 10.00 | 16. 30 | 22.93 | 1923 | 14. 76 | 24. 35 | 34. 79 |
| 1908. |  |  |  | 1924 | 14.45, | 23.98 | 33.89 |
| 1909 |  |  | ------- |  |  |  |  |

Table 418.-Cattle, live: Imports, exports, and prices, 1896-1923.

| Year ending June 30. | Imports. |  |  | Exports. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Value. | Average import price. | Number. | Value. | A verage export price. |
| 1895-96- | 217, 826 | \$1, 509, 856 | \$6. 93 | 372, 461 | \$34, 560, 672 | \$92. 79 |
| 1896-97 | 328, 977 | 2,589, 857 | 7.87 | 392, 190 | 36, 357, 451 | 92.70 |
| 1898-99 | 291, 758 | 2, $2,313,2238$ | $\begin{array}{r}\text { 9. } \\ \text { 11. } 62 \\ \hline\end{array}$ | 439,255 <br> 389 <br> 190 | $37,827,500$ 30 516,833 | 88.12 |
| 1899-1900 | 181, 006 | 2, 257, 694 | 12.47 | 397, 286 | $30,516,833$ $30,635,153$ | 78.35 77.11 |
| 1900-1901. | 146, 022 | 1, 931, 433 | 13.23 | 459, 218 | 37, 566,980 | 81.81 |
| 1901-2 | 96, 027 | 1, 608, 722 | 16.75 | 392, 884 | 29,902, 212 | 76.11 |
| 1902-3 | ${ }^{66,175}$ | 1, 181, 548 | 17.55 | 402, 178 | 29, 848, 936 | 74.22 |
| 1904-5 | 16,056 27,855 | 310,737 458,572 | 19.35 | 593,409 567,806 | 42, 256, 291 | 71.21 |
| 1905-6. | 29, 019 | 548, 430 | 18.90 |  |  |  |
| 1906-7. | 32, 402 | 565, 122 | 17.44 | 584,239 423,051 | 42,081, 170 | 72.03 |
| 1907-8. | 92, 356 | 1, 507, 310 | 16.32 | 349, 210 | - $29,339,134$ | 81.73 |
| 1908-9. | 139, 184 | 1,999, 422 | 14.37 | 207, 542 | 18, 046,976 | 84.02 86.96 |
| 1909-10 | 195, 938 | 2,999, 824 | 15.31 | 139, 430 | 12, 200, 154 | ${ }_{87.50}$ |
| 1910-11 | 182, 923 | 2,953, 077 | 16. 14 | 150, 100 | 13,163, 920 | 87.70 |
| 1911-12 | 318, 372 | 4, 805, 574 | 15. 09 | 105, 506 | 8,870,075 | 84. 07 |
| 1912-13 | 421, 649 | -6,640, 668 | ${ }^{15.75}$ | 24, 714 | 1,177, 199 | 47.63 |
| 1913-14- | 868, 368 | 18, 696, 718 | 21.53 | 18,376 | 1647, 288 | 35. 22 |
| 1914-15. | 538, 167 | 17, 513, 175 | 32.54 | 5,484 | 702, 847 | 128.16 |
| 1915-16. | 439, 185 | 15, 187, 593 | 34. 58 | 21, 666 | 2, 383, 765 | 110.02 |
| 1916-17- | 374, 826 | 13,021, 259 | 34. 74 | 13,387 | 9,949,503 | 70.93 |
| 1917-18 | 293, 719 | 17,852, 176 | 60.78 | 18, 213 | 1,247, 800 | 68.51 |
| 1918-19 | 440, 399 | 36, 995, 921 | 84.01 | 42, 345 | 2, 092, 816 | 49.42 |
| 1919-20. | 575, 328 | 45, 081, 179 | 78.36 | 83, 039 | 11, 921, 518 | 43. 57 |
| 1920-21. | 329, 974 | 23, 634,361 | 71. 62 | 145, 673 | 11,050,507 | 75. 86 |
| 1922-23. | 151,533 263,88 | 3, 055,201 | 20.16 | 155, 281 | 9, 877,596 | 63.61 |
| 1822-23. | 263, 887 | 6,630, 119 | 25: 12 | 61, 486 | 2, 954, 729 | 48.06 |

Division of Statistieal and Historical Research.
Table 419.-Milk cows: Farm price per head, 15 th of month, United States 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{array}{\|c} \text { Aver- } \\ \text { age. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| 1910 |  | 40.35 | 41.75 | 42.22 | 42.38 | 43.46 | 42. 86 | 42.77 | 42.68 | 43.20 | 43.34 | 43.41 | 42.47 |
| 1911 | 44.70 | 44.48 | 45. 42 | 44.81 | 44.54 | 43.86 | 42.44 | 42. 26 | 42. 22 | 42.69 | 42.70 | 42.72 | 43. 57 |
| 1912 | 42.89 | 43.40 | 4, 09 | 45. 14 | 45.63 | 45.84 | 45. 41 | 46. 11 | 46.79 | 47.30 | 47.38 | 48. 62 | 45.72 |
| 1913 | 49.51 | 51.42 | 54. 02 | 55. 34 | 54.80 | 55.20 | 54.80 | 54. 78 | 55.78 | 56.47 | 57.71 | 57.19 | 54.75 |
| Av. 1910-1913. | 44. 57 | 44.91 | 46.32 | 46.88 | 46.84 | 47.09 | 46.38 | 46. 48 | 46.87 | 47.42 | 47.78 | 47.98 | 47.99 |
| 1914 | 57.99 | 59.09 | 59.23 | 59.60 | 59.85 | 59.82 | 59.67 | 60.72 | 59.58 | 59. 53 | 58.77 | 58.23 | 59.34 |
| 1915 | 58. 47 | 57. 99 | 58.00 | 57.78 | 58.29 | 58.59 | 60. 31 | 58.34 | 58.38 | 58. 76 | 57.35 | 56.79 | 58.25 |
| 1916 | 57.79 | ${ }_{65}^{57.99}$ | 59. 51 | 60.68 | 60.98 | 61. 63 | 62. 04 | 61.32 | ${ }^{61.41}$ | 62. 19 | 62.67 | 63.18 | 60.95 |
| 1918 | 63.92 <br> 764 <br> 8 | 65.93 78.36 | 88.71 | 72.09 | 72.78 | 72. 87 | 72. 81 | 72.53 | 73. 93 | 75. 79 | 75.00 | 76.16 | 71.86 |
| 1919 | 86. 10 | 86.15 | 88.15 | 90. 91 | 93. 43 | 93. 84 | ${ }_{94}{ }^{84} 1$ | 94. 72 | 83. 21 | 83. 41 | ${ }_{93}^{84.51}$ | 85.78 | 83.07 |
| 1920 | 94.42 | 95. 27 | 94. 94 | 95.36 | 94.56 | 94. 56 | 91. 23 | 90.50 | 89. 40 | 85. 90 | 77.56 | 70. 42 | ${ }_{89}^{91.96}$ |
| Av. 1914-1920. | 70.75 | 71. 54 | 72.71 | 74. 12 | 74.86 | 75. 15 | 75.08 | 74.60 | 74. 48 | 74.43 | 72.73 | 72.30 | 73.56 |
| 1921. | 66.82 | 63. 44 | 65.37 | 64.35 | 62.63 | 59. 89 | 56. 55 | 55.85 | 54.33 | 53.39 | 53.28 |  |  |
| 1922 | 52.83 | 53. 54 | 54.87 | 54.46 | 54. 76 | 54.87 | 54.20 | 52.67 | 52.79 | 52.86 | 51.62 | 53.21 | 53. 56 |
| 1923 | 54.01 | 54. 15 | 55. 29 | 56. 14 | 55. 91. | . 56.34 | 56. 22 | 55. 45 | 56.13 | 55.51 | 5539 | 54.66 | 55. 43 |

Division of Crop and Livestock Estimates.
$85813^{\circ}$ - Yвк 1923—— $57+58$
$\mathrm{T}_{\text {able }}$ 420.-Beef cattle: Farm price per 100 pounds, 15 th of month, United States, 1910-1923.


Division of Crop and Livestock Estimates.
Table 421.-Veal calves: Farm price per 100 pounds, 15 th of month, United States, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { Weight- } \\ & \text { ed } \\ & \text { average. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| 1910 | 6.41 | 6.28 | 6.59 | 6. 54 | 6.30 | 6. 57 | 6.37 | 6.29 | 6.43 | 6. 41 | 6.39 | 6.38 | 6.42 |
| 1911 | 6. 50 | 6. 38 | 6.48 | 5.96 | 5. 98 | 5. 72 | 5.74 | 5.93 | 6.11 | 6. 15 | 6. 10 | 5.98 | 6.04 |
| 1912 | 6. 06 | 6. 07 | 6. 11 | 6. 22 | 6. 23 | 6.33 | 6.33 | 6. 62 | 6. 83 | 6. 90 | 6. 77 | 6. 88 | 6.45 |
| 1913 | 7.06 | 7.23 | 7.49 | 7.38 | 7.17 | 7.53 | 7.46 | 7.53 | 7.73 | 7.72 | 7.70 | 7.74 | 7.48 |
| Av. 1910-1913 | 6.51 | 6.49 | 6. 67 | 6. 52 | 6.42 | 6. 54 | 6.48 | 6.59 | 6.78 | 6. 80 | 6. 74 | 6. 74 | 6. 60 |
| 1914 | 7.89 | 7.90 | 7.92 | 7.68 | 7.59 | 7.69 | 7.80 | 8. 08 | 8. 06 | 7.97 | 7.78 | 7.61 | 7.83 |
| 1915 | 7.66 | 7.62 | 7. 50 | 7.31 | 7.35 | 7. 53 | 7.87 | 7. 75 | 7.80 | 7. 91 | 7.69 | 7. 61 | 7.63 |
| 1916 | 7.67 | 7.87 | 8. 11 | 8.00 | 8.08 | 8.39 | 8. 54 | 8. 59 | 8. 77 | 8. 59 | 8. 60 | 8. 79 | 8.35 |
| 1917 | 9.15 | 9.88 | 9.94 | 10.49 | 10.48 | 10. 60 | 10. 77 | 10.56 | 11. 08 | 11.10 | 10. 66 | 10.98 | 10.51 |
| 1918 | 11. 16 | 11. 17 | 11. 33 | 11. 71 | 11. 62 | 11. 88 | 12. 33 | 12. 22 | 12. 57 | 12.35 | 11. 94 | 12. 31 | 11. 91 |
| 1919 | 12. 39 | 12. 18 | 12.65 | 12. 78 | 12. 11 | 12. 40 | 13.38 | 13. 43 | 13. 39 | 12. 87 | 12. 65 | 12. 67 | 12. 76 |
| 1920 | 12. 89 | 13.12 | 12. 98 | 12. 72 | 11. 69 | 11. 68 | 11. 44 | 11. 64 | 11. 88 | 11. 64 | 10. 77 | 9.27 | 11. 80 |
| A v . 1914-1920. | 9.83 | 9.96 | 10.06 | 10.10 | 9.85 | 10.02 | 10.30 | 10.32 | 10. 51 | 10.35 | 10.01 | 9.89 | 10. 11 |
| 1921 | 9.34 | 9.08 | 9.05 | 7.73 | 7.55 | 7.43 | 7.37 | 7.31 | 7.67 | 7.61 | 7.20 | 7.14 | 7.81 |
| 1922 | 7. 23 | 7.84 | 7.85 | 7. 26 | 7.28 | 7.67 | 7.49 | 7.67 | 8. 10 | 8.17 | 7.92 | 7.78 | 7. 68 |
| 1923 | 8.05 | 8. 37 | 8. 20 | 7. 78 | 7.69 | 7.66 | 8. 00 | 8. 00 | 8. 34 | 8. 37 | 7.85 | 7.75 | 7.99 |

[^236]Table 422.-Cattle, beef: Farm price per 100 pounds, 15th of month, by States, 1923.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | A verage. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| Maine | 7.00 | 7.00 | 6. 80 | 7.00 | 7.50 | 7.50 | 7.40 | 7. 20 | 7. 60 | 7. 10 | 6. 50 | 6. 60 | 7. 10 |
| New Hamp |  | 5. 90 | 5. 70 | 6. 00 | 6. 20 | 6. 10 | 6. 30 | 6. 10 | 5. 90 | 6. 10 | 6. 20 | 6. 00 | 6.05 |
| Vermont | 4. 80 | 4.70 | 4.30 | 5. 00 | 4.40 | 4.20 | 5. 20 | 4. 90 | 4. 70 | 4. 60 | 5. 10 | 4. 80 | 4. 72 |
| Massachusetts | 5. 50 | 6.00 | 6. 40 | 5. 70 | 5. 90 | 6. 30 | 6.00 | 5. 00 | 6. 00 | 5. 90 | 5.60 | 5. 80 | 5. 84 |
| Rhode Island. | 5.70 | 5. 70 | 5.50 | 6. 50 | 6.00 | 5. 50 | 6. 00 | 6. 10 | 6.00 | 6. 50 | 6. 50 |  | 6.00 |
| Connecticu |  | 5. 50 | 5. 60 |  | 5. 80 | 5. 50 | 6. 50 |  |  | 5. 50 | 5. 00 |  | 5. 63 |
| New York. | 5. 50 | 5. 50 | 5. 20 | 5.40 | 5.00 | 5. 20 | 5. 80 | 6. 10 | 5. 50 | 5. 20 | 5. 40 | 5. 20 | 5. 42 |
| New Jersey |  | 7.00 |  |  | 6.30 |  |  | 6. 50 | 6. 50 |  | 7.00 | 6. 80 | 6. 68 |
| Pennsylvan | 7.30 | 7. 10 | 7.00 | 7.20 | 7. 20 | 7.50 | 7. 50 | 7. 50 | 7. 40 | 7. 20 | 6. 90 | 7.00 | 7.23 |
| Delaware. | 8.00 |  | 7.20 | 8.20 |  |  | 8.60 | 7. 70 | 8. 50 | 7. 50 | 8.00 | 7.20 | 7.88 |
| Marylan | 7.00 | 6.70 | 6.80 | 6. 70 | 6.80 | 8.00 | 7.70 | 7.10 | 6.90 | 6.90 | 6. 40 | 7.00 | 7.00 |
| Virginia | 6.00 | 6. 00 | 6. 20 | 6.30 | 6.50 | 6.50 | 6. 40 | 6. 50 | 6. 30 | 6. 30 | 5. 70 | 5. 60 | 6. 19 |
| West Virgini | 6. 30 | 6. 70 | 6. 50 | 6. 40 | 6.40 | 6. 80 | 6. 90 | 7.00 | 6. 20 | 6. 30 | 6.00 | 5.90 | 6. 45 |
| North Carolina | 5. 30 | 5. 20 | 5. 10 | 5. 20 | 5. 10 | 5. 20 | 5. 10 | 5. 20 | 5.10 | 5.10 | 5.30 | 5.10 | 5. 17 |
| South Carolina | 4.00 | 3.80 | 4. 20 | 4.00 | 4. 30 | 4.00 | 4. 20 | 4. 00 | 3. 90 | 4.00 | 3. 80 | 4.00 | 4.02 |
| Georgia | 3.30 | 3.40 | 3.20 | 3. 90 | 3.60 | 3.80 | 3.40 | $3.50{ }^{-}$ | 3. 50 | 3. 50 | 3.40 | 3. 30 | 3. 48 |
| Florida | 4.60 | 4.60 | 4. 80 | 4. 70 | 4. 60 | 4.60 | 4. 10 | 4.40 | 3.90 | 4. 90 | 4. 50 | 4.30 | 4.50 |
| Ohio | 6. 80 | 6. 90 | 6. 70 | 6. 70 | 6. 90 | 7. 10 | 6. 90 | 6. 90 | 7. 10 | 6. 60 | -6. 30 | 6. 20 | 6. 76 |
| Indiana | 6. 30 | 6. 40 | 6. 30 | 6.40 | 6. 50 | 6. 70 | 6. 70 | 6. 40 | 7.00 | 6. 60 | 6. 00 | 6. 20 | 6.46 |
| Illinois. | 6. 40 | 6.40 | 6. 70 | 6. 50 | 6. 60 | 6. 70 | 6. 50 | 7.30 | 7.00 | 6.50 | 6.00 | 6. 60 | 6. 60 |
| Michiga | 5. 60 | 5.70 | 6.10 | 6. 00 | 6. 10 | 6. 30 | 6.00 | 6. 20 | 6. 40 | 6.00 | 5. 80 | 5. 50 | 5.98 |
| Wisconsin | 4.30 | 4. 30 | 4. 80 | 5.00 | 5. 00 | 4. 70 | 4.90 | 4. 60 | 4. 50 | 4.60 | 4. 20 | 4.00 | 4. 58 |
| Minnesota | 4. 70 | 5.10 | 5. 20 | 5. 30 | 5. 50 | 5. 50 | 5. 40 | 5. 20 | 5. 40 | 4.90 | 4.40 | 4.60 | 5.10 |
| Iowa | 7.00 | 7.00 | 6. 70 | 7.40 | 7. 10 | 7.90 | 7. 70 | 7. 50 | 8. 20 | 7.60 | 7.00 | 7.00 | 7.34 |
| Missour | 6.40 | 6.20 | 6.50 | 6.30 | 6.50 | 6.70 | 6. 70 | 6. 40 | 6. 80 | 6.30 | 6. 20 | 6.00 | 6. 42 |
| North Dako | 5. 10 | 5. 20 | 5. 30 | 5. 30 | 5. 10 | 5.30 | 5. 30 | 4. 90 | 4.90 | 4.90 | 4.00 | 4.30 | 4. 97 |
| South Dak | 5. 60 | 5. 70 | 5. 80 | 6. 10 | 6.00 | 6.10 | 6.00 | 6. 00 | 6. 50 | 6. 10 | 5. 50 | 5. 50 | 5. 91 |
| Nebraska | 6. 50 | 6.50 | 6. 70 | 6. 80 | 6. 90 | 7.00 | 7.10 | 7.00 | 7.00 | 7.00 | 6. 50 | 6. 50 | 6. 79 |
| Kansas | 6. 00 | 6. 20 | 5. 80 | 6. 40 | 6. 60 | 6.20 | 6. 10 | 5. 60 | 5. 70 | 5. 50 | 5. 30 | 5. 50 | 5.91 |
| Kentucky | 5. 70 | 5. 50 | 6.00 | 5. 80 | 5. 60 | 5. 60 | 5.50 | 5. 40 | 5. 60 | 5. 20 | 5. 00 | 5. 10 | 5. 50 |
| Tennessee | 4. 70 | 4. 50 | 4.70 | 4. 80 | 4. 90 | 4. 60 | 4. 70 | 4. 70 | 4. 50 | 4. 20 | 3. 90 | 3.90 | 4. 51 |
| Alabama | 3.00 | 3.30 | 3. 40 | 3.70 | 3.50 | 3. 70 | 3.40 | 3.40 | 3.30 | 3. 20 | 3. 10 | 3.00 | 3.33 |
| Mississipp | 3. 00 | 3. 00 | 3. 10 | 3.10 | 3.00 | 3.10 | 3. 10 | 3.10 | 2.90 | 2. 90 | 2. 40 | 2. 90 | 2.97 |
| Louisiana | 4. 20 | 4.40 | 4. 10 | 4.00 | 4. 10 | 4. 10 | 5. 00 | 4. 80 | 4. 70 | 4.60 | 4. 20 | 4.50 | 4.39 |
| Texas. | 4.10 | 4.20 | 4.50 | 4. 70 | 4. 50 | 4.30 | 4.30 | 4.00 | 4.00 | 4.00 | 4.30 | 4. 20 | 4.26 |
| Oklahom | 4. 30 | 4.40 | 4.50 | 5.00 | 4. 40 | 4. 50 | 4.30 | 4. 00 | 4.30 | 4.00 | 3. 80 | 4. 30 | 4.32 |
| Arkansas | 3. 40 | 3.30 | 3. 20 | 3. 40 | 3.50 | 3.40 | 3.60 | 3.20 | 3.40 | 3.30 | 3.20 | 3. 10 | 3.33 |
| Montana | 5. 40 | 6.00 | 5. 70 | 6. 30 | 6.30 | 6. 40 | 6.00 | 6. 50 | 5. 90 | 5. 70 | 5.00 | 5. 30 | 5.88 |
| W yomin | 6. 00 | 6.40 | 7.00 | 6. 50 | 5. 90 | 6. 50 | 6. 40 | 6. 30 | 6. 50 | 5. 50 | 5. 50 | 6. 00 | 6.21 |
| Colorado | 5.80 | 5. 70 | 6. 20 | 6.30 | 6. 50 | 6. 50 | 6. 40 | 5. 70 | 6.00 | 5.30 | 5.30 | 5. 20 | 5. 91 |
| New Mex | 6.00 | 5. 60 | 5. 60 | 5.00 | 5. 60 | 5. 50 | 5. 00 | 5.00 | 4.70 | 4. 60 | 4. 00 | 4. 20 | 5. 07 |
| Arizona | 4. 90 | 5.30 | 5. 30 | 5.30 | 5. 40 | 5. 40 | 5.00 | 5. 10 | 5. 30 | 5. 50 | 5. 40 | 5. 10 | 5. 25 |
| Utah | 5. 70 | 5.60 | 5. 30 | 5. 30 | 5. 70 | 5.60 | 5. 40 | 5.40 | 5.00 | 4. 90 | 4. 90 | 5. 00 | 5.32 |
| Nevada | 6. 60 | 6. 50 | 6. 10 | 6.40 | 6.50 |  | 5.60 | 5.00 |  | 6. 20 | 5.90 | 5.60 | 6.04 |
| Idaho | 5. 40 | 5. 30 | 5. 40 | 5. 40 | 6. 10 | 5. 50 | 5.30 | 5.20 | 5. 20 | 5. 10 | 4. 80 | 4.40 | 5. 26 |
| W ashing | 4. 90 | 5. 20 | 5. 50 | 5. 50 | 6. 30 | 5.10 | 5. 20 | 5. 10 | 5.00 | 5.10 | 5. 00 | 4. 60 | 5.21 |
| Oregon | 5.50 | 5. 40 | 5. 70 | 5. 70 | 6.30 | 6. 30 | 6. 00 | 5.20 | 5. 80 | 4. 80 | 5. 70 | 5. 00 | 5. 62 |
| Californi | 7.10 | 6. 60 | 6. 40 | 6.30 | 6. 10 | 6. 00 | 5.70 | 6.00 | 5.90 | 6. 10 | 6. 10 | 6. 10 | 6. 20 |
| United States | 5.51 | 5. 55 | 5. 62 | 5. 78 | 5. 77 | 5. 82 | 5.72 | 5. 60 | 5. 70 | 5. 48 | 5. 23 | 5. 26 | 5. 59 |

Division of Crop and Livestock Estimates.

Table 423.-Calves, veal: Farm price per 100 pounds, 15th of month, by States, 1923.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| Maine | 10.20 | 9.00 | 9.40 | 9.70 | 9.90 | 9.10 | 10.00 | 9.50 | 10.10 | 9.80 | 9. 50 | 9.00 | 9. 60 |
| New Hamps |  | 11. 00 | 11.00 | 10.00 | 10. 50 | 10.90 | 10. 60 | 9. 70 | 10. 40 | 10.00 | 11. 30 | 9.70 | 10. 46 |
| Vermont | 9.20 | 9. 20 | 9.30 | 8. 40 | 8.10 | 8. 30 | 8. 50 | 9.20 | 9.10 | 9.20 | 9.50 | 9.50 | 8. 96 |
| Massachusetts | 11.80 | 10.40 | 11.50 | 10.50 | 9.90 | 11.00 | 10.60 | 10:20 | 11.10 | 11. 00 | 11. 70 | 9.10 | 10.73 |
| Rhode Island | 11.00 | 11.60 | 11.00 | 9.80 | 11.00 | 10.60 | 11. 50 | 11.50 | 11.00 | 11.50 | 10.50 | 11.50 | 11.04 |
| Connecticu | 9.00 | 9.00 | 11.00 | 10.50 | 10.60 | 11.60 | 11.40 |  | 11.30 | 12.30 | 11. 70 | 11.00 | 10.85 |
| New York | 10. 70 | 11. 40 | 11.10 | 9. 80 | 9.30 | 9.70 | 10. 60 | 10.70 | 11.00 | 11.40 | 11.50 | 10.90 | 10.68 |
| New Jersey | 11. 50 | 11. 30 |  | 13. 60 | 12. 40 | 12.00 | 12.00 | 12.00 | 12.50 |  | 11.50 | 11.00 | 11.98 |
| Pennsylvan | 10.60 | 10.50 | 10. 30 | 10.00 | 10.00 | 10. 10 | 10. 30 | 10. 20 | 10. 80 | 10.90 | 10. 70 | 10. 70 | 10. 42 |
| Delaware |  |  | 13.00 | 13.30 |  |  | 12. 10 | 13.30 | 12.00 | 14.00 | 13.90 | 12. 30 | 12.99 |
| Marylan | 11.00 | 11. 30 | 11. 70 | 9.90 | 9.90 | 9.70 | 9. 90 | 9. 90 | 11.10 | 11.00 | 10. 50 | 11. 00 | 10. 58 |
| Virginia | 9.30 | 9.30 | 9.20 | 9. 10 | 8. 60 | S. 00 | 8.00 | 8.10 | 8.60 | 8.50 | 9.00 | 8.00 | 8.64 |
| West Virgini | 9.00 | 9. 70 | 9.30 | 8. 60 | 8.60 | 8.20 | 8.80 | 9. 20 | 8.40 | 8. 90 | 8. 60 | 8. 20 | 8. 79 |
| North Carolina | 6.80 | 6. 40 | 6. 70 | 6. 40 | 6. 40 | 6.70 | 6.50 | 6. 20 | 5.90 | 6.50 | 6.30 | 6. 60 | 6. 45 |
| South Carolina | 5.00 | 5.60 | 5.30 | 6.00 | 5. 90 | 5. 60 | 6. 00 | 5. 80 | 5.90 | 5.50 | 4.50 | 5.70 | 5.57 |
| Georgia | 5.00 | 5. 30 | 5.30 | 5. 30 | 5. 50 | 5. 50 | 5.00 | 5.30 | 4.90 | 5.10 | 5.00 | 5.00 | 5.18 |
| Florida | 6. 50 | 6. 60 | 7.00 | 6. 20 | 6. 10 | 6. 00 | 5.90 | 6.10 | 7.00 | 8.30 | 7.00 | 7. 50 | 6.68 |
| Ohio | 10. 00 | 11.10 | 10.80 | 9. 10 | 9. 00 | 9.00 | 9. 40 | 9.90 | 10.30 | 10. 50 | 9.90 | 9. 40 | 9. 87 |
| Indian | 9.80 | 9.90 | 9.60 | 8. 60 | 8.30 | 8.20 | 8.90 | 9.10 | 9. 60 | 10.00 | 9.10 | 9.00 | 9.18 |
| Illinois | 9. 00 | 9.40 | 8. 90 | 8. 20 | 7.80 | 8.00 | 8. 50 | 8.80 | 9. 50 | 9. 60 | 8.50 | 8.40 | 8. 72 |
| Michigan | 10. 10 | 10. 70 | 10.40 | 9.00 | 8.70 | 9. 00 | 9.40 | 10. 10 | 10.80 | 10. 40 | 9.60 | 9.80 | 9.83 |
| Wisconsi | 8. 00 | 8.60 | 7.90 | 7.10 | 7. 20 | 7.40 | 8. 10 | 8.40 | 9.00 | 9.00 | 7.60 | 7.60 | 7.99 |
| Minnes | 7.30 | 7.30 | 7.10 | 7.00 | 7.10 | 7.10 | 7.60 | 7. 70 | 8. 30 | 8.20 | 7.00 | 6.90 | 7.38 |
| Iowa. | 8.20 | 8.40 | 8.30 | 8. 20 | 8.00 | 8.30 | 8.40 | 8.20 | 9.10 | 8.70 | 8. 20 | 7.80 | 8.32 |
| Missour | 7.90 | 8. 50 | 8.00 | 7.50 | 7.60 | 7. 20 | 7.50 | 7.30 | 7.80 | 7.70 | 7. 50 | 7.30 | 7. 65 |
| North Dak | 6.80 | 7.00 | 6. 70 | 6.50 | 7.40 | 6.60 | 7.00 | 6. 70 | 7.00 | 7.30 | 6.30 | 6.30 | 6. 80 |
| South Da | 7.80 | 7.30 | 7.90 | 7.80 | 7.10 | 7.60 | 7.60 | 8.10 | 8.20 | 7.90 | 7.30 | 7.00 | 7.63 |
| Nebraska | 7.50 | 8.20 | 7.70 | 7.70 | 7.70 | 7. 50 | 7.90 | 7. 90 | 7.60 | 7.90 | 7.30 | 7.40 | 7. 69 |
| Kansas | 7.40 | 7. 90 | 7. 20 | 7. 20 | 7. 50 | 7.00 | 7.10 | 6. 60 | 7.20 | 7. 40 | 6.70 | 6.80 | 7.17 |
| Kentucky | 8. 20 | 8.30 | 8.20 | 7. 30 | 7.00 | 7.00 | 7.40 | 7.30 | 7.90 | 7.70 | 7. 50 | 7.40 | 7.60 |
| Tennesse | 5. 80 | 5. 70 | 6. 10 | 5. 60 | 6. 00 | 5. 50 | 5. 70 | 5. 60 | 5.40 | 5.40 | 5. 00 | 5.40 | 5. 60 |
| Alabama | 4.70 | 4.60 | 4.70 | 5. 00 | 5.10 | 5.10 | 5. 50 | 5.00 | 4.50 | 4.40 | 4.30 | 4.40 | 4.78 |
| Mississipp | 4.30 | 4.90 | 4.90 | 5.00 | 4.70 | 4. 50 | 5.10 | 4.60 | 4. 20 | 4.70 | 4.20 | 3.80 | 4. 58 |
| Louisia |  | 5. 10 | 5. 20 | 5.10 | 5.60 | 5. 20 | 5. 50 | 5. 40 | 5.10 | 5.20 | 5.00 | 5.00 | 5.22 |
| Texas. | 5. 10 | 5. 50 | 6. 00 | 6. 20 | 5.60 | 5.30 | 5. 70 | 5. 00 | 5. 20 | 5.40 | 5.40 | 5.40 | 5. 48 |
| Oklahoma | 5.00 | 5. 70 | 5. 90 | 6. 00 | 6.00 | 5. 60 | 5. 20 | 5.30 | 5. 30 | 5.40 | 5. 20 | 5.80 | 5.53 |
| Arkansas | 4.90 | 4.90 | 5.00 | 5. 30 | 4. 90 | 5.00 | 5.40 | 5.40 | 5.10 | 5.40 | 4.50 | 4.70 | 5. 04 |
| Montana | 7. 20 | 7. 50 | 8. 50 | 8. 00 | 8. 80 | 9. 00 | 8.30 | 8.50 | 8.40 | 8.90 | 7.50 | 7.00 | 8.13 |
| W yoming | 8. 70 | 8. 20 | 8. 30 | 8. 70 | 9.10 | 9. 50 | 9.10 | 8. 50 | 7.80 | 7. 50 | 7.80 | 8.00 | 8. 43 |
| Colorado | 6. 90 | 8.00 | 8. 20 | 8. 50 | 8. 40 | 8. 50 | 8. 10 | 7. 40 | 8.00 | 7.30 | 6.80 | 7.10 | 7.77 |
| New Me | 7. 60 | 6. 00 | 7.10 | 7.70 |  | 7.30 | 6. 20 |  | 6. 80 | 6.10 | 6. 00 | 6. 50 | 6. 73 |
| Arizon | 6. 20 | 6. 00 | 6. 40 | 6. 40 | 5.80 | 6. 50 | 6. 20 | 7.00 | 6.30 | 6. 40 | 6.50 | 6. 30 | 6.33 |
| Utah | 9.00 | 9. 00 | 9. 10 | 9.10 | 9. 50 | 9.00 | 8. 70 | 9.00 | 9.10 | 8.00 | 8.40 | 8.20 | 8. 84 |
| Nevada | 8. 00 | 7. 70 | 8. 20 | 9. 00 | 9. 00 |  | 8.00 | 8.10 |  |  | 8.00 | 7.10 | 8.12 |
| Idaho | 7.30 | 7.00 | 7. 20 | 6. 80 | 7. 20 | 7.10 | 7.30 | 6. 70 | 6. 80 | 6.50 | 6.50 | 6.00 | 6. 87 |
| Washing | 7.40 | 7,80 | 7.80 | 8. 30 | 8. 20 | 7. 50 | 7.90 | 7. 60 | 8. 00 | 7.30 | 8.50 | 7.80 | 7.84 |
| Oregon | 8.10 | 10.00 | 9.10 | 9. 10 | 10. 50 | 9. 00 | 7.80 | 8.50 | 8.60 | 8. 50 | 9.70 | 9.20 | 9. 01 |
| California | 8.10 | 8. 50 | 8. 40 | 8. 50 | 8.30 | 8. 10 | 8. 60 | 8. 30 | 8.00 | 8.50 | 8.10 | 7.90 | 8. 28 |
| United S | 8.05 | 8.37 | 8. 20 | 7. 78 | 7.69 | 7.66 | 8. 00 | 8. 00 | 8. 34 | 8.37 | 7.85 | 7.75 | 8. 00 |

[^237]Table 424.-Cattle and calves: Monthly average price per 100 pounds, Chicago, 1900-1923.
GOOD BEEF STEERS. 1

| Calendar year. | Jan. | Feb. | Mar. | 人pr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | ^verage. ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| 1900 | 5.20 | 4.85 | 4.85 | 4.95 | 5. 10 | 5. 20 | 5. 25 | 5.40 | 5. 35 | 5. 25 | 5.15 | 5. 00 | 5. 13 |
| 1901 | 4.85 | 4. 80 | 4.95 | 5.15 | 5.30 | 5. 55 | 5.10 | 5. 10 | 5. 50 | 5.45 | 5. 50 | 5. 65 | 5. 24 |
| 1902 | 5. 70 | 5. 55 | 6. 05 | 6. 45 | 6. 60 | 6. 95 | 7.10 | 7. 05 | 6. 65 | 6. 20 | 5. 20 | 4.80 | 6.19 |
| 1903 | 4.80 | 4. 60 | 4. 75 | 4. 90 | 4.80 | 4. 90 | 4.95 | 5. 00 | 4.95 | 4.70 | 4.45 | 4.55 | 4.78 |
| 1904 | 4.65 | 4. 50 | 4.60 | 4.65 | 4.85 | 5. 60 | 5.40 | 5. 10 | 5. 10 | 5. 20 | 4. 95 | 4.40 | 4.92 |
| 1905 | 4.65 | 4. 75 | 5. 00 | 5. 75 | 5. 45 | 5. 25 | 4.95 | 5. 00 | 5.05 | 4.80 | 4.65 | 4. 75 | 5. 00 |
| 1906 | 5. 00 | 5. 05 | 5. 15 | 5.05 | 5.20 | 5. 20 | 5.40 | 5.45 | 5. 50 | 5. 60 | 5. 60 | 5. 50 | 5.31 |
| 1907 | 5. 60 | 5. 55 | 5. 55 | 5. 65 | 5. 65 | 6. 20 | 6. 40 | 6. 25 | 6. 10 | 6.10 | 5. 40 | 5.10 | 5. 80 |
| 1808 | 5.30 | 5. 40 | 6. 00 | 6. 50 | 6. 60 | 6. 90 | 6. 45 | 6. 00 | 5.95 | 5. 70 | 5. 90 | 6. 00 | 6.06 |
| 1909 | 6. 00 | 5.85 | 6. 10 | 6. 10 | 6.45 | 6. 45 | 6.45 | 6. 70 | 6. 75 | 6. 60 | 6.45 | 6. 20 | 6. 34 |
| 1910 | 6. 20 | 6. 35 | 7.35 | 7. 55 | 7.50 | 7. 50 | 7.10 | 6.85 | 6. 80 | 6. 60 | 6. 20 | 6. 00 | 6. 83 |
| 1911 | 6.15 | 6. 15 | 6. 20 | 6. 10 | 5.95 | 6. 05 | 6.30 | 6. 95 | 6. 80 | 6. 75 | 6. 70 | 6. 65 | 6. 40 |
| 1912 | 6. 85 | 6. 60 | 7. 20 | 7. 65 | 7.95 | 8. 00 | 7.90 | 8. 50 | 9.15 | 7. 90 | 8. 10 | 7.85 | 7. 80 |
| 1913 | 7. 80 | 8. 25 | 8.30 | 8.15 | 8.00 | 8.15 | 8. 25 | 8. 30 | 8. 50 | 8.40 | 8. 25 | 8. 20 | 8.21 |
| Av. 1909-1913 | 6. 60 | 6. 64 | 7.03 | 7.11 | 7.17 | 7. 23 | 7.20 | 7. 46 | 7.60 | 7. 25 | 7.14 | 6. 98 | 7.12 |
| 1914 | 8.45 | 8. 30 | 8.35 | 8. 50 | 8.40 | 8.60 | 8. 80 | 9. 10 | 9. 35 | 9. 05 | 8.60 | 8. 35 | 8.65 |
| 1915 | 8.05 | 7. 50 | 7.65 | 7. 70 | 8.35 | 8. 80 | 9.20 | 9. 05 | 8.95 | 8.80 | 8. 70 | 8.35 | 8.43 |
| 1916 | 8.35 | 8.35 | 8. 75 | 9.10 | 9.50 | 9.85 | 9.25 | 9.45 | 9.40 | 9.75 | 10.15 | 10.00 | 9.33 |
| 1917 | 10.15 | 10. 50 | 11. 25 | 11. 75 | 11. 90 | 12.15 | 12. 35 | 12. 70 | 13.10 | 11. 70 | 11. 10 | 11.40 | 11. 67 |
| 1918 | 12.10 | 12. 00 | 12. 60 | 14. 70 | 15.40 | 15.85 | 16. 05 | 15. 75 | 16.00 | 14. 80 | 15. 05 | 14.90 | 14. 60 |
| 1919 | 15.80 | 15. 95 | 16. 05 | 15. 85 | 15.00 | 13. 55 | 15.60 | 16.45 | 15.50 | 16. 15 | 15.10 | 14.35 | 15. 45 |
| 1920 | 13.95 | 13.05 | 13.10 | 12.30 | 12. 25 | 14.95 | 14.68 | 14. 30 | 14.95 | 14.61 | 11.65 | 10.08 | 13.32 |
| Av. 1914-1920 | 10.98 | 10.81 | 11.11 | 11.41 | 11.54 | 11.96 | 12.28 | 12.40 | 12.46 | 12.12 | 11.48 | 11.06 | 11.64 |
| 182 | 8.94 | 8. 57 | 9.41 | 8.22 | 8.33 | 7. 94 | 8.09 | 8. 32 | 7. 67 | 7. 59 | 7. 52 | 7. 31 | 8. 16 |
| 1922 | 7. 37 | 7. 60 | 8. 01 | 7. 94 | 8. 20 | 8. 83 | 9. 48 | 9. 62 | 9.98 | 10.53 | 9. 42 | 8.89 | 8.82 |
| 1923 | 9.17 | 8. 86 | 8.83 | 9. 01 | 9.41 | 9. 94 | 10.05 | 10.48 | 10.12 | 9. 90 | 9.36 | 8.92 | 9.50 |

CALVES.

| 1901 | 5. 85 | 5. 95 | 5. 75 | 5. 15 | 5. 25 | 6.00 | 5.75 | 5.25 | 5.85 | 5. 90 | 5.60 | 5.00 | 5.61 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1902 | 6. 30 | 6. 75 | 6. 00 | 5. 50 | 5. 75 | 5. 75 | 6. 50 | 6.75 | 7.00 | 6. 80 | 6. 60 | 6. 60 | 6.36 |
| 1903 | 7.10 | 7. 15 | 6.50 | 5. 75 | 5. 60 | 6. 20 | 5.65 | 6.40 | 6.65 | 6. 40 | 5.75 | 4.95 | 6.18 |
| 1904 | 5.85 | 6.35 | 5.65 | 4.60 | 4.60 | 4.90 | 5.75 | 5.60 | 5. 90 | 6.10 | 6.00 | 6. 00 | 5.61 |
| 1905 | 6.15 | 6. 50 | 5. 70 | 5.10 | 5. 25 | 5. 85 | 5. 75 | 5.90 | 6. 00 | 6.00 | 6.00 | 6.60 | 5.90 |
| 1906 | 7. 00 | 6. 40 | 6. 25 | 5. 60 | 5. 65 | 5. 80 | 5. 60 | 6.00 | 6.75 | 6. 50 | 6.25 | 7. 00 | 6. 23 |
| 1907 | 7.00 | 6. 50 | 6. 60 | 6. 00 | 6. 35 | 6.15 | 6. 40 | 6. 35 | 6. 50 | 6.00 | 6. 25 | 6.00 | 6.34 |
| 1908 | 6. 75 | 6. 60 | 6. 20 | 5. 50 | 5. 60 | 5.80 | 6. 00 | 6. 75 | 7. 60 | 7.20 | 6.50 | 7. 40 | 6.49 |
| 1909 | 7.60 | 6.85 | 7.00 | 6.30 | 6.35 | 6.50 | 7.00 | 7.50 | 7. 60 | 8.10 | 7.40 | 8. 25 | 7.20 |
| 1910 | 8.60 | 8.65 | 9.00 | 7. 85 | 7.35 | 7.85 | 7.60 | 7.75 | 8. 50 | 8.65 | 8.75 | 8. 50 | 8.25 |
| 1911 | 8. 75 | 8.40 | 7.40 | 6.60 | 7. 25 | 7.60 | 7.40 | 8.00 | 8.75 | 8.60 | 8.35 | 7.85 | 7.91 |
| 1912 | 8.75 | 7.50 | 8. 00 | 7.40 | 7. 75 | 8.00 | 8.75 | 9.75 | 11. 25 | 10.00 | 9.85 | 10. 25 | 8.94 |
| 1913 | 9.75 | 9.85 | 10. 50 | 8.50 | 9.25 | 9.75 | 10.40 | 11.50 | 11. 25 | 10.50 | 10.35 | 10.75 | 10. 20 |
| Av. 1909-19 | 8.69 | 8.25 | 8.38 | 7.33 | 7. 59 | 7.94 | 8.23 | 8.90 | 9. 47 | 9.17 | 8.94 | 9.12 | 8.50 |
| 91 | 11.00 | 10.75 | 9.00 | 8.85 | 9. 50 | 9.40 | 10.60 | 11.00 | 11. 40 | 10.65 | 10.35 | 8.65 | 10. 10 |
| 1915 | 9.85 | 10. 35 | 10.00 | 8. 40 | 9.15 | 9.60 | 10. 25 | 11. 50 | 11. 25 | 10.85 | 10.15 | 9. 65 | 10.08 |
| 1916 | 10.15 | 10.65 | 9.65 | 8.75 | 10.40 | 11. 25 | 11. 40 | 12.00 | 12. 40 | 11. 50 | 11. 85 | 11. 75 | 10.98 |
| 1917 | 13. 40 | 12.65 | 13.40 | 12.50 | 13. 25 | 13.40 | 13.00 | 15.15 | 15.00 | 14.85 | 13. 50 | 15. 25 | 13. 78 |
| 1918 | 15. 35 | 14.15 | 15. 25 | 14.50 | 13. 50 | 16. 02 | 16.67 | 17. 28 | 18.63 | 16.83 | 16.86 | 16. 01 | 15.92 |
| 1919 | 15.62 | 15. 75 | 15. 01 | 14.31 | 14. 66 | 16.37 | 17.88 | 19.62 | 20.52 | 18.05 | 17. 60 | 16. 56 | 16. 83 |
| 1920 | 17.74 | 16.73 | 16.73 | 14.22 | 12.12 | 13.68 | 13.98 | 15.08 | 16. 39 | 14.18 | 13.74 | 10.39 | 14. 53 |
| Av. 1914-1920. | 13.30 | 13.00 | 12.72 | 11.65 | 1i. $8 C$ | 12.82 | 13.40 | 14.52 | 15.08 | 13.84 | 13.44 | 12.61 | 13.18 |
| 1921 | 11.49 | 11.02 | 10.33 | 8.12 | 8. 66 | 8.72 | 9.73 | 9.39 | 10.71 | 8. 68 | 7. 70 | 7.81 | 9. 36 |
| 1922 | 8.36 | 9.16 | 8. 26 | 6. 97 | 8. 46 | 8.89 | 8. 90 | 10.88 | 11.92 | 9.65 | 8.91 | 9.42 | 9.15 |
| 1923 | 10.08 | 10.63 | 9.32 | 8.68 | 9.51 | 9.31 | 9. 60 | 10.01 | 9.98 | 9.39 | 7.82 | 8.69 | 9.42 |

[^238]Figures prior to July, 1920, for good beef steers, and prior to June, 1918, for calves, compiled from Chicago Drovers Journal Yearbook; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
${ }^{1}$ Bulk of sales, $1,100 \mathrm{lbs}$. up.
${ }^{2}$ Simple average of monthly average prices.

Table 425.-Cattle and calves: Monthly average price per 100 pounds, 1923. chicago.

|  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Classification. |  |  |  |  |

[^239]Table 425.-Cattle and calves: Monthly average price per 100 pounds, 1923-Con. EAST ST. LOUIS.

| Classification. |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |

[^240] Livestock, Meats, and Wool Division.
Classification of livestock changed July 1, $1923 . \quad 1$ Beef yearlings excluded.

Table 425.-Cattle and calves: Monthly average price per 100 pounds, 1983-Con. FORT WORTH.

| Classification. | Jan. | Feb. | Mar. | Apr. | May. | June. | Aver- age Jan. 1- June 30. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beef steers: |  |  |  |  |  |  |  |
| Medium and heavyweight (1,100 lbs. up)- Choice and prime.----------- | Dollars. | Dollars. | Dollars. | Dollars. | Dotlars. | Dollars. | Dollars. |
| Good | 8.28 | 8.00 | 8.02 | 7.88 | 8. 00 | 7.87 | 8.01 |
| Medium | 7.00 | 6.87 | 6.98 | 7.00 | 7. 07 | 6.77 | 6. 95 |
| Common | 5. 19 | 5.12 | 5. 25 | 5.38 | 5.50 | 5. 18 | 5.27 |
| Lightweight ( 1,100 lbs. down) - |  |  |  |  |  |  |  |
| Good. | 7.98 | 7.75 | 7.84 | 7.75 | 8.21 | 8.01 | 7.92 |
| Medium | 6.62 | 6.50 | 6.61 | 6. 62 | 7.14 | 6.80 | 6. 72 |
| Common | 4.80 | 4.75 | 4.88 | 5. 00 | 5.56 | 5.12 | 5. 02 |
| Butcher cattle: Heifers, common to choice |  |  |  |  |  |  |  |
| Heifers, common to choice | 5.32 | 5.34 | 5. 44 | 5.50 | 5.45 | 5.16 | 5.37 |
| Cows, common to choice | 4. 11 | 4. 10 | 4. 29 | 4. 62 | 4. 79 | 4. 52 | 4. 40 |
| Bulls, bologna and beef | 3.59 | 3.57 | 3.62 | 3.75 | 3.70 | 3.53 | 3.68 |
| Canners and cutters: Cows and heifers | 2.27 | 2.65 | 2.68 | 2.74 | 2.82 | 2.46 | 2.60 |
| Canner steers. | 2.36 | 2.70 | 2.68 | 2.75 | 2.82 | 2.56 | 2.64 |
| Veal calves: <br> Light to medium weight, medium to choice. | 7.27 | 6.95 | 7.64 | 7.88 | 7.80 | 7.14 | 7.45 |
| Heavyweight, common to choice. | 5. 03 | 5.08 | 5. 52 | 5.46 | 6. 32 | 4.94 | 5. 22 |
| Feeder steers: ${ }_{\text {Heave }}(1,00 \mathrm{lbs}$. up), common to choice |  |  |  |  |  |  |  |
| Heavy (1,000 lbs. up), common to choice-- Light and medium ( 750 to 1,000 lbs.) | 5.69 | 5.72 | 5.75 | 5.75 | 5.70 | 5. 30 | 5. 65 |
| common to choice.-- | 5.45 | 5.47 | 5.50 | 5. 50 | 5. 50 | 5. 16 | 5. 43 |
| Stock cattle: |  |  |  |  |  |  |  |
| Steers, common to choice. | 5.13 | 5. 32 | 5. 38 | 5. 36 | 5. 33 | 4.85 | 5. 23 |
| Cows and heifers, common to choice | 3.47 | 3. 55 | 3.59 | 3.75 | 3.70 | 3.54 | 3. 60 |
| Caves- ${ }_{\text {Good and choice }}$ | 6. 02 | 6. 04 | 6. 12 | 6. 12 | 6. 07 | 5. 72 | 6. 02 |
| Common and medium | 4.18 | 4.24 | 4.25 |  | 3.88 |  | 4.08 |
|  |  |  |  |  |  |  |  |
| Classification. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { age } \\ & \text { July -- } \end{aligned}$ |
|  |  |  |  |  |  |  | Dec. 31. |
| Slaughter cattle: |  |  |  |  |  |  |  |
| Beef steers ( $1,100 \mathrm{lbs} . \mathrm{up}$ )- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Choice and prime. Good | 7.60 | 7.36 | 7.66 | 7.81 | 7.79 | 7.98 |  |
| Medium | 6.25 | 6.08 | 6. 29 | 6.47 | 6. 43 | 6.88 | 6. 40 |
| Common | 4.50 | 4.48 | 4.79 | 5.00 | 5. 14 | 5.28 | 4.88 |
| Beef steers ( $1,100 \mathrm{lbs}$. down) |  |  |  |  |  |  |  |
| Choice and prime. |  |  | 8. 96 | 9.05 | 9.12 |  |  |
| Medium | 7.25 | 7.22 | 7.54 | 7.60 | 7.68 | 8.16 | 7. 58 |
| Common | 4.12 | 4.10 | 4.49 | 4.68 | 4.78 | 5. 07 | 4.54 |
| Canner and cutter | 2.38 | 2.38 | 2.68 | 2.89 | 2.92 | 3.20 | 2.74 |
| Light yearling steers and heifers ( 800 lbs . down), good and prime. |  |  | 8.08 | 8.26 | 8.28 | 8.66 | . |
| Heifers- |  |  |  |  |  |  |  |
| 850 lbs . up-good and choice | 5. 50 | 5. 28 | 5.39 | 5. 56 | 5.47 | 6.20 | 5. 57 |
| All weights-common and medium -- | 3.88 | 3.57 | 3.62 | 3.67 | 3.63 | 4.02 | 3.73 |
| CowsGood and choice | 4.59 | 4.40 | 4.61 | 4.60 | 4.32 | 4.74 | 4.54 |
| Common and medium | 3.38 | 3. 17 | 3. 20 | 3.17 | 2. 96 | 3.47 | 3. 22 |
| Canner and cutter. | 2.15 | 1.96 | 2.05 | 2.07 | 1.92 | 2.30 | 2.08 |
| - |  |  |  |  |  |  |  |
| Good and choice ${ }^{1}$ | 3.88 | 3.88 | 4.07 | 4.16 | 4.08 | 4.12 | 4.03 |
| bologna) | 2.38 | 2.41 | 2.70 | 2.63 | 2.49 | 2.71 | 2.55 |
| Slaughter calves: Medium to choice |  |  |  |  |  |  |  |
| 190 lbs. down. | 6.35 | 6.02 | 6.11 | 5. 93 | 5. 70 | 6.17 | 6.05 |
| 190-260lbs. | 5. 56 | 5.56 | 5.87 | 5. 60 | 5. 36 | 5.78 | 5. 612 |
| 260 lbs . up | 4. 99 | 5. 10 | 5.47 | 5. 31 | 5.03 | 5.41 | 5. 22 |
| CuIl and common-1901 lbs . down. |  |  |  | 3. 243. 03 |  |  |  |
|  | 3. 25 2.62 | $\begin{aligned} & \text { 3. } 11 . \\ & 2.70 \end{aligned}$ | $\begin{aligned} & 3.26 \\ & 2 \end{aligned}$ |  | $\begin{aligned} & \text { 3. } 29 \\ & 28 \end{aligned}$ | 3.62 <br> 3. 22 | $\begin{aligned} & 3.30 \\ & 2.92 \end{aligned}$ |
| Feeder and stocker cattle and calves: Steers- |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Common to choice-750 lbs. up....--- | 4.25 4.25 | 4. 34 4.34 | 4. 88 4.79 | 5. 12 4.96 | 5.15 4.92 | 5. 38 5. 12 | 4. 85 |
| Inferior (all weights) -----------1. | 2.25 | 2. 40 | 2.91 | 3. 00 | 3.00 | 3.06 | 2. 77 |
| Cows and heifers-common to choice | 3. 25 | 3.25 | 3.25 | 3.16 | 2.65 | 2.94 | 3. 08 |
| Calves-common to choice -------------1 | 4.25 | 4.28 | 4.63 | 4.63 | 4.20 | 4.49 | 4.41 |

[^241]Table 425.-Cattle and calves: Monthly average price per 100 pounds, 192.3-Con. KANSAS CITY.

| Classification. | Jan. | Feb. | Mar. | Apr. | May. | June. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beef steers: <br> Medium and heavyweight (1,100lbs |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 10.87 | 10. 44 | 7.87 | 9.69 | 10. 20 | 10.83. | 9.98. |
| Medium | 9.56 8.20 | 9.21 8.14 | ${ }_{8}^{8.96}$ | 8.95 | 9.94 | 10.14 | 9. 39 |
| Common | 6. 68 | 6. 94 | 7.11 | 8. <br> 74 <br> 8 |  | 9.22 7.88 | 8. 49 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Medium | 9.35 | 8. 99 | 8.79 | 8.88 | 9.36 | 9. 84 | 9. 20 |
| Common | 6.32 | 7.87 | 7.90 | 8.06 | 8.50 | 8.72 | 8.16 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Cows, common to choice | 5.12 | 5.21 | 5. 53 | 5. 81 | 5. 98 | 5. 73 | 5. 56 |
| Bulls, bologna and beef. | nners and cutters: |  |  |  |  |  |  |
| Cows and heifers. |  |  |  |  |  |  |  |
| Canner steers | 3.48 | 3.14 3.60 | 3. 38 | 3.53 4.00 | 3.50 | 3. 18 | 3.31 |
| Veal calves:       <br> Light to medium weight, medium to choice 8.95 9.55 8.50 7.58 8.03  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Feeder steers: |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Heavy ( $1,000 \mathrm{lbs} . \mathrm{up}$ ), common to choice Light and medium ( 750 to 1,000 lbs.), | 6.91 | 7.25 | 7.38 | 7.36 | 7.66 | 7.90 | 7.41 |
| Stock cattle: |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cows and heifers, commo | 6.4 | 6.61 | 6. 78 | 6. 81 | 5.00 | 6.94 | 6. 43 |
| Calves- |  |  |  |  |  |  |  |
| Good and choice | 7.12 | 7.20 | 7.44 | 7.50 | 7.56 | 7.44 | 7.38 |
| Common to mediu | 5.27 | 5.32 | 5. 48 | 5. 61 | 5. 82 | 5. 57 | 5. 51 |
| Classification. |  |  |  |  |  |  | A ver- <br> July 1 <br> Dec. 31. |
|  | July. | Aug. | Sept. | Oct. | Nov. | Dec |  |
|  |  |  |  |  |  |  |  |
| Slaughter cattle: |  |  |  |  |  |  |  |
| Beef steers ( $1,100 \mathrm{lbs} . \mathrm{up}$ )- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Choice and prime | 10.83. | 11.87 | 11. 68 | 11.34 | 11.25 | 11.36. | 11.39 |
| Good.-.- | 9.92 | 10. 06 | 10. 16 | 9.78 | 9.64 | 9.88 | 9.91 |
| Medium | 8.90 | 8.73 | 8. 59 | 8. 20 | 7.87 | 8.19 | 8.41 |
| Common--1--------- | 7.59 | 7.28 | 6.96 | 6.65 | 6.31 | 6.41 | 6. 87 |
|  |  |  |  |  |  |  |  |
| Choice and prime | 10.58 | 11. 10 | 11.40 | 11.11 | 11.35 | 11.48 | 11.17 |
| Mood.... | 9.61 | 9.76 | 9. 84 | 9. 59 | 9.68 | 10.01 | 9.75 |
| Medium- | 8.50 | 8.45 | 8. 38 | 8.08 | 7. 96 | 8.32 | 8. 28 |
| Common | 6. 96 | 6. 64 | 6.41 | 6. 09 | 6.00 | 6.16 | 6.38 |
|  | 4.34 | 4.12 | 4.11 | 4.00 | 4.00 | 4.00 | 4.10 |
| Light yearling steers and heifers ( 800 lbs . down), good and prime | 9.45 | 9.74 | 9.89 | 9.88 | 10.00 | 10. 14 | 4.10 9.85 |
| Heifers), 850 lbs. up, good and choice |  |  |  |  |  |  |  |
|  | 7.82 | 7.85 | 7.80 | 7.82 | 7.62 | 8.04 | 7.82 |
| Cows- ${ }^{\text {a }}$ - | 5. 50 | 5. 54 | 5. 39 | 5. 26 | 4.88 | 5. 04 | 5. 27 |
| Cows- ${ }_{\text {Good and }}$ choice | 6. 55 | 6. 53 | 6.40 | 6. 25 | 5.88 | 5.90 |  |
| Common and mediu | 4. 34 | 4. 27 | 4. 28 | 4. 23 | 5. ${ }^{\text {3. }} 88$ | 5.92 | 6. ${ }_{\text {c }} 14$ |
| Bulls- Good and choice ${ }^{1}$ | 2.68 | 2. 59 | 2.66 | 2. 74 | 2.43 | 2. 66 | 2. 63 |
|  | 5.65 | 5. 26 | 5. 26 | 5.00 | 4.92 |  |  |
|  |  |  |  |  |  | 4.93 | 5. 17 |
| bologna | 4.08 | 3.54 | 3.52 | 3.27 | 3.06 | 3. 20 | 3.44 |
| Slaughter calves: <br> Medium to choice- |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 190-260 lbs_ | 7.53 | 7.42 | 7.41 | 7.27 | 6.75 | 6.88 | 7.21 |
|  |  |  |  |  |  |  |  |
| 1901 lbs. up.....-- | 4.584.08 | $\begin{aligned} & \text { 4. } 62 \\ & 3.65 \end{aligned}$ | $\text { 4. } 68$$\text { 3. } 62$ | $\text { 4. } 67$ | $\begin{aligned} & \text { 4. } 38 \\ & \text { 3. } 25 \end{aligned}$ | 4. 50 | $\begin{aligned} & \text { 4. } 51 \\ & 3.55 \end{aligned}$ |
| Feeder and stocker cattle and calves: Steers- |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Common to choice-750 lbs. upCommondo choice-750 | 6.776.40 | 7.076.47 | 7. 13 | 6. 61 | 6.60 | 6. 53 | 6. 78 |
|  |  |  |  |  |  |  |  |
| Inferior (all weights). | 3.72 | 3.75 | 3.75 | 3. 75 | 3.75 | 3.70 | 3. 74 |
| Cows and heifers-common to choice. | 4. 60 | 4.46 | 4. 38 | 4.09 | 3. 88 | 3.98 | 4. 23 |
| Calves-common to choice.......-.-.-.-...- | 6.12 | 6.12 | 5. 84 | 5. 66 | 5. 58 | 5. 56 | 5. 81 |

[^242]Table 425.-Cattle and calves: Monthly average price per 100 pounds, 192s-Con. OMAHA.

| Classification. | Jan. | Feb. | Mar. | Apr. | May. | June. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beef steers: | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Medium and heavyweight ( $1,1001 \mathrm{lbs}$. up) |  |  |  |  |  |  |  |
| Choice and prime.-.------- | 10.949.507. | 10.289.248 | 9.748.888. | 9.508.72 | 9.909.30 | 10.589.83 | 10. 16 |
| Good.-- |  |  |  |  |  |  |  |
| Medium | 7.996.39 | 8. 05 | 8. 05 | 8. 8 8.08 | 8 8. 65 | 8.84 | 9.24 |
| Common |  | 6. 67 | 6. 86 | 7.08 | 7.69 | 7.66 | 7. 06 |
| Lightweight (1,100 lbs. down)- | 6.39 | 10.14 |  |  |  |  |  |
| Choice and prime.- | 10.71 |  |  | 9. 50 | 9.79 | 10.38 | 10.049.12 |
| Good.-. | 9.33 |  |  |  |  |  |  |
| Medium | 6.11 | 6. 45 | 7.936.61 | 7.96 <br> 6.84 | 7.19 | 7.09 | 8. 06 |
| Butcher cattle: |  |  |  |  |  |  | 6. 72 |
| Heifers, common to choic | $\begin{aligned} & 6.67 \\ & \text { 5. } 28 \end{aligned}$ | 6.75 | 6.79 | 6.80 | 6.966.31 | 7.09 | 6.845.81 |
| Cows, common to choice |  | 5.43 | 5. 60 <br> 5. 43 | $\begin{aligned} & 5.95 \\ & 5.47 \end{aligned}$ |  | 6.29 |  |
| Bulls, bologna and beef | 4.68 | 4.98 |  |  | 5. 84 | 5. 68 | 5. 35 |
| Canners and cutters: Cows and heifers. |  |  | 3.54 | 3.77 | 4.00 | 3.46 |  |
| Canner steers. | 3.28 3.74 | 3.35 3.75 | 3.97 |  |  |  | 3. 57 |
| Veal calves: |  | 9. 55 | 9.246.24 | 7.966.13 | 8.866.56 | 7.876.05 | 8. 76 |
| Light to medium weight, medium to choice. |  |  |  |  |  |  |  |
| Heavyweight, common to choice | 6. 04 | 6. 50 |  |  |  |  | 6. 25 |
| Feeder steers: | 6.87 | 7.12 | 7.06 | 7.24 | 7.47 | 7.64 | 7.23 |
| Heavy (1,000 lbs. up), common to choice-- |  |  |  |  |  |  |  |
| Light and medium ( 750 to $1,000 \mathrm{lbs}$.), common to choice | 6.85 | 7.00 | 6.92 | 7.04 | 7.15 | 7.04 |  |
| Stock cattle: |  |  |  |  |  |  | 7.00 |
| Steers, common to choice: | $\begin{aligned} & 6.15 \\ & 4.29 \end{aligned}$ | 6. 25 | 6. 24 | 6.37 | 6. 53 | $\begin{aligned} & 6.38 \\ & \text { 4. } 60 \end{aligned}$ | 6. 324.46 |
| Cows and heifers, common to choice |  | 4.38 | 4.38 | 4.42 | 4.66 |  |  |
| CalvesGood and choice. | $\begin{aligned} & 6.95 \\ & 5.26 \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.10 \\ & 5.40 \end{aligned}$ | 7.06 <br> 5. 41 | $\begin{aligned} & 7.11 \\ & 5.38 \end{aligned}$ | $\begin{array}{r} 7.28 \\ 5.59 \\ \hline \end{array}$ | $\begin{aligned} & 7.38 \\ & 5.75 \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.15 \\ & 5.46 \end{aligned}$ |
|  |  | Aug. | Sept. | Oct. | Nov. |  |  |
|  | July. |  |  |  |  | Dec. |  |
| Classification. |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Slaughter cattle: | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Beef steers (1,100 lbs. up)- |  |  |  |  |  |  |  |
| Choice and prime. | 10.81 | 11. 50 | 11. 80 | 11.41 | 11. 28 | 11.52 | 11.399.99 |
| Good. | $\begin{aligned} & 9.93 \\ & 8.87 \end{aligned}$ | 10.188.69 | 10.20 | 9. 91 | 9.74 | 10.00 |  |
| Medium- |  |  |  | 6. 74 | 8. 6.56 | 8.286.29 | 8. 476. 85 |
| Common. | 7.46 | 7.13 | 6. 90 |  |  |  |  |
| Beef steers (1,100 lbs. down)- |  |  |  |  |  |  | 6. 85 |
| Choice and prim | 10.62 9.69 | 11.23 | 11. 59 | 11.27 9.77 | 11.50 10.02 | 11.63 <br> 10.14 | 11.31 9.90 |
| Medium | 8.54 | 8.41 | 8.27 | 8.12 | 8.26 | 8. 34 | 8.326.36 |
| Common | 6.94 | 8. <br> 6. <br> 4 <br> 4.21 | 6. 28 | 6. 124.00 | 6.124.00 | 6. 134.024.0 |  |
| Canner and cutter |  |  | 4.02 |  |  |  | 4.05 |
| Light yearling steers and heifers ( 800 lbs . down), good and prime. | 9.66 | 4.21 9.67 | 9.66 | 9.73 | 10.08. | 10. 29 | 9.85 |
| Heifers- ${ }^{\text {c }}$, |  |  |  |  |  |  | $\begin{array}{r} 8.32 \\ -5.59 \end{array}$ |
| 850 lbs . up-good and choice. | 8.275.98 | 8.30 | $\begin{aligned} & 8.14 \\ & 5.42 \end{aligned}$ | 8. 315.46 | $\text { 8. } 28$ | $\begin{aligned} & 8.61 \\ & 5.58 \end{aligned}$ |  |
| All weights-common and medium.-- |  | 5.82 |  |  |  |  |  |
| Cows- <br> Good and choice |  | $\begin{aligned} & \text { 7. } 00 \\ & \text { 4. } 56 \end{aligned}$ | $\begin{aligned} & \text { 6. } 56 \\ & 4.18 \end{aligned}$ | $\begin{aligned} & 6.32 \\ & 4.06 \end{aligned}$ | 5.71 | 5.80 |  |
| Common and medium | 6. 87 4.75 4 |  |  |  | 3.78 | 4.25 | 4. 26 |
| Canner and cutter. | 3. 04 | 2.87 | 2. 72 | 2. 79 | 2.64 | 3.01 | 2. 84 |
| Bulls- Good and choice 1 | 6.02 | 6. 18 | 5.82 | 5. 53 | 5.08 | 5.05 | 5.61 |
| Canner to medium (canner and |  |  |  |  |  |  |  |
| bologna) ----------------------------- | 4. 28 | 4.08 | 3. 70 | 3. 53 | 3.03 | 3. 24 | 3. 64 |
| Slaughter calves: <br> Medium to choice- |  |  |  |  |  |  |  |
| 190 lbs. down. | 8.68 | 8. 19 | 8.41 | 8.60 | 8.30 | 7.96 | 8.36 |
| 190-260 lbs. | 7.54 | 7.31 | 7.25 | 7.07 | 6.80 | 6. 68 | 7.11 |
| 2601 bs up. | 6. 78 | 6.31 | 6. 25 | 6. 16 | 6.14 | 5.84 | 6.25 |
| Cull and common- |  |  |  |  |  |  |  |
| 190 I bs. down | 5. 94 | 5.25 | 5.25 | 5. 25 | 5. 10 | 5. 34 | 5. 36 |
| 1901 bs. up--------.-.-- | 5. 26 | 4.69 | 4.62 | 4.35 | 3.99 | 3.83 | 4.46 |
| Feeder and stocker cattle and calves: |  |  |  |  |  |  |  |
| Common to choice-750 lbs. up | 7.22 | 7.30 | 7.32 | 6. 75 | 6.50 | 6. 54 | 6.94 |
| Common to choice-750 lbs. down.- | 6. 60 | 6. 24 | 6.28 | 6.04 | 6.04 | 6. 18 | 6.23 |
| Inferior (all weights) ----------- | 4.49 | 4.13 | 4.06 | 3. 88 | 3. 87 | 3. 80 | 4. 04 |
| Cows and heifers-common to choice | 4.55 | 4.56 | 4.62 | 4. 34 | 3. 81 | 3.96 | 4.31 |
| Calves-common to choice...-. - | 6.36 | 6. 25 | 6. 19 | 5.80 | 5.55 | 5.40 | 5.92 |

[^243]Table 425.-Cattle and calves: Monthly average price per 100 pounds, 1923-Con. SOUTH ST. PAUL.


[^244]Livestock, Meats and Wool Division.
Classification of livestock changed July 1, 1923.
${ }^{1}$ Beef yearlings excluded.

Table 426.-Cattle and calves: Trend of average farm prices and average market prices at Chicago, 1910-1923.

| Calendar year. | Farm price. |  | Average market price at Chicago. |  | Price relatives, $1913=100$. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Beef cattle, weighted average. | Veal calves, simple average. | Beef cattle, simple average. | Veal calves, simple average. | Farm price. |  | Market price. |  |
|  |  |  |  |  | Beef cattle. | Veal calves. | Beef cattle. | Veal calves. |
|  | Dollars. | Dollars. | Dollars. | Dollars. |  |  |  | ¢1.0 |
| 1910 | 4.76 | 6.41 | 6.83 | 8.25 | 80.5 | 85.7 | 83.2 | 81.0 |
| 1911 | 4. 45 | 6.06 | 6.40 | 7.91 | 75.3 | 81.0 | 78. 0 | 77.6 |
| 1912 | 5. 15 | 6.45 | 7.80 | 8.94 | 87.1 | 86.2 | 95.0 | 87.7 |
| 1913 | 5.91 | 7.48 | 8.21 | 10. 19 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1914 | 6. 24 | 7.83 | 8.65 | 10.10 | 105.6 | 104.7 | 105.4 | 99.1 |
| 1915 | 6. 00 | 7.63 | 8.43 | 10.08 | 101. 5 | 102. 0 | 102. 7 | 98.9 |
| 1916 | 6. 47 | 8.33 | 9.33 | 10.98 | 109.5 | 111.4 | 113.6 | 107.8 |
| 1917 | 8.16 | 10.47 | 11. 67 | 13. 78 | 138. 1 | 140.0 | 142.1 | 135.2 |
| 1918 | 9. 44 | 11. 88 | 14. 60 | 15.92 | 159.7 | 158. 8 | 177.8 | 156. 2 |
| 1919 | 9.56 | 12. 74 | 15. 45 | 16.85 | 161.8 | 170.3 | 188.2 | 165.4 |
| 1920 | 8. 32 | 11.81 | 13.32 | 14. 58 | 140.8 | 157.9 | 162.2 | 143.1 |
| 1921 | 5. 46 | 7.87 | 8.16 | 9.36 | 92.4 | 105. 2 | 99.4 | 91.9 |
| 1922 | 5. 48 | 7.69 | 8.82 | 9.15 | 92.7 | 102. 8 | 107.4 | 89.8 |
| 1923. | 5. 57 | 7. 99 | 9. 50 | 9.42 | 94.2 | 106.8 | 115. 7 | 92.4 |

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices compiled from data of the reporting service of the Livestock, Meats and Wool Division.

Table 427.-Cattle: Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts, 1913-1923.

| Calendar year. | Live steers good to choice, Chicago. | Beef, wholesale. |  |  |  | Beef, retail. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Good native steer, Chicago. |  | Native sides, New York. |  | Sirloin steak. |  |  |  |  |  | Round steak. |  |  |  |  |  |
|  |  |  |  | Chicago. | New York. |  | Average, leading cities. |  | - Chicago. |  | New York. |  | Average, leading cities. |  |
|  |  | $\begin{gathered} \text { Price } \\ \text { per } \\ \text { pound. } \end{gathered}$ | Wholesale as per cent of live steer price. |  |  | Price per pound. | Wholesale as per cent of live steer price. | $\begin{gathered} \text { Price } \\ \text { per } \\ \text { pound. } \end{gathered}$ | Retail as per cent of live steer price. | Priceperpound. pound. | Retail as per cent of live steer price. | Price per pound. | Retail as per cent of live steer price. | $\begin{gathered} \text { Price } \\ \text { per } \\ \text { pound. } \end{gathered}$ | Retail as per cent of live steer price. | Price per pound. | Retail as per cent of live steer price. |  | Retail as per cent of live steer price. |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Per |  | Per |  | Per |  | Per |  | Per |  | Per |  | Per |  | Per |  |  |
| 1913. | Cents. 8.5 | Cents. | cent. | Cents. | cent. 147 | Cents. | cent. | Cents. | cent. | Cents. | cent. | Cents. | cent. | Cents. | cent. | Cents. | cent. |  |  |
| 1914. | 9.0 | 13.6 | 151 | 13. 5 | 150 | 25.3 | 283 | 26.8 | 298 | 25.9 | 288 | 22.4 | 249 | 26.3 | 292 | 23. 6 | 262 |  |  |
| 1915. | 8.7 | 12.9 | 148 | 12.6 | 145 | 25.7 | 295 | 26.8 | 308 | 25.7 | 295 | 22. 1 | 254 | 26.0 | 299 | 23.0 | 264 |  |  |
| 1916 | 9.6 | 13.8 | 144 | 13. 4 | 140 | 26.8 | 279 | 28.1 | 293 | 27.3 | 284 | 22.6 | 235 | 27.4 | 285 | 24.5 | 255 |  |  |
| 1917 | 12.8 | 16.7 | 130 | 16.4 | 128 | 29.3 | 229 | 32.6 | 255 | 31.5 | 246 | 25.8 | 202 | 32.6 | 255 | 29.0 | 227 |  |  |
| 1918 | 16.4 | 22.1 | 135 | 20.9 | 127 | 35.3 | 215 | 40.9 | 249 | 38.9 | 237 | 32.3 | 197 | 42.3 | 258 | 36.9 | 225 |  |  |
| 1919 | 17.5 | 23.3 | 133 | 21.5 | 123 | 38.3 | 219 | 43. 9 | 251 | 41.7 | 238 | 34.3 | 196 | 45.7 | 261 | 38. 9 | 222 |  |  |
| 1920. | 14.5 | 23.0 | 159 | 20.8 | 143 | 43.0 | 297 | 46.9 | 323 | 43.7 | 301 | 36.3 | 250 | 47.3 | 326 | 39.5 | 272 |  |  |
| 1921. | 8.8 | 16.3 | 185 | 14.8 | 168 | 38.0 | 432 | 42.1 | 478 | 38.8 | 441 | 31.0 | 352 | 41.4 | 469 | 34.4 | 391 |  |  |
| 1922. | 9. 5 | 15.0 | 158 | 13.8 | 145 | 37.2 | 392 | 41.1 | 433 | 37.4 | 394 | 29.1 | 306 | 39.6 | 417 | 32.3 | 340 |  |  |
| 1923. | 10.0 | 15.8 | 158 | 14.5 | 145 | 39.8 | 398 | 42.5 | 425 | 39.1 | 391 | 30.7 | 307 | 40.8 | 408 | 33.5 | 335 |  |  |
| January ..........-. | 9.8 | 15.4 | 157 | 14.0 | 143 | 38.1 | 389 | 40.5 | 413 | 37.2 | 380 | 29.3 | 299 | 38.6 | 394 | 31.6 | 322 |  |  |
| February | 9.4 | 14.8 | 157 | 13.5 | 144 | 37.6 | 400 | 39.9 | 424 | 37.1 | 395 | 28.9 | 307 | 38. 3 | 407 | 31.5 | 335 |  |  |
| March... | 9.3 | 14.5 | 156 | 12.7 | 137 | 37.3 | 401 | 39.9 | 429 | 37.3 | 401 | 28.8 | 310 | 38.1 | 410 | 31.7 | 341 |  |  |
| April. | 9.0 | 14. 5 | 161 | 13.9 | 154 | 38.2 | 424 | 40.4 | 449 | 37.9 | 421 | 29.4 | 327 | 38.7 | 430 | 32.3 | 359 |  |  |
| May. | 9. 5 | 14. 5 | 153 | 14.5 | 158 | 38.5 | 405 | 41.4 | 436 | 38.7 | 407 | 29.6 | 312 | 39.6 | 417 | 33.0 | 347 |  |  |
| June. | 10.3 | 15.1 | 147 | 14.3 | 139 | 39.3 | 382 | 43.4 | 421 | 40.1 | 389 | 30.2 | 293 | 40.9 | 397 | 34.5 | 335 |  |  |
| July. | 10.6 | 15.8 | 149 | 16.0 | 151 | 40.5 | 382 | 45.3 | 427 | 41.0 | 387 | 31.6 | 298 | 43.7 | 412 | 35.5 | 335 |  |  |
| August | 10.9 | 15.8 | 145 | 14.9 | 137 | 41.6 | 382 | 45.5 | 417 | 41.1 | 377 | 32.3 | 295 | 43.7 | 401 | 35.5 | 326 |  |  |
| September | 10.7 | 17.5 | 164 | 14.8 | 138 | 43.0 | 402 | 45. 0 | 421 | 41.1 | 384 | 32.7 | 306 | 43.5 | 407 | 35.5 | 332 |  |  |
| October.. | 10.4 | 17.5 | 168 | 15.1 | 145 | 41.6 | 400 | 44.3 | 426 | 40.0 | 385 | 32.3 | 311 | 42.8 | 412 | 34.4 | 331 |  |  |
| November | 9.8 | 17.5 | 179 | 14.2 | 145 | 40.7 | 415 | 42. 6 | 435 | 38.9 | 397 | 31.7 | 323 | 41.2 | 420 | 33.1 | 338 |  |  |
| December | 9.8 | 17.1 | 174 | 16.6 | 169 | 40.9 | 417 | 42.3 | 432 | 38.6 | 394 | 31.6 | 322 | 40.6 | 414 | 32.9 | 336 |  |  |

T4패 487.-Cattle: Prices of live steßrs in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain heef cuts, 1913-1923-Continued.


'Table 428.-Cattle and calves: Monthly slaughter under Federal inspection, 1907-1928.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1907 | 717, 935 | 569, 641 | 555, 476 | 634, 541 | 620,114 | 588, 465 | 640, 535 | 667, 827 | 696, 271 | 801, 110 | 595, 692 | 545, 758 | 7,633, 365 |
| 1908 | 642, 632 | 527, 369 | 519, 851 | 463, 445 | 490, 623 | 525, 134 | 563, 403 | 640, 332 | 767, 698 | 821, 193 | 680, 616 | 636, 964 | 7,279, 260 |
| 1909 | 586, 542 | 489, 905 | 550, 719 | 508, 267 | 536, 101 | 543, 597 | 608, 030 | 652, 172 | 782, 309 | 892, 348 | 798, 967 | 764, 850 | 7,713, 807 |
| 1910 | 632, 131 | 527, 361 | 599, 076 | 532, 904 | 551, 179 | 620, 862 | 614, 962 | 678, 668 | 795, 525 | 831, 406 | 779, 527 | 643, 999 | 7, 807, 600 |
| 1911 | 626, 060 | 535, 853 | 562, 077 | 499, 422 | 599, 084 | 614, 447 | 591, 317 | 719,510 | 691, 720 | 828, 316 | 745, 810 | 605, 480 | 7, 619, 096 |
| 1912 | 674, 995 | 515, 056 | 563, 882 | 522, 278 | 562, 506 | 511, 135 | 507,695 | 631, 623 | 643, 617 | 808, 361 | 690, 973 | 620, 457 | 7,252, 578 |
| 1913 | 621, 744 | 489, 842 | 483, 693 | 554, 709 | 546, 781 | 556, 321 | 592, 959 | 582, 081 | 656, 410 | 701, 402 | 601, 937 | 590, 482 | 6, 978, 361 |
| 1914 | 585, 164 | 498, 991 | 476, 406 | 474, 177 | 473, 806 | 490, 302 | 505, 244 | 518, 165 | 650, 427 | 743, 686 | 658, 189 | 682, 180 | 6, 756, 737 |
| 1915 | 572, 748 | 466, 122 | 551, 991 | 507, 442 | 534, 457 | 573, 851 | 596, 142 | 590, 302 | 641, 411 | 736, 149 | 702, 134 | 680, 646 | 7,153, 395 |
| 1916. | 622, 507 | 549, 956 | 597, 059 | 475, 566 | 564, 207 | 648, 209 | 562, 448 | 742, 534 | 790,737 | 941, 049 | 971, 801 | 844, 385 | 8,310, 458 |
| 1917 | 822, 932 | 662, 776 | 647, 251 | 654,336 | 815, 071 | 844, 168 | 783, 559 | 865, 883 | 957, 253 | 1,195, 587 | 1, 098, 796 | 1, 002, 540 | 10,350, 152 |
| 1918 | 895, 275 | 784, 834 | 828, 216 | 914, 899 | 781, 755 | 829, 690 | 1,019,982 | 987, 237 | 1, 142, 754 | 1,251, 041 | 1, 233, 081 | 1,159, 785 | 11,828, 549 |
| 1919 | 1,119, 200 | 701, 353 | 640, 288 | 622, 123 | 720,648 | 644, 463 | 854, 797 | 859, 409 | 855, 292 | 1, 073, 220 | 1, 040, 074 | 960, 181 | 10,091, 084 |
| 1920. | 832, 231 | 630,995 | 683, 139 | 637, 575 | 626, 304 | 656, 602 | 661, 172 | 685, 763 | 825, 484 | 843, 136 | 858, 946 | 667, 344 | 8, 608, 691 |
| 1921 | 689, 506 | 526, 177 | 620, 936 | 590, 943 | 569, 979 | 640, 186 | 579, 028 | 680, 419 | 689, 043 | 749, 756 | 686, 115 | 586, 192 | 7,608, 280 |
| 1922 | 641, 513 | 569, 153 | 673, 701 | 589, 916 | 702, 203 | 724, 418 | 697, 303 | 761, 125 | 796, 377 | 883, 949 | 859, 413 | 778, 736 | 8, 677, 807 |
| 1923 | 745, 109 | 633, 710 | 687, 634 | 696, 757 | 762, 461 | 726, 962 | 724, 896 | 820,514 | 809, 810 | 952, 795 | 845,618 | 756, 250 | 9,162, 516 |
| CALVES. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1907 | 128, 178 | 99, 283 | 122,451 | 205, 410 | 224, 405 | 203, 916 | 220, 697 | 205, 840 | 197, 811 | 186, 620 | 126, 141 | 103, 635 | 2, 024, 387 |
| 1908 | 116, 868 | 87,891 | 137, 120 | 196, 976 | 205, 225 | 210, 692 | 192, 034 | 184, 719 | 187, 400 | 180, 317 | 142, 560 | 116, 471 | 1,958, 273 |
| 1909 | 134, 800 | 95, 221 | 149, 150 | 200, 106 | 228, 192 | 235, 741 | 213, 217 | 195, 623 | 205, 468 | 205, 064 | 171, 288 | 155, 147 | 2, 189, 017 |
| 1910 | 132, 412 | 116,899 | 188,441 | 221, 557 | 251, 746 | 237, 937 | 198, 425 | 206, 000 | 197, 135 | 187, 567 | 168, 323 | 131, 845 | 2, 238, 287 |
| 1911 | 135, 440 | 120,845 | 180, 386 | 218, 434 | 243, 247 | 232, 261 | 198, 471 | 206, 971 | 184, 421 | 179, 838 | 155, 135 | 128, 094 | 2, 183, 543 |
| 1912. | 152, 064 | 126, 432 | 179, 813 | 244, 700 | 258, 331 | 228, 659 | 201, 085 | 192,355 | 189, 785 | 193, 250 | 162,837 | 148, 643 | 2, 277, 954 |
| 1913 | 139, 281 | 117,987 | 141, 551 | 212, 374 | 204, 723 | 194, 613 | 182, 000 | 149, 292 | 158, 518 | 156, 562 | 124, 004 | 121, 509 | 1,902, 414 |
| 1914 | 122, 486 | 99,865 | 145, 226 | 185, 619 | 183, 052 | 186, 771 | 153, 448 | 129,359 | 129, 637 | 135, 009 | 107, 279 | 119, 211 | 1,696, 962 |
| 1915 | 108, 642 | 96, 096 | 156, 205 | 198, 515 | 205, 039 | 197, 462 | 161, 997 | 141, 289 | 138, 557 | 148, 061 | 141, 400 | 125, 439 | 1, 818, 702 |
| 1916. | 129, 231 | 143, 262 | 189, 472 | 233, 412 | 267, 422 | 228, 480 | 177, 605 | 206, 783 | 185, 928 | 203, 905 | 217, 370 | 184, 533 | 2, 367, 403 |
| 1917 | 203, 250 | 181, 581 | 211,501 | 286, 191 | 344, 598 | 276, 501 | 276, 710 | 254, 711 | 271, 514 | 339, 324 | 280, 910 | 215, 930 | 3,142, 721 |
| 1918 | 210, 444 | 192,769 | 259, 854 | 351, 387 | 357, 353 | 312, 171 | 354, 721 | 273, 597 | 316, 816 | 306, 096 | 272, 076 | 249, 109 | 3, 456, 393 |
| 1919 | 294, 812 | 209, 834 | 295, 388 | 383, 414 | 391, 304 | 327, 060 | 399,966 | 318, 769 | 317,984 | 374, 619 | 344, 238 | 311, 639 | 3,969, 027 |
| 1920 | 305, 125 | 283, 052 | 390, 053 | 382, 420 | 368, 614 | 431, 079 | 342, 765 | 332, 349 | 347, 578 | 314, 791 | 315, 971 | 244, 573 | 4, 058, 370 |
| 1921 | 282, 043 | 253, 692 | 360,410 | 365, 541 | 366, 798 | 369, 696 | 324, 046 | 303,796 | 321, 193 | 309, 136 | 292, 172 | 259, 045 | 3, 807, 568 |
| 1922 | 288, 487 | 279, 359 | 391, 439 | 365, 323 | 401, 340 | 388, 919 | 329, 445 | 344, 968 | 353, 095 | 382, 837 | 347, 711 | 308, 646 | 4, 181, 569 |
| 1923 | 351, 382 | 296, 698 | 367, 979 | 400, 322 | 466, 792 | 387,905 | 378, 513 | 402, 643 | 338, 093 | 416, 388 | 370, 070 | 323, 538 | 4, 500, 323 |

[^245]Table 429.-Beef: Cold-storage holdings in United States, 1916-1923.

| Year. | Jan. 1. | Feb. 1. | Mar.1. | Apr. 1. | May 1. | June 1. | Juiy 1. | Aug. 1. | Sept. 1. | Oct. 1. | Nov. 1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 1916 | 147, 817 | 153, 118 | 151, 912 | 144, 089 | 112,045 | ${ }_{90,349}{ }^{\text {lbs }}$. |  | ${ }_{77,456}$ | ${ }_{76,753}{ }_{\text {libs }}$ | libs. | libs. | ${ }_{\text {1bs, }}^{\text {lio6 }}$ |
| 1917 | 239, 743 | 226, 800 | 207, 453 | 184, 794 | 147, 800 | 133, 838 | 145, 033 | 141, 130 | 130,743 | 150, 468 | 111, 254 | 1973, 989 |
| 1918 | 354, 814 | 330, 907 | 313, 689 | 302, 121 | 241, 942 | 214, 888 | 176, 606 | 209, 027 | 215, 125 | 223, 181 | 253, 652 | 262, 049 |
| 1919 | 335,085 | 330, 324 | 296, 539 | 252, 415 | 212, 407 | 191, 002 | 191, 883 | 190, 222 | 197, 595 | 203, 571 | 221, 791 | 258, 858 |
| 1920 | 298, 864 | 288, 752 | 260, 147 | 231, 937 | 200, 788 | 157, 271 | 121, 652 | 101, 086 | 89, 721 | 78, 055 | 89, 015 | 112, 166 |
| 1921 | 142, 813 | 142, 891 | 146, 400 | 138, 345 | 122, 188 | 109, 553 | 96, 220 | 84, 091 | 67, 334 | 59, 822 | 63, 486 | 80, 333 |
| 1922 | 84, 808 | 78, 295 | 73, 782 | 69, 516 | 64,507 | 56, 852 | 50, 706 | 47, 031 | 48, 291 | 53, 572 | 67, 814 | 95, 628 |
| 1923 | 116, 255 | 114, 113 | 100, 591 | 90, 502 | 78, 535 | 65, 023 | 57, 220 | 45, 893 | 46, 041 | 48, 187 | 63, 421 | 93, 166 |

Division of Statistical and Historical Research.
Table 430.-Cattle: Monthly sitatement of the livestock and meat situation, 1923. CATTLE, CALVES, BEEF, AND VEAL.

| Item. | Unit. | Jan. | Feb. | Mar. | Apr. | May. | June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Calves | do | 351 | 297 | 368 | 400 | 467 | 388 |
| A verage live weight: |  |  |  |  |  |  |  |
| Calves | -do | 168 | 163 | 149 | 142 | 146 | 162 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Calves |  | 100 | 97 | 88 | 82 | 82 | 94 |
|  |  |  |  |  |  |  |  |
| Veeal | .---.do | 34, 970 | 28, 688 | 32, 437 | 32, 850 | 48, 394 | 36,277 |
| Storage first of month: |  |  |  |  |  |  |  |
| Fresh beef | do | 91, 805 | 89, 272 | 75, 604 | 65, 292 | 54, 522 | 41,207 |
| Cured beef |  | 24, 450 | 24, 841 | 24, 987 | 25, 210 | 24, 013 | 23,816 |
|  |  |  |  |  |  |  |  |
| Cured beef.....-- | do | 1,205 | 1,929 | 2,312 | 1,937 | 1,612 | 2, 107 |
| Canned beef | d | 168 | 253 | 104 | 117 | 238 | 171 |
| Oleo oil and stear | d | 10,208 | 8,043 | 11, 523 | 8,962 | 9, 736 | 9, 174 |
| Tallow | do | 1,468 | 1,320 | 1,714 | 1,616 | 2,446 | 4,427 |
| Imports: |  |  |  |  |  |  |  |
| Receipts, cattle and calves ${ }^{2}$ | Thousands | 1,877 | 1,427 | 1,502 | 1,670 | 1,900 | 1,629 |
| Stocker and feeder shipments ${ }^{2}$ | ----do.---- | 281 | 210 | 199 | 233 | 300 | 234 |
| Prices per 100 pounds: |  |  |  |  |  |  |  |
| Average cost for slaughter | Dollars | 6.58 | 6.89 | 7.19 | 7.51 | 7.82 | 7.90 |
|  |  |  |  |  |  |  |  |
| At Chicago- | -----do----- |  |  |  |  |  |  |
| Cattle, good steers | -do | 10. 30 | 9. 80 | 9.58 | 9.39 | 9.71 | 10. 10 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Beef carcasses, good grade | -do. | 14. 47 | 14. 06 | 13. 74 | 14. 12 | 15. 42 | 16.41 16.09 |
| Veal carcasses, good grade Cattle on farms Jan. | Thousands- | 18.14 67,240 | 18.07 | 16. 45 | 15.97 | 16.68 | 16. 09 |
| Cattle on farms Jan. | Thousands. | 67, 240 |  |  |  |  |  |

Table 430.-Cattle: Monthly statement of the livestock and meat situation, 1923Continued.
CATTLE, CALVES, BEEF AND VEAL-Continued.

| Item. | Unit. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inspected slaughter:         <br> $\begin{array}{c}\text { Cattle }\end{array}$ Thousands 725 820 810 953 846 756 9,163 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Calves | ----do----- | 378 | 403 | 338 | 416 | 370 | 324 | 4, 500 |
| Average live weight: | ound | 942 | 933 | 939 | 40 | 934 | 952 | 953 |
| Calves | do | 177 | 196 | 204 | 200 | 189 | 181 | ${ }^{3} 173$ |
| A verage dressed weight: |  |  |  |  |  |  |  |  |
| Cattle.------------ | -do | 509 | 504 | 501 | 496 | 502 | 499 | ${ }^{3} 516$ |
| Calves |  | 102 | 110 | 112 | 111 | 109 | 104 | ${ }^{3} 99$ |
| Total dressed weight (carcass) : | 1,000 Ib | 368, 733 | 413, 367 | 405, 966 | 472, 805 | 424, 898 | 377, 346 | 4, 725, 366 |
| Veal | ----do. | 38, 449 | 44, 254 | 37, 870 | 46, 294 | 40, 182 | 33, 703 | 4 444, 368 |
|  |  |  |  |  |  |  |  |  |
| Fresh beef ---..-- | do | 34, 385 | 24, 112 | 24,625 | 27, 590 | 43, 772 | 71, 024 | 453,601 |
| Cured beef | d | 22,835 | 21, 781 | 21, 416 | 20,597 | 19,649 | 22, 142 | ${ }^{4} 22,978$ |
|  |  |  |  |  |  |  |  |  |
| Cured beef | do | 2,061 | 1,551 | 2,854 | 2,210 | 1,804 | 1, 460 | 23,042 |
| Canned beef | do | , 174 | 1, 92 | 132 | 122 | , 60 | 103 | 1,734 |
| Oleo oil and stear | do | 7, 080 | 11, 734 | 8,752 | 9, 010 | 7,199 | 6,299 | 107, 720 |
| Tallow. | do | 6, 135 | 5,195 | 3,273 | 3,209 | 3,262 | 1,811 | 35, 876 |
| Imports: |  |  |  |  |  |  |  |  |
| Receipts, cattle and calves ${ }^{2}-{ }^{\text {- }}$ | Thousands | 1,903 | 2, 214 | 2, 295 | ,2, 802 | 2,182 | 1,810 | 23, 211 |
| Stocker and feeder shipments ${ }^{2}$ - | do | 223 | 480 | 631 | 785 | 624 | 353 | 4,553 |
| Prices per 100 pounds: <br> Cattle- <br> A verage cost for slaugh- |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Calves- |  |  |  |  |  |  |  |  |
| Average cost for slaughter | do | 8.60 | 7.53 | 7.30 | 6.94 | 6.39 | 7.19 | ${ }^{8} 7.86$ |
| At Chicago- |  |  |  |  |  |  |  |  |
| Cattle, good steers. <br> Veal calves | do | 10.04 9.60 | 10.76 10.01 | 10.88 9.98 | 10.93 9.39 | 10.62 7.82 | 10.68 8.69 | 10.23 +9.42 |
| At eastern markets- |  |  |  |  |  |  |  |  |
| grade | do | 17.32 | 17.84 | 17.90 | 16.76 | 15. 71 | 15.95 | ${ }^{4} 15.81$ |
| Veal carcasses, good grade | --do_---- | 16.96 | 17. 74. | 19.18 | 18. 27 | 15.52 | 15. 89 | ${ }^{17.08}$ |

Division of Statistical and Historical Research.
Inspected slaughter from reports of Bureau of Animal Industry. Weights and storage holdings from reports of Division of Statistical and Historical Research; receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats, and Wool Division, and number on farm from Division of Crop and Livestock Estimates. Exports and imports from Bureau of Foreign and Domestic Commerce.

$$
\begin{array}{ll}
1 \text { Including reexports. } & \begin{array}{l}
\text { Weighted average. } \\
2
\end{array} \quad \text { Sublic stockyards. }
\end{array}
$$

Table 431.-Beef products: ${ }^{1}$ Exports, all products combined, United States, 19101924.

| $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { June } 30 . \end{gathered}$ | July. | $\begin{aligned} & \text { Au- } \\ & \text { gust. } \end{aligned}$ | Sep-tember. | October. | $\begin{aligned} & \text { No- } \\ & \text { vem- } \end{aligned}$ ber. | $\begin{aligned} & \text { De- } \\ & \text { cem- } \\ & \text { ber. } \end{aligned}$ | $\begin{aligned} & \text { Janu- } \\ & \text { ary. } \end{aligned}$ | Feb-ruary. | March. | April. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1,000 |  |  |  |  |  |  |  |  |
|  |  |  | 28, | 26,677 |  | 22,987 |  | 19,016 | 23, 778 | 19,905 | 18,518 | 23, 319 | 282, 876 |
| 1910-11 | 18, 090 | 18, 826 | 16, 146 | 15, 398 | 18,227 | 15, 598 | 16, 540 | 16, 265 | 23, 412 | 30, 692 | 40, 030 | 32,904 | 62, 128 |
| 1911-12- | 29, 171 | 25, 841 | 25, 130 | 21, 002 | 14, 962 | 15, 373 | 14, 206 | 15, 739 | 19, 203 | 19, 838 | 15, 967 | 13, 804 | 30, 296 |
| 1912-13- | 16, 754 | 15, 574 | 10, 871 | 10, 518 | 8, 048 | 8, 908 | 12, 863 | 13,657 | 16, 424 | 14, 203 | 15, 686 | 19, 971 |  |
| 1913-14. | 15, 388 | 13, 280 | 11, 895 | 10,670 | 10,778 | 10, 361 | 10,490 | 9,283 | 11, 073 | 14, 181 | 15, 326 | 13, 221 | 145, 955 |
| 1914-15 | 12, 410 | 10,960 | 17, 131 | 16, 495 | 31, 587 | 18, 895 | 32, 879 | 35, 308 | 41, 125 | 49, 961 | 40, 190 | 71 | 81 |
| 1914-16- | 50, 154 | 43, 166 | 39, 404 | 28, 930 | 36, 702 | 42, 155 | 21, 461 | 28, 422 | 26, 378 | 33, 361 | 35, 105 | 53, 83 | 068 |
| 1916-17- | 28, 242 | 24, 679 | 25, 783 | 36, 024 | 31, 724 | 26, 908 | 32, 680 | 25, 932 | 35, 895 | 51, 974 | 51, 950 | 33, 296 | 05, 087 |
| 1917-18- | 19, 911 | 42, 278 | 31, 773 | 17, 737 | 10, 743 | 36, 443 | 43, 475 | 31, 892 | 87, 199 | 72, 882 | 96, 982 | 92, 150 | 3, 465 |
| 1918-19. | 53, 583 | 69, 217 | 49, 124 | 43, 523 | 83, 803 | 49, 504 | 42, 078 | 30, 685 | 27, 164 | 39, 559 | 28, 990 | 43, 964 | 561, 194 |
| 1919-20- | 25, 496 | 28, 184 | 25, 400 | 45, 744 | 28, 66 | 19, 711 | 30,576 | 20,497 | 17, 635 | 29,852 | 24, 925 | 27, 861 | 324, 544 |
| 1920-21- | 18, 716 | 9,387 | 10, 530 | 15, 180 | 14, 088 | 14, 999 | 24, 767 | 14, 523 | 12, 626 | 14, 625 | 15, 911 | 13, 065 | 178, 417 |
| 1921-22- | 18, 019 | 18, 496 | 18, 568 | 12, 772 | 10, 044 | 9, 369 | 9, 109 | 12, 400 | 17, 810 | 13, 735 | 19, 1547 | 19, 873 | 179, 350 |
| 1922-23- | 15, 271 | 13, 751 | 13, 832 | 13, 165 | 14, 554 | 10, 778 | 12, 537 | 11, 415 | 15, 144 | 12, 149 | 13, 647 | 14,941 | 161, 184 |
| 1923-24_ | 14, 229 | 18, 179 | 14, 997) | 14, 205 | 12, 086 |  |  |  |  |  |  |  | ----- |

Division of Statistical and Historical Research. Compiled from reports of Bureau of Foreign and Domestic Commerce.
${ }^{1}$ These figures include fresh, canned, pickled, and other cured beef, tallow, and oleo oil.

Table 432.-Beef, fresh: Exports from the United States, by countries, 1910-1923.

| Year ending June 30. | France. | Italy. | United Kingdom. | Other Europe. | Total Europe. | Canada. | $\left\|\begin{array}{c}\text { New } \\ \text { found- } \\ \text { land } \\ \text { and } \\ \text { Labra- } \\ \text { dor. }\end{array}\right\|$ | Bermuda. | Panama. | Cuba. | Other countries. | Grand total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1,000 | 1,000 | 1,000 | 1,000 |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | 1,000 lb | lbs. | $l \mathrm{lbs}$. | lbs. | lbs. | 1,000 lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1909-10 |  | 86 | 70,795 |  | 70, 886 | 136 | 4 | 394 | 4, 042 | 95 | 173 | 75, 730 |
| 1910-11 |  | 1 | 37, 258 | 42 | 37, 301 | 248 | 5 | 561 | 4, 221 | 42 | 133 | 42,511 |
| 1911-12 |  | 14 | 8,872 | 18 | 8, 904 | 585 | 12 | 176 | 5,401 | 45 | 141 | 15, 264 |
| 1912-13 |  |  | 127 | 22 | 149 | 640 | 20 | 380 | 5, 935 | 125 | 113 | 7,362 |
| 1913-14 |  |  |  | 5 | 5 | 254 |  | 483 | 5, 534 | 38 | 80 | 6,394 |
| 1914-15 | 99, 620 | 10,472 | 54, 497 |  | 164, 620 | 545 | 82 | 656 | 3,707 | 533 | 298 | 170,441 |
| 1915-16. | 49, 100 | 47, 888 | 117, 409 | 241 | 214, 638 | 3,192 | 111 | 885 | 1,505 | 53 | 10, 830 | 231, 214 |
| 1916-17 | 38, 042 | 13, 066 | 125, 688 | 576 | 177, 372 | 17,771 | 263 | 1,327 | 235 | 58 | 151 | 197, 177 |
| 1917-18 | 36, 927 | 8, 567 | 285, 789 | ------- | 331, 283 | 37,350 | 329 | 510 | 144 | 203 | 214 | 370, 033 |
| 1918-19 | 26,629 | 19, 085 | 272, 129 | 930 | 318, 773 | 3, 019 | 20 | 932 | 257 | 201 | 9,003 | 332, 205 |
| 1919-20 | 329 | 3, 610 | 9,323 | 134, 931 | 148, 193 | 2,918 | 198 | 1, 020 | 84 | 314 | 834 | 153, 561 |
| 1920-21 | 401 |  | 3,140 | 4, 028 | 7,569 | 695 |  | 1,143 | 198 | 515 | 10,964 | 21, 084 |
| 1921-22 |  |  | 1, 044 | 346 | 1,390 | 128 | 82 | 1, 116 | 236 | 176 | 865 | 3,993 |
| 1922-23. | 4 |  | 1,464 | 271 | 1,739 | 119 | 7 | 898 | 210 | 285 | 819 | 4, 077 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of Bureau of Foreign and Domestic Commerce.

Table 433.-Beef, pickled and other cured: Exports from the United States, by countries, 1910-1923.

| Year ending June 30. | Belgium. | France. | Germany. | Italy. | Neth-erlands. | United Kingdom. | $\begin{gathered} \text { Other } \\ \text { Eu- } \\ \text { rope. } \end{gathered}$ | Total Europe. | Canada. | New-foundland and Labrador. | Other countries. | Grand total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1,000 | 1 | 1,000 | 1,000 | 1 | 1 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs | lbs. | lbs | lbs. | lbs. | lbs | lbs | lbs | lbs. | lbs. | lbs. | lbs. |
| 1909-10 | 2,140 | 174 | 4, 068 | 155 | 629 | 10, 457 | 2, 353 | 19, 976 | 1,336 | 5, 074 | 10, 485 | 36,871 |
| 1910-11 | 1, 843 | 171 | 4,581 | 54 | 793 | 10, 263 | 2, 749 | 20, 454 | 1, 818 | 5, 821 | 12, 191 | 40,284 |
| 1911-12 | 1,829 | 124 | 4,616 | 42 | 749 | 8,747 | 3, 383 | 19, 490 | 1,752 | 5, 077 | 11, 769 | 38, 088 |
| 1912-13 | - 554 | 34 | 3,081 | 2 | 468 | 5,930 | 2, 253 | 12, 322 | 712 | 3,807 | 9,016 | 25, 857 |
| 1913-14 | 556 | 28 | 1,758 |  | 276 | 4,113 | 1, 036 | 7,767 | 1,331 | 4,936 | 9, 232 | 23, 266 |
| 1914-15 | 1,908 | 15 | 379 | 97 | 2, 368 | 10,994 | 3,180 | 18,941 | 1,659 | 4,331 | 6, 944 | 31, 875 |
| 1915-16 | 4,546 | 133 | ${ }^{(1)}$ | 499 | 96 | 12, 003 | 3, 570 | 20, 847 | 5, 101 | 5, 027 | 7, 140 | 38, 115 |
| 1916-17 | 19, 987 | 312 |  | 5 | 4,987 | 7,490 | 2,925 | 35, 706 | 9, 395 | 6, 803 | 6,150 | 58, 054 |
| 1917 | 31, 236 | 60 |  | 600 |  | 4, 205 | 5, 739 | 41, 840 | 2, 623 | 5, 505 | 4,500 | 54, 468 |
| 1918-19 | 20,596 | 1,937 |  | 3,496 |  | 3,995 | 5,940 | 35, 964 | 1,603 | 4,251 | 3,248 | 45, 086 |
| 1919-20 | 1,962 | 198 | 3,189 | 408 | 3, 079 | 5, 336 | 4,619 | 18,791 | 2,255 | 6, 214 | 5, 124 | 32, 384 |
| 1920-21 | 702 | 25 | 1,166 | 83 | 1, 024 | 4,115 | 457 | 7, 572 | 1,732 | 5, 516 | 8, 493 | 23,313 |
| 1921-22 | 693 | 89 | 954 | 5 | 178 | 3,513 | 4,084 | 9,516 | 1, 080 | 6,942 | 9, 236 | 26, 774 |
| 1922-23 | 364 | 49 | 463 |  | 191 | 3, 085 | 2,113 | 6,265 | 1,461 | 6,627 | 9, 832 | 24, 185 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of the Bureau of Foreign and Domestic Commerce. ${ }^{1}$ Less than 500 pounds.
Table 434.-Beef, canned: Exports from the United States, by countries, 1910-1923.

| Year ending June 30.. | Belgium. | France. | Italy. | $\begin{aligned} & \text { Neth- } \\ & \text { er- } \\ & \text { lands. } \end{aligned}$ | United Kingdom. | Other Europe. | $\begin{aligned} & \text { Total } \\ & \text { Eu- } \\ & \text { rope. } \end{aligned}$ | Canada. | New found- land- and Labra- dor. | Philippine Islands. | Other countries. | Grand total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 1, | 1, | 1,000 | 1 | 1, | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  |  |  |  | los. | los. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1909-10 | 406 | 226 | 22 | 298 | 9,300 | 193 | 10,445 | 205 | 136 | 540 | 3,479 | 14, 805 |
| 1910-11 | 283 | 78 | 10 | 210 | 6, 292 | 27 | 6,900 | 41 | 118 | 200 | 3, 566 | 10, 825 |
| 1911-12 | 286 | 107 | 12 | 241 | 5, 743 | 167 | 6,556 | 123 | 236 | 1,180 | 2, 931 | 11, 026 |
| 1912-13 | 178 | 119 | 4 | 253 | 3, 117 | 188 | 3,859 | 111 | 26 | 206 | 2,638 | 6,840 |
| 1913-14 | 381 | 40 | 4 | 56 | 1, 194 | 65 | 1,740 | 63 | 40 | 52 | 1,570 | 3,485 |
| 1914.15 | 28 | 6,440 | 965 | 68 | 64,701 | 1,359 | 73, 561 | 72 | 13 | 143 | 1,454 | 75, 243 |
| 1915-16 |  | 6, 508 | 1,968 |  | 38, 205 | 2, 632 | 49,313 | 35 | 70 | 56 | 1,330 | 50, 804 |
| 1916-17. |  | 17, 653 | 188 |  | 40, 218 | 57 | 58, 116 | 7, 571 | 160 | 190 | 1,499 | 67, 536 |
| 1917-18. |  | 30, 417 | 17, 699 |  | 46, 375 | 259 | 94, 750 | 1, 118 | 261 | 169 | 1,045 | 97, 343 |
| 1918-19 | 6,461 | 19, 458 | 45, 636 | 1, 341 | 25, 289 | 8,573 | 106, 758 | 339 | 249 | 125 | 989 | 108, 460 |
| 1919-20. | 959 | 187 | 397 | 1,038 | 9,718 | 16, 677 | 28, 976 | 461 | 262 | 278 | 1,157 | 31, 134 |
| 1920-21 | (1) | (1) | 1 | $\left.{ }^{1}\right)$ | 1,996 | 6, 206 | 8, 203 | 331 | 18 | 113 | 2,098 | 10,763 |
| 1921-22 | (1) | 76 |  | 1 | 2, 463 | 53 | 2, 593 | 174 | 47 | 95 | 839 | 3,748 |
| 1922-23 | 2 | ${ }^{(1)}$ |  |  | 728 | 64 | 794 | 94 | 65 | 298 | 1,050 | 2,301 |

[^246]Table 435.-Beef, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909-1922.

| Calendar year. | Imports. |  |  | Exports. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | France. | Germany | United <br> Kingdom. | Denmark. | Nethlands. | United States. | Canada. | Argentina. | Brazil. | Uruguay. | Australia. | New <br> Zealand. |
|  |  |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | libs. | lbs. | lbs. |  | lbs. | lbs. |  | libs. | lbs. | lbs. |
| 1909 | 3,257 | 26, 144 | 687, 736 | 32, 118 | 36, 916 | 93, 742 |  | 464, 460 |  | 12, 524 | 71, 131 | 54,590 |
| 1910 | 3,783 | 34, 815 | 785, 336 | 35, 659 | 34, 504 | 55, 539 |  | 559, 325 |  | 20,720 | 109, 421 |  |
| 1911 | 1,267 | 39, 460 | 824, 443 | 26, 302 | 32, 542 | 28,782 9,026 |  | 689,674 755,849 |  | 16, 4383 | 108, 774 | 27,307 30,803 |
| 1912 | 2,042 | 78, 838 | 896, 652 | 56,865 32,826 | 38,036 32,915 | -9,026 | 815 7,584 | 755,849 807,388 |  | 109, 268 | 142, 186 | 30,803 30,636 |
| 1913 | 7,114 | 66, 524 | 1,030,771 | 32, 826 | 32, 915 | 28, 972 | 7,584 | 807, 388 |  | 109, 268 | 218, 911 | 30, 636 |
| 1914 | 28, 032 |  | 990, 592 | 36,702 | 29, 097 | 222, 897 | 15,558 | 813, 427 |  | 153, 016 | 292, 056 | 69, 927 |
| 1915 | 379, 988 |  | 963, 389 | 48, 884 | 44, 563 | 144, 224 | 27, 544 | 799, 694 | 18, 770 | 215, 115 | 114, 655 | 86, 477 |
| 1916 | 458, 586 |  | 789, 826 | 34, 220 | 33, 297 | 142, 204 | 41, 609 | 942, 907 | 74, 209 | 157, 568 | 242,040 | 112, 071 |
| 191 | 412, 310 |  | 681, 796 | 35, 370 | 3, 735 | 194, 347 | 69, 713 | 870, 458 | 146, 500 | 150, 522 | 180, 222 | 39, 740 |
| 1918 | 473, 894 |  | 844, 055 | 21, 337 | 42 | 491, 002 | 124, 101 | 1,092,631 | 133,397 | 106, 247 | 119, 938 | 81, 960 |
| 1919 | 501, 110 |  | 721, 287 | 17, 730 | 343 | 135, 965 | 105, 710 | 883, 452 | 113,831 | 176,019 | 120, 940 | 86, 991 |
| 1920 | 286, 018 | 143, 268 | 1,032,708 | 38, 670 | 8,486 | 39, 467 | 62, 044 | 917, 784 | 134, 255 | 215, 181 | 179, 618 | 84, 883 |
| 1921 | 107, 764 | 26, 228 | 1,241,744 | 16, 496 | 45,488 | 22, 037 | 32,167 | 859, 578 | 129, 689 |  | 124, 158 | 102, 691 |
| 1922 | 69, 551 | 56, 448 | 1,116,939 | 45, 038 | 27, 203 | 32, 767 | 26,115 | 907, 771 | 71, 226 |  | 152, 856 | 57,759 |

Division of Statistical and Historical Research.

## DAIRY PRODUCTS.

Table 436.-Dairy products: Weighted average price and value on farms, calendar years, 1919-1923.

| Product. | Unit. | Price per unit. |  |  |  |  | Value. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1919 | 1920 | 1921 | 1922 | 1923 | 1919 | 1920 | 1921 | 1922 | 1923 |
| Milk sold ${ }^{1}$ Milk consumed on farm ${ }^{1}$ _.... | Gallon -.-.do_ . | $\begin{gathered} \text { Cts. } \\ 29.24 \\ 29.24 \end{gathered}$ | $\begin{gathered} C t s . \\ 30.10 \\ 30.10 \end{gathered}$ | Cts. <br> 22. 19 <br> 22. 19 | $\left\lvert\, \begin{gathered} C t s \\ 19.09 \\ 19.09 \end{gathered}\right.$ | Cts. <br> 22.36 <br> 22. 36 | $\begin{gathered} 1,000 \\ d o l s . \\ 1,041,236 \\ 817,938 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { dols. } \\ 1,033,008 \\ 878,062 \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { dols. } \\ & 836,868 \\ & 730,564 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { dols. } \\ & 721,677 \\ & 635,573 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { dols. } \\ & 310,723 \\ & 784,836 \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Total whole milk ${ }^{1}$ $\qquad$ | Gallon. | 29.24 | 30. 10 | 22.19 | 19.09 | 22.36 | 1,859, 174 | 1,911, 070 | $1,567,432$ | 1,357, 250 | 1, 695, 559 |
| Butter made | Pound | 50.35 | 54. 25 | 37. 16 | 35. 23 | 40.38 | 344, 877 | 366, 174 | 241, 560 | 220, 187 | 246, 318 |
| Cheese made | --do-. | 36. 00 | 37. 06 | 27. 32 | 23. 50 | 25.17 | 2, 376 | 2, 334 | 1, 639 | 1, 175 | 1, 183 |
| Cream sold ${ }^{2}$ | Gallon. | 136.00 | 140.00 | 103. 20 | 88. 90 | 111.80 | 109, 359 | 116, 588 | 80, 579 | 70, 274 | 97, 721 |
| Butterfat sold.. | Pound. | 57.00 | 58. 68 | 43. 26 | 37. 22 | 40. 00 | 398, 003 | 404, 384 | 364, 180 | 344, 285 | 379, 200 |
| Buttermilk. | 100 lbs. | 77.65 | 69.10 | 28.35 | 27. 25 | 40.81 | 13, 402 | 11, 754 | 4, 644 | 4, 292 | 6,273 |
| Whey | -. do- | 38. 83 | 34. 55 | 14. 18 | 13.63 | 20. 405 | 231 | 196 | 77 | 61 | 86 |
| Skim milk from butter made, creamsold,and butterfat sold. | .-.do_ | 77. 65 | 69.10 | 28. 35 | 27.25 | 40.81 | 233, 012 | 205, 480 | 91, 700 | 92, 931 | 139,537 |
| To |  |  |  |  |  |  | 2, 960, 434 | 3, 017, 980 | 2, 351, 809 | 2,090,455 | 2, 565, 877 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Includes milk equivalent of cream sold for housebold use.
2 For cream powder and ice cream.

Table 437.--Milk: Production and uses in the United States, 1919-1922.

| Purpose for which milk is used. | - Calendar year. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1919 |  |  |  | 1920 |  |  |  |
|  | Whole milk used. | Per cent of total milk. | Milk used per pound of product. | Products manufactured | Whole milk used. | Per cent of total milk. | Milk used per pound of product. | Product manufactured |
| Butter: | Million pounds. | Per cent. | Pounds. | Million pounds. | Million pounds. | Per cent. | Pounds. | Million pounds. |
| Creamery | 18, 375.0 | 20.404 | 21.0 | 875.0 | 18, 135.1 | 20. 226 | 21.0 | 863.6 |
| Farm | 14, 385.0 | 15.973 | 21.0 | 685.0 | 14, 175.0 | 15.810 | 21.0 | 675.0 |
| Cheese, all kinds. | 4,200. 0 | 4. 664 | 10.0 | 420.0 | 3,624. 3 | 4.042 | 10.0 | 362.4 |
| Milk: <br> Condensed and evaporated | 4,813. 0 | 5. 344 | 2.5 | 1,925. 0 | 3,945. 0 | 4.400 | 2.5 | 1,578. 0 |
| Powdered------ | 72.0 | . 080 | 8.0 | 1, 9.0 | 82.7 | . 092 | 8. 0 | 10.3 |
| Malted | 40.0 | . 045 | 2.2 | 18.0 | 43.4 | . 048 | 2.2 | 19.7 |
| Sterilized, canned | 4.5 | . 005 | 1.0 | 4.5 | 5. 6 | . 006 | 1.0 | 5.6 |
| Chocolate.- |  |  |  |  | 60.0 | . 067 |  |  |
| Cream, powdered | 12.0 | . 013 | 19.0 | . 7 | 5. 9 | . 007 | 19.0 | 3 |
| Ice cream. .--- | 3,450. 0 | 3. 831 | ${ }^{1} 13.75$ | ${ }^{2} 230.0$ | 3,575. 0 | 3.987 | 113.75 | ${ }^{2} 260.0$ |
| Total milk for manufacture $\qquad$ | 45, 351. 5 | 50.359 |  |  | 43,652. 0 | 48.685 |  |  |
| Milk accounted for otherwise: |  |  |  |  |  |  |  |  |
| Household purposes..-- | 38, 619.0 | 42. 882 |  |  | 39,090. 0 | 43.600 |  |  |
| Fed to calves...---- | 3,500.0 | 3.886 |  |  | 4,202.0 | 4.688 |  |  |
| Waste, loss, and unspecified | 2,587.0 | 2.873 |  |  | 2,713. 3 | 3.027 |  |  |
| Total milk produced - | 90, 057. 5 | 100.000 |  |  | 89, 657. 3 | 100.000 |  |  |
|  | 1921 |  |  |  | 1922 |  |  |  |
| Butter:         <br> Cramery_-_-_-_- $22,153.7$ 22.408 21.0 $1,054.9$ $24,223.8$ 23.619 $21 . \mathrm{C}$ $1,153.5$ |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Farm | 13, 650.0 | 13.807 | 21.0 | 650.0 | $13,125.0$ | 12.797 | 21.0 | 625.0 |
| Cheese, all kinds | 3,558. 4 | 3. 599 | 10.0 | 355.8 | 3,749. 8 | 3.656 | 10.0 | 375.0 |
| Milk: <br> Condensed and evaporated <br> Powdered |  |  |  |  |  |  |  |  |
|  | 3,660. 4 | 3. 703 | 2.5 | 1,464. 2 | 3, 578. 4 | 3. 489 | 2.5 | 1,431. 3 |
|  | 33.9 | . 034 | 8.0 | 4.2 | 44.8 | . 044 | 8.0 | 5. 6 |
| Malted. | 34.4 | . 035 | 2. 2 | 15. 7 | 30.0 | . 029 | 2. 2 | 13.7 |
| Sterilized, canned.------- | 5.1 | . 005 | 1.0 | 5.1 | 1.3 |  | 1.0 | . 3 |
| Chocolate.---------------- | 40.0 | . 041 |  |  | 100.0 | . 098 |  |  |
| Cream, powdered | 2.5 | . 002 | 19.0 | . 1 | 2.2 | . 002 | 19.0 | . 1 |
| Ice cream | 3,355. 0 | 3. 396 | ${ }^{1} 13.75$ | ${ }^{2} 244.0$ | 3,623.4 | 3. 533 | 113.75 | 2263.5 |
| Total milk for manufacture $\qquad$ | 46, 493. 4 | 47.030 |  |  | 48, 477.7 | 47. 267 |  |  |
| Milk accounted for otherwise: |  |  |  | - |  |  |  |  |
| Household purposes..-- | 45, 143.0 | 45. 660 |  |  | 46,672. 6 | 45. 507 |  |  |
| Fed to calves Waste, loss, and unspecified | 4,260.0 | 4. 310 |  |  | 4,335. 0 | 4. 226 |  |  |
|  | 2,965.9 | 3.000 |  |  | 3,076. 9 | 3.000 |  |  |
| Total milk produced - | 98, 862. 3 | 100.000 |  |  | 02, 562. 2 | 100.000 |  |  |

Division of Statistionl and Historical Research. Compiled from data of Division of Dairy and Poultry Products.
${ }^{1}$ Milk per gallon of ice cream.
${ }^{2}$ Gallons.
 1922.


Table 438.-Dairy products and oleo margarine: Production, calendar years, 1918-1922-Continued.


Division of Dairy and Poultry Products. Compiled from reports made by manufacturers.
Table 439.-Condensed milk: International trade, 1909-1922.

| Country. | Calendar years. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A verage, 1909-1913. |  | 1920 |  | 1921 |  | $\stackrel{1922,}{\text { preliminary. }}$ |  |
|  | $\begin{gathered} \text { Im- } \\ \text { ports. } \end{gathered}$ | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | $\begin{gathered} \text { Ex- } \\ \text { ports. } \end{gathered}$ |
| Principal exporting countries. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | 1,000 | 1,000 | 1,000 pounds. | 1,000 pounds. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ |
| Australia ${ }^{1}$ | 4,463 | 727 | 524 | 35,420 | 93 | 33, 287 |  |  |
| Canada... | , 259 | 4,575 | 83 | 52, 036 | 147 | 35, 401 | 232 | 24. 813 |
| Denmark | ${ }^{2} 11$ | ${ }^{3} 4,724$ |  | 13, 793 | 6 1,129 | 37,523 289 |  | 50,293 1,043 |
| Italy----- | 806 | 5,913 | 531 | + 405 | 1, 128 | 289 66,89 | 564 | 190, ${ }^{1} \mathbf{5 8 1}$ |
| Netherlands | 439 | 55 | 75 | 115, 804 | 281 | $\begin{array}{r}66,899 \\ 3 \\ \hline 029\end{array}$ | $\begin{array}{r}534 \\ 48 \\ \hline\end{array}$ | 190,581 |
| New Zealand | 261 | 32,106 | - 812 | 1,752 | 1,210 | 6, 556 | 831 | 15,450 |
| Switzerland | 201 | 80, 539 | 6,168 | 46, 513 | 1,432 | 46, 825 | 5 | 45, 474 |
| United States_ |  | 316, 200 | 23, 756 | 411, 078 | 8, 668 | 289, 725 | 5,294 | 187, 497 |
| principal mporting countries. |  |  |  |  |  |  |  |  |
| Argentina | ${ }^{(342}$ | (5) | ${ }_{(5)}^{833}$ | (5) | 2, 671 | 46 | 768 | 138 |
| Brazil. | 8,694 |  | 2,737 |  | 2, 579 |  |  |  |
| British India ${ }^{1}$ | 11, 236 |  | 8,673 | 191 | 7,895 | 116 | 7,222 | 147 |
| China | 4,484 |  | 5,883 |  | 6,185 |  | 8, 025 |  |
| Cuba | 28, 457 |  | 51, 932 |  |  |  |  |  |
| Egypt- | ${ }^{681,628}$ |  | 1,736 | ${ }^{(7)}$ | 898 | ${ }^{(7)}$ | 2,310 |  |
| France-.-- | 2, 458 | 4,140 12,080 | 83,562 9,180 | 18,576 | 37, 6881 | ${ }_{9}^{11,723}$ | 32,923 9,294 | 1,022 |
| Germany ${ }^{8}$ | 10,061 | 12, 080 | 9, 180 6,269 | 525 | 8, 8,010 | 2, 132 | 9,294 |  |
| Java and Madura | ${ }_{2} \mathbf{6}, 136$ | ${ }^{2} 74$ | 7,449 |  | 10, 443 |  | 11,052 |  |
| Philippine Islands | 12, 311 |  | 16, 689 |  | 12, 239 |  | 12, 177 |  |
| Spain----------- | 5, 605 |  | 1,675 |  | 5,639 |  | 83 |  |
| Sweden ------------ | 21, 28 |  | $\begin{array}{r} 2,192 \\ 12,376 \end{array}$ |  |  | $\begin{gathered} 467 \\ (7) \end{gathered}$ | 166 6,932 |  |
| Union of South Africa | 21,227 | $\begin{gathered} \left({ }^{(7)}\right) \\ 48,221 \end{gathered}$ | $\begin{array}{r} 12,376 \\ 199,145 \end{array}$ | 68 6,670 | 235, 349 | 4, 065 | 207, 792 | 15, 591 |
| United Kingdom |  |  |  |  |  |  |  |  |
| Total 25 countries | 240, 351 | 209, 578 | 445, 977 | 713, 539 | 354, 241 | 538, 973 | 306, 352 | 540, 882 |

[^247]Table 440.-Milk: Monthly retail price, standard or grade B milk, per quart, delivered to family trade in cities, 1920-1923.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boston: | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1920 | 17 | 17 | 17 | 17 | 16 | 16 | 17 | $17 \frac{1}{2}$ | 18 | 18 | 18 | 18 |
| 1921 | 17 | $16 \frac{1}{2}$ | 16 | $15 \frac{1}{2}$ | 15 | 15 | 15 | 16 | $15 \frac{1}{2}$ | 15 | 15 | 15 |
| 1922 | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | 131 | $13 \frac{1}{2}$ | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | $13 \frac{1}{2}$ | 134 | $13 \frac{1}{3}$ | 1412 | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ |
| 1923 | 142 | 142 | 142 | 13 $\frac{1}{2}$ | 132 | 131 $\frac{1}{2}$ | 14 | 142 | 142 | 142 | $15 \frac{1}{2}$ | $13 \frac{1}{2}$ |
| New York: 1920 | 18 | 161 | 163 | 15 | 15 | 15 | 16 | 17 | 18 | 18 | 18 | 17 |
| 1921. | 17 | 16 | 15 |  |  | 14 | 14 | 15 | 15 | 15 | 15 | 15 |
| 1922 | 15 | 15 | 15 |  | 15 | 13 | 14 | 15 | 15 | 15 | 15 | 16 |
| 1923 | 16 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 15 | 15 | 16 | 16 |
| Philadelphia: 1920 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 13 |
| 1921. | 13 | 13 | 13 | 13 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 1922 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 |
| 1923 | $11 \frac{1}{2}$ | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 13 | 12 | $12 \frac{1}{2}$ |
| Pittsburgh: 1920 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 16 |
| 1921 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 13 |
| 1922 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |  |  | 14 | 14 |
| 1923 |  |  | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 15 | 15 |
| Cincinnati: | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 15 | 15 |
| 1921. | 15 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 1922 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 1923. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 14 | 14 | 14 |
| Cleveland: | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 15 | 15 |
| 1921 | 15 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 1922 | 11 | 11 | 11 | 10 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | 11 | 11 | 13 | 13 | 14 |
| 1923 | 14 | 14 | 14 | 14 | 131 | 13 | 14 | 14 | 14 | 13, ${ }^{\frac{1}{2}}$ | 14 | 12 |
| Indianapolis: | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| 1921 | 14 | 14 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 12 | $11 \frac{1}{2}$ | 11 |
| 1922 | 112 | 11 | 11 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | 10 | 10 | 10 | 10 |  | 10 | 10 |
| 1923 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | - 12 | 12 | 12 | 12 | 12 |
| Chicago: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 15 | 15 14 | 14 | 14 | 14 | 14 14 | 15 | 14 | 12 | 12 | 12 | 12 |
| 1922 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 1923 | 1212 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 14 | 14 |
| Detroit: <br> 1920 | 16 | 16 | 16 | 16 | $15 \frac{1}{2}$ | $15 \frac{1}{2}$ | 16 | 16 | 16 | 16 | 16 | 14 |
| , 1921- | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| - 1922 | 13 | 13 | 12 | ${ }_{11} 1{ }^{1}$ | ${ }_{11} 1 \frac{1}{2}$ | $11 \frac{1}{2}$ | 12 | 13 | 13 | 13 | 13 | 14 |
| 1923 | 1312 | 1312 | $13 \frac{1}{2}$ | 14 | 14 | 14 |  | 15 | 15 | 15 | 14 | 132 |
| Milwaukee: 1920 | 13 | 13 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 11 | 11 |
| 1921 |  | 10 | 10 | 10 | 9 | 9 | 9 | 10 | 9 | 9 | 9 | , |
| 1922 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 |
| 1923 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | $10 \frac{1}{2}$ |
| Minneapolis: |  | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 14 |
| 1921 | 13 | $12 \frac{1}{2}$ | 12 | 12 | 11 | 10 | 10 | 11 | 11 | 11 | 11 | $10 \frac{1}{2}$ |
| 1922 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 111 |
| 1923 | 11 | 11 | 107 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 112 |
| St. Paul: | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 14 |
| 1921. | 13 | 13 | 12 | 12 | 11 | 10 |  | 11 |  | 11 | 11 | $10 \frac{1}{2}$ |
| 1922 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 |  | 11 |  |
| 1923 | 11 | 11 | 11 | 11 | 11 | 11 | -.-- | 12 | 12 | 12 | 12 | 12 |
| Sloux City: 1920 | 16 | 16 | 16 | 16 | 16 | 15 |  | 15 | 16 | 16 |  | 16 |
| 1921 | 15 | 14 | 13 |  | $12 \frac{1}{2}$ | 1212 | 121 | $12 \frac{1}{2}$ | 1212 | 1212 | 1212 |  |
| 1922 | 11 | 10 | 10 | 10 | 10 | 10 |  | 11 |  |  |  |  |
| 1923 |  |  |  | 10 | 10 | 10 |  | 11 | 12 |  | 12 | 12 |
| St. Louis: | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | $16 \frac{1}{2}$ | 16 |
| 1921 | 16 | 15 | 14 | 14 | 13 | 14 | 13 | 13 | 13 | 13 | 13 | 10 |
| 1922 | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 13 |
| 1923 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| Kansas City: |  | $15 \frac{1}{2}$ | 16 | 16 | 151 | $15 \frac{1}{2}$ | 15 | $15 \frac{1}{2}$ | 15 | $15 \frac{1}{2}$ | $15 \frac{1}{2}$ | $15 \frac{1}{2}$ |
| 1921 | $14 \frac{1}{2}$ | 14 | 1312 | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | 13 | 14. | 14 | 14 | 14 | 14 | 14 |
| 1922 | 14 | 13 | 12 | 11 | 11 | ${ }_{13} 11 \frac{1}{2}$ | ${ }_{13} 11 \frac{1}{2}$ | 12 | 10 | 12 | 12 | ${ }_{12}^{12}$ |
| 1923 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 122 |
| Washington, D. C.: | 18 | $17 \frac{1}{2}$ | 1712 | 171 | 16 | 16 | 16 | 16 | $16 \frac{1}{2}$ | $171{ }^{17}$ | $17 \frac{1}{2}$ | $17 \frac{1}{2}$ |
| 1921.- | $16 \frac{1}{1}$ | $15{ }^{2}$ | 16 | 16 | 13 | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | ${ }^{13}{ }^{\frac{1}{2}}$ | 14 | 15 | 15 | 15 |
| 1922 | $1{ }_{14}^{131}$ | 14 | 13 14 | ${ }_{14}^{13 \frac{1}{2}}$ | 13 14 | 14 | 13 14 | 13 14 | 13 | 14 14 | 14 | 14 |

Table 440．－Milk：Monthly retail price，standard or grade B milk，per quart， delivered to family trade in cities，1920－1923－Continued．

| Market，and calendar year． | Jan． | Feb． | Mar． | Apr． | May． | June． | July． | Aug． | Sept． | Oct． | Nov． | Dec． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Richmond： | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． |
| 1920 | 16 | 16 | 16 | 16 | 16 | 17 | 16 | 16 | 16 | 16 | 16 | 16 |
| 1921. | 16 | 16 | $14 \frac{1}{2}$ | 13 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| 1922 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 |
| 1923 | 15 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 15 |  |
| Jacksonville： |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 20 | 18 | 20 | 20 | 20 | 20 | 25 | 25 19 | 25 20 | 24 20 | 223 | $22 \frac{1}{18}$ |
| 1922. | 1712 |  | 17 | 14 | 14 | 14 | 161 | $15 \frac{1}{2}$ | 17 | ${ }_{16 \frac{1}{2}}^{20}$ | ${ }_{17}^{181}$ | $17{ }^{18}$ |
| 1923 | $17 \frac{1}{2}$ | $17 \frac{1}{2}$ | $18 \frac{1}{2}$ | 16 | ． $15 \frac{1}{2}$ | 151 | $16 \frac{1}{2}$ | 16 | 17 | $18 \frac{1}{2}$ | 18 | $17 \frac{1}{2}$ |
| Louisville： | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |  |
| 1921. | 15 | 20 |  |  |  |  | 11 | 12 | 11 | 11 | 11 | 11 |
| 1922 | 11 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 11 | $11 \frac{1}{2}$ | 12 | 13 |
| 1923 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 121 | 121 | 13 | 13 | 13 |
| Nashville： |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 17 16 | 17 16 | 17 | 17 | 17 | 17 | 17 | 17 | 17 15 | 19 14 | 17 | 17 14 |
| 1922 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |  |
| 1923 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |  |  | 14 | 14 |
| 1921. | $22 \frac{1}{2}$ | $22 \frac{1}{2}$ |  | 20 |  | 18 | 20 | $17 \frac{1}{2}$ | 172 | 172 | $17 \frac{1}{2}$ | 172 ${ }^{\frac{1}{2}}$ |
| 1922 | 20 | 18 |  | 171 ${ }^{2}$ | 15 | 16 |  | 172 |  |  | 16 |  |
| 1923 | 14 | 16 | 17 | $16^{2}$ | 16 | 16 | 16 | $16^{2}$ | 16 | 16 | 15 | 15 |
| New Orleans： |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 19 | 19 | 19 | 19 | 17 | 17 | 17 | 17 | 19 16 | 19 | 19 | 18 |
| 1921 | 17 | 17 | 16 | 14 | 14 | 14 |  | 14 | 16 | 14 | 14 | － 14 |
| 1922. | 14 | 14 14 | 14 14 | 14 | 14 | 14 | 14 | 14 |  |  | 14 15 | 14 |
| Dallas： | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 15 | 15 |
| 1920 |  | 23 | 23 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 1921 |  | 19 | 17 |  | 15 |  | 15 |  | 15 |  |  | 15 |
| 1922 | 15 | 15 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 15 | 15 | 15 |
| 1923. | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 |
| Butte： $1920$ | 15 | 15 | 15 |  | 15 | 15 | 15 | 15 |  | 15 | 15 | 15 |
| 1921 | 15 | 15 | 15 |  | 13 |  | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | 13 | 13 | 13 |
| 1922. | $12 \frac{1}{2}$ | 13 | $12 \frac{1}{2}$ | 12 | $12 \frac{1}{2}$ | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | 12 | 12 | 12 | 13 | $12 \frac{1}{2}$ |
| 1923 | 122 | 1212 | 13 | 1212 | 12， | 12 | 122 | 121 | 1312 | 13 | 13 | 13 |
| Denver： 1920 | 122 | 1212 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 1921 | 13 | 13 | 13 | 12 | 11 | 11 | 11 | 11 | 10 | 10 | 10 | 101 |
| 1922 | 10 | 10 | ${ }^{9 \frac{1}{2}}$ | 10 | 10 | $9 \frac{1}{2}$ | 10 | 10 | ${ }^{9 \frac{1}{2}}$ | 10 | 10 | 12 |
| 1923 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 10 |
| Salt Lake City： | 121 | $12 \frac{1}{2}$ | $12 \frac{1}{3}$ | 1212 | $12 \frac{1}{3}$ | 121 | 13 | $12 \frac{1}{2}$ | 1212 | 1212 | $12 \frac{1}{2}$ | 121 |
| 1921. | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | 122 | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | 122 | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | 122 |
| 1922 | 10 | $8 \frac{1}{2}$ | 9 | 9 | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ |  |  | 9 | $8{ }^{8}$ | 9 |
| 1923 | $10 \frac{1}{2}$ | 10 | 10 |  | 10 |  |  | 1012 | $9 \frac{1}{2}$ | 10 | 10 | 11 |
| Seattle： | 14 | $14 \frac{1}{2}$ | 131 | 12 |  | 13 | 14 | 14 | 14 | 14 |  | 13 |
| 1921. | 13 | $11^{2}$ | $13^{2}$ | 13 | 12 |  |  | 12 |  | 12 | 12 | 11 |
| 1922 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 13 | 13 | 121 | 13 | 13 |
| 1923 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 10 |
| Portland，Oreg．： |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920．－－ | 15 | 15 | 14 | 13 | ${ }_{13}^{131}$ | 12 | 13 | ${ }_{12 \frac{1}{2}}^{14}$ | ${ }_{12 \frac{1}{2}}^{14}$ | ${ }_{12}^{14}$ | ${ }_{12}^{14 \frac{1}{2}}$ | ${ }_{12}^{143}$ |
| 1922 | 12 | 11 | 11 |  | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 |
| 1923 | 123 | 12 | 1212 | 12 | 12 | 12 | 13 | 12 | 12 | 1212 | 12 | $11 \frac{1}{2}$ |
| Los Angeles： | 16 | 16 | 16 | 16 | 16 | 16 | 18 | 18 | 18 | 18 | 18 | 18 |
| 1921. | 18 | 16 | 16 | 16 |  | 16 | 15 | 14 | 14 | 14. | 14 | 14 |
| 1922 | 142 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 15 |
| 1923 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| San Francisco： | 16 | 16 | 151 | 15 | 16 | 16 | 151 | 17 | 17 | 17 | 17 | 17 |
| 1921 | $15 \frac{1}{2}$ | 154 | 15 | 15 | 15 | $14 \frac{1}{2}$ | $13 \frac{1}{2}$ | 14 | 14 | $13 \frac{1}{2}$ | 131 | $13 \frac{1}{2}$ |
| 1922 | $13 \frac{1}{2}$ | 122 | $12 \frac{1}{2}$ | ${ }^{12 \frac{1}{2}}$ |  | $12 \frac{1}{1}$ | $12 \frac{1}{2}$ | 121 | 121 | 12⿳亠丷厂犬 | ${ }_{14}^{12 \frac{1}{2}}$ | 13 |
| 1923. | 122 | 121 | $12 \frac{1}{2}$ | 122 | 121 | 1212 | 12 $\frac{1}{2}$ | 1212 |  | －．．． | 14 | 14 |

Division of Statistical and Historical Research．Compiled from reports of Division of Dairy and Poultry Products．

Table 441．－Milk：Monthly wholesale price，standard or grade B milk，per quart， in cases of 12 quarts，1920－1923．

| Market，and calendar year． | Jan． | Feb． | Mar． | Apr． | May． | June． | July． | Aug． | Sept． | Oct． | Nov． | Dec． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boston： | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． | Cts． |
| 1920 | 15 | 15 | 15 | 15 | 14 | 14 | 15 | 15 | 161 ${ }^{\frac{1}{2}}$ | 161 | 163 | 161 |
| 1921 | $15 \frac{1}{2}$ | 15 | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | 14 | 14 | 14 | 14 | 14 |
| 1922 | 11 | ${ }^{10 \frac{1}{2}}$ | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ |  | 11 | 11 | 11 | 12 | 12 | 12 |
| 1923 | 12 | 12 | 12 | 112 | 112 | 1112 | 12 | 121 $\frac{1}{2}$ | 121 | $12 \frac{1}{2}$ | 1312 | 13 |
| New York： 1920 | 171 ${ }^{2}$ | 16 | 16 | 15 | 15 | 15 |  | 17 | 18 | 18 | 18 | 17 |
| 1921 | $17^{2}$ | 16 | ． 15 |  |  |  | 14 | 15 | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | 1412 | 141 |
| 1922 | 1412 | $14 \frac{1}{2}$ | $13 \frac{1}{2}$ |  | 13 | $12 \frac{1}{2}$ | 14 | $14 \frac{1}{2}$ | 142 | $14 \frac{1}{2}$ | $14 \frac{3}{3}$ | $15 \frac{1}{2}$ |
| 1923 | $15 \frac{1}{2}$ | $14^{2}$ | 14 | 14 | $13 \frac{1}{2}$ | 13 | 13 | 13 | 14 | 14 | 142 | 14 |
| Philadelphia： | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 14 | 12 |
| 1921 | 12 | 12 | $12 \frac{1}{2}$ |  | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 1922 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | $10 \frac{1}{2}$ | 11 | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ |
| 1923. | 1012 | 11 | 113 | 12 | 12 | 12 | 12 | 121 | 121 | 12 | 112 | $11 \frac{1}{2}$ |
| Plttsburgh： $1920$ | $15 \frac{1}{2}$ | 15 | 15 | 14⿺⿻丅⿵冂⿰⿱丶丶⿱丶丶⿸厂⿱二⿺卜丿， | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | $15 \frac{1}{2}$ | $15 \frac{1}{2}$ | $15 \frac{1}{2}$ | $15 \frac{1}{2}$ | $15 \frac{1}{2}$ |
| 1921 | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{1}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | 131 | 132 | $13 \frac{1}{2}$ | 13，$\frac{1}{2}$ | $12 \frac{1}{2}$ |
| 1922 | $12 \frac{1}{2}$ | ${ }^{112}$ | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | 12 |  | $12 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ |
| 1923 | 131 | 132 | 1312 | 13⿺𠃊⿳亠丷厂彡 | 131 | 131 | 13솔 | 131 ${ }^{1}$ | 1312 | 14⿳亠丷厂彡 | $14 \frac{1}{2}$ | 14 $\frac{1}{2}$ |
| Cincinnati： | $14 \frac{1}{2}$ | 14 | 14 |  | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| 1921 | $14{ }^{2}$ | 13 | 13 |  | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 1922 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 1923. | 11 | 11 | 11 | 11 | 11 | 11 |  | 10 | 1012 | 12 | 12 | 12 |
| Cleveland： |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | $14 \frac{1}{12}$ | 143 | ${ }_{122}^{142}$ | ${ }_{12 \frac{1}{2}}$ | $12 \frac{1}{12}$ | 131 | $13 \frac{1}{2}$ |  | ${ }_{11}^{14}$ | 14 | ${ }_{11}^{13 \frac{1}{2}}$ | ${ }_{11}^{131}$ |
| 1921. | ${ }^{13} 9$ | ${ }^{12 \frac{1}{2}}$ | ${ }^{12 \frac{1}{2}}$ | ${ }_{9}^{12 \frac{1}{2}}$ | ${ }^{122}$ | 117 8 8 | ${ }^{11 \frac{1}{2}} 8$ | 113 | ${ }_{1}^{111} 8$ | ${ }_{1}^{11 \frac{1}{2}}$ | $110 \frac{1}{2}$ | ${ }_{11}^{11}$ |
| 1923 | 1112 | 111 ${ }^{\frac{1}{2}}$ | 11／$\frac{1}{2}$ | 1112 | 112 | 11 | 11 | 1112 | 1112 | $11 \frac{1}{2}$ | 112 | $11 \frac{1}{2}$ |
| Indianapolis： | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 1921 | 12 | 12 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 10 |  |
| 1922 | 10 | 9 | 9 | 9. | 9 | 8 | 8. | 8 | 8 | 8 | 8 | $8 \frac{1}{2}$ |
| 1923. | 82 | 1012 | 102 | 112 | 107 | 107 | $10 \frac{1}{2}$ | 10 | 1012 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ |
| Chicago： 1920 | 14 | 14. | 134 | 132 | 131 | 131 | 1412 | 151 | 151 | 151 $\frac{1}{2}$ | 14 | 131 |
| 1921. | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | 13 | $13{ }^{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13{ }^{1}$ | $11{ }^{1}$ | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | 1112 |
| 1922 | 11 | $11^{2}$ | 11 | $9 \frac{1}{2}$ | 11 | 11. | 11. | 11 | 11 | $10^{2}$ | 11. | 11 |
| 1923. | 11 | 12 | 12 | 12. | 11 | 12 | 13 | 13 | 13 | 13 | 132 | $13 \frac{1}{3}$ |
| Detroit： | 15 | 15 | 15 | 15 | $14 \frac{1}{2}$ | 1412 | 15 | 15 | 15 | 15 | 15 | 13 |
| 1921 | 12 | 12 | 12 | 12 | $12^{2}$ | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 1922 | 12 | 12 | 11 | 11 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | 11 | 11 | $11 \frac{1}{2}$ | 10 | 11 |
| 1923 | 12 | 113 | 12 | 121 | － $12 \frac{1}{2}$ | 12 |  | 13 | 13 | 13 | 12 | $12 \frac{1}{1}$ |
| Milwaukee： $1$ | 12 | 12 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 10 | 10 |
| 1921. | 12 | 81 | 81 | 81 | 73 | 73 | 73 | 8 | $7 \frac{1}{2}$ | $7 \frac{1}{2}$ | 73 | $7 \frac{1}{2}$ |
| 1922 | 71 | 73 | 7 | 73 | $7 \frac{3}{3}$ | $7 \frac{1}{2}$ | $7 \frac{1}{3}$ | $7 \frac{1}{2}$ | $7 \frac{1}{2}$ | $7 \frac{1}{2}$ | $8 \frac{1}{3}$ | $8 \frac{1}{2}$ |
| 1923 | 83 | $8 \frac{3}{3}$ | $8 \frac{3}{2}$ | $8{ }^{3}$ | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{12}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ |
| Minneapoli | 113 | $11 \frac{1}{2}$ | 113 | 113 | 111 | 113 | $11 \frac{1}{2}$ | $12 \frac{1}{2}$ | 1212 | 121 | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ |
| 1921 | 113 | 11 | $10 \frac{1}{2}$ | $10 \frac{1}{3}$ | 9 | 83 | $8{ }^{8 \frac{1}{2}}$ | 9 | $9 \frac{1}{2}$ | $9{ }^{2}$ | $9 \frac{1}{2}$ | 9 |
| 1922 | 83 | $8 \frac{1}{2}$ | 83 | 83 | 8 | 83 | 8 | $8 \frac{3}{3}$ | 9 | 9 | 9 |  |
| 1923 | 93 | $9 \frac{1}{2}$ | $9 \frac{3}{2}$ | 93 | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | 10늘 | 1012 | 1012 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ |
| St．Paul： |  |  | 12 |  | 113 |  | 12 | 123 | 1212 | 121 |  |  |
| 1921 | $11{ }_{12}^{12}$ | $11^{12}$ | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | ${ }^{11} 1$ | $8 \frac{1}{2}$ | 12 | 92 | 12. | 923 | $9{ }^{1}$ | $9 \frac{1}{2}$ |
| 1922 | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | 81 | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $9 \frac{1}{2}$ | 913 | $9 \frac{1}{2}$ |  |
| 1923 | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9{ }^{1}$ | 91 | $9 \frac{1}{2}$ | $10 \frac{1}{2}$ | 102 |  |  | $10 \frac{1}{2}$ |
| Sioux City： |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | ${ }^{14 \frac{1}{2}}$ | ${ }^{14 \frac{1}{2}}$ | ${ }_{11}^{132}$ | ${ }_{11}^{13 \frac{1}{2}}$ |  | ${ }^{141}{ }^{2}$ | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | 143 |
| 1921 | －1312 | $12 \frac{1}{2}$ | $11 \frac{1}{2}$ |  |  |  | 11 | ${ }_{9}^{11}$ | $11^{2}$ | 11 |  |  |
| ${ }_{1923}$ | $9 \frac{1}{2}$ | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $\frac{81}{8}$ | $\begin{array}{r} 8 \frac{1}{2} \\ .8 \end{array}$ | 88 |  | 9 9 |  |  | 10 | 10 |
| St．Louis： |  |  |  |  |  |  |  |  |  |  |  |  |
| St．1920． | 15 | 15 | 15 |  | 14 |  | 14 | 15 | 15 | 15 | 15 | 15 |
| 1921. | 15 | $13 \frac{1}{2}$ | 13 | 12 | 13 | 11 | 11 | 11 | 11 | 11 | 11 |  |
| 1922 | 8 | 8 | 8 | 8 | 8 | ${ }_{11} 8$ | 11 |  | 11 | 11 | 11 | 11 |
| 1923. | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| $\begin{aligned} & \text { Kansas City: } \\ & 1920 \end{aligned}$ | 14 | 14 | 14 | $14 \frac{1}{2}$ | 14 | 1312 | 14 | $14 \frac{1}{2}$ | $13 \frac{1}{2}$ | $14 \frac{1}{2}$ | $13 \frac{1}{1}$ | $14 \frac{1}{2}$ |
| 1921. | $12 \frac{1}{2}$ | 13 | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | $11 \frac{1}{2}$ | 12 | 12 | $12 \frac{1}{2}$ | 12 | 12 | $11 \frac{1}{2}$ | 11 |
| 1922 | $11 \frac{1}{2}$ | 11 | 10 | 9 | ${ }^{8 \frac{1}{2}}$ | ${ }^{9}$ | 11 | ${ }_{10}^{9 \frac{1}{2}}$ | ${ }_{10} 8$ | ${ }_{11}{ }^{\frac{1}{2}}$ | ${ }^{9 \frac{1}{2}}$ | 10 |
| 1923．－－－－－ | 10는 | 10 | 10 | 101 | 10 | $10 \frac{3}{2}$ | 11 | 10 | 10 | 11 | 10 | $10 \frac{1}{2}$ |
| Washington，D．C．： | 151 | 15 | $15 \frac{1}{2}$ | 15 | 1312 | 1312 | 133 | 14 | 14 | 15 | 1512 | 15 |
| 1921. | $14 \frac{1}{2}$ | 13 | $14{ }^{2}$ | 14 | 11. | 11 | 10 |  | 11 | 12 | 12 | 12 |
| 1922 | 11 | 12 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | $11 \frac{1}{2}$ |
| 1923. | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 |

Table 441.-Milk: Monthly wholesale price, standard or grade B milk, per quart, in cases of 12 quarts, 1920-1923-Continued.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Richmond: | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1920. | 16 | 16 | 16 | 16 | 16 | 15 | 16 | 16 | 16 | 16 | 16 | 16 |
| 1921 | 16 | ---- | $14 \frac{1}{2}$ | 11 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 1922 | 13 | 13 | 13 | 12 | 12 | 12 | 13 | 12 | 12 | 12 | 13 | 13 |
| 1923. | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 |
| Jacksonville: |  |  |  |  |  |  |  |  |  |  |  |  |
| - 1920 | 17 | 17 15 | 15 | 18 | 18 | 16 | 22 | 16 | 22 | 18 | 18 | 18 |
| 1922 | 13 |  | 15 | 11 | $12 \frac{1}{2}$ |  | 13 | $12 \frac{1}{2}$ | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | 15 | $14 \frac{1}{2}$ |
| 1923 | 1412 | $14 \frac{1}{2}$ | $14 \frac{1}{2}$ | 13 | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ | 13 | 13 | 15 | 15 | $14 \frac{1}{2}$ |
| Louisville: | 14 |  | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |  |
| 1921 | 13 | 14 |  |  |  |  | 9 | 10 | 9 | 9 | 9 | 9 |
| 1922 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 9 | $9 \frac{1}{2}$ | 10 | 11 |
| 1923 | 11 | 10 | 10 | 10 | 10 | 10 | 10 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | 11 | 11 | 11 |
| Nashville: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 15 |
| 1921 | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 1922 | 10 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 |
| 1923 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 12 |
| Birmingham: | 15 | 18 |  |  |  |  |  |  |  |  |  |  |
| 1920. | 15 | 18 | 15 | 15 | $15 \frac{1}{2}$ | 18 | 15 14 | 15 | ${ }_{13}^{15}$ |  |  | ${ }_{13}^{18}$ |
| 1922 | 18 | 15 |  | 15 | 14 | 14 | 14 | 13 | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | ${ }_{13}{ }^{2}$ | $13 \frac{1}{2}$ |
| 1923 | 14 | 131 ${ }^{1}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | $13 \frac{1}{2}$ | 12 | 12 |
| New Orleans: | 17 | 17 | 17 | 17 | 15 | 15 | 15 | 15 | 17 | 17 | 17 | 16 |
| 1921 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 12 | 12 |
| 1922 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 1923 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 13 | 13 |
| Butte: <br> 1920 |  |  |  |  |  |  |  |  |  | 15 |  |  |
| 1921 | 121 | $12 \frac{1}{2}$ | $12 \frac{1}{2}$ |  | 10 | 122 | $12 \frac{1}{2}$ | 10 | 9 | 10 | 10 | 10 |
| 1922 | 10 | 10 | 10 | 10 | 10 | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | 9 | 10 | 10 | 10 |
| 1923 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 11 |
| Denver: | 111 |  | 12 | 12 |  | 11 | 12 | 11 | 11 | 11 | 11 | 11 |
| 1921 | $11 \frac{1}{2}$ | $13{ }^{2}$ | 12 | 10 | 9 | 119 | $8 \frac{1}{2}$ | 11 9 | 118 | + 8 | 81 | 81 |
| 1922 | 8 | 8 | $7 \frac{1}{2}$ | 8 | 8 | $7 \frac{1}{2}$ | 8 | 8 | 8 | 8 | 8 | 10 |
| 1923. |  | 10 | 10 | 10 | 10 | 10 | 9 | 10 | 10 | 10 | 1.$)$ | 10 |
| Salt Lake City: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920. | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 i | 11 |
| 1921 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 1922 | 8 | 8 | 8 | 8 | 8 | $9 \frac{1}{2}$ | 8 | 8 |  | 8 | 8 | 8 |
| 1923 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Seattle: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920. | $11 \frac{1}{2}$ | 11 | 10 | 9 |  | 10 | 11 | 11 | 11 | 101 $\frac{1}{2}$ |  |  |
| 1921 | 9 | $8 \frac{1}{2}$ | 9 | 9 | $8 \frac{1}{2}$ |  |  | $8 \frac{1}{2}$ |  | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | 8 |
| 1922 | $9 \frac{1}{2}$ | $9{ }^{9}$ | $9 \frac{1}{2}$ | ${ }_{8}^{8}$ | 83 | $8 \frac{1}{2}$ | $8 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9{ }^{91}$ | 9 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ |
| 1923--.-.-.- | 101 | 1012 | $10 \frac{1}{2}$ | 1012 | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $9 \frac{1}{2}$ | $10 \frac{1}{2}$ | 101 | 102 |  |
| Portland, Oreg.: | 131 | 131 | 131 | 12 | 121 | 12 | 12 | 12 | 13 | 131 | 13 | 13 |
| 1921 | $12 \frac{1}{2}$ | 12 | 12 | 12 | ${ }^{9}$ | 9 | 9 | 8 | 9 | 9 | 9 | 9 |
| 1922 | 9 | $8 \frac{1}{2}$ | 81 |  | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| 1923 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 101 | $9 \frac{1}{2}$ |
| Los Angeles: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 15 | 15 | 15 | 15 | 15 | 15 | 17 | 17 |  | 17 | 17 | 17 |
| 1921 | 17 | 15 | 15 | 15 |  | 15 | 14 | 13 | 13 | 13 | 13 | 13 |
| 1922 | $13 \frac{1}{2}$ | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 |
| 1923. | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| San Francisco: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 14 | 14 | 131 | 131 ${ }^{\frac{1}{2}}$ | 14 | 14 | $13 \frac{1}{2}$ | 14 | 14 | $14 \frac{1}{2}$ | 1412 | 15 |
| 1921 | 13 | 13 | 13 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| 1922 | 11 | $10 \frac{1}{2}$ | $10 \frac{1}{2}$ | 11 |  | $10 \frac{1}{2}$ | 10 | 10 | 10 | 10 | 10 | 11 |
| 1923. | 11 | 101 | 10 | 1012 | 10 | 102 |  | 11 |  |  | 12 | 112 |

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

Table 442.-Creamery butter: Production, United States, 1917-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 1917 | 43,997 |  | 47, 371 | 53, 809 | 75, 108 | 98, 898. | ${ }_{94,151}$ | 83, 936 | 76, 744 | 56,176 | 42,705. | 48, 157 | 759,511 |
| 1918 | 44, 357 | 42, 389 | 49, 086 | 57, 332 | 85, 564 | 104, 385 | 97, 440 | 85, 148 | 72, 397 | 63, 886 | 45, 741 | 45, 560 | 793, 285 |
| 1919 | 52, 189 | 44, 343 | 54, 822 | 67, 487 | 103, 941 | 119, 357 | 104, 156 | 84, 458 | 68, 815 | 58, 723 | 45, 041 | 46, 662 | 849, 994 |
| 1920 | 49, 044 | 46, 355 | 56, 303 | 60,622 | 86, 845 | 114, 695 | 110, 844 | 90, 669 | 77, 106 | 65, 129 | 53, 570 | 52, 395 | 863, 577 |
| 1921 | 58, 906 | 56, 556 | 67, 677 | 82, 763 | 119, 077 | 130, 633 | 111, 898 | 111, 638 | 89, 932 | 84, 374 | 70, 024 | 71, 460 | 1, 054, 938 |
| 1922 | 73, 505 | 67, 005 | 79, 532 | 86,623 | 132,351 | 150, 034 | 135, 231 | 114, 160 | 92, 359 | 83, 070 | 68, 628 | 70, 617 | 1, 153, 515 |
| 1923 | 75, 494 | 69, 815 | 81, 724 | 85, 857 | 118,345 | 140, 256 | 143, 671 | 116, 706 | 98, 577 |  |  |  |  |

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

Table 443.-Butter: Receipts at five markets, 1918-1923.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| New York: | 13 | libs. | libs. | lbs. |  | ${ }_{\text {libs. }}^{\text {lig }}$ |  | 20, 25 |  |  |  |  |  |
| 1918 | 13, 439 | 16, 119 | 16, 232 | 17, 125 | 22,904 | 28, 419 | 23, 372 | 22,893 | 19, 650 | 16,219 | 15, 285 | 12,041 | 226, 698 |
| 1920 | 11, 794 | 11, 201 | 12,972 | 7,845 | 13, 383 | 20, 205 | 21, 534 | 18,203 | 14, 914 | 12,079 | 10, 436 | 10, 042 | 164, 608 |
| 1921 | 12, 101 | 11, 027 | 12, 969 | 14, 265 | 21, 339 | 27, 233 | 21, 635 | 23, 664 | 21, 187 | 17, 072 | 15, 564 | 14, 892 | 212, 948 |
| 1922 | 16, 191 | 16, 475 | 19, 256 | 16, 238 | 24, 723 | 34, 583 | 30, 715 | 23, 085 | 18, 209 | 16, 885 | 16, 016 | 14, 801 | 247, 177 |
| 1923 | 19, 815 | 15, 119 | 19, 671 | 18, 143 | 24, 071 | 31, 165 | 27, 780 | 21, 396 | 18, 631 | 17, 572 | 15, 012 | 15, 389 | 243, 764 |
| Chicago: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1918 | 18, 142 | 22, 169 | 24, 051 | 12, 891 | 23,168 |  |  |  |  |  |  |  |  |
| 1919 | 12, 324 | 10, 177 | 11, 458 | 12, 891 | 23, 17,118 | 25, 344 | 27, 2233 | 18, 5200 | 15, 455 | 1, 1,417 | 7, 528 | 8, 797 | 76,746 |
| 1921 | 10, 054 | 9,908 | 12, 195 | 14, 513 | 21, 785 | 28, 571 | 21, 551 | 21, 290 | 14, 864 | 14, 664 | 11, 185 | 13, 011 | 193, 591 |
| 1922 | 13, 628 | 12, 047 | 14, 184 | 14, 378 | 23, 5681 | 31, 640 | 27, 166 | 21, 582 | 15, 664 | 13, 394 | 11, 652 | 14, 196 | 213,099 |
| 1923 | 16, 577 | 14,323 | 15, 817] | 15, 949 | 23, 379 | 32, 893 | 26, 120 | 18, 673 | 16, 760 | 15, 386 | 14, 083 | [15, 932 | 225, 892 |
| Philadelphia: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 1918 \\ & 1919 \end{aligned}$ |  |  | 3, 748 | 2, 481 | 5, ${ }^{3}, 064$ | 6, 660 | 5, 026 | 4, 356 | 4,141 | 3, 847 | 4,181 | 2,993 | 51, 191 |
| 1920 | 3,264 | 3, 520 | 3, 398 | 2,964 | 3,980 | 6, 237 | 5, 850 | 4, 773 | 4, 698 | 3,771 | 3, 010 | 3,165 | 48,630 |
| 1921 | 3,250 | 2,817 | 3, 860 | 4, 084 | 6, 139 | 7,803 | 6, 486 | 5,713 | 5, 107 | 4,780 | 4, 184 | 4,543 | 58,766 |
| 1922 | 5,487 | 4, 640 | 4,877 | 4, 449 | 6, 505 | 8,791 | 6,872 | 5, 944 | 4, 571 | 4, 328 | 4, 075 | 4, 202 | 64, 741 |
| 1923 | 5, 111 | 4,372 | 6, 077 | 5,307 | 6, 470 | 9, 499 | 6,418 | 6,045 | 5, 262 | 5, 355 | 4, 267 | 4, 415 | 68,598 |
| Boston: |  | 2759 | 4,323 | 4, 071 |  | 4 | 12,237 | 7,569 | 5,377 | 6, 218 | 5, 079 | 3, 429 | 71,440 |
| 1919 | 4, 014 | 3, 821 | 3,140 | 4, 378 | 9,554 | 14, 107 | 13, 699 | 7, 609 | 5, 241 | 3, 412 | 2, 210 | 2,038 | 73, 223 |
| 1920 | 3, 216 | 3,176 | 5, 368 | 3,709 | 6,323 | 12, 060 | 14, 406 | 8,748 | 6, 762 | 4,372 | 2, 378 | 2, 474 | 72,993 |
| 1921 | 3,722 | 3,752 | 4, 147 | 3, 881 | 8,045 | 12, 536 | 9,433 | 9, 357 | 6, 994 | 6, 296 | 3, 282 | 3, 093 | 74, 538 |
| 1922 | 4,787 | 4, 295 | 4,794 | 4,381 | 10,907 | 16, 959 | 11, 562 | 8, 659 | 6, 009 | 4, 578 | 4, 484 |  |  |
| 1923 | 4, 285 | 4, 538 | 5,431 | 6, 142 | 7,946 | 13, 536 | 12, 403 | 7,905 | 6,776 | 5,174 | 4, 741 | 3,781 | 82659 |
| San Francisco; | 2,278 | 1,851 | 2, 564 | 3,129 | 2,771 | 2, 170 | 1,762 | 1,531 | 1,178 | 1,215 | 1,258 | 1,201 | 22,908 |
| 1919 | 1,286 | 1, 479 | 2, 014 | 2,792 | 2, 979 | 2, 434 | 2, 202 | 1, 832 | 1,094 | 1, 337 | 1,333 | 1,269 | 22, 031 |
| 1920 | 1,488 | 1, 665 | 2,178 | 3, 140 | 2,767 | 2, 197 | 1, 744 | 1,789 | 1, 722 | 1,739 | 1,565 | 1,572 | 23, 566 |
| 1921 | 1, 652 | 1,431 | 1,982 | 2,345 | 2, 255 | 2,306 | 2, 359 | 2, 710 | 2, 064 | 2, 538 | 2, 206 | 1,718 | 25,566 |
| 1922 | 1,742 | 1,582 | 2,152 | 2, 619 | 2,731 | 2,742 | 2,178 | 2, 257 | 2,034 | 2, 228 | 1, 862 | 1,789 | 25, 916 |
| 1923 | 2,055 | 1, 524 | 1,960 | 2, 405 | 2, 462 | 2,882 | 2, 616 | 2, 22t | 1,878 | 1,906 | 1, 656 | 1,942 | 25,510 |
| Total 5 ma 1918. |  |  |  | 45, 048 | 50, 851 |  |  |  |  |  |  | 35, 797 | 539, 821 |
| 1919 | 37,867 | 34,846 | 36, 592 | 41,287 | 63, 669 | 84,993 | 68, 926 | 55, 246 | 43, 282 | 35, 573 | 30, 731 | 25, 910 | 558, 922 |
| 1920 | 29,827 | 29,009 | 35, 314 | 28, 002 | 43,571 | 66, 043 | 71, 167 | 53, 714 | 43, 551 | 33, 378 | 26, 917 | 26,050 | 486,543 |
| 1921 | 0, 81 | 28, 935 | 55, 26 | 39,088 | 59, 56 | 78, 448 | 61, 464 | 62, ${ }^{624}$ |  |  |  |  | 565, 409 |
| 1922 | 41,835 | 39, 039 | 45, 263 | 42,065 | 68, 434 | 94, 715 | 78, 393 |  |  | 45, 393 |  |  |  |
| 19 | 47, 8 | 39, | 48, 956 | 47, 9 | 64, 328 | 89, 975 | 75, 337 | 56, 243 | 49,307 | 45, 393 | 39, 759 | 1, 45 | 646, 423 |

[^248]Table 444.-Butter: Receipts at five markets, by States of origin, 1923.
BOSTON.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Canada |  |  | lbs. |  |  |  |  |  |  |  | ${ }^{\text {libs. }} 103$ |  | lbs. 137 |
| Chicago | 1, 277 | 1,502 | 1,035 | 1,073 | 1,520 | 1, 064 | 1,012 | 697 | 403 | 390 | 560 | 384 | 10,917 |
| Illinois | 1, 044 | 1, 003 | 1, 703 | 1, 693 | 2, 085 | 4, 056 | 3, 953 | 1,699 | 2, 199 | 1,334 | 1, 041 | 790 | 22, 600 |
| Indiana | ${ }^{60}$ | 164 | 18 | 57 | 172 | 758 | $\stackrel{670}{ }$ | 263 | 180 | 155 | 183 | 42 | 2, 722 |
| Iowa- | 249 | 128 | 136 | 152 | 271 | 483 | 369 | 380 | 231 | 176 | 241 | 207 | 3,023 |
| Kapsas | 24 | 23 | 65 | 29 | 62 | 70 | 45 | 21 | 17 | 7 | 39 |  | 402 |
| Maine-1.-- | $\stackrel{2}{2}$ | 1 | 9 | , | 1 | 4 | 2 | 1 | -10 | 24 | 42 | 4 | 87 |
| Michigan. | 42 | 28 | 48 | 55 | 117 | 60 | 432 | ${ }^{46}$ | ${ }_{91}^{10}$ | 77 | 88 | 73 | - 702 |
| Minnesota | 307 | 582 | 758 | 1, 205 | 1,372 | 2,445 | 2,292 | 2,133 | 1,667 | 1,411 | 8.55 | 853 | 15, 880 |
| Missouri | 52 | 21 | 9 | 3 | 33 | 77 | 90 | 93 | 97 | 31 | 113 | 27 | 646 |
| Nebraska | 262 | 185 | 381 | 278 | 318 | 650 | 251 | 267 | 147 | 89 | 166 | 280 | 3, 274 |
| New Hampsh | 24 | 25 | 28 | 25 | 39 | 26 | 21 | 16 | 14 | 18 | 18 |  | 263 |
| New York | 22 | 33 | 109 | 178 | 114 | 597 | 618 | 278 | 392 | 308 | 341 | 365 | 3, 355 |
| New York City | 64 | 76 | 208 | 191 | 93 | 401 | 562 | 157 | 125 | 101 | 225 | 20 | 2, 223 |
| North Dako | 8 | 23 | 27 | 85 | 118 | 172 | 234 | 364 | 235 | 171 | 108 |  | 1, 545 |
| Ohio | 119 | 135 | 156 | 82 | 318 | 464 | 470 | 424 | 411 | 256 | 127 | 102 | 3, 064 |
| Oklahoma | 22 | 29 | 15 | 18 | 51 | 6 |  |  |  |  | 3 | 22 | 166 |
| Pennsylvania | 1 | 39 | 21 |  |  |  |  |  |  | 74 | 3 |  | 143 |
| South Dakota | 16 | 83 | 106 | 145 | 274 | 417 | 484 | 208 | 46 | 59 | 11 | 42 | 1, 891 |
| Vermont | 351 | 367 | 459 | 698 | 801 | 894 | 551 | 854 | 300 | 349 | 332 | 298 | 5, 854 |
| Wisconsin | 116 | 86 | 104 | 99 | 145 | 413 | 293 | 198 | 124 | 119 | 56 | 60 | 1, 813 |
| Other States. | 2 | 1 | 1 | 44 | 11 | 153 | 50 | 46 |  |  | 24 | 24 | 397 |

NEW YORK.

| Alabama |  |  |  |  |  |  |  |  |  |  |  | 10 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| California | 31 |  | 59 | 79 | 59 |  |  |  |  |  |  |  | 288 |
| Canada. | 513 | 24 | 32 | 118 | 218 |  |  |  | 259 | 431 | 1,280 | 672 | 3,631 |
| Georgia | 22 |  | 4 |  | 16 | 11 |  |  |  |  |  | 7 | 98 |
| Illinois | 3, 047 | 2,714 | 2, 659 | 2, 429 | 2, 806 | 3, 606 | 4, 334 | 2, 514 | 3, 347 | 2, 217 | 1, 860 | 2, 297 | 33, 830 |
| Indiana | 647 | 553 | 307 | 311 | 600 | 1, 104 | 597 | 180 | 322 | 360 | 159 | 82 | 5, 222 |
| Iowa | 3, 525 | 2,732 | 3,618 | 3, 572 | 5,190 | 6,541 | 5, 284 | 4, 325 | 3, 714 | 3,820 | 3, 100 | 3, 019 | 48, 440 |
| Kansas | 274 | 50 | 86 |  | 109 | 134 | 195 | 52 | 56 | -90 | 244 | 4 | 1, 294 |
| Kentucky | 31 | 42 | 61 | 14 | 51 | 38 | 42 | 91 | 101 | 19 | 16 | 11 | - 517 |
| Maryland | 32 | 12 | 13 | 25 | 6 | 1 | 16 | 4 | 40 | 2 |  |  | 151 |
| Massachuset | 9 | 5 | 44 | 17 | 25 | 15 | 6 | 44 | 3 | 22 | 39 | 30 | 259 |
| Michigan | 751 | 600 | 611 | 590 | 722 | 1,133 | 658 | 417 | 294 | 513 | 329 | 458 | 7,076 |
| Minnesota | 5,412 | 4,689 | 7, 798 | 6,786 | 8,527 | 11, 344 | 10, 831 | 8,215 | 6,586 | 5, 976 | 4,107 | 4,673 | 84, 944 |
| Mississippi | 9 |  | 6 | 8 | 14 | 28 | 29 | 30 |  |  | 2 | 2 | 142 |
| Missouri | 558 | 255 | 251 | 159 | 540 | 655 | 606 | 512 | 172 | 321 | 390 | 230 | 4, 649 |
| Nebraska | 2,002 | 1,550 | 1,655 | 1, 648 | 2,133 | 2,080 | 1,528 | 2, 016 | 1,069 | 1,502 | 1,488 | 1,688 | 20, 359 |
| New Jersey | 4 |  |  |  |  |  |  |  | , 42 | , 16 |  | 1, 57 | 130 |
| New York | 274 | 219 | 404 | 400 | 653 | 837 | 539 | 812 | 365 | 558 | 547 | 522 | 6, 130 |
| North Carolina | 28 | 19 | 26 | 23 | 50 | 55 | 33 | 41 | 21 | 27 | 22 | 13 | 358 |
| North Dakota. | 36 | 1 | 3 | 3 | 3 | 24 | 24 | 11 | 14 | 2 | 4 | 9 | 134 |
| Ohio | 897 | 450 | 534 | 412 | 527 | 1, 531 | 1,348 | 1,016 | 1, 059 | 849 | 721 | 490 | 9,834 |
| Oklahoma | 152 | 25 | 2 | 1. | 80 |  |  |  |  |  |  | 1 | 261 |
| Pennsylvania | 125 | 97 | 156 | 157 | 77 | 150 | 57 | 42 | 151 | 62 | 114 | 91 | 1, 279 |
| South Carolina | 2 | 2 | 2 | 3 | , | 2 | 22 | 1 |  |  | 1 | 1 | 38 |
| South Dakota | 34 | 24 | 16 | 3 | 1 | 61. | 46 | 47 | 5 | 3 | 3 | 17 | 260 |
| Tennessee | 107 | 49 | 41 | 36 | 153 | 130 | 163 | 132 | 122 | 69 | 56 | 74. | 1,132 |
| Utah | 8 |  | 91 | 24 | 25 |  |  |  |  |  | 24 | 38 | 210 |
| Vermont | 12 |  | 9 |  | 8 |  |  |  |  |  |  | 17 | 46 |
| Virginia | 29 | 18 | 11 | 9 | 25 | 42 | 83 | 38 | 70 | 36 | 33 | 23 | 417 |
| Washington- |  |  |  | 58 |  | 15 | 94 |  | 27 |  |  |  | 194 |
| West Virginia |  |  | I | 1 |  | 9 | 4 | 7 | 1 | 1. | 1 | 1 | 26 |
| W isconsin | 1,047 | 926 | 1,122 | 1,228 | 1, 375 | 1,536 | 1, 147 | 748 | 757 | 663 | 411 | 8111 | 11, 771 |
| Other States. | 157 | 25 | 25 |  | 31 | 51 | 2 | 3 | 19 | 2 | 54 | 43 | 412 |

Table 444.-Butter: Receipts at five markets, by States of origin, 1923-Contd.
PHILADELPHIA.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | $1,000$ | $\begin{aligned} & 1,000 \\ & 2 b s . \end{aligned}$ | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | $\begin{aligned} & 1,000 \\ & \text { lbs. } \end{aligned}$ |
| Alaba |  |  |  |  |  |  | 22 |  |  |  |  |  |  |
| California | 22 |  | 11 |  |  |  |  |  |  |  |  | 26 | 59 |
| Canada. | 48 |  |  |  | 63 |  |  | 88 | 29 | 24 |  |  | 252 |
| Delawar | 14 | 6 | 12 | 11 | 9 | 4 | 1 |  | 3 | 6 | 5 |  | 71 |
| Mlinois. | 745 | 516 | 786 | 982 | 2, 049 | 1,219 | 2, 155 | 870 | 420 | 656 | 842 | 513 | 11, 753 |
| Indiana | 383 | 281 | 360 | 340 | 439 | 580 | 283 | 197 | 226 | 308 | 148 | 212 | 3,757 |
| Iowa. | 181 | 125 | 88 | 91 | 62 | 111 | 61 | 112 | 105 | 136 | 112 | 130 | 1,314 |
| Kansas | 5 | 35 | 38 |  | 92 | 30 | 22 |  |  |  |  |  | 223 |
| Kentucky | 1 | 3 | 1 |  | 4 | 75 | 25 | 3 | 1 |  | 2 | 3 | 118 |
| Maryland | 36 | 22 | 25 | 1 | 56 | 5 | 194 | 246 | 230 | 120 | 82 | 40 | 1, 057 |
| Michigan | 222 | 121 | 80 | 208 | 281 | 167 | 282 | 129 | 11 | 86 | 177 | 48 | 1,812 |
| Minnesota | 2, 401 | 2,354 | 2,470 | 2, 284 | 1,630 | 3, 585 | 1,656 | 2, 530 | 2,337 | 2,061 | 1,615 | 2, 271 | 27, 194 |
| Mississipp | 12 |  |  |  | 96 | 196 | 33 |  |  | 21 |  | 43 | 401 |
| Missouri. | 24 | 25 | 110 | 27 | 145 | 353 | 86 | 13 | 6 | 1 | 24 | 128 | 942 |
| Nebraska | 98 | 84 | 157 | 175 | 143 | 307 | 165 | 195 | 114 | 194 | 51 | 74 | 1,757 |
| New Jersey | 2 | 1 | 2 | 1 |  |  |  |  | 25 | 118 | 135 | 1 | 5 285 |
| New York | 36 | 114 | 1,182 | 449 | 452 | 683 | 416 | 413 | 591 | 744 | 389 | 204 | 5,673 |
| Ohio | 214 | 167 | 158 | 142 | 218 | 562 | 312 | 245 | 264 | 199 | 107 | 111 | 2, 699 |
| Oklahoma | 3 |  | 1 | 1 |  | 2 |  | 2 |  |  |  |  | ${ }^{12}$ |
| Pennsylva | 240 | 125 | 196 | 205 | 228 | 211 | 223 | 238 | 243 | 226 | 236 | 200 | 2,571 |
| Tenhessee | 35 | 47 | 10 | 49 | 61 | 473 | 51 | 62 | 80 | 3 | 29 | 15 | 915 |
| Virginia. | 73 | 72 | 78 | 71 | 101 | 127 | 101 | 143 | 149 | 140 | 106 | 86 | 1,247 |
| West Virginia | 2 | 2 | 2 | 2 | 14 | 43 | 5 | 31 | 8 | 44 | 4 | 3 | 160 |
| Wisconsin | 289 | 234 | 292 | 268 | 323 | 753 | 324 | 504 | 394 | 266 | 189 | 283 | 4, 119 |
| Other States. | 23 | 38 | 18 |  | 4 | 15 |  | 4 |  |  |  | 22 | 124 |

CHICAGO.

| Arkansas |  |  |  |  | 5 |  |  |  |  |  |  | 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| California |  |  | 152 | 167 |  |  |  |  |  |  |  |  | 319 |
| Canada |  |  |  |  |  |  |  |  |  |  | 158 | 57 | 215 |
| Colorad | 73 | 55 | 118 | 76 | 162 | 159 | 125 | 93 | 119 | 48 | 76 | 135 | 1, 239 |
| Georgia | 4 |  |  |  | 1 |  |  |  |  |  | 2 |  |  |
| Idaho. |  |  | 68 | 58 | 29 |  |  |  |  |  |  | 78 |  |
| Illinois | 3 | 660 | 413 | 364 | 708 | 1, 444 | 707 | 551 | 452 | 540 | 459 | 471 | 7, 392 |
| Indiana | 131 | 69 | 68 | 47 | 106 | 192 | 175 | 125 | 94 | 47 | 30 | 25 | 1, 109 |
| Iow | 3,306 | 2,788 | 2, 868 | 3, 065 | 3,800 | 5, 690 | 4,240 | 3,768 | 3, 549 | 3, 364 | 2,993 | 2, 677 | 42, 108 |
| Kansas | 1,207 | ${ }^{7} 711$ | 689 | 735 | 1,302 | 1,736 | 1, 151 | 562 | 412 | 516 | 580 | 699 | 10, 300 |
| Kentucky | 19 | 18 | 21 | 21 | 108 | 109 | 38 | 215 | 194 | 77 | 39 | 12 | 871 |
| Michigan | 189 | 144 | 118 | 114 | 230 | 437 5 |  | - 98 | [31 | + 50 | ${ }_{2}^{85}$ | . 154 | 1,966 |
| Minnesota | 2,634 | 2, 440 | 3, 185 | 2, 551 | 3,772 | 5, 299 | 4,655 | 3, 121 | 3, 049 | 2, 674 | 2,928 | 3, 303 | 39, 611 |
| Mississipp |  |  | 27 |  |  |  |  |  |  |  |  |  |  |
| Missouri | 1,164 | 748 | 597 | $515$ | $1,312$ | $1,604$ | $\begin{gathered} 757 \\ 56 \end{gathered}$ | 1, 109 | 777 25 | 850 | 729 | 1, 026 | 1, 188 |
| Montana | 1, 85 | 11 +707 | 10 |  |  | $\begin{array}{r} 62 \\ 1975 \end{array}$ | $\begin{array}{r} 56 \\ 2,019 \end{array}$ | 109 1,029 | 25 1,133 | $\begin{array}{r} 77 \\ 1.247 \end{array}$ | 1, 1210 | $\begin{array}{r} 218 \\ 2,118 \end{array}$ | $\begin{array}{r} 643 \\ 7,433 \end{array}$ |
| Nebraska | 1,251 | 1,707 | 1,259 | 1, 174 | 1,311 | 1,975 | 2, 019 | 1, 029 | 1,133 | 1, 247 | 1, 210 | $\begin{array}{r} 2,118 \\ 3 \end{array}$ | $\begin{array}{r} 7,433 \\ 32 \end{array}$ |
| New Mexico |  |  |  |  |  | 490 | 512 |  | 526 | 208 | 251 | 207 | 3,418 |
| North Dako | 120 | 96 | -142 | 98 | 285 | 490 |  | 483 | 626 | 208 | 251 | 112 | , 418 |
| Ohio | 115 | 20 | 20 | 1 |  | 29 | 2 | 42 |  |  | 81 | 112 | 825 |
| Oklahoma | 209 | 45 | 12 | 8 | 636 | 592 | 224 | 42 | 79 | 1 | 81 | 5 | 894 |
| Pennsylvania: |  |  |  |  |  |  |  |  |  |  | 3. |  |  |
| Bouth Dako | 941 | 784 | 1, 120 | 1, 017 | $\text { 1, } 227$ |  | $2,160$ | $\begin{array}{r} 78 \\ 2 \end{array}$ | 22 | 27 |  |  | + 112 |
| Tennessee |  |  | 6 |  | $22$ |  |  |  | 22 |  |  |  |  |
| Wexas.-..- | 0 |  |  | 5,802 | 8, 405 | 10,763 | 8,953 | 5, 959 | 5,181 | 4, 695 | 3, 685 | 768 | 70, 588 |
| Other States |  | 5 | 51 | 25 |  |  |  | 1 | 1 |  | 3 | . 29 | 118 |

SAN FRANCLSCO.

| California | 1,707 | 1, 442 | 1,922 | 2, 321 | 2, 305 | ¢ 127 | 1,818 | 1,839 | 1,546 | 1,664 | 1,484 | 1,630 | 21, 805 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Canada... |  |  |  |  |  |  | 1,87 | , 38 | 101 | - 29 | 27 | 34 | 316 |
| Idaho. | 28 |  | 1 | 30 | 6 | 100 | 152 | 30 | 52 | 56 | 21 | 26 | 502 |
| Montana |  |  |  |  |  |  | 142 | 114 | 53 | 24 |  | 28 | 361 |
| Nebraska |  |  |  |  |  |  | 25 |  |  |  |  |  | 25 |
| Nevada. | 16 | 12 | 12 | 11 | 32 | 49 | 35 | 54 | 24 | 28 | 9 | 11 | 293 |
| Orego | 167 | 55 | 17 | 34 | 71 | 333 | 228 | 60 | 51 | 36 | 77 | 48 | 1,177 |
| Uta | 8 | 13 | 7 |  | 7 | 30 | 40. | 9 | 15 | 20 | 10 | 25 | 179 |
| Washington | 134 | 2 |  | 10 | 41 | 163 | 14 | 80 | 21 | 49 | 27 | 141 | 682 |
| Other States. |  |  |  |  |  |  | 81 | 75 |  | 15 |  |  | 171 |

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

Table 445.-Cold storage holdings of creamery butter in United States, 1916-1923.

| Calendar year. | Jan. 1. | Feb. 1. | Mar.1. | Apr. 1. | May 1. | June 1. | July 1. | Aug. 1. | Sept. ${ }^{\text {a }}$ | Oct. 1. | Nov.1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | pounds | pounds | pounds | pounds | pounds | pounds | pounds | pounds | pounds | pounds | pounds | pounds |
| 1916 | 48, 977 | 31, 139 | 15, 033 | 3, 346 | 1,082 | 7, 017 | 53, 863 | 102, 537 | 105, 836 | 100, 522 | 85, 260 | 67, 292 |
| 1917 | 46, 134 | 30, 474 | 16, 952 | 6,805 | 3, 607 | 9, 953 | 49, 982 | 88, 992 | 108, 179 | 109, 154 | 100, 115 | 79, 928 |
| 1918 | 50, 726 | 26, 618 | 18, 808 | 14, 629 | 9, 536 | 12, 698 | 49, 140 | 88, 305 | 99, 334 | 87, 883 | 80, 874 | 65, 111 |
| 1919 | 43, 910 | 36, 777 | 24, 191 | 11,909 | 9, 659 | 29, 435 | 90, 158 | 123, 546 | 131, 388 | 121, 816 | 100, 474 | 73,654 |
| 1920. | 53, 737 | 38, 359 | 22, 568 | 12, 555 | 7, 554 | 12, 872 | 52, 526 | 101, 455 | 115, 558 | 113, 385 | 101, 778 | 79, 750 |
| 1921 | 58, 682 | 41, 486 | 27, 103 | 14, 732 | 7, 712 | 21, 682 | 61, 991 | 82, 838 | 92, 292 | 90, 116 | 77, 983 | 65, 129 |
| 1922 | 48, 412 | 35, 047 | 22, 582 | 9, 113 | 3, 830 | 13, 202 | 67, 410 | 103, 151 | 112, 039 | 96, 680 | 73, 857 | 47, 773 |
| 1923 | 25, 819 | 16, 122 | 8,910 | 4, 824 | 3,248 | 10, 112 | 62, 768 | 101, 774 | 102, 731 | 96, 117 | 76, 472 | 51,508 |

Division of Statistical and Historical Research.
Table 446.-Butter: International trade, calendar years, 1909-1922.

| Countries. | A verage 1909-1913. |  | 1920 |  | 1921 |  | $\begin{gathered} 1922, \\ \text { preliminary. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING countries. | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. |
| Argentina | 113 | 6,934 |  | 47, 368 |  | 52, 187 |  | 52, 395 |
| Australia | 46 | 77, 859 | 34 | 92, 421 | 732 | 127, 347 |  | 78, 975 |
| Canada | 3,388 | 3, 973 | 1,105 | 13, 361 | 4,018 | 9, 133 | 6,397 | 21,505 |
| Denmark | 6, 241 | 195,530 |  | 164, 959 | 403 | 202, 953 | 2, 769 | 210, 542 |
| Finland. | 2, 370 | 26, 337 | 5 | 2,508 | 14 | 14, 253 | 29 | 18,373 |
| Netherlands | 4,987 | 75, 133 | 131 | 45,576 | 4, 401 | 44, 528 | 10,816 | 50,981 |
| New Zealand | 47 | 38,761 | (1) | 34, 945 | (1) | 100, 630 |  | 125, 462 |
| Russia | 2, 202 | 150, 294 |  |  |  |  |  |  |
| Union of South Africa | 3, 913 |  | 622 | 488 | 382 | 2,698 | $\cdot 196$ | 1,500 |
| United States | 1,647 | 4,125 | 37,454 | 17,488 | 18,558 | 8,015 | 6,957 | 10,938 |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Algeria | 1,946 | 9 | 1, 162 | 20 | 1,356 | 34 |  |  |
| Austria |  |  | 781 |  | 452 |  |  |  |
| Austria-Hungary | 6,281 | 4, 267 |  |  |  |  |  |  |
| Belgium | 14,024 | 3, 124 | 18,461 | 127 | 22,663 | 1,337 | 41, 750 | 290 |
| China | $\begin{array}{r}\text { 4, } \\ \begin{array}{r}4 \\ 3 \\ 1,677\end{array} \\ \hline\end{array}$ | 24 | 167 1,410 | 10 | $\begin{array}{r} 3 \\ 1,456 \end{array}$ |  | 1,421 |  |
| Cuba | 1,459 |  | 3, 036 |  |  |  |  |  |
| Dutch East Indies | 4,152 |  | 6,793 | 23 | 6,824 |  | 4 4,784 |  |
| Egypt.- | 2, 350 | ${ }^{2} 166$ | 570 | 204 | 628 | 149 | 1,147 | 97 |
| France. | 13,713 | 40,769 | 18,584 | 4, 812 | 40, 140 | 2, 701 | 64, 985 | 6,795 |
| Germany | 111, 441 | 498 | 17, 227 | 429 | ${ }^{5} 2,365$ | ${ }^{5} 203$ | 2, 358 | 619 |
| Greece | 206 | 8 | 4,330 |  | 4, 393 |  | 2, 787 |  |
| Italy | 972 | 7, 870 | 3, 104 | 96 | 1, 004 | 145 | 2,964 | 1,683 |
| Norway | 976 | 3, 137 | 8, 098 | 5 | 7, 560 | 29 | 7,653 | 14 |
| Persia, | 2, 201 | 3, 059 | 796 | 155 |  |  |  |  |
| Peru. | 462 | 20 | 1,389 |  | 801 | 1 | 1,038 | 16 |
| Philippine Island | 1,665 |  | 1,309 |  | 730 |  |  |  |
| Spain-- | 939 | +259 |  | 879 | ${ }^{620}$ | 354 |  | ${ }^{231}$ |
| Sweden | 330 | 45, 870 | 16, 917 | 53 | 14, 171 | 340 | 5,650 $\mathbf{1 5}, 088$ | 3, 043 |
| Switzerland ---.-. | 11, 106 | 44 | 18, 1417 |  | 15, 989 |  | 15, 088 | 8 |
| Trinidad and Tobag | 11,847 455,489 | 1, 179 | 187, 799 | 1 363 | - 8 857 895 | [ 5 | 427, 403 | 1,674 |
| Other countries.. | 12, 273 | 1, 37 | 5,728 | 928 | - ${ }^{2}, 562$ | 1,403 | 1,634 | 1,179 |
| Total | 674, 014 | 689, 293 | 356, 693 | 427, 222 | 525, 982 | 569, 611 | 608, 520 | 586, 320 |

Division of Statistical and Historical Research. Official sources.
Butter includes all butter made from milk, melted and renovated butter, but does not include margarine, cocoa butter, or ghee.

[^249]Table 447.-Butter: Farm price per pound, 15th of month, United States, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Weight ed average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | C | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1910. | 28.3 | 27.1 | 26.0 | 25.6 | 24.8 | 23.7 | 23.6 | 24.5 | 25.7 | 26.6 | 27.4 | 27.8 | 25.5 |
| 1911 | 26.0 | 23.4 | 22.6 | 22.0 | 20.8 | 20.4 | 21.0 | 22.4 | 23.4 | 24. 5 | 26.3 | 27.8 | 22.9 |
| 1912 | 28.6 | 28.1 | 26.6 | 26. 0 | 25.4 | 24. 1 | 23.6 | 24. 0 | 24.9 | 26. 2 | 27.8 | 28.6 | 25.7 |
| 1913 | 28.0 | 27.6 | 27.6 | 27.3 | 26.2 | 25. 1 | 24.8 | 25.4 | 26.7 | 27.8 | 28.7 | 29.2 | 26.7 |
| Av. 191 | 27.7 | 26.6 | 25.7 | 25.2 | 24.3 | 23.3 | 23.2 | 24.1 | 25.2 | 26. 3 | 27.6 | 28.4 | 25.2 |
| 1914 | 28.3 | 26.7 | 25.4 | 24.4 | 23.3 | 22.8 | 23.3 | 24.5 | 25.6 | 26. 2 | 27.4 | 28.6 | 25. |
| 1915 | 28.3 | 27.4 | 26.3 | 25.8 | 25. 2 | 24.5 | 24. 2 | 24.4 | 24.9 | 25. 8 | 27.0 | 28. 0 | 25.7 |
| 1916 | 28.0 | 27.4 | 27.4 | 27.8 | 27.2 | 26.1 | 25.9 | 26. 8 | 28.2 | 30.0 | 32.8 | 34.2 | 28.0 |
| 1917 | 33.8 | 33.8 | 33.8 | 34.8 | 35.6 | 34. 2 | 33.8 | 35. 0 | 37.5 | 39.9 | 41.4 | 42. 5 | 35.9 |
| 1918 | 43.4 | 43.6 | 42.0 | 40.3 | 39.2 | 38.4 | 39.0 | 40.6 | 44.3 | 48.4 | 51.2 | 53.8 | 42. |
| 1919 | 52.2 | 46.7 | 45. 7 | 49.0 | 49.7 | 48. 2 | 47. 7 | 49. 0 | 50.6 | 53. 8 | 58.0 | 60.6 | 50.3 |
| 1920 | 59.6 | 56.8 | 56.0 | 56.8 | 55.6 | 52.6 | 51.8 | 52.2 | 53.2 | 54. 2 | 54.5 | 51.8 | 54 |
| Av. 1914-1920 | 39.1 | 37.5 | 36. 7 | 37.0 | 36. 5 | 35.3 | 35.1 | 36.1 | 37.8 | 39.8 | 41.8 | 42.8 | 37 |
| 1921 | 47.0 | 43. 6 | 41. 2 | 39. 5 | 34. 0 | 29. 2 | 31. 6 | 35. 4 | 37.4 | 39.6 | 41. 0 | 40. 7 | 37.0 |
| 1922 | 37.4 | 34.6 | 34.6 | 34.6 | 34. 1 | 33. 1 | 33. 0 | 33. 4 | 34.8 | 37.4 | 40. 2 | 42.9 | 35.3 |
| 1923 | 43.0 | 42.0 | 41.6 | 40.8 | 39.4 | 37.9 | 37.0 | 38.0 | 40.2 | 42.2 | 44.3 | 45.8 | 40.4 |

Division of Crop and Livestock Estimates.
Table 448.-Butter, first quality British: Average prices per pound in Great Britain, 1904-192צ.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents | Cents. | Cents | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |  |
| 1904 | 26.9 | 27.9 | 27.0 | 24.3 | 21.1 | 20.9 | 21.3 | 24.5 | 25.2 | 26.7 | 27.5 | 29.1 | 25.2 |
| 1905 | 28.4 | 28.4 | 26.4 | 25.3 | 22.3 | 23.3 | 24.3 | 27.4 | 28.4 | 28.4 | 29.4 | 31.4 | 27.0 |
| 1906 | 30.9 | 30.4 | 29.4 | 27.9 | 25. 9 | 24.3 | 25.4 | 27.9 | 29.9 | 30.9 | 31.4 | 31.9 | 28.8 |
| 1907 | 31.4 | 30.4 | 29.4. | 27.9 | 25. 9 | 23.8 | 24.8 | 27.4 | 26.9 | 28.9 | 30.4 | 31.4 | 28.1 |
| 1908 | 30.9 | 31.9 | 30.9 | 28.4 | 26.4 | 23.8 | 25.9 | 27.9 | 28.9 | 29.4 | 29.9 | 30. 4 | 28.5 |
| 1909 | 30.4 | 29.9 | 29.4 | 27.9 | 25. 9 | 24.8 | 25. 9 | 27.9 | 28.4 | 29.4 | 30.4 | 31.4 | 28.7 |
| 1910 | 30.9 | 31.4 | 30. 9 | 29.4 | 27. 4 | 25.3 | 25.9 | 26.9 | 27.9 | 28.9 | 29.4 | 30.4 | 28.7 |
| 1911 | 30.4 | 29.9 | 29.4 | 27.9 | 25. 9 | 24.8 | 25.9 | 29.4 | 30. 4 | 31. 9 | 32.4 | 32.9 | 29.3 |
| 1912 | 32.4 | 32.9 | 31. 4 | 29. 4 | 26.4 | 25.4 | 26.9 | 27.9 | 28.9 | 29.9 | 30.9 | 31.9 | 29.5 |
| 1913 | 31.9 | 31.9 | 31. 4 | 28.9 | 26.9 | 25.4 | 26.4 | 27.9 | 28. 9 | 29.4 | 30.4 | 31.4 | 29.2 |
| Av. 1909-1913 | 31.2 | 31.2 | 30. 5 | 28.7 | 26.5 | 25.1 | 26.2 | 28.0 | 28.9 | 29.9 | 30.7 | 31.6 | 29.0 |
| 1914 | 31. 4 | 30.9 | 30.4 | 28.9 | 26.4 | 25.4 | 27.0 | 31.2 | 30.6 | 31.0 | 32.2 | 33.0 | 29.9 |
| 1915 | 33.8 | 34.6 | 33.5 | 32.0 | 29. 4 | 29.3 | 30.8 | 32.4 | 33. 2 | 35. 6 | 36. 0 | 37.9 |  |
| 1916 | 38. 1 | 37.7 | 37. 7 | 36. 7 | 34.7 | 32.7 | 34.2 | 38. 2 | 40.6 | 42.1 | 44. 6 | 46.0 | 38.6 |
| 1917 | 48.0 | 49.0 | 49. 0 | 48. 6 | 44.6 | 42.1 | 44.1 | 48.5 | 51. 5 | 54.4 | 54. 9 | 55. 4 | 49.2 |
| 1918 | 55. 9 | 56.4 | 56.4 | 57.0 | 56.0 | 55.5 | 54.9 | 54.5 | 54.5 | 55. 0 | 57.0 | 58.0 | 55. 9 |
| 1919 | 58. 0 | 58. 0 | 56. 8 | 56.2 | 56.3 | 55. 7 | 53.5 | 51.6 | 50.5 | 50.4 | 49.3 | 45. 5 | 53.5 |
| 1920 | 44.7 | 64. 4 | 71.1 | 73.0 | 60.2 | 57.6 | 59.4 | 63.7 | 68.0 | 73.8 | 74.6 | 76. 4 | 65.6 |
| Av. 1914-1920 | 44.3 | 47. 3 | 47.8 | 47.5 | 43.9 | 42.6 | 43.4 | 45.7 | 47.0 | 48.9 | 49.8 | 50.3 | 46.6 |
| 1921 | 75.1 | 72.5 | 64.0 | 56.1 | 44.7 | 38.1 | 42.4 | 47.9 | 44.2 | 45.6 | 47.6 | 49.3 | 52.3 |
| 1922 | 43.6 | 42.3 | 39.7 | 40.5 | 38.4 | 36. 6 | 43.5 | 46. 5 | 47. 1 | 48.1 | 50.4 | 52.8 | 44. 1 |
| 1923 | 53.6 | 52.8 | 51.7 | 47.5 | 36.6 | 33.8 | 33.9 | 40.3 | 43.1 | 44.8 | 46.4 | 49.1 | 44.5 |

[^250]Table 449.-Butter, 92 score creamery: Average wholesale price, 1910-1923.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York: | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1910 | 33 | 30 | 33 | 31 | 28 | 28 | 28 | 29 | 30 | 30 | 31 | 30 | 30 |
| 1911 | 26 | 26 | 24 | 21 | 22 | 23 | 25 | 26 | 27 | 30 | 34 | 37 | 27 |
| 1912 | 39 | 32 | 31 | 33 | 30 | 27 | 27 | 27 | 30 | 31 | 34 | 37 | 32 |
| 1913. | 35 | 36 | 37 | 35 | 29 | 28 | 27 | 28 | 32 | 31 | 34 | 36 | 32 |
| 1914 | 33 | 29 | 28 | 25 | 26 | $\stackrel{27}{ }$ | 28 | 30 | 31 | 32 | 35 | 34 | 30 |
| 1915 | 34 | 32 | 30 | 31 | 29 | 28 | 27 | 26 | 27 | 29 | 31 | 35 | 30 |
| 1916 | 33 | 34 | 37 | 36 | 31 | 30 | 29 | 31 | 34 | 35 | 39 | 40 | 34 |
| 1917 | 40 | 44 | 42 | 44 | 40 | 39 | 39 | 41 | 44 | 45 | 46 | 50 | 43 |
| 1918 | 52 | 50 | 44 | 42 | 42 | 44 | 45 | 46 | 56 | 58 | 63 | 69 | 51 |
| 1919 | 62 | 52 | 62 | 64 | 58 | 52 | 53 | 55 | 59 | 68 | 71 | 72 | 61 |
| 1920. | 65 | 66 | 67 | 71 | 61 | 57 | 57 | 55 | 59 | 60 | 63 | 55 | 61 |
| Av. 1914-1920.- | 46 | 44 | 44 | 45 | 41 | 40 | 40 | 41 | 44 | 47 | 50 | 51 | 44 |
| 1921 | 52 | 47 | 48 | 46 | 32 | 33 | 40 | 43 | 43 | 47 | 45 | 44 | 43 |
| 1922 | 37 | 37 | 38 | 38 | 38 | 37 | 36 | 35 | 41 | 46 | 51 | 54 | 41 |
| 1923 | 52 | 50 | 49 | 46 | 42 | 39 | 39 | 44 | 46 | 48 | 53 | 55 | 47 |
| Chicago: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{1}^{1918}$ |  |  | 41 | 42 | 42 | 42 | 43 | 45 | 55 | 56 | 62 | 67 | 50 |
| 1919 | 60 | 49 | 60 | 62 | 57 | 51 | 51 | 53 | 57 | 64 | 69 | 68 | 58 |
| 1920 | 63 | ${ }_{6}^{63}$ | 66 | 64 | 57 | 55 | 55 | 54 | 57 | 57 | 60 | 51 | 58 |
| 1921 | 48 | 47 | 47 | 44 | 29 | 32 | 39 | 40 | 42 | 45 | 44 | 43 | 42 |
| ${ }_{1922}$ | 34 | 37 | 38 | 37 | 34 | 36 | 34 | 34 | 39 | 44 | 50 | 53 | 39 |
| $1923$ | 50 | 50 | 49 | 45 | 40 | '39 | 38 | 43 | 46 | 47 | 52 | 53 | 46 |
| Philadelphia: |  |  |  |  | 46 |  | 45 | 46 |  | 59 |  |  |  |
| 1919. | 62 | 52 | 62 | 65 | 59 | 53 | 54 | 56 | 59 | 68 | 70 | 73 | 61 |
| 1920 | 65 | 67 | 68 | 71 | 62 | 58 | 58 | 56 | 60 | 60 | 63 | 55 | 62 |
| 1921 | 53 | 48 | 49 | 47 | 33 | 33 | 40 | 43 | 43 | 47 | 46 | 45 | 44 |
| 1922 | 37 | 37 | 38 | 38 | 37 | 37 | 37 | 36 | 42 | 47 | 52 | 55 | 41 |
| 1923. | 52 | 50 | 50 | 46 | 42 | 40 | 40 | 45 | 47 | 49 | 53 | 55 | 47 |
| Boston: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919. |  |  |  |  | 46 | 44 | 45 | 46 | 55 | 59 | 62 | 67 | 53 |
| 1919 | 63 | 51 | 62 | 65 | 59 | 53 | 53 | 56 | 58 | 64 | 69 | 71 | 60 |
| 1922 | 65 | 66 | 68 | 69 | 61 | 58 | 58 | 57 | 59 | 59 | 60 | 54 | 61 |
| 1921 | 52 | 48 | 48 | 46 | 32 | 34 | 41 | 43 | 43 | 46 | 45 | 44 | 44 |
| 1922. | 37 | 37 | 39 | 38 | 37 | 37 | 37 | 36 | 40 | 46 | 50 | 54 | 41 |
| 1923 | 52 | 50 | 51 | 47 | 43 | 40 | 40 | 44 | 46 | 48 | 51 | 53 | 47 |
| San Francisco: 1918 |  |  |  |  |  |  |  |  |  | 59 | 58 | 62 | 60 |
| 1919 | 56 | 49 | 56 | 56 | 56 | 54 | 54 | 55 | 60 | 63 | 64 | 65 | 57 |
| 1920 | 62 | 62 | 59 | 56 | 53 | 54 | 57 | 59 | 64 | 58 | 53 | 48 | 57 |
| 1921. | 42 | 46 | 38 | 34 | 31 | 34 | 39 | 42 | 44 | 46 | 46 | 41 | 40 |
| 1922 | 36 | 40 | 33 | 32 | 35 | 38 | 39 | 39 | 46 | 49 | 45 | 47 | 40 |
| 1923-------------- | 48 | 46 | 42 | 41 | 42 | 44 | 42 | 45 | 48 | 47 | 48 | 48 | 45 |

Division of Statistical and Historical Research. From Urner-Barry reports, 1910-1917; subsequently compiled from daily reports of the Division of Dairy and Poultry Products.

Table 450.-Butter: Average export prices per pound in Copenhagen, Denmark, 1882-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver age. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1882 |  |  |  |  |  |  |  |  |  |  | 130.1 | 30.5 |  |
| 1883 | 29.5 | 30.3 | 29.4 | 25.0 | 24.6 | 23.6 | 24.6 | 25.3 | 25.9 | 28.9 | 31.3 | 30. 1 | 27.4 |
| 1884 | 29.2 | 30.0 | 27.4 | 25.8 | 23.0 | 21.9 | 22.3 | 24.9 | 27.5 | 30.3 | 28.4 | 28.4 | 26.6 |
| 1885 | 27.7 | 25.3 | 25.8 | 23.3 | 20.7 | 20.0 | 21.5 | 23.3 | 25.9 | 27.6 | 26.5 | 25.3 | 24.4 |
| 1886 | 25.6 | 24.2 | 23.0 | 20.5 | 19.8 | 17.7 | 20.3 | 21.5 | 23.0 | 26.4 | 26.0 | 26.4 | 22.9 |
| 1887 | 24.8 | 22.6 | 23.6 | 20.4 | 18.0 | 19.1 | 22.1 | 24.1 | 24.7 | 26.2 | 25.5 | 24.4 | 23.0 |
| 1888 | 23.9 | 23.2 | 23.3 | 19.9 | 18.5 | 20.5 | 20.8 | 20.5 | 21.5 | 24.1 | 24.2 | 26.6 | 22.2 |
| 1889 | 25.5 | 26.1 | 25.0 | 21.2 | 20.5 | 20.5 | 22.1 | 22.2 | 22.5 | 23.7 | 24.9 | 25. 5 | 23.3 |
| 1890 | 23.5 | 23.7 | 23.4 | 22.0 | 20.2 | 18.2 | 17.9 | 20.2 | 22.9 | 24.4 | 26.0 | 25. 3 | 22.3 |
| 1891 | 24.9 | 23.8 | 25. 3 | 22.2 | 19.0 | 19.0 | 20. 5 | 21.3 | 23.2 | 26.0 | 26.4 | 27. 5 | 23.3 |
| 1892 | 27.2 | 26.1 | 25.1 | 21.9 | 21.9 | 20.2 | 20.8 | 20.8 | 23.5 | 26.6 | 26.1 | 25.0 | 23.8 |
| 1893 | 23.3 | 22.1 | 21.9 | 20.4 | 18.6 | 20.3 | 23.1 | 23.1 | 25.3 | 24.7 | 25.7 | 23.0 | 22.6 |
| 1894 | 23.2 | 22.2 | 21.7 | 19.9 | 17. 7 | 17.0 | 17. 3 | 18.4 | 20.3 | 20.9 | 26. 5 | 24.1 | 20.8 |
| 1895 | 24.3 | 22.6 | 20.9 | 20.0 | 19.2 | 18.0 | 20.3 | 21.2 | 23.1 | 26. 6 | 23.9 | 23.3 | 22.0 |
| 1896 | 23.6 | 23.8 | 22.6 | 19.7 | 18.6 | 19.3 | 20.3 | 23.8 | 23.4 | 25.2 | 23.8 | 24.3 | 22.4 |
| 1897 | 23.9 | 22.8 | 21.6 | 20.2 | 19.3 | 19.3 | 19.9 | 21.5 | 23.3 | 22.6 | 23.6 | 23.5 | 21.8 |
| 1898 | 22.5 | 22.8 | 22.4 | 20.6 | 18.8 | 18. 5 | 18.1 | 19.4 | 22.3 | 24.2 | 24.1 | 25.3 | 21.6 |
| 1899 | 23.3 | 23.1 | 23.2 | 21.3 | 19.8 | 19.8 | 21.3 | 24.4 | 26.9 | 26.8 | 24.6 | 25.3 | 23.3 |
| 1900 | 23.8 | 22.8 | 21.8 | 21.4 | 21.2 | 22.4 | 22.4 | 24.5 | 24.0 | 24.5 | 25.4 | 26. 0 | 23.4 |
| 1901 | 25.6 | 24.1 | 23.3 | 22.3 | 21.4 | 21.4 | 21.5 | 23.1 | 24.9 | 26.1 | 25.0 | 24.3 | 23.6 |
| 1902 | 22.8 | 24.1 | 23.3 | 23.1 | 21.9 | 21.9 | 21.9 | 21.5 | 23.4 | 24.6 | 24.3 | 24.1 | 23.1 |
| 1903 | 22.8 | 22.7 | 24.3 | 22. 2 | 20.5 | 20.5 | 20.6 | 21.0 | 22.1 | 24.5 | 23.9 | 23.3 | 22.4 |
| 1904 | 22.4 | 23.0 | 21.9 | 19.4 | 18. 7 | 19.3 | 19.8 | 21.8 | 23.7 | 23.4 | 22.6 | 22.7 | 21.6 |
| 1905 | 22.8 | 22.8 | 23.0 | 21.6 | 20.4 | 21.1 | 23.0 | 24.6 | 24.8 | 24. 7 | 25.4 | 25.2 | 23.3 |
| 1906 | 25. 5 | 24.0 | 24.4 | 23.0 | 22.1 | 23.2 | 23.7 | 24.8 | 26.2 | 25. 6 | ${ }^{3} 25.3$ | 25.0 | 24.4 |
| 1907 | 24.3 | 23.6 | 23.1 | 21.4 | 21.4 | 22. 1 | 22.9 | 23.1 | 23.6 | 25.8 | 25.6 | 25.6 | 23.5 |
| 1908 | 26.1 | 28.7 | 24.8 | 22.7 | 22.9 | 23.4 | 24.8 | 25.1 | 24.8 | 26.3 | 25.6 | 23.1 | 24.9 |
| 1909 | 23.4 | 23.9 | 23.6 | 22. 2 | 22.9 | 22.7 | 23.4 | 23.6 | 25.1 | 26.8 | 26.8 | 26.1 | 24.2 |
| 1910 | 25.1 | 26.1 | 27.0 | 25.1 | 23.4 | 23.4 | 23.4 | 23.4 | 23.9 | 24.1 | 23.9 | 23.9 | 24.4 |
| 1911 | 23.6 | 24.6 | 24.1 | 23.6 | 22.4 | 22.9 | 24.4 | 26.8 | 27.8 | 29.5 | 27.8 | 28.2 | 25.5 |
| 1912 | 27.8 | 27.8 | 28.2 | 26.1 | 23.9 | 24.4 | 24.4 | 25.8 | 26. 8 | 27.0 | 26.8 | 27.0 | 26.3 |
| 1913 | 26.3 | 27.0 | 27.0 | 24.8 | 23.4 | 24.1 | 24.8 | 24.8 | 26.8 | 27.5 | 26.8 | 27.0 | 25.8 |
| Av. 1909-1913 | 25.2 | 25.9 | 26.0 | 24.4 | 23.2 | 23.5 | 24.1 | 24.9 | 26.1 | 27.0 | 26.4 | 26.4 | 25.3 |
| 1914 | 26.1 | 25.6 | 25.6 | 24.1 | 23.4 | 23.9 | ${ }^{4} 25.9$ | 24.4 | 25.0 | 27.8 | 27.3 | 29.9 | 25.8 |
| 1915 | 29.6 | 26.9 | 28.0 | 27.6 | 29.6 | 29.1 | 31.0 | 32.6 | 34.7 | 41.6 | 40.5 | 36.6 | 32.3 |
| 1916 | 33.8 | 35.4 | 37.8 | 36.8 | 36.3 | 35.7 | 36.7 | 40.1 | 42.1 | 42.6 | 44.3 | 44.9 | 38.9 |
| 1917 | 45.3 | 39.6 | 38.4 | 37.2 | 38.6 | 40.5 | 45. 0 | 49.7 | 54.6 | 65.4 | 68.4 | 65. 5 | 49.6 |
| 1918 | 64.2 | 63.7 | 64.0 | 65.0 | 65.3 | 64.7 | 65.1 | 65.0 | 62.0 | 58.3 | 75.6 | 76.0 | 65.7 |
| 1919 | 75.8 | 73.8 | 72.4 | 71.1 | 58.2 | 50.8 | 48.4 | 46.5 | 54.7 | 53.8 | 59.5 | 52.1 | 59.8 |
| 1920 | 48.9 | 42.1 | 49.2 | 49.8 | 44.2 | 44.8 | 42.4 | 42.9 | 43.6 | 45.7 | 44.7 | 44.0 | 45.2 |
| Av. 1914-1920. | 46.2 | 43.9 | 45.1 | 44.5 | 42.2 | 41.4 | 42.1 | 43.0 | 45.2 | 47.9 | 51.5 | 49.9 | 45.2 |
| 1921 | 42.4 | 39.3 | 40.4 | 43.9 | 33.5 | 32.4 | 38.3 | 41.1 | 36.4 | 38.3 | 39.9 | 31.8 | 38.1 |
| 1922 | 31.1 | 31.0 | 32.9 | 33.8 | 33.5 | 37.0 | 39.4 | 39.1 | 41.1 | 40.7 | 39.9 | 39.7 | 36.6 |
| 1923 | 40.5 | 41.3 | 41.0 | 34.5 | 29.5 | 29.3 | 30.7 | 34. 7 | 40.3 | 38.9 | 39.4 | 41.4 | 36.8 |

Division of Statistical and Historical Research.
${ }_{1}$ From November, 1882, to October, 1905, quotations fixed by Butter Traders' Association. Conversions from Danish quotations in ore per pund (1.1023 pound) at par of exchange ( 100 ore $=26.8$ cents) to July. 1914.
${ }_{2}$ During November, 1905, and subsequent 11 months, quotations represent prices paid creameries as reported to the statistical bureau of the Federal Creameries Associations.
${ }^{3}$ Beginning of official Coperthagen butter quotations.
4 Conversions July, 1914, to date at average monthly exchange rate as quoted by Federal Reserve Board.
Table 451.-American cheese: Production in the United States, 1917-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 1917 |  |  | ${ }_{11,918}^{108}$ |  | 28,932. |  |  | 32, 248 |  |  | $\begin{gathered} i b s . \\ 14,262 \end{gathered}$ |  |  |
| 1918 | 8, 143 | 7,860 | 11,992 | 17, 931 | 31, 285 | 40, 184 | 34, 332 | 29, 996 | 25, 424 | 18, 862 | 12, 172 | 9, 097 | 247, 278 |
| 1919 | 10,956 | 11,855 | 19, 009 | 21, 642 | 34, 849 | 44, 599 | 35, 465 | 30, 940 | 26, 257 | 23, 114 | 13, 107 | 10, 044 | 281, 837 |
| 1920 | 10,457 | 11, 509 | 14, 954 | 18, 856 | 29, 832 | 41, 376 | 34, 313 | 26,787 | 22, 935 | 20, 054 | 13, 308 | 10,303 | 254,684 |
| 1921 | 11, 889 | 12, 857 | 17, 678 | 23, 521 | 34, 556 | 36, 444 | 26, 977 | 27, 652 | 23, 612 | 21, 496 | 13, 426 | 11, 618 | 261, 728 |
| 1922 | 12, 837 | 13,927 | 18, 774 | 21,740 | 31, 349 | 36, 254 | 33, 265 | 29, 496 | 25, 581 | 25, 785 | 18,382 | 15, 416 | 282, 806 |
| 19 | 13, 596 | 13, 813 | 18, 150 | 20, | 28, 477 | 35, 645 | 35, 612 | 29,471 | 26, 556 |  |  |  |  |

[^251]$\dagger 85813^{\circ}$ - yBE 1923-59

Table 452.-Cheese: Monthly receipts at four markets, 1918-1929.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | $1,000$ | 1,000 |  |  | 1,000 |  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| $\begin{aligned} & \text { W Yo } \\ & 1918 \end{aligned}$ |  |  |  |  | 3,899 | ${ }_{5}{ }^{2058}$ | ${ }_{6,687}$ | 4,956 | ${ }_{3,670}$ | 5,123 | 3, 833 | ${ }_{4}^{1085}$ |  |
| 1919 | 3,479 | 3,173 | 4, 393 | 5,114 | 7,008 | 7,075 | 6,972 | 5,428 | 7, 121 | 3,367 | 4, 621 | 4, 294 | 62,045 |
| 1920 | 3, 337 | 2, 431 | 3, 80 | 1,398 | 4,693 | 6,152 | 5,703 | 5, 278 | 3, 483 | 3,208 | 3,755 | 3,762 | 47,003 |
| 1921 | 3, 274 | 3,337 | 2,883 | 4,068 | 8,003 | 5, 857 | 6,655 | 4, 772 | 4,30 | 4, 415 | 3,657 | 2,753 | 51,982 |
| 1922 | 2,738 | 2,775 | 4,083 | 4,467 | 5,047 | 6,376 | 5,379 | 4,642 | 3, 942 | 3, 86 | 3, 60 | 3, 207 | 50, 109 |
| ${ }^{1923}$ | 2, 998 | 3, 385 | 4, 340 | 4,196 | 4,610 | 5,208 | 6, 110 | 4,757 | 3,845 | 8,791 | 3,544 | 2, 731 | 49, 425 |
| hicago: |  |  |  | 549 | 4,958 | 7,614 | 8,536 | 6,675 | 6,016 | 5, 535 | 4,634 | 5, 019 | 36 |
| 1919 | 5,925 | 4,85 | 5,495 | 6, 287 | 7,833 | 9,778 | 8, 539 | 8, 322 | 7,362 | 6,64 | 5,073 | 4,902 | 81,018 |
| 1920 | 5, 328 | 5, 100 | 7,069 | 5, 067 | 7, 744 | 1, 194 | 9, 183 | 6, 5998 | 5,707 | 6,255 | B, 795 | 5, 556 | 81, 597 |
| 1921 | 6,042 | 5,423 | 7,147 | 6, 840 | 9, 290 | 9,832 | 7, 111 | 6, 9 | 6,734 | 8,091 | 6, 147 | 6, 261 | 85, 843 |
| ${ }_{1923}$ | 5,940 | 6, 139 | 8,093 | 7,875 | 10,262 | 11, 384 | 10, 121 | 10,669 | 9, 419 | 10, 452 | 8,893 | 8, 477 | 107, 724 |
| ${ }^{\text {Philadel }}$ | 7,775 | 7,243 | 8, 125 | 9,053 | 10, 745 | 15, 039 | 13, 874 | 11,750 | 10, 652 | 12, 608 | 9, 216 | 7,566 | 123, 646 |
| Philadelph $1918 .-$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1919 | 539 |  | 1,529 | 1,654 | 1,965 | 2, 227 | 2,152 | 1,704 | 1, 740 | 2,887 | 2,930 | 1,185 | 21, 393 |
| 1920 | 873 | 1,040 | 1,489 | 626 | 1,743 | 2,104 | 1,657 | 2, 189 | 1, 362 | 1,130 | 1, 431 | 1,221 | 16, 865 |
| 1921 | 1,116 | 1,064 | 1,280 | 1,396 | 2,223 | 2,602 | 2,490 | 2,311 | 2,086 | 1, 920 | 1,369 | 1, 094 | 20, 951 |
| 1922 | 1, 144 | 1, 120 | 1, 506 | 1, 523 | 1,750 | 1,827 | 1,846 | 1,887 | 1,815 | 2, 101 | 1,738 | 1,067 | 19,324 |
| $\begin{array}{r} 1923 \\ \text { Boston: } \end{array}$ | 664 |  | 1,236 |  | 1,361 | 1,915 |  | 2,000 | 1, 972 | 2,217 | 1,310 | 095 | 18, 363 |
| 1918 |  |  |  | 53 | 1,462 | 2, 559 | 2,305 | 1,721. | 72 | 779 |  | 365 |  |
| 191 | 351 | 517 | 1, 100 | 1,088 | 2,000 | 2,374 | 2,897 | 2,091 | 1,422 | 1,859 | 1,231 | 791 | 17, 721 |
| 1920 | 20 | 274 | 622 | 511 | 948 |  | 2,290 | 1,748 |  | 1,479 | 1,256 | 43 | 12,997 |
| 1921 | 435 | 574 590 | 691 | ${ }_{1}^{685}$ | ${ }^{978}$ | $\begin{aligned} & \mathbf{8}, 503 \\ & 2,220 \end{aligned}$ | 1,701 | $\begin{aligned} & 1,173 \\ & 1,461 \end{aligned}$ | $\begin{aligned} & 1,262 \\ & 3,410 \end{aligned}$ | 1, 456 | 1, 249 | 501 | 13, 208 |
| 1922 | 407 828 | 590 436 | 663 947 | 1,005 | 1 1,201 | $\left\|\begin{array}{l} 2,220 \\ 2,074 \end{array}\right\|$ | $\left.\begin{array}{\|} 1,963 \\ 2,304 \end{array} \right\rvert\,$ | $\begin{aligned} & 1,461 \\ & 1,936 \end{aligned}$ | 1,410 <br> 1,165 | 1, 104 | 910 1,302 | 921 | 13,521 |
| Total 418 |  |  |  |  |  |  |  |  |  |  |  |  | 15,914 |
| 1919 |  |  |  | 14, 143 |  |  |  |  |  |  | 9, 747 | 10, 417 | 117, 336 |
| 1920 | 10,158 | 8 8, 845 | 12,983 | 7,602 | 15, 128 | 20,872 | 18, 833 | 15,815 | 11, 895 | 12,072 | 13,237 | 11, 1722 | 188, 1682 |
| 1921 | 10, 867 | 10,398 | 12,001 | 12, 889 | 18,494 | 20, 794 | 17, 0571 | 15, 186 1 | 14,390 | 15, 882 | 12, 422 | 10, 609 | 171, 989 |
| 4922 | 10, 229 | 10.624 | 14, 325 | 14, 870 | 18,260 | 21, 807 | 19,309 | 18,659 | 16, 586 | 17, 523 | 15, 148 | 13, 338 | 190,678 |
| 192 | 12, 475 | 12,046 | 14, 648\| | 15, 575 | 17,911 ${ }^{2}$ | 24, 236 | 24, 402 | 20, 443 | 17, 634 | 20, 393 | 15, 372 | 12, 213 | 207, 348 |

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

Table 453.-Cheese: Receipts at five markets, by States of origin, 1923.
BOSTON.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | $2 \mathrm{lbs}$. | tos. | Ibs. | lbs. | lbs. | ths. | Lbs. | Tbs. | lbs. | lbs. | lbs. | libs. | lbs. |
| Chicago | 158 | 113 | 171 | 125 | 69 | 143 | 137 | 179 | 99 | 142 | 236 | 319 | 1,891 |
| Illinois | 79 | 71 | 173 | 92 | 186 | 408 | 322 | 154 | 134 | 314 | 57 |  | 1,990 |
| Maine | 2 | , | 1 | 26 | 4 |  |  |  |  |  | 4 |  | 38 |
| Massachusetts. |  |  |  | 23 |  | 1 |  | 1 |  |  |  | 2 | 27 |
| Michigan. |  |  | 4 |  |  | 84 | 103 |  |  |  |  |  | 191 |
| New Hampshi | 15 | 9 | 9 | 10 | 2 | 2 |  |  |  | 1 |  | 2 | 50 |
| New York. | 302 | 160 | 355 | 363 | 566 | 789 | 1,075 | 905 | 579 | 719 | 677 | 453 | 6,943 |
| New York City | 38 | 11 |  | 31 | 55 | 46 |  | 120 | 66 | 44 | 34 | 6 | 459 |
| Ohio--------- |  |  |  |  | 3 | 1 |  |  |  | 14 | 1 | 3 | 23 |
| Pennsylvania | 14 | 9 | 16 | 9 | 13 | 11 | 16 | 20 | 14 | 18 | 17 | 17 | 174 |
| Philadelphia | 4 |  | 3 |  | 1 |  |  |  |  |  |  | 2 | 10 |
| Vermont.- | 18 | 17 | 43 | 50 | 109 | 94 | 119 | 59 | 2 | 67 | 27 | 18 | 623 |
| Wisconsin | 192 | 35 | 164 | 290 | 155 | 461 | 522 | 498 | 271 | 458 | 248 | 98 | 3,392 |
| Other States | 6 | 11 | 6 | 9 | 32 | 33 |  |  | 2 | 1 | 1 |  | 102 |

NEW YORK.


Table 453.-Cheese: Receipts at five markets, by States of origin, 1923-Continued. PHLLADELPHIA.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | 'rotal. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | tbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. |
| Illinois | 186 | 266 | 343 | 252 | 211 | 291 | 668 | 437 | 450 | 414 | 299 | 310 | 4,127 |
| Indiana |  | 50 |  | 39 | 47 |  |  |  |  | 6 |  |  | 142 |
| Michigan |  |  |  |  |  | 35 | 52 |  | 20 | 24 |  |  | 131 |
| New Jersey | 2 |  | 1 |  |  |  | 1 |  |  | 7 | 25 |  | 36 |
| New York | 329 | 234 | 419 | 347 | 336 | 277 | 404 | 489 | 423 | 513 | 396 | 371 | 4,558 |
| Ohio-- | 24 |  |  |  | 2 | 20 | 49 | 16 |  |  |  | 25 | 136 |
| Pennsylvani | 4 | 19 | 44 | 4 | 44 | 4 | 43 | 49 | 2 | 8 | 13 | 11 | 245 |
| W isconsin.- | 416 | 408 | 425 | 654 | 720 | 1,246 | 898 | 994 | 1, 051 | 1,218 | 576 | 278 | 8,884 |
| Other States. | 4 | 5 | 3 |  |  | 42 |  | 15 | 26 | 28 |  |  | 125 |

chicago.


SAN FRANCISCO.

| California | 253 | 260 | 292 | 424 | 372 | 390 | 253 | 280 | 271 | 248 | 286 | 321 | 3,650 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Colorado | 11 | 21. | 15 | 21 | 11 | 19 | 23 | 18 | 19 | 21 | 27 | 16 | 222 |
| Idaho. |  |  |  |  | 71 | 106 | 105 | 77 |  | 71 | 261 | 348 | 1,039 |
| Illinois | 114 | 117 | 171 | 89 | 64 | 148 | 180 | 184 | 194 | 55 | 94 | 31 | 1,441 |
| Minnesota |  |  |  |  |  |  | 28 |  | 31 |  | 4 |  | 63 |
| Montana | 27 |  | 29 | 30 | 31 | 30 | 72 | 74 | 45 |  |  |  | 338 |
| New York |  |  |  |  | 14 | 4 | 48 | 26 | 32 | 38 | 49 | 38 | 249 |
| Oregon | 56 | 76 | 98 | 244 | 426 | 315 | 280 | 181 | 135 | 306 | 296 | 144 | 2,557 |
| Washington | 1 | 8. | 11 | 9 | 2 | 43 | 19 | 12 | 1 | 3 | 3 |  | 112 |
| Wisconsin | 126 | 87 | 88 | 40 | 62 | 117 | 348 | 383. | 257 | 182 | 162 | 127 | 1,979 |
| Other States. |  | g |  | 1 | , |  | 4 | 2 |  | 8 | 3 | 30 | 51 |

Division of Statistical and Historieal Research. Compiled from reports of Division of Dairy and Poultry Products.

Table 454.-Cheese: Cold storage holdings in United States, 1916-1983. american cheese.

| Calendar year. | Jan. 1. | Feb. 1. | Mar. 1. | Apr. 1. | May 1. | June 1. | July 1. | Aug. 1. | Sept.1. | Oct. 1. | Nov.1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 1,000 | 1,000 | 1,0 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | libs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1916 | 28, 558 | 18, 908 | 13, 373 | 8, 443 | 6,540 | 7, 301 | 16, 357 | 31, 569 | 46, 726 | 49, 579 | 45, 713 | 37, 080 |
| 1917 | 31, 855 | 22, 113 | 15, 560 | 9, 842 | 7,828 | 11, 628 | 34, 159 | 67, 595 | 91,545 | 90, 671 | 78, 087 | 75, 166 |
| 1918 | 66, 784 | 56, 298 | 37, 743 | 27, 965 | 17,736 | 20, 395 | 30, 054 | 48, 804 | 55, 742 | 42, 065 | 33, 402 | 25, 625 |
| 1919 | 19, 823 | 15, 486 | 9,837 | 6,750 | 6,027 | 12, 478 | 37, 501 | 62, 645 | 76, 661 | 81, 359 | 72, 889 | 62,508 |
| 1920 | 53, 168 | 43, 631 | 34, 039 | 23, 431 | 16, 963 | 13, 502 | 29,654 | 51, 512 | 60, 372 | 55, 007 | 48,566 | 39, 921 |
| 1921 | 34, 115 | 25, 000 | 17, 477 | 14, 294 | 13, 466 | 17, 814 | 34, 948 | 41, 284 | 46, 635 | 45, 163 | 42, 969 | 34, 055 |
| 1922 | 27, 691 | 21, 430 | 15, 006 | 10, 745 | 10, 868 | 17, 481 | 33, 130 | 46, 5880 | 53,625 63,960 | 49,473 62,384 | 40, 852 | 37,291 55,105 |
| 1923 | 33, 617 | 26, 593 | 20,693 | 14, 465 | 14, 077 | 17, 507 | 36, 834 | 55, 839 | 63, 960 | 62, 384 | 57, 927 | 55, 105 |

Table 454.-Cheese: Cold storage holdings in United States, 1916-1923-Con.
all cheese other than american.

| Calendar year. | Jan. 1. | Feb. 1. | Mar. 1. | Apr. 1. | May 1. | June 1. | July 1. | Aug. 1. | Sept.1. | Oct. 1. | Nov.1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1917. |  |  |  |  |  |  |  |  | 3,916 | 3, 750 | 3, 336 | 3,347 |
| 1918 | 2, 836 | 2, 197 | 2, 093 | 2, 013 | 2, 202 | 2, 692 | 5, 171 | 7, 988 | 13, 229 | 12, 734 | 10, 963 | 11, 848 |
| 1919 | 10, 402 | 10, 263 | 8, 771 | 8,352 | 8, 810 | 10, 813 | 13, 905 | 15, 749 | 15, 928 | 15, 234 | 15, 091 | 13, 906 |
| 1920 | 11, 526 | 10, 785 | 9,617 | 8, 713 | 8,642 | 9,839 | 14, 849 | 18, 522 | 19, 886 | 19, 975 | 20, 526 | 18, 879 |
| 1921 | 17, 053 | 15, 207 | 12, 979 | 10, 613 | 10, 474 | 10, 639 | 12, 668 | 15, 034 | 16, 268 | 17, 203 | 16, 536 | 14, 948 |
| 1922 | 13, 904 | 11, 571 | 10, 471 | 8, 594 | 8,112 | 8, 588 | 10, 412 | 11, 183 | 13, 250 | 13, 450 | 12,963 | 11, 329 |
| 1923 | 11, 617 | 10, 635 | 8, 823 | 7,350 | 7, 115 | 8,727 | 11, 894 | 15, 021 | 16, 703 | 16, 407 | 16, 375 | 17, 518 |

Division of Statistical and Historical Research.
Table 455.-Cheese: International trade, calendar years, 1909-1922.

| Country. | A verage, 1909-1913. |  | 1920 |  | 1921 |  | preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING countries. | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Argentina | pounds. | pounds. | pounds. | pounds <br> 13, 575 |  | pounds. 12, 513 |  | pounds. <br> 14, 407 |
| Australia- | 360 | 799 | 72 | 9,530 | 86 | 12, 671 |  |  |
| Bulgaria | ${ }^{2} 63$ | 5,584 |  |  |  |  |  |  |
| Canada | 1, 054 | 167, 260 | 480 | 142, 768 | 908 | 137, 180 | - 687 | 120, 177 |
| Czechoslovak |  |  |  |  | 183 | 37,226 27 | 1, 1,214 |  |
| Denmark | 1,414 | 527 2,086 | 132 | 21,281 2,108 | ${ }^{5} 2$ | - | 1,214 | 19,673 589 |
| Italy | 13, 308 | 60, 560 | 5,893 | 2, 790 | 1, 780 | 16, 664 | 15, 571 | 32, 057 |
| Netherlands | 522 | 127, 379 | 489 | 99,738 | 802 | 115, 279 | 750 | 143, 769 |
| New Zealand | 3 | 55, 561 | 18 | 136, 870 | ${ }^{(3)}$ | 153, 304 |  | 130, 054 |
| Russia | 3, 911 | 70,011 |  |  |  |  |  |  |
| Switzerland | 7,150 | 70, 075 | 4, 368 | 3, 202 | 1,894 | 10,596 | 1,792 | 46, 152 |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Algeria | 6,592 | 138 | 5, 126 | 150 | 5,778 | 170 | 7,195 |  |
| Austria-- | 12,298 | 966 |  |  |  |  |  |  |
| Belgium... | 31, 771 | 354 | 28,091 | 7,397 | 34, 329 | 1,750 | 48, 139 | 1,151 |
| Brazil. | 4, 178 | ${ }^{1} 1$ | 1,224 | 4 | 148 | 8 |  |  |
| British Indi | 1,314 |  | 1,509 |  | 755 |  | 1, 072 |  |
| Cuba----- | 4, 520 | 7 | 5, 534 | (3) |  |  |  |  |
| Dutch East In | $\begin{array}{r}757 \\ 8,182 \\ \hline\end{array}$ |  | 1, 1,657 | 48 | 3,452 | 165 | 6,793 | 102 |
| France-- | 8,182 49,056 | 26, 880 | 25, 289 | 15, 130 | 35, 146 | 14, 381 | 60, 272 | 22,023 |
| Germany | 48, 687 | 1,967 | 50, 344 | 173 | ${ }^{6} 39,848$ | ${ }^{6} 1,022$ | 51, 984 | 2, 235 |
| Norway | 663 | 377 | 3, 147 | 165 | 1,157 | 256 | 1,541 | 658 453 |
| Spain | 5, 032 | 53 | - 5,748 | 354 397 | 4, ${ }_{\text {2 }}$, 239 | 689 296 | 1, 4221 | 453 |
| Sweden |  | 19 | 5, 516 | 16 | 749 | 40 | 997 | 19 |
| Tunis of South Africa | 1,382 4,991 | 19 | 1,200 | 314 | 49 | 459 | 268 | 152 |
| United Kingdom.--. | 257, 407 | 950 | 305, 832 | 454 | 312, 783 | 479 | 294, 951 | 591 |
| United States..-- | 46, 346 | 5,142 | 15, 994 | 16, 292 | 26,866 | 11,772 | 46, 573 | 5,007 |
| Other countries. | 12, 585 | 4,330 | 5,737 | 414 | 4, 078 | 821 | 1,556 | 863 |
| Total | 535, 417 | 538, 124 | 481, 479 | 473, 170 | 486, 775 | 526, 080 | 550, 172 | 547, 807 |

Division of Statistical and Historical Research. Official sources. All cheese made from milk, including "cottage cheese."

[^252]Table 456.-Cheese, No. 1 American: Average wholesale price per pound, New York, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$0. 17 | \$0.17 | \$0.17 | \$0. 17 | \$0. 14 | \$0. 14 | \$0. 15 | \$0. 15 | \$0. 15 | \$0. 15 | \$0. 15 | \$0. 16 | \$0. 16 |
| 1911 | . 15 | . 15 | . 14 | . 14 | . 11 | . 11 | . 12 | . 12 | . 14 | . 14 | . 15 | . 16 | . 14 |
| 1912 | . 16 | . 17 | . 18 | . 19 | . 15 | . 14 | . 15 | . 16 | . 16 | . 18 | . 17 | . 17 | . 16 |
| 1913 | . 17 | . 17 | 16. | . 15 | . 13 | . 14 | . 14 | . 15 | . 16 | . 16 | . 16 | . 16 | . 15 |
| 1914. | . 17 | . 16 | . 18 | . 16 | . 14 | . 15 | . 15 | . 16 | . 16 | . 15 | . 15 | 15 | 16 |
| 1915 | . 15 | . 16 | . 18 | . 16 | . 17 | . 15 | . 15 | . 17 | . 14 | . 15 | . 16 |  |  |
| 1916 | . 17 | . 18 | . 18 | . 18 | . 18 | . 15 | $\cdot 15$ | $\cdot 17$ | . 19 | ${ }^{21}$ | . 23 | . 24 | . 24 |
| 1917 | . 24 | . 25 | . 26 | $\stackrel{.}{26}$ | $\stackrel{.}{26}$ | . 23 | $\stackrel{.}{ } .24$ | . 23 | . 28 | . 33 | $\stackrel{.}{.32}$ | . 35 | . 27 |
| 1918 | . 24 | . 26 | . 24 | . 231 | . 24 | . 32 | . 33 | . 31 | . 31 | .31 | . 32 | . 32 | . 32 |
| 1919 | -. 32 | . 30 | . 32 | $\stackrel{+}{.31}$ | . 32 | . 28 | $\stackrel{.}{.27}$ | $\stackrel{.}{.} 27$ | $\stackrel{.}{.} 28$ | $\stackrel{.}{.} 28$ | . 28 | $\stackrel{.}{ } .28$ | $\stackrel{.}{ } \times$ |
| A v. 1914-1920. | . 23 | . 23 | . 23 | . 23 | . 23 | . 22 | . 22 | . 22 | . 23 | . 24 | . 24 | . 25 | 23 |
| 1921 | 24 | . 21 | . 25 | . 22 | . 17 | . 16 | . 19 | . 21 | . 21 | 22 | 21 | . 21 | . 21 |
| 1922 | . 21 | . 20 | . 20 | . 18 | . 17 | . 19 | . 21 | . 21 | . 21 |  |  |  | ${ }_{25}$ |
| 1923. | . 28 | . 28 | . 25 | . 23 | . 23 | . 24 | . 25 | . 25 | . 26 | . 26 | . 25 |  | . 25 |

Division of Statistical and Historical Research.

## OLEOMARGARINE.

Table 457.-Oleomargarine production and consumption in the United States, 1887-1923.

| Year ending June 30. | Production. | Stocks, beginning of year. | Exports. | Stocks, end of year. | Consumption. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Total. | $\begin{gathered} \text { Per } \\ \text { capita. } \end{gathered}$ |
| 1886 | Pounds. <br> ${ }^{1} 21,513,537$ | Pounds. ${ }_{2}^{2181,090}$ | Pounds. $834,574$ | Pounds. $423,855$ | Pounds. 20, 436, 198 | Pounds. 0.35 |
| 1887-88. | 34, 325,527 | 423, 855 | 1,729,327 | 1,575, 293 | 31, 444, 762 | 53 |
| 1888 | 35, 664, 026 | 1,575, 293 | 2, 192, 047 | 1, 978, 094 | 33, 069, 178 | 54 |
| 1889 | 32, 324, 032 | 1, 978, 094 | 2, 535, 926 | 978, 650 | 30, 787, 5250 | 49 |
| 1890 | 44, 392, 409 | 978, 650 | 1,986, 743 | 779, 368 | 42, 604, 948 | 67 |
| 1891-92. | 44, 365, 155 | 779, 368 | 1,610, 837 | 1, 021, 555 | 42, 512, 131 | 65 |
| 1892-93 | 67, 224, 298 | 1, 021,555 | 3, 479, 322 | 322, 911 | 64, 443, 620 | 77 |
| 1893-94- | 69, 622, 246 | 322, 911 | 3, 898, 950 | 437, 288 | 65, 608,920 | 68 |
| 1894 | 56, 958, 105 | 437, 287 | $10,100,897$ $6,063,699$ | 393,597 396,404 | $46,900,898$ $44,786,728$ | . 64 |
| 1895- | 50, 853, 234 | 393, 597 | 6, 063, 699 | 396, 404 | 44, 78, 728 | 64 |
| 1896-97. | 45, 531, 207 | 396, 404 | $4,864,351$ | 223, 3688 | 40, $839,968,892$ | $\stackrel{57}{73}$ |
| 1897-98 | 57, 513, 136 | 223, 308 | + | 787, 503 | 77, 238, 394 | 1.04 |
| 1898-99 | 83, 130, 474 | 444, 745 | 5, <br> $4,259,320$ | 817,806 | 102, 758,658 | 1. 36 |
| $\begin{aligned} & 1899-190 \\ & 1900-1 \end{aligned}$ | $\begin{aligned} & \begin{array}{l} 107,045, \\ 104,943,858 \end{array} \end{aligned}$ | 817,806 | $4,990,699$ | 722, 237 | 100, 048, 726 | 1. 30 |
| 1901-2. | 126, 316, 427 | 722, 237 | 5, 721, 254 |  | 121, 317, 410 | 1. 54 |
| 1902-3- | 73, 285, 946 |  | 7, 645, 652 | 653, 174 | 64, 987, 120 | . 81 |
| 1903 | 50, 203, 495 | 653, 174 | 6, 137, 251 | 490, 822 | - $44,228,596$ | . 54 |
| 1904-5. | 52, 011,716 | 490,822 600,060 | 711, 794, 174 | 600,060 483,780 | $-44,039,306$ $43,757,006$ | . 51 |
| 1905 | 55, 434, 900 | 600, 060 | 11, 794, 174 | 403, |  |  |
| 1906-7 | 71, 366, 775 | 483, 780 | 5, 397, 609 | 700, 823 | 71, 6558,743 | . 81 |
| 1907-8 | $74,188,320$ <br> 92 <br> 282,815 | 700, 8223 | 2, $2,889,058$ | 748, 318 | 89, 337, 664 | . 99 |
| 1908 | $92,282,815$ $141,862,280$ | 748, 318 | 3,418, 632 | 1,165, 446 | 138, 026 , 520 | 1.51 |
| 1909- | 121, 162, 795 | 1, 165, 446 | 3, 794, 939 | 1,942, 440 | 117, 590, 862 | 1.26 |
| 1911-12 | 128, 601, 053 | 942, 440 | 3, 627,425 | 1,249, 246 | 124, 666, 822 | 1.32 |
| 1912-13 | 145, 227, 862 | 1,249, 246 | 2, 967, 582 | 1, 650, 897 | 141, 858, 629 | 1.48 |
| 1913-14 | 144, 021,276 | 1, 650, 897 | ${ }_{5}^{2,532,821}$ | $1,261,245$ $1,661,559$ | 140, 157, 551 | 1.42 |
| 1914-15 | 145, 810, 048 | 1, 261, 245 | 5, 252, 183 | 1,661, 559 |  |  |
| 1915-16. | 152, 509, 913 | 1,661, 559 | 5, 426, 221 | 1,992, ${ }_{2}$ | 226, 523,373 | ${ }_{2.23}$ |
| 1916-1 | 233, 170, 111 | 1, ${ }^{1} 982,1297$ | 6, 509,896 | 3, 377,733 | 319, 629,407 | 3. 11 |
| 1917-18 | $326,528,839$ $359,216,571$ | -2, 5877,733 | 18,570,400 | 2, 562, 597 | 341, 661,307 | 3.28 |
| 191 | 359, 216, 31 |  | 20, 952, 180 | 4, 110, 174 | 368, 783, 386 | 3. 49 |
| 1919-20. |  | $4,110,174$ | 6, 219, 165 | 1,979,543 | 276, 992, 880 | 2. 59 |
| 192C-21 | 190, 950,373 | 1,979, 543 | 1,989, 421 | 2, 265, 895 | 188, 774,600 | 1.74 |
| 1922-23 | 209, 182, 188 | 2, 265, 895 | 2, 027, 546 | 2, 647, 297 | 206, 773, 240 | 1.88 |

Division of Statistical and Historical Research. Production and stocks from Bureau of Internal Revenue. Exports from Bureau of Foreign and Domestic Commerce.

Table 458.-Oleomargarine: Production in the United States, 1918-1983.

| Calendar year. | Uncolored; made of- |  |  | Colored; made of- |  |  | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Animal } \\ & \text { and } \\ & \text { vegetable } \\ & \text { oin. } \end{aligned}$ | ```Exclusively vegetable oil.``` | $\begin{aligned} & \text { Exclu- } \\ & \text { sively } \\ & \text { animal } \\ & \text { oil. } \end{aligned}$ | $\begin{array}{\|c} \text { Animal } \\ \text { and } \\ \text { vegetable } \\ \text { oil. } \end{array}$ | Exclu- <br> sively vegetable oil. | Exclusively animal oil. |  |
| 1918 | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 255.197 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 88,862 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 3.307 \end{gathered}$ | 1,000 pounds. 7, 056 | $\begin{array}{r} 1,000 \\ \text { pounds. } \\ 112 \end{array}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 1.003 \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ $355,537$ |
| 1919 | 214, 759 | 132, 906 | 3,391 | 9,303 | 9, 793 | 1,165 | 371, 317 |
| 1920 | 161, 636 | 190, 280 | 3,843 | 8,951 | 5,359 | 94 | 370,163 |
| 1921 | 103, 962 | 99, 265 | 624 | 5,960 | 2, 026 | 30 | 211, 867 |
| 1922 | 104, 284 | 74, 128 | 302 | 4,977 | 1, 383 | 1 | 185, 075 |
| 1923 | 121, 272 | 93, 972 | 450 | 7,078 | 2,808 |  | 225,580 |
| January 1923. | 10, 484 | 9, 393 | 23 | 653 | 225 |  | 20,778 |
| February | 9,715 | 8,248 | 17 | 557 | 217 |  | 18,754 |
| March. | 10,918 | 8, 931 | 29 | 631 | 256 |  | 20,765 |
| April. | 10,009 | 7,886 | 28 | 610 | 245 | ------- | 18,778 |
| May | 9,860 | 6, 576 | 15 | 627 | 220 |  | 17, 298 |
| June_ | 7,946 | 5,483 | 46 | 451 | 183 |  | 14, 109 |
| Juiy. | 7,902 | 4,881 | 25 | 441 | 160 |  | 13, 409 |
| August | 9, 696 | 5,716 | 74 | 502 | 178 | --------- | 16, 166 |
| September | 10, 575 | 7,603 | 46 | 593 | 237 | ---- | 19,054 |
| October- | 11, 492 | 9,869 | 39 | 656 | 281 |  | 22, 337 |
| November | 11,586 | 9,640 | 60 | 622 | 297 |  | 22, 205 |
| December | 11,089 | 9,746 | 48 | 735 | 309 |  | 21, 927 |

Division of Statistical and Historical Research. Compiled from monthly reports of the Division of Dairy and Poultry Products.

Table 459.-Oleomargarine: Production in the United States, 1908-1922.
COLORED.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908-9.---.-.-.-.-- | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lus. | libs. | libs. | lbs. | libs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | libs. |
|  | 393 | 333 | 360 | 468 | 463 | 587 | 526 | 497 | 586 | 543 | 507 | 447 | 5,710 |
| 1909-10 | 381 | 433 | 487 | 519 | 521 | 634 | 525 | 518 | 619 | 595 | 542 | 403 | 6, 177 |
| 1910-11 | 414 | 433 | 469 | 473 | 610 | 587 | 524 | 501 | 606 | 463 | 389 | 362 | 5831 |
| 1911-12 | 359 | 454 | 393 | 477 | 539 | 594 | 663 | 630 | 614 | 588 | 538 | 387 | 6,236 |
| 1912-13 | 449 | 394 | 439 | 530 | 501 | 616 | 602 | 618 | 638 | 701 | 586 | 446 | 6. 520 |
| 1913-14 | 477 | 493 | 532 | 635 | 606 | 615 | 610 | 503 | 608 | 477 | 433 | 395 | 6,384 |
| Av. 1909-1913...- | 416 | 441 | 464 | 527 | 555 | 600 | 585 | 554 | 617 | 565 | 498 | 399 | 6,230 |
| 1914-15 | 422 | 509 | 488 | 480 | 472 | 583 | 807 | 1,082 | 1, 131 | 598 | 526 | 497 | 7, 595 |
| 1915-16 | 472 | 436 | 443 | 548 | 557 | 597 | 560 | 569 | 684 | 677 738 | 652 | 554 | 6,749 |
| 1916-17 | 447 | 569 | 643 | 719 | 741 | 758 | 703 | 628 | 742 | 738 | 731 587 | 592 | 8, 012 |
| 1917-18 | 496 | 512 | 573 | 677. | 542 | 521 | 508 | 471 | . 615 | - 582 | $\begin{array}{r}587 \\ \hline 930\end{array}$ | 511 | 6,595 13,849 |
| 1918-19 | 408 | 433 | 538 | 608 | 552 | 747 | 1,111 | 1,642 | 2, 243 | 2,716 | 1,930 | 921 | 13, 849 |
| 1919-20 | 1,705 | 1,807 | 681 | 1,087 | 1,719 | 1, 626 | 1,540 | 960 | 1,250 | 1, 139 | 1, 114 | 996 328 | 15,624 11,693 |
| 1920-21 | . 934 | 1, 019 | 1,484 | 1,378 | 1,368 | 1,046. | 936 | 816 | 950 | 823 | 518 | 328 | 11,60 |
| Av. 1914-1920 | 698 | 755 | 693 | 785 | 850 | 840 | 881 | 881 | 1,088 | 1,039 | 865 | 628 | 10,003 |
| 1921-22 | 424415 | 590 | 577 | 692 | 693 | 656 | 556 | 482 | 595 | 498 | 513 | 418 | 6,604 |
| 1922-23 |  | 420 | 488 | 565. | 670 | 790 | 772 | 801 | 917 | 854 | 908 | 662 | 8,260 |

Table 459.-Oleomargarine: Production in the United States, 1908-1922-Con. uncolored.

| $\begin{aligned} & \text { Year beginning } \\ & \text { July } 1 \text {. } \end{aligned}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908- | $\begin{aligned} & 1,000 \\ & l i b s . \\ & 4,394 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & l i b s . \\ & 4,669 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { libs. } \\ & 5,812 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & l i b s . \\ & 7,907 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & l i b s . \\ & 8,266 \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { itbs. } \\ 8,463 \end{gathered}$ | $\begin{aligned} & 1,000 \\ & l i b s . \\ & 8,40 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & l i b s . \\ & 8,453 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { libs. } \\ & 9,697 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & i b s . \\ & 7,976 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & l i b s . \\ & 6,707 \end{aligned}$ | $\begin{aligned} & 1.000 \\ & l i b s . \\ & 5,75 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { libs. } \\ & 86,573 \end{aligned}$ |
| 1900-10 | 5,48 | 6,386 | 809 | 12,4 | 13,313 | 15, |  | 2, | 13, 4 | 127 | 10,175 | 8, 334 |  |
| 1910-11 | 6, 902 | 9,307 | 12,702 | 12, 627 | 13,823 | 13, |  | , 936 | 9,67 | 6,866 | 5, 424 | 5,18 | 115, 332 |
| 1911-12 | 4,788 | 6,701 | 7,816 | 9,245- | 11, 228 | 12,652 | 15,639 | 13,738 | 11,654 | 10,988 | 10, 629 | 7,287 | 122, 365 |
| 1912-13 | 6,785 | 8,526 | 9,397 | 13, 807 | 12, 62 | 14, 802 | 13, 199 | 13,213 | 13, 139 | 13, 892 | 11, 036 | 8,28 | 138, 707 |
| 1918 | 7,947 | 8,754 | 12, 790 | 14, 786 | 13,777 | 14, 277 | 14, 485 | 12, 888 | 12, 317 | 9,724 | 8,305 | 7,587 | 137, 637 |
| Av. 1909-19 | 6,384 | 7, 935 | 10,503 | 12, 5 | 12, 953 | 14, 009 | 13, 94 | 12, 283 | 12,048 | 10, 843 | 9, 114 | 7,336 | 129, 945 |
| 1914-15 | 7,847 | 9, 502 | 12,036 | 13, 122 | 13, 310 | 14, 063 | 12, 516 | 12, 371 | 12, 910 | 10,785 | 10, 319 | 9,436 | 138, 215 |
| 1915-16 | 8, 711 | 9, 183 | 10, 491 | 12, 394 | 11,782 | 13,380 | 11, 983 | 13,034 | 15, 243 | 13, 974 | 13, 746 |  | 145, 761 |
| 1916-17 | 8, 948 | 11, 272 | 15, 516 | 19, 246 | 21, 899 | 23, 287 | 18, 272 | 12, 593 | 22,128 | 22, 740 | 24, 314 | 17, 943 | 225, 158 |
| 1917-18 | 16, 490 | 19,519 | 26, 181 | 33, 374 | 29, 009 | 30, 227 | 32, 496 | 35, 855 | 31, 512 | 22, 912 | 23, 410 | 18, 949 | 319, 984 |
| 1918-19 | 19, 888 | 17,959 | 28, 428 | 43, 543 | 32, 434 | 36, 662 | 40, 166 | 19,741 | 27, 431 | 31, 448 | 29, 135 | 18, 533 | 345, 368 |
| 1912- | 22, 700 | 25, 168 | 28, 424 | 34, 357 | 35, 502 | 39, 005 | 35, 312 | 31,701 | 38,387 | 30, 687 | 34, 760 | 3, | 375, 659 |
| 192 | 23, 225 | 25, 516 | 28,899 | 20, 918 | 29,089 | 24, 705 | 22, 630 | 20, 773 | 22, 532 | 18, 885 | 13, 537 | 8, 572 | 269, 481 |
| Av. 1914-1920 | 15, 458 | 16, 874 | 21, 282 | 28, 56 | 24, 718 | 25, 904 | 24, 769 | 21, 867 | 24,013 | 21,602 | 21, 317 | 15,570 | 259, 939 |
| 1921-22 | 10,581 | 16, 812 | 16,920 | 20,588 | 17, 985 | 17,754 | 15, 610 | 14,139 | 15,375 | 13, 432 | 13, 356 | 11,994 | 184, 346 |
| 1.92 | 11,866 | 12,623 | 13,684 | 17,380 | 18,615 | 20, 260 | 20, 105 | 17, 889 | 20, 137 | 18, 083 | 16,680 | 13, 582 | $200,923$ |

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Internal Revenue.

Table 460.-Oleomargarine: Materials used in manufacture, 1915-1922.

| Material. | Year beginning July 1. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1915-16 | 1916-17 | 1917-18 | 1918-19 | 1919-20 | 1920-21 | 1921-22 | 1922-23 |
| Oleo oil | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 68,989 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 96,652 \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { pounds. } \\ & 96,378 \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 97,464 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 89,842 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 49,676 \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { pounds. } \\ & 40,980 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { pounds. } \\ & 46,645 \end{aligned}$ |
| Coconut oil | 563 | 19, 763 | 61, 773 | 69, 640 | 80,784 | 103, 112 | 57, 394 | 65, 656 |
| Cottonseed oil | 49, 960 | 63, 652 | 36,454 | 37, 846 | 39, 450 | 18, 533 | 15, 420 | 18,757 |
| Milk | 21,331 | 24, 410 | 61, 128 | 68, 000 | 76, 000 | 79, 716 | 53, 939 | 50,835 |
| Peanut oil | 5,335 | 10,498 | 21, 593 | 38,764 | 48,346 | 16,332 | 11, 625 | 6,922 |
| Salt | 4,088 | 6,115 | 18, 279 | 21, 432 | 24,864 | 25,365 | 16, 282 | 17,998 |
| Oleo stearine | 2,036 | 2,494 | 3,427 | 2,456 | 2, 132 | 4,858 | 4,574 | 4, 815 |
| Neutrallard | 33, 446 | 42,401 | 46, 702 | 45, 764 | 88, 456 | 29, 268 | 27, 057 | 29,568 |
| Oleo stock. | , 397 | '3,458 | 7,526 | 6, 342 | 5, 804 | 2,065 | 2, 143 | 2, 322 |
| Butter. | 2, 152 | 3,303 | 4,548 | 5,680 | 6,845 | 1,499 | 1,107 | 1,576 |
| Vegetable oil. |  |  |  |  |  | 6,559 | ------ |  |
| Corn oil.-- | 147 | 859 | 60 | 40 | 35 | 926 | --------- | -------- |
| Soya-bean oil. |  |  |  |  |  | 461 |  |  |
| Edible tallow. |  |  |  |  |  | 233 |  |  |
| Mustard-seed oil |  |  |  |  |  | 110 |  |  |
| Mutton oil. |  | 149 | 14 | 11 | 14 |  |  |  |
| Coloring |  |  |  |  |  | 3, 217 | 3,417 | 2,918 |
| Total | 188, 444 | 273,754 | 356,882 | 398, 439 | 412, 572 | 341,956 | 233, 929 | 257,023 |

[^253]
## OLEO OIL.

Table 461.-Oleo oil: Exports from the United States, by countries, 1910-1923.

| Year ending June 30. | Belgium. | $\begin{gathered} \text { Ger- } \\ \text { Lisny. } \end{gathered}$ | Italy. | Neth-erlands. | Sweden. | United Kingdom. | Other Europe. | Total Europe. | Canada. | New-foundland and Labrador. | Other countries. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | lbs. | libs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1909-10 ${ }^{1}$ | 720 | 29,792 | 595 | 47, 115 | 2, 178 | 21, 147 | 20,518 | 122, 065 |  | 2,526 | 1, 301 | 125, 892 |
| 1910-11 | 1,741 | 28, 571 | 766 | 67, 691 | 2, 140 | 9,255 | 24, 613 | 134, 777 |  | 1,532 | 2, 388 | 138, 697 |
| 1911-12 | 2, 720 | 18, 042 | 903 | 66, 894 | 3, 128 | 9,960 | 20, 725 | 122, 372 |  | 1, 712 | 2, 383 | 126, 467 |
| 1912-13 | 1,590 | 17, 481 | 402 | 46, 337 | 2,145 | 8,009 | 14, 633 | 90, 597 | 54 | 1,372 | 827 | 92, 850 |
| 1913-14 | 2, 819 | 16, 180 | 434 | 47, 414 | 1,989 | 9, 244 | 16, 221 | 94, 301 | 339 | 1,244 | 1, 133 | 97, 017 |
| 1914-15 | 545 | 1,001 | 337 | 32,768 | 4, 190 | 14,362 | 25,599 | 78, 802 | 228 | 1, 030 | 424 | 80, 482 |
| 1915-16 |  |  | 3, 234 | 29,762 | 9, 234 | 30, 658 | 26, 099 | 98, 987 | 37 | 1,896 | 1, 726 | 102, 646 |
| 1916-17 |  |  | 760 | 8, 082 | 2, 248 | 31, 761 | 21, 498 | 64, 349 | 476 | 1,761 | 524 | 67, 110 |
| 1917-18- |  |  | 68 |  | 13 | 48, 244 | 2, 028 | 50, 353 | 4,347 | 1,624 | 279 | 56, 603 |
| 1918-19 | 6, 759 | 768 | 74 | 30 | 3,860 | 27, 920 | 16,769 | 56, 180 |  | 1, 612 | 1,500 | 59, 292 |
| 1919-20. | 2, 083 | 2,982 | 539 | 13, 819 | 3, 315 | 19, 227 | 25, 847 | 67, 812 | 2, 671 | 1,993 | 2, 053 | 74, 529 |
| 1920-21 | 1,370 | 15, 983 | 798 | 36, 107 | 3, 945 | 14, 273 | 29, 195 | 101, 671 | 852 | 1, 662 | 2, 230 | 106, 415 |
| 1921-22 | 1, 472 | 14, 878 | 514 | 46, 630 | 2, 677 | 11, 082 | 35, 928 | 113,181 | 234 | 1,168 | 2,591 | 117, 174 |
| 1922-23 | 1,666 | 13, 987 | 892 | 47, 053 | 2,383 | 14,967 | 20, 552 | 101, 500 | 275 | 1, 522 | 1,659 | 104, 956 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of the Bureau of Foreign and Domestic Commerce.

Includes "'Neutral lard."
Table 462.-Creameries: Farmers' associations reporting, membership, 1923, and volume of business for 1922.

| Geographic division and State. | $\begin{aligned} & \text { Number } \\ & \text { Neporting, } \\ & 1923 . \end{aligned}$ | Number reporting membership, 1923. | Number members 1923. | Average membership per associa tion, 1923. | Number reporting volume of business, 1922. | Amount of busiress reported, 1922. | Average amount of business per association, 1922. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maine | 5 | 4 | 262 | 65.5 | 4 | \$342,000 | 85,500 |
| Vermont | 35 | 32 | 3, 334 | 104.1 | 30 | 4, 049,000 | 134,966 |
| Massachusetts | 5 | 5 | 309 | 61.8 | 5 | 255,000 | 51,000 |
| Rhode Island | 1 | 1 5 | $\begin{array}{r}50 \\ 333 \\ \hline\end{array}$ | 50.0 66.6 | 1 4 | 100,000 220,000 | 100,000 55,000 |
| Connecticut | 6 |  |  |  |  |  |  |
| New England | 52 | 47 | 4,288 | 91.2 | 44 | 4,966, 000 | 112,863 |
| New York | 22 | 20 | 1,606 2,237 | $\begin{aligned} & 80.3 \\ & 69.9 \end{aligned}$ | $15$ | $\begin{aligned} & 1,375,000 \\ & 2,452,000 \end{aligned}$ | $\begin{aligned} & 91,666 \\ & 79,096 \end{aligned}$ |
| Middle Atlantic | 56 | 52 | 3,843 | 73.9 | 46 | 3, 827, 000 | 83, 195 |
| Ohio |  |  | 408 | 45.3 | 10 | 898, 000 | 89, 800 |
| Indiana | 8 | 7 | 971 | 138.7 | 7 | 678, 000 | 96, 857 |
| Illinois. | 4 | 4 | 324 | 81.0 | 3 | 281,000 | 93, 666 |
| Michigan | 65 | 62 | 14,599 | 235. 3 | 59 | 6, 417,000 | 108, 762 |
| Wisconsin | 212 | 197 | 28,643 | 145.3 | 193 | 27, 636,000 | 143, 191 |
| East North Central. | 299 | 279 | 44,945 | 161.0 | 272 | 35, 910, 000 | 132, 022 |
| Minnesota | 510 | 472 | 62,367 | 132.1 | 460 | 41, 009, 000 | 89, 150 |
| Iowa. | 216 | 199 | 29, 026 | 145.8 | 195 | 19, 106, 000 | 97,979 |
| Missouri- | 7 | 6 |  | 150.3 | ${ }_{8}^{6}$ | 634,000 | 105, 666 |
| North Dakota | 8 | 7 | 936 7 | 133.7 | 8 | 1,565, 000 | 78,250 |
| South Dakota | 25 | 20 |  |  |  | 2, 566,000 | 23, 327 |
| Nebraska-. | 11 | 11 | 70,689 507 | 971.7 507.0 | 1 | 2, 83,000 | 83,000 |
| West North Central.- | 778 | 716 | 112, 420 | 157.0 | 701 | 65, 342, 000 | 93, 212 |
| Delaware |  |  | 17 | 17.0 |  | 15, 000 | 15,000 |
| Virginia- | 5 | 5 | 883 | 176.6 | 5 | 393,000 | 78, 600 |
| North Carolina | 1 | 1 | 31 | 31.0 | 1 | 56,000 | 79,000 |
| Florida | 1 | 1 | 76 | 76.0 |  | 56, 000 | 56,000 |
| South Atlantic | 8 | 8 | 1,007 | 125.8 | 8 | 543, 000 | 67, 875 |

Table 462.-Creameries: Farmers' associations reporting, membership, 1923, and volume of business for 1922-Continued.

| Geographic division and State. | $\begin{array}{\|c} \text { Number } \\ \text { reporting, } \\ 1923 . \end{array}$ | Number reporting member ship, 1923. | Number members reported, 1923. | Average membership per associa tion, 1923. | Number reporting volume of business, 1922. | Amount of business reported, 1922. | Average amountof business per association, 1922. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Kentucky | 2 | 2 | 288 | 144.0 | 2 | 46,000 | 23, 000 |
| Tennessee | 13 | 12 | 3,157 | 263.0 | 12 | 1, 473, 000 | 122, 750 |
| Alabama | 2 | 1 | 114 | 114.0 | 1 | 1, 51, 000 | 51, 000 |
| Mississippi | 2 | 2 | 114 | 57.0 | 2 | 342, 000 | 171, 000 |
| East South Central.-- | 19 | 17 | 3, 673 | 216.0 | 17 | 1, 912, 000 | 112, 470 |
| Texas. | 2 | 2 | 68 | 34.0 | 2 | 147, 000 | 73,500 |
| West South Central. | 2 | 2 | 68 | 34.0 | 2 | 147, 000 | 73, 500 |
| Montana |  |  | 286 | 71.5 | 3. | 238, 000 | 79,333 |
| Idaho.- | 6 | 6 | 3,937 | 656.1 | 6 | 1, 516, 000 | 252, 666 |
| W yoming | 1 | 1 |  | 66. 0 | 1 | 23, 000 | 23, 000 |
| Colorado. | 8 | 6 | 1,156 | 192.6 | 6 | 808, 000 | 134, 666 |
| Utah | 2 | 2 | 78 | 39.0 | 1 | 9 | 9,000 |
| Mountain | 21 | 19 | 5,523 | 290.6 | 17 | 2, 594, 000 | 152, 588 |
| Washington. | 11 |  | 1,459 | 162.1 |  | 760, 000 | 95, 001 |
| Oregon. | 11 | 9 | 2,538 | 282.0 | 9 | 1, 426,000 | 158, 444 |
| California | 16 | 15 | 5,953 | 396.8 | 15 | 10, 277, 000 | 685, 133 |
| Pacific. | 38 | 33 | 9, 950 | 301.5 | 32 | 12, 463, 000 | 389, 468 |
| United States. | 1,273 | 1,173 | 185, 717 | 158.3 | 1,139 | 127, 704, 000 | 112, 119 |

Division of Agricultural Cooperation. States omitted made no reports.

## CATTLE DISEASES.

Table 463.-Cattle: Tuberculin testing under accredited herd plan, 1917-1923.

| Year ending June 30. | Cattle tested. ${ }^{1}$ | Number of reactors. | Per cent of reactors. | Accredited. |  | Passed one test. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Herds. | Cattle. | Herds. | Cattle. |
| 1916-17 | 20, 101 | 645 | 3.2 |  |  |  |  |
| 1917-18 | 134, 143 | 6,544 | 4.9 | 204 | 6,945 | 5.883 | 22, 212 |
| 1918-19 | 329, 878 | 13,528 | 4. 1 | 278 | 12, 076 | 5, 652 | 95, 031 |
| 1919-20 | 700, 670 | 28,709 | 4.1 | 2,588 | 63,965 | 9, 064 | 80, 334 |
| 1920-21 | 1,366, 358 | 53, 768 | 3.9 | 4,831 | 110,634 | 34, 215 | 445,656 |
| 1921-22 | 2,384, 236 | 82, 569 | 3.5 | 8, 015 | 170, 282 | 111, 719 | 904,950 |
| 1922-23 | 3,460, 849 | 113, 844 | 3.3 | 12, 310 | 251, 254 | 150, 748 | 1, 176, 314 |
| Total | 8, 396, 235 | 299, 607 | 3.6 | 28, 526 | 615, 156 | 312, 281 | 2, 724, 497 |

## Bureau of Animal Industry.

${ }^{1}$ Includes testing under area plan.

Table 464.-Cattle: Status of tuberculosis eradication work, by States, June 90, 1983.


## Bureau of Animal Industry.

${ }^{1}$ Accredited work begun in 1917; area work in 1921.
${ }^{2}$ Includes area testing in units smaller than counties.
${ }^{3}$ Testing in 1017 before work was organized by States.

Table 465.-Cattle: Tick eradication, progress and status of the work June so, 1929.

| State. | $\begin{aligned} & \text { Counties } \\ & \text { quaran-- } \\ & \text { tined } \\ & \text { July 1, } \\ & 1906 . \end{aligned}$ | Counties quarantined June 30, 1923. | Released counties. |  |  | Cattle dipped, year ending June 30, $1923 .{ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Released counties tick free. | Released counties with one or more infested herds. | Total counties released. | Herds. | Cattle. |
| Alabama | 67 | 5 | 18 | 44 | 62 | 729, 405 | 4, 464, 744 |
| Arkansas.- | 75 | 42 | 15 | 18 | 33 | 392, 633 | 2,566, 296 |
| California | 15 | 0 | 15 | 0 | 15 |  |  |
| Florida. | 58 | 54 | 3 | 1 | 4 | 54, 052 | 314, 975 |
| Georgia-- | 157 | 9 | 104 | 44 | 148 | 367, 435 | 5, 284, 361 |
| Kentucky | 2 | 0 | 2 | 0 | $\stackrel{2}{2}$ |  |  |
| Louisiana | 65 81 | 32 21 | 3 37 | 30 23 | 33 60 | 301,270 240,122 | $4,905,933$ $2,485,507$ |
| Mississippi | 81 4 | 21 0 | 37 1 | 23 3 | 60 4 | 240, 122 | 2, 485, 507 |
| North Carolina | 75 | 19 | 46 | 10 | 56 | 44,298 | 198,735 |
| Oklahoma | 61 | 6 | 36 | 18 | 55 | 213, 969 | 1, 978, 336 |
| South Carolina | 44 | 0 | 30 | 14 | 44 | 141, 879 | 826, 169 |
| Tennessee. | 42 | 0 | 41 | 1 | 42 | 9,291 | 62, 320 |
| Texas | 199 | 90 | 42 | 67 | 109 | 2,055,976 | 51, 846, 260 |
| Virginia. | 30 | 4 | 26 | 0 | 26 | - 442 | -4,021 |
| 15 States | 975 | 282 | 410 | 274 | 693 | 4, 550, 772 | 74, 937, 657 |

Bureau of Animal Industry. 1 More than 31,000 vats were in use for official dipping during the year.
CATTLE FEEDING.
Table 466.-Cattle: Variation in price paid by farmers for feeder cattle, 1921-22.

| State, and range of prices. | Number of head. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Heavy. | Medium. | $\begin{aligned} & \text { Year- } \\ & \text { lings. } \end{aligned}$ | Calves. | Other cattle. | All cattle. |
| Indiana: |  |  |  |  |  |  |
| \$4.00-\$5.00 |  | 120 | 139 | 54 | 123 | 436 |
| \$5.00-\$6.00 | 462 | 859 | 199 | 88 | 55 | 1,643 |
| \$6.00-\$7.00 | 595 | 1,113 | 176 | 371 |  | 2, 255 |
| \$7.00-\$8.00 | 84 | 86 | 72 | 239 |  | 481 |
| \$8.00-\$9.00 | 30 |  |  |  |  | 30 |
| \$9.00-\$10.00 |  | 32 |  |  |  | 32 |
| Average price paid... | \$6. 08 | \$6. 04 | \$6.04 | \$6. 53 | \$4. 48 | \$6. 02 |
| Illinois: |  |  |  |  |  |  |
| \$3.00-\$4.00 |  | 93 | 35 |  | 77 | 205 |
| \$4.00-\$5.00 | 44 | 649 | 433 |  | 62 | 1,216 |
| \$5.00-\$6.00 | 198 | 946 | 633 | 247 |  | 2, 024 |
| \$6.00-\$7.00 | 67 | 262 | 101 25 | 80 28 |  | 510 |
| \$7.00-\$8 800 | 95 | 99 | 25 | 28 |  | 247 |
| Average price paid |  |  |  |  |  |  |
| A verage price paid | \$6. 16 | \$5. 30 | \$5. 19 | \$5. 80 | \$3.92 | \$5. 36 |
| Iowa: |  |  |  |  |  |  |
| - \$4.00-\$5.00 | 37 | 50 |  |  |  | 87 |
| \$5.00-\$6.00 | 277 | 1,105 | 319 | 145 | 210 | 2,056 |
| \$6.00-\$7.00 | 311 | 785 | 566 | 337 | 129 | 2,128 |
| \$7.00-\$8.00 | 79 | 40 | 117 | 99 |  | 335 |
| \$8.00-\$9.00 |  |  |  |  |  |  |
| Average price paid. | \$5. 91 | \$5.85 | \$6. 29 | \$6.48 | \$5. 13 | \$5. 91 |
| Nebraska: $\quad \square 88$ |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| \$4.00-\$5.00 |  |  | 22 |  | 88 | ${ }^{110}$ |
| \$5.00-\$6.00 | 597 | 606 | 371 | 77 | 30 | 1,681 |
| \$6.00-\$7.00- | 341 | 622 | 505 | 293 | 161 | 1,922 |
| Average price paid. | \$6. 15 | \$6. 08 | \$6. 12 | \$6. 48 | \$5. 01 | \$6. 05 |
| Missouri : $\quad 20$ |  |  |  |  |  |  |
| \$4.00-\$5.00-- | 21 49 | 459 1,144 | 240 539 |  |  | 829 1,954 |
| \$5.00-\$6.00 | 49 50 | 1,144 | 539 270 | 222 |  | 1,954 1,313 |
| \$7.00-\$8.00 | 132 | 176 | 155 | 139 |  | 602 |
| - \$8.00-\$9.00 | 42 | 174 |  |  |  | 216 |
| Average price paid | \$6.77 | \$5. 93 | \$5. 66 | \$6. 04 |  | \$5.95 |

[^254]Table 467.-Cattle: Average quantities of feed and other factors used in the production of 100 pounds gain in corn-fed cattle, 1919-1921.

EAST CENTRAL INDIANA.

| Item. | Winter $1919-20$. | Winter 1920-21. | Items. | $\begin{array}{\|c} \text { Winter } \\ 1919-20 . \end{array}$ | $\begin{aligned} & \text { Winter } \\ & 1920-21 \text {. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Feeds consumed: |  |  | Days on pasture | 14 | 14 |
| Corn, shelled basis._pounds | 553 | 679 | Straw and bedding--.---pounds.- | 347 | 326 |
| Ryc --------------------- | 1 |  | Labor: |  |  |
| Oats | 7 | 12 | Man hours- | 4. 8 | 4. 97 |
| Linseed meal ---.-.-- - do.--- | $\stackrel{2}{4}$ | 1 40 | Horse hours The per cent which all other ex-- | 1.5 | 2.05 |
| Molasses feed -----------do- | 6 | 1 | penses were of feed and |  |  |
| Miscellaneous concentrates ${ }^{1}$-- | 22 | $\left.{ }^{(2}\right)$ | labor costs ${ }^{3}$---------- | 16.5 | 28.6 |
| Alfalfa hay------------- do----- | 5 | 5 | Pounds of pork.-- | 21.0 | 24.7 |
| Clover hay ----------- - do.---- | 60 | 64 | Loads of manure. | 1.5 | 1.4 |
| Mixed hay ----------- do---- | 35 |  |  |  |  |
| Timothy hay ------ do-.-- | 9 119 |  |  |  |  |
| Silage----------------do------- | 1,474 | 1,281 |  |  |  |

DEKALB COUNTY, ILL.

| Feeds consumed: |  |  | Days on pasture | 10 | 11 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Corn, shelled basis . pounds .- | 573 | 590 | Straw and bedding --.------------- | 859 | 653 |
| Barley --------------- do---- | 2 | 1 | Labor: |  |  |
| Oats | 2 | 5 | Man hours | 5. 7 | 4.8 |
| Cottonseed meal -------do | 36 23 | 34 | Horse hours --.-.---......-- | 3.1 | 2.9 |
| Linseed meal---.-...-. - do | 23 15 | 17 4 17. | The per cent which all other expenses were of feed and labor |  |  |
| -. Alfalfa hay----------- do---- | 18 | $17^{\circ}$ | costs ${ }^{3}$------------------------- | 11.5 | 24. 2 |
| Clover hay ----------- do-.-. | 168 | 65 117 | Feedlot by-products: Pounds of pork | 19.7 | 13.1 |
| Prairie hay-------------do-- |  | ${ }^{(2)}$ | Loads of manure | 2.3 | 2.0 |
| Timothy hay ---------------- | 15 |  |  |  |  |
|  | 48 2,426 | 139 1,771 |  |  |  |

POTTAWATTAMIE AND SHELBY COUNTIES, IOWA.

| Feeds consumed: |  |  | Days on pasture | 17 | 19 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Corn, shelled basis _ pounds._ | 808 | 890 | Straw and bedding.-.-.--pounds.- | 80 | 89 |
| Oats.----------------d.----- | 11 | 18 | Labor: |  |  |
| Barley -.-.----------- do---- |  | 1 | Man hours ------------------ | 2.6 | 2.3 |
| Cottonsced meal------ do-.-- | ${ }^{(2)}$ | 2 | Horse hours --------------- | 2.2 | 1.5 |
| Linseed meal -------- do---- | 4 | ${ }_{9}^{3}$ | The per cent which all other ex- |  |  |
| Molasses meal - ---..-.do----- Miscellaneous | 16 | 9 | penses were of feed and labor costs ${ }^{3}$ | 12.4 | 29.8 |
| -----------------pounds.- | ${ }^{(2)}$ | 2 | Feed lot by-products: |  |  |
| Alfalfa hay----------- do---- | 146 | 138 | Pounds of pork | 45. 5 | 25.7 |
| Clover hay------------do---- | 43 | ${ }_{25}^{75}$ | Loads of manure.------------- | . 9 | 5 |
| Mixed hay------------ do---- | 80 7 | $\left.{ }^{2}\right)^{27}$ |  |  |  |
| Timothy hay----------do-------- | 3 | 5 |  |  |  |
| Corn stover and fodder-do-.-- | 34 373 | 16 |  |  |  |
| Silage -----------------do---- | 373 | 78 |  |  |  |

[^255]Table 467.-Cattle: Average quantities of feed and other factors used in the production of 100 pounds gain in corn-fed cattle, 1919-1921-Continued.

SALINE AND LAFAYETTE COUNTIES, MISSOURI.

| Item. | Winter 1919-20. | Winter 1920-21. | Item. | $\left\|\begin{array}{c} \text { Winter } \\ 1919-20 . \end{array}\right\|$ | Winter 1920-21. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Feeds consumed: |  |  | Days on pasture. | 44 | 39 |
| Corn, shelled basis..pounds.- | 518 | 707 | Straw and bedding .-..-- | 120 | 53 |
| Rye,------------......dido..- |  |  | Labor: |  |  |
| Oats ---------...-.-.- do-.-- | 8 | 2 | Man hours | 3.5 | 3.1 |
| Linseed meal -------.-.do...- | 30 | 4 | Horse hours | 3.6 | 3.2 |
| Cottonseed meal ----.--do.. | 15 | 31 | The per cent which all other ex- |  |  |
| Molasses feed --------- do---- | 14 | 3 | penses were of feed and labor |  |  |
| Miscellaneous concentrates |  |  |  | 12.6 | 16.0 |
|  | ${ }_{6}^{2}$ | ${ }_{21}^{10}$ | Feed lot by-products: Pounds of pork | 20.0 |  |
| Clover hay .............-. do...-- | 87 | 124 | Loads of manure | .5 | . 25 |
| Mixed hay-..-.-.-.-.-.- do...-- | 21 | 25 |  |  |  |
| Timothy hay ---.-.-.do...- | ${ }^{6}$ | 1 |  |  |  |
|  | 764 | 513 |  |  |  |

BURT COUNTY, NEBR.

|  |  | Winter | 919-20. | Winter | 920-21. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item. |  | Survey. | Route. | Survey. | Route. |
| Feeds consumed: |  |  |  |  |  |
| Corn, shelled basis. | $\therefore$ pounds | 753 | 759 | 915 | 728 |
| Oats | -----do---- | 20 | 17 | 8 | 11 |
| Linseed meal | --do- | 3 | 7 | 4 | 2 |
| Molasses feed | -do.- |  |  |  |  |
| Miscellaneous millfeeds | do | ${ }^{(2)}$ | (2) |  |  |
| Alfalfa hay. | do | 367 | 365 | 346 | 334 |
| Clover hay | do | 90 | 50 | 35 | 104 |
| Mixed hay | do-- | 35 | 25 | 47 | 26 |
| Prairie hay- | do- | 15 | 4 | 48 | 20 |
| Timothy hay-----.-.-..-- | do | 3 4 |  | 4 |  |
| Silage -......-......... | do. | 125 |  | 50 |  |
| Days on pasture |  | 18 | 16 | 8 | 17 |
| Straw and bedding |  | 199 | 205 | 252 | 160 |
| Labor: <br> Man hours |  | 3.0 | 3.2 | 3.4 | 2.0 |
| Horse hours |  | 2.0 | 2. 9 | 2.6 | . 7 |
| The per cent which all other expe costs ${ }^{3}$ | and labor | 14.4 | 11.4 | 29.3 | 35.2 |
| Fced lot by-products: |  |  |  |  |  |
| Pounds of pork. |  | 29.7 | 24.2 | 24.5 | 16.3 |
| Loads of manure |  | 1.2 | 1.45 | . 8 | . 3 |

Division of Cost of Production.
${ }^{2}$ Less than one-half pound.
${ }^{3}$ Including interest, equipment charge, death loss, veterinary, insurance, taxes, incidentals, and marketing.
Table 468.-Cattle: Average quantity of feed and other factors used in production of 100 pounds gain in corn-fed cattle, 1921-22.

INDIANA.

| Item. | Class of feeder cattle. |  |  | Calves. | $\begin{gathered} \text { All } \\ \text { cattl. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Heavy. | Medium. | Yearlings. |  |  |
| Feed: |  |  |  |  |  |
|  | 1,161 | 870 | 723 | 521 | 843 |
|  | 3 14 | 14 | 19 | 31 28 | 16 |
|  | $\stackrel{14}{22}$ | 19 | 36 | 46 | 26 |
|  | 720 | 767 | 720 | 428 | 691 |
|  | 1,031 | 1,304 | 911 | 889 | 1,114 |
|  | 14 | 14 | 22 | 8 | 14 |
| Labor: |  |  |  |  |  |
| Man hours. | 3.9 | 4.0 | 4.4 | 3. 6 | 4.0 |
| Horse hours. | 4.0 | 3.0 | 2.7 | 2.6 | 3.1 |
| Per cent which all other expenses were of feed and labor | 19.6 | 22.5 | 17.2 | 22.1 | 22.4 |
| Feed lot by-products: |  |  |  |  |  |
| Pounds of pork ${ }^{1}$-- | 59.4 | 39. 0 | 27.8 | 15.0 | 37.0 |
| Loads of manure | 1.7 | 1.7 | 1.5 | 1.0 | 1.6 |

## ${ }^{1}$ From hogs following steers.

Table 468.-Cattle: Average quantity of feed and other factors used in production of 100 pounds gain in corn-fed cattle, 1921-22-Continued.

ILLINOIS.

| Item. | Class of feeder cattle. |  |  | Calves. | $\begin{gathered} \text { All } \\ \text { cattle. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Heavy. | Medium. | Year- lings. |  |  |
| Feed: |  |  |  |  |  |
| Grain------------------------------- pounds.- | 869 | 663 | 580 | 525 |  |
|  | 32 | 19 | 10 | 14 |  |
|  | $\begin{array}{r}75 \\ 184 \\ \hline\end{array}$ | 118 | 83 76 | 79 |  |
|  | 791 | 525 | 682 | 442 |  |
|  | 1,459 | 1,787 | 1,735 | 1,261 |  |
|  | 7 | 8 | 11 | 2 |  |
| Labor: |  |  |  |  |  |
| Man hours.- | 5 | 4 | 3 | 4 |  |
| Per cent which all other expenses were of feed and | 2 | 3 | 3 | 1 |  |
|  | 24.3 | 25.4 | 21.0 | 24.4 |  |
| Feed lot by-products: |  |  |  |  |  |
| $\xrightarrow{\text { Pounds of pork }}$ Loads of manure-- | 22 2 | 17 2 | 15 2 | 10 1 | ---- |

IOWA.

| Feed: |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grain ---------------------------.---. pounds-- | 1,062 | 906 | 873 | 695 | 876 |
|  |  | 4 | 4 |  | 4 |
|  | 227 | 257 | 176 | 170 | 215 |
|  | 22 | 18 | 60 | 72 | 39 |
|  | 102 | 165 | 124 | 94 | 132 |
|  | 50 | 8 | 177 | 83 | 78 |
|  | 5 | 11 | 17 | 10 | 12 |
| Labor: |  |  |  |  |  |
| Man hours. | 2.6 | 2.1 | 2.2 | 2.0 | 2.2 |
|  | 1.6 | 1.1 | 1.1 | . 45 | 1.1 |
| Per cent which all other expenses were of feed and labor | 41.6 | 31.4 | 24. 1 | 25.8 | 30.0 |
| Feed lot by-products: |  |  |  |  |  |
| Pounds of pork ${ }^{1}$ - | 26.6 | 27.2 | 24.4 | 16.8 | 24.4 |
| Loads of manure. | . 4 | . 6 | 5 | 4 | . 5 |

NEBRASKA.


MISSOURI.

| Feed: |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 823 | 753 | 746 | 586 | 734 |
|  | 54 | 16 | 23 | 46 | 23 |
|  | 41 | 78 | 111 | 115 | 89 |
|  | 57 | 30 | 33 | 21 | 31 |
|  |  | 175 | 75 | 50 | 128 |
|  |  | 157 | 212 | 135 | 162 |
|  | 44 | 42 | 43 | 32 | 41 |
| Labor: |  |  |  |  |  |
| Man hours. | 3.4 | 2.9 | 2.7 | 2.5 | 2.8 |
| Horse hours | 3.4 | 4.1 | 2.9 | 2.5 | 3.6 |
| Per cent which all other expenses were of feed and |  |  |  |  |  |
| Feedlot by-products: |  |  |  |  |  |
| Pounds of pork ${ }^{1}$ | 26 | 24 | 21 | 21 | 23 |
| Loads of manure | . 1 | .3 | .3 | .2 | . 3 |

## Division of Cost of Production.

${ }^{1}$ From hogs following steers.

Tablit 469.-Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918-1921.

INDIANA.

| Item. | Season cattle were fed. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1918-19 | 1919-20 | 1920-21 | 1921-22 |
| Number of droves | 47 | 97 | 89 | 117 |
|  | 1,499 | 3, 016 | 2, 899 | 4,877 |
|  | ${ }_{343}^{684}$ | 784 287 | 829 265 | 843 244 |
|  | 1,027 | 1,071 | 1,094 | 1,087 |
| Original cost of feeder animal | \$76.49 | \$79.94 | \$70.09 | \$50. 71 |
| Interest per head: |  | 2.40 | 2.10 | 1.45 |
| On money in cattle... On money in equipme | 2.39 2.88 | 2. 73 | 2. 26 | . 70 |
| Operating costs per head: |  |  |  |  |
| Feed, charged at cash farm prices | 77.06 | 76.10 | 35. 32 | 26. 90 |
| Building and equipment charge | 2.62 | 2.24 | 1.73 | . 74 |
| Death loss ---------------- | . 82 | . 78 | 1.04 | . 39 |
| Veterinary | . 15 | . 13 | . 06 | . 05 |
| Insurance. | . 15 | . 07 | . 01 | . 01 |
| Taxes.---- | 1.80 | .81 | . 61 | . 34 |
| Incidentals | 1. ${ }^{.} 58$ | 2.70 | .45 2.99 | 2. 23 |
| Total operating, interest, and original cost per head | 172.65 | 174.47 | 121.91 | 86.77 |
| Manure credit per head. | 5. 70 | 10. 14 | 4.76 | 5. 81 |
| Pork credit per head..- | 11.86 | 11. 06 | -5.32 | 8. 97 |
| Net cost per head--- | 155.09 | 153.27 | 111.83 | 71.99 |
| Sales price per head---.----------1.-.- | 148.15 | 136.01 | 90.28 |  |
| Profit per head (feed charged at cash farm price) <br> Loss per head | 6.94 | 17.26 | 21.55 |  |
| Cost of feeder cattle per hundredweight | 11.18 | 10. 20 | 8.45 | 6.02 |
| Not cost of pound gain..-...-.---- | . 23 | . 26 | . 16 | . 09 |
| Net cost per hundredweight of beef laid down at market | 15. 10 | 14.31 | 10. 22 | 6. 72 |
| Price received for corn fed to cattle, per bushel | 1.20 1.46 | $\begin{array}{r}.89 \\ \hline 1.43\end{array}$ | -. 11 | . 78 |
| Average cash farm price of corn, per bushel | 1.46 | 1.43 | . 54 | . 42 |

## ILLINOIS.

| Number of droves | 69 | 108 | 96 | 106 |
| :---: | :---: | :---: | :---: | :---: |
| Number of cattle. | 2, 590 | 4,607 | 3,652 | 4,202 |
|  | 787 | 821 | 843 | 779 |
|  | + 296 | - 247 | 1, 20.1 | ${ }^{241}$ |
| Final weight per head | 1,083 | 1,068 | 1,101 |  |
| Original cost of feeder animal | \$81. 59 | \$77. 52 | \$66.49 | \$41. 80 |
| Interest per head: On money in cattle | 2. 43 | 2.19 | 2.11 | 1.23 |
| On money in catte- | 2. 58 | 2.14 | 2.35 | 1.51 |
| Operating costs per head: |  |  |  |  |
| Feed, charged at cash farm prices | 84.02 | 84.12 | ${ }^{38} 17$ | 26. 61 |
| Man and horse labor charge- | 9.05 | 6.68 | 5.73 | 3. 38 |
| Buildings and equipment charge | $\begin{array}{r}2.66 \\ \\ \hline 3\end{array}$ | 1.95 | 1.98 .30 | 1. 26 |
| Veatr loss. | . 09 | . 07 | . 07 | . 06 |
| Insurance. | . 04 | . 03 | . 01 | . 01 |
| Taxes..--- | 1.00 | . 78 | . 54 | . 36 |
| Incidentals | -63 | ${ }_{2}{ }_{23}{ }^{64}$ | ${ }^{-44}$ | 2.12 |
| Marketing | 2.29 | 2.23 | 281 | 2.12 |
| Total operating, interest, and original costs per head | 186.71 | 178.76 | 121.00 | 79.16 |
| Manure credit per head. | 10.70 | 12. 25 | 5. 09 | 3.45 |
| Pork credit per head. | 11. 59 | 6. 151 159 | 2.80 113.11 | 72. ${ }^{39}$ |
| Net cost per head | 164.42 157.36 | 159.60 131.05 | 113.12 |  |
| Sales price per head.- | 157.36 | 131.05 | 88.52 | - 7.20 |
| Profit per head (feed charged at cash farm prices) <br> Loss per head | 7.08 | 28.55 | 24.59 |  |
| Cost of feeder cattle per hundredweight | 10. 37 | 9.45 | 7.89 | 2. 36 |
| Net cost of pound gain- |  | 14.94 | 10.29 | 7.05 |
| Net cost per hundredweight of beer hid down at | 16.18 | 14.30 | 1.32 | . 63 |
| Price received for corn fed to cattle, per ${ }^{\text {a }}$ (erage cash farm price of corn, per bushel.-- | 1.47 | 1.42 | . 53 | .45 |

## Table 469.-Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918-1921-Continued.

IOWA.

| Item. | Season cattle were fed. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1918-19 | 1919-20 | 1920-21 | 1921-22 |
| Number of droves | 78 | 113 | 134 | 117 |
| Number of cattle | 3,771 | 4, 294 | 5,534 | 4,717 |
|  | 740 | 786 | 841 | 785 |
|  | 277 | 324 | 352 | 344 |
|  | 1,017 | 1,110 | 1,193 | 1,129 |
| Original cost of feeder animal | \$74.78 | \$77.10 | \$74. 68 | \$46. 43 |
| Interest per head: |  |  |  |  |
| On money in cattle. | 2. 29 | 2.77 | 3.02 | 1.68 |
| On money in equipment | 1.53 | 1.61 | 1.40 | 1.29 |
| Operating costs per head: Feed, charged at cash farm prices | 82. 70 | 82.30 | 36.89 | 27.78 |
| Man and horse labor charged...- | 4.56 | 4.12 | 3.82 | 2.18 |
| Building and equipment charged | 1.39 | 1.69 | 1.14 | 1.32 |
| Death loss. | . 65 | . 40 | . 57 | . 45 |
| Veterinary | . 13 | . 04 | . 05 | . 08 |
| Insurance. | . 06 | . 14 | . 08 | . 07 |
| Taxes-.-.- | . 28 | $\stackrel{38}{ }$ | ${ }^{.} 35$ | . 28 |
| Marketing | 2.54 | 2.98 | 4.79 | 3.42 |
| Total operating, interest, and original cost per head | 171. 28 | 173.99 | 127. 32 | 85.40 |
| Manure credit per head | 3.12 | 4.94 | 2.08 | 1.68 |
| Pork credit per head.. | 14. 36 | 16. 27 | 7.06 | 7.66 |
| Net cost per head.-- | 153. 80 | 152.78 | 118.18 | 76. 06 |
|  | 144.15 | 143.85 | 101.93 | ${ }^{90.84}$ |
| Profit per head (feed charged at cash farm prices) |  |  |  | 14.78 |
| Loss per head -- |  |  |  |  |
| Cost of feeder cattle per hundredweight Net cost of pound gain | 10.11 .285 | 9.81 .234 | 8.88 <br> $\quad .124$ | 5.91 .086 |
| Net cost per hundredweight of beeflaid down at market | 15.12 | 13. 76 | 9.91 | 6.71 |
| Price received for corn fed to cattle, per bushel. | 1.21 | .85 | . 16 | . 67 |
| A verage cash farm price of corn, per bushel. | 1.48 | 1.31 | . 46 | . 39 |

## MISSOURI.

| Number of droves | 50 | 100 | 105 | 101 |
| :---: | :---: | :---: | :---: | :---: |
| Number of cattle | 3,473 | 5,184 | 5,139 | 4,914 |
| Initial weight per head.----------------------------- pounds | 729 | 807 | 843 | 769 339 |
| Gain per head ---------------------------------------- ${ }^{\text {do }}$ | ${ }_{097}^{268}$ | 258 1,065 | 342 1.185 | 339 1,108 |
| Final weight per head------------------------------------ | 997 | 1,065 | 1,185 | 1,108 |
| Original cost of feeder animal | \$71.38 | \$77. 25 | \$67. 81 | \$45. 72 |
| Interest per head: <br> On money in cattle |  |  |  |  |
| On money in cattle.--On money in equipmen | 2.55 .85 | 2.70 .86 | $\begin{array}{r}3.25 \\ \hline 8\end{array}$ | 2.68 |
| Operating costs per head: |  |  |  |  |
| Feed, charged at cash farm prices | 56.91 4.89 | 65.69 4.66 | 48.04 4.64 | 34.26 3.20 |
| Man and horse labor charge | . 66 | . 79 | . 62 | . 72 |
| Death loss. | . 89 | . 52 | . 46 | . 42 |
| Veterinary | . 16 | . 08 | . 04 | . 08 |
| Insurance | . 25 | . 03 | . 32 | . 33 |
| Taxes | .16 | .28 | - 29 | .27 |
| Marketing | 2. 67 | 2. 96 | 4.70 | 3. 12 |
| Total operating, interest, and original cos | 141. 59 | 156. 13 | 131.03 | 91.02 |
| Manure credit per head | . 24 | 1.98 | ${ }^{81} 8$ | 1.31 |
| Pork credit per head | 6.78 134.57 | 8. 82 145.93 | 123.15 |  |
| Net cost per head-- | 134.57 133.71 | 145.93 126.61 | 123.06 91.06 | 82.46 93.09 |
| Sales price per head (feed charged at cash farm prices) | 133.7 |  |  | 10.63 |
|  | . 86 | 19. 32 | 32.00 |  |
| Cost of feeder cattle per hundredweight | 9. 79 | 9.57 | 8.04 | 5.95 |
| Net cost of pound gain | ${ }^{13} 236$ | +13.70 | 161 10.38 | 7. 7108 |
| Net cost per hundredweight of beeflaid down a | 13.50 1.60 | 13.70 .80 | 10.38 .10 | 7.42 .71 |
| Price received for corn fed to cattie, per bushed Average cash farm price of corn, per bushel..- | 1. 1.69 | 1.42 | . 60 | . 485 |
| Average cash farm price of corn, per bushel. | 1.49 |  |  |  |

Table 469.-Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918-1921-Continued.

NEBRASKA.

| Item. | Season cattle were fed. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1918-19 | 1919-20 | 1920-21 | 1921-22 |
| Number of droves. | 67 | 125 | 95 | 122 |
| Number of cattle | 2, 207 | 3,857 | 2, 827 | 4, 222 |
|  | 712 | $\begin{array}{r}797 \\ \hline 269\end{array}$ | $\begin{array}{r}873 \\ 308 \\ \hline\end{array}$ | 828 330 |
|  | 298 1,010 | 269 1,066 | 308 1,181 | 330 1,158 |
|  | 1,010 | 1, 066 | 1,181 | 1,158 |
| Original cost of feeder animal. | \$70. 18 | \$80. 49 | \$78. 68 | \$50.03 |
| Interest per head: On money in cattle. | 2.27 | 2. 40 | 2.79 | 1.82 |
| On money in equipment | 1.74 | 1.66 | 1.75 | 1.17 |
| Operating costs per head: Feed, charged at cash farm prices | 79.35 | 66.84 | 34. 17 | 21.80 |
| Man and horse labor charge-.. | 7.13 | 3.83 | 4.34 | 2.11 |
| Buildings and equipment charge | 1.73 | 1. 48 | 1.39 | 1.05 |
| Death loss-.-...-.-.-- | . 44 | . 33 | . 41 | . 68 |
| Veterinary | $\cdot 14$ | . 05 | . 06 | . 08 |
| Insurance | .14 | . 16 | . 16 | . 21 |
| Incidentals.- | - 50 | ${ }^{.45}$ | ${ }^{.61}$ | ${ }_{3} .38$ |
| Marketing | 2.28 | 2.44 | 4. 88 | 3.28 |
| Total operating, interest, and original cost per head..---- | 165. 94 | 160.13 | 129. 25 | 82.62 |
| Manure credit per head. | 3. 39 | 4.61 | 1.80 | 1.39 |
| Pork credit per head..- | 14.45 148.10 | 10. 145. 29 | 5. 5. 124 12.81 | 6. 69 |
| Net cost per head. | 148.10 145.70 | 145. 132 | 105. 24 | 90. 49 |
|  | 145.70 | 133.32 | 10.24 | 15.95 |
| Proit per hea | 2.-70 | 11.97 | 16. 57 |  |
| Cost of feeder cattle per hundredweight | 9.86 | 10.10 | 9. 140 | 6.05 |
|  | 14. 261 | 13. 24 | $\stackrel{10.31}{ }$ | 6. 40 |
| Net cost per hundredweight of beeflaid down at mar | 14.66 1.45 | 13. 1.03 | 10.31 .14 | . 65 |
|  | 1.53 | 1.37 | . 50 | . 33 |

Division of Cost of Production.
Table 470.-Cattle: Daily rations and feed required to make 100 pounds gain, 1919-20 and 1920-21.
THREE PRINCIPAL IOWA RATIONS (POTTAWATTAMIE AND SHELBY COUNTIES, IOWA).


## 1 From hogs following steers.

Table 470.-Cattle: Daily rations and feed required to make 100 pounds gain, 1919-20 and 1920-21-Continued.

THREE PRINCIPAL INDIANA RATIONS (EAST CENTRAL INDIANA).

| Item. | Corn, protein meal, clover timothy, stover and iodder, silage. | Corn, clover timothy, and fodder, silage. | Corn, clover and timothy, stover and fodder. | Item. | Corn, <br> protein meal, clover timothy, stover and fodder, silage. | Corn, clover timothy, stover and silage. | Corn, clover and timothy, stover and fodder. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of droves. $\qquad$ Initial weight per head lbs. | 95 790 | 21 760 | 18 840 | Feed per 100 pounds gain: Corn (shelled basis) $\qquad$ | 511 | 613 | 931 |
| Final weight per head | 1,083 | 1,023 | 1,188 | Protein meal ${ }_{\text {Clover }}$ and timothy | 85 |  |  |
| Total gain per head lbs- | 293 | 263 | 1, 348 | hay .-.....-.-- ibs.- | 89 | 188 | 169 |
| Average daily gain per head-...............do. | 1.65 | 1. 42 | 1. 56 | Stover and fodder | 119 | 78 | 334 |
| Daily feed per head: Corn (shelled basis) |  |  |  | Silage <br> Days on pasture | 1,779 9 | 1,694 20 | 28 |
|  | 8. 2.3 | 8.3 | 14.0 | ork produced per steer ${ }^{1}$ |  |  |  |
| Clover and timothy |  |  |  | -------------------- | 63.8 | 52.2 | 116.3 |
| hay ----------lbs.- | 1.4 | 2.5 | 2.5 |  |  |  |  |
| Stover and fodder | . 9 | 1 | 5.0 |  |  |  |  |
| Silage -...-.-.-.-.do.- | 28.1 | 23.0 |  |  |  |  |  |

THREE PRINCIPAL ILLINOIS RATIONS (DE KALB COUNTY, ILL.).

| Item. | Corn, protein meal, clover and timothy, stover and fodder, silage. | Corn, clover and timothy, stover and fodder, silage. | Corn, protein meal, clover and timothy, stover and fodder. | Item. | Corn, protein meal, and tims. othy, stover and fodder, silage. | Corn, chover timothy, and fodder, silage. | Corn, protein meal, clover and timothy, stover and fodder. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of droves $\qquad$ Initial weight per head | 153 | 15 | 12 | Feed per 100 pounds gain: |  |  |  |
| Final weight per head | 822 | 823 | 868 | Corn (shelled basis) | 530 | 572 |  |
| Final weight per head | 1, 081 | 1,055 | 1,133 | Protein meal ---do-- | ${ }^{3} 4$ |  | 66 |
| Total gain per head.- do-- | 1, 259 | 232 | 265 | Clover and timathy |  |  |  |
| A verage daily gain per head...-...-.........lbs. | 1.51 | 1.32 | 1.62 |  | 161 | 495 | 400 |
| Daily feed per head: <br> Corn (shelled basis) |  |  |  | Siliage --.-.------- do. | 69 2,278 8 | $\begin{array}{r}186 \\ 2,294 \\ \hline 19\end{array}$ | 302 |
| -------------lbs-- | 8. 2 | 7.4 | 17.0 1.1 | Days on pasture----1 Pork produced mer steer ${ }^{\text {a }}$ - |  | 19 | 17 |
| Protein meal Clover and timothy | 1.1 |  | 1.1 | Pork produced per steer ---------------1bs.- | 37.3 | 31.6 | 62.4 |
| hay .-.---.-.-lbs.- | 4.0 | 4.1 | 6.4 |  |  |  |  |
| Stover and fodder |  | 24 | 4.9 |  |  |  |  |
| Silage------.-.---- do.- | 33.5 | 38.9 |  |  |  |  |  |

[^256]Table 470.-Cattle: Daily rations and feed required to make 100 pounds gain, 1919-20 and 1920-21.
FOUR PRINCIPAL MISSOURI RATIONS (SALINE AND LAFAYETTE COUNTIES, MO.).


Division of Cost of Production.
${ }^{1}$ From hogs following steers.
Table 471.-Cattle: Number of days on feed and gain per head, Nebraska, 1918-1919.

| Length of feeding period. | 1018-19 |  | 1919-20 |  | Daily gain per head. | 1918-19 |  | 1910-20 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Droves. | Cattle. | Droves. | Cattle. |  | Droves. | Animals. | Droves. | Animals. |
| days. |  |  |  |  | pounds. |  |  |  |  |
| 210 and over.a... | 14 | 632 | 11 | 421 | 3 and over | 3 | 117 | 11 | 329 |
| 180 to $210 \ldots$ | 9 | 258 | 14 | 449 | 24 to 3 | 8 | 221 | 13 | 345 |
| 150 to 180 .......-- | 13 | 425 | 15 | 428 | 2 te 2 z | 14 | 402 | 27 | 716 |
| 120 to 150.. | 14 | 411 | 16 | 481 | $1_{2}^{1}$ to 2. | 28 | 920 | 29 | 867 |
| 90 to 120 | 10 | 306 | 26 | 693 | 1 to 1 a | 13 | 513 | 20 | 623 |
| 60 to 90...-......-- | 7 | 192 | 17 | 422 | Less than 1 | 4 | 120 | 3 | 161 |
| Less than 60....-- | 3 | 69 | 4 | 149 |  |  |  |  |  |
| Average days on feed | 162 |  | 144 |  | gain, pounds.- | 1.90 |  | 2.08 |  |

## Division of Cost of Production.

## CATTLE SHIPMENTS.

Table 472.-Cattle and calves: Percentage of shrirkage ${ }^{1}$ in shipments by cooperative associations, 1921.

BY DISTANCE.

| Distance. | Cattle |  |  |  | Calves, mixed shipments. ${ }^{3}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Straight shipments. ${ }^{2}$ |  | Mixed shipments. ${ }^{3}$ |  |  |  |
|  | Number of animals upon which figures are based. | Shrinkage percentage of weight shipped. | Number of animals upon which figures are based. | Shrinkage percentage of weight shipped. | Number of animals upon which figures are based. | Shrinkage percentage of weight shipped. |
| Less than 100 miles | 1,661 | 2.56 | 6, 261 | 2. 34 | 16, 869 | 3.49 |
| 100 to 150 miles.... | 3, 518 | 2. 26 | 4,117 | 2. 99 | 9, 781 | 4. 99 |
| 150 to 200 miles. | 3, 158 | 3.46 | 7, 151 | 3.30 | 8,114 | 4.85 |
| 200 to 250 miles | 1,623 | 3. 16 | 2, 295 | 4. 06 | 1, 767 | 6. 48 |
| 250 to 300 miles. | 350 | 2.91 | 179 | 3.03 | 102 | 4. 83 |
| 300 to 350 miles. | 1,888 | 4.09 | 917 | 4. 86 | 2, 194 | 5.96 |
| 350 to 400 miles | 1,522 | 5. 03 | 2,627 | 5. 28 | 5, 641 | 5. 96 |
| 400 to 450 miles | 1,070 | 3. 94 | 1,419 | 4.09 | 2, 063 | 7. 40 |
| 450 to 500 miles. | 376 | 4. 20 | 345 | 4. 27 | 495 | 6. 20 |
| 500 to 550 miles.- | 72 | 5. 04 | -8 | 6. 26 |  |  |
| 550 to 600 miles.. | 220 | 4.60 | $\therefore 330$ | 4.80 | 42 | 7.75 |

BY MONTHS.

| January | 1,822 | 4. 20 | 2, 795 | 4. 00 | 3,858 | 5. 26 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| February | 1,401 | 3. 34 | 2,591 | 4. 13 | 4, 172 | 5. 22 |
| March. | 1,416 | 3. 66 | 3,210 | 3. 39 | 6, 183 | 5. 55 |
| April | 2, 063 | 3. 54 | 2, 400 | 3. 14 | 5, 517 | 5. 64 |
| May | 1,728 | 2. 78 | 2,413 | 2. 69 | 5, 632 | 5. 20 |
| June. | 2,339 | 2.62 | 2, 281 | 2.97 | 4,386 | 5. 67 |
| July | 828 | 2. 66 | 1,056 | 2. 78 | 2, 541 | 5. 00 |
| August | 616 | 2. 72 | 1,429 | 2. 74 | 2, 691 | 5. 08 |
| September | 630 | 3. 47 | 1,283 | 3.18 | 2, 332 | 4. 98 |
| October | 829 | 3. 81 | 1,636 | 3.24 | 2,794 | 5. 30 |
| November | 1,000 | 4. 30 | 2,505 | 3. 68 | 3,919 | 4. 62 |
| December | 736 | 2. 84 | 2, 036 | 4. 07 | 3,053 | 4.87 |

Division of Cost of Marketing.
${ }^{1}$ Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
:Straight shipments contain but one species of livestock.
:Mixed shipments contain more than one species of livestock.
Table 473.-Calves: Percentage crippled and percentage dead in mixed shipments by cooperative associations, 1921.1

BY MARKETS.

| Market. | Number of animals upon which figures are based. | Average weight of animals. | Crippled. |  |  | Dead. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animals. | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animals. |
| Buffalo | 7,906 | Pounds. 167 | 0.29 | 0.28 | Pounds. | 0.32 | 0.32 | Pounds. 167 |
| Chicago | 7,803 | 153 | . 49 | . 34 | 106 | . 36 |  |  |
| East St. Louis. | 868 | 259 | . 11 | . 05 | 120 | 23 | 11 | 120 |
| Kansas City | 2,627 | 201 | . 19 | . 18 | 190 | 19 |  |  |
| Milwaukee.- | 20, 928 | 110 | . 13 |  |  | . 23 | 13 | 117 |
| Pittsburgh.-- | 3, 976 | 160 | . 13 | . 11 | 130 | . 18 | . 13 | 117 |
| Sioux City | 130 | 219 | . 77 | . 35 | 100 | . 70 | . 35 | 100 |
| St. Paul.-- | 10,555 | 136 | . 03 | . 02 | 93 | . 13 | . 12 | 120 |

1 Mixed shipments contain more than one species of livestock.

Table 473.-Calves: Percentage crippled and percentage dead in mixed shipments by cooperative associations, 1921 ${ }^{1}$-Continued.

BY DISTANCE.

| Market. | Number of animals upon which figures are based. | A verage weight of animals. | Crippled. |  |  | Dead. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Percentage of total number shipped. | Percentage of total weight shipped. | A verage weight of animals. | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animals. |
|  |  | Pounds. | 0.07 |  | Pounds. | 0.16 |  | Pounds. |
| Less than 100 miles | 20,629 15,646 | 137 | 0.07 .25 |  |  | . 30 |  |  |
| 150 to 200 miles. | -9,776 | 145 | . 09 |  |  | . 14 |  |  |
| 200 to 250 miles.......- | 2,980 | 203 | . 20 |  |  | . 13 |  |  |
| 250 to 300 miles. | 102 | 196 |  |  |  |  |  |  |
| 300 to 350 miles. | 2,194 | 162 | . 23 | 0.18 | 132 | . 23 |  |  |
| 350 to 400 miles.-.---- | 6, 313 | 165 | .35 .19 | .31 .19 | 146 | . 41 | 0.27 | 144 |
| 400 to 450 miles...---- 450 to 500 miles.....-- | 2,145 514 | 177 171 | .19 .78 | .19 .92 | 178 230 | . 1.94 | 0.27 | 14 |
| 500 to 550 miles...-.--- | 42 | 166 | 2.38 | 1. 42 | 100 | 2. 38 | 1.42 | 100 |

BY MONTHS.

| January | 4,968 | 141 | 0.28 | 0.23 | 116 | 0.36 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| February | 5,093 | 140 | . 14 | . 12 | 126 | . 16 |  |  |
| March | 8,122 | 125 | 11 |  |  | . 25 |  |  |
| April. | 6,991 | 126 | . 14 |  |  | . 36 |  |  |
| May.- | 6,794 | 132 | . 15 |  |  | . 27 |  |  |
| June.-.-. | 5,514 | 150 | . 15 | . 11 | 118 | . 27 |  |  |
| July --- | 3, 095 | 152 | - 19 | . 15 |  | . 22 | 0.13 | 160 |
| August-- | 3,547 3,231 | 175 178 | . 23 | . 21 | 165 | .14 | 0.13 | 60 |
| September | 3,231 | 178 | . 34 | . 28 | 145 |  |  |  |
| October | 4, 115 | 163 | . 15 | . 19 | 208 | . 12 |  |  |
| November | 4,904 3,967 | 150 138 | . 16 |  |  | . 15 |  |  |
| December | 3,967 | 138 | . 18 |  |  | . 15 |  |  |

Division of Cost of Marketing.
${ }^{1}$ Mixed shipments contain more than one species of livestock.
Table 474.-Cattle: Percentage crippled in shipments by cooperative associations, 1921.

BY MARKETS.


See footnotes end of table.

Table 474．－Cattle：Percentage crippled in shipments by cooperative associations， 1921－Continued．
BY DISTANCE．

| Market． | Straight shipments．${ }^{1}$ |  |  |  |  | Mixed shipments．${ }^{2}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Num－ ber of mals upon figures are based． | Aver－ age weight of ani－ mals． | Per－ centage crip－ pled of total number shipped | $\left\lvert\, \begin{gathered} \text { Per- } \\ \text { contage } \\ \text { crip- } \\ \text { pled of } \\ \text { total } \\ \text { weight } \\ \text { sipped } \end{gathered}\right.$ | Aver－ age weight of crip－ pled ani－ mals． | Num－ ber of ani－ upon which figures based． | $\begin{array}{\|c\|} \text { Aver- } \\ \text { age } \\ \text { weight } \\ \text { of ani- } \\ \text { mals. } \end{array}$ | Per－ centage crip－ pled of total number shipped | $\begin{gathered} \text { Per- } \\ \text { centage } \\ \text { crip- } \\ \text { pled of } \\ \text { total } \\ \text { weight } \\ \text { sipped } \end{gathered}$ | Aver－ age weight of crip－ ani－ mals． |
| Less than 100 miles |  | Pounds． |  |  | Pounds． |  | Pounds． .874 |  |  | Pounds． 667 |
| 100 to 150 miles ．－．－－－ | 5，130 | 934 | ． 10 | ． 08 | 796 | 8， 086 | 847 | ． 17 | ． 17 | 815 |
| 150 to 200 miles．－．．－．－－ | 3，437 | 829 | ． 09 | ． 07 | 694 | 8， 030 | 826 | ． 10 | ． 08 | 683 |
| 200 to 250 miles | 2， 427 | 953 | ． 17 | ． 10 | 578 | 3， 720 | 873 | ． 27 | .18 | 605 |
| 250 to 300 miles ．－ | 395 | 1，055 |  |  |  | 187 | 550 |  |  |  |
| 300 to 350miles | 2， 004 | 929 |  |  |  | 881 | 860 880 |  |  |  |
| 350 to 400 miles | 1， 805 | 854 | ． 22 | ． 13 | 502 | 4,052 1,460 | 880 873 | $\begin{array}{r}.17 \\ .14 \\ \hline\end{array}$ | ． 13 | 648 345 |
| 400 to 4500 miles．．． | 1， 119 | 897 879 | ． 15 | ． 08 | 450 | 1， 460 | 873 <br> 896 | ． 14 | ． 22 | 1，000 |
| 500 to 550 milles． | 101 | 723 |  |  |  | 46 | 718 |  |  |  |
| 550 to 600 miles． | 220 | 923 | ． 91 | ． 70 | 705 | 330 | 888 |  |  |  |

BY MONTHS．

| January | 2， 088 | 838 | 0.19 | 0.17 | 738 | 4，097 | 844 | 0.12 | 0.10 | 680 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| February | 1，775 | 870 | ． 05 | ． 06 | 950 | 3， 541 | 825 | ． 20 | ． 18 | 733 |
| March | 1，981 | 873 | ． 20 |  |  | 4，359 | 838 | ． 16 | ． 13 | 663 |
| April | ．2，421 | 945 | ． 16 | ． 14 | 808 | 3， 280 | 84.2 | ． 21 | ． 18 | 713 |
| May | 2， 052 | 951 | ． 14 | ． 14 | 957 | 3， 284 | ． 862 | ． 12 | ． 08 | 59.5 |
| June | 3， 201 | 936 | ． 03 | ． 02 | 600 | 3， 103 | 879 | ． 26 | ． 27 | 985 |
| July | 914 | 938 | ． 11 | .05 | 460 | 1，321 | 857 |  |  |  |
| August | 818 | 835 | ． 12 | ． 06 | 450 | 2， 032 | 882 | ． 20 | ． 10 | 433 |
| Septembe | 941 | 796 |  |  |  | 1， 863 | 838 | ． 05 | ． 04 | 640 |
| October | 1，082 | 811 |  |  |  | 2， 288 | 868 |  |  |  |
| Novembe | 1，302 | 855 | ． 15 | ． 10 | 530 | 3， 358 | 878 | ． 06 | ． 05 | 690 |
| December． | 1，071 | 908 | ． 09 | ． 08 | 840 | 2，625 | 960 | ． 11 | ． 07 | 550 |

Division of Cost of Marketing．
${ }^{1}$ Straight shipments contain but one species of livestock．
${ }^{2}$ Mixed shipments contain more than one species of livestock．
Table 475．－Cattle：Principal terminal marketing costs，nine markets， 1921.

| Market． | Num－berofheaduponwhichfig－．uresarehas－ed． | Cents per 1，000 pounds，home weight，straight shipments． |  |  |  |  |  |  |  |  |  |  |  | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { yard- } \\ \text { age } \\ \text { cost } \\ \text { her } \end{gathered}$ | Aver－ age feed cost head． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Commission． |  |  | Yardage． |  |  | Feed． |  |  | Commission， yardage，and feed combined． |  |  |  |  |
|  |  | $\begin{aligned} & \text { H. } \\ & \dot{\otimes} .0 \\ & \dot{W} \\ & \dot{D} \\ & 4 \end{aligned}$ | $\begin{gathered} \text { Bin } \\ \end{gathered}$ | 雷 |  | $\underset{\sim}{\underset{\sim}{E}}$ | $\begin{aligned} & \text { ㄷ․ } \\ & \text { 品 } \end{aligned}$ |  | $\underset{H}{\vec{E}}$ | 品 | $\begin{aligned} & \text { W. } \\ & \text { Wi } \\ & \text { Wi } \\ & \text { B } \\ & 4 \end{aligned}$ | － | 品 |  |  |
| Pittsbugh | 1，445 |  | 88.8 | 119.4 | 31.0 | 22.8 | 35.5 | 75.8 | 51.8 | 102.1 | 211.1 | 165.5 | 256.8 | Cents． | Cents． 80 |
| Buffalo． | 1， 603 | 86.0 | 78.3 | 109． 2 | 34.0 | 26.2 | 89.0 | 44.2 | 24.1 | 63．7 | 170． 4 | 144.2 | 192.1 | 44 | 48 |
| East St．Loui | 1，098 | 99.7 | 93.7 | 138．9 | 46.3 | 42.6 | 53.4 | 19．2 | 11.7 | 21.5 | 165.2 | 157.9 | 199.6 | 29 | 12 |
| Cleveland． | 2，224 | 86.9 | 86.2 | 106． 4 | 81.2 | 80.8 | 52.0 | 43． 1 | 42.4 | 72.6 | 161.2 | 114.6 |  | 35 | 48 |
| Sioux Falls． | 797 | 92.5 |  |  | 41.0 | 37.4 | 56.8 | 26． 7 | 18．6 | 48.1 | 180.1 | 142.2 |  | ${ }_{35}^{38}$ | 21 |
| Kansas City |  | 90.6 | 80.2 | 98． 4 | 40.2 | 37.4 | ${ }_{45}^{43.8}$ | 20.7 | 14． 8. |  |  | 181.7 |  | 34 | 18 17 |
| Chicago－－ | 6，${ }^{\text {6，063 }}$ | 98.1 <br> 84 |  |  | 36．8 |  | 44.1 | 18．5 | 12． 9 | 36.1 19.7 | 171.6 | 136.7 |  | \％ 38 | 13 |
| Sioux City | 1，097 | 84.3 | 77.2 |  | ${ }^{43.4}$ | 21．2 | 25．3 | 25．3 | 18．2 | 28.8 | 111.7 | 82.8 | 13.0 | 25 | 27 |
| Milwauke |  | 63． | 53.9 | 64.4 | 23.5 | 21.2 |  |  |  |  |  |  |  |  |  |

[^257]Table 476.-Swine: Number and value on farms, United States, January 1, 1867-1924.

| Jan. 1- | Number. | Price per head Jan. 1. | Farm value Jan. 1. | Jan. 1- | Number. | Price per head Jan. 1. | Farm value Jan. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{r} \text { Thousands. } \\ 24,694 \\ 24,317 \\ 23,316 \\ 25,135 \\ 29,458 \end{array}$ | Dolls.4. 033. 29 | Thousands of dollars. | $1897$ | Thousands.$40,600$ | Dolls. 4. 10 | I housands ofdollars. |
| 1867 |  |  |  |  |  |  |  |
| 1868 |  |  | 79, 976 | 1898 | 39,760 | 4.39 | 174, 851 |
| 1860 |  | 4.65 | 108, 481 | 1899 | 38, 652 | 4. 40 | 170, 110 |
| 1870, June |  | 5.61 | 140, 532 | 1900, June 1.. | 62, 868. | 6. 20 | 346,014 |
| 1871. |  |  | 165, 312 | 1901-..--------- | 56, 982 |  | 353,012 |
| 1872. | 31,780 | 4.01 | 127, 453 | 1902. | 48, 699 | 7.03 | 342, 121 |
| 1873 | 32,632 | 3. 67. | 119, 632 | 1903 | 46,923 | 7.78 | 364,974 |
| 1874 | 30, 861 | 3.98 | 122, 695 | 1904 | 47, 009 | 6. 15 | 289, 225 |
| 1875 | 25, 727 | 4.80 | 134, 581 | 1006-..------------------ | 47, 321 | 5.99 | 283, 255 |
| 1876 |  | 6.00 | 154, 251 |  | $\begin{aligned} & 52,103 \\ & 54,794 \\ & 56,084 \end{aligned}$ | 6.187.626.05 | $\begin{array}{r} 321,803 \\ 417,791 \\ 339,030 \end{array}$ |
| 1877 | 28,077 | 5.66 | 158, 873 | 1907 |  |  |  |
| 1878. | 34, 786 | 4. 853. 18 | 156,577 110,508 | 1908--------------- |  |  |  |
| ${ }_{1889} 1879$ |  |  |  | 1909---------- | 54, 147 | 6.55 | 354, 794 |
| 1881. | 46, 348 | 4.434.78 | $\begin{aligned} & 211,036 \\ & 170,535 \end{aligned}$ | 1910, Apr. 1. | $\begin{aligned} & 57,186 \\ & 65,1820 \\ & 65,620 \end{aligned}$ | 9.17 | 533, 309 |
|  |  |  |  | 1911. |  | 9.37 | 615,170 |
| 1882 | $\begin{aligned} & 44,122 \\ & 43,270 \\ & 44,201 \\ & 45,113 \\ & 46 ;, 092 \end{aligned}$ | 5.97 | 263,543291,951 | 1912 | 65, 410 | 8.00 | $\begin{aligned} & 523,328 \\ & 603109 \end{aligned}$ |
| 1883 |  | 6.75 <br> 5.57 |  | 1913 | 61, 178 | 9.86 |  |
| 1884 |  |  | $246,301$ | Av. 1909-1913. | 60, 908 | 8.64 | 525,942 |
| 1886 |  | 4.26 | 196, 570 | 1914----...----- | 58, 933 | 10.40 | 612, 051 |
|  |  |  |  |  |  |  |  |
| 1887 | $\begin{aligned} & 44,613 \\ & 4,347 \\ & 50,302 \\ & 57,410 \\ & 50,625 \end{aligned}$ | 4.48 | 200, 043 | 1915------------------------ | $\begin{array}{r}64,618 \\ 67 \\ \hline\end{array}$ | $\begin{array}{r} 9.87 \\ 8.40 \end{array}$ | 637,479569,573 |
| 1888 |  | 4.985 |  |  |  |  |  |
| 1889 |  |  | 291, 307 | 1917--------------- | 67,50370,978 | 11.75 <br> 19.54 <br> 1 | 1.792, 8188 |
| 1890, June |  | $\begin{aligned} & 4.91 \\ & 4.15 \end{aligned}$ | $\begin{aligned} & 281,686 \\ & .210,194 \end{aligned}$ |  |  |  |  |
| 1891 |  |  |  | 1919 | $\begin{aligned} & 74,58 \\ & 59,344 \end{aligned}$ | $\begin{aligned} & 22.02 \\ & 19.07 \end{aligned}$ | 1, 642,598 <br> 1, 131, 674 |
|  | $\begin{aligned} & 52,388 \\ & 46,095 \\ & 45,209 \\ & 44,166 \\ & 42,843 \end{aligned}$ | $\begin{aligned} & 4.60 \\ & 6.41 \\ & 5.98 \\ & 4: 97 \\ & 4.35 \end{aligned}$ | $\begin{aligned} & .241,031 \\ & 295,426 \\ & 270,385 \\ & 219,501 \\ & 198,530 \end{aligned}$ | 1920 |  |  |  |
|  |  |  |  | Av. 1914-1920.- | 66, 247 | 14.61 | 967, 776 |
|  |  |  |  |  | $\begin{aligned} & 656,097 \\ & 68,327 \\ & : 68,427 \end{aligned}$ | $\begin{array}{r} 12.97 \\ 10.10 \\ 11.58 \\ 9.75 \end{array}$ | $\begin{aligned} & 727,380 \\ & 589,202 \\ & 792,565 \\ & 638,793 \end{aligned}$ |
|  |  |  |  | 1921 |  |  |  |
|  |  |  |  | 1922 |  |  |  |
|  |  |  |  | ${ }_{1924}$ |  |  |  |

Division of Crop:and Livestock Estimates; figures in italios are census returns.
${ }^{1}$ Preliminary.
Table 477.—Swine: Number and value on farms, by States, January 1, 1922-1924.


1 Preliminary.

Table 477.-Swine: Number ard value on farms, by States, January 1, 1922-1924-Continued.

| State. | Number Jan. 1. |  |  | A verage price per head Jan. 1. |  |  | Farm value Jan. 1. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1922 | 1923 | 1924 | 1922 | 1923 | 1924 | 1922 | 1923 | $1924{ }^{1}$ |
|  | Thousand. | Thousand. | Thousand. | Dolls. | Dolls. | Dolls. | $\begin{gathered} \text { Thou- } \\ \text { sand } \\ \text { dollars. } \end{gathered}$ | Thousand dollars. | Thou sand dollars |
| Mary and | : 285 | 299 | 299 | 11.50 | 13.00 | 11.25 | 3,278 | 3,887 | 3, 364 |
| Virginia | 703 | 689 | 655 | 9. 60 | 10. 50 | 9.90 | 6,749 | 7, 234 | 6, 484 |
| West Virginia | 293 | 316 | 316 | 10. 80 | 12. 30 | 11. 00 | 3,164 | 3,887 | 3,476 |
| North Carolina | 1,258 | 1,195 | 1,159 | 12.00 | 13.30 | 12. 50 | 15, 096 | 15, 894 | 14, 488 |
| South Carolina | 680 | 612 | 569 | 9.20 | 11.00 | 11.30 | 6, 256 | 6, 732 | 6, 430 |
| Georgia | 2, 064 | 1,878 | 1,542 | 8. 60 | 7.80 | 8.00 | 17,750 | 14, 648 | 12,336 |
| Florida | 725 | 703 | 633 | 7.00 | 7. 50 | 7.00 | 5, 075 | 5, 272 | 4, 431 |
| Ohio | 2, 862 | 3, 205 | 3, 077 | 10. 90 | 12. 10 | 10.00 | 31, 196 | 38,780 | 30, 770 |
| Indiana | 3, 200 | 4,000 | 3,880 | 11. 00 | 11. 90 | 9.80 | 35, 200 | 47, 600 | 38, 024 |
| Illinois. | 4, 046 | 5, 422 | 5,368 | 10. 50 | 12. 50 | 10. 10 | 42, 483 | 67, 775 | 54, 217 |
| Michigan | 1, 051 | 1,177 | 1,165 | 11. 30 | 12. 50 | 10.00 | 11, 876 | 14, 712 | 11, 650 |
| Wisconsin | 1,500 | 1,725 | 1, 673 | 10. 50 | 13. 10 | 9. 90 | 15, 750 | 22, 598 | 16,563 |
| Minnesota | 3, 333 | 3,800 | 3, 800 | 11. 20 | 13. 20 | 10. 30 | 37, 330 | 50, 160 | 39, 140 |
| Iowa. | 8,218 | 11, 094 | 10, 539 | 11. 00 | 12.80 | 10.30 | 90, 398 | 142, 003 | 108, 552 |
| Missouri | 3, 915 | 4,698 | 4,463 | 8.50 | 9.80 | 8.50 | 33, 278 | 46, 040 | 37, 936 |
| North Dakota | 435 | 566 | 651 | 11. 00 | 13. 50 | 10. 00 | 4, 785 | 7, 641 | 6,510 |
| South Dakota | 2, 200 | 2, 970 | 3, 029 | 10. 00 | 13. 50 | 10. 10 | 22, 000 | 40,095 | 30, 593 |
| Nebraska | 4, 100 | 5,330 | 5, 223 | 10.00 | 12.00 | 10.00 | 41, 000 | 63, 960 | 52, 230 |
| Kansas | 2, 388 | 3, 104 | 2,980 | 9. 50 | 11. 00 | 9.00 | 22, 686 | 34, 144 | 28, 820 |
| Kentucky | 1, 048 | 1,205 | 1,109 | 7.50 | 8.80 | 7.00 | 7, 860 | 10, 604 | 7,763 |
| Tennessee. | 1,546 | 1,654 | 1,373 | 8.00 | 9.30 | 7.40 | 12, 368 | 15, 382 | 10, 160 |
| Alabama. | 1,307 | 1,281 | 1, 089 | 8.60 | 9.30 | 8.80 | 11, 240 | 11,913 | 9, 583 |
| Mississippi | 1, 183 | 1,207 | 1,063 | 8. 00 | 8. 00 | 7.40 | 9, 464 | 9,656 | 7,866 |
| Louisiana | 756 | 756 | ${ }^{665}$ | 8. 60 | 7.80 | 7.60 | 6, 502 | 5,897 | 5,054 |
| Texas | 2, 226 | 2, 092 | 1,904 | 8.50 | 8.80 | 9.00 | 18, 921 | 18, 410 | 17,136 |
| Oklahoma | 1,334 | 1,401 | 1,121 | 8. 50 | 8. 80 | 6. 70. | 11, 339 | 12,329 | 7,511 |
| Arkansas | 1,125 | 1,058 | 952 | 7. 10 | 6. 90 | 6.10 | 7, 9888 | 7,300 2,970 | 5, 807 3,024 |
| Montana | 180 | 225 | 270 | 13. 10 | 13. 20 | 11.20 | 2, 358 | 2,970 | 3,024 |
| W yoming | 73 | 99 592 | 119 | 12. 00 | 12.50 | 10.00 | 876 4.368 | ${ }_{6}^{1,238}$ | 1,190 |
| Colorado | 455 | 592 | 622 | 9.60 | 10. 50 | 9.50 | 4, 368 | 6,216 | 5,909 |
| New Mexico | 94 | 89 | 71 | 9.00 | 10.00 | 9.00 | 846 | 890 | 639 |
| Arizona_ | 50 | 57 | 57 | 12.00 | 13.00 | 9.50 | 600 | 741 | 542 |
| Utah | 90 | 108 | 121 | 10.00 | 10.90 | 10.10 | 900 | 1,177 | 1,222 |
| Nevada | 25 | 25 | 28 | 10.00 | 14.00 | 9.00 | 250 | 350 | 252 |
| Idaho. | 225 | 315 | 378 | 11. 00 | 11.50 | 9. 40 | 2, 475 | 3,622 | 3,553 |
| Washington | 197 | 217 | 239 | 12. 50 | 14.80 | 13. 00 | 2, 462 | 3, 212 | 3, 107 |
| Oregon- | 200 | 214 | 220 | 10. 70 | 11.20 | 10.50. | 2,140 | 2,397 | 2,310 |
| California | 834 | 842 | 834 | 11.70 | 11.80 | 10.50 | 9,758 | 9,936 | 8,757 |
| United | 58, 327 | 68, 427 | 65, 501 | 10.10 | 11.58 | 9.75 | 589, 202 | 792, 565 | 638, 793 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 478.-Hogs on farms: Cumulative percentage changes, 1920-1923.

| Item. | To Feb. 1. | Mor. | To Apr. 1. | To May 1. | $\begin{gathered} \text { To } \\ \text { June } \\ 1 . \end{gathered}$ | $\begin{aligned} & \text { To } \\ & \text { July } \\ & \text { 1. } \end{aligned}$ | $\begin{gathered} \text { To } \\ \text { Aug. } \\ \text { 1. } \end{gathered}$ | $\begin{gathered} \text { To } \\ \text { Sept. } \\ \text { 1. } \end{gathered}$ | $\begin{gathered} \text { To } \\ \text { Oct. } \\ 1 . \end{gathered}$ | $\begin{gathered} \text { To } \\ \text { Nov. } \\ \text { 1. } \end{gathered}$ | $\begin{gathered} \text { To } \\ \text { Dec. } \\ 1 . \end{gathered}$ | $\begin{gathered} \text { To } \\ \text { Jan. } \\ \text { lof } \\ \text { suc- } \\ \text { ceed- } \\ \text { ing } \\ \text { year. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Increases: |  |  |  |  |  |  |  |  |  |  |  |  |
| Births 1920 | P.ct 5.8 | P. 14.5 | P.ct. | P.ct. | P.ct. | 93. ${ }^{\text {cti }}$ | 102.0 | 113.6 | 129.4 | 140.7 | 147.3 | 152.8 |
| 1921 | 5.8 | 14.5 | 38.0 | 67.4 | 86.1 | 95.9 | 105. 2 | 118.4 | 136. 6 | 148.8 | 156.9 | 163.4 |
| 1922 | 5.3 | 14.2 | 41.8 | 70.8 | 88.5 | 99.4 | 107.6 | 121.4 | 142.2 | 156.0 | 163. 5 | 168.9 |
| 1923 | 6.2 | 17.2 | 44.5 | 76.0 | 95.2 | 105. 1 | 113.6 | 127. 2 | 147.8 | 158.4 | 164.1 |  |
| Brought on fa | 3.3 | 6.2 | 9.2 | 11.9 | 14.9 | 17.1 | 19.2 | 22.1 | 25.4 | 28.8 | 320 |  |
| 1921. | 3.0 | 6.6 | 9.9 | 12.7 | 15.0 | 16.7 | 18.7 | 21.1 | 24.1 | 28.1 | 31.5 | 35.1 |
| 1922. | 3.2 | 6.6 | 9.7 | 12.9 | 16.5 | 19.0 | 21.6 | 24.0 | 27.1 | 31.2 | 34.9 | 39.5 |
| 1923 --- | 3.4 | 5.9 | 8.7 | 11.7 | 14.0 | 16.0 | 17.3 | 19.2 | 21.0 | 24.3 | 27.7 |  |
| Total incre | 9.1 | 20.7 | 45.2 | 76.3 | 98.0 | 110.4 | 121.2 | 135.7 | 154.8 | 169.5 | 179.3 | 187.8 |
| 1921 | 8.8 | 21.1 | 47.9 | 80.1 | 101. 1 | 112. 6 | 123. 9 | 139.5 | 180.7 | 176.9 | 188.4 | 198.5 |
| 1922 | 8.5 | 20.8 | 51.5 | 83.7 | 105. 0 | 118. 4 | 129. 2 | 145.4 |  |  | 198.4 | 208.4 |
| 1823.... | 9.6 | 23.1 | 53.2 | 87.7 | 109.2 | 121. 1 | 130.9 | 146.4 | 168.8 | 182.7 | 191.8 | ------ |

${ }^{1}$ Corrective factor 0.905 applied to births and brought on farms figures.

Table 478.-Hogs on farms: Cumulative percentage changes, 1920-1923-Contd.


Division of Orop and Livestock Estimates. Based on reports of about 7,500 farmers reporting monthly for their own farms.
${ }^{1}$ Number on hand, January 1, each year $=100 \%$.
Table 479.-Swine: Yearly losses per 1,000 from disease, 1888-1924.

| Year ending Apr. 30. | Losses per 1,000. | Year ending Apr. 30. | $\begin{gathered} \text { Losses } \\ \text { per } \\ \mathbf{1 , 0 0 0 .} \end{gathered}$ | Year ending Apr. 30. | Losses per 1,000. | Year ending Apr. 30. | Losses per 1,000. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1887-88. | 77.5 | 1897-98. | 92.8 | 1907-8. | 52.4 | 1917-18 | 42.1 |
| 1888-89 | 61.7 | 1898-99 | 82.1 | 1908-9 | 51.0 | 1918-19. | 41.4 |
| 1889-90 | 76.1 | 1899-1900. | 64. 4 | 1909-10. | 45.1 | 1919-20. | 49.8 |
| 1890-91 | 83.7 | 1900-1... | 74.7 | 1910-11 | 44.8 | 1920-21. | 43.0 |
| 1891-92. | 54.4 | 1901-2 | 51.5 | 1911-12 | 89.2 | 1921-22. | 54.4 |
| 1892-93. | 63.1 | 1902-3 | 58.2 | 1912-13 | 110.1 | 1922-23. | 51.3 |
| 1893-94 | 48. 6 | 1903-4 | 57.9 | 1913-14 | 118. 9 | 1923-24. | 52.9 |
| 1894-95 | 92.3 | 1904-5 | 50.8 | 1914-15 |  |  |  |
| 1895-96 | 127. 0 | 1905-6 | 51.1 | 1915-16 | 66. 2 |  |  |
| 1896-97. | 144.0 | 1906-7 | 48.9 | 1916-17. | 48.6 |  |  |

Division of Crop and Livestock Estimates. As reported by crop reporters May 1 for year ending April 30.

Table 480.-Hogs: Summary of spring and fall pig surveys.

| State. | Sows farrowed. |  |  |  | Average number of pigs saved per litter. |  |  |  |  |  | Intended farrowing. ${ }^{3}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Spring, } \\ \text { 1922 com- } \\ \text { pared } \\ \text { with } \\ \text { spring } \\ 1921 . \end{gathered}$ | $\begin{gathered} \text { Fall, } \\ \text { 1922 com- } \\ \text { pardid } \\ \text { with } \\ \text { fall; } \\ 1921 . \end{gathered}$ | $\begin{gathered} \text { Spring, } \\ \text { 1923 com- } \\ \text { pared } \\ \text { with } \\ \text { spring } \\ 1922 . \end{gathered}$ | $\begin{gathered} \text { Fall, } \\ 1923 \text { com- } \\ \text { pared } \\ \text { with } \\ \text { fall, } \\ 1922 . \end{gathered}$ | 1921 |  | 1922 |  | 1983 |  | $\begin{aligned} & \text { Fall, } \\ & \text { 1922 com- } \\ & \text { pared } \\ & \text { with } \\ & \text { actual } \\ & \text { 1921. } \end{aligned}$ | $\begin{gathered} \text { Spring, } \\ \text { 1923 com- } \\ \text { pared } \\ \text { with } \\ \text { actual } \\ 1922 . \end{gathered}$ | $\begin{aligned} & \text { Fall, } \\ & \text { 1923 com- } \\ & \text { pared } \\ & \text { with } \\ & \text { actual } \\ & 1922 . \end{aligned}$ | Spring, 1924 com pared with actual 1923. |
|  |  |  |  |  | Spring. ${ }^{1}$ | Fall. 1 | Spring. ${ }^{1}$ | Fall. 1 | Spring. ${ }^{2}$ | Fall. ${ }^{2}$ |  |  |  |  |
|  | Per cent. | Per cent. | Per cent. | Per cent. |  |  | . |  |  |  | Per cent. | Per cent. | Per cent. | Per cent. |
| Maine | Per cent. | 117.0 | 82.0 | 125.8 |  |  |  | 6.7 | 6.1 | 6.7 |  | 137.4 | 160. 2 | 130.3 |
| New Hampshire |  | 160.1 | 103. 6 | 158.4 |  |  |  | 6. 9 | 6. 2 | 5. 3 |  | 146. 6 | 192. 2 | 111. 0 |
| Vermont------.- |  | 120.9 | 127. 2 | 112.8 |  |  |  | 6. 9 | 5. 5 | 6. 9 |  | 1128. 3 | 165.8 134.4 | 124. 0 |
| Massachusetts |  | 85. 4 | 90. 2 | 132. 9 |  |  |  | 6. 3 | 5. 8.5 | 6.4 |  | 115.3 64.9 | 134.4 165.2 | 134.4 92.3 |
| Rhode Island. |  | 72.7 | 100.0 | 124.2 |  |  |  | 6.8 | 6.5 | 6.0 |  | 64.9 | 165.2 | 92.3 |
| Connecticut |  | 152.2 | 108.1 | 114.8 |  |  |  | B. 6 | 5.0 | 5.4 |  | 96.2 | 111.6 | 90.8 |
| New York | 102.8 | 100.3 | 105. 9 | 113.9 | 8.2 | 7.8 | 7.4 | 6. 9 | 5.8 | 6. 4 | 124.0 | 110. 4 | 149.3 | 117.3 |
| New Jersey |  | 106. 9 | 98.6 | 106.8 |  |  |  | 6. 28 | 5.2 5.7 | 5. 7 |  | 119.1 | 128.9 137.4 | 104. 4 |
| Pennsylvania | 107.3 | 114.2 98.7 | 107.4 104.1 | 103.8 | 7.2 | 7.0 | 6. 9 | 6. 6 | 5. 7 <br> 5.4 <br> .4 | 5. 9 5.1 | 125.2 | 119.2 96.1 | 137.4 112.4 | 112. 2 |
| Maryland. | 104.9 | 107.4 | 95.7 | 108.9 | 7.4 | 6. 9 | 7.1 | 6.6 | 5. 9 | 6.0 | 118.4 | 107.2 | 137.0 | 106.1 |
| Virginia -- |  | 97.5 | 98.9 | 100.7 |  |  |  | 6.7 | 5.8 | 5. 8 | -.-.-...- | 106. 3 | 127.6 | 98.9 |
| West Virginia |  | 114.1 | 99.8 | 110.1 |  |  |  | 6.7 | 6. 2 | 6. 5 |  | 101. 2 | 125. 9 | 108. 5 |
| North Carolina |  | 90.4 | 92.6 | 97.3 |  |  |  | 6. 4 | 5. 6 | 5. 4 |  | 102.7 | 133.8 | 113. 3 |
| South Carolina. |  | 89.1 | 102, 6 | 86.3 |  |  |  | 6.0 | 5.1 | 4.8 |  | 106.7 | 140.7 | 124.2 |
| Georgia. | 112.5 | 88.3 | 85.5 | 75.2 | 6.6 | 6.3 | 6.1 | 5. 8 | 4.9 | 4.5 | 134.0 | 102.5 | 118.9 | 111.0 |
| Florida |  | 86. 0 | 89.5 | 84.0 |  |  |  | 5. 7 | 4. 7 | 4. 0 |  | 110.1 | 127.3 | 117.9 |
| Ohio - | 110.8 | 111. 4 | 107.0 | 97.7. | 6. 9 | 6. 6 | 6. 5 | 6. 6 | 5. 4 | 5. 6 | 131.7 | 112.6 | 123. 2 | 93.8 |
| Indiana | 122. 0 | 109. 1 | 107.0 | 96. 3 | 6.7 | 6. 2 | 6. 1 | 6. 6 | 5. 4. 9 | 5. 5 | 137.1 149 | 119.4 120.7 | 119.6 122.3 | 92.4 91.6 |
| Illinois. | 122.3 | 125. 5 | 108.3 | 94.9 | 6.4 | 6.0 | 5.9 | 6.2 | 4.9 | 5.0 | 149.3 | 120.7 | 122.3 | 91.6 |
| Michigan | 122.3 | 122. 6 | 115.8 | 104.7 | 7.1 | 6. 5 | 6.3 | 6. 6 | 5.5 | 6.0 | 148. 2 | 107.4 | 131.8 | 98.0 |
| W isconsin | 110.5 | 128.8 | 106.3 | 101. 9 | 6.5 | 6. 2 | 6. 0 | 6.4 | 5. 3 | 5.4 | 141. 2 | 106. 7 | 123.9 | 94. 7 |
| Minnesota | 122. 3 | 132.5 | $10 \% 1$ | 93, 7 | 5.8 | 5. 6 | 5. 2 | 5. 9 | 4. 9 | 4.7 | 149.3 | 109.6 | 119.5 | 96.7 |
| Iowa.--- | 120.7 | 149. 2 | 116. 9 | 93.7 | 8. 7 | 5. 8 | 5. 5 | 5. 7 | 4. 5 | 4. 8 | 148. 1 | 111.9 | 112. 4 | 95. 3 |
| Missouri. | 125.0 | 117.1 | 108.1 | 90.6 | 6.6 | 6.3 | 5.9 | 6.4 | 5.0 | 5.1 | 144.4 | 117.7 | 124.3 | 92.7 |
| North Dakota |  | 84.1 | 116: 0 | 112.7 |  |  |  | 5. 8 | 5. 0 | 4. 9 |  | 138.9 | 203.0 | 121.8 |
| South Dakota. | 130.5 | 111.9 | 111. 4 | 90.4 | 5. 6 | 5. 4 | 5. 2 | 5. 6 | 4.6 | 4.4 | 173. 1 | 119.5 | 150.4 | 99.3 |
| Nebraska. | 126:5 | 133.9 | 109.0 | 86.5 | 5.4 | 5. 3 | 5. 2 | 5. 4 | 4. 5 | 4. 5 | 159. 7 | 118. 2 | 142. 0 | 97. 3 |
| Kansas. | 139.8 | 131.7 | 114.8 | 89.3 | 6.0 | 5. 6 | 5. 4 | 6. 0 | 5.1 | 5. 0 | 165. 0 | 123. 2 | 132. 4 | 87.0 |
| Kentucky.. | - | 102.5 | 101.2 | 91.3 |  |  |  | 6.6 | 6.0 | 5. 5 |  | 110.9 | 115.2 | 80.1 |



Division of Crop and Livestock Estimates. Based on reports of about 140,000 farmers gathered in cooperation with Post Office Department through the rural mail carriers. Periods covered: December 1 to June 1 (spring), June 1 to Đecember 1 (fail).

1 Based on estimated number per sow as reported by farmers.
2 Total pigs saved divided by sows farrowed as reported by farmers, and probably not strietly comparable with 1921 and 1922 data
8 Intentions are as of the ctose of the preceding 6 months period; for example, those for spring farrowing 1924 were intentions expressed as of December 1 , 1923.

Table 481.-Hogs: Receipts and shipments at principal markets and all markets, 1900-1923.
RECEIPTS.

| Calendar year. | $\begin{aligned} & \text { Chi- } \\ & \text { cago. } \end{aligned}$ | Denver. | $\begin{gathered} \text { East } \\ \text { St. } \\ \text { Louis. } \end{gathered}$ | Fort Worth. | $\begin{gathered} \text { Kan- } \\ \text { sas } \\ \text { City. } \end{gathered}$ | Omaha. | $\left\lvert\, \begin{gathered} \text { St. } \\ \text { Joseph. } \end{gathered}\right.$ | St. <br> Paul. | $\begin{aligned} & \text { Sioux } \\ & \text { City. } \end{aligned}$ | Total nine markets. | All other markets re-porting. | Total all markets re-porting. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Th | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- |
|  | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. |
| 1900 | 8, 109 | 116 | 1,792 | (1) | 3, 094 | 2, 201 | 1, 679 | 500 | 833 | 18, 324 | ${ }^{(2)}$ | ${ }^{2}$ ) |
| 1901 | 8, 290 | 109 | 1,924 | (1) | 3,716 | 2, 414 | 2, 105 | 617 | 960 | 20,135 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| 1502 | 7,895 | 87 | 1, 330 | 79 | 2,279 | 2, 247 | 1,698 | 668 | 1,008 | 17, 291 | $\left.{ }^{2}\right)$ | ${ }^{2}$ ) |
| 1903 | 7,326 | 147 | 1,568 | 151 | 1,969 | 2, 231 | 1,701 | 760 | 1,008 | 16, 861 | ${ }^{(2)}$ | $\left.{ }^{2}\right)$ |
| 1904 | 7,239 | 162 | 1,955 | 281 | 2, 227 | 2, 300 | 1,657 | 882 | 1,113 | 17, 816 | $\left.{ }^{2}\right)$ | $\left.{ }^{2}\right)$ |
| 1905 | 7, 726 | 191 | 2, 026 | 463 | 2,508 | 2, 294 | 1,900 | 855 | 1,299 | 19, 262 | $\left.{ }^{2}\right)$ | $\left.{ }^{2}\right)$ |
| 1506 | 7,275 | 193 | 1,923 | 551 | 2, 676 | 2, 394 | 1,908 | 861 | 1,158 | 18, 939 | $\left.{ }^{2}\right)$ | $\left.{ }^{2}\right)$ |
| 1907. | 7, 201 | 241 | 2, 065 | 487 | 2,924 | 2, 254 | 1, 923 | 867 | 1,289 | 19, 251 | $\left.{ }^{2}\right)$ | $\left.{ }^{2}\right)$ |
| 1908 | 8, 131 | 280 | 2, 560 | 703 | 3,715 | 2, 425 | 2,349 | 1, 133 | 1, 381 | 22, 677 | ${ }^{2}$ ) | ${ }^{2}$ ) |
| 1909 | 6, 619 | 242 | 2,473 | 868 | 3,093 | 2,135 | 1, 694 | 725 | 1, 077 | 18,926 | $\left.{ }^{2}\right)$ | $\left.{ }^{2}\right)$ |
| 1910 | 5,587 | 187 | 2, 054 | 541 | 2,086 | 1,894 | 1,353 | 836 | 1,044 | 15, 582 | ${ }^{(2)}$ | $\left.{ }^{2}\right)$ |
| 1911 | 7, 103 | 220 | 3, 124 | 556 | 3,168 | 2,367 | 1, 922 | 911 | 1,349 | 20, 720 | $\left.{ }^{2}\right)$ | ${ }^{2}$ ) |
| 1912 | 7, 181 | 222 | 2, 530 | 388 | 2, 523 | 2, 886 | 1,970 | 984 | 1,698 | 20, 382 | ${ }^{(2)}$ | (2) |
| 1913 | 7,571 | 247 | 2, 584 | 404 | 2, 568 | 2, 543 | 1,869 | 1,257 | 1, 533 | 20, 576 | ${ }^{(2)}$ | ${ }^{2}$ |
| 1914 | 6,618 | 256 | 2, 559 | 515 | 2, 265. | 2, 259 | 1,725 | 1,590 | 1,257 | 19, 044 | $\left.{ }^{2}\right)$ | ${ }^{(2)}$ |
| 1915 | 7, 652 | 344 | 2,592 | 464 | 2,531 | 2, 643 | 1,698 | 2,155 | 1,761 | 21, 840 | 14, 373 | 36, 213 |
| 1916 | 9, 188 | 467 | 3, 057 | 968 | 2,979 | 3, 117 | 2, 199 | 2, 675 | 2, 131 | 26, 781 | 16, 484 | 43, 265 |
| 1917 | 7,169 | 352 | 2,706 | 1, 062 | 2, 277 | 2, 797 | 1,920 | 1,928 | 2, 149 | 22, 360 | 15, 682 | 38, 042 |
| 1918 | 8, 614 | 384 | 3,256 | 762 | 3, 328 | 3, 430 | 2, 351 | 2, 061 | 2, 421 | 26, 607 | 18, 256 | 44, 863 |
| 1919 | 8, 672 | 368 | 3, 651 | 588 | 3,141 | 3,179 | 2, 126 | 2, 190 | 2; 322 | 26, 237 | 18, 232 | 44, 469 |
| 1920. | 7, 526 | 341 | 3, 399 | 413 | 2,466 | 2,708 | 1,914 | 2,247 | 2,173 | 23, 187 | 18, 934 | 42, 121 |
| 1921 | 8, 148 | 334 | 3,330 | 382 | 2, 205 | 2,665 | 1,785 | 2, 210 | 1,739 | 22, 798 | 18, 303 | 41, 101 |
| 1922 | 8,156 | 395 | 3, 606 | 510 | 2,655 | 2, 839 | 2, 061 | 2, 523 | 1,856 | 24, 601 | 19, 466 | 44, 067 |
| 1923. | 10,460 | 495 | 4,831 | 486 | 3, 615 | 3,649 | 2,457 | 3,338 | 2,989 | 32, 320 | 23, 010 | 55, 330 |

SHIPMENTS.

|  | 1,452 | (2) | 418 | (2) | $\left.{ }^{2}\right)$ | 37 | 83 | 45 | 110 | 2,145 | ${ }^{(2)}$ | ${ }^{(2)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1901. | 1, 301 | (2) | 370 | (2) | (2) | 49 | 117 | 55 | 123 | 2,015 | (2) | (2) |
| 1902 | 1,252 | (2) | 143 | (2) | (2) | 170 | 91 | 29 | 143 | 1, 828 | (2) | (2) |
| 1903 | 1,238 | (2) | 249 | (2) | ${ }^{(2)}$ | 51 | 122 | 50 | 539 | 2, 249 | (2) | (2) |
| 1904 | 1,626 | (2) | 373 | (2) | ( ${ }^{(2)}$ | 211 | 93 | 72 | 614 | 2,989 | ${ }^{(2)}$ | ( ${ }^{\text {a }}$ |
| 1905 | 2,028 | (2) | 487 | ${ }^{(2)}$ | (2) | 172 | 68 | 33 | 279 | 3,067 | (1) | (8) |
| 1906 | 1,743 | (2) | 583 | (2) | (2) | 171 | 60 | 20 | 145 | 2, 722 | (2) | (2) |
| 1907 | 1,712 | (2) | 753 | (2) | (2) | 119 | 117 | 73 | 240 | 3, 014 | (2) | (2) |
| 1908. | 1,870 | ${ }^{(2)}$ | 711 | (2) | (2) | 284 | 84 | ${ }_{137} 25$ | 180 | 3,439 3,197 | (2) | (2) |
| 1909. | 1,664 | ${ }^{(2)}$ | 891 | ${ }^{(2)}$ | (2) | 278 | 47 |  | 180 |  |  |  |
| 1910. | 1,202 | (2) | 615 | ${ }^{(2)}$ | (2) | 238 | 34 | 194 | 186 | 2, 469 | (2) | (2) |
| 1911. | 1, 527 | (2) | 880 | (2) | (3) | 217 | 41 | 244 | 520 | 2, 229 | (2) | (2) |
| 1912 | 1,573 | (2) | ${ }_{918}^{679}$ | (2) |  | 407 381 | 167 70 |  | 452 |  | (2) | (2) |
| 1913 | 1, 673 | (2) | 918 989 | (2) | ${ }_{(2)}^{(2)}$ | 381 331 | 70 153 | 320 531 | $\stackrel{453}{230}$ | 3, 525 | (2) | (2) |
| 1914 | 1,291 | (2) | 989 | (2) | ( $)$ | 331 | 153 | 631 | 230 |  |  |  |
| 1915. | 1,133 | 11 | 991 | 61 | 417 | 631 | 174 92 | 795 1,181 | 871 | 4,784 | 6, 8115 | 8, 81,620 |
| 1916 | 1,405 | 22 | 1,071 | -98 | 445 295 | 726 | 92 87 | 1,181 | 889 | 5, ${ }^{\text {b }}$, 478 | 7, 098 | 12,571 |
| 1917 | 1,219 | 27 | 1,026 | 264 | 295 527 | 7969 889 | $\begin{array}{r}87 \\ 285 \\ \hline\end{array}$ | 8888 | ${ }_{9}^{891}$ | 5, ${ }^{\text {5, }} 824$ | 8,749 | 14, 373 |
| 1918 | 1,971 | 18 |  | 166 | 527 | 889 648 | 209 | 868 | 913 | 5, 817 | 8,549 | 14,336 |
| 1919 | 1,101 | 33 | 1,420 |  |  |  |  | 342 | 879 |  |  |  |
| 1920 | 1,657 | 32 | 1,721 |  |  | 710 | 267 | 511 | 690 | 6,983 | $\begin{aligned} & 8,960 \\ & 7,726 \end{aligned}$ | 14,709 |
| 1921 | 2, 1780 | 22 | 2, 2748 | 98 98 | 488 588 | 695 613 | 355 | 482 | 666 | 7,056: | 8, 278 | 15, 332 |
| 1923. | 2,370 | 102 | 2,990 | 108 | 889 | 869 | 455 | 609 | 1,205 | 9,597 | 9, 545 | 19,142 |

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from fourteenth annual report of Bureau of Animal Industry; 1907 to 1914 from Mer chants' Exchange Annual Report); subsequent figures from data of the reporting service of the Live stock, Meats and Wool Division.
${ }^{1}$ Not in operation.
${ }_{2}$ Figures not available prior to 1915.

Table 482.-Hogs: Receipts at all public stockyards, 1915-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Thor | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- |
|  | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. |
| $1915{ }^{1}$ | 3,959 | 3,449 | 3,199 | 2,487 | 2,768 | 2, 874 | 2,368 | 2, 024 | 1,966 | 2, 457 | 3, 728 |  | 6, 213 |
| $1916{ }^{1}$ | 5,309 | 4, 233 | 3,489 | 2,852 | 3, 332 | 3, 054 | 2, 524 | 2, 634 | 2, 386 | 3, 640 | 4, 873 | 4,939 | 43, 265 |
| 1917 | 5, 084 | 3, 933 | 3, 369 | 2, 961 | 3,264 | 2,791 | 2, 563 | 1,853 | 1,615 | 2, 676 | 3, 994 | 3,992 | 38,042 |
| 1918. | 4, 444 | 4, 486 | -4, 424 | 3, 696 | 3, 345 | 2, 979 | 3, 099 | 2. 467 | $\stackrel{\text { 2, }}{2} \mathbf{3 7 6}$ | 3, 399 | 4, 594 | 5, 4,984 | 44,883 44,469 |
| 1919 | 5,855 | 4, 412 | 3, 643 | 3, 648 | 3,831 | 3,773 <br> 3 | $\stackrel{2,974}{2}$ | $\stackrel{\text { 2, }}{2} \times 191$ | 2,391 | 2,789 | 3,872 | 4, 200 | 42, 121 |
| 1920 | 5, 262 | 3,422 | 3,940 3,386 |  |  | 3, 709 | 2, 727 | $\stackrel{2,491}{2,656}$ | 2, 655 | 3,214 | 3, 687 | 3, 931 | 41, 101 |
| 1921 | 4,700 | 4,009 3,613 | 3, 386 3,411 | 3, 229 | 3, 327 | 3,776 | 2, 980 | 3, 037 | 3, 062 | 3, 682 | 4,421 | 5, 004 | 44, 067 |
| 1922 | 4, ${ }_{\text {5, }}$ | 3, 613 4,492 | 4, 4127 | 3,066 4,318 | 4, 524 | 4, 204 | 4, 181 | 3, 714 | 3, 607 | 4,816 | 5,416 | 5,825 | 55, 330 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.
${ }^{1}$ Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many of these markets.

Table 483.-Hogs: Receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1900-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thow- | Thou- | Thou- |  | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou: |
|  | sands. | sands. | sands. | sands. | sands. | san | sands. | sands. | sands. |  |  |  |
| 1900 | 1,502 | 1,265 | 1,240 | 1,190 | 1,424 | 1,333 | 1,043 | 1, 025 | 1,029 | 1, 303 |  |  |
| 1901 | 1,528 | 1,457 | 1,174 | 1,222 | 1, 523 | 1, 275 | 1,461 | 1, 110 | 940 | 150 | 9 | 11 |
| 1902 | 1,609 | 1,489 | 1,197 | 95 | 1, 148 | , 174 | 1, 107 | ${ }_{961}$ | 875 | 1, 838 | 1, 068 | 1,437 |
| 1903 | 1,316 | 1,175 | 938 | 1,016 | 1,195 | 1,171 | 1,107 | 961 | 875 |  | 1,008 | 1,438 |
| 1904 | 1,440 | 1,445 | 1,113 | 1,125 | 1,213 | 1,200 | 660 | 1,035 | 762 | 940 | 1,369 | 1,417 |
| 1905 | 1,610 | 1,269 | 1,249 | 1,043 | 1,297 | 1,357 | 999 | 935 | 884 | 1,128 | 1, 315 | 1,473 |
| 1906 | 1,608 | 1,356 | 1,206 | 1, 075 | 1, 306 | 1,372 | 1,144 | 1,149 | 837 | 947 | 1,046 | 21 |
| 1907 | 1,499 | 1,332 | 1,165 | 1,210 | 1,455 | 1,312 | 1,298 | 1,020 | 993 | 1,353 | 1,580 | 1, 403 |
| 1908 | 2, 225 | 1,672 | 1,445 | 1,086 | 1,454 | 1,315 | 1,072 | 992 | 937 | 1,353 | 1,580 | 703 |
| 1909. | 1,703 | 1,359 | 1,602 | 1,161 | 1,299 | 1,187 | 929 | 823 | 846 | 966 | 1, 184 | 1,261 |
| 1910 | 1,179 | 1,128 | 934 | 788 | 1, 057 | 1,138 | 892 | 893 | 687 | 768 | 1,020 | 1,134 |
| 1911 | 1,270 | 1,302 | 1,516 | 1,304 | 1, 521 | 1,487 | 1,200 | 976 | 970 | 1, 231 | 1,207 | 1,481 |
| 1912 | 1,908 | 1,612 | 1,358 | 1,252 | 1,381 | 1, 218 | 1,092 | 846 1,095 | 1,081 | 1, 153 | 1,288 | 1,385 |
| 1913 | 1,640 | 1,315 | 1, 170 | 1,154 | 1,257 | 1,328 | 1,129 | 1,095 | 1,081 | 1,153 |  |  |
| Av. 1909-1913 | 1,540 | 1,343 | 1,316 | 1,132 | 1,303. | 1,272 | 1,048 | 927 | 869 | 1,042 | 1,246 | 1,378 |
| 14.....-. | 1,479 | 1,328 |  | 1,001 | 1, 065 | 1,167 | 927 | 832 | 827 | 1,093 | 1,158 | 1,640 |
| 1915 | 1, 669 | 1, 640 | 1, 511 | 1,080 | 1,234 | 1,222 | 1,037 | 921 | 803 | 1,848 | 1,387 | 2,066 |
| 1916 | 2,313 | 1,950 | 1,516 | 1,154 | 1, 366 | 1,283 | 1,090 | ${ }_{-}^{1,221}$ | 954 | 1,902 | 1, 1286 | 1,461 |
| 1917 | 2,199 | 1,697 | 1,367 | 1, 205 | 1, 320 | 1, 1246 | 1, 1,356 | 1,047 | ${ }_{932}$ | 1,376 | 1,794 | 2,207 |
| 1918 | 1, 657 | 1, 8888 | 1,963 |  |  |  | 1, 314 | -829 | 913 | 1,129 | 1,485 | 2,049 |
| 1919 | 2, 2,136 | 1,978 | 1,631 | 1, 1,059 | 1,686 | 1, 438 | 1,131 | 988 | 795 | 894 | 1,381 | 1,611 |
| Av. 1914-1920. |  |  |  | 1, 252 | 1,397 | 1,308 | 1,134 | 942 | 824 | 1,093 | 1,498 | 1,875 |
|  | 1,982 | 1,691 | 1,543 | 1,252 | 1,397 |  |  |  |  |  |  |  |
| 1921 | $\begin{aligned} & 1,916 \\ & 1,785 \end{aligned}$ | 1,708 | 1,346 | 1,276 | 1,340 | 1,493 | 1,122 | 1, 092 | 946 | 1,092 | 1, 459 | 1,558 |
| 1922 |  | 1,454 | 1, 303 | 1, 130 | 1,520 | 1, 646 | 1,263 | 1,216 | 1, 1,515 | 1, 299 | 1,631 | 1,200 |
| 1923. | 2, 173 | 1,879 | 2, 017 | 1,778 | 1,840 | 1,730 | 1, 827 | 1,616 | 1,515 | 1,917 | 2,049 | 2,215 |

Division of Statistical and Historical Research. Prior to 1915 from yearbooks of stockyard companiess subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division.

Table 484.-Hogs: Receipts, lacal slaughter, and stocker and feeder shipments, | public stockyards, calendar years, 1915-1923.

RECEIPTS.

|  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  |  |  |  |  |  |  |  |  |  |

${ }^{1}$ Less than 500.

Table 484.-Hogs: Receipts, local slaughter, and stacker and feeder shipments, public stockyards, calendar years, 1915-1923-Continued.

RECEIPTS-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. |
| St. Joseph, Mo | 1,698 | 2,199 | 1,920 | 2,351 | 2,126 | 1,914 | 1,785 | 2,061 | 2,457 |
| St. Paul, Minn | 2,155 | 2,674 | 1,928 | 2,081 | 2,190 | 2,247 | 2,209 | 2,523 | 3, $3 \overline{3}$ |
| $\operatorname{San}$ Antonio, Tex | 36 | 59 | 1, 40 | 30 |  | 39 | 70 | 63 | 61 |
| Seattle, Wash |  | 179 | 130 | 127 | 126 | 95 | 134 | 151 | 218 |
| Gioux City, Iowa | 1,761 | 2,131 | 2,149 | 2,421 | 2,322 | 2,173 | 1,739 | 1,856 | 2,989 |
| Sioux Falls S. Dak |  |  | 6 | 62 | 174 | 247 | 452 | 533 | 503 |
| Spokane, Wash | 6 | 37 | 38 | 44 | 60 | 47 | 33 | 48 | 82 |
| Springfield, Ohio |  |  |  |  |  |  |  |  | 64 |
| Tacoma, Wash.. |  | 38 | 19 | 32 | 30 | 35 | 59 | 65 |  |
| Toledo, Ohio | 250 | 304 | 278 | 255 | 232 | 264 | 148 | 140 | 158 |
| Weshington, D. |  | 82 | 58 | 56 | 72 | 102 | 113 | 132 | 166 |
| Wichita, Kans.. | 476 | 573 | 495 | 618 | 494 | 382 | 369 | 570 | 706 |
| Total | 36, 213 | 43, 265 | 38, 042 | 44, 863 | 44, 469 | 42, 121 | 41, 101 | 44,067 | 55,330 |

LOCAL SLAUGGHTER.

| Albany, N. Y |  |  | 8 | 1 | 2. | 2 | (1) | (1) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlanta, Ga |  |  | 27 | 24 | 37 | 42 | 61 | 62 | 95 |
| Augusta, Ga |  |  | 5 | 3 | 5 | 5 | 7 | 9 | 7 |
| Baltimore, Md | 726 |  | 558 | 514 | 661 | 874 | 1,013 | 1,020 | 1,202 |
| Billings, Mont |  | (1) | 2 |  | (1) |  |  |  |  |
| Birmingham, Ala |  | ${ }^{6}$ | 2 | 14 | 24 | 24 | 27 | 2 | 1 |
| Buffalo, N. Y |  | 784 | 488 | 617 | 730 | 631 | 670 | 663 | 834 |
| Chattanoega, Tenn |  |  |  | 7 | 13 | 11 | 17 | 13 | 16 |
| Chicago, 111 | 6,519 | 7,784 | 5,950 | 7,643 | 7,572 | 5,870 | 5,977 | 6,323 | 8,092 |
| Cincinnati, Ohio | 656 | 601 | 688 | 768 | 823 | 789 | 898 | 669 | 784 |
| Cleveland, Obio | 826 | 776 | 578 | 850 | 729 | 610 | 688 | 750 | 927 |
| Colvmbia, \%. C |  | 7 | ${ }^{(1)}$ | 3 | 6 | 7 | 4 | 9 | 15 |
| Columbus, Ohio | 5 | 18 | 12 | 7 | 4 | 14 | 14 | 6 | 3 |
| Dallas, Tex |  | 101 | 87 | 62 | 45 | 56 | 52 | 71 | 111 |
| Dayton, Ohio. | 83 | 87 | 57 | 60 | 61 | 76 | 83 | 09 | 101 |
| Denver, Colo. | 331 | 444 | 327 | 366 | 336 | 310 | 311 | 367 | 394 |
| Detroit, Mich |  | 561 | 297 | (287 | 336 | 360 | 269 | 279 | 358 |
| Dublin, Ga--- |  |  | (1) |  |  |  |  |  |  |
| East St. Louis, E1 Pasa, Tex. | 1,600 | 1,987 | 1,680 15 | 2, 276 | 2, 231 | 1, 678 | 1,289 | 1,229 17 | 1,842 |
| Emeryville, Calif |  |  | 18 | 5 | 10 | 16 | 21 | 32 |  |
| Erie, Pa-- |  |  |  | 15 | 16 | 15 |  |  |  |
| Evansvilie, Ind |  | 24 | 36 | 40 | 31 | 80 | 73 | 65 | 78 |
| Fort Wayne, Ind |  |  |  |  |  |  |  |  |  |
| Fort Worth, Tex | 392 | 860 | 797 | 568 | 464 | 322 | 277 | 4 4 6 | 377 |
| Fostoria, Ohio |  |  | 27 | 13 | 10 | 10 | 11 | 7 | 9 |
| Indianapolis, Ind | 1,496 | 1,511 | 1,326 | 1,394 | 1,434 | 1,359 | 1,377 | 1,528 | 1,792 |
| Jacksonville, Fla |  |  | 15 |  |  | 72 |  | 28 | ${ }_{518}$ |
| Jersey City, N. J. | 1, F 75 | 1,137 | 744 | . 566 | 468 | 629 | 509 | 458. | b13 |
| Kansas City, Ma | 2,114 | 2, 327 | 1,978 | 2,655 | 2,600 | 1,838 | 1.713 | $2,052$. | 2721 |
| Knoxville, Tenn | 1 | 4 | 39 | 33 | 3 |  |  |  | \% 61 |
| Lafayette, Ind |  | 57 | 39 | $\begin{array}{r}33 \\ 8 \\ \hline\end{array}$ | 37 | 40 11 | 44 | 56 .20 |  |
| Lancaster, P <br> Laredo, Tex |  |  |  | 8 | 13 |  |  | 20 | $\because 2$ |
| Legansport, Ind | (1) |  | (1) | (1) | 1 | 2 | 1 | 2 |  |
| Los Angeles, Calif |  |  |  |  |  |  |  |  |  |
| Louisville, Ky | 129 | 108 | 132 |  | 173 | 156 | 180 | 231 | 305 |
| - Marion, Ohio |  |  |  | 2 | 10 | 13 | 16 | 29 | - 28 |
| Memphis, Tenn |  |  |  |  | 2 | 1 | 4 | 6 |  |
| Milwaukee, Wis | 506 | 529 | 394 | 463 | 534 | 509 | 482 | 459 | 548 |
| Mobile, Hia | - 4 | 4 | 2 |  |  |  |  |  |  |
| Montgonery, Ala |  |  |  |  | 3 | 5 | 26 | $\begin{array}{r}3 \\ 45 \\ \hline\end{array}$ | $\begin{aligned} & I 5 \\ & 20 \end{aligned}$ |
| Moultrie, Ga |  | 29 | 46 | 57 | 67 | 82 | 113 | 125: | - 180 |
| Nebraska City, Neb |  |  |  | 264 | $271^{-}$ | 258 | 267 | 287 |  |

1 Less than 500.

Table 484.-Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923-Continued.

LOCAL SLAUGHTER-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. |
| New Yorleans, ${ }^{\text {N }}$ N | 363 | 52 | 41 | 651 | 677 | 45 | 902 | 34 | 1,160 |
| North Salt Lake, U |  | 1 | 31 | 39 | 39 | 25 | 36 | 42 | ${ }^{1}$ |
| Ogden, Utah...- |  |  | 1 | 52 | 67 | 47 | 47 | 47 | 66 |
| Oklahoma, Okla | 476 | 732 | 530 | 504 | 360 | 288 | 331 | 449 | 419 |
| Omaha, Nebr | 2, 012 | 2, 391 | 2,001 | 2, 541 | 2, 531 | 1,998 | 1,971 | 2, 226 | 2,780 |
| Orangeburg, S |  |  |  | 9 | 2 |  |  |  |  |
| Pasco, Wash |  |  |  | (1) | (1) | (1) |  |  |  |
| Peoria, Ill. | 125 | 132 | 96 | 143 | 153 | 135 | 164 | 105 | 118 |
| Philadelphia, Pa |  |  | 202 | 264 | 329 | 457 | 457 | 439 | 331 |
| Pittsburgh, Pa | 157 | 155 | 290 | 279 | 279 | 413 | 505 | 507 | 597 |
| Portland, Oreg | 173 | 189 | 129 | 137 | 103 | 91 | 112 | 158 | 187 |
| Pueblo, Colo- |  |  |  | ${ }^{(1)}$ |  |  | 1 | (1) | ${ }^{(1)}$ |
| Richmond, Va | 70 | 5 | 74 | 58 | 154 | 210 | 169 | 216 | 260 |
| Roanoke, Va |  |  |  |  |  |  |  |  | 1 |
| St. Joseph, Mo | 1,524 | 2, 107 | 1,833 | 2, 064 | 1,919 | 1,584 | 1, 517 | 1,706 | 2, 001 |
| St. Louis, Mo- | 337 1,370 | 347 1,499 |  |  |  |  |  |  |  |
| San Antonio, Tex | 1,370 | 1,499 | $\begin{array}{r}1,068 \\ \hline 28\end{array}$ | 1,307 15 | 1,317 7 | 1,905 16 | 1,668 33 | 2, 41 | 2,728 |
| Seattle, Wash |  | 179 | 130 | 125 | 124 | 92 | 132 | 149 | 214 |
| Sioux City, Iowa | 1,189 | 1,307 | 1,257 | 1,511 | 1,411 | 1,296 | 1,047 | 1, 194 | 1,781 |
| Sioux Fals, S. Dak |  |  | (1) | ${ }^{(1)}$ |  | 5 | 57 | 74 | 69 |
| Spokane, Wash | 3 | 18 | 25 | 34 | 42 | 32 | 21 | 32 | 58 |
| Springfield, Ohio |  |  |  |  |  |  |  |  | 5 |
| Tacoma, Wash |  | 38 | 19 | 30 | 31 | 34 | 58 | 65 |  |
| Toledo, Ohio |  | 102 | 53 | 46 | 53 | 86 | - 24 | 14 | 21 |
| Washington, D. O |  | 82 | 55 | 54 | 71 | 101 | 112 | 129 | 165 |
| Wichita, Kans | 471 | 564 | 392 | 503 | 469 | 356 | 348 | 527 | 623 |
| Total. | 24, 893 | 30, 984 | 25, 440 | 30, 441 | 30,018 | 26, 761 | 26,335 | 28,737 | 36,172 |

Local slaughter, compiled from reports of stock sold or driven out for local slaughter, made by stockyards to the Livestock, Meats, and Wool Division.

STOCKER AND FEEDER SHIPMENTS.

| Market. | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Amarillo, Tex |  |  | (1) | (1) | 1 |  |  |  |
| Atlanta, Ga- |  |  | 4 | 4 | 8 | 5 |  |  |
| Augusta, Ga |  | ${ }^{(1)} 1$ | 1 | 1 3 | ${ }^{(1)}$ | (1) | 1 | (1) |
| Birmingham, Ala | (1) |  | (1) |  |  |  |  |  |
| Buffalo, N. Y |  | 2 | 1 | ${ }^{(1)}$ | (1) | ${ }^{(1)}$ |  |  |
| Chattanooga, Tenn |  |  | 2 | 1 |  |  |  |  |
| Chicago, Hl - |  | 45 | 25 | 14 | 1 | 2 | 3 | 2 |
| Cincinnati, Ohio |  |  | 2 | 1 | 3 | 4 | 2 | 4 |
| Columbus, Ohio | (1) |  | 1 | 1 |  | 1 |  |  |
| Dayton, Ohio |  |  | (1) |  |  |  |  |  |
| Denver, Colo- | (1) 9 | 22 | 17 |  | 30 5 | ${ }^{22}$ | (1) 26 | (1) ${ }^{93}$ |
| Detroit, Mich <br> Dublin, Ga. |  | 1 |  |  |  |  |  |  |
| East St. Louis, Il | 13 | 12 | 77 | 98 | - 47 | ${ }^{4} 4$ | $\because 63$ | 41 |
| El Paso, Tex |  | (1) | 8 | 4 | 3 | 8 | 5 |  |
| Evansville, Ind |  | 12 | 10 | 10 | 4 | 4 | 9 | 6 |
| Fort Wayne, Ind |  |  |  |  |  |  |  | 22 |
| Fortoria, Ohio.. |  | $\stackrel{2}{2}$ | 89 5 | 55 3 | 24 | $\stackrel{5}{2}$ | $\xrightarrow{3}$ | 2 |
| Indianapolis, Ind. |  | 35 | 45 | 41 | 17 | 21 | 17 | 18 |
| Jacksonville, Fla | 2 | ${ }^{(1)}$ | 3 | 1 | 2 |  | ${ }^{(1)}$ |  |
| Kansas City, Mo. | 22 |  | 175 | 244 | ${ }_{(1)}^{200}$ | 94 | 102 | 283 |
| Knoxville, Tenn |  | ${ }^{(1)} 5$ | 1 | 1 | ${ }^{(1)} 5$ | 1 | 5 | 3 |

${ }^{1}$ Less than 500.

Table 484.-Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923-Continued.

STOCKER AND FEEDER SHIPMENTS-Continued.

| Market. | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Logansport, Ind | Thousands. (1) | Thousands. 1 | Thousands. (1) | Thousands. (1) | Thousands. (1) | Thousands. | Thousands. (1) | Thousands. (1) |
| Los Angeles, Calif |  |  |  |  |  |  |  | 17 |
| Louisvine, Ohio |  |  | 1 | 28 4 | 1 | 2 | 19 3 | 2 |
| Memphis, Tenn. | (1) |  |  | (1) | 4 | 1 | 2 | 6 |
| Milwaukee, Wis |  | ${ }^{(1)}$ | $\left.{ }^{1}\right)$ | (1) |  |  |  |  |
| Montgomery, Ala |  | 1 | 1 | 22 | 15 | 9 3 | 12 | 10 |
| Moultrie, Ga--.-- | 23 |  |  |  | 18 | ${ }_{2}^{3}$ | 1 | 1 |
| Nebraska City, Nebr. |  |  | (1) | (1) |  | (1) | 3 |  |
| Newark, N. J . |  |  |  |  |  |  |  | (1) |
| New Brighton, Minn | (1) | 4 4 4 | ${ }_{3}^{1}$ | 3 | ${ }_{3}^{4}$ | 1 |  |  |
| New Orleans, La Utah | 1 | $\stackrel{4}{5}$ | 1 | 4 | 3 <br> 3 | 2 | 1 | 1 |
| Ogden, Utah........... |  | 1 | 1 | 13 | 11 | 2 | 5 | 4 |
| Oklahoma, Okla | 18 | 70 | 69 | 43 | 21 | 13 | 9 6 | 17 |
| Omaha, Nebr- | 26 | 73 | 13 |  | 7 |  |  | 14 |
| Pasco, Wash <br> Peoria, 11 |  | 1 | 4 | (1) | 3 | 8 | 5 | 7 |
| Philadelphia, Pa |  |  |  |  |  |  |  |  |
| Portland, Oreg- | 3 | 14 | 18 | 15 | 17 | 11 | 17 | 18 |
| Pueblo, Colo |  |  | (1) |  | (1) | ${ }_{(1)}$ |  |  |
| Richmond, Va- |  |  | ${ }^{(1)} 34$ | 27 |  |  |  | 17 |
| St. Joseph, Mo- St. Paul, Minn | ${ }_{23}^{11}$ | 232 | $\begin{array}{r}34 \\ 173 \\ \hline\end{array}$ | 27 103 | 24 | 104 | 109 | 151 |
| St. Paul, Minn | 23 |  |  |  |  |  |  |  |
| San Antonio, Tex | 29 | 1 | 2 | 2 | 2 3 | 4 | 13 1 | 10 |
| Seattle, Wash---- | 8 | 109 | 41 | 33 | 28 | 19 | 9 | 9 |
| Sioux Falls, S. Dak |  | 5 | 3 | 2 | 2 | 3 | 4 |  |
| Spokane, Wash |  | 8 | 9 | 15 | 12 | 6 | 7 | 9 |
| Tacoma, Wash |  |  |  |  |  |  |  |  |
| Toledo, Ohio.... | 6 | 44 | 87 | 20 | 23 | ${ }^{(13}$ | 20 | ${ }^{32}$ |
| Total. | 194 | 788 | 989 | 902 | 728 | 499 | 593 | 820 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
${ }^{1}$ Less than 500.
Table 485.-Swine: Shipments of feeder swine from public stockyards, 1923.
ORIGIN.

| Market. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec, | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | - |
|  | ber. | ber. | ber. | ber. | ber. |  | ber. | ber. | ber. | ber. |  |  |  |
| Denver, | 1,880 | 1,710 | 547 | 1, 042 | 1,273 | 758 | 978 | ${ }^{673}$ | 606 | 0 | 865 | 1,071 |  |
| Fort Worth, Tex | 2,076 | 3, 270 | 3, 568 | 2,763 | 1,286 | ${ }_{3} 85$ | 1,557 | 3,360 | 1, 836 | 840 1,584 | 1, 1112 |  | 23,935 |
| Indianapolis, Ind | 1,020 | ${ }^{617}$ |  | 1,097 | 15, 5200 | 3,668 11,255 | 6, 892 | 27,621 | 1, 515 | 13,442 | 21, 1164 | 8,416 | 16, ${ }^{\text {165,458 }}$ |
| Kansas City, Kans | 21, 100 | 18, 243 | 17, 967 | 18, 352 | 15, 532 | 11, 255 | 6, 114 | 27,621 | 55, 788 | 1,658 | 1, 33 | ${ }^{207}$ | 11,828 |
| Los Angeles, Cal | 1, 425 | 1,782 | 1,937 | 1,676 |  | 236 |  |  | 758 | 1,658 |  | 207 | 11,82 |
| Nat'l Stockyards, | 1,504 | 1,107 | 4, 488 | 7,096 | 5,526 | 3,541 | 1,044 | 1,815 | 4,089 | 867 | 592 | 836 | 32, 505 |
| Oklahoma, Okl | 1,026 | 1,460 | 5,117 | 2, 400 | 1,586 | 838 | 360 | 4, 379 | 3, 184 | 2,563 | 2, 486 | 2,165 | 27, 564 |
| Omaha, Nebr | 772 | 1,131 | 1,443 | 2, 334 | 1, 502 | 1,236 | 1,070 | 817 | 766 | 1,242 | 1, 201 | 1, 635 | 15, 149 |
| Portland, Oreg | 1,050 | 1,993 | 1,494 | 1,265 | 2, 141 | 1,238 | 1,688 | 1,444 | 1,657 | 2,020 |  | 1,224 |  |
| Sioux City, Ia |  | 925 | 1,426 | 2, 858 | 1,547 | 1,249 | 211 | 240 | 383 | 191 | 199 |  | 10, 145 |
| South St. Joseph, Mo |  | 144 | 172 | 138 |  | 123 | 5 28 | 165 |  | 15,9 |  | 11,199 | 1, 36,142 |
| South St. Paul, Minn | 13,436 | 13, 647 | 13, 898 | 12, 996 | 14, ${ }^{1}, 421$ | 9,635 | 5,463 | 3,011 1,470 | 6,373 | 15, 033 |  | 3, 808 | 31, 270 |
| Wichita, Kans | 1,642 4,896 | 2, 704 | 2, 424 | 3, 294 | 1, 330 | 1,941 | 2, 483 | 3,858 | 3,190 | 2, 823 | 2, 353 | 2,688 | 38,381 |
| Tota | 52,687 | 49, 585 | 60, 311 | 59, 893 | 52, 171 | 37, 233 | 23, 605 | 50,721 | 87, 722 | 79, 060 | 53, 097 | 35, 014 | 641,099 |

Table 485.-Swine: Shipments of feeder swine from public stockyards, 1923Continued.

DESTINATION.


Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry inspection records.

Table 486.-Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923. ${ }^{1}$

| Stockyards. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- | Thoun | Thou | Thou- | Thou- | Thou- | Thou- | Thow | Thou | Thou- |
| Buffalo, N. Y.: | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. |  | sands. |
| Receipts .-.-...-- | 164 | 132 | 143 | 161 | 144 | 117 | 127 | 116 | 120 | 176 | 200 | 231 | 1,831 |
| Local slaughter | 68 | 54 | 62 | 67 | 66 | 59 | 57 | 52 | 56 | 80 | 96 | 117 | 834 |
| Chicago, IIl.: Receipts | 1,000 | 870 | 877 | 721 | 803 | 835 | 929 | 732 | 622 | 844 | 1, 058 | 1,169 | 10,460 |
| Local slaughter | , 661 | 595 | 671 | 591 | 663 | 692 | 689 | 533 | 484 | 685 | 887 | 941 | 8, 092 |
| Stocker and feeder shipments.-- | ${ }^{(1)}$ |  | (1) | (1) | 1 | 1 |  | (1) | ${ }^{(1)}$ | ${ }^{(1)}$ | ${ }^{(1)}$ | ${ }^{(1)}$ | - 2 |
| Cincinnati, Ohio: |  |  |  |  |  |  |  |  |  |  |  |  | 1,401 |
| Receipts-.-.--- | 108 70 | 106 58 | 114 69 | 107 64 | 121 67 | 102 | ${ }^{96}$ | 98 | 100 51 | 155 70 | 149 73 | 148 | 1, 784 |
| Stocker and feeder shipments.- | ${ }_{(1)}$ | ${ }^{(1)}$ | 1 | ${ }^{(1)}$ | 1 | ${ }^{(1)}$ | ${ }^{(1)}$ | 1 | ${ }^{(1)}$ | 1 | ${ }^{(1)}$ | ${ }^{(1)}$ | 4 |
| Cleveland, Ohio: |  |  |  |  |  |  |  |  |  |  | 147 | 157 | 1,185 |
| Receipts------ | 91 63 | 77 54 | 109 83 | 100 77 | 96 72 | 93 75 | 72 | 69 55 | 60 | 76 | 123 | 135 | ${ }^{1} 927$ |
| Receipts---7---- | 56 47 | 46 36 | 44 | 49 40 | 50 36 | 39 27 | 34 23 | 23 | 19 | 27 | 36 | 39 | 383 |
| Stocker and feeder shipments.- | 7 | 8 | 3 | 7 | 11 | 14 | 10 | 9 | 6 | 8 | 5 | 5 | 93 |
| East St. Louis, Ill.: |  |  |  |  |  |  |  | 336 | 375 | 480 | 451 | 432 | 4,831 |
| Receipts | 453 169 | 382 125 | 422 170 | 393 176 | 420 186 | 349 151 | 339 131 | 109 | 115 | 165 | 170 | 175 | 1, 842 |
| Stocker and feeder shipments. | 4 | 4 | 5 | 7 | 4 | 3 | 1 | 2 | 6 | 3 | 1 | 1 | 41 |
| Fort Worth, Tex.: Receipts | 43 | 44 | 68 | 50 | 38 | 20 | 21 | 27 | 42 | 44 | 45 | 44 | 488 |
| Lecal slaughter | 34 | 34 | 56 | 41 | 28 | 14 | 17 | 18 | 34 | 29 | 33 | 39 | 377 |
| Stocker and feeder shipments.- | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 2 | 1 | 22 |
| Indianapolis, Ind.: | 234 | 166 | 191 | 184 | 238 | 242 | 244 | 210 | 195 | 259 | 337 | 376 | 2,876 |
| Recal slaughter | 169 | 114 | 139 | 116 | 146 | 152 | 136 | 122 | - 113 | 155 | 204 | 226 | 1,792 |
| Stocker and feeder shipments_ | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 2 | 3 | 1 | ${ }^{(1)}$ | 18 |
| Jersey City, N. J.: | 54 | 42 | 41 | 45 |  | 30 | 29 | 44 | 35 | 57 | 51 | 51 | 513 |
| Receipts--.-.-.--- | 54 | 42 | 41 | 45 | 34 | 30 | 29 | 44 | 35 | 57 | 51 | 51 | 513 |

${ }^{1}$ Less than 500.

Table 486.-Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923-Continued.

| Stockyards. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thow- | Thox- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- |
| Kansas City, Mo.: | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sunds. | sands. | sands. | sands. | sands. | sands. |
| Receipts | 352 | 289 | 297 | 331 | 330 | 231 | 200 | 221 | 323 | 397 | 328 | 316 | 3,615 |
| Local slauginter-- | 276 | 239 | 261 | 277 | 278 | 173 | 140 | 123 | 197 | 280 | 258 | 219 | 2, 721 |
| Stocker and feeder shipments. Oklahoma, Okla.: | 22 | 19 | 18 | 20 | 16 | 11 | 6 | 30 | 60 | 46 | 24 | 11 | 283 |
| Receipts.- | 38 | 40 | 66 | 48 | 43 | 24 | 19 | 42 | 54 | 28 | 38 | 48 | 488 |
| Localslaughter-- | 35 | 37 | 59 | 43 | 40 | 22 | 16 | 34 | 46 | 20 | 28 | 39 | 419 |
| Stocker and feeder shipments. | 1 | 1 | 3 | 2 | 1 | 1 | (1) | 2 | 2 | 2 | 2 | (1) | 17 |
| Omaha, Nebr.: Receipts. | 368 | 338 | 421 | 333 | 287 | 315 | 359 | 327 | 196 | 196 | 211 | 298 | 3,649 |
| Localslaughter-- | 312 | 233 | 261 | $24 \dot{5}$ | 227 | 238 | 261 | 223 | 157 | 166 | 185 | 272 | 2,780 |
| Stocker and feeder shipments.- | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 14 |
| Pittsburgh, Pa. : |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts.....-.--- | 305 | 238 | 241 | 248 | 240 | 208 | 211 | 214 | 225 | 263 | 324 | 337 | 3, 054 |
| Localslaughter.- | 57 | 43 | 42 | 43 | 47 | 51 | 44 | 44 | 40 | 58 | 62 | 66 | 597 |
| St. Joseph, Mo.: |  |  |  |  |  |  |  |  |  |  |  |  | 2,457 |
| Receipts..--.-- | 266 | 231 | 259 | 185 | 197 | 205 168 | 189 | 167 | 146 109 | 171 | 210 180 | 231 185 | 2, 457 |
| Locals laughter-- | 218 | 190 | 212 | 152 | 173 | 168 | 154 | 116 | 109 | 144 | 180 | 185 | 2, 001 |
| Stocker and feeder shipments.- | (1) | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 17 |
| St. Paul, Minn.: Receipts | 375 | 287 | 269 | 222 | 278 | 255 | 203 | 125 | 158 | 331 | 409 | 430 | 3, 338 |
| Locatsianghter | 292 | 228 | 225 | 191 | 237 | 219 | 173 | 108 | 130 | 268 | 321 | 336 | 2, 728 |
| Stocker and feeder shipments. | 14 | 14. | 14 | 13 | 16 | 11 | 6 | 3 | 8 | 18 | 19 | 15 | 151 |
| Sioux City, Iowa: Receipts | 243 | 236 | 338 | 220 | 265 | 332 | 307 | 243 | 141 | 190 | 207 | 267 | 2, 989 |
| Localslaughter-- | 152 | 153 | 203 | 133 | 153 | 166 | 148 | 141 | 96 | 129 | 140 | 167 | ], 781 |
| Stocker and feeder shipments. - | (1) | 1 | 2 | 4 | 1 | 1 | (1) | (1) | (1) | (1) | (1) |  | 9 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Data on local slaughter as reported by stockyards.
${ }^{1}$ Less than 500.
Table 487.-Hogs: Farm price per 100 pounds, 15th of month, United States, 1910-1923.

| Year beginning Nov. 1 . | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | ed average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls:" |
| 1910-11 | 7.61 | 7. 16 | 7. 44 | 7. 04 | 6. 74 | 6. 17 | 5. 72 | 5. 66 | 5. 92 | 6. 54 | 6. 53 | 6. 99 | 6. 61 |
| 1911-12 | 5.86 | 5. 72 | 5. 74 | 5. 79 | 6. 94 | 6. 78 | 6.79 | 6. 65 | 6.64 | 7.11. | 7.47 | 7.70 | 6. 43 |
| 1912-13 | 7.05 | 6. 89 | 6.77 | 7.17 | 7.62 | 7.94 | 7.45 | 7.61 | 7.81 | 7. 79 | 7.68 | 7.60 | 7. 39 |
| 1913-14 | 7.33 | 7.16 | 7.45 | 7.75 | 7.80 | 7.80 | 7.60 | 7.43 | 7.72 | 8.11 | 8.11 | 7. 43 | 7.60 |
| Av. 1910-1913 | 6. 96 | 6.73 | 6.85 | 6.94 | 7.02 | 7.17 | 6. 89 | 6.84 | 7.02 | 7.39 | 7.45 | 7.20 | 7.01 |
| 1914-15 | 7. 00 | 6. 67 | 6. 57 | 6. 34 | 6.33 | 6. 48 | 6. 77 | 6. 80 | 6. 84 | 6. 61 | 6. 79 | 7. 18 | 6. 69 |
| 1915-16 | 6. 35 | 6. 02 | 6. 32 | 7.07 | 7.86 | 8. 21 | 8. 37 | 8. 21 | 8. 40 | 8. 61 | 9. 22 | 8. 67 | 7.61 |
| 1916-17 | 8.74 | 8. 76 | 9. 16 | 10.33 | 12. 32 | 13. 61 | 13. 72 | 13.50 | 13.35 | 14. 24 |  | 16. 15 | 12.10 |
| 1917-18 | 15.31 | 15.73 | 15. 26 | 15. 03 | 15. 58 | 15. 76 | 15.84 | 15.37. | 15.58 | 16. 89 | 17.50 | 16. 59 | 16.78 |
| 1918-19 | 15.92 | 15. 82 | 15. 69 | 15. 53 | 16. 13 | 17. 39 | 18.00 | 17.80 | 19. 22 | 13. 30 | 15. 81 | 13. 88 | 16.60 |
| 1919-20 | 13.38 | 12. 66 | 13. 36 | 13. 62 | 13. 59 | 13. 73 | 13. 44 | 13.18 | 13. 65 | 13. 59 | 13. 98 | 13.57 | 13. 43 |
| 1920-21 | 11. 64 | 8.90 | 8.72 | 8.58 | 9: 13 | 7.96 | 7.62 | 7.22 | 8.09 | 8.73 | 7.51 | 7.31 | 8.52 |
| Av. 1914-1920. | 11.19 | 10.65 | 10.73 | 10.93 | 11.56 | 11.88 | 11.97 | 11.73 | 12.16 | 12. 57 | 12.36 | 11.89 | 11.53 |
| 1921-22 | 6. 68 | 6.52 | 6.89 | 8.24 | 9.08 | 8:83 | 9.05 | 9: 11 | 9. 12 | 8. 54 | 8.23 | 8. 33 | 8. 10 |
| 1922-23 | 7.78 | 7. 63 | 7. 77 | 7.65 | 7.52 | 7.45 | 7.13 | 6.37 | 6. 68 | 6.85 | 7.81 | 7.23 | 7.34 |
| 1923-24. | 6. 66 | 6.30 |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.

Table 488.-Live hogs: Exports from the United States, 1910-1924.

| Year ending June 30. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Num- | Num- | Num- | Num- | Num | Num | Num | Num | Num | Num- | Nur | Num- | Num- |
|  | ber. | ber | ber. | ber. | ber. | ber. |  | ber | ber. | ber. | ber | ber. | ber. |
|  | 283 | 136 | 253 | 304 | 166 | 101 | 340 | 31 | 77 | 810 | 1,126 | 783 | 4,410 |
| 1910-11 | 484 | 103 | 25 | 41 | 29 | 170 | 67 | 18 | 758 | 1,989 | 1,807 | 3,060 | 8,551 |
| 1911-12 | 1, 823 | 1; 230 | 662 | 437 | 182 | 1,213 | 2, 100 | 2, 147 | 3, 508 | 2,335 | 2, 314 | 1,087 | 19, 038 |
| 1912-13 | 305 | 271 | 617 | 868 | 216 | 1, 710 | 2, 429 | 2, 597 | 2, 530 | 2, 256 | 1,223 | 310 | 15, 332 |
| 1913-14 | 174 | 130 | 101 | 123 | 173 | 72 | 1,401 | 1,304 | 1, 770 | 1,697 | 1,240 | 1, 937 | 10,122 |
| 1914-15 | 1, 488 | 426 | 286 | 211 | 526 | 113 | 73 | 229 | 570 | 1,476 | 1,536 | 865 | 7,799 |
| 1915-16 | , 579 | 147 | 379 | 346 | 448 | 613 | 2, 116 | 4,299 | 9, 300 | 1,977 | 584 | 1, 260 | 22, 048 |
| 1916-17 | 2, 388 | 683 | 671 | 1,416 | 1, 170 | 2,437 | 3, 207 | 2, 520 | 2, 136 | 2,827 | 1,540 | 931 | 21, 926 |
| 1917-18 | 559 | 403 | 105 | 403 | 205 | 752 | 594 | 411 | 919 | 2, 028 | 1,267 | 1, 634 | 9, 280 |
| 1918-1 | 747 | 393 | 310 | 838 | 379 | 788 | 1,757 | 2,615 | 1,651 | 2,983 | 2,840 | 2, 089 | 17, 390 |
| 1919-20 | 755 | 413 | 1,117 | 1, 893 | 3,840 | 2,792 | 2, 093 | 2,279 | 3,520 | 4,934 | 6, 027 | 6, 444 | 36, 107 |
| 1920-21 | 5, 890 | 2, 959 | 4, 813 | 6, 718 | 4, 624 | 4,949 | 10,643 | 10,369 | 13, 129 | 13, 008 | 13, 987 | 12, 103 | 163, 192 |
| 1921-22 | 6, 006 | 8, 072 | 6,316 | 7, 581 | 10, 079 | 11, 774 | 10, 841 | 9, 711 | 8,805 | 8,389 | 6, 036 | 4, 145 | 97, 755 |
| 1922-23 | 4, 639 | 4, 840 | 4,305 | 6, 049 | 5, 221 | 4,780 | 6, 182 | 6, 228 | 9,061 | 8, 000 | 9, 304 | 7,490 | 76,099 |
| 1923-24 | 7,629 | 7,403 | 4,577 | 7,336 | 7,271 | 7,163 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

Table 489.-Hogs: Monthly average live weight at four markets, 1900-1923.
CHICAGO.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $L b s$. | $L b s$. | Lbs. | Lbs. | Lbs. | $L b s$. | Lbs. | Lbs. | Lbs. | Lbs. | Lbs. | Lbs. |
| 1900 | - 229 | 226 | 223 | 223 | 228 | 229 | 236 | 246 | 247 | 234 | 240 | 238 |
| 1901 | 227 | 222 | 222 | 226 | 227 | 231 | 229 | 238 | 248 | 236 | 218 | 202 |
| 1902 | 203 | 208 | 216 | 214 | 219 | 223 | 230 | 243 | 241 | 227 | 224 | 217 |
| 1903. | 208 | 209 | 215 | 222 | 227 | 231 | 235 | 248 | 257 | 241 | 228 | 219 |
| 1904 | 206 | 205 | 206 | 208 | 214 | 221 | 226 | 239 | 244 | 230 | 232 | 228 |
| 1905 | 213 | 209 | 211 | 216 | 219 | 222 | 228 | 236 | 241 | 234 | 230 | 221 |
| 1906 | 217 | 215 | 218 | 221 | 226 | 226 | 231 | 241 | 248 | 237 | 229 | 225 |
| 1907 | 223 | 222 | 228 | 234 | 235 | 236 | 240 | 250 | 253 | 235 | 209 | 214 |
| 1908. | 215 | 212 | 212 | 219 | 218 | 217 | 222 | 224 | 219 | 207 | 213 | 211 |
| 1909 | 203 | 204 | 206 | 212 | 216 | 219 | 225 | 232 | 232 | 227 | 225 | 214 |
| 1910 | 210 | 213 | 218 | 227 | 239 | 242 | 246 | 255 | 259 | 253 | 232 | 224 |
| 1911 | 226 | 230 | 239 | 241 | 242 | 236 | 233 | 239 | 224 | 212 | 208 | 213 |
| 1912 | 212 | 217 | 218 | 227 | 232 | 235 | 239 | 240 | 235 | 226 | 222 | 223 |
| 1913 | 226 | 230 | 240 | 242 | 242 | 244 | 243 | 233 | 222 | 209 | 207 | 213 |
| Av. 1909-1913 | 215 | 219 | 224 | 230 | 234 | 235 | 237 | 240 | 234 | 225 | 219 | 217 |
| 1814 | 216 | 224 | 233 | 233 | 236 | 237 | 244 | 248 | 242 | 229 | 218 | 226 |
| 1915 | 223 | 224 | 231 | 233 | 233 | 231 | 238 | 246 | 235 | 204 | 187 | 190 |
| 1916 | 195 | 204 | 214 | 219 | 220 | 226 | 231 | 232 | 223 | 210 | 195 | 193 |
| 1917 | 199 | 204 | 209 | 213 | 217 | 225 | 232 | 233 | 231 | 212 | 209 | 211 |
| 1918 | 216 | 231 | 238 | 242 | 238 | 235 | 243 | 243 | 247 | 233 | 226 | 223 |
| 1919 | - 228 | 232 | 230 | 230 | 232 | 233 | 242 | 251 | 254 | 237 | 226 | 224 |
| 1920 | 239 | 239 | 244 | 248 | 245 | 243 | 252 | 258 | 258 | 247 | 234 | 230 |
| Av. 1914-1920 | 217 | 223 | 228 | 231 | 232 | 233 | 240 | 244 | 241 | 225 | 214 | 214 |
| 1921 | 234 | 234 | 241 | 242 | 239 | 241 | 250 | 259 | 262 | 243 | 225 | 226 |
| 1922 | 231 | 236 | 244 | 246 | 244 | 247 | 259 | 268 | 265 | 243 | 231 | 234 |
| 1923 | 239 | 241 | 247 | 249 | 242 | 242 | 250 | 256 | 254 | 247 | 234 | 231 |

EAST ST. LOUIS.

| 1910 | 178 | 165 | 171 | 176 | 198 | 206 | 184 | 193 | 215 | 205 | 205 | 191 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1911 | 188 | 195 | 202 | 197 | 170 | 180 | 180 | 185 | 186 | 173 | 169 | 159 |
| 1912 | 158 | 162 | 167 | 165 | 191 | 196 | 174 | 181 | 196 | 182 | 178 | 176 |
| 1913 | 182 | 180 | 170 | 179 | 181 | 183 | 185 | 183 | 182 | 182 | 178 | 169 |
| 1914 | 169 | 177 | 174 | 180 | 174 | 177 | 174 | 174 | 173 | 169 | 175 | 166 |
| 1915 | 170 | 174 | 176 | 175 | 175 | 180 | 180 | 186 | 183 | 165 | 169 | '174 |
| 1916 | 172 | 173 | 171. | 171 | 178 | 180 | 181 | 176 | 168 | 162 | 184 | 172 |
| 1917 | 175 | 179 | 175 | 171 | 175 | 173 | 177 | 175 | 182 | 181 | 181 | 185 |
| 1918 | 190 | 190 | 189 | 186 | 181 | 180 | 182 | 174 | 174 | 178 | 182 | 188 |
| 1919 | 189 | 184 | 173 | 176 | 182 | 182 | 181 | 183 | 181 | 176 | 183 | 181 |
| 1920. | 186 | 188 | 182 | 190 | 185 | 180 | 182 | 186 | 184 | 177 | 176 | 181 |
| Av. 1914-1920 | 179 | 181 | 177 | 178 | 179 | 179 | 180 | 179 | 178 | 173 | 179 | 178 |
| 1921 | 211 | . 210 | 200 | 198 | 198 | 201 | 204 | 206 | 196 | 196 | 205 | 207 |
| 1922 | 209 | 198 | 197 | 188 | 194 | 190 | 200 | 196 | 170 | 189 | 193 | 203 |
| 1923. | 211 | 206 | 198 | 197 | 193 | 200 | 250 | 205 | 201 | 192 | 200 | 207 |

Table 489.-Hogs: Monthly average live weight at four markets, 1900-1923-Con.
KANSAS CITY.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lbs. | Lbs. | $L b s$. | Lbs. | Lbs. | Lbs. | Lbs. | Lbs. | Lbs. | $L b s$. | Lbs. | Lbs. |
| 1900 | 230 | 218 | 210 | 207 | 213 | 210 | 206 | 219 | 214 | 213 | 218 | 218 |
| 1901 | 213 | 210 | 207 | 207 | 210 | 205 | 187 | 187 | 185 | 199 | 179 | 173 |
| 1902 | 172 | 176 | 188 | 194 | 196 | 198 | 205 | 209 | 208 | 217 | 223 | 224 |
| 1903 | 224 | 220 | 218 | 223 | 215 | 211 | 213 | 216 | 232 | 223 | 211 | 220 |
| 1904 | 222 | 222 | 216 | 210 | 211 | 208 | 206 | 210 | 206 | 195 | 192 | 194 |
| 1905 | 203 | 203 | 215 | 215 | 212 | 205 | 203 | 210 | 207 | 208 | 213 | 214 |
| 1906 | 219 | 214 | 210 | 212 | 209 | 204 | 204 | 204 | 211 | 214 | 215 | 212 |
| 1907 | 220 | 221 | 221 | 219 | 212 | 207 | 209 | 212 | 216 | 208 | 199 | 206 |
| 1908 | 216 | 215 | 208 | 213 | 206 | 197 | 195 | 191 | 189 | 181 | 194 | 199 |
| 1909. | 202 | 204 | 199 | 201 | 198 | 198 | 200 | 203 | 192 | 194 | 198 | 198 |
| 1910 | 205 | 202 | 208 | 209 | 210 | 209 | 206 | 206 | 217 | 213 | 217 | 223 |
| 1911 | 226 | 225 | 223 | 223 | 213 | 197 | 188 | 201 | 195 | 185 | 182 | 182 |
| 1912 | 189 | 199 | 195 | 205 | 203 | 203 | 205 | 204 | 199 | 198 | 206 | 205 |
| 1913 | 213 | 212 | 213 | 216 | 208 | 206 | 202 | 193 | 190 | 185 | 178 | 178 |
| Av. 1909-1913. | 207 | 208 | 208 | 211 | 206 | 203 | 200 | 201 | 199 | 195 | 196 | 197 |
| 1914 | 183 | 193 | 200 | 195 | 197 | 193 | 196 | 192 | 192 | 191 | 186 | 188 |
| 1915 | 201 | 204 | 201 | 204 | 204 | 197 | 199 | 202 | 198 | 192 | 194 | 203 |
| 1916 | 204 | 199 | 203 | 204 | 202 | 202 | 204 | 188 | 181 | 171 | 172 | 183 |
| 1917 | 189 | 189 | 192 | 191 | 193 | 196 | 190 | 180 | 183 | 195 | 198 | 206 |
| 1918 | 218 | 221 | 213 | 218 | 213 | 208 | 206 | 191 | 172 | 173 | 185 | 194 |
| 1919 | 200 | 201 | 191 | 194 | 193 | 194 | 194 | 193 | 181 | 175 | 187 | 189 |
| 1920 | 223 | 227 | 229 | 228 | 211 | 213 | 221 | 226 | 222 | 216 | 218 | 225 |
| Av. 1914-1920. | 203 | 205 | 204 | 205 | 202 | 200 | 201 | 196 | 190 | 188 | 191 | 198 |
| 1921 | 236 | 236 | 233 | 229 | 224 | 211 | 223 | 225 | 216 | 222 | 216 | 223 |
| 1922 | 226 | 215 | 213 | 220 | 215 | 211 | 216 | 217 | 211 | 206 | 208 | 212 |
| 1923 | 222 | 221 | 221 | 215 | 207 | 216 | 222 | 228 | 225 | 206 | 212 | 218 |

OMAHA.

| 1900 | 257 | 237 | 243 | 236 | 239 | 239 | 234 | 240 | 249 | 245 | 253 | 252 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1901 | 234 | 231 | 232 | 232 | 234 | 242 | 231 | 236 | 246 | 250 | 235 | 212 |
| 1902 | 209 | 211 | 220 | 228 | 230 | 232 | 233 | 242 | 253 | 259 | 262 | 255 |
| 1903 | 242 | 235 | 236 | 247 | 248 | 253 | 254 | 265 | 273 | 278 | 268 | 265 |
| 1904 | 250 | 231 | 235 | 236 | 232 | 233 | 232 | 244 | 252 | 251 | 267 | 205 |
| 1905. | 256 | 236 | 239 | 236 | 237 | 241 | 233 | 238 | 245 | 251 | 252 | 248 |
| 1906 | 234 | 226 | 228 | 230 | 232 | 232 | 233 | 246 | 253 | 254 | 248 | 246 |
| 1907 | 244 | 237 | 244 | 252 | 250 | 250 | 254 | 260 | 263 | 260 | 244 | 249 |
| 1908 | 233 | 228 | 230 | 233 | 228 | 226 | 227 | 229 | 226 | 222 | 238 | 237 |
| 1909. | 231 | 223 | 227 | 233 | 232 | 229 | 236 | 239 | 240 | 242 | 248 | 234 |
| 1910 | 229 | . 226 | 231 | 235 | 249 | 249 | 250 | 259 | 278 | 284 | 274 | 202 |
| 1911 | 245 | 243 | 254 | 255 | 254 | 245 | 242 | 253 | 265 | 265 | 243 | 225 |
| 1912 | 217 | 222 | 222 | 231 | 233 | 234 | 232 | 238 | 241 | 235 | 235 | 238 |
| 1913 | 234 | 229 | 238 | 241 | 244 | 245 | 247 | 244 | 249 | 233 | 219 | 218 |
| Aจ. 1909-1913. | 231 | 229 | 234 | . 239 | 242 | 240 | 241 | 247 | 255 | 252 | 244 | 235 |
| 1914 | 224 | 232 | 238 | 242 | 247 | 250 | 255 | 261 | 268 | 265 | 253 | 242 |
| 1915 | 241 | 238 | 244 | 252 | 256 | 248 | 249 | 264 | 274 | 265 | 252 | 230 |
| 1916 | 216 | 216 | 224 | 228 | 232 | 236 | 243 | 247 | 249 | 249 | 224 | 211 |
| 1917 | 218 | 223 | 226 | 229 | 233 | 239 | 245 | 245 | 256 | 257 | 260 | 243 |
| 1918. | 240 | 243 | 249 | 242 | 246 | 248 | 261 | 260 | 264 | 264 | 240 | 227 |
| 1919 | 229 | 235 | 236 | 245 | 238 | 244 | 245 | 255 | 275 | 281 | 271 | 249 |
| 1920. | 242 | 242 | 250 | 251 | 247 | 247 | 256 | 263 | 272 | 271 | 260 | 248 |
| Av. 1914-1920. | 230 | 233 | 238 | 241 | 243 | 245 | 251 | 256 | 265 | 265 | 251 | 236 |
| 1921 | 248 | 246 | 252 | 260 | 259 | 255 | 260 | 274 | 288 | 274 | 244 | 232 |
| 1922. | 235 | 238 | 247 | 255 | 257 | 258 | 267 | 280 | 286 | 276 | 249 | 238 |
| 1923 | 241 | 244 | 253 | 260 | 255 | 256 | 260 | 263 | 269 | 272 | 262 | 247 |

Division of Statistical and Historical Research. Figures for Chicago, Kansas City. and Omaha prior to 1920 , and for East St. Louis prior to 1921 , compiled from yearbooks of stockyard companies. Subsequent figures compiled from reports of packer and shipper purchases, reporting servico of the Livestock, Meats, and W ool Division.

Table 490.-Hogs: Monthly farm price per 100 pounds, 15th of month, by States, 1923.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | Iuly. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { A ver } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Doll |
| Maine | 8. 90 | 9. 20 | 8. 50 | 8.50 | 8. 50 | 8. 00 | 8. 40 | 8. 30 | 8. 10 | 8. 20 | 8. 30 | 8. 00 | 8 |
| New Hamp |  | 9. 20 | 8. 40 | 8. 60 | 8. 00 | 7.60 | 7. 70 | 7. 20 | 8.50 | 8. 50 | 8. 80 | 8. 20 | 8. |
| Vermont | 8.10 | 8. 20 | 8. 10 | 8. 00 | 7.70 | 7.00 | 8. 00 | 7. 20 | 8. 10 | 7. 80 | 7. 20 | 7. 20 | 7.72 |
| Massachusetis | 9.30 | 9. 09 | 8. 70 | 9. 10 | 8. 00 | 9. 00 | 8.00 | 8. 10 | 8.50 | 8. 20 | 8. 70 | 8. 50 | 8.59 |
| Rhode Island. | 9. 60 | 10. 20 | 9.00 | 9.30 | 9.50 | 9.00 | 9. 10 | 8. 00 | 7.80 | 8.50 | 8. 60 | 8. 60 | 8.93 |
| Connecticut | 9.00 | 7. 50 | 8. 00 | 7. 50 | 8.50 | 8. 10 | 8. 00 | $8: 00$ |  | 8. 80 | 8. 10 | 8.30 | 8. 16 |
| New York | 9. 00 | 9. 30 | 8. 70 | 8.30 | 8.00 | 7.60 | 7.70 | 7.80 | 8. 20 | 8. 60 | 8. 50 | 8. 20 | 8. 32 |
| New Jersey | 10. 00 | 9. 80 | 10.70 |  | 9. 00 |  | 9. 00 | 9. 10 | 8. 50 |  | 10.30 | 9. 60 | 9.56 |
| Pennsylvan | 9. 40 | 9. 70 | 9. 00 | 8. 70 | 8.80 | 8.00 | 7.80 | 8.00 | 8.90 | 8.80 | 8. 80 | 8.30 | 8. 68 |
| Delaware | 10.20 | 10.00 | 9.10 | 10.00 |  |  | 8.60 | 9. 00 | 9.90 | 10. 00 | 11. 00 | 10.60 | 9.84 |
| Maryland | 9. 20 | 8. 40 | 8. 80 | 8.40 | 8. 20 | 7.50 | 7.80 | 7.80 | 9.00 | 8. 20 | 7.90 | 7. 70 | 8. 24 |
| Virginia. | 8. 80 | 8. 70 | 8. 40 | 8. 90 | 8. 00 | 7.80 | 7. 60 | 7.80 | 8. 50 | 8.50 | 8. 20 | 7. 50 | 8.22 |
| West Virg | 8. 60 | 8. 70 | 8. 50 | 8.50 | 8. 30 | 8. 20 | 7.80 | 8. 10 | 8.10 | 8.30 | 7. 90 | 8. 00 | 8.25 |
| North Carol | 10. 20 | 10. 00 | 9. 70 | 9. 40 | 9.70 | 9. 20 | 9. 20 | 8.90 | 9. 80 | 10. 10 | 9.50 | 9. 30 | 9.58 |
| South Carols | 8.70 | 8.40 | 8. 40 | 7.80 | 8. 30 | 8. 00 | 8.20 | 8.10 | 8.30 | 8.70 | 8.80 | 8. 60 | 8. 36 |
| Georiga | 7. 30 | 7. 30 | 7.10 | 7.40 | 7.00 | 7.10 | 7. 20 | 6. 90 | 7.30 | 7. 50 | 7.40 | 7. 20 | 7.22 |
| Florid | 7. 00 | 6. 60 | 6. 90 | 6. 70 | 7. 00 | 6. 60 | 6. 70 | 6. 30 | 6. 90 | 7. 00 | 6. 80 | 6. 30 | 6.73 |
| Ohio | 8. 20 | 8. 20 | 8. 00 | 7.80 | 7. 60 | 6. 50 | 7. 10 | 7.40 | 8. 30 | 7. 60 | 6. 70 | 6. 40 | 7.43 |
| Indiana | 8. 00 | 7. 90 | 7. 80 | 7.80 | 7. 40 | 6. 40 | 6. 90 | 7. 40 | 8. 50 | 7. 50 | 6. 60 | 6. 30 | 7.38 |
| Illinois | 7.80 | 7. 70 | 7. 60 | 7.60 | 7. 10 | 6.10 | 6. 70 | 7. 20 | 8. 20 | 7.30 | 6. 50 | 6. 20 | 7.17 |
| Michigan | 7. 90 | 8. 30 | 7. 80 | 7.90 | 7. 40 | 6. 70 | 7.00 | 7. 20 | 8. 10 | 7.60 | 6. 90 | 6. 40 | 7.43 |
| Wisconsin | 7.70 | 7. 70 | 7. 60 | 7. 50 | 7. 10 | 6. 20 | 6. 30 | 6. 50 | 7.60 | 7. 10 | 6.30 | 6. 00 | 6. 97 |
| Minnesota | 7.60 | 7. 40 | 7.30 | 7. 30 | 6. 90 | 6. 00 | 6. 10 | 6. 50 | 7. 50 | 6. 60 | 6. 10 | 5. 70 | 6. 75 |
| Iowa. | 7.70 | 7. 50 | 7. 40 | 7.40 | 7.00 | 6. 00 | 6. 40 | 6. 60 | 7. 90 | 7.c0 | 6. 20 | 6. 10 | 6.83 |
| Missouri | 7.60 | 7.50 | 7.40 | 7. 20 | 6. 80 | 6. 00 | 6.30 | 6. 50 | 7.60 | 6. 70 | 6. 10 | 5. 80 | 6. 79 |
| North Dak | 6. 80 | 6. 80 | 7.00 | 6. 70 | 6. 50 | 5. 80 | 5. 40 | 5. 50 | 6. 30 | 5. 90 | 5. 50 | 5. 30 | 6.12 |
| South D | 7. 40 | 7. 20 | 7. 10 | 7. 10 | 6. 50 | 5. 50 | 5. 90 | 6. 20 | 7. 30 | 6. 60 | 6. 00 | 5. 60 | 6. 53 |
| Nebrask | 7. 40 | 7. 20 | 7.00 | 7. 00 | 6. 60 | 5. 50 | 6. 00 | 6. 30 | 7.60 | 6. 70 | 6. 00 | 5. 80 | 6. 59 |
| Kansas. | 7.30 | 7. 20 | 7. 20 | 7. 20 | 6. 70 | 6. 00 | 6. 30 | 6.40 | 7. 70 | 6. 80 | 6. 00 | 5. 70 | 6.71 |
| Kentucky | 8. 10 | 7. 70 | 7.60 | 7.40 | 6. 80 | 6.10 | 6. 70 | 6.90 | 7.90 | 7.20 | 6. 70 | 6:20 | 711 |
| Tennessee | 7.90 | 7.70 | 7.50 | 7.40 | 7.30 | 6.30 | 6.80 | 6.70 | 70 | 7. 10 | 6.60 | 6.30 | 7.11 |
| Alabama | 7. 10 | 7.30 | 7. 10 | 7. 40 | 7. 20 | 7. 10 | 7.00 | 7.00 | 7. 20 | 7: 60 | 7. 30 | 7. 20 | 7.21 |
| Mississippi | 7. 20 | 7.00 | 7. 20 | 6. 80 | 6. 70 | 6. 40 | 6. 30 | 8. 20 | 6. 90 | 6. 70 | 6. 50 | 6. 50 | 6.70 |
| Louisiana | 7. 20 | 7. 30 | 6. 80 | 6. 80 | 6. 50 | 7.00 | 7. 20 | 7. 30 | 8. 00 | 7.60 | 6. 30 | 6. 80 | 7.07 |
| Texas | 7. 10 | 7.00 | 6. 70 | 6. 60 | 6. 60 | 6. 20 | 6.40 | 6. 20 | 6.90 | 6. 8 | 7.00 | 80 | 6. 69 |
| Oklahoma | 7.00 | 6. 90 | 6. 80 | 6. 80 | 6. 30 | 5. 60 | 6. 10 | 6. 10 | 7.00 | 6.40 | 6. 00 | 5.60 | 6. 38 |
| Arkansas | 6. 80 | 6. 60 | 6. 60 | 6. 40 | 6. 50 | 6. 00 | 5. 90 | 5. 90 | 6. 30 | 6. 40 | 6. 50 | 6. 10 | 6.33 |
| Montana | 7. 60 | 7. 60 | 7.60 | 7.70 | 7.60 | 7. 50 | 7.50 | 7.10 | 7.40 | 7.60 | 6. 50 | 6. 60 | 7.36 |
| W yoming | 7.10 | 7.30 | 7.40 | 7.20 | 6. 80 | 6. 00 | 6. 70 | 7. 20 | 7. 50 | 6. 70 | 6. 50 | 6. 00 | 6. 87 |
| Colora | 7.30 | 7.20 | 7.10 | 7.10 | 6. 50 | 6. 00 | 6. 30 | 6. 50 | 7.70. | 7.00 | 6.50 | 6.10 | 6. 78 |
| New Mex | 7.90 | 7.10 | 7. 10 | 7.10 | 7. 20 | 6. 10 | 6. 50 | 6: 90 | 7.00 | 7.30 | 6. 50 | 6.90 | 6.97 |
| Arizon | 9. 00 | 8. 50 | 8. 60 | 8. 90 | 8. 40 | 8. 50 | 7. 50 | 7.10 | 7.50 | 8. 60 | 8. 40 | 8. 00 | 8.25 |
| Utah | 7.30 | 7.60 | 7.40 | 7.30 | 7.30 | 8. 90 | 6. 90 | 6. 90 | 6.80 | 7. 40 | 7. 30 | 6. 50 | 7.12 |
| Nevad | 8.90 | 9. 00 | 9. 00 | 8.70 | 8. 40 |  | 8. 10 | 7.70 |  | 8.60 | 8. 00 | 7.90 | 8. 43 |
| Tdaho | 7. 60 | 7.80 | 7.90 | 7.80 | 7.80 | 6: 60 | 6. 40 | 6. 90 | 7.50 | 7. 40 | 6. 70 | 6. 00 | 7.20 |
| shi | 8.50 | 8. 60 | 8. 80 | 8. 40 | 8. 20 | 7. 50 | 7. 40 | 7.80 | 8.80 | 8.80 | 8. 00 | 7. 50 | 8. 19 |
| Oregon | 8.10 | 8. 30 | 8. 70 | 8.40 | 8. 40 | 7. 70 | 7.50 | 8. 20 | 7.80 | 7.70 | 8.10 | 7. 29 | 8.01 |
| Californi | 9.30 | 9. 00 | 8.70 | 8.60 | 8.40 | 8. 30 | 8. 30 | 8. 30 | 8. 70 | 8. 60 | 8.60 | 7. 50 | 8.52 |
| United Stat | 7.77 | 7.65 | 7.58 | 7.45 | 7.13 | 6. 37 | 6. 68 | 6.85 | 7. | 7.23 | 6.66 | 6.39 | 7.13 |

Division of Crop and Livestock Estimates.
Table 491.-Hogs: Corn and hog ratios, ${ }^{1}$ United States, 1910-1993.

| Calendar year. | Jan. | Febs. | Mar. | Apr. | May. | June. | July. | Aug. | Sept: | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bush. | Bush. | Bush. | Bush. | Bush. | Bush. | Bush. | Bush. | Bush. | Bust. | Bush. | Bush. | Bush. |
| 1910 | 12. 2 | 12.0 | 13.6 | 14. 4 | 13.3 | 12.9 | 122 | 11. 7 | 13.0 | 14.2 | 15. 1 | 14. 9 | 13.3 |
| 1911 | 15.3 | 14.4 | 13.7 | 12.1 | 10.7 | 9.8 | 9.4 | 9.9 | 9.9 | 9.3 | 9.3 | 9.2 | 11.1 |
| 1912 | 9.1 | 8. 8 | 8. 6 | 9.0 | 8.4 | 8.1 | 8.3 | 9.1 | 10.1 | 12.0 | 13. 2 | 14.1 | 9.9 |
| 1913 | 13. 6 | 13.9 | 14.4 | 14.4 | 12. 7 | 12.3 | 12.1 | 11. 1 | 10.2 | 10.4 | 10.5 | 10.3 | 12. 2 |
| 1914 | 10.8 | 11.3 | 11.2 | 10.9 | 10.3 | 9.9 | 10.1 | 10.3 | 10.3 | 10.0 | 10.4 | 10.2 | 10. 5 |
| 1915 | 9.5 | 8.6 | 8.4 | 8.5 | 8.7 | 8.7 | 8. 7 | 8.5 | 9.2 | 10.8 | 10.6 | 10. 1. | 9.2 |
| 1916 | 9.8 | 10.5 | 11.4 | 11. 5 | 11.4 | 11.0 | 10. 9 | 10.6 | 11. 1 | 10.4 | 10.1 | 9.8 | 10.7 |
| 1917 | 9.9 | 10.5 | 11.5 | 10.3 | 8.8 | 8.3 | 7.4 | 7.7 | 9.0 | 10.1 | 11. 2 | 12.0 | 8.7 |
| 1918. | 11.2 | 10.3 | 10.1 | 10.2 | 10.3 | 10.0 | 9.9 | 10.1 | 10.8 | 11. 0 | 11.5 | 11.3 | 10.6 |
| 1919. | 11.1 | 11.3 | 11.2 | 11.1 | 10.8 | 10.2 | 10.5 | 10.2 | 9.3 | 9.7 | 9.2 | 9.2 | 10.3 |
| 1920 | 9.3 | 9.2 | 8.9 | 8.4 | 7.6 | 7.1 | 7.8 | 8. 5 | 10.1 | 13.0 | 15.0 | 13.2 | 9.8 |
| 1921 | 13.5 | 13.5 | 14.3 | 13.0 | 12. 5 | 11.0 | 13.1 | 14. 8 | 14.0 | 15.9 | 16. 0 | 15.2 | 14.0 |
| 1922 | 15.4 | 16. 5 | 15.8 | 15. 7 | 15.0 | 14.7 | 14.7 | 13.7 | 13.4 | 13.4 | 12.8 | 11.7 | 14.4 |
| 1923. | 11.1 | 10.9 | 10.2 | 9.8 | 8.8 | 7.9 | 7.5 | 7. 7 | 8.5 | 8. 8 | 8.2 | 9.0 | 9.0 |

[^258]1 Number of bushels of corn required to buy 100 pounds of live hogs, based on averages of farm prices of corn and of hogs for the month.

Table 492.-Hogs: Monthly average price per 100 pounds at Chicago, 1901-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls | Dolls. | Dolls. | Dolls. | Dolls. | Dotls | Dolls. | Dolls. | Dolls. |
| 1961 | 5.25 | 5. 35 | 5.85 | 5. 90 | 5.80 | 5. 90 | 5. 90 | 5.95 | 6. 60 | 6.10 | 5.65 | 5. 95 | 5.85 |
| 1902 | 6. 20 | 6. 10 | 6.35 | 6.95 | 7.00 | 7.35 | 7.65 | 7.15 | 7. 55 | 7.00 | 6. 39 | 6. 20 | 6.85 |
| 1003 | 6. 40 | 6. 75 | 7.30 | 7.20 | 6.45 | 6. 00 | 5. 55 | 5.45 | 5. 85 | 5. 55 | 4. 65 | 4. 45 | 6.00 |
| 1904 | 4.90 | 5.15 | 5.35 | 5.10 | 4.65 | 5.05 | 5. 40 | 5. 30 | 5. 75 | 5.40 | 4.80 | 4.50 | 5. 15 |
| 1905 | 4.65 | 4.85 | 5. 15 | 5.45 | 5.40 | 5.35 | 5.65 | 5.95 | 5. 50 | 5. 25. | 4. 85 | 4.90 | 5. 25 |
| 1906 | 5. 40 | 6. 00 | 6. 30 | 6. 55 | 6. 45 | 6.55 | 6. 65 | 6. 25 | 6. 25 | 6. 40 | 6. 20 | 6. 25 | 6. 25 |
| 1907 | 6. 60 | 7.05 | 6. 65 | 6. 65 | 6. 50 | 6. 10 | 6.05 | 6. 00 | 6. 00 | 6. 15 | 4. 90 | 4.70 | 6. 10 |
| 1908 | 4. 40 | 4. 45 | 6.00 | 5.85 | 5. 50 | 5. 80 | 6.50 | 6. 55 | 6.85 | 5. 95 | 5.80 | 5.65 | 5. 70 |
| 1909 | 6.10 | 6.35 | 6. 70 | 7.20 | 7.30 | 7.65 | 7.85 | 7.75 | 8.20 | 7.75 | 8.00 | 8.35 | 7.35 |
| 1910 | 8. 55 | 9.05 | 10.55 | 9. 90 | 9.55 | 9.45 | 8. 75 | 8. 35 | 8. 90 | 8. 50 | 7. 60 | 7. 65 | 8.90 |
| 1911 | 7.95 | 7. 40 | 6. 85 | 6. 25 | 6. 00 | 6.25 | 6.70 | 7. 30 | 6. 90 | 6. 45 | 6.30 | 6. 40 | 6.70 |
| 1912 | 6. 25 | 6. 20 | 7. 10 | 7.80 | 7.65 | 7. 50 | 7.65 | 8. 25 | 8.45 | 8. 75 | 7.75 | 7. 40 | 7.55 |
| 1913 | 7.45 | 8.15 | 8.90 | 9.05 | 8. 55 | 8. 65 | 9. 05 | 8. 35 | 8. 30 | 8. 20 | 7.75 | 7. 70 | 8. 35 |
| AV. | 7.26 | 7.43 | 8.02 | 8.04 | 7.81 | 7.90 | 8.00 | 8.00 | 8.15 | 7.93 | 7.48 | 7.50 | 7.77 |
| 1914 | 8.30 | 8.60 | 8.70 | 8.65 | 8.45 | 8.20 | 8.70 | 9.00 | 8.85 | 7.65 | 7.50 | 7. 10 | 8.30 |
| 1915 | 6. 90 | 6.80 | 6. 75 | 7. 30 | 7.60 | 7.60 | 7.75 | 6. 90 | 7. 25 | 7.90 | 6.65 | 6. 40 | 7.10 |
| 1916 | 7.20 | 8.20 | 9. 65 | 9.75 | 9.85 | 9.70 | 9.80 | 10. 30 | 10. 70 | 9.80 | 9. 60 | 9.95 | 9. 60 |
| 1917 | 10.90 | 12.45 | 14. 80 | 15. 75 | 15. 90 | 15. 50 | 15. 20 | 16. 90 | 18. 20 | 17. 15 | 17. 40 | 16. 85 | 15.10 |
| 1918 | 16. 30 | 16. 65 | 17.10 | 17.45 | 17.45 | 16. 60 | 17. 75 | 19. 00 | 19. 65 | 17.70 | 17.70 | 17. 55 | 17.45 |
| 1919 | 17.60 | 17.65 | 19. 10 | 20. 40 | 20.60 | 20.40 | 21. 85 | 20. 00 | 17. 45 | 14. 35 | 14. 20 | 13.60 | 17.85 |
| 1920 | 14.97 | 14.55 | 14.94 | 14. 79 | 14. 28 | 14. 68 | 14.84 | 14. 74 | 15. 88 | 14. 17 | 11.83 | 9. 55 | 13.91 |
| AV. 1914-1920 | 11.74 | 12. 13 | 13.01 | 13. 44 | 13.45 | 13. 24 | 13.70 | 13.83 | 14.00 | 12.67 | 12. 13 | 11.57 | 12.76 |
| 1921 | 9.41 | 9,42 | 10.00 | 8. 50 | 8.35 | 8. 19 | 9.69 | 9.26 | 7.61 | 7.72 | 7.01 | 6.92 | 8.51 |
| 1922 | 8.02 | 9.90 | 10. 43 | 10.31 | 10. 48 | 10.33 | 9.70 | 8.01 | 8.75 | 8.80 | 8. 07 | 8.18 | 9.22 |
| 1923 | 8. 29 | 8. 02 | 8.18 | 8.08 | 7. 53 | 6. 92 | 7.04 | 7.65 | 8.35 | 7. 42 | 6.85 | 6.87 | 7.55 |

Division of Statistical and Historical Research. Figures prior to 1920 from Drovers Journal Yearboak; subsequent figures compiled from reports of packer and shipper purchases of the reporting service of the Livestock, Meats, and Wool Division.
Table 493.-Hogs: Monthly average and top price per 100 pounds, at six markets, 1923.

CHICAGO.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Butcher, bacon, and shipper hogs: Medium to choice- | Dellars. | Dotlars. | Dollars. | Dotlars. |  | Dollars. |  |
| Medieavyweight ( 250 pounds up) | 8.21 | 7.96 | 8.15 | 8.03 | - 7.46 | 6.94 | Dotars. 7.79 |
| Mediumweight (200-250 pounds) | 8. 36 | 8.14 | 8.32 | 8.26 | 7.67 | 7.06 | 7.97 |
| Common to choice |  |  |  |  |  |  |  |
| Lightweight (150-200 pounds) | 8.55 | 8.31 | 8.44 | 8.26 | 7.68 | 7.02 | 8.04 |
| Light lights (130 to 150 pounds) | 8.51 | 8.22 | 8.22 | 7.72 | 7.25 | 6.82 | 7.79 |
| Packing sows: <br> Smooth ( 250 pounds up) | 7.54 | 7.18 | 7.49 | 7.14 | 6.67 | 6.16 | 7.03 |
| Rough (200 pounds up) | 7.23 | 6.87 | 7.24 | 6. 85 | 6. 24 | 5. 85 | 6. 71 |
| Pigs ( 130 pounds down), medium to choice | 8.16 | 7.68 | 7.57 | 7.05 | 6.58 | 6. 04 | 7.18 |
| Stoek pigs (130 pounds down), common to |  |  |  |  |  |  |  |
| Bulk of sal | 8.29 | 8.06 | 8.21 | 8.13 | 7.53 | 6.91 | 7.86 |
| Top. | 9.00 | 8.85 | 8.85 | 8.75 | 8.40 | 7.75 | 19.00 |
| Kind and grade. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver- age. July $1-$ Dec. 31. |
| Butcher, baeon, and shipper hogs: Medium to choice- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Daltars. | Dollars. |
| Heavyweight (250-350 pounds) | 7.18 | 7.91 | 8.50 | 7.64 | 7.04 | 7.03 | 7.55 |
| Mediumweight ( $200-250$ pounds) | 7. 40 | 8.23 | 8.80 | 7.68 | 7.04 | 6.97 | 7.69 |
| Common to choice- |  |  |  |  |  |  |  |
| Lightweight (160-200 pounds) <br> Light lights (130-160 pounds) | 7.39 7.17 | 7.98 7.80 | 8. 52 | 7.41 6.95 | $6.76:$ 6.25 | 6. 74 6.46 | 7.46 7.14 |
| Light lights (130-160 pounds) - <br> Packing hegs: | 7.17 | 7.80 | 8. 23. | 6.95 | 6.25 | 6.46 | 7.14 |
| Smooth.-- | 6. 26 | 6. 61 | 7.62 | 6. 86 | 6. 59 | 6. 60. | 6. 76 |
| Rough | 5. 92 | 6.22 | 7.21 | 6.59 | 6.32 | 6. 38 | 6.44 |
| Slatighter pigs ( 130 pounds down), medium to choice. | 6.74 | 7.34 | 7.22 | 6.26 | 5.56 | 5.87 | 6. 50 |
| Feeder and stocker pigs (70-130 pounds), common to choice |  |  |  |  |  |  |  |
| Bulk of sales. | 7.11 | 7.70 | 8.30 | 7.39 | 6.86 | 6.876 | 7.37 |
| Top----------- | 8. 10 | 9. 70 | 9.75 | 8. 55 | 7.65 | 7.40 | 19.75 |

${ }^{1}$ Top price for six months.

Table 493.-Hogs: Monthly average and top price per 100 pounds, at six markets, 1923-Continued.
EAST ST. LOUIS.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | A verage Jan. 1June 30. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Butcher, bacon, and shipper hogs: Medium to choice- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |  |  |
| Heavyweight (250 pounds up) | 8.39 | 8. 04 | 8.30 | Dollars. | Dollars. | Dollars. | Dollars. |
| Mediumweight (200-250 pounds) | 8.54 | 8.25 | 8.40 | 8.26 | 7.69 | 7.14 | 8. 91 |
| Common to choice - |  |  |  |  |  |  |  |
| Lightweight (150-200 pounds) | 8.69 | 8.45 | 8.46 | 8.32 | 7. 64 | 6. 96 | 8. 69 |
| Light lights (130-150 pounds) | 8.56 | 8.39 | 8.26 | 7.88 | 7.07 | 6. 64 | 7.80 |
| Packing sows: <br> Smooth ( 250 pounds up) | 7.31 | 6. 99 | 7. 29 | 6.80 | 6.11 | 5.81 | 6. 72 |
| Rough (200 pounds up) | 7.15 | 6. 85 | 7.17 | 6. 68 | 5.97 | 5. 51 | 6. 58 |
| Pigs (130 pounds down), medium to choice | 7.69 | 7.45 | 7.04. | 6. 72 | 6. 34 | 6. 19 | 6. 90 |
| Stock pigs ( 130 pounds down), common to choice | 7.69 | 7.34 | 6. 44 | 6.11 | 5. 63 | 5. 50 |  |
| Bulk of sales | 8. 57 | 8. 28 | 8.41 | 8. 26 | 7. 73 | 7.17 | 8.07 |
| Top | 9.15 | 8. 90 | 8.80 | 8. 70 | 8.40 | 7.85 | 19.15 |
| Kind and grade. | July | Aug. | Sept. | Oct. | Nov. | Dec. | Averago <br> July 1- <br> Dec. 31. |
| Butcher, bacon, and shipper hogs: Medium to choice- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Heavyweight (250-350 pounds) | 7. 34 | 8.06 | 8.47 | 7.65 | 7.05 | 7.04 | D.60 |
| Mediumweight (200-250 pounds) | 7.54 | 8.41 | 8. 76 | 7.75 | 7.04 | 7.03 | 7.76 |
| Common to choice- |  |  |  |  |  |  |  |
| Lightweight (160-200 pounds) | 7.54 | 8.38 | 8.47 | 7.35 | 6.68 | 6. 76 | 7. 53 |
| Light lights (130-160 pounds) | 7.21 | 7.94 | 7. 99 | 6. 94 | 6.35 | 6. 42 | 7.14 |
| Packing hogs: |  |  |  |  |  |  |  |
| Smooth | 5.91 | 6. 49 | 7.30 | 6.48 | 6.16 | 6.24 | 6.43 |
| Rough | 5. 77 | 6.27 | 7.05 | 6. 27 | 5.95 | 6.05 | 6. 23 |
| Slaughter pigs ( 130 pounds down), medium to choice. | 6.85 | 7.35 | 7.50 | 6.55 | 5.95 | 6.12 | 6. 72 |
| Feeder and stocker pigs (70-130 pounds), common to choice. | 6.15 | 6.25 | 6.05 | 6.04 | 5. 51 | 5. 71 | 5.95 |
| Bulk of sales. | 7. 62 | 8.53 | 8. 74 | 7.53 | 6. 90 | 6. 92 | 7.71 |
|  | 8.40 | 9.80 | 9.85 | 8. 55 | 7. 55 | 7.60 | 19.85 |

FORT WORTH.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | A verage Jan. 1June 30. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Butcher, bacon and shipper hogs:Medium to choice- |  |  |  |  |  |  |  |
| Heavyweight (250 pounds up) | 8.17 | 8.01 | 8. 03 | -7.86 | 7.33 | 7.04 | 7. 74 |
| Mediumweight (200-250 pounds) | 8. 04 | 8.02 | 8. 06 | 7.89 | 7.37 | 7.07 | 7.74 |
| Common to choice - |  |  |  |  |  |  |  |
| Lightweight (150-200 pounds) | 7.91 | 7.89 | 7.92 | 7.76 | 7. 11 | 6. 76 | 7. 56 |
| Light lights (130-150 pounds) | 7.71 | 7.65 | 7.54 | 7.32 | 6. 84 | 6. 58 | 7.27 |
| Packing sows: |  |  |  |  |  |  |  |
| Smooth (250 pounds up) | 7. 09 | 6.98 | 6. 90 | 6.78 | 5.98 | 5.49 | 6. 54 |
| Rough (200 pounds up) | 5. 50 | 5.81 | 5. 78 | 5. 72 | 5. 24 | 4.87 | 5. 49 |
| Pigs (130 pounds down), medium to choice .-. | 6.40 | 6.24 | 5.67 | 5. 54 | 5.42 | 5.42 | 5. 78 |
| Stock pigs ( 130 pounds down), common to choice $\qquad$ |  |  |  |  |  |  |  |
| Bulk of sales | 8.14 | 8.01 | 8. 02 | 7.87 | 7.36 | 7.06 | 7.74 |
| Top | 8.65 | 8.50 | 8.40 | 8.25 | 7.90 | 7.75 | 18.65 |
| Kind and grade | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average July 1Dec. 31. |
|  |  |  |  |  |  |  |  |
| Heavyweight ( $250-350$ pounds) | 7.66 | 8. 12 | 8. 55 | 7.44 | 6.98 | 7.16 | 7.65 |
| Medium weight ( $200-250$ pounds) | 7.76 | 8.24 | 8.63 | 7.53 | 7.04 | 7.20 | 7. 73 |
| Common to choice- |  |  |  |  |  |  |  |
| Lightweight (160-200 pounds) | 7.40 | 7.95 | 8.44 | 7. 27 | 6.61 | 6.70 | 7.40 |
| Light lights (130-160 pounds). | 7.07 | 7.02 | 7. 40 | 6.74 | 6.05 | 6.09 | 6.73 |
|  |  |  |  |  |  |  |  |
| Smooth | 5. 96 5.24 | 5.91 5.12 | 6. 22 5.36 | 6.27 5.30 | 6.07 6.07 | 6.02 5.12 | 6.08 5.20 |
| Slaughter pigs ( 130 pounds down), medium to choice | 5. 87 | 5. 26 | 5.36 5.94 | 6. 05 | 5.13 | 5.22 | 5. 58 |
| Feeder and stocker pigs ( $70-130$ pounds), common to choice |  |  |  |  |  |  |  |
| Bulk of sales. | 7. 74 | 8.12 | 8. 46 | 7.41 | 6.98 | 7.10 | 7.64 |
|  | 8. 35 | 9.35 | 9.65 | 8.30 | 7.65 | 7.70 | 19.65 |

## ${ }^{1}$ Top price for six months.

Table 493.-Hogs: Monthly average and top price per 100 pounds, at six markets, 1923-Continued.

KANSAS CITY.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{aligned} & \text { Average } \\ & \text { Jan. 1- } \\ & \text { June 30. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Butcher, bacon and shipper hogs: Medium to choice- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Heavyweight (250 pounds up) | -8.16 | 7.89 | 8.07 | 7.90 | - 7.36 | Dollars. | - 7.69 |
| Mediumweight (200-250 pounds) | 8.25 | 8.01 | 8.14 | 7.96 | 7.42 | 6. 81 | 7.78 |
| Common to choice- Lightweight (150-200 pounds) |  |  |  |  |  |  |  |
| Lightweight (150-200 pounds) | 8.21 | 8.03 | 8.08 | 7.79 | 7.19 | 6. 58 | 7.65 |
| Light lights (130-150 pounds) -- | 8. 19 | 7.99 | 7.90 | 7.45 | 6. 90 | 6. 24 | 7.44 |
| Packing sows, smooth (250 pounds up) .-.-.- | 7. 38 | 7. 02 | 7. 32 | 6.95 | 6. 18 | 5. 82 | 6. 78 |
|  | 7.22 | 6.85 | 7. 20 | 6. 84 | 6.08 | 5. 72 | 6.65 |
| Pigs (130 pounds down), medium to choice |  |  |  |  |  |  |  |
| Stock pigs ( 130 pounds down), common to choice | 7.81 | 7. 30 | 7.05 | 7.03 | 6. 43 | 6. 19 | 6.97 |
| Bulk of sales | 8. 20 | 7.98 | 8. 10 | 7. 90 | 7.33 | 6. 72 | 7.70 |
| Top | 8.60 | 8.35 | 8.55 | 8.30 | 7.95 | 7. 25 | 18.60 |
| Kind and grade. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average July 1Dec. 31. |
| Butcher, bacon and shipper hogs: Medium to choice- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Heavyweight (250-350 pounds) | 7.22 | 7.87 | 8.27 | 7.35 | 6.76 | 6.75 | 7.37 |
| Mediumweight (200-250 pounds) | 7.25 | 7.99 | 8.48 | 7.33 | 6. 72 | 6.70 | 7.41 |
| Common to choice ${ }_{\text {Light }}$ |  |  |  |  |  |  |  |
| Lightweight (160-200 pounds) | 7. 02 | 7.83 | 8.18 | 6.88 | 6.32 | 6. 30 | 7.09 |
| Light lights (130-160 pounds) | 6. 69 | 7.51 | 7.62 | 6.44 | 5. 86 | 5. 94 | 6. 68 |
| Packing hogs: <br> Smooth | 6.05 | 6. 28 | 6. 94 | 6.37 | 6.27 | 6.30 | 6.37 |
| Rough | 5. 89 | 6. 00 | 6.43 | 6.05 | 5. 98 | 6.06 | 6.07 |
| Slaughter pigs ( 130 pounds down), medium to choice |  |  |  |  |  |  |  |
| Feeder and stocker pigs (70-130 pounds), com- |  |  |  |  |  |  |  |
| mon to choice...--- | 6. 12 | 6. 23 | 6. 30 | 5.39 | 4.79 | 4.99 | 5. 64 |
| Bulk of sales. | 7.14 | 7.81 | 8. 25 | 7.14 | 6.64 | 6.62 | 7. 27 |
| Top | 7.60 | 9.25 | 9.40 | 8.05 | 7.30 | 7. 20 | 19.40 |

OMAHA.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{aligned} & \text { Average } \\ & \text { Jan. 1- } \\ & \text { June } 30 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Butcher, bacon, and shipper hogs: <br> Medium to choice- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | ollars. |
| Heavyweight ( 250 pounds up) | 8.07 | 7.82 | 7.98 | 7.76 | 7.13 | 6.50 | 7.54 |
| Mediumweight (200-250 pounds) | 8.11 | 7.86 | 7.97 | 7.78 | 7.19 | 6. 58 | 7. 58 |
| Common to choice- <br> Lightweight (150-200 pounds) <br> Light lights ( $130-150$ pounds) | 8.07 | 7.86 | 7.88 | 7.70 | 7.14 | 6.48 | 7.52 |
| Packing sows: |  |  |  |  |  |  |  |
| Smooth (250 pounds up) | 7.39 | 7.12 | 7.40 | 6. 93 | 6. 19 | 5. 68 | 6. 78 |
| Rough (200 pounds up) | 7.19 | 6.92 | 7.22 | 6.75 | 6.03 | 5. 39 | 6.58 |
| Pigs (130 pounds down), medium to choice .-- |  |  |  |  |  |  |  |
| Stock pigs ( 130 pounds down), common to choice. | 7.49 | 7.03 | 6.62 | 6.35 | 5.51 | 4.97 | 6.33 |
| Bulk of sales. | 8. 06 | 7.83 | 7.96 | 7.75 | 7.14 | 6.41 | 7.52 |
| Top | 8.45 | 8.15 | 8.25 | 8.10 | 7.80 | 7.05 | 18.45 |
| Kind and grade. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average July 1Dec. 31. |
| Butcher, bacon, and shipper hogs: Medium to choice- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Heavyweight (250-350 pounds) | 6.83 | 7.60 | -8.12 | 7.15 | Dollars. | 6.72 | Dollars. 7.17 |
| Mediumweight ( $200-250$ pounds) | 6.98 | 7.77 | 8.32 | 7.17 | 6.61 | 6.71 | 7.26 |
| Common to choice- <br> Lightweight (160-200 pounds) $\qquad$ <br> Light lights (130-160 pounds) $\qquad$ | 6.79 | 7.57 | 8.10 | 7.00 | 6. 50 | 6.45 | 7. 07 |
| Packing hogs: Smooth | 6.08 | 6.74 | 7.55 | 6. 79 | 6. 26 | 6. 42 | 6. 64 |
| Rough | 5. 76 | 6. 38 | 7.32 | 6. 61 | 5. 86 | 6. 24 | 6. 36 |
| Slaughter pigs ( 130 pounds down),'medium to choice. |  |  |  |  |  |  |  |
| Feeder and stocker pigs ( $70-130$ pounds), common to choice. | 4. 92 | 5.43 | 6.10 | 5.82 | 5.23 | 5. 06 | 5. 43 |
| Bulk of sales. | 6.62 | 7. 27 | 7.94 | 7.00 | 6.45 | 6.59 | 6.98 |
| Top. | 7.60 | 9.10 | 9.35 | 7.85 | 7.15 | 7.15 | ${ }^{1} 9.35$ |

Table 493.-Hogs: Monthly average and top price per 100 pounds, at six markets, 1923-Continued.

SOUTH ST. PAUL.

| Kind and grade. |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

Division of Statisticad and Historical Research. Compiled from data o the reporting service of the Livestock, Meats, and Wool Division.

- Ctassification of livestock changed July 1, 1923.
${ }^{1}$ Top price for six months.
Table 494.-Hogs: Trend of average farm prices and average market prices per 100 pounds, at Chicago, 1910-1923.

| Calendar year. | $\begin{array}{\|c} \text { Weight- } \\ \text { ed } \\ \text { aver- } \\ \text { age } \\ \text { farm } \\ \text { price. } \end{array}$ | Average market price at Chicago. | Price relatives $1913=100$. |  | Calendar year. | $\begin{gathered} \text { Weight- } \\ \text { ed } \\ \text { aver- } \\ \text { age } \\ \text { farm } \\ \text { price. } \end{gathered}$ | Average market price at Chicago. | $\begin{aligned} & \text { Price relatives } \\ & 1913=100: \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Farm price. | Market price. |  |  |  | Farm price. | Market price. |
|  | Dollars. | Dollars. |  |  |  | Dollars. | Dollars. |  |  |
| 1910 | 8.12 | 8. 90 | 109.1 | 106.6 | 1917 | 13. 41 | 15. 10 | 180.2 | 180.8 |
| 1911 | 6.29 | 6.70 | 84.5 | 80.2 | 1918 | 15. 82 | 17.45 | 212.6 | 209.0 |
| 1912 | 6.64 | 7.55 | 89.2 | 90. 4 | 1919 | 16. 04 | 17.85 | 215: 6 | 213.8 |
| 1913 | 7.44 | 8.35 | 100.0 | 100.0 | 1920 | 12.85 | 13. 91 | 172: 7. | 166.6 |
| 1914 | 7.51 | 8.30 | 100. 9 | 99. 4 | 1921 | 7.85 | 8.51 | 105. 5 | 101.9 |
| 1915 | 6. 56 | 7.10 | 88.2 | 85.0 | 1922 | 8.32 | 9.22 | 111.8 | 110.4 |
| 1916 | 8.11 | 9.60 | 109.0 | 115.0 | 1923 | 7.11 | 7.55 | 95.6 | 90.4 |

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices compiled from data of the reporting service of the Livestock, Meats, and W ool Divistion.

Table 495.-Hogs: Prices of live hogs in Chicago, and of wholesale and retail prices of certain pork products, 1913-1923.

| Calendar year. | Priceof livehogs,Chicago.(Per100 lbs ). | Hams. |  |  |  | Bacon. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Smoked, wholesale. |  | Retail. ${ }^{1}$ |  | Short clear sides wholesale. |  |  | Retail. |  |
|  |  | $\left.\begin{array}{c\|c} \text { Chicago, } \\ \text { (Price } \\ \text { per } \\ \text { pound.) } \end{array} \right\rvert\,$ | $\begin{array}{c\|c} \text { Per cent } & \text { In } 1 \\ \text { of } \\ \text { ine hog } & \text { in } \\ \text { price. } & \text { p } \\ \text { pou } \end{array}$ | In leadagcities. (Price per. pound.) |  |  |  | $\begin{aligned} & \text { Per cen } \\ & \text { of } \\ & \text { live. he } \\ & \text { price. } \end{aligned}$ | ingead-In litice <br> per <br> pound.in | $\begin{gathered} \text { Per oent } \\ \text { of } \\ \text { live hog } \\ \text { price. } \end{gathered}$ |
|  | Dollars. | Cents. $P$ | Per cent. | Cents. |  |  |  | Per cer | Cents. | Per cent. |
| 1914 | 8.30 | 16.7 | 201 | 27.3 |  |  |  | 15 | 27.5 | 331 |
| 1915 | 7.10 | 15.3 | 215 | 26.1 |  |  |  | 16 | 26. 9 | 379 |
| 1916 | 9.60 | 18.5 | 193 | 29.4 |  |  |  | 15 | 28.7 | 299 |
| 1917 | 15. 10 | 25.2 | 167 | 38.2 |  |  |  | 16 | 41.0 | 272 |
| 1918 | 17.45 | 31.8 | 182 | 47.9 |  | 4 |  | 16 | 52.9 | 303 |
| 1919 | 17.85 | 34.3 | 192 | 53.4 |  |  |  | 16 | 55.4 | 310 |
| 1920 | 13. 91 | 33.4 | 240 | 55.5 |  |  |  | 14 | 52.3 | 376 |
| 1921 | 8.51 | 26.8 | 315 | 48.8 |  |  |  | 15 | 42.7 | 502 |
| 1922 | 9.22 | 26.5 | 287 | 48.8. |  |  |  | 15 | 39.8 | 432 |
| 1923 | 7.55 | 21.2 | 281 | 45. 5 |  | 3 |  | 15 | 39.1 | 518 |
| 1923. |  |  |  |  |  |  |  |  |  |  |
| January | 8.29 | 20.2 | 244 | 45.1 |  | 4 |  | 15 | 39.8. | 480 |
| February | 8.02 | 20.3 | 253 | 45.0 |  | 1 12 |  | 15 | 39.4 | 491 |
| March | 8.18 | 20.6 | 252 | 45.0 |  | 0 13 |  | 16 | 39. 2 | 479 |
| April | 8.08 | 21.2 | 262 | 45. 1 |  | 8 \| 12 |  | 15 | 39.1 | 484 |
| May | 7.53 | 21.1 | 280 | 45.3 |  | 21 |  | 15 | 39.1 | 519 |
| June | 6. 92 | 21.1 | 305 | 45: 4 |  | 5 |  | 16 | 39. 0 | 564 |
| July. | 7.04 | 21.7 | 308 | 46.0 |  | $3{ }^{1}$ |  | 15 | 39.1 | 555 |
| August | 7.65 | 22.3 | 292 | 48.3 |  | 51 |  | 14 | 39. 2 | 512 |
| September | 8.35 | 22.3 | 267 | 46. 6 |  | 58 |  | 14 | 39.4 | 472 |
| October- | 7.42 | 21.9 | 295 | 46.4 |  | 512 |  | 16 | 39.3 | 531 |
| November | 6.85 | 20.9 | 305 | 45.5 |  | 64 |  | 18 | 38.5 | 562 |
| December | 6.87 | 20.5 | 298 | 44.7 |  | 1 11 |  | 16 | 37.5 | 546 |
| Calendar year | Fresh pork. |  |  |  |  | Lard. |  |  |  |  |
|  | Pork loins, wholesale. |  | Pork chops, retail. |  |  | Prime contract, wholesale. |  |  | Retail. |  |
|  | Chicago, <br> (Price per pound.) | Per cent of live hog price. | In leading cities. (Price per' pound.) | $\begin{array}{c\|c} \text { A. } & \text { Per cent } \\ \text { of } & \text { of } \\ \text { live hog } \end{array}$ |  | New York. (Price per pound. | Per cent live hog price. |  | In leading cities. (Price per pound.) | Per cent live hog price. |
|  | Cents. | Per cent. | Cents. | Per cent. |  | Cents. 11.0 | Per cent. 132 |  | Cents. | Per cent. |
| 1913 | 14.9 | 178 |  |  |  | 15.815.6 |  |  |  |
| 1914 | 15. 4 | 186 |  22.0 <br> 1 20.3 |  | 265 |  | 10.4 |  | 125 | 188208 |
| 1915 | 14.3 | 201 |  |  | 286 | $\begin{array}{r} 9.4 \\ 13.5 \end{array}$ |  | 132 | 14.8 |  |
| 1916 | 16.2 | - 169 | 9 $\begin{aligned} & 22.7 \\ & 31.9\end{aligned}$ |  | 236 |  |  | 141 | 17.527.6 | 188 |
| 1917 | 24.4 | 162 |  |  | 211 | $\begin{array}{r} 13.5 \\ 21.7 \end{array}$ |  | 144 |  |  |
| 1918 | 29.5 | 5169 | 939.0 |  | 223 | 25.5 |  | 146 | 33.3 | 183 |
| 1919 | 31.5 | 176 | 6 <br> 1 $\begin{aligned} & 42.3 \\ & 42.3\end{aligned}$ |  | 237 | 29.020.0 |  | 162 | $\text { 36. } 9$ | 207212 |
| 1920 | 30.7 | 221 |  |  | 304 |  |  | 144 |  |  |
| 1921 | 22.5 | 264 | 34.9 <br> 33.0 |  | 410 | 11.111.5 |  | 130 | 18.017.0 | 212184 |
| 1922 | 21.7 | 235 |  |  | 358 |  | 163 |  |  |  |
| 1923--- | 18.0 | 238 | - 30.4 |  | 403 | 12.3 |  |  | 17.7 | 234 |
| 1923. |  |  | $7 \quad 29.3$ |  |  | 11.8 |  |  | 17.4 |  |
| January--- | 15. 5 | 187 |  |  | 353 |  |  | 142 |  | 210 |
| February | 15. 6 | 195 | 28.7 <br> 28.3 |  | 358 | $\begin{aligned} & 11.8 \\ & 126 \end{aligned}$ |  | 147 | $\begin{aligned} & 17.4 \\ & 17.4 \end{aligned}$ | 217213217 |
| March | 14.8 | 181 |  |  | 346 |  |  | 154 |  |  |
| April. | 15.3 | $3 \quad 189$ | 28.4 |  | 351 | 12.0 |  | 149 | 17.5 | 217 |
| May | 19.3 | 186 <br> 231 <br> 277 | 30.0 <br> 29.9 <br> 2.9 |  | 398 | $\begin{aligned} & 11.6 \\ & 11.7 \end{aligned}$ |  | 154 | 17.317.2 | 230249 |
| June. | 16.0 |  |  |  | 432 |  |  | 169 |  |  |
| July | 19.5 | 5 277 <br> 0 301 | 31.2 <br> 32.1 |  | 443 | 11.311.6 |  | 161 | 17.1 | 224 |
| August. | 23.0 |  |  |  | 420 |  |  | 152 |  |  |
| September | 27.3 | 327  <br> 0 283 <br> 228  | 36.7 |  | 440 | 12.8 |  | 153 | 17.9 | $\begin{aligned} & 214 \\ & 251 \\ & 276 \\ & 275 \end{aligned}$ |
| October. | 21.0 |  | 34. 2 |  | 461 | 13. 3 |  | 179 | 18. 6 |  |
| November | 15. 6 |  | $-\quad 28.9$ |  | 422 | 14. 1 |  | 206 | 18. 9 |  |
| December------ | 13.3 | 194 | $25.5$ |  | 386 | 13.2 |  | 192 | 18.9 |  |

[^259]Table 496.-Hogs: Monthly slaughter under Federal inspection, 1907-1923.

| Calendar year. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1907 | 3, 409, 531 | 2,920, 505 | 2, 665, 112 | 2, 667, 170 | 3,317, 281 | 3, 240, 786 | 2,928, 806 | 2, 300, 785 | 1,988, 210 | 2, 218, 979 | 2,134, 622 | 3, 093, 590 | 32, 885, 377 |
| 1908 | 4, 961, 421 | 3, 889, 864 | 3,111, 115 | 2, 304, 271 | 3, 087, 525 | 3, 093, 889 | 2, 415, 570 | 2, 231, 182 | 2, 230, 684 | 3, 368, 060 | 3, 802, 740 | 4, 146, 780 | 38, 643, 101 |
| 1909 | 3, 875, 858 | 2, 653, 412 | 3, 012, 659 | 2, 342,999 | 2, 629, 418 | 2, 718, 569 | 2,097, 241 | 1,821, 934 | 1,955, 445 | 2, 397, 039 | 2,800, 080 | 3,090, 242 | 31, 394, 896 |
| 1910 | 2, 692, 780 | 2, 323, 582 | 1, 891, 000 | 1,778, 410 | 2, 206, 472 | 2, 612, 116 | 1, 988, 403 | 1,824, 006 | 1, 563, 846 | 1, 850, 765 | 2,455, 654 | 2, 826, 749 | 26, 013, 783 |
| 1911 | 2, 742, 393 | 2, 632, 830 | 2,972, 692 | 2, 589, 454 | 3, 007, 507 | 3,462, 063 | 2, 560, 236 | 2, 031, 911 | 2, 171, 798 | 2, 719, 927 | 3, 639, 269 | 3, 602, 875 | 34, 132, 955 |
| 1912 | 4, 146, 732 | 3, 301, 955 | 2, 700, 401 | 2, 411, 926 | 2, 843, 878 | 2, 835, 470 | 2, 353, 889 | 1, 875, 336 | 1,701, 088 | 2, 454, 931 | 3, 020, 226 | 3, 406, 795 | 33, 052, 727 |
| 1913 | 3, 708, 086 | 2, 843, 947 | 2, 333, 602 | 2, 486, 664 | 3, 045, 926 | 3, 056, 948 | 2, 557, 054 | 2, 268, 333 | 2,132, 735 | 2, 681, 399 | 3, 165, 206 | 3, 918, 685 | 34, 198, 585 |
| 1914 | 3, 489, 384 | 2, 722, 763 | 2, 547, 752 | 2, 311, 724 | 2, 569, 035 | 2,925, 635 | 2, 259, 540 | 1,799, 032 | 1, 907, 397 | 2, 681,852 | 3,047, 127 | 4, 270, 600 | 32, 531, 841 |
| 1915 | 4, 273, 788 | 3,885, 177 | 3, 445, 787 | 2, 563, 081 | 2, 868, 655 | 3, 245, 822 | 2, 493, 385 | 2, 040,506 | 1, 890,484 | 2, 493, 831 | 3, 738, 879 | 5, 441, 833 | 38, 381, 228 |
| 1916 | 5, 387, 333 | 4, 275, 567 | 3,430, 145 | 2, 853, 320 | 3, 274, 941 | 3,162, 569 | 2, 530, 249 | 2, 517, 259 | 2, 287, 330 | 3, 327, 029 | 4,770, 913 | 5, 267, 042 | 43, 083, 703 |
| 1917 | 4,628,613 | 3, 484, 014 | 2,984, 959 | 2,645, 077 | 3, 083, 518 | 2, 684, 844 | 2, 411, 436 | 1,704, 852 | 1,321, 674 | 2,195, 291 | 3, 042, 827 | 3,722, 599 | 33, 909,704 |
| 1918 | 3, 960, 892 | 3, 998, 084 | 3, 925, 986 | 3, 290, 489 | 3, 092, 325 | 2, 782, 792 | 2, 940, 491 | 2, 283, 083 | 1,980, 008 | 3, 018, 084 | 4, 280, 126 | 5, 661, 890 | 41, 214, 250 |
| 1919 | 5, 845, 696 | 4, 266, 317 | 3, 443, 330 | 3, 207, 671 | 3, 743, 463 | 3, 728, 230 | 2, 884, 325 | 1,949, 413 | 1,997, 149 | 2, 685,711 | 3, 270, 172 | 4, 790, 353 | 41, 811, 830 |
| 1920 | 5, 078, 521 | 3, 103, 530 | 3,481, 680 | 2, 590, 208 | 3, 584, 781 | 3, 566, 071 | 2, 643, 772 | 2, 190, 821 | 1,978, 602 | 2, 486, 940 | 3, 328, 633 | 3, 985, 125 | 38, 018, 684 |
| 1921 | 4, 347, 306 | 3,798, 687 | 3, 047, 424 | 3, 003, 290 | 3, 274, 114 | 3, 618, 152 | 2, 820, 616 | 2, 530,459 | 2, 422, 350 | 2, 866, 133 | 3, 447, 027 | 3, 806, 797 | 38, 982, 355 |
| 1922 | 3, 284,704 | 3, 479, 907 | 3, 350, 214 | 2, 945, 757 | 3, 716, 170 | 4, 046, 304 | 3, 104, 322 | 2, 887, 755 | 2, 747, 467 | 3, 331, 587 | 4, 318, 005 | 5, 201, 437 | 43, 113, 629 |
| 1923 | 5, 134, 029 | 4, 230, 575 | 4, 837, 791 | 4, 179, 438 | 4, 325, 130 | 4, 302, 533 | 3, 983, 435 | 3, 556, 039 | 3, 212, 350 | 4, 327, 951 | 5, 340, 678 | 5, 903, 759 | 53, 333, 708 |

Bureau of Animal Industry.

Table 497.-Pork: Cold storage holdings in United States, 1916-1923.

| Year. | Jan. 1. | Feb. 1. | Mar. 1. | Apr. 1. | May 1. | June 1. | July 1. | Aug. 1. | Sept. 1. | Oct. 1. | Nov. 1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | ${ }^{1,000}$ | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 1916 | 420, 736 | 556, 369 | ${ }_{666,263}$ | 646, 097 | 617, 668 | 615, 386 | 643, 959 | 641,667 | 550,013. | ${ }_{430,762}$ | ${ }_{352,006}$ |  |
| 1917 | 559,041 | 642, 755 | 701, 258 | 662, 323 | 675, 782 | 694, 521 | 729, 185 | 732, 258 | 596, 907 | 435, 238 | 328, 883 | 379, 293 |
| 1918 | 563, 600 | 725, 085 | 876, 378 | 967,040 | 995, 786 | 1, 009, 882 | 892, 871 | 844, 365 | 720, 374 | 579, 991 | 517, 310 | 560, 728 |
| 1919 | 722, 556 | 968, 715 | 999, 756 | 1,004, 109 | 999, 288 | 987, 853 | 959, 387 | 882, 448 | 770, 504 | 691, 915 | 568, 921 | 513, 982 |
| 1920 | 597, 63 | 776, 763 | 903, 350 | 968, 639 | 960, 706 | 959,338 | 982, 454 | 933, 028 | 807,011 | 616,44] | 472, 798 | 426,677 |
| 1921 | 533, 980 | 669, 832 | :837, 158 | 842, 906 | 802, 190 | 801, 387 | 799, 261 | 727, 569 | 623,967 | 471,901 | 359, 656 | 355, 589 |
| 1922 | 415,096 | 484, 898 | 547, 450 | 591, 223 | 594, 241 | 635, 655 | 707, 385 | 683, 451 | 619, 671 | 483,096 | 395, 171 | 419,498 |
| 1923 | 570, 510 | 688, 924 | 783, 680 | 864, 674 | 940, 071 | 908, 771 | 908, 505 | 866,159 | 754, 262 | 613, 143 | 505, 946 | 577, 496 |

Division of Statistical and Historical Research.

## PORK PRODUCTS.

Table 498.—Monthly statement of the livestock and meat situaiion, 1923.
HOGS, PORK, AND PORK PRODUCTS.

| Item. |  |  | Unit. | Jan. | Feb. | Mar. | Apr. | May. | June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inspected slaughter hogs.----Average live weight |  |  |  | 5, 134 | 4, 231 | 4, 838 | 4, 179 | 4,325 | 4,303 |
|  |  | 227 | 228 | 228 |  | 224 | 228 |
|  | Average dressed weight |  |  | Pounds ----- |  | 177 | 178 | 177 | 176 | 171 | 175 |
| Lard per 100 pounds live weight. |  | 1,000 pounds |  | 907, 645 | 752, 492 | 856, 386 | 737, 545 | 739, 251 | 751, 610 |
|  |  | 16 | 17 | 18 | 17 | 17 | 18 |
| Storage, 1st of month: |  |  |  | 1,000 pounds |  | 72, 278 | 120, 196 | 154, 377 | 189, 115 | 213, 224 | 210, 645 |
| Cured |  |  | do------- | 498, 232 | 568, 728 | 629, 303 | 675, 559 | 726, 847 | 698, 125 |
|  |  |  |  | 48, 808 | 56, 266 | 59, 101 | 66, 743 | 85, 251 | 84, 530 |
| Exports: ${ }^{1}$ |  |  |  |  |  |  |  |  |  |
| Fresh pork |  | -----do------- |  | 6,612 | 3,772 | 3,123 | 4,178 | 2,601 | 3,093 |
| Cured pork |  | ---- do |  | 78, 240 | 68,351 | 69,766 | 71,291 | 67, 051 | 62, 450 |
| Canned pork |  | ----do |  | 131 | 87 | 167 | 218 | 547 | 449 |
| Sausage |  |  |  | 879 | 603 | 1,084 | 1,002 | 884 | 941 |
| Lard |  |  |  | 111, 157 | 91, 536 | 112, 141 | 88,601 | 95, 343 | 65, 788 |
| ${ }_{\text {Imports }}$ Recoipts of hosh ${ }^{2}$ |  | --- do------- |  | 106 | 43 | 171 | 141 | 108 | 71 |
|  |  |  |  | 5,306 | 4, 492 | 4,927 | 4,318 | 4,524 | 4, 204 |
| Stocker and feeder shipments ${ }^{2}$.-.-- |  |  |  | 66 | 64 | 69 | 76 | 67 | 63 |
| Prices per 100 pounds: <br> Average cost for slaughter ... |  | Dollars |  | 8.35 | 8.22 | 8.17 | 8.04 | 7.44 | 83 |
| At Chicago-Live hogs, medium weight |  |  |  | 8.36 | 8.14 | 8.32 | 8.26 | 7.67 | 7.08 |
| At eastern markets- <br> Fresh pork loins, 10-14 pounds |  |  |  |  |  |  |  |  |  |
|  |  | do |  | 15.38 | 14. 88 | 14.49 | 14. 46 | 16.88 | 14.78 |
| Shouldera, skinned Picnics, 6-8 pounds |  | -..-.do-..-....- |  | 13. 28 | 13.08 | 12. 26 | 11.78 | 11.44 | 10.43 |
|  |  | ------do-.------ |  | 11. 32 | 11. 72 | 10.18 | 10.00 | 10. 34 | 8.82 |
| Putts, Boston style---- |  |  |  | 15.15 | 15. 16 | 14.14 | 13.40 | 12. 50 | 11.80 |
| Bacon, breakiast- |  | -...-do.------ |  | 26.93 | 26.17 | 24.04 | 23.50 | 23.40 | 22.86 |
| Hams, smoked, 10-12 <br> pounds <br> Lard, tierces |  |  |  |  |  |  |  |  |  |
|  |  | 20.85 | 20. 63 | 20. 52 | 21.07 | 21.62 | 21.88 |
|  |  | 68, 227 | 12. 62 | 12.85 | 12. 67 | 12.45 | 12.16 |
| Lard, tierces |  |  | Thousands.- |  |  |  |  |  |  |
| Item. | Unit |  | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| Inspected slaughter hogs A verage live weight | Thousands.- |  | 3,983 | 3, 556 | 3, 212 | 4, 328 | 5,341 | 5,904 |  |
|  | Pounds |  | 232 | 236 | 229 | 219 | 216 | 218 | ${ }^{3} 225$ |
| A verage dressed weight. | -do. |  | 177 | 181 | 173 | 165 | 164 | 166 | ${ }^{3} 173$ |
| Total dressed weight (earcass) | 1,000 pounds |  | 705, 586 | 644, 603 | 555, 094 | 714, 848 | 876, 726 | 979, 788 | 9, 221, 574 |
| Lard per 100 pounds live weight | Pounds |  |  | 17 | 16 | 14 | 15 | 16 | 316 |
| Storage, ist of month:Fresh pork |  |  |  |  |  |  |  |  |  |
|  | 1,000 pounds |  | 217, 074 | 195, 002 | 148, 753 | 98, 795 | 71,640 | 82, 068 | 4147, 764 |
| Cured pork |  |  | 691, 431 | 671, 157 | 605, 509 | 514, 348 | 434, 306 | 495, 428 | ${ }^{4} 600,748$ |
| ${ }_{\text {Exports }}{ }^{\text {Lard }}$ | ------do.-.-.--- |  | 123, 896 | 143, 579 | 115, 860 | 72, 608 | 35, 225 | 35, 317 | ${ }^{4} 77,265$ |
|  |  |  |  |  |  |  |  |  |  |
| Cured pork |  |  | 3,492 | 4,183 | 3, 215 | 3,728 | 7,946 | 8,748 | $\begin{array}{r}54,691 \\ 870 \\ \hline 31\end{array}$ |
|  | ----do-......-- |  | 67,640 | 73, 504 | 82, 069 | 76, 669 | 74,712 | 78,988 | 870, 731 |
| Canned poSausage..-Lard.-.-- |  |  | 242 | 178 | 153 | 153 | 230 | 246 | 2, 801 |
|  |  |  | 1,268 | 874 | 766 | 777 | 715 | 942 | 10,735 |
|  |  |  | 70, 230 | 85, 082 | 85, 194 | 77,646 | 76, 020 | 100, 712 | 1,059, 510 |

${ }^{1}$ Including reexports. $\quad{ }^{2}$ Public stockyards. ${ }^{3}$ W eighted average. $\quad{ }^{4}$ Simple average, not total.

## PORK PRODUCTS-Continued.

Table 498.—Monthly statement of the livestock and meat situalion, 1923-Contd. HOGS, PORK, AND PORK PRODUCTS-Continued.

| Item. | Unit. | July. | Aug. | Sept. | Oet. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Imiports: Fresh pork | 1,000 pounds | 47 | 37 | 89 | 182 | 60 | 40 | 1, 101 |
| Receipts of hogs ${ }^{1}$---.-- | Thousands.- | 4,181 | 3,714 | 3,607 | 4,816 | 5,416 | 5,825 | 55, 330 |
| Stocker and feeder shipments ${ }^{1}$ $\qquad$ | do | 34 | 62 | 102 | 101 | 70 | 46 | 820 |
| Prices per 100 pounds: |  |  |  |  |  |  |  |  |
| Average cost for slaughter. $\qquad$ | Dollars....-- | 6.91 | 7. 78 | 8.49 | 7.38 | 6.83 | 6.82 | ${ }^{2} 7.59$ |
| At Chicago-Live hogs, medium weizht............. | do. | 7. 40 | 8. 23 | 8.80 | 7.68 | 7.04 | 6.97 | ${ }^{3} 7.83$ |
| At eastern marketsFresh porkloins, 10-14 pounds. | do | 17. 20 | 18.69 | 24. 77 | 20.10 | 13.96 | 13.76 | ${ }^{3} 16.61$ |
| Shoulders, |  |  |  |  |  |  |  |  |
|  |  | 10.64 | 11.32 | 12.99 | 13.10 | 11. 20 | 10. 30 | 11. 82 |
| pounds--.-- | do | ${ }^{4} 10.10$ | 9. 68 | 11.17 | 10.69 | 10. 13 | 9. 42 | ${ }^{3} 10.30$ |
| Butts, Boston style | do | 12.38 | 12. 62 | 15.78 | 15.96 | 12. 64 | 11.44 | ${ }^{313.58}$ |
| Breon, breakiast | do | 22.91 | 23.13 | 23.38 | 22. 33 | 21.88 | 20.79 | ${ }^{2} 23.44$ |
| Hams, smoked, 10-12 pounds | do | 22.17 | 22. 30 | 22. 83 | 22. 33 | 21.50 | 20.67 | ${ }^{3} 21.53$ |
| Lard, tierces .-.- | do. | 12.08 | 12. 47 | 13.86 | 14.39 | 14.53 | 14. 56 | ${ }^{3} 13.10$ |
| Hogs on farms, Jan. 1--- | Thousands |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Inspected slaughter from reports of the Bureau of Anima! Industry. Weights and storage boldings from reports of the Division of Statistical and Historical Research. Experts and imports from the Bureau of Foreign and Domestic Commerce. Receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats and Wool Division and number on farms from Division of Crop and Livestock Estimates, Bureau of Agricultural Economies.
${ }^{1}$ Public stockyards. ${ }^{2}$ Weighted average. ${ }^{3}$ Simple average, not total. ${ }^{4}$ Boston only reported.
Table 499.—Lard: Cold storage holdings in United States, 1916-1923.

| Calendar year. | Jan. 1. | Feb. 1. | Mar.1. | Apr. 1. | May 1. | June 1. | July 1. | Aug. | Sept.1. | Oct. 1. | No | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 63, 304 | 92, 342 | 111, 897 | 97, 237 | 108, 731 | 85, 113 | 87, 127 | 95, 991 | 82, 023 | 71,570 | 56, 929 |  |
| 191 | 80, 977 | 86, 208 | 88, 460 | 65, 179 | 61, 640 | 72, 365 | 95, 197 | 112, 249 | 102, 172 | 69, 929 | 37, 095 | 44, 367 |
|  | 54, 539 | 59, 310 | 65, 355 | 89, 854 | 103, 373 | 106, 194 | 107, 871 | 102, 411 | 104, 668 | 90, 398 | 76, 124 | 81,676 |
| 1912 | 104, 274 | 138, 353 | 125, 410 | 112, 469 | 112, 409 | 83, 096 | 92, 132 | 100, 478 | 87, 947 | 76, 456 | 66, 036. | 49, 147 |
| 1920 | 62, 614 | 97, 649 | 111, 975 | 132, 903 | 141, 819 | 152,307 | 193, 316 | 191, 531 | 170, 774 | 109, 258 | 47, 329 | 36,683 |
| 19 | 59, 319 | 83, 549 | 117, 690 | 123, 614 | 152, 428 | 181, 992 | 204, 301 | 194, 490 | 149, 886 | 85, 115 | 48, 850 | 42, 001 |
| 1922 | 47,541 | 61, 202 | 61, 297 | 86, 031 | 96, 055 | 123, 798 | 154, 254 | 143, 084 | 119, 755 | 75, 338 | 36, 750 | 32,506 |
| 1923. | 48,808 | 56, 286 | 59, 101 | 66,743 | 85, 251 | 84, 530 | 123,8 | 142, 579 | 115, 850 | 72,608 | 35, 225 | 35, 317 |

Bivision of Statistical and Historical Research.
Tabel 500.-Pork: Exports from the United States, by months, 1910-192.4.

| $\begin{gathered} \text { Year } \\ \text { end- } \\ \text { ing } \\ \text { Jun9 } \\ 30 . \end{gathered}$ | July. | $\begin{aligned} & \text { Au- } \\ & \text { gust. } \end{aligned}$ | Sep-tember. | October. | No-vember. | $\underset{\text { cem- }}{\text { De- }}$ ber. | January. | $\begin{gathered} \text { Febru- } \\ \text { ary. } \end{gathered}$ | March. | April. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | ${ }^{\text {65, }} 364$. |  |  | 55, 362 |  |  |  |  | 60, 599 | 34, 227 |  |  |  |
| 1910-11. | 60, 18 | 67, 351 |  | 49, | 50, 136 | 71, 512 | 75, 067 | 79, 351 | 85, 076 | 87, 486 | 100, 768 | 96,562 | 879,457 |
| 1911-12- | 83, 514 | 82, 387 | 107, 082 | 79,551 | 77, 114 | 97, 067 | 93, 601 | 102, 591 | 104, 742 | 85, 895 | 92, 609 | 65, | 1071,953 |
| 1912-13- | 72, 295 | 77, 105 | 77, 964 | 64, 987 | 65, 696 | 79, 611 | 91, 808 | 106, 956 | 96, 771 | 82, 836 | 83, 993 | 76,476 |  |
| 1913-14- | 81, 962 | 82, 726 | 73, 628 | 77, 309 | 79, 717 | 86, 597 | 101, 683 | 73, 958 | 70, 046 | 60, 783 | 66, 067 | 67,436 | 921,912 |
| 19 | 53, | 54, | 59, | 73 | 73, | 73 , | 106, 325 | 118 | 16 | 01 | 89, 263 | 121,772 | 1,106,180 |
| 1915-16- | 95, 029 | 90, 128 | 100, 207 | 113,464 | 07, 744 | 143, 262 | 133, 222 | 162, | 119, 963 | 133, |  |  |  |
| 1916-17 | 76, 567 | 93,101 | 106, 329 | 95, 287 | 113, 579 | 158, 723 | 199, 397 | 122, 571 | 167, | 137, 77 | 27, 193 | 103,093 |  |
| 1917-18 | 45, 502 | 71, 295 | 79, 460 | , 23 | 99, 189 | 9, 33. | 92, 864 | 14, 347 | , | 85, 763' | 281, 33 |  |  |
| 1918-19 | 52, 767 | 70, 647 | 114, 555 | 132, 237 | 123, 266 | 205, 601 | 197, 965 | 236, 421 | 341, 29 | 348, 040 | 180,890 | 400, |  |
| 1919-20- | 240, 261 | 179, 503 | 117, 762 | 117, 943 | 131, 663 | 144, 799 | 137, 438 | 147, 133 | 185, 348 | 87, 591 | 134, 208 | 137-330 | 1,761,679 |
| 1920-21- | 94, 117 | 67, 701 | 102, 470 | 123, 102 | 132, 698 | 187, 091 | 161, 695 | 151, 361 | 143,085 | 118, 192 | 111, 040 | 128,9 | 1,521,493 |
| 1921 | 171, 555 | 174 | 13, | 99, 185 | 90, 240 | 106, 449 | 27, 613 | 38, 047 | 24,411 | 90,125 | 9, 440 | 119 |  |
| 1922 | 133, 426 | 127, 66 | 120, 124 | 125, 716 | 124, 574 | 155, 944 | 196, 139 | 163, 745 | 185, 197 | 164, 288 | 165, 543 | 131,780 | 1,794,143 |
| 1983-24-1 | 141, 665, | 162, 94 | 170, 63 | 158, 19 | 158, 90 | 188, 6 |  |  |  |  |  |  |  |

[^260]Table 501.-Bacon: Exports from the United States, by months, 1910-1924.

| $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { June } 30 . \end{gathered}$ | July. | Aug. | Sepi. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1.000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lb | lbs. | I 10 s | lbs. | lus. | libs. | bis. | ibs. | ibs. | lbs. | lbs. | lbs. | libs. |
| 1900-10 | 18, 112 | 105,061 | 15, 335 | 13, 422 | 16, 685 | 14,978 | 16, 343 | 11, 474 | 10, 755 | 6,342 | 5, 528 | 8,028 | 152, 163 |
| 1910-11 | 10, 394 | 13, 746 | 12, 642 | 9, 437 | 8, 646 | 14, 435 | 12,876 | 10, 752 | 11,038 | 16,091 | 17,008 | 19, 110 | 156, 675 |
| 1911-1 | 17,006 | 18, 857 | 25, 038 | 16, 368 | 15, 864 | 18, 104 | 18, 152 | 16, 954 | 17,468 | 17,934 | 16,270 | 10, 559 | 208, 574 |
| 1912-1 | 16, 518 | 18, 688 | 15, 360 | i3, 681 | 13, 870 | 16, 567 | 19,819 | 20,325 | 20, 88.0 | 17,051 | 14, 423 | 13, 812 | 200, 994 |
| 1913-14 | 16,555 | 19, 551 | 16, 358 | 17, 968 | 16, 688 | 19, 367 | 20, 814 | 17, 518 | 13, 818 | 12, 603 | 11, 618 | 11,306 | 193, 964 |
| 1914 | 10,905 | 14, 405 | 17, 596 | 13, 838 | 18, 825 | 21, 221 | 27, 156 | 37, 177 | 66, 828 | 41, 692 | 33, 598 | 43, 477 | 346, 718 |
| 1915-16 | 38, 503 | 37, 579 | 43, 371 | 53,410 | 45, 876 | 55, 472 | 50, 087 | 63, 810 | 41, 892 | 53, 443 | 58, 343 | 38, 028 | 579, 809 |
| 1916-17 | 30, 974 | 43, 954 | 49, 223 | 41, 284 | 48, 785 | 73, 932 | 91, 812 | 51, 993 | 67, 502 | 57, 310 | 60, 670 | 50, 606 | 667, 151 |
| 1917-18 | 19, 462 | 28, 311 | 35, 501 | 29,363 | 43, 571 | 42, 021 | 53, 851 | 50, 004 | 155, 604 | 127, 400 | 142, 012 | 87, 294 | 815,294 |
| 1918 | 119, 894 | 68, 858 | 41, 540 | 58, 132 | 72, 862 | 126, 437 | 102, 679 | 114, 840 | 151, 086 | 141, 814 | 67,664 | 172, 441 | 238,247 |
| 1919-20 | 117, 679 | 84, 151 | 57, 209 | 56, 462 | 65, 288 | 58, 983 | 77, 501 | 75,891 | 75, 003 | 24, 350 | 50, 413 | 60, 731 | 308,607 |
| 1920-21 | 31, 523 | 23, 333 | 41, 372 | 49, 839 | 57, 981 | 63, 784 | 43, 202 | 31, 637 | 35, 349 | 32, 852 | 38, 484 | 35, 012 | 483, 298 |
| 1921-22 | 48, 172 | 45, 340 | 44, 719 | 23, 601 | 15, 642 | 21,366 | 26, 108 | 30, 794 | 31, 180 | 20. 490 | 19, 070 | 24, 0571 | 350, 549 |
| 1922-23 | 32, 584 | 32, 591 | 30, 448: | 28, 850 | 26, 170 | 39, 486 | 43, 352 | 36, 299 | 40, 549 | 34, 790 | 34, 525 | 28, 641 | 408, 282 |
| 1923-24 | 27,581 | 33, 004 | 45, 161 | 46,689 | 39, 027 | 47, 131 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreigu and Domestic Commerce.

Table 502.-Lard: Exports from the United Staies, by months, 1910-1924.

| Year ending June 30. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1,000 | , |  |  |  |  |  |  |  |
|  |  |  |  | lbs. | l $b s$ s. | lbs. | los | l3s. | $l b s$. | lbs |  | lbs. | lbs. |
| 1909-10 | 28, 639 | 33, 906 | 26, 203 | 27, 287 | 27, 529 | 34, 619 | 39, 686 | 38, 878 | 32, 574 | 17, 213 | 26, 418 | 24, 976 | 362, 328 |
| 1910-11 | 31, 658 | 34, 171 | 26, 987 | 24, 625 | 27, 856 | 38,790 | 40, 688 | 47, 595 | 55, 043 | 48, 726 | 54, 685 | 45, 284 | 476, 108 |
| 1911-12 | 35, 446 | 34, 912 | 53, 670 | 43, 003 | 40, 829 | 52, 548 | 45, 465 | 54, 143 | 54, 797 | 40, 179 | 44, 900 | 32, 364 | 532,256 |
| 1912-13 | 32, 536 | 33, 142 | 43,273 | 36, 746 | 40, 157 | 45, 591 | 44, 281 | 61, 211 | 49, 226 | 42, 114 | 48, 787 | 41,961 | 519,025 |
| 1913-14 | 39, 567 | 41, 025 | 37, 383 | 39, 466 | 42, 661 | 48, 497 | 56, 432 | 35, 916 | 38,091 | 29,890 | 35, 101 | 37, 519 | 481, 4.58 |
| 1914-15 | 24, 987 | 25, 292 | 28, 538 | 48, 241 | 42, 053 | 36, 046 | 55, 520 | 56, 133 | 67, 259 | 38, 336 | 22, 293 | 30, 834 | 475, 532 |
| 1915-16 | 21,555 | 25, 146 | 28, 774 | 28, 256 | 30, 776 | 46, 404 | 34, 040 | 41, 262 | 37, 146 | 39, 017 | 48, 773 | 45, 862 | 427, 011 |
| 1916-17- | 26, 088 | 22, 891 | 32, 707 | 21, 242 | 31, 470 | 46, 162 | 65, 091 | 39,558 | 59, 081 | 45, 602 | 30, 621 | 24, 257 | 444, 770 |
| 1917-18 | 9,364 | 23, 553 | 22, 145 | 9, 639 | 30, 742 | 13, 069 | 20,706 | 31,683 | 68, 721 | 53, 885 | 79,751 | 29, 243 | 392, 506 |
| 1918-19 | 68,600 | 51, 921 | 33, 268 | 46, 025 | 27, 285 | 37, 724 | 37, 850 | 68, 973 | 97, 239 | 86, 556 | 55, 001 | 114, 329 | 724, 771 |
| 1919-20 | 68, 192 | 49, 033 | 36, 960 | 41, 017 | 42, 106 | 63, 646 | 38,824 | 36,645 | 69, 430 | 40, 758 | 55, 544 | 45, 070 | 587, 225 |
| 1920-21 | 47, 061 | 31, 021 | 46, 326 | 54, 174 | 57, 316 | 90, 080 | 76, 185 | 91, 841 | 82, 617 | 53, 276 | 48, 604 | 67, 656 | 740,157 |
| 1921-22 | 83, 329 | 87, 411 | 104, 741 | 56, 886 | 51, 854 | 64, 542 | 73, 194 | 75, 520 | 64, 377 | 42,459 | 50, 817 | 57. 249 | 812,379 |
| 1922-23 | 66, 058 | 68, 907 | 61, 120 | 66, 333 | 62, 321 | 78, 596 | 107, 786 | 89, 055 | 109, 187 | 85, 475 | 93, 199 | 64,605 | 952, 642 |
| 1923-24 | 69, 478 | 83, 758 | 83, 630 | 76, 378 | 74, 251 |  |  |  |  |  |  |  |  |

Division of Statistical and Eistorical Rosearch. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

Table 503.—Pork, fresh: Exports from the United States, by countries, 1910-1923.

| Year ending June 30. | France. | United Kingdom. | Other Europe | Total Europe. | Bermuda. | Canada. | Pana ma. | $\begin{aligned} & \text { Mex- } \\ & \text { ico. } \end{aligned}$ | Philippine Lslands. | Cuba. | Other countries. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | tbs. | los. | los. | lbs. | lbs. | $l b s$. | $t b s$. | $l b s$. | lòs. | lbs. |
| 1909-10. |  | 395 |  | 395 | 26 | 78 | 231 | 1 | 51 | 235 | 23 | 1,040 |
| 1910-11 |  | 75 | 44 | 119 | 31 | 207 | 440 | (1) | 48 | 89 | 421 | 1,355 |
| 1911-12 |  | 968 |  | 968 | 15 | 891 | 565 | (1) | 76 | 82 | 1 | 2,598 |
| 1912-13 |  | 758 |  | 758 | 50 | 580 | 685 | 4 | 257 | 99 | 25 | 2, 458 |
| 1913-14 |  | 1,354 | 10 | 1,364 | 13 | 232 | 687 | 1 | 153 | 151 | 67 | 2,668 |
| 1914-15 | 324 | 2, 832 | 22 | 3, 178 | 72 | 46 | 370 | 4 | 77 | 137 | 24 | 3,908 |
| 1915-16 | 2, 270 | 26, 403 | 165 | 28, 838 | 103 | 32, 962 | 380 | 7 | 22 | 338 | 356 | 63, 006 |
| 1916-17 | 920 | 23, 787 |  | 24, 707 | 115 | 24, 833 | 398 | 8 | 60 | 178 | 137 | 50,436 |
| 1917-18. | 642 | 8,235 | 522 | 9,399 | 9 | 11, 396 | 44 | 4 | 43 | 372 | 123 | 21, 390 |
| 1918-19. | 38 | 2, 036 | 707 | 2,781 | 26 | 16, 328 | 41 | 10 |  | 379 | 79 | 19, 644 |
| 1919-20. | 59 | 3,146 | 10, 551 | 13,756 | 37 | 7,158 | 171 | 14 | 22 | 373 | 5,694 | 27, 225 |
| 1920-21 | 268 | 15,099 | 18, 130 | 33, 497 | 36 | 17, 058 | 394 | 89 | 44 | 653 | 5, 304 | 57,075 |
| 1921-22 |  | 4, 697 | 6, 162 | 10,859 | 48 | 12, 281 | 353 | 93 | 60 | 2, 147 | 70 | 25, 911 |
| 1922-23. | 1 | 22,995 | 3, 056 | 26, 052 | 83 | 14, 588 | 500 | 82 | 157 | 2, 204 | 106 | 43, 772 |

[^261]970 Yearbook of the Department of Agriculture, 1923.
Table 504.-Pork, pickled: Exports from the United States by countries, 1910-1923.

| Year cading June 30. | Belgium. | Norway. | United Kingdom. | Other Europe. | Total Europe. | Canada. | Panama. | New-foundland and Labrador. | Haiti. | Cuba. | Other countries. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1, |  | 1,060 |  |  |  | 1,000 | 1,000 |  | 1,000 | 1,000 |  |
|  | lbs. | lbs. | lbs. | lbs. | lbs. | los. | lbs. | lbs. | lbs. | libs. | lobs. | los. |
| 1905-10 | 139 | 703 | 8,679 | 1, 424 | 10,945 | 8, 085 | 1,424 | 4,445 | 1,257 | 5, 830 | 8, 046 | 40, 032 |
| 1910-11 | 159 | 787 | 8, 754 | 2,397 | 12, 097 | 9, 084 | 1, 233 | 5, 001 | 1, 360 | 7, 383 | 9,571 | 45, 729 |
| 1911-12 | 348 | 278 | 13, 501 | 1,466 | 15, 593 | 11, 157 | 1,420 | 6,571 | 2, 335 | 9, 989 | 9, 256 | 56, 321 |
| 1912-13 | 458 | 261 | 14, 620 | 1,881 | 17, 220 | 9, 437 | 1,438 | 5, 673 | 2, 626 | 9,141 | 8,214 | 53, 749 |
| 1913-14 | 166 | 355 | 5,572 | 1,408 | 7,501 | 12, 826 | 1, 620 | 7,912 | 1, 513 | 4, 091 | 10, 080 | 45,543 |
| 3914-15 |  | 174 | €, 534 | 11, 466 | 18, 174 | 8,500 | 1, 304 | 5, 244 | 636 | 3,875 | 7, 923 | 45, 656 |
| 1915-16 | 1, 014 | 825 | 13, 124 | 5,445 | 20, 408 | 17,835 | I, 116 | 7,070 | 949 | 7,847 | 8, 236 | 63, 461 |
| 1916-17 | 163 | 325 | 6, 059 | 878 | 7,425 | 16, 929 | 618 | 6,262 | 772 | 7,700 | 7,287 | 46, 993 |
| 1917-18 |  | $\left.{ }^{1}\right)$ | 1,903 | 474 | 2,377 | 13, 689 | 277 | 3,221 | 481 | 8, 935 | 4,242 | 33, 222 |
| 1918 | 1,209 | 956 | 2,981 | 1,515 | 6,661 | 8,189 | 105 | 5,706 | 625 | 6,694 | 3, 524 | 31, 504 |
| 191-20 | 554 | 2, 753 | 3,142 | 4. 243 | 10,692 | 14,500 | 229 | 5,560 | 790 | 5, 775 | 4,097 | 41, 643 |
| 1920-21 | 698 | 336 | 2,908 | 3, 039 | 6,981 | 13, 644 | 212 | 4,147 | 929 | 2,458 | 4,915 | 33, 286 |
| 1921-22 | 628 | 1, 258 | 4,914 | 3, 071 | 9,871 | 10, 857 | 248 | 4,756 | 1,223 | 1, 319 | 5,236 | 33, 510 |
| 1922-23. | 328 | 1,568 | 5,853 | 5, 378 | 13, 127 | 13, 349 | 329 | 5, 266 | 1,270 | 1,379 | 6,214 | 40,934 |

Division of Statistical and Fistorical Research. Compiled from Foreign Commerce and Navigation of the United States, 1916-1918; Monthiy Summaries of Foraign Commerce, June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Less than 500 pounds.
Table 505.-Pork, canned: Exports from the United States by countries, 1910-1923.

| Year ending June 30. | France. | Italy. | United Kingdom. | Other Europe. | Total Europe. | $\begin{aligned} & \text { Can- } \\ & \text { ada. } \end{aligned}$ | Panama. | Mexico. | Cuba. | $\begin{aligned} & \text { Argen- } \\ & \text { tina. } \end{aligned}$ | Other countries. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 09-10. | ${ }^{2} 128$. |  | ${ }_{\substack{\text { llbs. } \\ 3,156}}$ | $\stackrel{\text { libs. }}{258}$ | ${ }_{\text {l }}^{\text {l }}$ 3, 53. | s. | los. <br> 9 | ${ }_{\text {l }}^{\text {l }}$ - ${ }_{23}$ | ${ }^{\text {lbs. }}$ | ${ }^{\text {l }} \mathrm{l}$ ¢ 122 | lbs. <br> 326 <br>  |  |
| 1910-11. | 51 | 14 | 3,109 | 202 | ${ }_{3}^{3}, 376$ | 1 | 37 | 65 | 16 | 103 | 413 | 4,011 |
| 1911-12 | 104 | 5 | 4, 205 | 230 | 5, 244 | 5 | 32 | 57 | 91 | 163 | 248 | 5, 840 |
| 1912-13 | 33 | 2 | 3, 211 | 229 | 3,475 | 85 | 63 | 54 | 27 | 214 | 230 | 4, 148 |
| 1913-14.. | 28 | 1 | 2, 369 | 184 | 2, 582 | 10 | 19 | 25 | 92 | 233 | 113 | 3,074 |
| 1914-15 | 257 | 4 | 3,757 | 61 | 4, | 45 | 27 | 11 | 77 | 80 | 325 | 4,644 |
| 1915-16 | 645 | 3 | 7, 843 | 324 | 8,815 | 28 | 3 | 18 | 123 | 128 | 496 | 9,611 |
| 1916-17 | 1,103 | 259 | 3, 355 | 109 | 4,826 | 393 | 4 | 74 | 51 | 52 | 496 | 5,896 |
| 1917-18 | 2,423 | 139 | 2, 044 | ${ }^{(1)}$ | 4, 606 | 132 | 10 | 31 | 73 | 53 | 289 | 5, 194 |
| 191 | 950 | 389 | 2, 244 | 1,040 | 4,623 | 245 | 4 | 67 | 13 | 33 | 288 | 5,273 |
| 1919-20 | 159 | 179 | 2,318 | 161 | 2, 817 | 51 | 1 | 31 | 79 | 30 | 253 | 3, 262 |
| 1920-21 |  |  | 829 | 54 | 883 | 61 |  | 45 | 33 | 24 | 73 | 1,119 |
| 1921-22 | 9 |  | 1,924 | 15 | 1,948 | 77 | 1 | 39 | 33 | 61 | 104 | 2, 263 |
| 1922-23. | 6 | ------- | 2,383 | 16 | 2,405 | 142 | 10 | 29 | 26 | 24 | 125 | 2, 761 |

Dirision of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918; Monthly Summaries of Foreign Commerce, June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Less than 500 pounds.
Table 506.-Bacon: Exports from the United States, by countries, 1910-1923.

| Year ending June 30. | Belgium. | France. | Italy. | Netherlands. | Norway. | United Kingdom. | Other Europe. | Total Europe. | Canada. | Cuba. | Other countries. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1, | 1,000 | 1, | 1,000 | 1,000 |  | 1,000 |  | 1, | 1,000 |  |  |
|  | lbs. | los. | lbs. | $l b s$. | 153. | lb | lbs. |  | lbs |  |  |  |
| 1309-10 | 2, 206 | 23 | 1,605 | 1,065 | 330 | 133, 995 | 956 | 140, 180 | 1, 838 | 7,046 | 3, 099 | 152, 163 |
| 1910-11 | 3, 547 | 1,711 | 6, 529 | 4,351 | 3, 784 | 116, 405 | 9,750 | 146, 077 | 1,691 | 6,224 | 2, 683 | 156, 675 |
| 1911-12 | 4,503 | 9, 418 | 8, 156 | 7,271 | 4, 560 | 147, 449 | 15, 598 | 196, 955 | 3, 342 | 4, 823 | 3, 454 | 208, 574 |
| 1912-13 | 9, 141 | 2,097 | 11, 781 | 7,639 | 4, 054 | 138, 133 | 11, 426 | 184, 271 | 6, 868 | 6, 658 | 3,197 | 200, 994 |
| 1913-14 | 5, 110 | 197 | 9, 732 | 1,718 | 5, 459 | 132, 820 | 11,881 | 166, 917 | 11, 083 | 13, 734 | 2, 230 | 193,964 |
| 1914 | 5, 737 | 44, 712 | 1,629 | 8,285 | 11,518 | 201, 043 | 48, 896 | 321, 820 | 10, 025 | 13, 360 | 1,513 | 346, 718 |
| 1915-16 | 60, 161 | 52, 501 | 10,532 | 12, 846 | 22, 387 | 339, 341 | 26, 611 | 524, 379 | 39, 591 | 13, 543 | 2, 296 | 579, 809 |
| 1916-17 | 65, 220 | 77, 036 | 19,378 | 10, 625 | 8,296 | 346, 758 | 3, 95.2 | 531, 265 | 118, 710 | 14, 915 | 2, 262 | 667, 152 |
| 1917-18 | 68, 670 | 73, 532 | 74, 460 |  | 25 | 533, 135 | 1,057 | 750, 879 | 42, 837 | 20, 294 | 1, 284 | 815,294 |
| 1918-19 | 109, 591 | 220, 391 | 80, 552 | 22, 477 | 18, 182 | 657, 048 | 93, 0301 | 1, 201, 871 | 26, 186 | 9,154 | 1,036 | 1, 238, 247 |
| 1919-20 | 37,654 | 27, 997 | 13, 398 | 122, 084 | 12, 869 | 411, 285 | 134, 116 | 760, 303 | 21, 639 | 19,567 | 2,158 | 803, 667 |
| 1920-21 | 29, 448 | 5, 369 | 14, 991 | 43, 421 | 6, 681 | 244, 716 | 104, 312 | 449, 538 | 12, 718 | 25, 302 | 1,740 | 489, 298 |
| 1921-22. | 16, 743 | 9, 363 | 2, 481 | 20, 847 | 9, 147 | 184, 703 | 69, 993 | 313, 277 | 11, 022 | 23, 462 | 2, 788 | 350, 549 |
| 1922-23. | 23, 215 | 7, 758 | 9, 259 | 30, 972 | 12,269 | 188, 274 | 99, 009 | 370, 756 | 9.925 | 24, 830 | 2, 771 | 408, 282 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

Table 507.-Hams and shoulders: Exports from the United States, by countries, 1910-1923.

| Year ending June 30. | Belgium. | France. | Nether- <br> lands. | United Kingdom. | Other Europe. | Total Europe. | Canada. | Cuba. | $\begin{aligned} & \text { Mex- } \\ & \text { ico. } \end{aligned}$ | Panama. | Other countries. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | lbs. | lbs. | lbs. | $l b s$. | $l b s$. | lbs. | lbs. | $l b s$. | $l b s$. | $l b s$. |
| 1909-10. | 5, 305 | 8 | 109 | 130, 303 | 364 | 136, 089 | 2,557 | 2, 879 | 903 | 940 | 3,517 | 146, 885 |
| 1910-11. | 9, 092 | 26 | 226 | 135, 433 | 720 | 145, 497 | 2, 918 | 3, 876 | 640 | 1,103 | 3, 675 | 157, 709 |
| 1911-12. | 15, 018 | 258 | 256 | 169, 675 | 1,295 | 186, 502 | 6, 282 | 5, 085 | 938 | 1, 088 | 4, 149 | 204, 044 |
| 1912-13. | 5, 822 | 316 | 131 | 134, 017 | 560 | 140, 846 | 6, 785 | 6, 002 | 782 | 1, 029 | 4, 101 | 159, 545 |
| 1913-14. | 4, 081 | 122 | 95 | 146, 007 | 412 | 150, 717 | 4,007 | 5,638 | 350 | 761 | 4,409 | 165, 882 |
| 1914-15 | 6,596 | 609 | 1,689 | 179, 377 | 2, 839 | 191, 110 | 1,515 | 6, 842 | 249 | 623 | 3, 362 | 203, 701 |
| 1915-16. | 2, 793 | 7, 898 | 570 | 251, 026 | 591 | 262, 878 | 2, 674 | 11, 493 | 463 | 976 | 3,725 | 282, 209 |
| 1916-17 |  | 25, 864 | 1 | 217, 435 | 2, 028 | 245, 328 | 5, 617 | 9,868 | 821 | 630 | 4,393 | 266, 657 |
| 1917-18 |  | 18, 436 |  | 372, 723 | 842 | 392, 001 | 14, 287 | 9,990 | 465 | 221 | 2, 608 | 419, 572 |
| 1918-19 | 32, 583 | 112, 813 | 4,020 | 415, 620 | 83, 703 | 648, 739 | 6,974 | 7,641 | 951 | 181 | 2, 754 | 667, 240 |
| 1919-20 | 6, 489 | 29,870 | 6,112 | 182, 563 | 25, 146 | 250, 180 | 5, 669 | 14, 185 | 833 | 332 | 4, 257 | 275, 456 |
| 1920-21 | 6, 891 | 1,473 | 1, 832 | 134, 038 | 1, 662 | 145, 896 | 8, 441 | 12, 489 | 1, 055 | 434 | 3, 697 | 172, 012 |
| 1921-22 | 9, 690 | 894 | 196 | 233, 566 | 2, 438 | 246, 784 | 10, 664 | 9, 071 | 890 | 473 | 3, 760 | 271, 642 |
| 1922-23 | 13, 979 | 2,142 | 937 | 259, 430 | 4,182 | 280, 670 | 19, 536 | 12, 784 | 1,028 | 631 | 4,538 | 319, 187 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918; Monthly Summaries of Foreign Commerce, December 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

Table 508.-Lard: Exports from the Uni'ed States, by countries, 1910-19.23.

| Year ending June 30. | Belgium. | Denmark. | Germany. | Italy. | Nether- <br> lands. | United Kingdom. | Other Europe. | Total Europe. | Canada. | Cuba. | Other countries. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,00 |  | 1 |  |  |  | 1,000 | , | 1,000 | 1,000 | 1,000 | 0 |
|  | lbs | lbs | lbs | lbs. | $l b s$. | lbs. | $l b s$. | lbs. | $l b s$. | $l b s$. | , | los. |
| 1909-10 | 9, 060 | 4, 503 | 93, 393 | 2, 263 | 23, 758 | 161, 331 | 3, 742 | 298, 050 | 9,310 | 33, 239 | 22, 329 | 362, 928 |
| 1910-11 | 19, 900 | 1,496 | 151, 620 | 5, 781 | 33, 221 | 165, 412 | 25, 083 | 402, 513 | 6,556 | 34, 969 | 32, 070 | 476, 108 |
| 1911-12 | 21, 744 | 3, 130 | 159, 474 | 3, 171 | 38, 675 | 186, 125 | 32, 764 | 445, 083 | 7,968 | 42, 549 | 36,656 | 532, 256 |
| 1912-13 | 18, 762 | 1, 812 | 160, 862 | 6, 106 | 43, 384 | 168, 380 | 21, 178 | 420, 484 | 11, 080 | 46, 526 | 40,935 | 519, 025 |
| 1913 | 15, 915 | 1, 464 | 146, 209 | 5, 959 | 43, 470 | 164, 633 | 8, 067 | 385, 717 | 15,996 | 49, 610 | 30, 135 | 481, 458 |
| 1914-15 | 5, 129 | 72, 057 | 3,878 | 4, 123 | 22, 245 | 189, 350 | 98, 640 | 395, 422 | 7, 722 | 45, 349 | 27, 039 | 475, 532 |
| 1915-16 | 70, 132 | 2, 874 |  | 3, 488 | 13, 282 | 192, 076 | 48, 903 | 330, 755 | 6, 330 | 53, 812 | 36, 114 | 427011 |
| 1916-17 | 96, 761 | 841 |  | 4,982 | 20, 446 | 178, 111 | 57, 559 | 358, 700 | 5,376 | 48, 733 | 31, 961 | 444, 770 |
| 1917-18 | 116, 154 | 75 |  | 2, 137 |  | 159, 959 | 46, 471 | 324, 796 | 894 | 52, 574 | 14, 242 | 392, 506 |
| 1918-19 | 190, 770 | 22, 256 | 9,579 |  | 17,683 | 286, 451 | 145, 016 | 671, 756 | 3,565 | 25, 572 | 23, 878 | 724, 771 |
| 1919-20 | 55,970 | 13, 528 | 49,733 | 16,502 | 78, 354 | 165, 374 | 100, 058 | 479, 519 | 11, 618 | 68, 734 | 27, 354 | 587, 225 |
| 1920-21 | 57, 963 | 9, 527 | 231, 528 | 14, 172 | 113, 868 | 169, 464 | 36, 415 | 632, 937 | 12, 226 | 59, 939 | 41, 055 | 746, 157 |
| 1921-22 | 43, 591 | 6, 923 | 260, 716 | 9, 051 | 42, 831 | 244, 465 | 59, 300 | 686, 877 | 8, 852 | 73, 926 | 62, 724 | 812, 379 |
| 1922-23 | 50, 472 | 5,700 | 328, 112 | 29,571 | 47, 802 | 241, 144 | 53, 396 | 756, 197 | 14, 218 | 87, 898 | 94, 329 | 952, 642 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922 and 1923; and records of the Bureau of Foreign and Domestic Commerce.
Table 509.-Pork, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909-1922.

| Calendar year. | Imports. |  |  |  |  | Exports. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Belgium. | France. | Germany. | Switzerland. | United Kingdom. | Denmark. | Netherlands. | Russia. | Sweden. | United States. | Canada. | Argentina. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | $i b s$. |
| 1909 | 1, 815 | 105 | 22, 551 | 5, 168 | 47, 986 | 3, 352 | 66, 686 | 6,557 |  | 2,417 | 464 |  |
| 1910 | 1, 023 | 6, 670 | 8, 117 | 3, 907 | 53, 750 | 1, 203 | 52, 070 | 7,067 |  | 907 | 229 |  |
| 1911 | 3,477 | 14, 001 | 2, 687 | 14, 583 | 50, 728 | 2,198 | 64, 415 | 5, 988 |  | 2, 232 | 497 |  |
| 1912 | 2, 294 | 9,497 | 28, 880 | 22, 082 | 35, 027 | 12, 486 | 53,103 | 9, 091 | 14, 124 | 2, 608 | 16,981 |  |
| 1913 | 1,897 | 1,716 | 35, 695 | 12, 489 | 55, 358 | 2,547 | 79, 010 | 8, 276 | 4,776 | 2,924 | 6, 134 |  |
| 1914 |  | 903 |  | 7,461 | 96, 455 | 1,972 | 109, 854 | 5, 869 | 7, 660 | 17,701 | 44, 629 | 736 |
| 1915 |  | 14 |  | - 3 | 30, 162 | 32, 728 | 97, 827 | 4, 453 | 18, 263 | 20,732 | 89, 156 | 1,969 |
| 1916 |  | 2, 079 |  | 138 | 32, 847 | 29,919 | 34, 693 | 1,011 | 20, 418 | 54, 157 | 34, 218 | 2,965 |
| 1917 |  | 9, 128 |  | 102 | 18, 015 | 15, 983 | 6, 469 |  | 6, 542 | 46, 792 | 42, 558 | 1,684 |
| 1918 |  | 7,136 |  | 46 | 11, 150 | 79 | 1 |  | 11 | 9,911 | 10, 401 | 2, 269 |
| 1919 | 63 | 6, 449 |  | 60 | 15, 220 | 622 | 8, 583 |  | 15 | 23, 998 | 32, 610 | 9, 915 |
| 1920 | 261 | 6, 407 | 14,441 | 4, 759 | 52, 705 | 4,580 | 3,238 |  | 2, 345 | 36, 764 | 33, 973 | 27, 485 |
| 1921 | 825 | 4, 701 | 25, 618 | 6,159 | 65, 779 | 3, 694 | 39, 344 |  | 6, 416 | 55, 267 |  | 25, 761 |
| 1922 | 10,769 | 25,880 | 13, 779 | 1,050 | 74, 408 |  | 62, 348 |  |  | 26, 156 |  | 17,293 |

Division of Statistical and Historical Research. Compiled from official sources.

Table 510.-Bacon, hams, and shoulders: Net imports and net exports of principal countries, 1909-1922.

| $\begin{gathered} \text { Calendar } \\ \text { year. } \end{gathered}$ | Imports |  |  |  |  | Exports |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | France. | Germany. | Swit-zerland. | United Kingdom. | Cuba. | Den- | Nether lands. | $\begin{aligned} & \text { Rus- } \\ & \text { sia. } \end{aligned}$ | Sweden. | United States. | $\begin{aligned} & \text { Can- } \\ & \text { ada. } \end{aligned}$ | Australia. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,0 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | ${ }^{\text {lbs. }}$ | libs. |  |  |  |  |  |  |  |  |  |  |
| 1910 | 2,687 | ${ }_{368}$ | 1,063 | 499, 926 | 3, ${ }^{4,678}$ | 207, 867 | 5,780 | 15, 415 | 3,759 | 259, 451 | 45, 423 | 1,400 |
| 1911 | 16, 158 | 950 | 1,345 | 637, 225 | 4,370 | 245, 864 | 7, 105 | 18, 764 | 5,807 | 387. 727 | 60, 173 | 2, 137 |
| 1912 | 19,399 | 4, 427 | 1,378 | 604, 235 | 4,909 | 263, 450 | 1,293 | 19, 663 | 7,792 | 368, 080 | 30, 555 | 1,879 |
| 1913 | 10,467 | 1, 959 | 1, 078 | 625, 675 | 5, 299 | 272, 144 | 21, 924 | 23,004 | 6,897 | 384, 213 | 18, 249 | 1,720 |
| 1914 | 10, 807 |  | 547 | 653, 300 | 4, 375 | 314, 666 | 43, 455 | 13, 413 | 20,733 | 318, 783 | 59, 647 | 1,112 |
| 1915 | 66, 037 |  | 202 | 885, 266 | 5,188 | 246, 804 | 31, 380 | 883 | 17, 247 | 788, 584 | 138,719 | 131 |
| 1916 | 77,708 |  | 723 | 997, 645 | 5,877 | 195, 154 | 59, 770 |  | 6,970 | 879, 796 | 187,637 | 915 |
| 1917 | 105, 039 |  | 175 | 863, 148 | 4,541 | 157, 017 | 27, 844 |  | 10, 638 | 821, 274 | 211, 684 | 5, 063 |
| 1918 | 112, 243 |  | 34 | 1,336,274 | 4,870 | 5,489 | 128 |  | 1,645 | 1, 640, 138 | 120, 500 | 5,594 |
| 1919 | 306,476 |  |  | 1,010,482 | 9, 033 | 554 | 52, 053 |  | 55, 840 | 1, 784, 447 | 244, 004 | 3, 026 |
| 1920 | 61, 248 | 188, 102 | 789 | 631, 007 | 23, 458 | 87,988 | 28, 417 |  | 15, 438 | 821, 168 | 99, 288 | 3,099 |
| 1921 | 16, 462 | 68, 250 | 680 | 699, 256 |  | 186, 654 | 10,406 |  | 15, 251 | 647, 680 | 93, 861 | 2, 687 |
| 1922 | 7, 769 | 57, 878 | 425 | 815, 349 |  | 1240, 583 | 8,133 |  | ${ }^{(2)}$ | 631, 452 | 94, 597 |  |

Division of Statistical and Historical Research. Compiled from official sources.
${ }^{1}$ Includes all pork meat.
${ }^{2}$ Pork not separated.
Table 511.—Lard: Net imports and net exports of principal countries, 1909-1922.

| Calendar year. | Imports. |  |  |  |  |  |  | Exports. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Belgium. | Ger- many. | France. | Sweden. | Swit- zerland. | United Kingdom. | Cuba. | Denmark. | Netherlands. | United States. | $\begin{aligned} & \text { Bra- } \\ & \text { zil. } \end{aligned}$ | Australia. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | libs. | lbs. | lbs. | lbs. | libs. | lbs. | lbs. | libs. | ${ }^{1} \mathrm{lb3}$. | lbs. |  |
| 1909. | 6,944 | 206,606 | 9,183 | 3,583 | 3, 164 | 196, 576 | 57, 549 | 10,590 | 14, 421 | 458, 261 | 1,250 | 1,259 |
| 1910 | 4, 142 | 128, 638 | 16,821 | 1,616 | 2,418 | 162, 051 | 60, 708 | 4,704 | 2,579 | 368, 832 | 127 | 2,906 |
| 1911 | 10, 974 | 212, 723 | 17, 116 | 2,065 | 4,591 | 202, 992 | 59, 485 | 6, 217 | 25, 910 | 552, 430 | 12 | 3, 012 |
| 1912 | 7, 371 | 233, 810 | 15, 220 | 1,542 | 4, 416 | 199, 450 | 63, 745 | 8,489 | 31, 395 | 495, 093 | 674 | 1,296 |
| 1913 | 7,255 | 236,708 | 1,894 | 1,486 | 3,651 | 223, 908 | 67, 884 | 8,843 | 11, 641 | 536, 180 | 897 | 3, 395 |
| 1914. |  |  | 5,848 | 825 | 2,925 | 196,587 | 64, 631 | 15, 441 | 3, 208 | 438, 016 | 453 | 1,219 |
| 1915 |  |  | 17,719 | 2,811 | 8,497 | 244, 890 | 69, 796 | 3,578 | 35, 912 | 451, 286 | 180 | 3, 531 |
| 1916 |  |  | 29,371 | 1,751 | 5,819 | 215, 026 | 68, 289 | 13, 816 | 29, 665 | 426, 660 | 172 | 1,273 |
| 1917. |  |  | 43, 537 | 79 | 8,732 | 162,072 | 55, 615 | 4, 677 | 329 | 372, 721 | 22, 502 | 1,458 |
| 1918 |  |  | 42, 345 | 74 | 14, 325 | 307, 181 | 62, 419 | 44 | 7 | 548, 818 | 29, 254 | 5,987 |
| 1919 | 25, 501 |  | 90, 751 | 22, 119 | 27, 131 | 229, 139 | 55, 184 | 5, 032 | 3,995 | 760, 902 | 44, 140 | 7,909 |
| 1920 | 14, 283 | 2〒2, 016 | 74, 155 | 6, 125 | 14, 178 | 155, 234 | 76,645 | 597 | 8,105 | 612, 250 | 24, 597 | 3, 075 |
| 1921 | 28, 665 | 192, 078 | 56, 544 | 5, 923 | 18, 078 | 250, 454 |  | 3,446 | 16, 919 | 868, 942 | 11, 458 | 2,793 |
| 1922 | 27,378 | 143, 729 | 47, 894 | 7,580 | 12,608 | 256, 014 |  | 1,656 | 24, 520 | 766, 950 | 4,334 |  |

Division of Statistical and Historical Research. Compiled from official sources.
Table 512.—Pork, carcass: Average prices per pound in Great Britain, 1909-1923.
FIRST QUALITY FRESH BRITISH PORK.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | Jaly. | Aug. | Sept. | Oct. | Nov. | Dec. | Av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1809 | 12.8 | 12.8 | 12.9 | 13.0 | 12.7 | 12.9 | 13. 2 | 13. 2 | 13.5 | 14.2 | 14.8 | 15.2 | 13.5 |
| 1910 | 15.1 | 15.0 | 15.0 | 14.8 | 14.7 | 14.1 | 13.9 | 14.6 | 15.0 | 15.4 | 15.3 | 14.9 | 14.8 |
| 1911 | 14. 5 | 14.2 | 14.2 | 14.0 | 13.2 | 14.6 | 12.2 | 12.2 | 12.7 | 13.2 | 12. 8 | 12.5 | 13.2 |
| 1912 | 12.7 | 12.7 | 12.8 | 12.8 | 12.5 | 12.6 | 12.8 | 13.0 | 14.4 | 15.1 | 15. 1 | 15.7 | 13.5 |
| 1913 | 16.1 | 16.3 | 16.3 | 16.1 | 15.8 | 15.5 | 15.5 | 15.6 | 16.0 | 16. 4 | 16. 7 | 17.1 | 16.1 |
| AF. | 14.2 | 14.2 | 14. 2 | 14.1 | 13.8 | 13.9 | 13.5 | 13.7 | 14.3 | 14.9 | 14.9 | 15.1 | 14.2 |
| 1914 | 16.8 | 16.2 | 16.2 | 15.8 | 14.5 | 13.9 | 13.3 | 14.5 | 15.1 | 16.5 | 16.4 | 16.3 | 15.5 |
| 1915 | 15.8 | 15.9 | 16.4 | 17.2 | 17.0 | 16.8 | 16.7 | 16.9 | 18.8 | 20.0 | 21.4 | 21.4 | 17.9 |
| 1916 | 20.1 | 21. 6. | 21. 6 | 23.6 | 21.9 | 21.7 | 21.7 | 21. 7 | 23.8 | 25.4 | 25.0 | 26.1 | 22.8 |
| 1917 | 26. 9 | 27.2 | 27.7 | 28. 2 | 26.4 | 27.2 | 28.6 | 25.5 | 29.1 | 28. 2 | 28.2 | 28.2 | 27.6 |
| 1918 | 28. 2 | 28.2 | 28. 2 | 31.8 | 31.8 | 31.7 | 31.7 | 31.8 | 31.8 | 34. 2 | 35.7 | 35. 7 | 31.7 |
| 1919 | 32.1 | 31.8 | 31.2 | 31.0 | 31.1 | 30.8 | 29.5 | 28.5 | 27.9 | 27.8 | 27.2 | 26.3 | 29.6 |
| 1920 | 26.8 | 131.0 | 136.0 | 41.0 | 37.2 | 36.1 | 37.6 | 35. 4 | 36.3 | 36. 4 | 34.9 | 34. 2 | 35.2 |
| AF. | 23.8 | 24.6 | 25.3 | 26.9 | 25.7 | 25.5 | 25.6 | 24.9 | 26.1 | 26.9 | 27.0 | 26.9 | 25.8 |
| 1921 | 32.5 | 29.7 | 29.7 | 30.5 | 29.0 | 24.9 | 22.9 | 23.5 | 24.5 | 22.8 | 22.5 | 23.2 | 26.3 |
| 1922 | 22.5 | 23.9 | 24.4 | 25.3 | 25.0 | 23.0 | 23.9 | 24.7 | 26.6 | 27.3 | 28.5 | 30.3 | 24.5 |
| 1923 | 29.6 | 28.0 | 27.0 | 26.8 | 30.7 | 24.5 | 20.7 | 20.4 | 22.4 | 23.0 | 22.3 | 21.5 | 24.7 |

[^262]Table 512.—Pork, carcass: Average prices per pound in Greai Britain, 1909-1923-Continued.

FIRST QUALITY FROZEN PORK. ${ }^{1}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cts. | Cls. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| 1909. | 12.7 | 11.7 | 11.9 | 12. 0 | 11. 9 | 12.1 | 12.6 | 12. 7 | 13.5 | 14.5 | 14.7 | 13.4 | 12.8 |
| 1910 | 14.5 | 14.0 | 14.9 | 15. 2 | 14. 7 | 14.2 | 14.2 | 14.3 | 14.7 | 14.9 | 14. 5 | 14. 2 | 14.6 |
| 1911 | 13.7 | 13.2 | 14. 0 | 13. 6 | 12. 5 | 11. 4 | 11.2 | 11.3 | 12.4 | 11.9 | 11.9 | 12. 1 | 12.4 |
| 1912 | 11.7 | 12.2 | 12. 5 | 13. 2 | 12. 9 | 13. 2 | 13.4 | 13.0 | 15.4 | 14.7 | 14.9 | 15. 1 | 13.5 |
| 1913 | 15.0 | 15.4 | 15.8 | 15.3 | 15.0 | 15.0 | 14.6 | 14.8 | 14.9 | 14.5 | 14. 2 | 14. 5 | 14.9 |
| Av. 1309-1913 | 13.5 | 13.3 | 13.8 | 13.9 | 13.4 | 13. 2 | 13.2 | 13.2 | 14. 2 | 14.1 | 14.0 | 13.9 | 13.6 |
| 1914 | 15.1 | 14.3 | 14. 5 | 14.1 | 13.6 | 13.3 | 11.8 | 13.5 | 12.8 | 14.8 | 14.6 | 14.9 | 13.9 |
| 1915 | 15.0 | 15.8 | 16. 7 |  |  |  |  |  |  |  |  |  |  |
| 1916 | 15.8 | 16.3 | 16.6 | 18.6 | 17.6 | 18. 4 | 17.9 | 18. 1 | 19.8 | 21. 0 | 20. 2 | 20.6 | 18.4 |
| 1917 | 20.5 | 21.6 | 21.8 | 22. 2 | 21.4 | 20.8 | 22.1 | 23.7 | 25.2 | 25. 2 | 25. 2 | 25.2 | 22.9 |
| 1918 | 225.2 | 25.2 | 26.9 | 31.8 | 31.8 | 31.7 | 31.7 | 31.8 | 231.8 | 35.7 | 235.7 | 35.7 | 31.2 |
| 1919 | 32.1 | 31.8 | ${ }^{2} 31.2$ | 31, 0 | 231.1 | 230.8 | 26.3 | 25.3 | 24.8 | 24.8 | 24.2 | 22.4 | 28.0 |
| 1920 | 21.8 | 20.0 | 22.4 | 23.2 | 22.8 | 23.4 | 24.3 | 25.0 | 28.8 | 28.7 | 28.4 | 27.3 | 24.6 |
| 1921 | 24.2 | 21.3 | 20.2 | 20.0 | 19.6 | 18.2 | 217.2 | 2 16.2 | 16. 2 | 16. 2 | 14. 4 | 13.8 | 18. 1 |
| 1922 | 13.4 | 13.7 | 13.7 | 13.8 | 13. 9 | 13.9 | 16.7 | 16.8 | 18.4 | ${ }^{2} 18.8$ | 19. 2 | 19.5 | 16.0 |
| 1923 | 18.1 | 16.1 | 14.7 | 15.2 | 14.3 | 14.7 | 15.6 | 15.1 | 14.8 | 15.7 | 16.2 | 15.2 | 15.5 |

Division of Statistical and Historical Research. Compiled from Agricultural Statistics 1909-1922, and Agricultural Market Report, 1923, Ministry of Agriculture and Fisheries, Great Britain. Converted to eents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.
${ }^{1}$ Designated "Foreign" prior to 1917.
${ }^{2}$ Interpolated.
Table 513.-Lard, pure: Monthly average price per 100 pounds, Chicago, 19051923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Delts. | Dolls. | Dolls. | Dolls. | Dells. | Dolls. | Dells. | Dolls. | Dolls. | Dolls. | Dolls. |
| 1905 | 6.73 | 6. 74 | 6.92 | 7.12 | 7.18 | 7.20 | 7.09 | 7.70 | 7.51 | 7.12 | 7.08 | 7.51 | 7.16 |
| 1906 | 7. 44 | 7. 55 | 8.03 | 8.59 | 8. 49 | 8. 74 | 8.93 | 8.66 | 7.79 | 9.33 | 9.36 | 8.75 | 8.47 |
| 1907 | 9. 29 | 9.70 | 9.03 | 8. 68 | 8.95 | 8.69 | 8.91 | 8.89 | 8.98 | 8.86 | 8. 16 | 7.98 | 8.84 |
| 1908 | 7. 70 | 7.21 | 7.67 | 8.19 | 8.42 | 8. 66 | 9.30 | 9.33 | 9.94 | 9.62 | 9,31 | 9.32 | 8.72 |
| 1909 | 9.57 | 9. 52 | 10.05 | 10.32 | 10.60 | 11.54 | 11. 52 | 11. 66 | 12. 23 | 12.17 | 12.93 | 13.12 | 11.27 |
| 19 | 12. 43 | 12. 50 | 14.08 | 12. 33 | 12. 95 | 12. 27 | 11.85 | 11.82 | 12. 44 | 12. 93 | 10.82 | 10.31 | 12.23 |
| 1911 | 10.32 | 9. 50 | 8.83 | 7.93 | 8.08 | 8. 17 | 8.30 | 8.97 | 9.32 | 8.85 | 9.07 | 9.00 | 8. 86 |
| 1912 | 9.24 | 8. 90 | 9.37 | 10.06 | 10.77 | 10.87 | 10. 57 | 10.73 | 11.08 | 11.47 | 11.15 | 10. 46 | 10.39 |
| 1913 | 9.88 | 10.50 | 10.66 | 11.00 | 11. 05 | 10.99 | 11. 53 | 11.28 | 11.15 | 10.60 | 10.63 | 10. 68 | 10. 83 |
| A.v. 1909-1913 | 10. 29 | 10.18 | 10. 60 | 10.33 | 10.68 | 10.77 | 10.75 | 10.89 | 11.24 | 11.20 | 10.92 | 10.71 | 10.72 |
| 1914 | 10.89 | 10. 67 | 10. 52 | 10. 23 | 9. 95 | 10. 03 | 10.08 | 9.69 | 9.68 | 10. 22 | 10.89 | 10.05 | 10. 24 |
| 1915 | 10.69 | 10.53 | 9. 84 | 9.95 | 9. 71 | 9.39 | 8.05 | 7.92 | 8.13 | 9.07 | 8.94 | 9.47 | 9.31 |
| 1916 | 10.32 | 9. 99 | 10.79 | 11. 77 | 12. 80 | 12. 87 | 13. 12 | 13. 44 | 14.47 | 15. 34 | 16.91 | 16. 66 | 13.21 |
| 1917 | 15.66 | 17.00 | 19.30 | 21. 00 | 22. 30 | 21. 41 | 20.77 | 22. 40 | 24.03 | 24.29 | 27.13 | 25.46 | 21. 73 |
| 1918 | 24. 39 | 26. 05 | 26. 07 | 25. 44 | 24. 53 | 24.50 | 26. 09 | 26.78 | 26.88 | 26.66 | 26. 68 | 25.31 | 25. 79 |
| 1919 | 23. 46 | 24.83 | 27. 35 | 30. 09 | 33. 58 | 34. 15 | 34. 76 | 30.01 | 26. 19 | 27.41 | 25. 86 | 23.11 | 28. 40 |
| 1920. | 23. 52 | 23.14 | 22.93 | 22. 71 | 22. 75 | 22.98 | 21. 71 | 21.16 | 22.58 | 23. 28 | 22.07 | 18. 15 | 22. 25 |
| Av. 1914-1920 | 16.99 | 17.46 | 18. 11 | 18.74 | 19.37 | 19.33 | 19.23 | 18.77 | 18.87 | 19.47 | 19.78 | 18.32 | 18. 70 |
| 192 | 16. 03 | 14.91 | 14.48 | 13. 07 | 11. 88 | 12.03 | 13.94 | 13.65 | 13. 51 | 12. 16 | 11. 62 | 11. 25 | 13. 21 |
| 1922 | 11.19 | 12. 59 | 13.50 | 12. 62 | 13.15 | 13. 22 | 13. 06 | 13. 30 | 13. 00 | 14. 12 | 13. 78 | 13.31 | 13. 07 |
| 1923 | 13.20 | 13. 25 | 13.87 | 13. 42 | 13.12. | 13. 18 | 12. 84 | 12.83 | 15.06 | 15.22 | 15. 72 | 15.04 | 13. 90 |

Division of Statistical and Historical Researc.. Prior to February, 1920, figures compiled from the National Provisioner; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

Table 514.-Bacon, Wiltshire sides, ${ }^{1}$ green, firsts: Average prices per pound at Bristol, England, calendar years, 1909-1923.

| Month. | A verage for 5 years, 1909-1913. |  |  |  |  | 1909 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | American. | Canadian. | $\begin{aligned} & \text { Dan- } \\ & \text { ish. } \end{aligned}$ | Irish. | British. | American. | Canadian. | Danish. | Irish. | British. |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| January | 13.2 | 13.7 | 14.5 | 15.0 | 16.2 | 10.9 | 12.2 | 12.8 | 13.9 | 14.8 |
| February | 13.3 | 13. 9 | 14.5 | 15. 2 | 16. 4 | 11.3 | 12.2 | 12.2 | 14. 1 | 14.8 |
| March. | 13.9 | 14.5 | 15. 1 | 15.7 | 16.9 | 12.6 | 13.5 | 13. 5 | 15. 2 | 16.1 |
| April | 13.8 | 14.6 | 15.3 | 15.8 | 16.9 | 13.0 | 14.6 | 15.2 | 16.1 | 16. 1 |
| May_ | 14.0 | 14.9 | 15.8 | 16. 6 | 17.4 | 13.5 | 15.2 | 16.1 | 16. 9 | 17. 4 |
| June | 14. 2 | 15. 1 | 15.9 | 16. 9 | 17.4 | 13.3 | 13. 9 | 14. 6 | 16.5 | 16.9 |
| July | 15.0 | 16.0 | 17.2 | 17.3 | 17. 9 | 13.9 | 14.8 | 16.3 | 16.5 | 16.9 |
| August | 15. 4 | 16. 0 | 17.2 | 17.6 | 18. 3 | 14. 6 | 15.2 | 16.5 | 17. 4 | 17.8 |
| September | 15.4 | 15.9 | 16. 5 | 17.2 | 17.9 | 15. 2 | 15.9 | 16. 1 | 16. 9 | 17.4 |
| October. - | 15.0 | 14.9 | 15. 4 | 15.9 | 16. 6 | 15.0 | 15.0 | 15.6 | 15.6 | 16.9 |
| November | 14. 1 | 14. 2 | 15.3 | 15. 2 | 16.0 | 15.0 | 15. 0 | 15.9 15.0 | 16.1 15 | 17.4 17.4 |
| December | 13.4 | 13.6 | 14.9 | 14.9 | 16.1 | 14.6 | 14.1 | 15.0 | 15.6 | 17.4 |
| Average.-.-. | 14.2 | 14. 8 | 15.6 | 16.1 | 17.0 | 13.6 | 14.3 | 15.0 | 15.9 | 16. 7 |
|  | 1910 |  |  |  |  | 1911 |  |  |  |  |
| January | 14.8 | 14.8 | 15.4 | 16.1 | 17.2 | 13.5 | 13.9 | 14.6 | 15.2 | 17.2 |
| February | 14.8 | 15. 2 | 15. 2 | 16.1 | 17.6 | 13.0 | 13. 7 | 14. 6 | 15.0 | 16. 7 |
| March. | 15.9 | 16.4 | 16. 5 | 17.4 | 18. 5 | 13. 0 | 13. 7 | 14.8 | 15.0 | 16.7 |
| April. | 14.8 | 15. 2 | 15. 4 | 16.3 | 18. 0 | 12.8 | 12.6 | 14. 3 | 14.8 | 15.9 |
| May | 15.4 | 15.9 | 16.1 | 16.3 | 18. 2 | 11.9 | 11.7 | 13.5 | 14.8 | 15.6 |
| June | ${ }^{2} 16.2$ | 16.7 | 16.9 | 17.4 | 18. 2 | 12.8 | 14.1 | 15. 2 | 15.9 | 16.9 |
| July | ${ }^{2} 17.1$ | 17.6 | 18.0 | 18.2 | 18. 7 | 13.5 | 14. 1 | 15.6 | 16. 1 | 16.9 |
| August | 216.1 | 16. 6 | 17.2 | 17.8 | 18.9 | 14. 6 | 15. 2 | 16.5 | 16. 3 | 16.9 |
| September | ${ }^{2} 16.2$ | 16. 7 | 16. 9 | 17.8 | 18.2 | 13.5 | 13. 7 | 15.0 | 16. 1 | 16.3 |
| October. | 15.6 | 15.4 | 14.8 | 15.9 | 16. 5 | 12.2 | 12.2 | 13.3 | 13.9 | 14.1 |
| November | ${ }^{2} 13.6$ | 14.1 | 14.8 | 15.6 | 16.9 | 11.3 | 11.5 | 12.2 11.9 | 11.9 12.6 | 13.0 13.5 |
| Decomber. | 212.5 | 13.0 | 14.1 | 14.8 | 16.1 | 11.3 | 11.1 | 11.9 | 12.6 | 13.5 |
| A verage....- | 15.2 | 15.6 | 15. 9 | 16.6 | 17.8 | 12.8 | 13.1 | 14.3 | 14.8 | 15.8 |
|  | 1912 |  |  |  |  | 1913 |  |  |  |  |
| January | 11.5 | 11.5 | 12.4 | 13.0 | 13.5 | 15. 2 | 15.9 | 17. 2 | 16.9 | 18.2 |
| February | 11.7 | 12.6 | 13.7 | 13. 7 | 14.1 | 15.6 | 15.9 | 16.7 | 16.9 | 18.7 |
| March. | 12.4 | 12.8 | 13.7 | 14. 1 | 14.8 | 15.6 | 16. 1 | 17.2 | 17. 2 | 18.2 |
| April. | 13.0 | 14.3 | 15.2 | 15.2 | 16.1 | 15.6 | 16. 1 | 16.5 | 16. 7 | 18. 2 |
| May. | 13.3 | 15. 0 | 15.6 | 16. 1 | 16.5 | 16.1 | 16.9 | 17.8 | 18.7 | 19. 1 |
| June. | 13.3 | 14.8 | 15.6 | 16.3 | 16. 5 | 15. 6 | 16.1 | 17.2 | 18. 2 | 18.7 |
| July. | 13.9 | 15.4 | 16. 9 | 16.9 | 17.4 | 16.7 | 18. 2 | 19.1 | 18. 9 | 19.6 |
| August | 15.2 | 15.9 | 17.8 | 17.6 | 17.8 | 16.5 | 16.9 | 18.0 | 18.7 | 20.0 |
| Septembe | 15.6 | 16.1 | 16.9 | 17.2 | 17.8 | 16.7 | 17. 2 | 17.8 | 18. 2 | 19.6 |
| October. | 15. 9 | 16.3 | 17.4 | 17. 4 | 18. 0 | 16.3 | 15.6 | 16.1 | 16. 7 | 17. 4 |
| November | 15.0 | 15.0 | 17.6 | 16.1 | 16.1 | 15. 4 | 15.2 | 16.1 | 16.1 | 16.7 |
| December | 14.3 | 14. 6 | 17.6 | 15.6 | 16.9 | 14.3 | 15.0 | 15.9 | 16.1 | 16. 5 |
| Average...-- | 13.8 | 14.5 | 15.9 | 15.8 | 16.3 | 15.8 | 16.3 | 17.1 | 17.4 | 18.4 |
|  | 1914 |  |  |  |  | 1915 |  |  |  |  |
| January | 15.0 | 15. 2 | 16.1 | 17. 2 | 17.8 | 16.0 | 16. 9 | 18.2 | 18.6 | 19.5 |
| February | 14.4 | 14.4 | 14.8 | 16. 8 | 17.2 | 15.3 | 15.9 | 17.0 | 17.9 | 18.7 |
| March | 15. 0 | 15.0 | 15.8 | 18.0 | 18.2 | 15.4 | 15.9 | 17.6 | 18.4 | 18.9 |
| April. | 14.8 | 15. 0 | 16. 1 | 16.7 | 17.8 | 15. 4 | 17. 1 | 19.3 | 20.3 | 21.0 |
| May- | 14.4 | 14.6 | 15.7 | 16.4 | 17.4 | 16.7 | 18. 6 | 20.5 | 21.0 | 21.4 |
| June. | 14.4 | 14. 2 | 15.3 | 16.6 | 17.4 | 16.8 | 18. 8 | 20.3 | 20.9 | 21.3 |
| July. | 14.6 | 14.4 | 15.7 | 16.8 | 17. 7 | 15.7 | 18.7 | 20.6 | 20. 0 | 20.8 |
| August | 18.3 | 19.2 | 19.9 | 20.1 | 20.1 | 16. 4 | 18.9 | 22.3 | 22.3 | 22.9 |
| September | 17.8 | 18.7 | 19.1 | 19.8 | 20.5 | 18.4 | 20.1 | 22.4 | 22.6 | 23.5 |
| October-- | 16. 4 | 15.7 | 15. 9 | 17.9 | 18.1 | 20.1 | 20.3 | 22.4 | 22.6 | 23.4 |
| November | 15. 8 | 15.8 | 16.2 | 17.3 | 17. 9 | 19.8 | 19.8 | 21.7 | 22. 5 | 22.9 |
| December | 15.2 | 16.1 | 16.7 | 17.8 | 18.7 | 18.5 | 19.2 | 21.9 | 21.9 | 22.8 |
| Average. | 15.5 | 15. 7 | 16. 4 | 17.6 | 18.2 | 17.0 | 18. 4 | 20.4 | 20.8 | 21.4 |

[^263]Table 514.-Bacon, Wiltshire sides, ${ }^{1}$ green, firsts: Average prices per pound at Bristol, England, calendar years, 1909-1923-Continued.

| Month. | 1916 |  |  |  |  | 1917 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | American. | Canadian. | Dan- | Irish. | British. | American. | Canadian. | Danish. | Irish. | British. |
| January | Cents. | $\begin{array}{r} \text { Cents. } \\ 19.3 \end{array}$ | Cents. 22.1 | Cents. 22.3 | $\begin{aligned} & \text { Cents. } \\ & 22.5 \end{aligned}$ | Cents. 22. 9 | $\begin{array}{r} \text { Cents. } \\ 24.8 \end{array}$ | $\begin{gathered} \text { Cents. } \\ 27.6 \end{gathered}$ | $\begin{gathered} \text { Cents. } \\ 28.5 \end{gathered}$ | Cents. 29.7 |
| February | 17.0 | 19.1 | 21.2 | 22.1 | 22.5 | 27.6 | 28. 9 |  | 32.7 | 33.5 |
| March | 18.7 | 20.8 | 23.0 | 23.4 | 25.1 | 28.2 | 28 |  | 30.1 | 31.8 |
| April.- | 19.8 18.9 | 21.7 20.4 | 21.9 23.1 | 22.5 24.2 | 26.0 25.1 | ${ }_{28.4}^{28.5}$ | 29.3 29.3 |  | 30.8 31.2 | 32.5 32.5 |
| May | 18.9 17.6 | 20.4 20.8 | 23.16 | 24.2 <br> 23.8 | 25.1 25.1 | 28.4 25.9 | 29.3 26.3 |  | 31.2 31.4 | 32.5 32.5 |
| July. | 18.5 | 22.5 | 24.6 | 25.1 | 25.9 | 28.9 |  |  | 32.7 | 32.5 |
| August | 22.1 | 25.1 | 27.2 | 28.0 | 28.5 | 31.2 |  |  | 34.4 | 34.6 |
| Septembe | 22: 5 | 24.2 | 25.5 | 26. 8 | 28.0 | 323 |  |  | 36. 7 | 34.6 |
| October- | 21.9 | 22.9 | 24.8 | 25.5 | 27.2 | 33. 3 |  |  | 30.7 | 34.6 |
| November December | 22.1 20.8 | $\begin{aligned} & 24.0 \\ & 23.7 \end{aligned}$ | 25.5 25.9 | 26.3 25.9 | 28.0 28.0 | 36.5 37.7 |  |  | 38.6 38.6 | 37.3 37.3 |
| A verage | 19.8 | 22.0 | 24.0 | 24.7 | 26.0 | 30.1 |  |  | 33.0 | 33.6 |
|  | 1918 |  |  |  |  | 1919 |  |  |  |  |
| January | 37.6 |  |  | 38.6 | 37.3 | 39.3 | 39.3 |  | 40.2 | 40.2 |
| February | 37.6 |  |  | 38.6 | 37.3 | 39.3 | 39.3 |  | 40.2 | 40.2 |
| March | 37.6 |  |  | 38.6 | 37.3 | 38.8 | 38.8 |  | 39.8 | 39.8 |
| April.- | 377 |  |  |  | 38.6 <br> 39 | 38.0 | 39.5 39 |  | 40.6 40.6 | 40.6 40.6 |
| May | $\begin{array}{r}37.7 \\ 37.7 \\ \hline\end{array}$ | 37.7 37 |  |  | 39.9 39.9 | 38.0 38.3 | 39.5 39.9 |  | 40.6 40.3 | 40.6 40.3 |
| July | 39.2 | 39.2 |  |  | 40.2 | 38.3 | 40.3 |  | 38.6 | 38.6 |
| August | 38.3 | 39.3 |  |  | 40.2 | 36.6 | 39.7 |  | 37.3 | 37.3 |
| September | 39. 3 | 39.3 |  |  | 40.2 | 35.8 | 35.8 |  | 36.5 | 36.5 |
| October--1 | $\begin{array}{r}39.3 \\ 39.3 \\ \hline\end{array}$ | 39.3 39.3 |  | 40.2 | 40.2 40 | 35. 0 | 35.6 35.0 |  | 36.4 35.6 | 35.6 |
| December | 39.3 | 39.3 |  | 40.2 | 40.2 | 32.3 | 32.3 |  | 34. 6 | 34.6 |
| Average | 38.5 |  |  |  | 39.3 | 37.1 | 37.9 |  | 38.4 | 38.4 |
|  | 1920 |  |  |  |  | 1921 |  |  |  |  |
| January | 31.5 | 31.5 | 32.3 | 33.7 | 33.7 | 27.2 | 34. 1 | 35.6 | 37.7 | 38.6 |
| February | 28. 9 | 28.9 | 29.7 | 31.0 | 31.0 | 28.0 | 30.3 | 37.8 | 39.8 | 41.5 |
| March | $\begin{array}{r}32.3 \\ 33.5 \\ \hline\end{array}$ | 32.3 <br> 33 | ${ }_{2}{ }^{2} 33.14$ | 34.6 48.9 | 34.6 49.8 | 27.2 23.9 | 28.1 | 38.8 <br> 39.5 | 41.2 | 42.1 |
| April.- | 33.5 33.0 | 33.5 33.0 | -34.9 | 40.4 | 43.8 | 20.4 | 24.0 | 32.9 | 34.3 | 37.3 |
| June- | 33.8 | 33.8 | 34.7 | 43.2 | 43.2 | 18. 5 | 26.1 | 32.0 | 35.0 | 38.4 |
| July. | 33.1 | 35.3 | 36. 0 | 49. 0 | 49.0 | 21.1 | 30.0 | 33.2 | 37.0 | 37.6 |
| August | 31.1 | 33.2 | 33. 9 | 48.5 | 48.5 | 21.2 | 28.9 | 31.0 | 34.9 31 | 35.9 |
| September | 30.8 | 325 | 33.7 3.3 |  | 47.0 | 18.6 | 21.9 21.6 | 30.3 27.7 | 31.3 28.0 | 31.6 28.5 |
| October.. | 30.5 30.0 |  | 33.3 36.2 | 42.6 41.3 | 46.5 42.8 | 18.0 | 21.6 21.3 | 27.7 27.1 | 28.0 27.7 | 28.5 29.8 |
| November | 30.0 30.6 | 35.1 35.8 | 36.2 39.5 | 41.3 41 | 43.8 43 | 18.9 | 22.8 | 28.4 | 28.9 | 31.0 |
| Average. | 31.6 | 33.1 | 34.2 | 41.7 | 42.8 | 21.8 | 26.5 | 32.8 | 34.7 | 36.2 |
|  | 1922 |  |  |  |  | 1923 |  |  |  |  |
| January - | 17.9 | 21.7 | 27. 9 | 29.4 | 31.1 | 17.9 |  |  | 30.3 | 32.4 |
| February | 23.4 | 26. 3 | 30.2 |  |  | 15.7 | 19.9 21.0 | 23.5 23.9 | 29.3 27.5 | 29.3 27.5 |
| March | 20.7 | 227 24 24 | 28.4 28.4 | 29.3 <br> 33 | 31.3 34 3 | 16.4 16.6 | 21.0 22.0 | 23.9 25.4 | 27.5 28.1 | 27.2 |
|  | 20.1 20.6 | 24.0 27.8 | 28.4 328 | 33.1 34.5 | 34.5 <br> 34.7 <br> 3.4 | 17.3 | 22.3 | 24.0 | 25.8 | 26.2 |
| June. | 21.5 | 27.4 | 328 | 35. 4 | 35. 4 | 17.3 | 20.2 | ${ }^{23.5}$ | 23.9 | 24.9 |
| July | 23.4 | 27.8 | 320 | 35.3 | 35.7 <br> 3 | 16.7 | 20.8 | 23.2 29 | 23.7 230.6 2 | 25.9 |
| August | 24.3 | 28.3 | 32.1 |  | 36.9 <br> 33.6 |  |  | 23.1 |  | 26.4 |
| September | 21.4 20 | 27.7 23.0 |  | 32.8 29.7 | 33.6 <br> 30.3 | 19.5 18.6 | 21.1 20.2 | 22.4 | 24.4 22.6 | 24.6 |
| October. <br> November | 20.6 21.6 | 23.0 25.6 | 27.3 29.2 | 29.7 32.0 | 30.3 <br> 32.4 | 11.0 | 19.6 | 20.7 | 21.9 | 23.9 |
| December. | 18.5 | 19.8 | 25.1 | 30.0 | 30.9 | 14.4 | 17.9 | 20.0 | 21.8 | 23.0 |
| A verage. | 21.2 | 25.2 | 29.7 | 32.5 | 33.3 | 17.5 | 20.9 | 23.6 | 25.8 | 27.0 |

[^264]Table 515.-Hams: Prices per pound in Liverpool, 1909-1923.
AMERICAN, SHORT CUT, GREEN, FIRSTS. 1

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov, | Dec. | $\begin{aligned} & \text { Aver } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1909 | 11.2 | 10. 8 | 11.3 | 12. 4 | 12.7 | 12.9 | 12.7 | 14.0 | 12.9 | 13.9 | 14.8 | 14.1 | 12.8 |
| 1910 | 14.9 | 14.9 | 16. 6 | 15. 7 | 17.0 | 17.5 | 17. 3 | 16. 0 | 16. 0 | 14.7 | 15. 5 | 14.9 | 15.9 |
| 1911 | 14. 2 | 12. 6 | 12. 6 | 12. 4 | 13.3 | 15. 9 | 16.1 | 16. 7 | 13. 3 | 12. 4 | 12.8 | 12. 0 | 13. 7 |
| 1912 | 12. 5 | 11.6 | 12.7 | 13.8 | 14. 0 | 12.9 | 14.3 | 14. 3 | 14.3 | 15. 2 | 15. 2 | 15.4 | 13.8 |
| 1913 | 15.5 | 15.3 | 15.7 | 16. 0 | 17.0 | 17.7 | 18.6 | 17.5 | 16.0 | 15. 3 | 15. 3 | 15.2 | 16.3 |
| Av. 1909-1913 | 13.7 | 13.0 | 13.8 | 14.1 | 14.8 | 15.4 | 15.8 | 15.7 | 14.5 | 14.3 | 14.7 | 14.3 | 14.5 |
| 1914 | 15.2 | 14.4 | 15.1 | 14.9 | 14.5 | 16.2 | 16.5 | 18.3 | 17.2 | 15.6 | 16.3 | 16.1 | 15.9 |
| 1915 | 15.8 | 14. 2 | 13.7 | 13.5 | 15. 4 | 15. 6 | 14.9 | 15.1 | 16.1 | 17. 3 | 19.2 | 21.1 | 16.0 |
| 1916 | 20. 1 | 18. 1 | 19.4 | 19.8 | 19.4 | 19.5 | 20.4 | 22. 5 | 22.5 | 22.9 | 22.3 | 21. 2 | 20.7 |
| 1917 | 24. 0 | 27.4 | 27.6 | 28. 2 | 28. 9 | 27.4 | 28. 2 | 29.1 | 29.1 | 29. 1 | 34.4 | 35.4 | 29.1. |
| 1918 | 35.4 | 35.4 | 35.4 | 35. 5 | 35. 5 | 35.4 | 37.9 | 37. 9 | 37.9 | 37. 9 | 37.9 | 37.9 | 36. 7 |
| 1919 | 37.9 | 37.9 | 37.5 | 37.6 | 37.8 | 39. 3 | 38. 1 | 36. 8 | 36. 4 | 36. 3 | 37.5 | 32. 8 | 37.2 |
| 1820 | 31.9 | 29.4 | 31.1 | 34.1 | 32.5 | 33. 3 | 38. 1 | 35.8 | 34.9 | 34.5 | 34.3 | 35.0 | 33.8 |
| Av. 1914-1920 | 25.8 | 25.3 | 25.7 | 26.2 | 26.3 | 26.7 | 27.7 | 27.9 | 27.7 | 27.7 | 28.8 | 28.5 | 27.0 |
| 1921 | 30.2 | 31.2 | 31.5 | 27.0 | 23.1 | 28.6 | 34.9 | 30.0 | 21.1 | 20.4 | 25.7 | 24.1 | 27.3 |
| 1922 | 24.5 | 26. 5 | 25.4 | 26.0 | 28. 4 | 29.4 | 27.8 | 23.3 | 20.4 | 21.0 | 21.6 | 20.2 | 24.5 |
| 1923 | 19.9 | 18.9 | 19.1 | 18.7 | 19.4 | 20.7 | 24.1 | 22.2 | 20.3 | 20.5 | 22.1 | 19.5 | 20.4 |

AMERICAN, LONG CUT, GREEN, FIRSTS. 1

| 1909. | 10. 5 | 10.3 | 11.4 | 12.4 | 13.1 | 13.8 | 13.6 | 14.9 | 14.2 | 15.1 | 14.4 | 14.4 | 13.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 14. 5 | 14.9 | 17.7 | 17.0 | 17.7 | 18.6 | 18.3 | 17.0 | 17.3 | 17. 6 | 16.1 | 14.3 | 16. 8 |
| 1911 | 14.1 | 12. 6 | 12.6 | 12.7 | 13.9 | 15.9 | 15.9 | 16.7 | 13.3 | 13.5 | 13.3 | 12.0 | 13.9 |
| 1912 | 11.6 | 11. 6 | 12. 5 | 13.6 | 14.7 | 14.0 | 13. 9 | 13.9 | 14.1 | 15. 2 | 14.9 | 15. 1 | 13.8 |
| 1913 | 15. 5 | 15. 7 | 16. 6 | 16.8 | 18.1 | 18.6 | 18.8 | 18.1 | 16. 4 | 15.2 | 15.2 | 14. 8 | 16.6 |
| Av. 1909-1913 | 13.2 | 13. 0 | 14. 2 | 14.5 | 15.5 | 16.2 | 16.1 | 16.1 | 15.1 | 15.3 | 14.8 | 14.1 | 14.9 |
| 1914 | 14.8 | 14.5 | 15.1 | 15.1 | 15.0 | 16.5 | 16.9 | 18.5 | 16.9 | 15.6 | 16.9 | 16.1 | 16.0 |
| 1915 | 15.6 | 14. 2 | 13.9 | 13.7 | 16. 0 | 16.6 | 15. 7 | 15.1 | 16.1 | 18.4 | 19.6 | 20.7 | 16.3 |
| 1916 | 19.1 | 18. 1 | 18.6 | 19.4 | 18. 8 | 19.1 | 19.8 | 22.3 | 22. 9 | 23.8 | 24.4 | 22.0 | 30.7 |
| 1917 | 22.7 | 25. 9 | 27.2 | 27.8 | 28.7 | 26. 7 | 28.2 | 29.1 | 29.1 | 29.1 | 35. 0 | 36.1 | 28.8 |
| 1918 | 36.1 | 36.1 | 36.1 | 36. 1 | 36.1 | 36.1 | 37. 9 | 37.9 | 37.9 | 37. 9 | 37.9 | 37.9 | 37.0 |
| 1919 | 37.9 | 37.9 | 37.5 | 38.0 | 38.2 | 39. 5 | 38.1 | 36. 8 | 36.4 | 36. 3 | 37.5 | 32. 8 | 37.2 |
| 1920 | 31.9 | 29.4 | 31.1 | 34.1 | 32.5 | 33.3 | 38.1 | 35.8 | 34.9 | 34.5 | 34. 3 | 35.0 | 33.7 |
| Av. 1914-1920. | 25.4 | 25.2 | 25.6 | 26.3 | 26.5 | 26.8 | 27.8 | 27.9 | 27.7 | 27.9 | 29.4 | 28.7 | 27.1 |
| 1921 | 31.1 | 32.1 | 32. 4 | 27.0 | 22.6 | 28.3 | 34.9 | 31.0 | 23.3 | 20.7 | 23.9 | 21.5 | 27.4 |
| 1922 | 21.1 | 25.3 | 25.4 | 27.2 | ${ }^{2} 30.2$ | ${ }^{2} 30.8$ | 28.0 | 23.7 | 20.2 | 20.0 | 20. 4 | 19.6 | 24.3 |
| 1923 | 19.1 | 18. 9 | 19.3 | 2.21 .9 | 21.1 | 21.4 | 22.6 | 22.6 | 21.9 | 20.8 | 22. 7 | 18.5 | 20.9 |

Division of Statistical and Historical Research. Compiled from Return of Market Prices, Great Britain Ministry of Agriculture and Fisheries. Average for the last week of the month. Converted to cents per pound on the basis of the monthly a verage rate of exghange as given in Federal Reserve Bulletins.
${ }^{1}$ Short cut, regular A merican commercial ham; long cut longer both in the butt and shank. Green, cured in pickle or salt but not smoked.
${ }^{2}$ A verage of London and Bristel prices, and closely approximates Liverpool price.
Table 516.-Lard, American prime western steam: Average price per pound in Liverpool, 1909-1928.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | A verage. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Gents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1909 | 10. 7 | 10.6 | 11. 2 | 11. 4 | 11.8 | 12.7 | 12. 8 | 12. 8 | 13.4 | 13. 6 | 14.7 | 14.9 | 12. 6 |
| 1910 | 14. 1 | 14. 0 | 15.5 | 14. 8 | 14. 5 | 13.7 | 13.3 | 13. 1 | 13. 6 | 13.8 | 12. 7 | 11.5 | 13. 7 |
| 1911 | 11.5 | 11. 4 | 10.0 | 9.1 | 9.2 | 9.1 | 9.1 | 9.9 | 10.4 | 9.9 | 10. 2 | 10. 1 | 10.0 |
| 1912 | 10. 2 | 10.0 | 10.2 | 10.9 | 11.4 | 11. 6 | 11. 4 | 11.8 | 12.4 | 13. 0 | 12. 6 | 11.9 | 11.4 |
| 1913 | 11.2 | 11.8 | 12.2 | 12.4 | 12.3 | 12.2 | 12.7 | 12.7 | 12.6 | 12.1 | 12.2 | 12.1 | 12.2 |
| Av. 1909-1913 | 11.5 | 11.6 | 11.8 | 11.7 | 11.8 | 11.9 | 11.9 | 12.1 | 12.5 | 12.5 | 12.5 | 12.1 | 12.0 |
| 1914 | 12.3 | 11.8 | 11.5 | 11.3 | 10.8 | 10.9 | 11.0 | 12.6 | 11.4 | 11.3 | 12.2 | 11.7 | 11.6 |
| 1915 | 12. 0 | 11.6 | 11. 1 | 11. 2 | 11.1 | 10. 6 | 9.3 | 8.3 | 8. 9 | 10. 2 | 10.8 | 11.7 | 10.6 |
| 1916 | 12. 7 | 12.4 | 13. 8 | 15. 4 | 16.5 | 15.7 | 15. 4 | 15. 7 | 17.3 | 18. 3 | 20.3 | 20. 1 | 16. 1 |
| 1917 | 20.4 | ${ }^{1} 24.8$ | 29.3 | 27.7 | 26.3 | 23. 8 | 23.8 | 25.0 | ${ }^{2} 25.9$ | ${ }^{1} 27.1$ | 28.2 | 28.6 | 25.9 |
| 1918 | 28.6 |  |  |  | 31.7 | 31.7 |  |  | 33.2 | 33.0 |  |  |  |
| 1919 |  |  |  |  |  | 38.1 | 37.1 | 36.3 | 36. 5 | 36.8 | 35.6 | 32.9 |  |
| 1920 | 32.0 | 29.5 | 32.9 | 27.2 |  | 27.4 | 26.7 |  | 36.5 |  | 23. 8 | 24.2 |  |
| 1921 | 23.4 | ${ }^{2} 23.3$ | 15. 7 | 13. 2 | 11.7 | 12.1 | 13.6 | 13.4 | 13. 2 | 12. 2 | 12. 6 | 11.7 | 14.7 |
| 1922 | 11. 3 | 12. 9 | 13. 1 | 12.8 | 13. 6 | 13.5 | 13. 2 | 13. 3 | 12. 7 | 13. 2 | 14. 1 | 13. 6 | 13. 1 |
| 1923 | 13.3 | 13. 0 | 13. 7 | 13.6 | 12.9 | 13.0 | 12.7 | 12.7 | 14.0 | 14.5 | 15.7 | 15.1 | 13.7 |

Division of Statistical and Historical Research. Compiled from Manchester Guardian. An average of Friday quotations. Converted to cents per pound on the basis of the monthly average rate of exichange as given in Federal Reserve Bulletins.
${ }^{1}$ Interpolated. $\quad{ }^{2}$ Government control of prices began Sept. 3, 1917, and ended on Feb. 28, 1921.

HOG-CHOLERA CONTROL.
Table 517.-Hogs: Cholera-control wark by Bureau of Animal Industry, 1918-1922.

| Year beginning July 1, and State. | Bureau veterinarians engaged in work. ${ }^{1}$ | Premises investigated. | Demonstrations. |  | Autopsies performed. | Farms quarantined or carded. | Farms cleaned and disinfected. | Out- <br> breaks <br> reported <br> to bureau <br> veterina- <br> rians. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Number. | Hogs <br> treated. |  |  |  |  |
| 1918-19 | 180 | 93, 512 |  | 233, 987 | 53, 586 | 9, 564 | 4,382 | 12,333 |
| 1919-20 | 140 | 46, 125 | 3, 037 | 347, 702 | 10,963 | 6, 129 | 2,099 | 9,788 |
| 1920-21 | 54 | 29, 433 | 3,420 | 67, 295 | 3, 888 | 2,268 | 656 | 7,951 |
| 1921-22 | 80 | 47, 137 | 4,343 | 88, 846 | 5,390 | 1, 401 | 439 | 7,920 |
| 1922-23. |  |  |  |  |  |  |  |  |
| Alabama | 2.67 | 2, 211 | 588 | 9, 927 | 93 |  |  | 288 |
| Arkansas | 2. 20 | 1,236 | 206 | 4,834 | 56 |  | 2 | 169 |
| California | 1 | - 275 | 50 | 1,896 | 245 |  | 2 | 111 |
| Colorado. | 1 | 129 |  |  | 86 |  |  | 45 |
| Delaware | 1 | 934 | 4 | 19 | 132 | 6 | 30 | 103 |
| Florida. | 4.50 | 2,956 | 834 | 19, 513 | 158 | 1 | 32 | 335 |
| Georgía | 4 | 4, 276 | 1,138 | 26, 757 | 185 |  | 4 | 334 |
| Idaho. | 2 | 1,348 | , 8 | 215 | 78 | 42 | 5 | 52 |
| Illinois. | 3.17 | 1, 836 |  |  | 605 | 208 | 397 | 333 |
| Indiana | 3. 50 | 3,501 |  |  | 386 | 122 | 9 | 242 |
| Iowa. | 2.75 | 1,696 |  |  | 368 |  |  | 338 |
| Kansas | 1 | 855 |  |  | 258 | 17 | 17 | 435 |
| Kentucky | 3.42 | 2, 823 | 163 | 2, 158 | 128 |  | 3 | 139 |
| Louisiana | 1 | 106 | 29 | 859 | 16 |  |  | 27 |
| Maryland | 4 | 3,080 | 35 | 280 | 220 | 273 | 2 | 574 |
| Michigan | 3 | 1,723 | 18 | 1, 279 | 198 | 123 | 18 | 333 |
| Mississippi | 2. 70 | 1,338 | 151 | 2, 104 | 50 |  |  | 203 |
| Missouri | 1. 42 | 1,453 | 6 | 142 | 56 | 38 | 8 | 188 |
| Montana | . 14 | 85 | 7 | 345 | 10 | 29 | 4 | 47 |
| Nebraska | 1. 50 | 586 |  |  | 420 |  |  | 213 |
| North Carolina------ | 3.33 | 6,608 | 1,158 | 17, 266 | 150 | 59 | 70 | 332 |
| North Dakota.------- | 1 | 230 | - 4 | 229 | 71 | 385 | 91 | 504 |
| Ohio. | 3 | 3, 670 |  |  | 211 |  | 11 | 541 |
| Oklahoma | 3.33 | 2,138 | 73 | 2,158 | 152 | 108 | 2 | 175 |
| South Carolina | 2. 58 | 1, 433 | 630 | 15, 618 | 155 | 2 |  | 131 |
| South Dakota | 1 | - 388 | 1 | - 2 | 129 |  |  | 201 |
| Tennessee.. | 1. 42 | 675 | 32 | 683 | 136 | 59 |  | 208 |
| Texas. | 3. 58 | 2,151 | 48 | -1,239 | 56 | 148 |  | 148 |
| Utah | 1 | 740 |  |  | 43 |  |  | 60 |
| Virginia | 1 | 319 | 45 | 834 | 78 |  | 18 | 194 |
| Washington | . 7 | 130 | 1 | 20 | 36 | 15 | 1 | 41 |
| West Virginia | 1 | 383 | 4 | 147 | 14 | 14 | 2 | 36 |
| Wisconsin. | 2 | 1,036 | 1 | 38 | 268 | 122 | 12 | 123 |
| Total | 70.91 | 52,348 | 5,234 | 108, 562 | 5,247 | 1,772 | 741 | 7,204 |

Bureau of Animal Industry.
${ }^{1}$ Fractions denote veterinarians devoting a portion of their time to the work.
HOGS-FEEDING, SHIPMENT, AND MARKETING.
Table 518.-Hogs: Percentage of shrinkage in shipments by cooperative associations, 1921. ${ }^{1}$

| Distance. | By distance. |  |  |  | Month. | By months. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Straight shipments.? |  | Mixed shipments. ${ }^{3}$ |  |  | Straight shipments. ${ }^{2}$ |  | Mixed shipments. ${ }^{3}$ |  |
|  | Number of animals upon which figures are based. | Shrinkage percentage of weight shipped | Number of animals upon which figures are based. | Shrinkage percentage of weight shipped |  | Number of animals upon which figures are based. | Shrink agepercentage of weight shipped | Number of animals upon which figures are based. | Shrink- <br> age per- <br> centage of weight shipped |
| Less than 100 miles | 86,060 | 1. 48 | 64, 327 | 1.91 | January | 67, 822 | 1. 14 | 25, 710 | 1. 50 |
| 100-150 miles | 112, 419 | 1. 10 | 38, 039 | 2.23 | February - - | 57, 056 | 1. 03 | 19,680 | 0.72 |
| 150-200 miles | 103, 605 | 1.25 | 14, 860 | 1. 91 | March | 40, 047 | 1. 31 | 18, 948 | 2. 29 |
| 200-250 miles | 109, 438 | 1.24 | 36, 591 | 2.76 | April | 48, 419 | 1. 39 | 23, 069 | 2. 44 |
| $250-300$ miles | 4, 612 | 2.10 | 1, 692 | 2.89 | May | 40,918 | 1.49 | 25, 509 | 1. 78 |
| 300-350 miles | 36, 639 | 2.11 | 18, 629 | 3.47 | June | 55, 399 | 1.77 | 22, 860 | 2. 57 |
|  |  |  |  |  | July | 38, 485 | 1. 40 | 11, 849 | 2.93 |
| $350-400$ miles | 56, 156 | 1.80 | 54,299 | 4.00 | August----- | 37, 594 | 1.90 | 16, 031 | 3. 12 |
| 400-450 miles | 41, 021 | 1.71 | 24, 004 | 3.62 | September - | 38, 132 | 1. 86 | 21, 862 | 2. 43 |
| $450-500$ miles | 11, 787 | 1.62 | 23, 557 | 1.94 | October---- | 45, 077 | 1. 68 | 27, 313 | 3. 14 |
| 500-550 miles | 2, 778 | 2.13 | 173 | 3.60 | November | 47, 164 | 1. 34 | 25, 638 | 1. 89 |
| 550-600 miles | 2,751 | 3.07 |  |  | December | 51, 101 | 1. 02 | 18,970 | 2. 09 |

[^265]Table 519.-Hogs: Quantities of feed and other factors required to produce 10 weaned pigs, ten weeks of age, and 100 pounds marketable pork, year 1921 (Iowa and Illinois).

| Items. | 10 weaned pigs. |  | 100 pounds marketable pork. |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantities. | Farm <br> value. | Quantities. | Farm <br> value. |
| Kinds of feed: | Pounds. |  | Pounds. |  |
| Feeds other than corn- | 2,036. 6 | \$16. 54 |  | \$2. 62 |
| Oats .-.- | 277.0 |  | 23.29 |  |
| Barley --- | 8.4 |  | 1.1 |  |
| Wheat. | . 8 |  | . 04 | ------ |
| Soybeans | 3.4 |  | . 4 |  |
| Tankage | 49. 1 |  | 8.8 | --...- |
| Oilmaeal-- | 8. 7 |  | 3. 2 |  |
| Millfeeds ${ }^{1}$ | 15.8 |  | 1.5 |  |
| Pumpkins |  |  | .$^{4}$ |  |
| Skim milfa | 263.5 |  | 28.3 |  |
| Alfalfa hay- | 11.7 |  | . 2 |  |
|  | 5.6 |  | . 5 |  |
| Pasture unit days ${ }^{\text {V }}$ 2------------- |  | 5.92 |  | . 63 |
| Masture unit days ${ }^{\text {2 }}$ - | 8.9 | 2. 22 | 2.2 | . 08 |
| Bedding----- | 122.9 | . 33 | 7.0 | . 02 |
| Hours of man labor. | 21.0 | 5. 80 | 1.7 | . 48 |
| Hours of horse use | 1.1 | . 16 | . 3 | . 04 |
| Buildings and equipment, veterina head expenses, incidentals, and int |  | 13.77 |  | 1.65 |
| Total cost. |  | 45.00 |  | 6.08 |

Division of Cost and Production. Based on records of 769 spring litters ( 3,574 pigs), and 51 droves of spring pigs ( 855,140 pounds, marketable pork).
${ }^{1}$ Shorts and Red Dog flour.
2 Pasture unit day is pasturage required to carry five 200 pound sows a day.
Table 520.-Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.

BY MARKETS-STRAIGHT SHIPMENTS. ${ }^{1}$

| Market. | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { animals } \\ & \text { upon } \\ & \text { which } \\ & \text { figures } \\ & \text { are based. } \end{aligned}$ | Average weight of animals | Crippled. |  |  | Dead. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Percentage of total number shipped. | Percentage of total whipped. | A verage weight of animals. | Percentage of total number | Percentage of total weight shipped. | A verage weigh of animals. |
| Buffalo | 23, 305 | Pounds. 195 | 0.91 | 0.93 | Pounds. 199 | 0.31 | 0.25 | Pounds. <br> 157 |
| Chicago | 317, 621 | 250 | . 64 | . 63 | 247 | . 26 | . 25 | 246 |
| Cleveland | 8;895 | 203 | . 57 | . 55 | 197 | . 21 | . 22 | 208 |
| East St. Louis. | 50, 176 | 207 | . 38 | . 40 | 222 | . 19 | . 24 | 255 |
| Kansas City | 25, 087 | 239 | . 35 | . 33 | 228 | . 15 | . 16 | 266 |
| Milwaukee | 15, 072 | 229 | . 65 | 69 | 240 | . 14 | . 14 | 235 |
| Omaha-. | 18, 309 | 278 | . 51 | . 45 | 245 | . 12 | . 12 | 272 |
| Pittsburgh | 38, 856 | 190 | . 44 | . 46 | 196 | . 23 | 22 | 181 |
| Sioux City | 13, 582 | 241 | . 46 | . 47 | 243 | . 19 | . 17 | 209 |
| Sioux Falls. | 15, 117 | 242 | . 41 | . 41 | 243 | . 17 | . 13 | ${ }_{2} 216$ |
| St. Joseph | 21, 293 | ${ }_{238}^{238}$ | . 24 | . 25 | 250 | . 13 | ${ }_{\cdot}{ }_{33}$ | ${ }_{235}^{237}$ |
| St. Paul -- | 12, 517 | 238 | . 22 | . 24 | 255 | . 28 | . 33 | 285 |

[^266]Table 520.-Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921-Continued.

BY MARKETS-MIXED SHIPMENTS. ${ }^{2}$

| Market. | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { animals } \\ \text { upen } \\ \text { which } \\ \text { figures } \\ \text { are based. } \end{gathered}$ | A verage weight of animals | Crippled. |  |  | Dead. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Percentage of total number shipper. | Percentage of total weight shipped. shipped. | A verage weight animals. | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight animals. |
| Buffalo | 80,437 | Pounds. ${ }^{198}$ | 1.10 | 1.14 | Pounds. 203 | 0.53 | 0.44 | Pounds. ${ }^{\text {c }}$ |
| Chicago | 19,577 | 249 | . 90 | . 86 | 243 | . 41 | . 42 | 252 |
| Cleveland. | 25,661 | 198 | . 50 | .46 | 180 | . 20 | . 18 | 185 |
| East St. Louis | 5,639 | 206 | . 46 | . 40 | 179 | . 37 | . 33 | 183 |
| Kansas City. | 14,340 | 245 | . 26 | . 27 | 255 | . 33 | . 34 | 254 |
| Milwaukee... | 14, 848 | 225 | . 50 | . 47 | 211 | . 24 | . 23 | 218 |
| Omaha | 4,884 | 275 | . 47 | . 44 | 258 | . 20 | . 23 | 320 |
| Pittsburgh. | 63, 998 | 189 | . 63 | . 60 | 180 280 | .25 | - 30 | 178 |
| Sioux Falls... | 1,159 | 235 | .43 | . 51 | 280 | . 26 | . 21 | 183 |
| St. Joseph. |  | 245 | . 26 | . 28 | 269 | . 22 | . 18 | 202 |
| St. Paul.--.... | 50, 216 | 238 | . 28 | . 26 | 224 | . 17 | . 17 | 242 |

Division of Cost of Marketing.
${ }^{2}$ Mixed shipments contain more than one species of liviestock.
Table 521.-Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.

BY DISTANCE-STRAIGHT SHIPMENTS. ${ }^{1}$

| Market. | Number of animals upon which figures are based. | Average weight of animals. | Crippled. |  |  | Dead. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animals. | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animals. |
|  |  | Pounds. |  | 0.31 | Pounds. | 0.12 | 0.11 | Pounds. |
| Less than 100 miles.-- | 97, 439 | 242 | 0. 33 | 0.31 .43 | 223 | 0.12 .20 | 0. 22 | 254 |
| 100-159 miles ........-- | 124,791 120,523 | $\begin{array}{r}231 \\ 235 \\ \hline\end{array}$ | . 40 | . 43 | 232 | . 24 | . 18 | 210 |
| 200-250 miles. | 118, 845 | 230 | . 44 | . 45 | 234 | . 18 | . 16 | 210 |
| 250-300 miles. | 4,764 | 219 | . 21 | . 18 | 183 | . 21 | . 20 | 209 |
| 300-350 miles .-. --. -- -- | 37, 400 | 254 | . 89 | . 83 | 236 | . 34 | . 34 | 255 |
| $350-400$ miles. | 78, 293 | 250 | . 74 | . 72 | 244 | . 38 | . 41 | 270 |
| 400-450 miles.-.-------- | 43,517 | 247 | . 82 | . 79 | 234 | . 33 | . 31 | 236 |
| 450-500 miles. | 12,790 | 241 | . 86 | . 86 | 240 | . 18 | . 17 | 230 |
| 500-550 miles.......... | 2,997 | 238 | . 60 | .79 .78 | 314 | . 37 | . 31 | 203 |
| 550-600 miles. | 2,751 | 237 | 1. 27 | 1.38 | 258 | . 29 | . 33 | 274 |

BY DISTANCE-MIXED SHIPMENTS. ${ }^{1}$

| Less than 100 miles. - | 72,980 | 232 | 0.37 | 0.35 | 217 | 0.18 | 0.18 | 229 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100-150 miles .-....- | 52, 465 | 224 | . 47 | . 45 | 209 | . 27 | . 28 | 228 |
| 150-200 miles. | 18, 567 | 237 | . 34 | . 36 | 250 | . 36 | 40 | 263 |
| 200-250 miles. | 42, 120 | 190 | . 39 | . 39 | 185 | . 20 | . 20 | 184 |
| 250-300 miles | 1,752 | 213 | . 45 | . 41 | 194 | . 11 | . 18 | 345 |
| 300-350 miles | 18, 684 | 200 | 1.16 | 1.07 | 184 | . 35 | . 31 | 178 |
| $350-400$ miles | 62, 016 | 204 | 1.11 | 1.15 | 210 | . 44 | . 40 | 186 |
| 400-45C miles. | 25, 166 | 195 | 1. 02 | 1.02 | 196 | . 49 | . 33 | 168 |
| 450-500 miles. | 3,688 | 203 | 1.06 | 1.03 | 198 | . 32 | . 31 | 195 |

[^267]Table 521.-Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921-Continued.

BY MONTHS-STRAIGHT SHIPMENTS. ${ }^{1}$

| Market. | NumberofanimalsuponWhichfiguresare based. | Average weight of animals. | Crippled. |  |  | Dead. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Percentage of total number shipped. | Percent- <br> age of total weight shipped. | A verage weight of animals. | Percentage of total number shipped. | Percentage of total shipped. | A verage weight of animals. |
|  |  | Pounds. |  |  | Pounds. |  |  | Pounds. |
| January | 76, 266 | 234 | 0. 69 | 0.73 | 248 | 0.19 | 0.18 | 222 |
| February | 64,486 45,055 | $\stackrel{235}{24}$ | .65 .57 | . 57 | $\stackrel{246}{245}$ | . 17 | .16 .20 | 222 |
| April. | 54, 188 | 238 | . 46 | . 47 | 244 | . 24 | . 25 | 244 |
| May | 46, 721 | 234 | . 44 | . 43 | 233 | . 43 | . 53 | 290 |
| June. | 63, 673 | 237 | . 38 | . 35 | 236 | . 23 | . 28 | 284 |
| July. | 43, 602 | 247 | . 35 | . 31 | 220 | . 17 | . 17 | 255 |
| August | 43, 819 | 260 | . 41 | . 41 | 254 | . 14 | . 12 | 215 |
| September. | 42, 318 | 254 | . 36 | . 34 | 244 | . 27 | . 23 | 216 |
| October. | 50, 105 | 230 | . 38 | . 36 | 220 | . 23 | . 22 | 226 |
| November | 54, 259 | 209 | . 57 | . 61 | 222 | . 23 | . 21 | 191 |
| December. | 59,715 | 205 | . 73 | . 77 | 227 | . 17 | . 16 | 211 |

BY MONTHS-MIXED SHIPMENTS. ${ }^{2}$

| January | 28, 629 | 226 | 0.98 | 0. 98 | 226 | 0.38 | 0. 27 | 159 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| February | 22, 646 | 223 | . 87 | . 81 | 207 | . 25 | . 19 | 172 |
| March | 21, 868 | 219 | . 68 | . 67 | 217 | . 47 | . 41 | 190 |
| April | 25, 879 | 205 | . 57 | . 55 | 200 | . 27 | . 33 | 253 |
| May. | 28, 524 | 207 | . 60 | . 55 | 190 | . 42 | . 41 | 203 |
| June. | 26, 328 | 211 | . 54 | . 49 | 190 | . 39 | . 40 | 216 |
| July . | 13, 631 | 222 | . 56 | . 47 | 185 | . 25 | . 28 | 253 |
| August | 18, 865 | 214 | . 61 | . 58 | 203 | . 28 | . 28 | 213 |
| September | 25, 404 | 198 | . 53 | . 55 | 203 | . 33 | . 31 | 188 |
| October- | 32, 694 | 207 | . 51 | . 49 | 197 | . 33 | . 31 | 194 |
| November. | 29, 705 | 217 | . 57 | . 53 | 200 | . 21 | . 15 | 163 |
| December. | 23, 452 | 224 | . 92 | . 88 | 212 | . 27 | . 21 | 169 |

Division of Cost of Marketing.
${ }^{1}$ Straight shipments contain but one species of livestock.
${ }^{2}$ Mixed shipments contain more than one species of livestock.
Table 522.-Hogs: Principal terminal marketing costs, eight markets, 1921.

| Market. | Num- <br> ber of head upon figures are based. | Cents per 1,000 lbs., home weight, straight shipments. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Commission. |  |  | Yardage. |  |  | Feed. |  |  | Commission, yard, and feed combined. |  |  |
|  |  | A vg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ | A vg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ | Avg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ | Avg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ |
| Chicago | 124, 338 | 98.7 | 85.1 | 112.5 | 44.8 | 36.2 | 56.2 | 34.1 | 21.3 | 44.4 | 177.6 | 153.8 | 205. 4 |
| St. Paul | 10,334 21,663 | 82.6 88 | 75.4. | 102.4 | 42.1 | 36.3 41.8 | 53.0 | 50. 2 | 33.0 | 70.0 | 174.9 | 160.1 | 208.8 |
| Kansas City | 16, 589 | 83.6 | 75. 7 | 103.7 | 50.5 | ${ }^{47.8} 8$ | 58.5 | 37.8 | $\stackrel{34.6}{20.3}$ | 77.1 | 171.9 | 156.5 | 240.3 218.7 |
| Omaha | 14, 638 | 86. 8 | 69.7 | 113.3 | 44. 0 | 37.4 | 45.7 | 28.9 | 19.5 | 35.0 | 159.7 | 132.8 | 181.0 |
| Sioux Falls | 14, 394 | 93.8 | 80.6 | 108.8 | 47.7 | 42.3 | 50.9 | 38. 7 | 28.8 | 45.7 | 180. 2 | 163.2 | 187.9 |
| Buffalo.. | 18, 564 | 77. 7 | 68.3 | 85. 2 |  | 51.7 |  |  |  | 102.6 | 212.7 | 201. 4 | 259.0 |
| Pittsburgh | 37, 366 | 93.8 | 85.3 | 112.1. | 58.5 | 42.3 | 64.8 | 71.1 | 23.7 | 106.5 | 223.4 | 178.1 | 262.5 |

[^268]${ }^{1}$ A verages are of associations shipping to the given market, weighted on the volume of business, not based on shipments. Low figures are for low cost associations and high figures are for high cost associations.

## FARM ANIMALS AND THEIR PRODUCTS-PART II. GENERAL, HORSES, SHEEP, AND POULTRY.

## SHEEP.

Table 523.-Sheep: Number and value on farms, United States, January 1, 1867-1924.

| Jan. 1. | Number. | Price per head Jan. 1. | $\begin{gathered} \text { Farm value } \\ \text { Jan. 1. } \end{gathered}$ | Jan. 1. | Number. | Price per head Jan. 1. | $\begin{aligned} & \text { Farm value } \\ & \text { Jan. } 1 . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands.39,38538,99237,72428,47831,851 | Dollars.$2.50$ | Thousand dollars. 98, 644 | 1897 | Thousands. | Dollars. | Thousand dollars. |
| 1867 |  |  |  |  |  | 1. 82 | 67, 021 |
| 1868 |  | 1. 82 | 71, 053 | 1898 | 37, 657 | 2. 46 | 92, 721 |
| 1869-...-- |  | 1,64 | 62, 037 | 1899--.-- | 39, 114 | 2. 75 | 107, 698 |
| 1870, June |  | 1.90 | 54, 062 | 1900, June 1 | 61,504 | 3.03 | 186, 271 |
|  |  | 2.14 | 68, 310 | 1901.---------- | 59,757 | 2. 98 | 178,072 |
| 1872 | 31,679 | 2.61 | 82, 768 | 1902 | 62, 039 | 2.65 | 164, 446 |
| 1873 | 33, 002 | 2.71 | 89,427 | 1903 | 63, 965 | 2. 63 | 168, 316 |
| 1874 | 33, 938 | 2. 43 | 82, 353 | 1904 | 51, 630 | -2.59 | 133, 530 |
| 1876 | 35, 935 | 2.37 | 85, 121 | 1906 | 50,632 | 3. 54 | 127, 332 |
| 1877. | 35, 804 | 2.13 | 76,362 | 1907 | 53,240 | 3.84 | 204, 210 |
| 1878. | 35, 740 | 2. 21 | 78, 898 | 1903 | 54, 631 | 3. 88 | 211, 736 |
| 1879 | 38, 124 | 2. 07 | 78,965 |  |  | 3.43 | 192, 632 |
| 18801, | 35,18243,570 | 2. 39 | 104,071 | 1909- | $\begin{aligned} & 56,084 \\ & 52,448 \\ & 53,633 \end{aligned}$ |  |  |
|  |  |  |  | 1911, |  | 4. 3 | $\begin{aligned} & 216,030 \\ & 209,535 \end{aligned}$ |
| 1882 | 45, 016 | 2. 37 | 106, 596 | 1912 | $\begin{aligned} & 52,362 \\ & 51,482 \end{aligned}$ | $\begin{aligned} & 3.46 \\ & 3.94 \\ & 3.94 \end{aligned}$ | $\begin{aligned} & 180,100 \\ & 181,170 \\ & 202,779 \end{aligned}$ |
| 1883 | 49, 237 | 2. 37 |  | 1913 |  |  |  |
| 1885 | $\begin{aligned} & 50,627 \\ & 50,360 \end{aligned}$ |  | 119, 107 107 961 | Av. 1909-1913... | 53, 202 | 3.77 | 200, 429 |
| 1886 | 48,322 | 2. 1.91 | 92, 444 |  |  |  |  |
| 1887 |  | 2.012.05 |  | 1914----------- | 49,71949,956 | 4.02 | 200, 045 |
| 888 | 44,75943,545 |  | 89,87389,280 | 1915--.-------------- |  | 4. 505.17 | 224,687251,594 |
| 1888. |  |  |  |  | -48, 425 |  |  |
| 1889 | $\stackrel{42,599}{35,935}$ | 2.13 | 90,640 | 1917--- | 47,61648,603 | 7.13 | 339,529 |
| 1890, June 1 |  | 2. 2.50 | $\begin{array}{r} 86,447 \\ 108,397 \end{array}$ | 1918 |  | 11.82 | 574, 575 |
| 1891. | 35, <br> 43,431 <br> 1 |  |  | 1919 | $\begin{aligned} & 48,866 \\ & 39,025 \end{aligned}$ | $\begin{aligned} & 11.63 \\ & 10.47 \end{aligned}$ | $\begin{aligned} & 568,265 \\ & 408,586 \end{aligned}$ |
| $\begin{aligned} & 1892 \\ & 1893 \\ & 1894 \\ & 1895 \\ & 1896 \end{aligned}$ | $\begin{aligned} & 44,938 \\ & 47,274 \\ & 45,048 \\ & 42,294 \\ & 38,299 \end{aligned}$ | $\begin{aligned} & 2.58 \\ & 2.66 \\ & 1.98 \\ & 1.58 \\ & 1.70 \end{aligned}$ | $\begin{array}{r} 116,121 \\ 125,909 \\ 89,186 \\ 66,686 \\ 65,168 \end{array}$ | 1920 |  |  |  |
|  |  |  |  | Av. 1914-1920..- | 47,487 | 7.72 | 366, 754 |
|  |  |  |  | 1921 |  | 6. 30 |  |
|  |  |  |  | 1922 | 36, 327 | 4. 80 | 174,545 |
|  |  |  |  | 1923 | 37,223 | 7.51 | 279,464 |
|  |  |  |  | $1924{ }^{1}$ | 38, 361 | 7.88 | 302, 092 |

Division of Crop and Livestock Estimates. Figures in italics are census returns.
${ }^{1}$ Preliminary.
Table 524.—Sheep: Yearly losses per 1,000 from disease and exposure, 1890-1924.

| $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { Apr. } 30 . \end{gathered}$ | Loss per 1,000. |  | $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { Apr. } 30 . \end{gathered}$ | Loss per 1,000. |  | $\begin{aligned} & \text { Year } \\ & \text { ending } \\ & \text { Apr. } 30 . \end{aligned}$ | Loss per 1,000. |  | $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { Apr. } 30 . \end{gathered}$ | Loss per 1,000. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | From disease. | From exposure. |  | From disease. | From exposure. |  | From disease. | From exposure |  | From disease | From expos. ure |
| 1889-90. | 24.0 | 51.0 | 1898-99- | 21.0 | 35.0 | 1907-8.- | 22.5 | 22.9 | 1916-17- | 21.8 | 32.4 |
| 1880-91- | 23.0 | 17.0 | 1899-1900 | 20.0 | 18.0 | 1908-9-- | 25.6 | 28.3 | 1917-18. | 19.8 | 19.3 |
| 1891-92- | 19.0 | 14.0 | 1900-1.- | 24.0 | 22.0 | 1909-10- | 27.5 | 43.9 | 1918-19- | 19.7 | 24.4 |
| 1892-93- | 24.0 | 20.0 | 1901-2-- | 25. 0 | 31.6 | 1910-11- | 25. 5 | 23.0 | 1919-20- | 23.7 | 34.6 |
| 1883-94- | 20.0 | 15.0 | 1902-3-- | 27.8 | 53.6 | 1911-12- | 26. 7 | 47.0 | 1920-21- | 23.1 | 15.6 |
| 1894-95- | 26. 0 | 29.0 | 1903-4-- | 26. 0 | 37.7 | 1912-13- | 24.8 | 25.0 | 1921-22- | 21.4 | 2 2. 4 |
| 1895-96- | 27.0 | 21. 0 | 1904-5-- | 24. 6 | 30.8 | 1913-14- | 21.9 | 22.0 | 1922-23- | 22.4 | 24.1 |
| 1896-97- | 23.0 26.0 | 32.0 27 | 1905-6-- | 22. 2 | 37. 0 | 1914-15- |  |  | 1923-24- | 20.0 | 17.5 |
| 1897-98. | 26.0 | 27.0 | 1906-7.- | 25.6 | 35.4 | 1915-16 | 21.6 | 21.7 |  |  |  |

Division of Crop and Livestock Estimates. As reported by crop reporters May 1, for year ending April 30 .

Table 525.-Sheep, including lambs: Number and value on farms January 1, 1922-1924.

| State. | Number Jan. 1. |  |  | Average price per head Jan. 1. |  |  | Farm value Jan. 1. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1922 | 1923 | $1924{ }^{1}$ | 1922 | 1923 | 1924 | 1922 | 1923 | 19241 |
|  | Thousands. | Thousands. | Thousands. | Dollars. | Dollars. | Dollars. | Thousand dollats. | $\begin{gathered} \text { Thou- } \\ \text { sand } \\ \text { dollars. } \end{gathered}$ | $\begin{aligned} & \text { Thou- } \\ & \text { sand } \\ & \text { dollars. } \end{aligned}$ |
| Maine | 95 | 90 | 90 | 4. 80 | ${ }^{6.70}$ | 7.10 | 456 | 603 | 639 |
| New Hampshire | 20 | 18 | 18 | 5. 50 | 7.80 | 7.30 740 | 112 | 140 | 131 |
| Vermont. | 48 | 43 | 44 | 5. 60 | 7.00 6.90 | 7.40 | 240 | 301 | 326 |
| Massachusetts | 17 | 16 | 14 | 6. 60 | 6. 90 | 7.90 8.00 | 112 | 110 | 111 |
| Rhode Island | 3 | 3 | 3 | 6.30 | 7.90 | 8.00 | 19 | 24 | 24 |
| Connecticut | 9 | 8 | 8 | 7.50 | 7.80 | 7.90 | 68 | 62 | 63 |
| New York | 512 | 532 | 543 | 5.80 | 8.50 | 9.30 | 2, 970 | 4, 522 | 5,050 |
| New Jersey | 10 | 10 | 10 | 7.40 | 7.50 | 8.90 | 74 | 75 | 89 |
| Pennsylvania | 468 | 477 | 482 | 5. 80 | 7.10 | 7.80 | 2, 714 | 3,387 | 3,760 |
| Delaware.. | 3 | 3 | 3 | 6.00 | 7.40 | 7.00 | 18 | 22 | 21 |
| Maryland | 89 | 93 | 96 | 6. 20 | 7.50 | 8.50 | 552 | 698 | 816 |
| Virginia | 322 | 338 | 355 | 5. 60 | 7.60 | 8.10 | 1,803 | 2, 569 | 2,876 |
| West Virgiñia | 480 | 504 | 504 | 4.80 | 6. 90 | 7.30 | 2, 304 | 3,478 | 3, 679 |
| North Carolina | 84 | 81 | 82 | 4.90 | 5. 60 | 6. 40 | 412 | 454 | 525 |
| South Carolina | 23 | 23 | 23 | 3.00 | 4. 20 | 4.70 | 69 | 97 | 108 |
| Georgia | 70 | 66 | 63 | 2.70 | 3. 00 | 2. 60 | 189 | 198 | 164 |
| Florida | 64 | 63 | 64 | 3.10 | 3. 50 | 2.90 | 198 | 220 | 186 |
| Ohio | 1,957 | 2, 094 | 2, 115 | 4. 60 | 7.10 | 7.30 | 9, 002 | 14, 867 | 15,440 |
| Indiana | 606 | 648 | 700 | 5. 20 | 8.00 | 8. 40 | 3,151 | 5,184 | 5,880 |
| Illinois. | 516 | 516 | 593 | 5.30 | 7.90 | 8.20 | 2, 735 | 4,076 | 4,863 |
| Michigan. | 1,115 | 1,171 | 1,171 | 5.20 | 8.00 | 8.30 | 5,798 | 9, 368 | 9, 719 |
| Wisconsin | 367 | 341 | 341 | 4. 60 | 7.50 | 8.10 | 1,688 | 2, 558 | 2, 762 |
| Minnesota | 445 | 400 | 428 | 4.70 | 7.20 | 8. 00 | 2, 092 | 2, 880 | 3,424 |
| Iówa | 775 | 829 | 928 | 5.40 | 8.40 | 8.30 | 4,185 | 6,964 | 7,702 |
| Missouri | 1,042 | 1,105 | 1,205 | 4.50 | 7.10 | 7.60 | 4,689 | 7,846 | 9,158 |
| North Dakota. | 250 | 240 | 254 | 4.60 | 7. 30 | 7.80 | 1,150 | 1,752 | 1,981 |
| South Dakota | $\stackrel{689}{ }$ | 689 | 696 | 4. 50 | 7.70 | 7.80 | 3,100 | 5, 305 | 5,429 |
| Nebraska. | 596 | 733 | 660 | 5.20 | 8.10 | 7.90 | 3,099 | 5, 937 | 5, 214 |
| Kentucky | 631 | 694 | 701 | 5.00 | 7.00 | 7.90 | 3, 155 | 4,858 | 5,538 |
| Tennessee | 340 | 340 | 326 | 4.00 | 5. 50 | 5. 90 | 1,360 | 1,870 | 1,923 |
| Alabama | 83 | 90 | 86 | 2.70 | 3.40 | 4.00 | 224 | 306 | 344 |
| Mississippi | 142 | 142 | 135 | 3.00 | 2.60 | 2.80 | 426 | 369 | 378 |
| Louisiana. | 124 | 122 | 116 | 2.80 | 2.90 | 3. 10 | 347 | 354 | 360 |
| Texas.- | 3, 077 | 2,862 | 3,091 | 3.40 | 5.20 | 5.90 | 10,462 | 14,882 | 18,237 |
| Oklahoma | 91 | 73 | 80 | 4.30 | 5. 80 | 5. 90 | 391 | 423 | 472 |
| Arkansas. | 90 | 81 | 81 | 2.90 | 3.10 | 3.20 | 261 | 251 | 259 |
| Montana | 2,270 | 2,270 | 2,370 | 4.70 | 8.70 | 8.70 | 10,669 | 19,749 | 20,619 |
| W yoming | 2,420 | 2, 686 | 2,767 | 5. 50 | 9. 00 | 9.00 | 13,310 | 24, 174 | 24, 903 |
| Colorado | 2,054 | 2, 444 | 2, 360 | 4.60 | 7.60 | 7.50 | 9,448 | 18, 574 | 17,700 |
| New Mexico. | 2, 343 | 2,062 | 2, 248 | 3. 90 | 6. 40 | 6. 50 | 9, 138 | 13, 197 | 14, 612 |
| Arizona. | 1,100 | 1,155 | 1,155 | 4.90 | 6. 30 | 7.10 | 5,390 | 7,276 | 8, 200 |
| Utah | 2,250 | 2, 340 | 2,457 | 4.90 | 8.90 | 8.60 | 11, 025 | 20, 826 | 21,130 |
| Nevada | 1,190 | 1,119 | 1,141 | 5.30 | 8.90 | 9.00 | 6,307 | 9,959 | 10,269 |
| Idaho. | 2, 492 | 2, 542 | 2,491 | 6. 00 | 8.30 | 8. 80 | 14, 952 | 21,099 | 21,921 |
| W ashington |  |  | 598 | 5. 40 | 8. 00 | 8. 70 | 2,700 | 4,160 | 5, ${ }_{\text {5, }}$ |
| Oregon | 1,860 | 1,860 | 1,916 | 4. 50 5.30 | 6.40 8.10 |  | 8,370 $\mathbf{1 2} 243$ | 11,904 | 15,711 22050 |
| California | 2,310 | 2, 402 | 2, 450 | 5.30 | 8.10 | 9.00 | 12,243 | 19, 450 | 22,050 |
| Umited States | 36,327 | 37, 223 | 38, 361 | 4.80 | 7.51 | 7.88 | 174, 545 | 279, 464 | 302, 092 |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary

Table 526.-Sheep: Receipts and shipments at principal markets and at all markets, 1900-1923.

RECEIPTS.

| Calendar year. | Chi- | Denver. | $\begin{gathered} \text { East } \\ \text { St. } \\ \text { Louis. } \end{gathered}$ | Fort Worth | $\begin{aligned} & \text { Kansas } \\ & \text { City. } \end{aligned}$ | Omaha. | $\begin{gathered} \text { St. } \\ \text { Joseph. } \end{gathered}$ | St. | $\left\lvert\, \begin{gathered} \text { Sioux } \\ \text { City. } \end{gathered}\right.$ | $\begin{aligned} & \text { Total } \\ & \text { nine } \\ & \text { mar- } \\ & \text { kets. } \end{aligned}$ | $\begin{array}{c\|} \text { All } \\ \text { other } \\ \text { mar- } \\ \text { kets } \\ \text { report- } \\ \text { ing. } \end{array}$ | Total all markets reporting. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- |
|  | sands. | sands. | sands. | sands | sands. | sand | sands. | sands. | sands. | sands. | sands. | sands. |
| 1900 | 3, 549 | 306 | 416 | ${ }^{(2)}$ | 860 | 1,277 | 390 | 490 | 61 | 7,349 | ${ }^{(1)}$ | ${ }^{(1)}$ |
| 1901. | 4, 044 | 226 | 520 | (2) | 980 | 1,315 | 526 | 332 | 67 | 8,010 | (1) | (1) |
| 1902. | 4,516 | 317 | 523 | 10 | 1,154 | 1,743 | 561 | 602 | 61 | 9,487 | (1) | (1) |
| 1903 | 4, 583 | 465 | 528 | 125 | 1,152 | 1,864 | 599 | 876 | 42 | 10, 234 | (1) | (1) |
| 1904. | 4, 505 | 519 | 688 | 104 | 1,004 | 1,754 | 794 | 773 | 28 | 10, 169 | (1) | (1) |
| 1905. | 4,737 | 738 | 645 | 125 | 1,319 | 1,971 | 981 | 818 | 57 | 11, 391 | (1) | (1) |
| 1906 | 4, 805 | 826 | 579 | 98 | 1,617 | 2,165 | 827 | 735 | 64 | 11, 716 | (1) | (1) |
| 1907 | 4, 218 | 828 | 565 | 113 | 1,582 | 2, 039 | 764 | 588 | 65 | 10,742 | (1) | (1) |
| 1908. | 4, 352 | 675 | 679 | 120 | 1,641 | 2, 106 | 592 | 359 | 59 | 10,583 | (1) | (1) |
| 1909 | 4,441 | 634 | 776 | 188 | 1,645 | 2, 167 | 621 | 496 | 78 | 11, 046 | (1) | (1) |
| 1910 | 5,229 | 596 | 736 | 163 | 1,841 | 2,985 | 560 | 865 | 151 | 13, 126 | ${ }^{1}$ | (1) |
| 1911. | 5,736 | 617 | 992 | 187 | 2,175 | 2,978 | 718 | 712 | 212 | 14, 327 | (1) |  |
| 1912 | 6, 056 | 777 | 1,031 | 284 | 2,134 | 2, 951 | 729 | 628 | 207 | 14, 797 | (1) | (1) |
| 1913 | 5,903 | 620 | 950 | 328 | 2,095 | 3,222 | 812 | 785 | 271 | 14,986 | (1) | (1) |
| 1914 | 5,378 | 692 | 749 | 408 | 2,002 | 3,114 | 830 | 795 | 404 | 14, 372 | (1) | (1) |
| 1915. | 3, 510 | 765. | 648 | 363 | 1,815 | 3,268 | 878 | 704 | 337 | 12, 288 | 6,147 | 18,435 |
| 1916 | 4,291 | 1,409 | 671 | 431 | 1,758 | 3, 171 | 804 | 623 | 321 | 13, 479 | 7, 213 | 20,692 |
| 1917. | 3, 595 | 2,060 | 531 | 406 | 1,499 | 3, 017 | 679 | 430 | 287 | 12, 484 | 7,732 | 20,216 |
| 1918 | 4,630 | 1,652 | 536 | 335 | 1,667 | 3,386 | 827 | 630 | 387 | 14,050 | 8,435 | 22,485 |
| 1919 | 5, 244 | 2,087 | 724 | 453 | 1,945 | 3, 789 | 1,007 | 912 | 686 | 16, 847 | 10,409 | 27, 256 |
| 1920 | 4, 005 | 2,079 | 605 | 394 | 1,687 | 2, 891 | 843 | 729 | 358 | 13, 591 | 9,947 | 23, 538 |
| 1921 | 4, 734 | 1,468 | 636 | 337 | 1,780 | 2, 753 | 931 | 633 | 288 |  | 10, 588 | 24, 168 |
| 1922 | 3, 874 | 1,887 | 628 561 | 325 386 | 1,574 1,671 | 2,533 <br> 2,970 | 730 979 | 499 454 | 223 216 | 13, 253 | 10, 111 | 22, ${ }^{22,154}$ |
| 1923. | 4, 098 | 1,857 | 561 | 386 | 1,671 |  | 979 | 454 |  |  |  |  |

SHIPMENTS.

| 1900 | 487 | ${ }^{(1)}$ | 62 | (2) | (1) | 552 | 103 | 404 | 28 | 1,636 | (1) | (1) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1901 | 763 | (1) | 75 | (2) | (1) | 563 | 102 | 208 | 20 | 1,731 | (1) | (1) |
| 1902 | 832 | (1) | 72 | (1) | (1) | 863 | 129 | 485 | 25 | 2, 406 | (1) | (1) |
| 1903 | 1,000 | (1) | 77 | (1) | (1) | 892 | 144 | 682 | ${ }_{2}^{23}$ | 2,818 | (1) | (1) |
| 1904 | 1,362 | (1) | 101 | (1) | (1) | 819 | 275 | 622 | 21 | 3,200 | (1) | (1) |
| 1905 | 1,356 | (1) | 90 | (1) | (1) | 1,016 | 292 | 612 | 38 | 3, 404 | ${ }^{(1)}$ | (1) |
| 1906 | 1,341 | (1) | 108 | (1) | (1) | 1,176 | 195 | 580 | 27 | 3, 427 | (1) | (1) |
| 1907. | 1,149 | ${ }^{(1)}$ | 91 | (1) | ${ }^{(1)}$ | 1,023 | 181 | 489 | 32 | 2,965 |  |  |
| 1908. | 1;214 | (1) | -119 | (1) | (1) | $\begin{array}{r}1,098 \\ \hline 959\end{array}$ | 138 127 | 241 348 | 28 34 | 2,838 2,522 | (1) | (1) |
| 1909. | 940 | (1) | 114 | (1) | (1) | 959 | 127 | 348 | 34 | 2,522 |  |  |
| 1910 | 1,494 | (1) | 77 | (1) | ${ }^{(1)}$ | 1,694 | 137 | 689 | 79 | 4, 170 |  |  |
| 1911 | 1,283 | (1) | 108 | (1) | (1) | 1,565 | 152 | 542 | 63 | 3, 713 | (1) | (1) |
| 1912 | 1,175 | (1) | 97 | (1) | (1) | 1,343 | 154 | 431 | 35 | 3,235 | (1) | (1) |
| 1913 | 1,450 | (1) | 70 | (1) | (1) | 1,586 1,198 | 175 170 | 596 565 | 70 87 | 3,947 3,337 |  | (1) |
| 1914 | 1,273 | (1) | 44 | (1) | ${ }^{(1)}$ | 1,198 | 170 | 565 | 87 | 3,337 | (1) |  |
| 1915 | 258 | 653 | 72 | 163 | 611 | 1,369 | 264 | 536 | 124 | 4, 050 | 2,700 | 6,750 |
| 1916 | 829 | 1,291 | 86 | 259 | 556 | 1,301 | 181 | 485 | 114 | 5,102 | 4,091 | 8,193 |
| 1017 | 836 | 1,958 | 69 | 248 | 583 | 1,638 | 207 | 319 | 97 178 | ${ }^{5}, 955$ | 5, ${ }^{5}$, 65 |  |
| 1918. | 1,205 | 1,484 | 68 | 175 | 744 | 1, 953 | 248 | 463 676 | 178 408 | 6,518 7,850 | S, 688 | 12, 204 |
| 1919. | 1,309 | 1,822 | 125 | 276 | 783 | 2,150 | 301 | 676 | 408 | 7,850 | 6,735 | 14,585 |
| 1920 | 1,202 | 1,864 | 140 | 204 | 623 | 1,474 | 228 | 416 | 160 | 6,311 | 6, 252 | 12,563 |
| 1921 | 1, 352 | 1,288 | 245 | 207 | 485 | 1,124 | 200 | 298 | 98 | 5,207 | 6, 036 | 11,333 |
| 1922 | 1,273 | 1, 693 | 223 | 244 | 558 | 1,094 | 154 | 176 | 69 | 5,484 | ${ }_{5}^{6,193}$ | 11, 677 |
| 1923. | 1, 414 | 1,685 | 207 | 231 | 554 | 1,288 | 226 | 194 | 80 | 5,879 | 5,851 | 11,730 |

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis ( 1900 to 1906 from 14th Annual Report of Bureau of Animal Industry; 1907 to 1914 from Merchants' Exchange Annual Report); subsequent figures from data of the reporting service of the Livestock, Meats, and Wool Division.
${ }^{1}$ Figures prior to 1915 not obtainable.
2 Not in operation.

Table 527.-Sheep: Receipts at all public stockyards, 1915-1929.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thoat- | Thou- | Thou | Thou- | Thou- | Thou- | Thou- | Thow- | Thou- | Thou- | Thou- | Thou- | Tho |
|  | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands |
| 19161 | 11,517 | 1,257 | 1,248 | 1,019 | 1,050 | 1,080 | 1, 264 | 1,725 | 2, 501 | 2,359 | 2, 042 | 1,373 | 18,435 |
| 1917 | 1, 578 | 1,384 | 1,256 | 1,152 | 1,059 | 1, 240 | 1, 353 | 1,763 | 2,654 | 3, 231 | 2,126 | 1, 479 | ${ }^{20,692}$ |
| 1918. | 1,354 | 1,096 | 1,270 | 1,159 | 1,214 | 1,429 | 1, 1,639 | 2,270 | 3,496 | 3, 327 | 2, 2905 | 1,583 | 22, 216 |
| 1919 | 1,594 | 1,157 | 1,268 | 1,438 | 1,468 | 1, 775 | 2, 287 | 3,360 | 3, 854 | 3,754 | 2, 845 | 2, 456 | 27, 256 |
| 1920 | 1,614 | 1,416 | 1,315 | 1,466 | 1,488 | 1,640 | 2,034 | 2,606 | 2, 895 | 3, 027 | 2,471 | 1,566 | 23, 538 |
| 1921 | 1,792 | 1,516 | 1,750 | 1,677 | 1,916 | 1, 849 | 1,776 | 2,500 | 2,618 | 3, 042 | 2, 068 | 1, 664 | 24, 168 |
| 1922 | 1,835 | 1,399 | 1, 465 | 1,227 | 1,692 | 1,700 | 1,677 | 1,951 | 2, 303 | 3,311 | 2, 288 | 1,516 | 22,364 |
| 1923 | 1,636 | 1,366 | 1,430 | 1,447 | 1,794 | 1, 426 | 1,661 | 1,800 | 2, 659 | 3,464 | 1,816 | 1, 526 | 22, 025 |

Division of Statistical and Historical Researeh. Compiled from data of the reporting service of the Livestack, Meats, and Wool Division.

1. Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from
any markets. many markets.

Table 528.-Sheep: Receipts at Chicago, East St. Louis, Kansas City, and Omaha combined, 1900-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thau- | Thou- | Thou- | Thou- | Thou- | T'hou- | Thou- | Thou- | Thou- | Thou- | Thou- |
| 1900 | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sanis. | sands. | sands. | sands. |
| 1901 | 495 | 449 | 492 | 490 | 515 | 431 | 445 | 613 | 577 | 743 | 479 | 380 |
| 1902 | 504 | 401 | 448 | 43 | 4 | 519 | 580 |  | 749 | 830 | 671 | 477 |
| 1903 | 559 | 523 | 562 | 551 | 482 | 434 | 546 | 721 | 1,022 | 1,143 | 936 | 646 |
| 1904 | 637 | 715 | 683 | 533 | 507 | 567 | 312 | 675 | 1,976 | 1,080 | 751 | 513 |
| 1905 | 623 | 609 | 643 | 633 | 668 | 515 | 604 | 693 | 1,105 | 1,225 | 784 | 570 |
| 1936 | 729 | 655 | 775 | 672 | 658 | 539 | 612 | 763 | 990 | 1,268 | 849 | 658 |
| 1907 | 755 | 644 | 658 | 687 | 514 | 499 | 575 | 685 | 1,042 | 1,191 | 638 | 519 |
| 1308 | 598 | 575 | 562 | 590 | 589 | 614 | 616 | 800 | 1,287 | 982 | 822 | 741 |
| 1909 | 576 | 565 | 700 | 593 | 465 | 607 | 636 | 862 | 1,206 | 1,281 | 841 | 700 |
| 1910 | 651 | 522 | 551 | 477 | 577 | ${ }^{631}$ | 794 | 1,199 | 1,609 | 1, 820 | 1,258 | 702 |
| 1911 | 822 | 686 | 740 | 686 | 763 | 796 | 807 | 1, 085 | 1,566 | 2,003 | 1,115 | 810 |
| 1912 | 1,020 | 849 | 856 | 770 | 665 | 671 | 837 | 1,052 | 1,528 | 1,906 | 1,113 | 905 |
| 1913 | 892 | 750 | 710 | 770 | 737 | 732 | 831 | 963 | 1,869 | 1,848 | 1,089 | 979 |
| Av. 1909-1913 | 792 | 674 | 711 | 659 | 641 | 687 | 781 | 1,032 | 1,556 | 1,772 | 1,083 | 819 |
| 1914 | 934 | 863 | 909 | 858 | 707 | 716 | 723 | 979 | 1,558 | 1,512 | 705 | 779 |
| 1915 | 799 | 670 | 723 | 540 | 469 | 531 | 637 | 931 | 1,337 | 1,000 | 868 | 736 |
| 1916 | 742 | 697 | 632 | 586 | 632 | 659 | 634 | 991 | 1,301 | 1,403 | 854 | 761 |
| 1917 | 796 | 693 | 682 | 592 | 441 | 470 | 526 | 650 | 1,111 | 1,210 | 715 | 756 |
| 1318 | 716 | 525 | 620 | 518 | 538 | 554 | 726 | 989 | 1,770 | 1,569 | 952 | 741 |
| 1919 | 780 | 547 | 504 | 623 | 612 | 742 | 1,098 | 1,461 | 1,968 | 1,400 | 951 | 957 |
| 1920 | 666 | 619 | 580 | 462 | 532 | 632 | 827 | 1,189 | 1,288 | 946 | 817 | 631 |
| Av. 1914-1920 | 776 | 659 | 673 | 597 | 562 | 615 | 739 | 1,027 | 1,476 | 1,291 | 837 | 766 |
| 1821. | 813 | 700 | 819 | 754 | 729 | 725 | 645 | 1,100 | 1,173 | 1,095 | 686 | 664 |
| 1922 | 753 | 602 | 640 | 517 | 659 | 690 | 695 | 826 | 835 | 1,072 | 726 | 594 |
| 1923. | 782 | 665 | 735 | 690 | 672 | 529 | 711 | 807 | 1,179 | 1,231 | 612 | 685 |

[^269]Table 529.-Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923.

RECEIPTS.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Market. \& 1915 \& 1916 \& 1917 \& 1918 \& 1919 \& 1920 \& 1921 \& 1922 \& 1923 <br>
\hline Albany, N. Y \& Thousands. \& Thousands. \& Thousands. 45 \& Thousands. \& Thousands. 1 \& Thousands. $\left.{ }^{1}\right)$ \& Thousands. (1) \& Thousands. $\left.{ }^{1}\right)$ \& $$
\begin{aligned}
& \text { Thour } \\
& \text { sands. }
\end{aligned}
$$ <br>
\hline Amarillo, Tex \& 75 \& 56 \& 158 \& 155 \& 236 \& 189 \& 38 \& 73 \& 101 <br>
\hline A tlanta, Ga \& \& \& (1) 2 \& (1) \& (1) 2 \& (1) \& (1) $^{2}$ \& (1) $^{2}$ \& (1) ${ }^{5}$ <br>
\hline Augusta, ${ }^{\text {Baltimore, }} \mathrm{M}$ \& 306 \& 279 \& $\stackrel{11}{349}^{349}$ \& ${ }_{359}$ \& ${ }_{371}$ \& ${ }_{367}$ \& ${ }_{466}$ \& ${ }_{306}$ \& ${ }^{(1)} 284$ <br>
\hline Billings, Mont \& 11 \& 53 \& 22 \& 25 \& 77 \& 26 \& 3 \& \& <br>
\hline Birminghami, A \& \& ${ }_{3}^{2}$ \& 1 \& 1 \& 1
4 \& $\frac{1}{5}$ \& 2 \& ${ }^{(1)} 2$ \& <br>
\hline Boston, Mass. \& $83{ }^{3}$ \& - ${ }^{3}$ \& 3
756 \& ${ }_{904}^{4}$ \& 1, 100 \& 5
1,052 \& 1,380 ${ }^{2}$ \& 1,191 \& 1,226 <br>
\hline Buifalo, N. Y Chattanooga, Ten \& 835 \& 1,024
4 \& 756
2 \& 904 \& 1,100
3 \& 1,052

2 \& 1,380
3 \& 1, 4 \& 1, 2 <br>
\hline Cheyenne, Wy \& \& \& 210 \& 371 \& 442 \& 223 \& 148 \& 139 \& 169 <br>
\hline Chicago, Ill \& 3, 510 \& 4,291 \& 3, 595 \& 4,630 \& 5, 244 \& 4,005 \& 4, 734 \& 3, 874 \& 4,098 <br>
\hline Cincinnati, Ohio \& 356 \& 332 \& 270 \& 275 \& 335 \& 366 \& 438 \& 394 \& 345 <br>
\hline Cleveland, Ohio \& 259 \& $\underset{\text { (1) }}{254}$ \& ${ }_{(1)} 320$ \& ${ }_{(1)}^{370}$ \& ${ }_{(1)}^{467}$ \& ${ }_{(1)}^{420}$ \& ${ }_{(1)}^{370}$ \& (1) ${ }^{360}$ \& 333
1 <br>
\hline Columbus, \& 1 \& 1 \& (1) \& \& 1 \& 1 \& 1 \& 2 \& 1 <br>
\hline Dallas, Tex \& \& 1 \& (1) \& (1) \& (1) \& 1 \& 1 \& 1 \& <br>
\hline Dayton, Ohio \& 11 \& 4 \& 4 \& \& 11 \& 9 \& 7 \& 8 \& <br>
\hline Denver, Colo \& 765 \& 1,409 \& 2, 060 \& 1,652 \& 2, 087 \& 2,079 \& 1,468 \& 1,867 \& 1,857 <br>
\hline Detroit, Mich \& 269 \& 284 \& 297 \& 279 \& 344 \& 328 \& 343 \& 356 \& 298 <br>
\hline Dublin, Ga_ \& \& \& \& \& ${ }^{(1)}$ \& ${ }^{1}$ \& \& (1) \& <br>
\hline East St. Louis, \& 648 \& 671 \& 531 \& 536 \& 724 \& 605 \& 636 \& 628 \& 581 <br>
\hline El Paso, Tex \& 99 \& 117 \& $\stackrel{211}{136}$ \& 88
98 \& ${ }_{156}^{252}$ \& 136 \& 71
170 \& 165 \& 73 <br>
\hline Emeryville, Calif \& \& \& 136 \& ${ }_{9}^{98}$ \& 156
38 \& 157 \& 170 \& \& <br>
\hline Erie, Pa..-- \& \& \& \& 109 \& 38 \& \& \& \& <br>
\hline Evansville, Ind \& \& 7 \& 9 \& 11 \& 14 \& 14 \& 8 \& 11 \& 8 <br>
\hline Fort Wayne, Ind \& \& \& \& \& \& 394 \& 357 \& 325 \& 386 <br>
\hline $\underset{\text { Fort Worth, }}{\text { Fostoria, Ohio }}$ \& 363
13
13 \& 431
12 \& 12 \& 10
10 \& 11 \& 17 \& 21 \& 14 \& 12 <br>
\hline Indianapolis, Ind \& 113 \& 98 \& 102 \& 114 \& 131 \& 136 \& 145 \& 147 \& 124 <br>
\hline Jacksonville, Fla \& \& 1 \& (1) \& 2 \& 2 \& 1 \& (1) \& ( ${ }^{\text {a }}$ \& <br>
\hline Jersey City, N.J \& 1, 029 \& 1,546 \& 1,329 \& 1,095 \& 1,532 \& 1,554 \& 1,994 \& 1, 8.54 \& <br>
\hline Kansas City, Mo \& 1,815 \& 1,758 \& 1,493 \& 1,667 \& 1,945 \& 1, 687 \& 1,780 \& 1, 574 \& 1,671 <br>
\hline Knoxville, 'Tenn \& 3 \& 2
2 \& 3
4 \& 2
5 \& $\stackrel{2}{8}$ \& 8 \& 8 \& 4 \& 1 <br>
\hline Lafayette, Ind.- \& 3 \& \& \& 5 \& \& \& \& \& <br>
\hline Lancaster, Pa \& 2 \& 1 \& 160 \& 257 \& 74 \& 122 \& 12 \& 27 \& 53 <br>
\hline Laredo, Tex \& (1) \& ${ }^{(1)}$ \& (1) \& 1 \& (1) \& 1 \& 1 \& 1 \& 1 <br>
\hline Los Angeles, Calif \& \& \& \& \& \& \& \& \& 75 <br>
\hline Louisville, Ky .- \& 308 \& 343 \& 272 \& 257 \& 273 \& 277 \& 286 \& 318 \& 265 <br>
\hline Marion, Ohio. \& \& \& \& 2 \& 32 \& 50 \& \& \& <br>
\hline Memphis, Tenn \& \& 4 \& \& $\stackrel{2}{5}$ \& 65 \& ${ }_{61}^{2}$ \& \& 45 \& 40 <br>
\hline Milwaukee, W is Mobile, Ala \& (1) $^{86}$ \& \& 48 \& \& \& \& \& \& <br>
\hline Montgomery, Ala \& \& \& 1 \& 7 \& 7 \& 4 \& 2 \& 2 \& 3 <br>
\hline Moultrie, Ga- \& \& \& \& \& \& \& \& 152 \& ${ }^{(1)} 129$ <br>
\hline Nashville, Tenn \& \& 47 \& 94 \& (1) \& 14 \& 129
1 \& ${ }_{(1)}^{138}$ \& 152 \& 12 <br>
\hline Newark, N. J...- \& \& \& \& \& \& \& \& \& 29 <br>
\hline New Brighton, Min \& 146 \& 169 \& 83 \& 203 \& 276 \& 166 \& 293 \& 290 \& <br>
\hline New Orleans, La \& \& 4 \& 6 \& , \& 6 \& 6 \& 4 \& 4 \& 74 <br>
\hline New York, N. Y \& 179 \& 94 \& 80 \& 271 \& ${ }_{3}^{291}$ \& 158 \& 221
368 \& 143
459 \& 74
449 <br>
\hline North Salt Lake, Ut \& \& 404 \& 357 \& 424 \& 388 \& 481 \& 368
576 \& 709 \& 849 <br>
\hline Ogden, Utah. \& \& \& 380 \& 423 \& ${ }^{516}$ \& \& 576
18 \& 78
18 \& 849 <br>
\hline Oklahoma, Okla \& 69 \& 115 \& 50 \& 32 \& 19 \& 15 \& 18 \& 18 \& 9 <br>
\hline Omaha, Nebr \& 3,268 \& 3,171 \& 3, 017 \& 3, 386 \& 3, 789 \& 2,891 \& 2, 753 \& 2, 533 \& 2, 970 <br>
\hline Pasco, Wash \& \& \& \& 58 \& 131 \& 92 \& \& 66
3 \& 66
4 <br>
\hline Peoria, Ill \& \& \& 185 \& 231 \& 293 \& $\begin{array}{r}3 \\ 349 \\ \hline\end{array}$ \& 454 \& 352 \& 248 <br>
\hline Philadeiphia, Pa \& 312
419 \& 282
337 \& 185
563 \& 231
553 \& 293 \& 349
929 \& 1,
1,197 \& 1,204 \& 1, 045 <br>
\hline Pittsburgh, Pa \& 419 \& 303 \& 563 \& 553 \& 76. \& 922 \& \& \& <br>
\hline Portland, Oreg. \& 197 \& 171 \& 141 \& 149 \& 215 \& 235 \& 329 \& 205 \& 179 <br>
\hline Pueblo, Colo \& 794 \& 806 \& 800 \& 762
7 \& 837
10 \& 734
10 \& 541
13 \& 645
12 \& 704 <br>
\hline Richmond, Va \& 7 \& \& \& \& $\pm$ \& 10 \& \& \&  <br>
\hline St. Joseph, Mo. \& 878 \& 304 \& 679 \& 827 \& 1,097 \& 843 \& 931 \& 730 \& 979 <br>
\hline
\end{tabular}

[^270]Table 529.-Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923-Continued.

RECEIPTS-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| St. Louis, Mo. | Thousands. 153 | Thousands. 109 | Thousands. 62 | Thousands. 25 | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. |
| St. Paul, Minn | 704 | 623 | 430 | 630 | 912 | 729 | 633 | 499 | 454 |
| San Antonio, Tex | 17 | 26 | 51 | 41 | 88 | 70 | 49 | 66 | 23 |
| Seattle, W ash. |  | 20 | 9 | 52 | 102 | 91 | 91 | 70 | 86 |
| Sioux City, Iowa | 337 | 321 | 267 | 387 | 686 | 358 | 288 | 223 | 216 |
| Sioux Falls, S. Dak |  |  | ${ }^{1}$ ) | 2 | 37 | 5 | 2 | 2 | 5 |
| Spokane, Wash. | 2 | 32 | 39 | 102 | 117 | 127 | 73 | 63 | 28 |
| Springfield, Ohio |  |  |  |  |  |  |  |  | 9 |
| Tacoma, Wash |  | 12 | 28 | 28 | 33 | 44 | 55 | 39 |  |
| Toledo, Ohio | 41 | 29 | 34 | 29 | 54 | 69 | 23 | 20 | 13 |
| Washington, D. |  | 15 | 7 | 8 | 20 | 27 | 35 | 21 | 17 |
| Wichita, Kans. | 30 | 21 | 27 | 40 | 59 | 39 | 32 | 82 | 120 |
| Total | 18,435 | 20,692 | 20,216 | 22, 485 | 27, 256 | 23, 538 | 24, 168 | 22, 364 | 22,025 |

LOCAL SLAUGHTER.

| Albany, N. Y |  |  | 2 | (1) | (1) | (1) | (1) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlanta, Ga |  |  | (1) | (1) |  |  |  |  |  |
| Augusta, Ga |  |  | (1) | ${ }^{(1)} 8$ | ${ }^{(1)}$ | ${ }^{(1)}$ | ${ }^{(1)} 18$ | ${ }^{(1)} 14$ | ${ }^{(1)} 131$ |
| Baltimore, M | 105 | 93 | ${ }_{(1)} 60$ | 85 | ${ }_{(1)}^{103}$ | 121 | 186 1 | 144 |  |
|  |  |  |  | 1 | (1) | 1 | 1 |  |  |
| Buffalo, N. Y |  | 183 | 119 | 142 | 231 | 263 | 243 | 193 | 161 |
| Chattanooga, Tenn |  |  |  | 2 | 2 | 2 | ${ }_{3}$ | 4 |  |
| Chicago, Ill. | 3, 252 | 3,462 | 2, 759 | 3,425 | 3, 035 | 2,803 | 3, 383 | 2, 601 | 2,684 |
| Cincinnati, Ohio | 124 | 79 |  | 52 | 84 | 81 | 121 | 91 |  |
| Cleveland, Ohio | 168 | 144 | 118 | 132 | 176 | 168 | 234 | 189 | 189 |
| Columbia, S. C |  | ${ }^{(1)}$ |  | (1) | ${ }^{(1)}$ | ${ }^{1}$ (1) | (1) | ${ }^{(1)}$ |  |
| Columbus, Ohio | 1 | 1 |  | (1) | (1) | (1) | 1 |  |  |
| Dallas, Tex |  | 1 | ${ }^{(1)}$ | $\left.{ }^{1}\right)$ | ${ }^{(1)}$ |  | 1 |  |  |
| Dayton, Ohio | 11 | 2 | 2 | 2 | 4 | 6 | 5 | 5 |  |
| Denver, Colo | 113 | 116 | 95 | 174 | 241 | 239 | 180 | 172 | 169 |
| Detroit, Mich |  | 209 | 156 | 138 | 212 | 216 | 168 | 196 | 194 |
| East St. Louis, | 576 | 584 | 462 | 468 | ${ }_{5}{ }_{3}$ | $\begin{array}{r}465 \\ 7 \\ \hline\end{array}$ | $\stackrel{391}{7}$ | 405 7 | ${ }_{8} 8$ |
| El Paso, Tex.- |  |  |  |  | ${ }_{156}^{3}$ | 157 |  |  |  |
| Emeryville, Cali |  |  | 135 | 101 | 156 |  | 170 | 165 |  |
| Erie, Pa |  |  |  | 3 | 4 | 1 |  |  |  |
| Evansville, Ind |  | 1 | 1 | 1 | 1 | 3 | 3 | 3 |  |
| Fort Wayne, Ind |  |  |  |  |  |  |  |  |  |
| Fort Worth, Tex | 201 | 189 | 144 | ${ }_{(1)}^{131}$ | ${ }_{(1)}^{164}$ | ${ }_{(1)}^{206}$ | ${ }_{(1)}^{157}$ | 8 | (1) ${ }^{155}$ |
| Indianapolis, Ind | 40 | 31 | ${ }^{21}$ | 16 | 26 |  |  |  |  |
| Jacksonville, Fla |  |  | ${ }_{1}^{(1)}{ }_{329}$ |  |  | ${ }_{1}^{(1)}$ |  | ${ }^{(1)} 8$ |  |
| Jersey City, N.J | 1, 029 | 1,546 | 1329 886 | 1,095 951 | 1,532 | 1,554 | 1,994 | 1,854 | 1,276 1,101 |
| Kansas City, Mo | 1,194 <br> +1 | (1) | (1) ${ }^{888}$ | ${ }^{1} 1$ | 1,176 1 | 1,000 | ${ }^{1,} 1$ | 1, 1 |  |
| Lafayette, Ind. |  | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 |
| Lancaster, Pa |  |  |  | 1 | 1 | 2 | 2 | 1 | 2 |
| Laredo, Tex |  |  |  |  |  |  |  |  |  |
| Logansport, Ind Los Angeles, Cali | (1) | (1) | (1) |  |  | () | ( | () |  |
| Louisville, Ky | 20 | 25 | 20 |  | 24 | 29 | 26 | 27 | 24 |
| Marion, Ohio |  |  |  | (1) | ( ${ }^{(1)}$ | 1 | (1) | (1) |  |
| Memphis, Tenn- |  |  |  |  |  |  |  |  | ${ }^{(1)} 29$ |
| Milwaukee, Wis | $51$ | $\text { (1) }{ }^{38}$ | $\text { (1) } 38$ | 34 | 42 | 45 | 47 | 34 | 29 |
|  |  |  |  |  | 1 | 1. |  |  |  |
| Montgomery, Ala |  | 1 | 9 | 13 | 15 | 18 | ${ }^{23}$ | ${ }^{27}$ | - 21 |
| Newark, N. J. |  |  |  |  |  |  |  |  | $29$ |
| New Orleans, La New York, N. Y | ---179- | $\begin{gathered} 4 \\ 94 \end{gathered}$ | $\begin{array}{r} 5 \\ 83 \end{array}$ | $\begin{array}{r} 77 \end{array}$ | $291$ | $\begin{array}{r} 3 \\ 158 \end{array}$ | $\begin{array}{r} 3 \\ 221 \end{array}$ | $143$ | $\begin{array}{r} \mathbf{2} \\ \mathbf{7 5} \end{array}$ |

[^271]Table 529.-Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923-Continued.

LOCAL SLAUGHTER-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. |
| North Salk Lake, Utah |  | 13 | 46 | 26 | 17 |  | 67 | 20 | 19 |
| Ogden, Utah |  |  | 8 | 43 | 24 | 17 | - 14 | 8 | 7 |
| Oklahoma, Okla | 39 | 72 | 27 | 14 | 8 | 5 | 12 | 12 | 4 |
| Omaha, Nebr | 1,899 | 1, 870 | 1, 378 | 1,433 | 1,639 | 1, 417 | 1,626 | 1,440 | 1,682 |
| Pasco, Wash. |  |  |  | (1) | (1) |  |  |  |  |
| Peoria, Ill | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 1 |
| Philadelphia, $\mathbf{P}$ |  |  | 170 | 220 | 286 | 343 | 446 | 345 | 244 |
| Pittsburgh, Pa | 56 | 111 | 85 | 95 | 103 | 125 | 148 | 117 | 117 |
| Portland, Oreg | 146 | 112 | 87 | 77 | 109 | 104 | 151 | 95 | 104 |
| Richmond, Va | 6 | 2 | 4 | 5 | 6 | 7 | 10 | 9 | 8 |
| Roanoke, Va |  |  |  |  |  |  |  |  | (1) |
| St. Joseph, Mo | 615 | 624 | 472 | 580 | 706 | 615 | 730 | 576 | 754 |
| St. Louis, Mo. | 16 | 18 | 11 | 8 |  |  |  |  |  |
| St. Paul, Minn | 181 | 152 | 118 | 176 | 251 | 300 | 316 | 319 | 253 |
| San Antonio, Tex |  |  | 9 | 1 | 1 | 2 | 2 | 4 | 2 |
| Seattle, Wash |  | 20 | 9 | 52 | 101 | 90 | 91 | 69 | 83 |
| Sioux City, Iowa | 210 | 216 | 170 | 210 | 282 | 199 | 191 | 153 | 135 |
| Sioux Falls, S. Dak |  |  | (1) | (1) | ${ }^{(1)}$ | 2 | 1 | (1) | (1) |
| Spokane, Wash. | 1 | 1 | 4 | 9 | 13 | 16 | 26 | 11 | (1) |
| Springfield, Ohio. |  |  |  |  |  |  |  |  |  |
| Tacoma, Wash |  | 12 | 28 | 24 | 37 | 37 | 55 | 40 |  |
| Toledo, Ohio |  | 3 | 3 | 2 | 4 | 2 | 3 | 3 | 1 |
| Washington, D. |  | 15 | 6 | 8 | 20 | 27 | 34 | 20 | 17 |
| Wichita, Kans. | 19 | 4 | 2 | 4 | 6 | 5 | 6 | 13 | 17 |
| Total | 10,254 | 11,228 | 9, 142 | 10,266 | 12, 646 | 10,981 | 12, 858 | 10,669 | 10,271 |

STOCKER AND FEEDER SHIPMENTS.

${ }^{1}$ Less than 500.

$$
85813^{\circ} \text { —увк } 1923-63
$$

Table 529.-Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stock yards, calendar years, 1915-1923-Continued.

STOCKER AND FEEDER SHIPMENTS-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1983 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. | Thowsands. |
| Newark, N. J |  |  |  |  |  |  |  |  |  |
| New Brighton, Minn |  | 4 | 4 |  | 33 | 3 | 75 | 46 |  |
| New Orleans, La |  |  | (1) | 2 | 1 | 1 | 1 | 1 | 1 |
| North Salt Lake, Utah |  | 47 | 159 | 215 | 277 | 211 | 142 | 276 | 24 |
| Ogden, Utah. |  |  | I | 41 | 171 | 133 | 197 | 281 | 350 |
| Oklahoma, Okla |  | 24 | 13 | 6 | 6 | 3 | 2 | 3 | 3 |
| Omaha, Nebr |  | 1,026 | 1,302 | 1,592 | 1, 787 | 1,124 | 670 | 757 | 880 |
| Pasco, Wash. |  |  |  | 59 | 131 | 68 |  |  |  |
| Peoria, Ill |  |  |  | (1) | 1 | 1 | 4 | 1 | 3 |
| Portland, Oreg |  | 15 | 27 | 18 | 27 | 40 | 13 | 7 | 5 |
| Pueblo, Colo |  |  |  | 20 | (1) | 1 | (1) | 3 | 292 |
| Richmond, Va |  | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| St. Joseph, Mo |  | 97 | 124 | 126 | 200 | 142 | 107 | 113 | 150 |
| St. Paul, Minn. |  | 140 | 92 | 109 | 201 | 113 | 78 | 66 | 91 |
| San Antonio, Tex |  | 9 | 1 | 17 | 46 | 33 | 5 | 38 | 7 |
| Sioux City, Iowa |  | 87 | 62 | 129 | 272 | 90 | 64 | 45 | 42 |
| Sioux Falts, S. Dak |  |  | (1) | (1) | 28 | 1 | (1) | (1) | 1 |
| Spokane, Wash |  |  | 16 | 24 | 35 | 75 | 12 | 22 | 12 |
| Tacoma, Wash |  |  |  | 2 | (1) 1 | 2 | ${ }^{(1)}$ | ${ }^{(1)}$ | ---... - |
| Toledo, Ohio |  |  |  |  | (1) | 3 | $\left.{ }^{1}\right)$ | (1) |  |
| Wichita, Kans |  | 1 | 11 | 16 | 19 | 3 | 2 | 17 | 37 |
| Total |  | 3, 277 | 4,448 | 5,208 | 6,956 | 5, 180 | 3,095 | 4,167 | 4,478 |

Division of Statistical and Historical Research. Compiled from reports made by stockyards to the Livestock, Meats and Wool Division.
${ }^{1}$ Less than 500.
Table 530.-Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1983.

| Stockyard. | Jan. | Feb. | Mar. | Apr. | May | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- | Thow | Thow- | Thou- | Then- | Thow- | Thou- | Thote | Thou | Thou- |
| Buffalo, N. Y.: | sands. | sands. | sands. | sands. | sunds. | sands. | sands | sands. | sands. | sands. |  |  | sands. |
| Receipts.---- | 133 | 102 | 107 | 125 | 88 | 39 | 45 | 62 | 85 | 123 | 152 | 165 | 1,226 |
| Local slaughter | 15 | 11 | 12 | 16 | 15 | 6 | 13 | 14 | 15 | 17 | 14 | 13 | 161 |
| Stocker and feeder |  |  |  |  |  |  |  | 1 | (1) | 1 | (1) |  | 2 |
| Chicago, H .: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts. | 358 | 283 | 315 | 338 | 261 | 200 | 290 | 365 | 478 | 539 | 325 | 346 | 4,098 |
| Local slaughter...- | 243 | 188 | 212 | 238 | 204 | 189 | 237 | 228 | 227 | 266 | 217 | 235 | 2, 684 |
| Stocker and feeder shipments | 24 | 25 | 21 | 11 | 5 | 7 | 23 | 81 | 186 | 203 | 62 | 34 | 682 |
| Cinclnnati, Ohio: | 3 | 2 | 3 | 3 | 33 | 83 | 70 | 83 | 30 | 20 | 9 | 6 | 345 |
| Receipts------ | 3 | 2 | $\stackrel{3}{2}$ | 3 | 10 | 5 | 0 | 10 | 3 | 7 | 4 | 4 | 62 |
| Stocker and feeder shipments | (1) |  |  |  |  | 1 | 1 | 6 | 6 | 1 | ${ }^{(1)}$ |  | 15 |
| Cleveland, Ohio: |  |  |  |  |  |  |  |  |  |  |  | 47 |  |
| Receipts----- | $\stackrel{24}{16}$ | 13 | 13 | 18 | 16 | 14 | 15 | 18 | 18 | 16 | 8 | 21 | 138 |
| Stocker and feeder shipments |  |  |  |  |  | ${ }^{(1)}$ | (1) | (1) | 2 | 1 | 1 | (1) | 4 |
| Denver, Colo.: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts ------ | 128 | 101 | 121 20 | 114 | 14 | 20 8 | 10 | 18 | 10 | 19 | 13 | 11 | 1,808 |
| Local slaughter |  |  |  |  |  |  |  |  |  |  |  |  |  |
| East St. Louis, Mo.: | 54 | 24 | 20 | 10 | 9 | 3 | 29 | 11 | 127 | 538 | 213 | 30 | 1,068 |
| East St. Louis, Mo.. Receipts | 32 | 19 | 24 | 20 | 54 | 92 | 79 | 60 | 60 | 53 | 34 | 34 | 561 |
| Lecal slaughter | 18 | 14 | 17 | 12 | 39 | 68 | 56 | 40 | 27 | 27 | 18 | 18 | 354 |
| Stocker and feeder | (1) | 1 | (1) |  | (1) | 2 | 8 | 5 | 20 | 10 | 3 | 2 | 51 |

[^272]Table 530.-Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923-Continued.

| Stockyard. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fort Worth, Tex.: | Thousands. | Thou- | Thou- | Thou- | Thousands. | Thousands. | Thou- sands. | Thou- | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. |
| Receipts....-... | 12 | 6 | 8 | 16 | 86 | 42 | 61. | 26 | 53 | 38 | 27 | 11 | 386 |
| Local slaughter | 5 | 5 | 6 | 11 | 40 | 23 | 23 | 9 | 9 | 12 | 10 | 2 | 155 |
| Stocker and feeder shipments | 2 | ${ }^{(1)}$ | $\left.{ }^{1}\right)$ | 1 | 4 | 3 | 5 | 5 | 8 | 6 | 2 | 3 | 39 |
| Indianapolis, Ind.: <br> Receipts. | 7 | 3 | 2 | 2 | 5 | 16 | 15 | 16 | 20 | 21 | 9 | 8 | 124 |
| Local slaughter | 5 | 1 | 1 | 1 | 3 | 9 | 7 | 10 | 8 | 7 | 5 | 4 | 61 |
| Stocker and feeder shipments | ( ${ }^{1}$ | (1) | ( ${ }^{1}$ | (1) | (1) | 1 | 1 | 1 | 1 | 1 | (1) | (1) | 5 |
| Jersey City, N. J.: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts | 81 | 55 55 | 57 57 | 68 68 | 88 | 145 | 166 | 193 | 118 | 117 | 98 98 | 90 | 1,276 |
| Stocker and feeder shipments | 81 | 5 | 57 | 68 |  |  |  |  |  |  |  |  |  |
| Kansas City, Mo.: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts .-------- | 146 | 112 | 140 | 127 | 148 | 119 | 128 | 118 | 219 | 215 | 90 | 109 | 1, 671 |
| Local slaughter---- | 108 | 84 | 106 | 113 | 108 | 86 | 91 | 73 | 95 | 104 | 54 | 79 | 1, 101 |
| Stocker and feeder shipments $\qquad$ | 27 | 23 | 17 | 8 | 23 | 24 | 21 | 37 | 98 | 81 | 28 | 20 | 407 |
| Oklahoma, Okla.: Receipts | 1 | 1 | (1) | (1) | (1) | 1 | 1 | 1 | 1 | $\left.{ }^{1}\right)$ | $\left.{ }^{1}\right)$ | 3 | 9 |
| Local slaughter | 1 | 1 | (1) | (1) | (1) | 1 | 1 | (1) | (1) | (1) | (1) | (1) | 4 |
| Stocker and feeder shipments |  |  |  |  |  |  |  |  |  |  |  | 3 | 3 |
| Omaha, Nebr: |  |  |  |  |  |  |  |  |  |  | 163 | 196 | 2,970 |
| Receipts.-- | 247 170 | 251 139 | 256 176 | 205 | 209 | 118 | 215 133 | 112 | 148 | 134 | 106 | 134 | 1,682 |
| Local slaughter | 170 | 139 | 176 | 168 | 168 | 94 | 133 | 112 | 148 | 134 | 106 | 134 | 1,682 |
| Stocker and feeder shipments | 25 | 38 | 19 | 15 | 23 | 21 | 46 | 125 | 257 | 252 | 49 | 19 | 889 |
| Pittsburgh, Pa.: |  |  |  |  |  |  | 139 | 131 | 88 | 75 | 57 | 78 | 1,045 |
| Receipts | 63 8 | 54 | 62 | 82 | 12 | 121 | 139 12 | 131 12 | 10 | 12 | 10 | 9 | 1,118 |
| Stocker and feeder shipments $\qquad$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| St. Joseph, Mo.: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts......-..-- | 101 | 110 | 121 | 92 | 77 | 619 | 57 | 31 | 43 | 100 | 49 | 63 | 754 |
| Local slaughter | 82 | 82 | 94 | 80 | 66 | 49 | 47 | 37 | 43 | 62 | 49 | 63 | 754 |
| Stocker and feeder shipments | 7 | 6 | 7 | 8 | 9 | - 10 | 8 | 14 | 26 | 36 | 12 | 7 | 150 |
| St. Paul, Minn.: |  |  |  |  |  |  |  | 27 | 73 | 134 | 83 | 30 | 454 |
| Reccipts | 37 | 18 | 16 | 9 | 5 | 5 | 17 | 27 | 38 | 130 | 42 | 23 | 253 |
| Local slaughter | 23 | 12 | 13 | 8 | 5 | 5 | 12 | 22 | 38 | 50 | 42 | 23 | 203 |
| Stocker and feeder shipments | 4 | 2 | 2 | (1) | ${ }^{(1)}$ | (1) | 1 | 3 | 10 | 43 | 22 | 4 | 91 |
| Sioux City, Iowa: |  |  |  |  |  |  |  | 9 | 17 | 53 | 34 | 24 | 216 |
| Receipts .-.-. | 25 | 16 | 14 | 11 |  | 3 | 6 5 |  | 10 | 15 | 24 | 20 | 136 |
| Local slaughter | 20 | 13 | 12 | 7 | 3 | 3 | 5 | 4 | 10 | 15 |  |  |  |
| Stocker and feeder shipments | 2 | 3 | (1) | (1) | (1) | (1) | 1 | 1 | 1 | 26 | 6 | 2 | 42 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.
${ }^{1}$ Less than 500.
Table 531.—Sheep: Shipments of feeder sheep from public stockyards, 1923. oriain.

| Market. | Jan. | Feb. | Mar. | Apr. | May. | June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Number. | Number. | Number. | Number. | Number. |
| Chicago, ml | 29,361 | 24, 367 | 20,809 | 10,850 | 4,330 | 5,847 <br> $\mathbf{2}$ <br> 189 |
| Denver, Colo | 36, 831 | 20, 197 | 9, 020 | 4, 495 | 6,610 | - 1,969 |
| Fort Worth, Tex | 2,291 | 13, 290 | 124 5,095 | 1,344 2,380 | 11,499 | 9,746 |
| Kansas City, Kans | 16,364 | 13,857 | 5,095 |  | 11, 390 | 5,529 |
| Louisville, K National Stock Yards | 484 | 280 | 122 |  | 203 | 1,637. |
|  | 20,468 | 30,600 | 18,655 | 14,585 | 21, 101 | 18,430 |
| Sioux City, Iowa | 1, 954 | 1, 304 | 150 | 16 | 23 | ${ }^{648}$ |
| South St. Joseph, Mo | 1,722 | 825 | 1,220 | 565 | 1,798 | 2,501 |
| South St. Paul, Minn | 2,770 | 2,253 | 1,926 |  |  | 2,125 |
| All other-.-.-.--- | 2, 704 | 1,025 | 507 | 612 | 1,574 | 2,182 |
| Total | 114, 949 | 95, 003 | 57, 628 | 34, 847 | 52,582 | 51, 010 |

Table 531.-Sheep: Shipments of feeder sheep from public stockyards, 1923Continued.

ORIGIN-Continued.

| Market. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Number. | Number. | Number. | Number. | Number. | Number. |
| Chicago, ml | 25, 040 | 83, 368 | 186, 428 | 189, 772 | 63, 561 | 39, 547 | 683, 280 |
| Denver, Colo | 21, 906 | 12,903 | 119, 815 | 564, 409 | 173, 227 | 29, 906 | 1, 001, 718 |
| Fort Worth, Te | 5,114 | 4,461 | 8, 403 | 5,814 | 2,017 | 3,380 | 39, 258 |
| Kansas City, Kans | 14, 772 | 27, 210 | 70, 583 | 70, 170 | 20, 171 | 19,471 | 281, 318 |
| Louisville, Ky | 10,602 | 11,786 | 3, 843 | 934 |  |  | 34,090 |
| National Stock Yards, | 6,123 | 3,603 | 2, 517 | 1,823 | 562 | 424 | 17,778 |
| Omaha, Nebr | 43, 319 | 121, 077 | 247, 383 | 243, 404 | 57, 745 | 26, 201 | 862,968 |
| Sioux City, Iowa | 623 | 847 | 7, 141 | 28,690 | 4,777 | 2,038 | 48, 211 |
| South St. Joseph, Mo | 5,396 | 9, 426 | 13, 082 | 16, 135 | 4, 993 | 2,955 | 60, 618 |
| South St. Paul, Minn | 269 | 1,619 | 6,111 | 35, 047 | 19,349 | 3, 553 | 73, 027 |
| All other. | 4,135 | 6,987 | 27, 048 | 14, 517 | 9,242 | 3, 810 | 74, 343 |
| Total | 137, 299 | 283, 287 | 692, 354 | 1, 170, 715 | 355, 644 | 131, 291 | 3,176,609 |

DESTINATION.

| State. |  | Jan. | Feb. | Mar. | Apr. | May. | June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number. | Number. | Number. | Number. | Number. | Number. |
| Colorado |  | 25, 556 | 8,961 | 3, 877 | 4, 016 | 5,087 | 2, 097 |
| Ininois |  | 6, 874 | 5,243 | 1,759 | 4,366 | 1, 128 | 2, 403 |
| Indiana |  | 977 | 1,505 | 607 | 1,008 | 10 | 2,234 |
| Iowa_ |  | 6,934 | 7,731 | 2,698 | 797 | 4,648 | 6,927 |
| Kansas |  | 3, 639 | 3, 726 | 2,383 | 1,246 | 4,856 | 704 |
| Kentucky |  |  |  |  |  | 1,770 | 5, 156 |
| Michigan |  | 21, 769 | 17, 597 | 13, 914 | 2,995 | 3, 601 | 3, 556 |
| Minnesota |  | ${ }^{313}$ | 787 | 463 |  |  | 5, 1681 |
| Missouri |  | 6,559 | 4,952 | 914 | 422 | 3,253 | 5,281 |
| Nebraska |  | 34, 989 | 40,978 | 21, 737 | 15, 560 | 23,996 | 17,352 |
| Ohio- |  | 801 | 1, 556 | 1, 085 | 250 | 303 | 769 |
| South Dakota |  | 134 | 172 | 397 |  |  | 3 +816 |
| Texas. |  | 1,503 | 15 | 124 | 1, 344 | 2, 392 | 1,816 |
| Wisconsin |  | 2, 314 | 678 | 5,922 | 2, 320 | 200 | + 385 |
| All other. |  | 2,587 | 1,102 | 1,748 | 523 | 1,338 | 2,160 |
| Total |  | 114,949 | 95, 003 | 57, 628 | 34, 847 | 52,582 | 51, 010 |
| State. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
|  | $\begin{array}{r} \text { Number. } \\ 21,599 \\ 9,776 \\ 7297 \end{array}$ | Number. 4, 668 | Number. <br> 77, 051 | Number. 398, 695 | Number.$148,522$ | Number.$27,207$ | Number. 727, 336 |
| Colorado |  |  |  |  |  |  |  |
| Illinois |  | 40, 637 | 91, 323 | 66, 143 | 19, 282 | 7, 131 | 256, 065 |
| Indiana |  | 39, 322 | 53, 231 | 36, 517 | 5, 876 | 1,469 | 150, 083 |
| Iowa- | 20,632 | 66, 212 | 132, 544 | 129, 846 | 19,722 | 5,965 | 404, 656 |
| Kansas | 4,788 | 9,661 | 27, 195 | 36, 280 | 11,876 | 13, 726 | 120, 080 |
| Kentucky | 11, 496 | 13,329 | 5,480 | 1,571 |  | $\begin{array}{r}6 \\ \hline 179\end{array}$ | 38, 808 |
| Michigan | 16, 172 | 21, 216 | 66, 686 | 96, 066 | 32, 041 | 17, 979 | 313, 592 |
| Minnesota | 1,615 | 1,259 | 5,705 | 10, 409 | 9,542 | 1,393 | 31, 653 |
| Missouri | 13, 108 | 25, 952 | 68,953 | 44, 466 | 7, 127 | 9, 113 | 190, 100 |
| Nebraska | 19, 743 | 46, 199 | 124, 699 | 291, 844 | 72, 863 | 26, 363 | 736, 323 |
| Ohio | 2,126 | 5,888 | 18,605 | 15, 516 | 3,749 | 1,036 | 51, 684 |
| South Dakota |  | 3,349 | 2,655 | 3,741 | 1,376 | 1,658 | 13, 485 |
| Texas. | 2,910 | 590 | 1,508 | 1,311 | 1, 283 | 1, 370 | 16, 166 |
| Wisconsin | 760 | 728 | 1, 151 | 12, 512 | 4,786 | 8, 619 | 40, 375 |
| All other. | 5,247 | 4,277 | 15,568 | 25, 798 | 17, 599 | 8,256 | 86, 203 |
| Total. | 137, 299 | 283, 287 | 692, 354 | 1, 170, 715 | 355, 644 | 131, 291 | 3, 176, 609 |

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry inspection records.

Table 532.-Sheep: Imports, exports, and prices, 1895-1923.

| Year ending June 30. | Imports. |  |  | Exports. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Value. | Average import price. | Number. | Value. | Average export price. |
| 1895-1899 | 351, 602 | \$972, 444 | \$2. 77 | 296, 882 | \$1, 861, 231 | \$6. 27 |
| 1900-1904 | 303, 990 | 1, 082, 047 |  | 252, 138 | 1,525, 800 | 6.05 |
| 1905-1909. | 195, 983 | 886, 150 | 4. 52 | 143, 011 | 839, 219 | 5. 87 |
| 1909-10 | 126, 152 | 696, 879 | 5.52 | 44, 517 | 209, 090 | 4. 69 |
| 1910-11. | 53,455 | 377, 625 | 7.06 | 121, 491 | 636, 272 | 5. 24 |
| 1911-12 | 23, 588 | 157, 257 | 6. 67 | 157, 263 | 626, 985 | 3. 99 |
| 1912-13 | 15, 428 | 90, 021 | 5.83 | 187, 132 | 605, 725 | 3.24 |
| 1913-14 | 223, 719 | 532, 404 | 2. 38 | 152, 600 | 534, 543 | 3. 50 |
| 1914-15. | 153, 317 | 533, 967 | 3.48 | 47, 213 | 182, 278 | 3.86 |
| 1915-16. | 235, 659 | 917, 502 | 3. 89 | 52, 278 | 231, 535 | 4.43 |
| 1916-17 | 160, 422 | 856, 645 | 5. 34 | 58, 811 | 367, 935 | 6. 23 |
| 1917-18 | 177, 681 | 1, 979, 746 | 11. 14 | 7,959 | 97,028 | 12.19 |
| 1918-19 | 163, 283 | 1, 914, 473 | 11. 72 | 16, 117 | 187, 347 | 11.62 |
| 1919-20 | 199, 549 | 2, 279, 949 | 11. 43 | 59, 155 | 711, 549 | 12.03 |
| 1920-21 | 161, 292 | 1,541, 793 | 9.56 | 80, 723 | 532, 510 | 6. 60 |
| 1921-22 | 96, 086 | 514, 424 | 5.35 | 62, 354 | 294, 442 | 4.72 |
| 1922-23. | 82, 903 | 542, 406 | 6. 54 | 15, 791 | 164, 695 | 10.43 |

Division of Statistical and Historical Research.
Table 533.-Live sheep: Exports and imports, United States, by months, 19101924.

IMPORTS.

| $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { June } 30 . \end{gathered}$ | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Num- | Num | Num | $N$ | Num- | Num- | Num- | Num- | Num- | Num- | Num- | Num- | - |
|  | ber. |  | ber. | ber |  | ${ }^{\text {ber }}$ |  |  |  |  |  |  |  |
| 1909-10- | 765 | 8, 683 | 33, 002 | 32, 896 | 29, 604 | 15, 072 | 1, 014 |  | 2,014 | 1,415 |  |  | 53,455 |
| 1910-11- | 1,885 | $\xrightarrow{6,715}$ | 8, 287 $\mathbf{2}, 241$ | 21, 501 | 11, 554 | 881 | 39 | 90 | 7 | 131 | 2, 390 | 1,339 | 23, 588 |
| 1912-13- | 37 | ${ }^{2,} 413$ | 1, 648 | 3, 466 | 5, 077 | 792 | 95 | 13 | 782 | 2 | 2,769 | 334 | 15, 428 |
| 1913-14 - | 457 | 1,173 | 960 | 26, 035 | 46,995 | 36, 073 | 15, 485 | 871 | 13, 995 | 73,169 | 5, 834 | 2, 672 | 223, 719 |
| 1914-15 | 4,403 | 15,464 | 18,915 | 13, 680 | 15, 375 | 20, 132 | 7,223 | 53, 747 | 33 | 1,340 | 748 | 2, 257 | 153, 317 |
| 1915-16- | 12, 377 | 23, 637 | 19, 683 | 86, 765 | 53, 253 | 15, 458 | 2, 530 | 193 | 3,884 | 5,785 | 5, 632 | 6, 462 | 5,659 |
| 1916-17. | 4,731 | 8, 625 | 48, 650 | 23,755 | 13, 835 | 1, 640 | 8, 446 | 42,880 | 3, 193 |  | 2,258 | 1,524 | 160,422 |
| 1917-18- | 1,439 | 6, 980 | 51, 421 | 38, 540 | 38, 436 | 6,859 | 1,423 | 7,085 | 13, 200 | 1,899 | 3, 512 | 6,887 | 177, 681 |
| 1918-19- | 672 | 4, 691 | 20, 274 | 32, 105 | 36, 453 | 22, 002 | 10,684 | 8, 103 | 5,146 | 12, 203 | 10,631 | 319 | 163,283 |
| 1919-20 | 1,039 | 15, 092 | 27, 557 | 77, 705 | 37, 448 | 18, 847 | 8,611 | 3,263 | 5,247 | 1,763 | 1,114 | 1,863 | 199,549 |
| 1920-21. | 1,633 | 15, 835 | 37, 534 | 39, 687 | 36, 689 | 19, 666 | 5, 232 | 261 | 1,241 | 1,234 | 416 | 1,864 | 161, 292 |
| 1921-22. | 856 | 10, 075 | 31, 938 | 18, 607 | 11, 380 | 1,483 | 7,538 | 3, 499 | 5,537 |  | 2, 034 | 1,064 |  |
| 1922-23- | 1,415 | 12, 714 | 22, 160 | 31, 096 | 4, 512 | 1,164 | 5,347 | 447 | 12 | 2,599 | 1,478 | 15 | 82, 959 |
| 1923-24 - | 2, 021 | 3,428 | 3, 774 | 11, 023 | 8,690 | 102 |  |  |  |  |  |  |  |

EXPORTS.

| 1909-10 | 5,584 | 4,603 | 8,372 | 6,818 | 3,221 | 4, 184 | 1,550 | 1,289 | 452 | 957 | 790 | 6,697 | 44, 517 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | 6,532 | 4, 030 | 3,987 | 11, 863 | 10, 666 | 3,825 | 7,458 | 8, 504 | 15, 452 | 15, 738 | 20,537 | 12,899 | 121, 491 |
| 1911-12. | 12, 984 | 10,542 | 21, 312 | 15, 281 | 14, 524 | 21, 838 | 12, 039 | 12, 359 | 7, 829 | 9, 643 | 6, 234 | 12, 678 | 157, 263 |
| 1912-13 - | 10, 786 | 25, 601 | 24, 292 | 20, 090 | 18, 589 | 31, 823 | 7,645 | 9,437 | 5, 906 | 9, 774 | 10, 152 | 13, 037 | 187, 132 |
| 1913-14. | 16,537 | 6,475 | 15, 795 | 27, 843 | 19, 050 | 28, 760 | 4,263 | 5, 803 | 4,940 | 5,462 | 8, 173 | 9, 499 | 152, 600 |
| 1914-15. | 8,632 | 9,300 | 7, 216 | 8,531 | 6,172 | 236 | 206 | 125 | 1,130 | 531 | 2, 485 | 2,649 | 47, 213 |
| 1915-16. | 4, 076 | 5, 449 | 2,987 | 10,518 | 6, 919 | 3, 426 | 541 | 4,981 | 1, 500 | 519 | 6, 969 | 4,393 | 52, 278 |
| 1916-17- | 3, 152 | 4,833 | 3, 281 | 14, 400 | 6,913 | 3,577 | 1,253 | 703 | 309 | 8, 226 | 10,333 | 1,831 | 58,811 |
| 1917-18. | 570 | 1, 103 | 334 | 423 | 266 | 5, 008 | 6 | 48 | 6 | 11 | 96 | 88 | 7,959 |
| 1918-19. | 6, 196 | 108 | 39 | 889 | 75 | 400 | 30 | 12 | 153 | 4, 595 | 3,406 | 214 | 16, 117 |
| 1919-20- | 6,557 | 1,695 | 5, 934 | 5, 075 | 6, 653 | 207 | 149 | 13,320 | 4, 034 | 1447 | 426 | 14, 958 | 59, 155 |
| 1920-21- | , 890 | 246 | 3, 407 | 2, 558 | 1,806 | 6,937 | 4, 059 | 8, 486 | 4, 005 | 14, 749 | 10, 098 | 23, 482 | 80, 723 |
| 1921-22. | 15, 744 | 16, 605 | 8, 737 | 6, 244 | 3, 031 | 2, 156 | 174 | 1, 952 | 770 | 2, 414 | 1,320 | 3, 207 | 62, 354 |
| 1922-23 - | 3, 387 | 1,582 | 1, 136 | 575 | 546 | 109 | 131 | 53 | 783 | 3, 942 | 1,727 | 1,820 | 15,791 |
| 1923-24 - | 2, 305 | 1,980 | 484 | 818 | 141 | 2,695 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

Table 534.-Sheep: Farm price per 100 pounds, 15th of month, United States, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$5. 63 | \$5.09 | \$5. 64 | \$6. 10 | \$5. 79 | \$5.44 | \$5.47 | \$4. 68 | \$4. 81 | \$4. 68 | \$4.63 | \$4. 54 | \$5. 24 |
| 1911 | 4.47 | 4. 34 | 4.45 | 4. 55 | 4.51 | 4. 24 | 4.19 | 3. 98 | 3.91 | 3. 68 | 3. 65 | 3. 71 | 4.15 |
| 1912 | 3.89 | 4.01 | 4. 12 | 4. 57 | 4.74 | 4. 52 | 4.21 | 4. 26 | 4. 11 | 4. 19 | 4. 05 | 4. 21 | 4.24 |
| 1913 | 4.35 | 4.63 | 4.97 | 5. 16 | 4.91 | 4.84 | 4. 20 | 4. 32 | 4. 23 | 4. 16 | 4. 27 | 4. 46 | 4.55 |
| Aจ. 1910-1913 | 4. 58 | 4. 52 | 4.80 | 5.10 | 4.99 | 4.76 | 4. 52 | 4.31 | 4. 26 | 4. 18 | 4. 15 | 4.23 | 4.55 |
| 1914 | 4.67 | 4. 67 | 4. 77 | 4. 96 | 4.87 | 4. 70 | 4. 75 | 4.87 | 4. 80 | 4.81 | 4. 68 | 4. 95 | 4.79 |
| 1915 | 4. 95 | 5. 14 | 5. 36 | 5. 60 | 5. 54 | 5.43 | 5. 35 | 5. 16 | 5. 06 | 5. 18 | 5. 18 | 5. 38 | 5. 27 |
| 1916 | 5. 52 | 5. 90 | 6.35 | 6.61 | 6. 66 | 6. 54 | 6.33 | 6. 22 | 6. 25 | 6. 20 | 6. 41 | 6. 77 | 6.29 |
| 1917 | 7.33 | 8. 17 | 9.21 | 9. 69 | 10.15 | 9.84 | 9.32 | 9. 33 | 10.05 | 10. 24 | 10.20 | 10. 44 | 9.45 |
| 1918 | 10.55 | 10.75 | 11. 41 | 11. 98 | 12.32 | 11. 56 | 11. 04 | 10.99 | 10. 79 | 10.35 | 10. 11 | 9.46 | 10.95 |
| 1919 | 9.68 | 9.95 | 10.45 | 11.33 | 10. 93 | 10.34 | 9.25 | 9.06 | 8. 69 | 8. 46 | 8. 35 | 8. 53 | 9.63 |
| 1920 | 9. 34 | 9.97 | 10.25 | 10.66 | 10.34 | 9.13 | 8.21 | 7.54 | 7.24 | 6. 62 | 6. 20 | 5. 54 | 8.51 |
| Av. 1914-1920 | 7.43 | 7.79 | 8.26 | 8.69 | 8.69 | 8.22 | 7.75 | 7.60 | 7.55 | 7.41 | 7. 30 | 7.30 | 7.84 |
| 1921 | 5.30 | 5. 01 | 5. 27 | 5.11 | 5.11 | 4.74 | 4.34 | 4.38 | 4.11 | 3.96 | 3. 84 | 4.10 | 4.65 |
| 1922 | 4. 57 | 5. 71 | 6. 51 | 6. 43 | 6.65 | 6.09 | 6.11 | 5. 98 | 5. 70 | 5. 93 | 6.02 | 6.27 | 5. 96 |
| 1923 | 6.88 | 6. 83 | 7.06 | 7. 20 | 6.92 | 6.43 | 6. 43 | 6. 22 | 6.57 | 6.33 | 6. 20 | 6.39 | 6.65 |

Division of Crop and Livestock Estimates.
Table 535.-Lambs: Farm price per 100 pounds, 15th of month, United States, 1910-1923.

| Year beginning June 1. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910-11 | \$7.13 | \$6. 71 | \$5.70 | \$5.85 | \$5. 78 | \$5. 54 | \$5. 60 | \$5. 71 | \$5. 44 | \$5. 49 | \$5. 77 | \$5. 74 | \$5. 62 |
| 1911-12 | 5.51 | 5. 42 | 5.29 | 5.02 | 4.68 | 4.68 | 4.93 | 5. 22 | 5. 15 | 5.38 | 5. 98 | 6.16 | 5.33 |
| 1912-13 | 6. 02 | 5. 74 | 5.60 | 5. 49 | 5. 42 | 5. 37 | 5. 70 | 6.03 | 6. 34 | 6. 56 | 6. 59 | 6. 66 | 5.99 |
| 1913-14 | 6.36 | 6.05 | 5. 50 | 5.51 | 5.51 | 5. 64 | 5.85 | 6.16 | 6.18 | 6.31 | 6. 47 | 6.49 | 6.05 |
| Av. 1910 | 6. 26 | 5.98 | 5. 52 | 5.47 | 5.35 | 5.31 | 5.52 | 5. 78 | 5. 78 | 5.94 | 6.20 | 6. 26 | 5. 75 |
| 1914-15 | 6.47 | 6. 55 | 6. 26 | 6.27 | 6.09 | 6. 14 | 6.33 | 6.47 | 6.67 | 6.06 | 7. 35 | 7.32 | 6.57 |
| 1915-16 | 7. 26 | 7.21 | 6. 70 | 6.71 | 6. 70 | 6.76 | 7.02 | 7.29 | 7.78 | 8.10 | 8. 58 | 8.49 | 7.49 |
| 1916-17 | 8. 36 | 8.16 | 8.15 | 8. 22 | 8. 02 | 8. 41 | 8.72 | 9. 59 | 10. 51 | 11. 46 | 12. 03 | 12. 51 | 9.93 |
| 1917-18 | 12. 64 | 11.19 | 12. 08 | 13.06 | 14. 09 | 13. 79 | 13.81 | 13.83 | 13. 77 | 14. 11 | 15. 34 | 15. 39 | 13.84 |
| 1918-19 | 14. 98 | 14. 20 | 14. 20 | 13.73 | 13. 20 | 12. 54 | 12. 44 | 12. 71 | 13.17 | 14. 03 | 14. 61 | 14. 34 | 13.54 |
| 1919-20 | 13. 89 | 13.09 | 12.91 | 12. 25 | 11.47 | 11.45 | 11.85 | 12. 91 | 14.08 | 14. 17 | 14. 63 | 14. 26 | 12.94 |
| 1920-21 | 12. 82 | 11. 79 | 10.84 | 10.31 | 9.65 | 9.37 | 8. 46 | 8. 44 | 7.76 | 7.90 | 7.55 | 7.78 | 8.88 |
| Av. 1914-1920. | 10.92 | 10.31 | 10.16 | 10.08 | 9.89 | 9.78 | 9.80 | 10.18 | 10. 53 | 10.83 | 11.44 | 11.44 | 10.46 |
| 1821-22 | 7.59 | 7.37 | 6.99 | 6.27 | 5.98 | 6.12 | 6. 60 | 7.33 | 8.87 | 10.21 | 10. 54 | 10.39 | 8.06 |
| 1922-23 | 9.87 | 9. 55 | 9.39 | 9. 43 | 10.06 | 10.30 | 10. 49 | 10.69 | 10.83 | 11.01 | 10. 69 | 11.00 | 10.38 |
| 1923-24 | 10.72 | 10.60 | 9.96 | 10.28 | 10.17 | 10.01 | 10.10 |  |  |  |  |  |  |

## Divison of Crop and Livestock Estimates.

Table 536.-Färm prices of sheep, per head, by ages, United States, Jan. 1, 1912-1924.

| Jan. 1. | Under 1 year old. | Ewes 1 <br> year and over. | Wethers 1 year and over. | Rams. | Jan. 1. | Under year 1 old. | Ewes 1 year and over. | Wethers 1 <br> year and over. | Rams. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | \$2. 64 | \$3.45 | \$3. 43 | \$8. 26 | 1919. | \$8. 82 | \$12.44 | \$11.02 | \$21.90 |
| 1913 | 3.11 | 3. 98 | 3. 93 | 8.80 | 1920 | 8.06 | 11.03 | 9.60 | 21.63 |
| 1914 | 3. 22 | 4.09 | 4.06 | 8.49 | 1921 | 5.34 | 6.37 | 5.93 | 15.10 |
| 1915 | 3. 62 | 4.59 | 4. 48 | 9.01 | 1922 | 4. 24 | 4.84 | 4.07 | 11.37 |
| 1916. | 4. 13 | 5.35 | 5.02 | 10.32 | 1923 | 6. 66 | 7.69 | 6.05 | 14. 23 |
| 1917. | 5. 63 | 7.48 | 6. 78 | 13.62 | 1924 | 6.89 | 8.08 | 5.95 | 15. 49 |
| 1918. | 9.06 | 12.70 | 11.26 | 20.84 |  |  |  |  |  |

Table 537.-Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1923.

SHEEP.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dotls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | S. |
| Maine | 6. 40 | 6. 30 | 6. 50 | 6. 50 | 7. 60 | 7.00 | 6. 60 | 7. 50 | 6. 00 | 6. 10 | 6. 00 | 5. 40 | 6.49 |
| New Hamps |  | 6. 70 | 6. 50 | 7.00 | 7.00 | 7. 50 | 8. 20 | 6.70 | 5. 00 | 6. 50 |  | 6. 80 | 6. 79 |
| Vermont | 5.80 | 5. 00 | 4.90 | 6. 40 | 6.00 | 5. 60 | 5.00 | 4. 70 | 5.10 | 5. 70 | 5. 00 | 5. 00 | 5. 35 |
| Massachusetts |  | 8. 80 | 8. 50 | 6. 00 | 5. 60 |  | 6. 20 | 5.70 | 7.00 | 7. 00 | 6. 50 | 6. 60 | 6.79 |
| Rhode Istand | 6. 00 |  | 5.50 | 5. 50 | 6. 50 | 6. 50 | 8.00 |  | 5. 50 | 5.50 |  |  | 6. 12 |
| New York | 5. 60 | 6.00 | 5. 20 | 6. 00 | 5. 50 | 5. 20 | 5. 80 | 5. 20 | 5.00 | 5.40 | 5. 60 | 6.00 | 5. 54 |
| New Jersey |  |  |  |  |  |  |  | 6. 00 |  |  |  |  |  |
| Pennsylvan | 6. 50 | 6. 70 | 6.10 | 6. 20 | 6. 40 | 6.20 | 5.80 | 6. 00 | 6. 60 | 6.80 | 6. 50 | -6. 10 | 6.32 |
| Delaware. |  |  |  |  |  |  |  |  |  |  | 5. 60 | 6. 50 |  |
| Marylan | 5. 40 | 5. 90 | 5. 30 | 5. 10 | 5. 00 |  | 4. 50 | 4. 60 | 5. 30 | 5. 70 | 5. 80 | 5. 00 | 5. 24 |
| Virginia | 5. 40 | 5. 30 | 5. 80 | 6. 50 | 6.00 | 5. 20 | 5. 00 | 5. 20 | 5. 70 | c. 00 | 5. 80 | 5. 00 | 5. 58 |
| West Virginia | 5. 50 | 5. 50 | 6. 40 | 6. 00 | 6. 00 | 5. 50 | 5. 70 | 5. 60 | 6. 20 | 5. 50 | 6. 20 | 5. 50 | 5.88 |
| North Carolina | 6. 70 | 6. $¢ 0$ | 5.60 | 5. 20 | 6.80 | 6. 20 | 5.60 | 6. 40 | 6. 20 | 7. 80 | 7. 00 | 6. 10 | 6. 32 |
| South Carolina | 7. 00 | 6. 50 | 7.20 | 7. 50 | 7.00 | 7.00 | 8. 30 | 8.40 | 6. 50 | 7. 20 | 6. 70 | 7. 90 | 7. 27 |
| Georgia | 6. 10 | 5. 60 | 6. 00 | 5. 20 | 6.00 | 7. 50 | 6. 70 | 5. 90 | 5. 60 | 6.50 | 5. 50 | 5. 50 | 6.01 |
| Florida | 6. 00 | 5. 10 | 5. 50 | 5. 60 | 5.80 | 5. 30 | 5. 50 | 6. 00 |  | 6. 00 | 6. 00 | 5. 50 | 5. 66 |
| Ohio | 6. 10 | 6. 00 | 6. 10 | 5. 90 | 5.80 | 5.30 | 5. 10 | 5.30 | 5.20 | 5.80 | 5. 50 | 5. 60 | 5. 64 |
| Indian | 4. 50 | 4. 80 | 4. 90 | 5. 10 | 5. 10 | 4. 50 | 4. 00 | 4. 20 | 4.80 | 4. 80 | 4. 50 | 4. 80 | 4. 67 |
| Illinois | 5. 70 | 5. 10 | 6.00 | 5. 70 | 5. 70 | 5.00 | 5. 20 | 4. 70 | 5. 90 | 5.40 | 5. 40 | 5. 70 | 5.48 |
| Michigan | 6. 50 | 7. 10 | 6. 60 | 6. 90 | 6. 00 | 6. 20 | 5. 60 | 5. 60 | 5.60 | 6. 10 | 5.30 | 5.40 | 6. 08 |
| W isconsi | 5. 50 | 5. 20 | 6. 00 | 6.00 | 5. 50 | 4.90 | 5. 00 | 4. 70 | 4. 90 | 5. 00 | 4. 50 | 4. 60 | 5. 16 |
| Minne | 6. 00 | 6. 50 | 6. 10 | 6. 40 | 6. 50 | 6. 10 | 5.30 | 5.80 | 5. 80 | 5. 40 | 5. 10 | 5. 70 | 5.87 |
| Iowa | 6. 40 | 6.40 | 6. 50 | 6. 50 | 5. 90 | 6. 40 | 6.10 | 5.60 | 5. 80 | 6. 70 | 6. 30 | 6.50 | 6. 26 |
| Missou | 6. 00 | 5. 90 | 6.40 | 6. 20 | 6,30 | 5. 40 | 5.00 | 5.10 | 5.20 | 5.10 | 5.00 | 5. 20 | 5. 57 |
| North Dakota | 5. 70 | 6. CO | 6. 30 | 6. 80 | 6. 70 | 6. 00 | 6.00 | 5. 40 | 5. 70 | 5. 60 | 6. 00 | 5. 70 | 5. 99 |
| South Dako | 6. 10 | 7.10 | 6. 80 | 7.60 | 7.50 | 5.80 | 6. 00 | 6. 00 | 6. 10 | 6. 40 | 5. 90 | 6.70 | 6. 50 |
| Nebraska | 6. 60 | 8.00 | 8. 00 | 7.10 | 7.70 | 6. 00 | 6. 00 | 7.00 | 7. 60 | 7. 90 | 6. 70 | 6.90 | 7. 12 |
| Kansas | 6. 90 | 7.40 | 6. 60 | 6. 60 | 7. 00 | 6. 00 | 6. 80 | 7.00 | 7.00 | 6. 00 | 5.50 | 6. 10 | 6. 58 |
| Kentuck | 4.60 | 4.90 | 5. 30 | 4.70 | 5. 00 | 4. 50 | 4.40 | 4.30 | 5.00 | 4. 70 | 5. 00 | 4.50 | 4. 74 |
| Tennessee | 5. 10 | 4.80 | 5. 30 | 5. 60 | 5. 70 | 4.70 | 4. 70 | 4. 70 | 4. 90 | 4.40 | 5. 20 | 4. 40 | 4. 96 |
| Alabama | 6. 00 | 7.00 | 6. 60 | 6. 80 | 7.10 | 6. 30 | 6. 30 | 6. 00 | 6.30 | 6. 50 | 5. 50 | 6. 00 | 6. 37 |
| Mississipp | 4.60 | 4. 70 | 4.50 | 4.30 | 4.90 | 4.60 | 4. 10 | 4.20 | 4.10 | 5.00 | 4.00 | 3. 50 | 4. 38 |
| Louisiana |  | 6.30 |  |  |  |  | 7.30 |  |  | 4.30 |  | 5.30 | 5. 80 |
| Tex | 6.50 | 5. 30 | 6.10 | 6.80 | 6.40 | 6.10 | 6.60 | 6.00 | 6.20 | 5.60 | 6.60 | 6.00 | 6. 18 |
| Oklahoma |  |  |  |  |  |  | 5. 00 |  |  | 6. 90 | 5. 80 | 6. 00 | 5.92 |
| Arkan | 5. 80 | 4.80 | 4. 30 | 5.20 | 5. 10 | 4.20 | 4.00 | 3.30 | 4. 50 | 4.90 | 4.10 | 4.30 | 4. 54 |
| Montana | 7. 40 | 7.40 | 7.50 | 7. 50 | 7.90 | 6.00 | 6.70 | 7.30 | 7.40 | 7.90 | 6. 30 | 7.20 | 7. 21 |
| W yomin | 8.00 | 7.50 |  | 8.20 | 9.00 | 7. 50 | 8.00 | 7.50 | 7.00 | 6. 00 | 6. 00 | 7. 50 | 7.47 |
| Colorado | 7.20 | 8.10 | .7.80 | 8.20 | 7. 70 | 8.00 | 7.00 | 6.40 | 7.30 | 7.30 | 6. 70 | 6. 90 | 7. 38 |
| New Me | 8.00 | 7.50 | 8.30 | 8. 70 |  | 7.00 | 7.70 | 7.00 | 7.80 | 6. 00 |  | 6. 50 | 7.45 |
| Arizon |  |  |  |  | 6.70 |  | 8.30 |  | 7.00 | 8. 10 | 7.00 | 7.50 | 7.43 |
| Utah | 7.00 | 7.60 | 8.40 | 7.50 | 7.30 | 7.30 | 6.70 | 6.60 | 7.20 | 6. 70 | 7.40 | 7. 50 | 7. 27 |
| Nevada |  | 6.60 | 5. 50 |  | 8.00 |  | 5.50 |  |  | 5.00 |  | 7. 70 | 6.38 |
| Idaho | 7.50 | 6. 90 | 7.70 | 8.00 | 6.60 | 6.50 | 6.90 | 6.00 | 6. 30 | 6.30 | 5. 70 | 5. 60 | 6.67 |
| Washing | 7.00 | 6. 70 | 7. 30 | 7.60 | 6.80 | 6. 90 | 6. 40 | 6.30 | 6.10 | 6. 90 | 6. 70 | 6. 30 | 6.75 |
| Oregon. | 8. 00 | 7.20 | 7. 60 | 7.60 | 7.00 | 7.10 | 6. 30 | 6.00 | 7.70 | 7.00 | 6. 70 | 6. 50 | 7.06 |
| California | 7.80 | 8.40 | 9.00 | 8.00 | 7.70 | 7.00 | 7.20 | 7.70 | 7. 50 | 6. 90 | 6.80 | 7. 30 | 7.61 |
| United State | 6.88 | 6.83 | 7.06 | 7.20 | 6.92 | 6. 43 | 6.43 | 6. 22 | 6.57 | 6.33 | 6. 20 | 6.39 | 6.62 |

LAMBS.

| Maine | 10.50 | 9.90 | 10.00 | 10.30 | 10.00 | 11.10 | 13. 00 | 11.60 | 11.30 | 11.00 | 10.50 | 11. 00 | 10. 85 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New Hampsh |  | 11. 50 | 12.00 | 11. 60 | 12.00 | 13.00 | 15.20 | 12.70 | 10.50 | 12.00 |  | 11. 20 | 12.17 |
| Vermont | 11.00 | 10.60 | 10.00 | 11. 40 | 10.10 | 10.30 | 10. 50 | 9. 70 | 10.00 | 10.00 | 10.10 | 9.90 | 10. 30 |
| Massachusetts |  | 11.00 |  | 9.30 | 8.30 |  | 10.90 | 11. 70 | 10. 30 | 11. 60 | 11.00 | 10. 00 | 10.46 |
| Rhode Island | 1200 |  | 12.00 | 12. 50 | 12.00 | 14.00 | 13. 50 |  | 12.00 | 12.00 |  | 12.00 | 12. 44 |
| Connecticut |  |  |  |  |  |  |  |  |  | 14.30 |  | 11. 00 |  |
| New York | 11.90 | 1210 | 11.60 | 12.20 | 11.80 | 12.50 | 13.30 | 11.00 | 11.00 | 11. 30 | 11.10 | 11. 10 | 11.74 |
| Pennsylvan | 11.20 | 11.20 | 10.90 | 10.80 | 11.70 | 11.20 | 10.80 | 10.50 | 11.00 | 11. 50 | 10.30 | 10.10 | 10.93 |
| Delaware |  |  |  |  |  |  |  |  | 10.00 |  | 1110 | 13.50 |  |
| Maryland | 11. 50 | 1200 | 1230 | 13. 70 | 12. 50 |  | 11. 60 | 10.80 | 11.50 | 11. 10 | 11. 70 | 12.00 | 11.88 |
| Virginia | 10.00 | 10.30 | 11. 50 | 12.10 | 12. 70 | 11.40 | 11. 20 | 10.30 | 10.90 | 10.20 | 10.70 | 9.80 | 10. 92 |
| West Virginia | 10.00 | 11.00 | 12.00 | 11.40 | 11. 30 | 11.00 | 10.60 | 10.00 | 9.90 | 9.90 | 9.80 | 9.90 | 10.57 |
| North Carolina | 8. 10 | 8.00 | 7.70 | 8.20 | 8. 70 | 8. 60 | 8.90 | 8. 60 | 9. 20 | 8.80 | 8.20 | 8.00 | 8.42 |
| Sonth Carolina | 8.00 | 8.50 | 9.001 | 10.00 | 9.10 | 10.00 | 9.10 | 9.10 | 8.00 | 9.30 | 8. 00 | 8. 50 | 8.88 |

Table 537.-Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1923-Continued.

LAMBS-Continued.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls | Dolls | Dolls. | Dolls | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | olls. |  |
| Georg | 7.50 | 7.60 | 8.00 | 7.30 | 7.10 | 10.00 | 8. 80 | 7.80 | 7.30 | 9. 00 | 6. 50 | 7.00 | 7.82 |
| Florida | 7.00 |  | 6. 00 | 6. 50 | 6. 50 | 6.00 | 6. 00 | 6. 30 |  | 6. 60 | 7.10 |  | 6.44 |
| Ohio | 11.70 | 11. 70 | 11. 40 | 10.30 | 11. 00 | 10. 80 | 10.80 | 10. 10 | 10.50 | 10.70 | 10. 30 | 10.20 | 10.79 |
| Indian | 11. 00 | 10.80 | 10. 70 | 11. 40 | 11. 50 | 9.70 | 10.70 | 9.80 | 10. 20 | 10.30 | 9.70 | 10.00 | 10. 48 |
| Illinois | 10. 60 | 10. 10 | 10. 30 | 10. 40 | 10.30 | 11. 00 | 10.80 | 9.50 | 10.40 | 10. 30 | 9.90 | 10. 10 | 10. 31 |
| Michigan | 12.00 | 12. 20 | 12. 30 | 11.20 | 11. 20 | 12. 00 | 11.50 | 11. 20 | 11.50 | 11.30 | 10.50 | 10.80 | 11.48 |
| Wiscon | 10. 50 | 10. 70 | 11. 50 | 10. 60 | 11. 20 | 11.50 | 11. 00 | 9.70 | 10.00 | 10.30 | 9.60 | 10.00 | 10. 55 |
| Minne | 11. 00 | 10.70 | 11.00 | 13. 30 | 11. 10 | 11. 20 | 11. 30 | 10. 00 | 10. 20 | 9. 80 | 10. 00 | 9.80 | 10.78 |
| Iowa | 11.00 | 11. 70 | 10.80 | 10.90 | 11. 00 | 12.00 | 10.90 | 10. 00 | 10.70 | 10.50 | 10. 40 | 10.50 | 10.87 |
| Misso | 10.20 | 10.90 | 10.90 | 10.90 | 11. 50 | 11.40 | 10. 30 | 9.50 | 9.70 | 9.90 | 9.70 | 9. 50 | 10.37 |
| North Dak | 9. 50 | 10. 30 | 10. 00 | 10. 30 | 9.00 | 9. 60 | 9.60 | 9. 20 | 9.10 | 9. 50 | 9. 40 | 9.10 | 9.55 |
| South Da | 11. 00 | 10. 50 | 10.90 | 10. 00 | 11. 00 | 11. 20 | 11. 00 | 10. 50 | 10.90 | 10. 00 | 10.70 | 9.70 | 10.62 |
| Nebrask | 11. 00 | 11. 50 | 11. 60 | 9.80 | 10.80 | 10. 50 | 11. 10 | 10. 50 | 11. 00 | 10.70 | 10.30 | 10.30 | 10. 76 |
| Kansas | 11.50 | 11.00 | 11. 00 | 10. 80 | 11.80 | 10.40 | 11. 50 | 10. 20 | 9.90 | 9. 60 | 9. 50 | 9.50 | 10. 56 |
| Kentu | 9.30 | 9.50 | 10. 20 | 10.70 | 11. 70 | 11.90 | 10.70 | 9.40 | 9.40 | 8.90 | 9.70 | 9.00 | 10.03 |
| Tennesse | 8. 40 | 8. 30 | 9.00 | 10.60 | 10. 20 | 9.70 | 9.00 | 8.80 | 8.60 | 7.40 | 8.50 | 8.00 | 8.88 |
| Alabama | 8.30 | 8.80 | 8. 50 | 8. 30 | 9.00 | 9.90 | 9.10 | 9.30 | 9.00 | 7.80 | 7. 50 | 8.00 | 8.62 |
| Mississipp | 6. 80 | 8. 10 | 7.40 | 6. 00 | 7.10 | 7.50 | 7. 50 | 7.00 | 6. 30 | 7.70 | 6. 50 | 5. 60 | 6.96 |
| Louisiana <br> Texas | 8.50 | 7.00 | 00 |  | 8.60 | 8. 10 | 8.10 9.50 | 9.00 | 8.40 | 7.60 | 9. 00 | 6. 8.50 8. | 8. 43 |
| Oklahoma |  |  |  |  |  |  |  |  |  | 9.2 | 7.60 | 8. 00 |  |
| Arkansa | 6. 30 | 6. 50 | 7.40 | 7.00 | 7. 70 | 6. 60 | 7.20 | 6. 80 | 6. 00 | 6. 80 | 6. 00 | 6. 50 | 6. 73 |
| Montan | 9.60 | 10.80 | 10.60 | 10. 20 | 11. 00 | 10. 50 | 10.20 | 9. 40 | 9.90 | 10.50 | 9.50 | 10. 20 | 10. 20 |
| W yomin | 11.20 | 11. 20 |  | 11.30 | 11.70 | 11.70 | 11.60 | 10. 20 | 10. 50 | 10.50 | 10.80 | 10.60 | 11.03 |
| Col | 11 | 11. | 12.30 | 12. | 12. | 12. | 11.20 | 10.50 | 11. | 11. | 11.0 | 11 | 11.6 |
| New Me | 10.20 | 90 | 90 | 9.00 |  | 10.10 | 11. 20 | 10. 00 | 10. 30 | 10. 10 | 9. 80 | 9. 50 | 10. 09 |
| Arizona |  |  |  |  | 11.70 |  | 11. 30 | 10. 70 | 11. 20 | 10.70 | 9.50 | 10.50 | 10.80 |
| Utah-- | 11.80 | 11. 30 | 11. 40 | 10.60 | 10. 80 | 10. 20 | 10.60 |  | 10.50 |  | 10. 40 | 10. 60 | 10.63 |
| Nevada |  | 11.70 | 12.00 |  | 11. 50 |  | 9.60 | $10.00$ |  | $10.00$ | 9.80 | 10.50 | 10.64 |
| Idaho | 10. 70 | 9.80 | 10. 40 | 10. 30 | 9.90 | 10.00 | 9.80 | 9. 00 | 9. 50 | 9. 00 | 8. 80 | 9.00 | 9.68 |
| Washin | 9. 40 | 10. 00 | 10.50 | 11.00 | 10.30 | 10. 00 | 9.50 | 9.40 | 9. 10 | 9. 50 | 9. 5 | 9. 60 | 9.82 |
| Oregon | 10.10 | 10.70 | 11. 00 | 10.80 | 10. 50 | 10.20 | 9.10 | 9.80 | 9. 00 | 9.10 | 9.20 | 9.00 | 9.88 |
| Californi | 11.80 | 12.60 | 12. 70 | 11.50 | 11.0 | 11. 10 | 10.8 | 10.8 | 11.00 | 10.8 | 10.8 | 11. | 11.33 |
| United Stat | 10.69 | 10.83 | 11.01 | 10.69 | 11.00 | 10. 72 | 10.60 | 9. 96 | 10. 28 | 10.17 | '10. 01 | 10.10 | 10.50 |

Division of Crop and Livestock Estimates.
Table 538.-Sheep and lambs, native and western: Monthly average price per 100 pounds, Chicago, 1901-1923.

SHEEP.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolle. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| 1905 | 5. 15 | 5. 55 | 5.50 | 5.08 | 4.75 | 4.72 | 5.10 | 4.95 | 4.72 | 5. 10 | 5. 10 | 5.25 | 5.08 |
| 1900 | 5.40 | 5. 12 | 5. 28 | 5.35 | 5. 55 | 5.45 | 5. 25 | 4.98 | 5.15 | 4.90 | 5.05 | 5. 08 | 5. 21 |
| 1907 | 5.15 | 5. 20 | 5. 50 | 5.65 | 5. 78 | 5. 90 | 5. 32 | 5.32 | 5. 18 | 4.82 | 4.38 | 4.18 | 5. 20 |
| 1908 | 4.82 | 5.00 | 5.82 | 5.68 | 5.25 | 4.70 | 4.10 | 4.00 | 3. 72 | 4.08 | 4.15 | 4.32 | 4.64 |
| 1909 | 4.90 | 4.92 | 5.28 | 5.60 | 6.05 | 5.28 | 4.68 | 4. 50 | 4.65 | 4.35 | 4. 52 | 4.92 | 4. 97 |
| 1910 | 5. 55 | 6. 50 | 7.60 | 7.60 | 6.55 | 5.10 | 4.20 | 4.20 | 4.25 | 3. 95 | 3. 70 | 3.90 | 5. 26 |
| 1911 | 4.10 | 4.15 | 4.70 | 4.20 | 4.45 | 3.80 | 3.95 | 3. 50 | 3.80 | 3.65 | 3.45 | 3. 55 | 3.94 |
| 1912 | 4.30 | 4.15 | 5. 30 | 5. 90 | 6.15 | 4. 50 | 4. 25 | 4. 05 | 4.15 | 4. 00 | 4.05 | 4.45 | 4. 60 |
| 1913 | 5.35 | 5. 90 | 6.40 | 6.45 | 5.85 | 5.05 | 4.50 | 4.35 | 4.30 | 4. 55 | 4.60 | 4.95 | 5.19 |
| Av. 1909-1913 | 4.84 | 5.12 | 5.86 | 5.95 | 5.81 | 4.75 | 4.32 | 4.12 | 4. 23 | 4.10 | 4.06 | 4.35 | 4.79 |
| 1914 | 5. 50 | 5. 70 | 5.95 | 6.25 | 5.65 | 5.10 | 5.40 | 5. 55 | 5. 30 | 5. 30 | 5.65 | 5. 40 | 5.56 |
| 1915 | 5.80 | 6.45 | 7.45 | 7.70 | 7.35 | 5. 50 | 6.05 | 6. 25 | 5. 75 | 6. 00 | 5.85 | 6. 20 | 6.36 |
| 1916 | 7.20 | 7.75 | 8. 25 | 8.15 | 8. 20 | 7.35 | 7. 25 | 7. 35 | 7.80 | 7.50 | 8.00 | 9.00 | 7.82 |
| 1917 | 10.00 | 11. 25 | 11. 70 | 12. 10 | 13.00 | 10.00 | 9. 10 | 9.75 | 11.15 | 11. 65 | 11.25 | 11. 50 | 11.04 |
| 1918 | 12. 20 | 12. 35 | 13. 60 | 15.65 | 14. 75 | 13.40 | 12.65 | 13.15 | 11. 80 | 10.45 | 9.85 | 9.40 | 12. 44 |
| 1919 | 10. 35 | 11.35 | 14. 05 | 14. 50 | 12. 25 | 9.30 | 9. 70 | 9.75 | 8. 30 | 8.15 | 8. 30 | 9. 60 | 10.47 |
| 1920 | 11.80 | 13.35 | 13.40 | 14. 25 | 12.25 | 8.50 | 8.90 | 7. 70 | 6. 85 | 6. 45 | 5.75 | 4. 70 | 9.49 |
| Av. 1914-1920 | 8.98 | 9. 74 | 10.63 | 11. 23 | 10.49 | 8.45 | 8.44 | 8. 50 | 8. 14 | 7.93 | 7.81 | 7.97 | 9.03 |
| 1921 | 5.07 | 4.90 | 6. 14 | 6. 58 | 6.33 | 4.46 | 5.08 | 4. 53 | 4. 49 | 4.71 | 4.40 | 4.92 | 5.13 |
| 1922 | 7.26 | 8. 28 | 9. 17 | 9.33 | 7. 35 | 5. 59 | 6. 12 | 5. 63 | 6.05 | 6. 25 | 7.48 | 7.28 | 7.15 |
| 1923 | 7.72 | 8.08 | 8.64 | 8. 90 | 6.74 | 5. 00 | 5.16 | 7.09 | 7.25 | 6.35 | 6.89 | 7.37 | 7.10 |

${ }^{1}$ Simple average of monthly average prices.

Table 538.-Sheep and lambs, native and western: Monthly average price per 100 pounds, Chicago, 1901-1923-Continued.

LAMBS.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls | Dolls. | Dolls | Dolls. | Dolls. |
| 1901 | 5.30 | 5.10 | 5.25 | 5.10 | 4.85 | 4. 60 | 5.10 | 4. 80 | 4.35 | 4.30 | 4. 10 | 4. 75 | 4.80 |
| 1902 | 5. 55 | 6. 05 | 6.15 | 6.30 | 6. 20 | 5. 80 | 5. 55 | 5.35 | 4.85 | 4.70 | 4. 55 | 4.80 | 5.49 |
| 1903 | 5. 50 | 6.10 | 6. 60 | 6.20 | 6. 20 | 5.50 | 5. 30 | 4.90 | 4.85 | 4.80 | 4. 70 | 4.85 | 5.46 |
| 1904 | 5. 55 | 5.40 | 5.30 | 5.60 | 5. 70 | 5.60 | 6.15 | 5.45 | 5.15 | 5.15 | 5. 50 | 6.25 | 5. 57 |
| 1905 | 7.15 | 7.40 | 7.05 | 6. 80 | 6.25 | 5. 90 | 6.30 | 7.05 | 7.00 | 7. 05 | 6. 90 | 7.25 | 6. 84 |
| 1906 | 7.25 | 6.75 | 6.40 | 6.20 | 6.65 | 6.75 | 6.90 | 7.00 | 7.15 | 6.95 | 6. 90 | 7.10 | 6. 83 |
| 1907 | 7.30 | 7.30 | 7.55 | 8. 05 | 7.80 | 7.20 | 7.05 | 6.90 | 6. 90 | 6. 80 | 6. 05 | 5.70 | 7.05 |
| 1908 | 6. 80 | 6. 70 | 7.20 | 7.25 | 6.65 | 5. 75 | 6. 20 | 6.05 | 5. 35 | 5.50 | 5. 85 | 6.70 | 6. 33 |
| 1909 | 7.35 | 7.50 | 7.65 | 7.85 | 8.25 | 7.60 | 7.70 | 7.35 | 6. 80 | 6.50 | 7.10 | 7.50 | 7.43 |
| 1910 | 8. 30 | 8.65 | 9.40 | 9.10 | 8.40 | 7.60 | 7. 10 | 6. 70 | 6. 80 | 6. 65 | 6. 25 | 6.10 | 7. 59 |
| 1911 | 6. 20 | 6. 05 | 6. 10 | 5. 50 | 5.85 | 6.10 | 6. 30 | 6.35 | 5. 70 | 5. 75 | 5. 54 | 5.75 | 5. 93 |
| 1912 | 6. 50 | 6. 15 | 7. 30 | 7.95 | 8.30 | 6. 90 | 7. 25 | 7. 10 | 7.00 | 6.75 | 7.15 | 7.75 | 7.18 |
| 1913 | 8.55 | 8. 50 | 8.60 | 8.40 | 7.40 | 6.85 | 7.55 | 7. 40 | 7.15 | 7.05 | 7. 25 | 7.60 | 7.69 |
| Av. 19 | 7.38 | 7.37 | 7.81 | 7.76 | 7.64 | 7.01 | 7.18 | 6.98 | 6.69 | 6.54 | 6.66 | 6.94 | 7.16 |
| 1914 | 7.90 | 7. 60 | 7.65 | 7.60 | 8.10 | 7.95 | 8. 45 | 8.15 | 7. 80 | 7.60 | 8. 75 | 8.30 | 7.99 |
| 1915 | 8. 40 | 8. 75 | 9.55 | 9.65 | 10.10 | 9. 20 | 8.75 | 8. 90 | 8.75 | 8.75 | 8.80 | 9.00 | 9.05 |
| 1916 | 10.30 | 10. 90 | 11. 10 | 10. 45 | 10.75 | 9.55 | 10.55 | 10.75 | 10.60 | 10.15 | 11. 40 | 12. 70 | 10.77 |
| 1917 | 13. 85 17.20 | 14. 30 16.60 | 14. 25 | 14.40 19.20 | 16.90 18.00 | 15.25 | 15. 65 | 15. 50 | 17. 50 | 17. 40 | 16. 75 | 16.45 | 15.68 |
| 1919 | 16. 25 | 17.40 | 19.05 | 18. 15 | 16. 25 | 14.05 | 17. 10 | 16. 75 | 14.85 | 15. 00 | 14. 50 | 16. 40 | 16. 31 |
| 1920. | 19.50 | 19.95 | 18.80 | 18.80 | 17.40 | 14. 25 | 15.55 | 13. 20 | 13.30 | 12.35 | 11.53 | 10.96 | 15.47 |
| Av. 1914-1920. | 13.34 | 13.64 | 13.99 | 14.04 | 13.93 | 12.44 | 13.51 | 12.96 | 12.86 | 12.37 | 12.40 | 12.63 | 13.18 |
| 1921 | 10. 72 | 9. 07 | 9.91 | 9. 69 | 11.07 | 10.67 | 10.09 | 9. 46 | 8. 86 | 8.66 | 9. 25 | 10.86 | 9.86 |
| 1922 | 12. 67 | 14. 49 | 15. 39 | 14. 10 | 12. 95 | 12. 42 | 13. 04 | 12. 51 | 13.53 | 13.94 | 14. 17 | 14. 93 | 13. 68 |
| 1923 | 14.69 | 14.85 | 14.56 | 14. 42 | 14.12 | 14.81 | 14.22 | 12.89 | 13.52 | 12.93 | 12.75 | 12.96 | 13.89 |

Division of Statistical and Historical Research. Figures prior to 1921 for sheep, and prior to Nov., 1920, for lambs, compiled from Chicago Drovers Journal Yearbook; subsequent figures from data of the reporting service of the Livestock, Meats and Wool Division.
${ }^{1}$ Simple average of monthly average prices.
Table 539.-Sheep: Monthly average price per 100 pounds at six markets, 1923. chicago.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lambs: <br> Medium to prime- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| 84 pounds down | 14.06 | 14. 24 | 14. 24 | 13.76 | 13.67 | 14. 02 | 14.00 |
| Culls and common. | 11.25 | 11.38 | 11.62 | 11.17 | 10.89 | 10.77 | 11.18 |
| Spring lambs, medium to choice |  |  |  |  | 15. 85 | 14.96 |  |
| Yearling wethers, medium to prime | 11. 19 | 11. 56 | 11. 69 | 11.64 | 10.77 | 11.48 | 11.39 |
| Wethers, medium to prime. | 8.47 | 8.74 | 9.28 | 9.38 | 7.74 | 6. 42 | 8.34 |
| Ewes- Medium to choice | 6. 79 | 7.05 | 7.74 | 8.10 | 6.27 | 4.96 | 6.82 |
| Culls and common | 4.75 | 4.94 | 5. 28 | 5.40 | 3.51 | 2. 64 | 4.42 |
| Breeding ewes, full mouth to yearling |  |  |  |  |  |  |  |
| Feeder lambs, medium to choice | 13.89 | 14.34 | 14.20 |  |  |  |  |
| Kind and grade. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |  |
| Slaughter sheep and lambs: <br> Lambs- |  |  |  |  |  |  |  |
| Light and handy weight (84 pounds down) medium-prime. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| All weights, cull and common. | 9.98 | 9.51 | 10.33 | 9.90 | 9.84 | 10.00 | 9.93 |
| Yearling wethers, medium-prime- | 10.92 | 9. 73 | 9.92 | 9.70 | 9.62 | 9.75 | 9.94 |
| Wethers (2 years old and over) mediumprime | 6.56 | 7.32 | 7.30 | 7.23 | 7.16 | 7.48 | 7.18 |
| Ewes, common-choice | 5. 13 | 6. 04 | 5. 49 | 5. 21 | 5. 44 | 6. 01 | 5. 54 |
| Ewes, canner and cull | 2.05 | 2.56 | 2.39 | 2.38 | 2.56 | 2.97 | 2.48 |
| Feeding sheep and lambs: Feeding lambs, medium-choice | 12. 02 | 12.08 | 12.74 | 12.24 | 11.98 | 11.70 | 12.13 |

Table 539.-Sheep: Monthly average price per 100 pounds at six markets, 1923-Continued.
EAST ST. LOUIS.

| Kind and grade. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

FORT WORTH.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { Jan. 1- } \\ \text { June 30. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lambs: |  |  |  |  |  |  |  |
| Medium to prime84 pounds down | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Culls and common. | 10. 00 | 10.14 | 10. 09 | 10.00 |  | 9. 50 |  |
| Spring lambs, medium to choice |  |  |  |  | 11.86 | 12. 12 |  |
| Medium to prime: |  |  |  |  |  |  | 9.66 |
|  | 9.73 | 9.64 7.14 | 10.24 7.50 | 10.75 7.50 | 8.54 6.50 | 8.96 5.89 | 9. 6.93 |
| Wethers | 7.03 | 7.14 | 7.50 | 7.50 | 6.50 | 5.89 | 6.93 |
| Medium to choice | 6.05 | 6.33 | 6.54 | 6.34 | 5.45 | 4. 38 | 5.85 |
| Culls and common. | 3.15 | 3.25 | 3.42 | 3.38 | 3.14 | 2. 38 | 3.12 |
| Breeding ewes, full mouth to yearling Feeder lambs, medium to choice. | 11.68 | 11.90 | 1217 | 12.12 |  |  |  |
| Kind and grade. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { July 1- } \\ \text { Dec. 31. } \end{gathered}$ |
| Slaughter sheep and lambs: <br> Lambs- |  |  |  |  |  |  |  |
| Light and handy weight (84 pounds | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| down) medium-prime | 12. 73 | 11.62 | 11.72 | $11.10$ |  |  |  |
| All weights, cull and common .....-.- | 9. 61 | 9.15 | 9. 20 | 8. 91 |  |  |  |
| Yearling wethers, medium-prime.------- | 9.41 | 9.00 | 9. 44 | 8. 26 | 8. 50 | 8. 50 | 8.85 |
| Wethers (2 years old and over) mediumprime | 6.41 | 6. 55 | 6. 57 | 5.95 | 5.92 | 6. 27 | 6. 28 |
|  | 4. 75 | 4. 95 | 5. 37 | 4. 57 | 4. 18 | 4.85 | 4. 78 |
| Ewes, canner and cull | 2. 56 | 2.64 | 2. 79 | 2.21 | 1.88 | 2.03 | 2.35 |
| Feeding sheep and lambs: <br> Feeding lambs, medium-choice |  |  | 10.41 | 8.78 |  |  |  |

Table 539.-Sheep: Monthly average price per 100 pounds at six markets, 1923-Continued.
KANSAS CITY.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { Jan. } 1- \\ \text { June } 30 . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lambs- |  |  |  |  |  |  |  |
| Medium to prime- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| 84 pounds down | 13.78 | 13.78 | 13.66 | 13.56 | 13.07 | 13.86 | 13. 62 |
| Culls and common | 11.01 | 11.14 | 11. 14 | 11. 12 | 10.48 | 10.38 | 10.88 |
| Spring lambs, medium to choice |  |  |  |  |  | 14.62 |  |
| Miedium to prime: | 10.84 | 11.10 | 11. 20 | 11. 31 | 10. 59 | 10. 44 | 10.91 |
| Wethers.---.-- | 7.62 | 7.92 | 8.63 | 9.36 | 7. 53 | 6.42 | 7.91 |
| Ewes: |  |  |  |  |  |  |  |
| Medium to choice | 6. 40 | 6. 88 | 7.72 | 8. 24 | 6. 27 | 4. 56 | 6. 68 |
| Culls and common ----- | 3.47 | 3.98 | 4.64 | 5. 12 | 3.48 | 2. 26 | 3.82 |
| Feeder lambs, medium to choice. | 13. 28 | 13.52 | 13. 30 | 12.98 |  |  |  |
| Kind and grade. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { July 1- } \\ \text { Dec. 31. } \end{gathered}$ |
| Slaughter sheep and lambs: <br> Lambs- |  |  |  |  |  |  | Dollars |
| Light and handy weight (84 pounds | Dollars. | Dollars. | Dollars. | Dollars. | Doliars. | Dollars. | Dollars. |
| down) medium-prime | $\text { 13. } 03$ | 11.82 | 12. 18 | 11. 91 | 11.86 | 11. 66 | 12. 08 |
| All weights, cull and common...-...- | 9.32 | 8.81 | 9.28 | 9. 08 | 9.40 | 9.39 | 9.21 |
| Yearling wethers, medium-prime | 10.04 | 9.22 | 9.32 | 9.12 | 9.24 | 9.44 | 9.40 |
| Wethers ( 2 years old and over) mediumprime | 6.76 | 6.94 | 6.70 | 6. 73 | 6. 78 | 6.90 | 6. 80 |
|  | 5. 03 | 5. 52 | 5. 04 | 4.85 | 4. 95 | 5.31 | 5. 12 |
| Ewes, canner and cull | 2. 23 | 2.33 | 2. 29 | 2. 22 | 2. 28 | 2. 50 | 2. 31 |
| Feeding sheep and lambs: <br> Feeding lambs, medium-choice |  |  |  |  |  |  |  |

OMABA.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\left\lvert\, \begin{gathered} \text { Ave- } \\ \text { age } \\ \text { Jan. 1- } \\ \text { June 30. } \end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lambs: <br> Medium to prime- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | ollars. |
| 84 pounds down | 13. 74 | 13.79 | 13. 69 | 13.55 | 13. 29 | 13.86 | 13.65 |
| Culls a id common | 11.02 | 11.15 | 11. 20 | 11. 25 | 10. 82 | 10.86 | 11.05 |
| Spring lambs, medium to prime |  |  |  |  | 15.50 | 15.00 |  |
| Medium to prime - |  |  |  |  |  |  |  |
| - Yearling wethers | 10. 83 | 11.00 | 11. 34 | 11.37 | 10. 35 | 10.98 | 10.98 |
| Wethers. | 8.06 | 8.16 | 8.50 | 8.70 | 7.33 | 6.32 | 7.84 |
| Ewes: <br> Medium to choice | 6.32 | 6.65 | 7.58 | 7.88 | 6.33 | 4.38 | 6. 52 |
| Culls and common | 3.82 | 4.16 | 5.02 | 5.24 | 3. 26 | 2.16 | 3. 94 |
| Breeding ewes, full mouth to yearling |  |  |  |  |  |  |  |
| Feeder lambs, medium to choice.-- | 13.67 | 14.00 | 13.76 | 13.26 |  |  |  |
| Kind and grade. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{gathered} \text { Aver- } \\ \text { age } \\ \text { July 1- } \\ \text { Dec. 31. } \end{gathered}$ |
| Slaughter sheep and lambs: <br> Lambs- |  |  |  |  |  |  |  |
| Light and handy weight (84 pounds | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| down) medium-prime.-.-.- | 13.01 | 11.96 | 12.25 | 12.14 | 11.72 | 11.68 | 12.13 |
| All weights, cull and common | 9.70 | 9.23 | 9.81 | 9.94 | 9.64 | 9. 56 | 9.65 |
| Yearling wethers, medium-prime | 10.66 | 9.45 | 9.38 | 9.07 | 9.17 | 9.55 | 9.65 |
| Wethers (2 years old and over) mediumprime | 6.06 | 6.70 | 6.88 | 6.89 | 7.01 | 7. 18 | 6.79 |
|  | 4. 62 | 5. 35 | 4.66 | 4. 69 | 5.05 | 5. 70 | 5. 01 |
| Ewes, canner and cull. | 2.00 | 2. 25 | 2.08 | 2. 18 | 2.48 | 2. 80 | 2. 30 |
| Feeding sheep and lambs: <br> Feeding lambs, medium-choice | 10.99 | 11. 21 | 12.28 | 11.94 | 11. 60 | 11. 32 | 11. 56 |

[^273]Table 539.-Sheep: Monthly average price per 100 pounds at six markets, 1923Continued.

SOUTH ST. PAUL.

| Kind and grade. | Jan. | Feb. | Mar. | Apr. | May. | June. | $\begin{aligned} & \text { Aver- } \\ & \text { age } \\ & \text { Jan. 1- } \\ & \text { June } 30 . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lambs: |  |  |  |  |  |  |  |
| Medium to prime- | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| 84 pounds down | 13.44 | 13.53 | 13.53 | 13.23 | 12.87 | 13.06 | 13. 28 |
| Culls and common.- | 10.91 | 10.72 | 10.84 | 10.85 | 9.72 | 9.84 | 10.48 |
| Spring lambs, medium to choice |  |  |  |  |  |  |  |
| Yearling wethers, medium to prime | 10.74 | 10.82 | 10.94 | 10.77 | 9.91 | 10.57 | 10.62 |
| Wethers, medium to prime | 7.65 | 7.88 | 8.29 | 8.86 | 7.23 | 5.62 | 7.59 |
| Ewes: ${ }_{\text {Medium }}$ to choice | 6. 25 | 6.55 | 6.98 | 7.54 | 6.15 | 4. 22 | 6.28 |
| Culls and common | 3.93 | 4.26 | 4.50 | 4.66 | 3. 48 | 2.04 | 3.81 |
| Breeding ewes, full mouth to yearli |  |  |  |  |  |  |  |
| Feeder lambs, medium to choice. |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Kind and grade. - | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{array}{\|c} \text { Aver- } \\ \text { age } \\ \text { July 1- } \\ \text { Dec. 31. } \end{array}$ |
| Slaughter sheep and lambs: <br> Lambs- |  |  |  |  |  |  |  |
| Light and handy weight (84 pounds | Dollars. | Dollars. | Dollars. | Dollars. | Dollars | Dollars. | Dollars. |
| down) medium-prime | 12. 49 | 11.30 | 11.93 | 11.37 | 11.30 | 11.46 | 11. 64 |
| All weights, cull and common --------- | 9.38 | 8.86 | 9.40 | 9.16 | 9.12 | 9.21 | 9.19 |
| Yearling wethers, medium-prime | 10.27 | 9.10 | 9.08 | 8.73 | 8.85 | 9.00 | 9.17 |
| Wethers (2 years old and over) mediumprime | 5.52 | 6. 50 | 6.56 | 6.51 | 6. 68 | 6. 78 | 6.42 |
|  | 4. 34 | 5. 29 | 4. 76 | 4.47 | 4. 67 | 5.27 | 4.80 |
| Ewes, canner and cull | 1.66 | 2.12 | 2.26 | 2. 07 | 2. 34 | 2. 51 | 2.16 |
| Feeding sheep and lambs: <br> Feeding lambs, medium-choice. |  |  |  | 11.39 | 11. 44 | 11. 25 |  |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.
Classification of livestock changed July 1, 1923.
Table 540.-Sheep and lambs: Trend of average farm prices and average market prices, per 100 pounds, at Chicago, 1910-1923.

| Calendar year. | Farm price. |  | Average market price at Chicago. |  | Price relatives ( $1913=100$ ) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sheep, weighted a verage. | Lambs, simple average | Sheep. | Lambs. | Farm price. |  | Market price. |  |
|  |  |  |  |  | Sheep. | Lambs. | Sheep. | Lambs. |
|  | Dollars. | Dollars. | Dollars. | Dollars. |  |  |  |  |
| 1910 |  | $6.40$ | 5. 26 | 7. 59 | 113.9 | 105.8 | 101.3 | 98.7 |
| 1911 | 4.07 | 5. 30 | 3. 94 | 5. 93 | 91.3 | ${ }_{92}^{87.6}$ | 75.9 88.6 | 77.1 |
| 1912 | 4.20 4.46 | 5. 60 | $\begin{array}{r}\text { 4. } \\ \text { 5. } \\ \hline\end{array}$ | 7.18 7.69 | 94.2 100.0 | 92.6 100.0 | 88.6 100.0 | 93.4 100.0 |
| 1914 | 4.79 | 6.31 | 5. 56 | 7.99 | 107.4 | 104.3 | 107.1 | 103.9 |
| 1915 | 5. 23 | 6.85 | 6.36 | 9.05 | 117.3 | 113.2 | 122.5 | 117.7 |
| 1916 | 6. 27 | 8.19 | 7.82 | 10.77 | 140.6 | 135.4 | 150.7 | 140.1 |
| 1917 | 9. 54 | 12. 23 | 11.04 | 15. 68 | 213.9 | 202.1 | 212.7 | 203.9 |
| 1918 | 10.82 | 13.98 | 12. 44 | 16.98 | 242.6 | 231.1 | 239.7 | 220.8 |
| 1919 | 9.35 | 12.98 | 10.47 | 16.31 | 209.6 | 214.5 | 201.7 | 212.1 |
| 1920 | 8.11 | 11.94 | 9.49 | 15. 47 | 181.8 | 197.4 | 182.9 | 201.2 |
| 1921 | 4. 55 | 7.20 | 5.13 | 9.86 | 102.0 | 119.0 | 98.8 | 128.2 |
| 1922 | 5. 96 | 9. 70 | 7.15 | 13.68 13.89 | 133.6 149.1 | 160.3 173.6 | 137.8 136.8 | 177.9 180.6 |
| 1923 | 6.65 | 10.50 | 7.10 | 13.89 | 149.1 | 173.6 | 136.8 | 180.6 |

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices from data of the reporting service of the Livestock, Meats, and Wool Division.

Table 541.-Sheep and lambs: Monthly slaughter under Federal inspection, 1907-1923.


Bureau of Animal Industry.
Table 542.-Mutton and lamb: Cold-storage holdings in United States, 1916-1923.

| Calendar year. | Jan. 1. | Feb. 1. | Mar. 1 | Apr. 1. | May 1. | Jung 1. | July 1. | Aug. 1. | Sept.1. | Oct.1. | Nov.1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | los. |
| 1916. | 4,976 | 5, 286 | 5,812 | 5, 084 | 3, 858 | 2, 525 | 1,939 | 2,098 | 2,135 | 2, 579 | 3,465 | 5, 000 |
| 1917 | 4,886 | 5, 895 | 4,949 | 4,872 | 4, 369 | 3, 508 | 4, 380 | 3, 912 | 2,716 | 2, 768 | 4,194 | 5,406 |
| 1918 | 7, 403 | 6,315 | 7, 855 | 5,599 | 3, 348 | 3, 860 | 2, 429 | 3, 150 | 4,046 | 5, 275 | 8,645 | 9, 035 |
| 1919 | 12, 760 | 11, 360 | 8, 013 | 6, 505 | 7, 623 | 7,718 | 7, 279 | 7,263 | 7,817 | 8, 318 | 7,894 | 9,409 |
| 1920 | 10, 290 | 7, 787 | 5, 781 | 3, 517 | 2, 579 | 5,735 | 4,311 | 2,299 | 11, 021 | 25, 325 | 48, 997 | 56, 702 |
| 1921 | 68, 032 | 78, 082 | 59, 304 | 38, 520 | 25, 129 | 15, 877 | 8, 714 | 6,751 | 5, 903 | 5,993 | 6,840 | 7,520 |
| 1922 | 6, 444 | 3, 914 | 2, 863 | 2, 878 | 2,071 | 2, 310 | 3, 720 | 3, 308 | 3, 376 | 3, 473 | 3,458 | 3,633 |
| 1923 | 4,523 | 5, 980 | 5, 758 | 6,635 | 5, 774 | 4,445 | 3, 556 | 2, 752 | 1,785 | 1, 719 | 1,997 | 2,014 |

[^274]Table 543.-Monthly staiement of the livestock and meat situation, 1923.
GUREP, LAME, AND MUTTON.

| Item |  | Unit. |  | Jan. | Feb. | Mar. | Apr. | May. | June. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inspected slaughter |  | Thousands. |  | 1. 021 | 836 | 978 | 960 | 972 | 914 |
| Average live weight--....--- |  | Pounds---- |  |  | 88 | 85 | 82 | 78 | 76 |
|  |  | 42 | 42 | 40 | 39 | 39 | 37 |
| Average drossed weight.------) |  |  |  | 1,000 lbs------ |  | 42, 574 | 34,831 | 39,410 | 37, 726 | 37, 482 | 33, 676 |
| Fresh lamb and mutton: |  |  |  |  |  |  |  |  |  |
| Storage 1st of month Exports ${ }^{1}$ |  |  |  | 4,523 | 5,980 | 5,758 | 6,635 | 5,774 | 4,445 |
|  |  | --- do-. |  | 227 | 248 | 99 | 64 | 170 | 322 |
| Exports ${ }^{1}$ <br> Imports |  | -----do------ |  | 1,607 | 388 | 1,280 | 49 | 79 | 75 |
| Receipts of sheep ${ }^{\text {Stocker and feeder ship }}$ |  | Thousands. |  | 1,636 | 1,366 | 1,430 | 1,447 | 1,794 | 1,426 |
|  |  |  |  | 171 | 169 | 114 | 82 | 216 | 117 |
| Prices per 100 pounds: |  | Dollars |  | 12.67 | 12. 50 | 12.85 | 12.41 | 12.31 | 11. 14 |
| Average cost |  |  |  |  |  |  |  |  |  |
| Lambs, 84 pounds dowr, medi-um-prime |  | do |  | 14. 06 |  | 14.24 <br> 8.51 | $\text { 13. } 76$ | $\text { 13. } 67$ |  |
| Sheep, medium-choi <br> At eastern markets- |  |  |  | 7.63 | 14.24 7.90 |  |  |  | 4.5. 62 |
|  |  |  |  |  |  |  |  |  |  |
|  |  | ----do....-- | 24.51 | 23.16 | 23.47 | 23.59 | 26.54 | 27.57 |  |
| Mutton, good <br> Sheep on farms, Jan. 1 |  |  |  |  |  | 37, 223 | 14.73 | 13. 80 | 16. 04 | 17.03 | 14. 72 |
|  |  | Thousands. |  |  |  |  |  |  |  |
| Item. | Unit. |  | July. | Aug. | Sept | Oct. | Nov. | Dec. | Total. |
| Inspected slaughter <br> Average live weight <br> Average dressed weight <br> Total dressed weight (carcass) | Thousands Pounds - -. do |  | $\begin{array}{r} 962 \\ 75 \\ 35,163 \\ \hline \end{array}$ | 957773735,192 | $\begin{array}{r} 990 \\ 78 \\ 37,099 \end{array}$ | $\begin{array}{r} 1,046 \\ 80 \\ 38 \end{array}$ | $\begin{array}{r} 915 \\ 77 \\ 39 \end{array}$ | $\begin{array}{r} 978 \\ 83 \\ 39 \end{array}$ | 11, 529 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 339 |  |  |  |  |  |  |
|  | 1,000 Ibs_.-.-- |  |  |  |  | 39,799 | 35, 547 | 38, 286 | 446, 785 |
| Fresh lamb and mutton: <br> Storage 1st of month <br> do |  |  |  | 35, 163 |  | 1,785 | 1,719 | 1,997 | 2,014 | 43.912 |
| Storage Exports | - .-. do-...-.-. |  | 3, 556 | 245 | , 144 | -99 | ${ }^{7} 7$ | 2,98 | 2. 124 |
| Imports. | Thousands------ |  | 431,661 | $\begin{array}{r} 332 \\ 1,800 \end{array}$ | $\begin{array}{r} 694 \\ 2,659 \end{array}$ | $\begin{array}{r} 359 \\ 3,464 \end{array}$ | $\begin{array}{r} 222 \\ 1,816 \end{array}$ | 87 | 5. 215 |
| Receipts of sheep ${ }^{3}$ |  |  | 1,523 |  |  |  |  | 22, 025 |  |
| Stocker and feeder shipments ${ }^{2}$ - | Thousands--------- |  |  | 188 | 341 | 897 | 1,489 | 540 | 154 | 4,478 |
| Prices per 100 pounds: Average cost for slaughter-At Chicago- | Dollars-...-- |  | 11.99 | 11.52 | 11.81 | 11.37 | 11.96 | 11.54 | ${ }^{3} 12.03$ |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Lambs, 84-pound down, medium-prime | -do------- |  | 13.545.84 | 12076.68 | 12.866.37 | 12.306.22 | 11.946.30 | 12.186.74 | ${ }^{4} 13.24$ |
| At eastern markets- <br> Lamb carcasses, good grade <br> Mutton, good grade |  |  |  |  |  |  |  |  |  |
|  |  |  | 26.12 <br> 16.90 | 26.9518.80 | $\begin{aligned} & 26.29 \\ & 15.63 \end{aligned}$ | $\begin{array}{r} 22.73 \\ 14.77 \end{array}$ | $\begin{aligned} & 23.90 \\ & 14.86 \end{aligned}$ |  |  |
|  |  |  | 23.1315.57 |  |  |  |  | $\begin{array}{r} 424.83 \\ 4 \\ \hline 15.63 \end{array}$ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Inspected slaughter from reports of the Bureau of Animal Industry; exports and imports from the Bureau of Foreign and Domestic Commerce; weights and storage holdings from reports of tho Division of Statistical and Historical Research; receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats and Wool Division, and number on farms from Division of Crop and Livestock Estimates, Bureau of Agricultural Economics.
${ }^{1}$ Including re-exports. ${ }^{2}$ Public stockyards. ${ }^{3}$ Weighted average. ${ }^{4}$ Simple average, not total.
Table 544.-Mutton and lamb: Exports from the United States, 1910-1924.

| Year ending June 30- | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | libs. | dbs. | lbs. | lbs. | 763. | lbs. | lbs. | lbs. | lbs. | libs. | lbs. | lbs. | lbs. |
| 1909-10. | 127 | 146 | 142 | 207 | 147 | 166 | 128 | 124 | 296 | 103 | 232 | 171 | 1,989 |
| 1910-11 | 137 | 139 | 155 | 154 | 162 | 196 | 182 | 234 | 319 | 225 | 131 | 126. | 2, 17.0 |
| 1911-12 | 157 | 147 | 282 | 277 | 242 | 252 | 328 | 628 | 380 | 267 | 324 | 312 | 3, 596 |
| 1912-13 | 586 | 348 | 503 | 431 | 405 | 564 | 470 | 487 | 469 | 294 | 310 | 399 | 5,263 |
| 1913-14 | 286 | 379 | 458 | 325 | 378. | 534 | 366 | 409 | 298 | 491 | 409 | 352 | 4,685 |
| 1914-15 | 324 | 375 | 421 | 166 | 144 | 92 | 330 | 697 | 328 | 260 | 457 | 283 | 3, 877 |
| 1915-16 | 378 | 234 | 385 | 305 | 299 | 275 | 319 | 497 | 948 | 905 | 638 | 370 | 5, 553 |
| 1916-17 | 237 | 248 | 310 | 236 | 288 | 262 | 394 | 298 | 195 | 277 | 234 | 217 | 3, 196 |
| 1917-18 | 69 | 329 | 141 | 233 | 84 | 391 | 114 | 123 | 168 | 165 | 116 | 165 | 2, 098 |
| 1918-19 | 192 | 117 | 100 | 115 | 58 | 198 | 236 | 283 | 160 | 198 | 195 | 322 | 2, 174 |
| 1919-20. | 239 | 302 | 229 | 309 | 220 | 315 | 286 | 318 | 539 | 217 | 862 | 122 | 3,958 |
| 1920-21 | 242 | 175 | 145 | 135 | 109 | 425 | 563 | 372 | 431 | 1,960 | 996 | 1,702 | 7, 255 |
| 1921-22 | 395 | 411 | 264 | 100 | 176 | 146 | 195 | 112 | 81 | 89 | 303 | 230 | 2,502 |
| 1922-23 | 203 | 169 | 100 | 52 | 76 | 55 | 225 | 246 | 96 | 63 | 167 | 317 | 1,769 |
| 1923-24 | 321 | 245 | 140 | 97 | 72 | 98 |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Com: meroe of the United States, Bureau of Foreign and Domestic Commerce.

Table 545.-Mutton, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909-1922.

| Calendar Year. | Imports. |  |  |  |  |  |  | Exports. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | France. | $\begin{gathered} \text { Ger- } \\ \text { many. } \end{gathered}$ | Sweden. | United Kingdom. | United States. | Canada. | Union of South Africa. | Denmark. | Netherlands. | Argentina. | Australia. | New Zealand. |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | $l b s$. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1909. | 1104 | 320 | 525 | 532, 443 | 1 1,641 | 1,894 | 2,918 | 290 | 25, 527 | 146, 595 | 116, 915 | 222, 726 |
| 1910 | 182 | 366 | 348 | 604, 406 | 1 1, 997 | 2, 617 | 2, 775 | 361 | 19, 780 | 165, 570 | 190, 228 | 227, 865 |
| 1911 | 339 | 200 | 187 | 596, 968 | 12,574 | 3, 359 | 3, 403 | 226 | 15, 478 | 189, 411 | 129, 568 | 211, 595 |
| 1912 | 875 | 365 | 124 | 562, 411 | ${ }^{1} 5,076$ | 5, 298 | 2,513 | 329 | 21, 012 | 154, 708 | 115, 366 | 248, 569 |
| 1913. | 575 | 1,522 | 9 | 596, 992 | 14,236 | 5,352 | 2,088 | 201 | 15, 038 | 101, 253 | 204, 919 | 246, 363 |
| 1914 | 6,098 |  | 1139 | 582, 370 | 16,029 | 3,138 | 674 | 184 | 19, 844 | 129, 384 | 193, 264 | 280,324 |
| 1915 | 20, 177 |  | 146 | 527, 280 | 7,648 | 2, 822 | 1311 | 806 | 25, 094 | 77, 250 | 38, 333 | 302, 218 |
| 1916 | 29, 079 |  | 11 | 407, 360 | 11,977 | 2,597 | ${ }^{1} 538$ | 365 | 4, 562 | 113, 136 | 66, 811 | 251, 245 |
| 1917 | 35, 040 |  | 15 | 287, 211 | 2, 762 | 1,164 | ${ }^{1} 1,020$ |  | 4,125 | 87, 787 | 19, 174 | 169, 644 |
| 1918 | 29,830 |  | $\left({ }^{2}\right)$ | 233,425 | 1 1,023 | 4,580 | 1774 |  |  | 111, 145 | 59, 672 | 139, 575 |
| 1919 | 62,000 |  | 122 | 455, 580 | 5,200 | 1193 | 1540 | 274 | 5,254 | 125, 131 | 246, 957 | 329,693 |
| 1920 | 36, 432 | 2,770 | 1, 222 | 694, 150 | 97, 593 | ${ }^{1} 1,253$ | 1,495 | 807 | 6,889 | 122, 446 | 54, 893 | 428, 000 |
| 1921 | 22, 628 | 2 2, 029 | 372 | 754, 749 | 17,880 | ${ }^{1} 2,162$ | 1375 | 40 | 9,001 | 115, 492 | 91, 712 | 375, 946 |
| 1922. | 13, 616 | 2, 814 |  | 648, 497 | 10, 491 | 12,627 | ${ }^{1} 64$ | 157 | 16, 186 | 173, 659 | 167,613 | 331, 288 |

Division of Statistical and Historical Research. Compiled from official sources.
${ }^{1}$ Net exports. . $\quad 2$ Less than 500 pounds. $\quad 3$ Eight months, May-December.

## WOOL.

Table 546.-Wool, raw: Production, imports, exports, and apparent consumption, United States. 1870-1923.

| Calendar year. | - Production. |  |  | $\begin{aligned} & \text { Im- } \\ & \text { ports. } \end{aligned}$ | Reexports. | $\begin{gathered} \text { Net } \\ \text { imports. } \end{gathered}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fleece. | Pulled. | Total. |  |  |  |  |  |  |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. |
| 18 |  |  | 162,000 |  |  | 52, 493 |  | 52,447 | 214, 447 |
| 1871 | 160, 000 |  | 160,000 | 87, 740 | 2,221 | 85, 519 | 147 | 85, 372 | 245, 372 |
| 1872 | 150,000 |  | 150,000 | 116, 386 | 4,189 | 112, 197 | 65 | 112, 132 | 262,132 |
| 1873 | 158,000 |  | 158,000 | 60, 231 | 8, 016 | 52,215 | 271 | 51,944 | 209, 944 |
| 1874 | 170,000 |  | 170,000 | 51, 565 | 3, 698 | 47, 867 | 66 | 47, 801 | 217, 801 |
| 1875 | 181,000 |  | 181, 000 | 52, 090 | 2,940 | 49, 150 | 279 | 48,871 | 229, 871 |
| 1876 | 192,000 |  | 192,000 | 39, 731 | 2,602 | 37, 129 | 80 | 37,049 | 229, 049 |
| 1877 | 200, 000 |  | 200, 000 | 51, 335 | 4,306 | 47, 029 | 66 | 46, 963 | 246,963 |
| 1878 | 208, 250 |  | 208, 250 | 35,799 | 5, 303 | 30,496 | 286 | 30, 210 | 238, 460 |
| 1879 | 211, 000 |  | 211, 000 | 70, 248 | 2,793 | 67,455 | 241 | 67, 214 | 278, 214 |
| 1880 | 232, 500 |  | 232, 500 | 112,761 | 4,925 | 107, 836 | 75 | 107, 761 | 340, 261 |
| 1881 | 240, 000 |  | 240, 000 | 57, 511 | 4,959 | 52, 552 | 101 | 52, 451 | 292, 451 |
| 1882 | 272, 000 |  | 272, 000 | 70, 661 | 3,904 | 66, 757 | 42 | 66, 715 | 338,715 |
| 1883 | 290, 060 |  | 290, 000 | 77, 183 | 3,135 | 74, 048 | 51 | 73, 997 | 363,997 |
| 1884 | 300, 000 |  | 300,000 | 70, 229 | 2, 793 | 67,436 | 33 | 67,403 | 367,403 |
| 1885 | 308,000 |  | 308, 000 | 100,000 | 2, 350 | 97, 650 | 2,179 | 95,471 | 403, 471 |
| 1886 | 302, 000 |  | 302, 000 | 131, 264 | 10,220 | 121, 044 | 171 | 120, 873 | 422,873 |
| 1887 | 285, 000 |  | 285, 000 | 105, 149 | 4,937 | 100, 212 | 120 | 100, 092 | 385, 092 |
| 1888 | 269, 000 |  | 269,000 | 108, 113 | 2,982 | 105, 131 | 28 | 105, 103 | 374, 103 |
| 1889 | 265, 000 |  | 265,000 | 128,683 | 3, 888 | 124,795 | 301 | 124, 494 | 388, 494 |
| 1890 | 276, 000 |  | 276,000 | 108, 681 | 2, 790 | 105, 891 | 223 | 105, 668 | 381, 668 |
| 1891 | 285, 000 |  | 285, 000 | 139, 318 | 2,720 | 136, 598 | 122 | 136, 476 | 428, 478 |
| 1892 | 294,090 |  | 294,000 | 167, 784 | 3, 315 | 164, 469 | 230 | 164, 239 | 458, 238 |
| 1893 | 348, 538 |  | 348, 538 | 111, 752 | 6, 778 | 104, 974 | 229 | 104, 745 | 453, 283 |
| 1894 | 325, 211 |  | 325, 211 | 115, 837 | 2, 801 | 113,036 | 1,694 | 111, 342 | 436, 553 |
| 1895 | 294, 297 |  | 294, 297 | 248,889 | 3, 015 | 245, 974 | 5,707 | 240, 267 | 534,564 |
| 1896 | 272, 475 |  | 272, 475 | 159, 776 | 6,512 | 153, 264 | 8,483 | 144, 781 | 417, 256 |
| 1897 | 259, 153 |  | 259, 153 | 356, 839 | 2, 184 | 354, 655 | 1,055 | 353, 600 | 612,753 |
| 1898 | 266, 721 |  | 266, 721 | 99,850 | 4, 592 | 95, 258 | 91 | 95, 167 | 361, 888 |
| 1899 | 272, 191 |  | 272, 191 | 105,868 | 13,492 | 92, 376 | 3,511 | 88, 865 | 361, 056 |
| 1960 | 250, 973 | 28, 664 | 288, 637 | 139,908 | 3, 046 | 136,862 | 422 | 136, 440 | 425, 077 |
| 1901 | 265, 502 | 37,000 | 302, 502 | 124,964 | 3, 326 | 121, 638 | 97 | 121, 541 | 424, 043 |
| 1902 | 274, 341 | 42,000 | 316, 341 | 176, 293 | 3, 212 | 173, 081 | 446 | 172, 635 | 488, 778 |
| 1903 | 245, 450 | 42, 000 | 287,450 | 173, 594 | 3,267 | 170, 327 | 384 | 169, 943 | 457, 393 |
| 04. | 249, 783 | 42,000 | 291, 783 | 186, 573 | 2,165 | 184, 408 | 184 | 184, 224 | 476,007 |

Table 546.-Wool, raw: Production, imports, exports, and apparent consumption, United States, 1870-1923-Continued.

| Calendar year. | Production. |  |  | $\underset{\text { ports. }}{\text { Im- }}$ | Reex- <br> ports. ${ }^{1}$ | $\underset{\text { imports. }}{\text { Net }}$ | $\begin{aligned} & \text { Exports } \\ & \text { of } \\ & \text { domestic } \end{aligned}$wool. | Excess o imports exports. - | $\begin{aligned} & \text { fippar- } \\ & \text { ent con- } \\ & \text { sump- } \\ & \text { tion. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fleece. | Pulled. | Total. |  |  |  |  |  |  |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 00 | 1, |  |
| 1905 | pounds. | $\begin{gathered} \text { pounds. } \\ 42,000 \end{gathered}$ | pounds. | pounds. | $\begin{array}{r}\text { pounds. } \\ 4,278 \\ \hline\end{array}$ | ${ }_{242,543}^{\text {pounds. }}$ | pounds. | pounds. | pounds. |
|  | 256, 215 | 42,000 | 298, 915 | 196, 844 | 4,412 | 192, 432 | 351 | 192, 081 | 490, 996 |
| 1908 | 270, 138 | 42,000 | 311, 138 | 142, 559 | 6, ${ }^{3,109}$ | 135, 774 | 169 | 135, 405 | 446, 543 |
| 1909 | 287, 111 | 41, 000 | 328, 111 | 312, 1 | 1,084 | 311,047 | 46 | 311,001 | 639, 112 |
| 19 | 277, 548 | 40,000 | 318, 548 | 180, 135 | $\stackrel{9,055}{3,511}$ | 171,080 | ${ }_{(8)}^{88}$ | +171,032 | 492, 395 |
| 1912 | 262, 543 | 41, 500 | 304, 043 | 238, 118 | 1,816 | ${ }_{236} 302$ | (4) | 236, 302 | 540, 345 |
| 1913 | ${ }_{247,192}^{252,675}$ | 43, ${ }^{43} \mathbf{0} 000$ | 290, 192 | - |  | ${ }_{\text {253, }}^{1479}$ | 277 | 1453, 404 | 444, 595 |
| 1915 | 245, 726 | 40,000 | 285, 726 | 412, 721 |  | 410, 623 | 8,158 | 402, 465 | 688, 191 |
| 19 | 244, 880 | 43, 600 | 288, 490 | 449, 190 | ${ }^{2} 12121$ | ${ }^{447}{ }^{49} 062$ | 3,919 | 443,143 | 731, 633 |
| 19 | 251, ${ }^{2429}$ | 42,000 | 288, 870 | 453, 7295 | 1,421 | ${ }_{453}^{419,574}$ | 1, 827 | 年 4172,747 | ${ }^{6999}{ }^{639}$ |
| 1919 | 249, 958 | 48, 300 | 298, 258 | 445, 893 |  | 440, 204 | 2,840 | 437, 364 | 735, 622 |
|  | ${ }_{223,062}^{235,005}$ | 42,900 | ${ }^{2771}{ }^{277}$, 505 | ${ }^{259,} \mathbf{3 1 8}$ |  | ${ }^{246,982}{ }^{\text {39, }} 081$ | $\xrightarrow{8,845}$ | ${ }^{238}{ }^{231} 1137$ | 516,042 |
| 1922 | 222, 660 |  | 264, 560 | 376, 673 |  | 372, 248 | 453 |  | 636, 35 |
| 1923 | 223,610 | 42, 500 | 266, 110 | 394, 250 | 24, 188 | 370, 062 | 535 | 369, 527 | 635, 637 |

Livestock, Meats and Wool Division. Production figures 1870-1892 and 1914-1923 from the Division of Crop and Livestock Estimates; 1893-1913, from the National Association of Wool Manufacturers; imports and exports from the Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Imports and reexports include hair of camel, goat, alpaca, etc. Imports of hair not separately stated prior to July 1, 1913; since that date it has constituted less than 2 per cent of the total every year except 1915, when it was 2.4 per cent.
${ }_{2}^{2}$ Exports for fiscal years ending June 30 of the years shown.
${ }^{4}$ No transactions.
${ }^{3}$ Included in all other articles.
Table 547.-Wool, fleece: Estimated production, by States, 1921-1923, and United States totals, 1914-1923.

| State. | Production. |  |  | Weight per fleece. |  |  | Number of fleeces. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
|  | 1,000 pounds. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | Pounds. | Pounds. | Pounds. | Thousands. | Thousands. | Thousands. |
| Maine | 600 | 589 | - 567 | 6. 0 | 6.2 | 6.3 | 100 | 95 | 90 |
| New Hampshire | 161 | 128 | 119 | 6. 7 | 6.4 | 6.6 | 24 | 20 | 18 |
| Vermont-.-.- | 365 | 312 | 275 | 6.3 | 6. 5 | 6.4 | 58 | 48 | 43 |
| Massachusetts | 102 | 102 | 100 | 6.0 | 6. 0 | 6.2 | 17 | 17 | 16 |
| Rhode Island. | 18 | 19 | 20 | 5.9 | 6.3 | 6.5 | 3 | 3 | 3 |
| Connecticut | 60 | 54 | 44 | 6.0 | 6.0 | 5.5 | 10 | 9 | 8 |
| New York. | 2, 941 | 2,882 | 2, 968 | 6.7 | 6.8 | 6.9 | 439 | 424 | 430 |
| New Jersey | 55 | 55 | 47 | 6.0 | 5. 8 | 5.0 | 9 | 9 | 9 |
| Pennsylvania | 3, 403 | 3, 087 | 3,148 | 6.4 | 6.7 | 6.5 | 532 | 461 | 484 |
| Delaware. | 13 | 12 | 13 | 3.5 | 5.8 | b. 5 | 4 | 2 | 2 |
| Maryland | 440 | 486 | 512 | 6.0 | 6.4 | 6.4 | 73 | 76 | 80 |
| Virginia. | 1,541 | 1, 578 | 1, 622 | 4.6 | 4.9 | 4.8 | 335 | 322 | 338 |
| West Virginia | 2,300 | 2, 346 | 2, 600 | 4.9 | 4.9 | 5.2 | 469 | 479 | 500 |
| North Carolina | 395 | 395 | 397 | 4.2 | 4.5 | 4. 9 | 94 | 88 | 81 |
| South Carolina | 97 | 102 | 103 | 3.5 | 4.0 | 4.5 | 28 | 26 | 23 |
| Georgia. | 160 | 157 | 156 | 2.8 | 2. 9 | 3.0 | 57 | 54 | 52 |
| Florida | 150 | 157 | 163 | 3.1 | 3.2 | 3.4 | 48 | 49 | 48 |
| Ohio_ | 13, 200 | 13, 596 | 14,313 | 7.2 | 7.4 | 7.3 | 1, 833 | 1,837 | 1,961 |
| Indiana | 3, 458 | 3, 527 | 3, 820 | 7.0 | 7.0 | 7. 1 | 494 | 504 | 538 |
| Illinois | 3, 496 | 3,426 | 3,290 | 7.6 | 7.5 | 7.6 | 460 | 457 | 433 |
| Michigan | 7,714 | 7,868 | 7, 282 | 7.2 | 7.3 | 7.4 | 1,071 | 1,078 | 984 |
| Wisconsin | 2,701 | 2, 279 | 2, 271 | 7.0 | 7.3 | 7.4 | 386 | 312 | 307 |
| Minnesota | 2, 340 | 2,457 | 2,225 | 7.2 | 7.2 | 7.5 | 325 | 341 | 297 |
| Iowa. | 5,369 | 5,208 | 4,973 | 7.5 | 7.9 | 7.5 | 716 | 659 | 663 |
| Missouri | 5,202 | 5, 098 | 5,411 | 6.5 | 6.6 | 7.0 | 800 | 772 | 773 |

[^275]Table 547.-Wool, fleece: Estimated production, by States, 1921-1929, and United States totals, 1914-1923-Continued.

| State. | Production. |  |  | Weight per fleece. |  |  | Number of fleeces. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ | 1921 | 1922 | $1923{ }^{1}$ |
|  | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | Pounds. | Pounds | Pounds. | Thousands | Thousands. | Thousands. |
| North Dakota. | 1,633 | 1,715 | 1,648 | 7.7 | 7.9 | 8.0 | 212 | 217 | ${ }_{206}$ |
| South Dakota. | 4,324 | 4,021 | 4, 021 | 7.2 | 7.5 | 7.6 | 601 | 536 | 529 |
| Nebraska. | 1,641 | 1,395 | 1,738 | 7.4 | 8.0 | 7.9 | 222 | 174 | 220 |
| Kansas | 1,878 | 1,690 | 1, 933 | 7.0 | 7.5 | 7.7 | 268 | 225 | 251 |
| Kentucky | 2, 600 | 2,678 | 2,715 | 4.7 | 6.0 | 4.9 | 553 | 536 | 551 |
| Tennessee. | 1,320 | 1,294 | 1, 300 | 4. 5 | 4. 5 | 4.5 | 293 | 288 | 289 |
| Alabama. | 189 | 185 | 227 | 3. 0 | 3.5 | 3.6 | 63 | 53 | 63 |
| Mississippi | 470 | 446 | 454 | 3.5 | 3. 0 | 3.2 | 134 | 149 | 142 |
| Irouisiana. | 508 | 381 | 385 | 3. 7 | 3. 7 | 3.4 | 137 | 103 | 113 |
| Texas. | 18, 000 | 19,300 | 19,700 | 7.7 | 7.2 | 7.4 | 2, 338 | 2, 681 | 2, 662 |
| Oklahoma | 482 | 458 | - 490 | 7. 3 | 7.3 | 7.0 | 66 | 63 | 70 |
| Arkansas. | 355 | 344 | 320 | 4. 3 | 4.5. | 4. 7 | 83 | 76 | 68 |
| Montana | 16,400 | 16, 770 | 17,775 | 8. 3 | 8. 0 | 8.4 | 1,976 | 2,096 | 2, 116 |
| Wyoming | 21, 200 | 20,400 | 18, 800 | 8.2 | 8.0 | 7.7 | 2,585 | 2,550 | 2,442 |
| Colorado. | 6,839 | 6, 976 | 6,580 | 7.0 | 6.5 | 7.0 | 977 | 1, 073 | 940 |
| New Mexico | 10, 100 | 11. 246 | 10,890 | 6. 4 | 6. 0 | 6. 6 | 1,578 | 1,874 | 1,650 |
| Arizona. | 5, 616 | 6, 000 | 5,798 | 6. 0 | 6.5 | 6.5 | , 936 | , 923 | 892 |
| Utah. | 16, 500 | 16,800 | 17, 210 | 8. 0 | 7. 4 | 7.9 | 2, 062 | 2, 270 | 2,178 |
| Nevada. | 7,000 | 7,650 | 7,942 | 7. 3 | 6.5 | 7.6 | 959 | 1, 177 | 1,045 |
| Idaho. | 16, 800 | 16, 642 | 15, 455 | 8.0 | 7.8 | 8.1 | 2, 100 | 2, 134 | 1,908 |
| Washington | 4,421 | 3, 802 | 4,409 | 8.8 | 7.7 | 8.8 | + 502 | , 494 | 501 |
| Oregon | 14, 435 | 12,992 | 13, 200 | 8. 6 | 7. 5 | 9. 0 | 1,678 | 1,732 | 1,467 |
| California | 14, 070 | 13, 455 | 14, 181 | 7.5 | 6.9 | 7.2 | 1,876 | 1,950 | 1,970 |
| United States. | 223, 062 | 222, 560 | 223, 610 | 7. 3 | 7.1 | 7.3 | 30, 584 | 31, 516 | 30, 457 |
| 1914. |  | 247, 192 |  |  | 6. 8 |  |  | 36, 354 |  |
| 1915 |  | 245, 726 |  |  | 6. 8 |  |  | 35,908 |  |
| 1916 |  | 244, 890 |  | * | 7.0 |  |  | 35, 202 |  |
| 1917. |  | 241, 892 |  |  | 7.0 |  |  | 34, 414 |  |
| 1918 |  | 256,870 |  |  | 7.1 |  |  | 36, 178 |  |
| 1919 |  | 249,958 |  |  | 7.4 |  |  | 33,899 |  |
| 1920 |  | 235, 005 |  |  | 7. 3 |  |  | 32, 301 |  |
| 1921 |  | 223, 062 |  |  | 7.3 |  | -- | 30,584 |  |
| 1922 |  | 222, 560 |  |  | 7. 1 |  |  | 31, 516 |  |
| 19231 |  | 223,610 |  |  | 7.3 |  |  | 30, 457 |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.
Table 548.-Wool: Estimated production, by countries and grand divisions.

| Country. | Calendar years. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|  | Mil- | Mil- | Mil- | Mil- | Mil- | Mil. | Mil- | Mil | Mil- | $\dot{M}$ il- | Mil- |
|  | lion | lion | lion | lion | lion | lion | lion | lion | lion | lion | lion |
|  | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | las. | $l b s$ : | ${ }^{\text {l }}$ ¢ 5. | lbs. |
| Australasia | 833 | 750 | 827 | 767 | 645 | 742 | 742 | 825 | 852 | 718 | 818 |
| South America. | 555 | 531 | 455 | 477 | 480 | 470 | 4 | 484 | 487 | 592 | 398 |
| North America. | 322 | 315 | 309 | 308 | 307 | 304 | 470 | 336 | 328 | 298 | 281 |
| United Kingdom | 143 | 133 | 125 | 121 | 121 | 121 | 125 | 118 | 99 | 100 | 103 |
| Russia in Europe | 320 | 320 | 320 | 320 | 320 | 320 | 320 | $\begin{array}{r}320 \\ 50 \\ \hline\end{array}$ | $\begin{array}{r}150 \\ 50 \\ \hline\end{array}$ | 320 40 | 110 |
| France-.-------- | 78 | 78 26 | 80 26 | 75 26 | 75 26 | 65 26 | 65 26 | $\stackrel{5}{26}$ | 37 | 43 | 52 |
| Italy | 21 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 35 | 79 | 50 |
| All other in Europ | 225 | 225 | 227 | 239 | 240 | 240 | 240 | 236 | 380 | 317 | 308 |
| Asia...... | 273 | 273 | 273 | 273 | 273 | 273 | 273 | 327 | 327 | 327 | ${ }_{2}^{265}$ |
| Africa. | 175 | 208 | 208 | 208 | 208 | 208 | 208 | 150 | 220 | 169 | 278 |
| Total | 2,971 | 2,881 | 2,872 | 2,836 | 2,717 | 2,791 | 2,809 | 2,894 | 2,965 | 3,003 | 2,704 |

Division of Statistical and Historical Research. Compiled from Annual Wool Review of the National A ssociation of Wool Manufacturers.

Table 549.-Wool: International trade, calendar years, 1909-1922.

| Country. | A verage 1909-1913. |  | 1920 |  | 1921 |  | $\begin{aligned} & \text { 1922, } \\ & \text { pretiminary. } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ \text { po } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| Algeria-- | 2,445 | 19, 871 | 2, 456 | 14, 598 |  | 19, 372 |  | 15,566 402688 |
| Argenina | 324 | 676, 679 | 324 | 229, 511,65 | 773 | 8168, 362 | 1141 | - 711,116 |
| Brazil. | 1.511 | ${ }^{2} 2,959$ | 1694 | 3, 573 | 148 | 7,127 |  | 17,851 |
| British In | 23,721 | 56,496 | 22, 766 | 28,956 | 17, 937 | 22, 814 | 20, 586 | 51,738 |
| Chile | 1,247 | 28, 223 | 675 | 30, 382 | 188 | 26, 902 |  | ${ }^{1} 17,453$ |
| China |  | 42, 684 |  | 20, 147 |  | 68, 205 |  | 77,792 |
| Greece | 281 | 294 | 593 | 2,187 | 871 | 1,397 | 586 | 1,439 |
| Hunguiy |  |  |  | ${ }^{1} 7,896$ | ${ }^{1} 177$ | ${ }^{1} 14,830$ | 700 | 19,134 |
| Moroce | 168 |  | 37 | $\begin{array}{r}\text { 3, } \\ \text { 362, } \\ \mathbf{1 6 2 7} \\ \hline\end{array}$ | 126 | 1,575 159,419 |  | 1306, 295 |
| Persia | ${ }^{3} 2,753$ | 10,023 | 303 | 3,647. | 1144 | 11, 286 |  |  |
| Peru. | ${ }^{3} 3$ | 9,333 | 35 | 7,450 | 2 | 4, 454 | 81 | 10,088 |
| Spain. | 2,446 | 28, 505 | 4,488 | 14, 846 | 2,113 | 5,257 | 5,044 | 13,449 |
| Union of South | 7 | 164, 633 | 183 | 191,218 | 176 | 247, 536 | 51 | 35, 576 |
| Uruguay |  | 139, 178 |  | 69, 393 |  | ${ }^{1} 122,045$ |  | ${ }^{1} 102,328$ |
| PEINCIPAL IMPORTING countries. |  |  |  |  |  |  |  |  |
| Austria |  |  | 3,963 | 889 | 15,362 | 2,432 | ${ }^{1} 13,517$ | 12,143 |
| Austria-Hu | 63,942 300,367 7 |  |  |  |  |  |  |  |
| Belgium | 300,367 7,794 | $\begin{array}{r} 196,440 \\ 1,323 \end{array}$ | 272,206 12,268 | $\begin{array}{r} 154,314 \\ 6,289 \end{array}$ | $\begin{array}{r} 204,015 \\ 9,204 \end{array}$ | $\begin{array}{r} 141,393 \\ 3,310 \end{array}$ | 194,918 <br> 15,907 | 76,095 7,159 |
| Czechosiov |  |  | 128,715 | ${ }^{1} 450$ | 137, 171 | 1462 | ${ }^{1} 36,080$ | ${ }^{1} 3,056$ |
| Denmark | 2,337 | 1,124 | 707 | 677 | 1,363 | 140 | 1,711 | 304 |
| Finland. | 1,794 |  | 2, 482 |  | 1,934 | $\begin{array}{r}11 \\ 33 \\ \hline 103\end{array}$ | 4, 047 |  |
| France | 601,628 | 84,973 | 363,545 | $\begin{array}{r} 33,696 \\ 1.290 \end{array}$ |  | $\begin{array}{r}33,403 \\ 44 \\ 4 \\ 4 \\ \hline\end{array}$ | 681, 2527 |  |
| Germany | 481,988 30,145 10 | 42,817 3,933 | 122,779 64,893 | 1,230 2,518 | 1277,589 44,279 | 43,554 5 5,224 | 443,327 85,253 | 16,676 9,492 |
| Jtapan- | 30,145 10,223 | 3,933 | 64, 893 71,541 | 2, 318 | 44,279 30,531 | 5,224 | ${ }_{1}^{66,923}$ |  |
| Netherla | 31, 991 | 26,302 | 14, 256 | 5,702 | 14,712 | 3,760 | 14,777 | 3, 829 |
| Norway | 3,644 | 123 | 2,768 | 382 | 1,636 | 210 | 4, 110 | 163 |
| Poland. |  |  | 14,778 | 38 | ${ }^{1} 21,351$ | 1129 | ${ }^{1} 34,378$ | 11,030 |
| Russia | 106, 184 | 32,406 | ${ }^{1} 288$ | ${ }^{1} 25$ | ${ }^{1} 437$ | ${ }^{1} 1,757$ |  | ${ }^{1} 10,870$ |
| Sweden | 7,267 | 149 | 8,756 | 96 | 7,164 | 40 | 16, 422 | 157 |
| Switzerland | 11,211 | 338 | 10, 317 | 234 | 12,193 | 54 | 15, 102 | 246 |
| United Kingdo | 550, 931 | 42,027 | 720, 457 | 22,536 | 466, 668 | 36,569 | 751, 628 | 62. 302 |
| United States- | 203, 298 |  | 259,618 1,882 | 82,845 | 820, 666 | $\begin{array}{r} 1,927 \\ 18.960 \end{array}$ | 376,795 3,630 | 17.632 |
| Other countri | 10,467 | 38,702 | 1,882 | 22,594 | $\begin{array}{r}\text { 6,907 } \\ \hline 1,832,601\end{array}$ | r 18,960 | $\begin{array}{r}\text { 3, } 630 \\ \hline 2,789,832\end{array}$ | $\frac{17,032}{2,229,103}$ |

> Division of Statistical and Historical Research. Ofticial sources except where otherwise noted.
"Wool" in this table includes: Washed, unwashed, scoured, and pulted wool; stipe, sheep's wool on skins (total weight of wool and skins taken); and all other animal fibers ineluded in United States classifieation of wool. The following items have been considered as not within this classification: Corded, combed, and dyed wool; flocks, goatskins with hair on, mill waste, noils, and tops.

[^276]Table 550.-Wool (unwashed): Farm price per pound, 15th of month, United States, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sapt. | Oct. | Nov. | Dec. | Weighted average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | C | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cen |  |
| 1910 | 24.5 | 24.6 | 24.9 | 22.3 | 22.8 | 19.5 | 19.0 | 19.5 | 17.7 | 18. 1 | 17.9 | 17.8 | 30.5 |
| 1911 | 17.3 | 17.3 | 16.8 | 15. 7 | 14.7 | 15. 5 | 15.4 | 16.0 | ${ }_{15}^{15} 6$ | 15. 5 | 15.6 | 15.5 | 15.6 |
| 1912 | 16. 2 | 16. 3 | 16. 9 | 17. 7 | 17. 8 | 18.7 | 18.9 | 18.8 | 18.7 | 18.5 | 18.6. | 18.6 | 18.1 |
| 13 | 18.6 | 18. 7 | 18.a | 17.7 | 16.3 | 15. 6 | 15. 9 | 15.8 | 15.8 | 15. 5 | 15.6 | 16.1 | 16.4 |
| Av. | 19.2 | 19.2 | 19.2 | 18.2 | 17.9 | 17.3 | 17.3 | 17.5 | 17.0 | 16.9 | 6.9 | 17.0 | 17.5 |
| 1914 | 15.7 | 15.7 | 16.4 | 16.8 | 17.2 | 18.4 | 18.5 | 18.7 | 18.6 | 18.0 | 18.1 | 18.6 | 17.7 |
| 1915 | 18.6 | 20.2 | 22.8 | 22.7 | 22.0 | 23. 7 | 24.2 | 23.8 | 23.3 | 22.7 | 22.7 | 23.3 | 22.8 |
| 1916 | 23.3 | 24.2 | 25.9 | 26.3 | 28. 0 | 28.7 | 28.6 | 29.0 | 28.4 | 28.7 | 29.4 | 30.8 | 27.9 |
| 1917 | 31.8 | 32.7 | 36.7 | 38.8 | 43. 7 | 49.8 | 54.3 | 54.8 | 54.2 | 55. 5 | 55.9 | 58.2 | 47.8 |
| 1918 | 58.1 | 57.1 | 60.0 | 60.0 | 58.2 | 57.4 | 57.5 | 57. 4 | 57.7 | 57.7 | 56.4 | 56.2 | 57.9 |
| 1919 | 55.2 | 51.1 | 51.3 | 47.9 | 48.0 | 50.5 | 51.8 | 52.2 | 513 | 50.6 | 51.0 | 51.6 | 50.3 |
| 1920 | 53.3 | 52.5 | 51.5 | 51.3 | 50.3 | 38.6 | 29. | 28.3 | 28.0 | 27.5 | 24.9 | 21.9 | 39.1 |
| Av. 19 | 36.6 | 36.2 | 37.8 | 87.2 | 38.2 | 38.2 | 37.8 | 37.7 | 37.4 | 37.2 | 6.9 | 37.2 | 37.6 |
| 1921 | 19.6 | 19.8 | 18.9 | 17.9 | 16.0 | 15.4 | 15.5 | 15.4 | 15.5 | 15.8 | 15.6 | 16.9 | 16.4 |
| 1228 | 18. 0 | 28.3 | 25.0 | 24.8 | 29.0 | 32.8 | 32.5 | 31.6 | 31.6 | 32.2 | 33.2 | 35.3 | 29.8 |
| 1923. | 35.3 | 35.3 | 37.3 | 39.2 | 41.7 | 41.5 | 38.3 | 37.0 | 37.1 | 36.9 | 36.4 | 36.2 | 38.9 |

[^277]Table 551.-Stocks of wool, tops, and noils held by dealers and manufacturers in United States, 1918-1923.

| Date. | Held by dealers. |  |  |  |  | Held by manufacturers. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Grease. | Scoured. | Pulled. | Tops. | Noils. | Grease. | Scoured. | Pulled. | Tops. | Noils. |
|  | 1,000 pounds. | $\xrightarrow{1,000}$ pounds. | 1,000 | 1,000 pounds. | 1,000 | $\begin{gathered} 1,000 \\ \text { potids } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| n. 1918. | pounds. | pounds. | 12,229 | 4,642 | 7,565 | 172,342 | 29,912 | 9,627 | 18, 677 | 13,567 |
| Apr. | 91, 209 | 22, 887 | 14, 444 | 3, 555 | 6, 054 | 135, 685 | 23, 672 | 9,322 | 16, 117 | 11, 387 |
| July 1 | 202, 241 | 11, 721 | 10, 478 | 2, 074 | 3,848 | 136, 267 | 19,601 | 9,433 8,449 | 14, 251 | 13, ${ }^{12} \mathbf{4 6 7}$ |
| Oct. 1 | 219659 | 12,926 | 10,701 | 347 | 3,655 | 101,900 | 16, 236 | 8,449 | 12,288 | 12, 467 |
| Jam. 1919. | 81, 923 | 12,347 | 10,215 | 1,422 | 5,104 | 58, 602 | 13, 816 | 5, 233 | 10,395 | 12,385 |
| Apr. | 28, 690 | 7, 952 | 5, 984 | , 898 | 2, 823 | 72, 637 | 13, 654 | 6,663 | 10, 962 | 10,381 |
| July 1 | 198, 298 | 22, 155 | 10, 108 | 1,801 | 2, 577 | 147, 678 | 16, 117 | 11,740 | 11,388 | 9,820 |
| Oct. 1 | 207, 264 | 27, 921 | 14, 497 | 3,446 | 3, 184 | 181,301 | 17,705 | 7,829 | 15, 286 | 9,822 |
| Jan. 1920. |  |  |  | 4,735 | 3, 893 | 148, 239 | 20, 030 | 10, 152 | 13, 875 | 7,316 |
| Jan. 1. | 122, 247 | 24, 24.6 | 17,710 | 4,646 | 4, 305 | 135, 645 | 28, 100 | 9,339 | 14, 328 | 8,670 |
| ${ }^{\text {apren }} 1$ | 144, 837 | 27, 963 | 15, 207 | 4,487 | 6, 041 | 112, 434 | 23, 078 | 6,762 | 15, 439 | 9, 092 |
| Oct. 1 | 179, 376 | 29, 988 | 11, 229 | 5,564 | 4, 754 | 75, 288 | 15, 612 | 12, 067 | 15, 839 | 9, 124 |
| Jan. 1981. | 188, 822 | 27, 814 | 14,352 | 6, 616 | 5,434 | 119, 766 | 17, 291 | 6,895 | 18, 851 | 9, 991 |
| Apr. | 194, 891 | 22, 807 | 15, 505 | 7, 623 | 3,690 | 159, 599 | 18,442 | 17,095 | 19, 325 | 9,316 |
| July 1 | 176, 584 | 19, 703 | 12,127 | 4, 883 | 4,139 | 164, 713 | 18,042 | 10,787 | 20, 247 | 8,101 |
| Oct. 1. | 181, 574 | 19,480 | 11, 201 | 4,005 | 3,009 | 180, 727 | 19,736 | 10, 484 | 23, 184 | 7,463 |
| 1922.1 |  |  |  |  |  |  |  | 9,312 | 17, 536 | 7,136 |
| Jan. 1 | 101, 384 | 13,468 10,995 | 10,222 6,969 | 2, 8 266 | 2,453 1,373 | 171, ${ }^{1} 926$ | 25, 406 | 10,419 | 18, 029 | 7,176 |
| Apr. | 70, 415 | 10,995 13,447 | 6,969 6,988 | 2, 2927 | 1, 619 | 165, 810 | 22, 201 | 9,642 | 20,720 | 6,799 |
| Oct. 1 | 176, 377 | 16, 521 | 7,384 | 3,327 | 2,695 | 191, 351 | 20, 336 | 8,686 | 19, 227 | 5,904 |
| - 1923. ${ }^{\text {² }}$ |  |  |  |  |  |  |  | 8,824 | 20, 211 | 7,644 |
| Jan. 1 | 134,644 126,158 | 22, 24,734 | 11, 106 | 3,658 3,378 | 6,378 | 175,422 | 21, 787 | 11, 930 | 18, 402 | 8,247 |
| Apr | 126, 158 | 24, 2104 21,075 | 13, 126 | 3, 3125 | 5,977 | 161,435 | 18, 464 | 11, 148 | 16,579 | 8,364 |
| Oct. 1 | 175, 843 | 21,679 | 10, 531 | 3,136 | 5,675 | 130, 933 | 15,992 | 8,961 | 16,998 | 7,511 |

Division of Statistical and Historical Research.
${ }^{1}$ Figures do not include astimates for firms not reporting.
Table 552.-Wool: Quarterly average price per pound on farms, by districts, 19101923.


Table 552.-Wool: Quarterly average price per pound an farms, by districts, 1910-1923-Continued.

| Date. | Ohio, Penn-sylvania, and West Virginia. | Michigan, Wisconsin, and New York. | Kentucky and Indiana. | Missouri, Iowa, and Illinoic. | Texas. | California. |  | New Mexico. | Florida Alabama, Mississippi, Louisiana, and Georgia. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} 1913 . \\ \text { January-March. } \end{array}$ | Cts 24 | Cts. | Cts. | Cts. | Cts. ${ }_{15}$ | Cts. ${ }_{15}$ | Cts. ${ }_{17}$ | Cts. | Cts. ${ }_{19}$ |
| April-June. -- | 20 | 18 | 19 | 18 | 14 | 14 | 15 | 13 | 17 |
| July-September | 20 | 19 | 19 | 17 | 13 | 15 | 14 | 12 | 17 |
| October-December | 20 | 19 | 19 | 17 | 13 | 12 | 14 | 12 | 17 |
| January-March. | 20 | 18 | 19 | 17 | 13 | 12 | 15 | 13 | 17 |
| April-June. | 21 | 20 | 21 | 18 | 15 | 15 | 16 | 15 | 16 |
| July-September | 23 | 21 | 22 | 20 | 16 | 15 | 17 | 16 | 17 |
| October-December | 23 | 21 | 20 | 19 | 14 | 15 | 17 | 15 | 17 |
| $1915 .$ <br> January-March | 24 | 23 | 23 | 20 | 15 | 16 | 21 |  |  |
| April-June. -- | 26 | 26 | 26 | 24 | 18 | 20 | 22 | 18 | 17 |
| July-September | 28 | 29 | 28 | 26 | 19 | 20 | 22 | 19 | 21 |
| October-December | 28 | 28 | 27 | 26 | 18 | 17 | 21 | 19 | 20 |
| $1916 .$ <br> January-March | 29 | 29 | 28 | 26 | 20 | 18 | 24 | 21 | 20 |
| April-June . | 32 | 32 | 33 | 30 | 23 | 24 | 27 | 22 | 25 |
| July-September | 34 | 34 | 34 | 31 | 24 | 24 | 27 | 24 | 25 |
| October-December | 35 | 34 | 34 | 31 | 25 | 21 | 28 | 24 | 26 |
| $1917 .$ | 38 | 37 | 35 | 33 | 26 | 31 | 35 | 27 |  |
| April-June. | 48 | 48 | 48 | 45 | 35 | 45 | 44 | 37 | 32 |
| July-September | 64 | 61 | 59 | 57 | 44 | 52 | 53 | 46 | 44 |
| October-December | 66 | 64 | 62 | 58 | 47 | 51 | 56 | 48 | 46 |
| 1918. |  |  |  |  |  |  |  |  |  |
| January-March. | 69 | 65 | 62 | 59 | 50 | 53 | 57 | 47 | 45 |
| April-June. | 69 | 65 | 66 | 61 | 51 | 49 | 55 | 54 | 49 |
| July-September | 67 | 65 | 65 | 61 | 52 | 50 | 55 | 49 | 53 |
| October-December | 67 | 65 | 64 | 60 | 51 | 50 | 54 | 44 | 54 |
| 1919. |  |  |  |  |  |  |  |  |  |
| January-March | 62 | 58 | 62 | 56 | 45 | 42 | 51 | 35 | 50 |
| April-June | 58 | 52 | 53 | 49 | 42 | 43 | 48 | 42 | 44 |
| July-September | 63 | 58 | 55 | 53 | 46 | 47 | 49 | 46 | 45 |
| October-December | 63 | 57 | 55 | 51 | 44 | 42 | 48 | 48 | 44 |
| $1920 .$ |  |  |  |  |  |  |  |  |  |
| January-March_ | 63 | 58 | 54 | 52 | 46 | 45 | 50 | 45 | 48 |
| April-June . | 58 | 50 | 48 | 44 | 45 | 44 | 44 | 44 | 41 |
| July-September | 33 | 30 | 34 | 28 | 30 | 28 | 28 | 25 | 25 |
| October-December | 28 | 26 | 27 | 22 | 24 | 23 | 26 | 22 | 19 |
| Av. 1914-1920. | 44 | 42 | 42 | 38 | 32 | 33 | 36 | 32 | 32 |
| 1921. | 27 |  |  |  |  |  |  |  |  |
| January-March. | 27 | 23 | 22 | 18 | 20 | 13 | 19 | 15 | 17 |
| April-June . | 22 | 19 | 17 | 17 | 15 | 10 | 16 | 14 | 16 |
| July-September | 19 | 18 | 16 | 15 | 14 | 12 | 16 | 12 | 13 |
| October-December | 20 | 18 | 17 | 15 | 14 | 13 | 16 | 14 | 14 |
| $1922 .$ |  |  |  |  |  |  |  |  |  |
| January-March. | 25 | 23 | 19 | 19 | 17 | 23 | 24 | 18 | 14 |
| April-Junc.-.-- | 33 | 29 | 27 | 25 | 26 | 31 | 31 | 26 | 18 |
| July-September | 38 | 33 | 31 | 30 | 33 | 35 | 31 | 30 | 24 |
| October-December | 38 | 35 | 32 | 32 | 34 | 31 | 34 | 32 | 23 |
| 1923. |  |  |  |  |  |  |  |  | , |
| January-March | 39 | 36 | 33 | 32 | 37 | 38 | 37 | 36 | 23 |
| April-June. . | 43 | 42 | 40 | 39 | 40 | 42 | 42 | 40 | 27 |
| July-September | 43 | 41 | 38 | 38 | 37 | 35 | 38 | 34 | $\therefore \quad 29$ |
| October-December | 42 | 41 | 38 | 36 | 34 | 33 | 36 | 34 | - 33 |

Division of Statistical and Histarieal Research. Compiled from data of the Division of Crop and Livestock Estimates.

Table 553.-Wool: Monthly average price per pound, Boston market, 1910-1923.
OHIO, PENNSYLVANIA, AND WEST VIRGINIA-FINE CLOTHING, UNWASHED.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver age. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$0. 28 | \$0.28 | \$0. 27 | \$0.25 | \$0. 24 | \$0. 22 | \$0.22 | \$0. 21 | \$0. 21 | \$0. 23 | \$0. 23 | \$0. 23 | \$0.24 |
| 1911 | . 23 | . 22 | . 21 | . 20 | . 19 | . 19 | . 20 | . 20 | 21 | 21 | . 21 | . 22 | . 21 |
| 1912 | . 22 | . 22 | . 22 | 22 | . 22 | . 22 | . 24 | . 24 | . 24 | . 24 | . 24 | . 24 | . 23 |
| 1913 | . 24 | . 24 | . 23 | 22. | . 21 | 21 | . 21 | . 21 | . 21 | . 21 | . 21 | . 21 | . 22 |
| 1914 | . 21 | . 21 | . 22 | 22 | . 23 | . 24 | . 25 | . 25 | . 25 | 24 | . 24 | . 24 |  |
| 1915 | . 25 | . 29 | . 29 | . 26 | . 26 | . 26 | . 27 | . 27 | . 27 | . 27 | . 27 | . 27 | . 27 |
| 1916 | . 28 | . 28 | . 29 | . 31 | 31 | . 31 | . 31 | . 31 | . 31 | . 33 | . 34 | . 37 | . 31 |
| 1917 | . 39 | . 42 | . 45 | . 44 | . 47 | . 55 | . 58 | . 63 | . 66 | . 63 | . 65 | . 65 | . 54 |
| 1918 | . 65 | . 65. | . 65 | . 67 | . 64 | . 62. | . 67 | . 64 | . 62 | . 67 | . 64 | . 62 | . 64 |
| 1919 | . 57 | . 56 | . 54 | . 53 | . 53 | . 58 | . 68 | . 70 | . 70 | . 67 | . 68 | . 70 | . 62 |
| 19201 | . 70 | . 75 | . 76 | . 70 | . 65 | . 60 | . 57 | . 54 | . 54 | . 42 | . 38 | . 38 | . 58 |
| Av. 1914-1920 | . 44 | . 45 | . 46 | . 45 | . 44 | . 45 | 48 | : 48 | . 48. | 46 | . 46 | . 46 | . 46 |
| 1921. | . 31 | . 31 | . 32 | . 32 | . 31 | . 30 | . 28 | . 28 | . 28 | . 28 | . 29 | . 31 | . 30 |
| 1922 | . 34 | . 38 | . 38 | . 38 | . 40 | . 46 | . 47 | . 47 | . 47 | . 49 | . 50 | . 50 | . 44 |
| 1923. | . 52 | . 52 | . 51 | . 51 | . 52 | . 53 | . 51 | . 49 | . 49 | . 49 | . 49 | . 49 | . 51 |

TERRITORY-FINE STAPLE, SCOURED.


Division of Statistical and Historical Research. 1910-1920 data from National Association of Wool Manufacturers. 1921-1923 data from Boston Commercial Bulletin.
${ }^{1}$ Prices June-December, 1920, largely nominal.
Table 554.-Wool: Average prices per pound in England, 1909-1923.
LINCOLN HOGGETS. ${ }^{1}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver age. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1909 | 17. 5 | 18.0 | 18. 0 | 18.0 | 18. 0 | 19.5 | 19.5 | 19.0 | 19.5 | 19.5 | 20.0 | 20.5 | 18.9 |
| 1910 | 20.0 | 21. 0 | 21.0 | 21.0 | 20.5 | 19.5 | 19.0 | 20. 0 | 20. 0 | 20. 0 | 20.0 | 20.0 | 20.2 |
| 1911 | 20.0 | 20.5 | 20.5 | 20.5 | 20.2 | 20.0 | 20.0 | 20.0 | 20. 0 | 20.0 | 21. 0 | 20.2 | 20.2 |
| 1912 | 21.3 | 20.8 | 20.8 | 20.8 | 20.3 | 20.8 | 21.3 | 21.8 | 22. 3 | 22.8 | 23.2 | 23. 7 | 21.7 |
| 1913 | 25.4 | 25.9 | 26.4 | 26.4 | 26.4 | 26.9 | 26.9 | 27.9 | 25.8 | 25.8 | 25.8 | 25.3 | 23.2 |
| Av. 1909-1913 | 20.8 | 21. 2 | 21. 3 | 21. 3 | 21.1 | 21.3 | 21.3 | 21.7 | 21.5 | 21.6 | 22.0 | 21.9 | 21.4 |
| 1914 | 25.8 | 27.3 | 27.4 | 27. 4 | 27.5 | 26.5 | 25.5 | 26. 0 | 25.9 | 26.8 | 28.6 | 28.4 | 26.9 |
| 1915 | 28.5 | 34.1 | 34. 5 | 35.0 | 33. 4 | 35. 8 | 35. 7 | 33.8 | 33.7 | 34.2 | 36.0 | 36. 9 | 34.3 |
| $1916{ }^{2}$ | 37.6 | 37. 7 | 39.7 | 39.7 | 38.7 | 37.7 | 37.7 | 37.7 | 38.7 | 39.6 | 41.6 | 43.5 | 39.2 |
| 1920 | 42.8 | 39. 4 | 44.0 | 45.7 | 38. 5 | 34. 5 | 32.1 | 33.2 | 30.7 | 27. 5 | 25. 7 | 20.4 | 34.5 |
| 1921 | 21. 9 | 21. 0 | 17.9 | 17. 2 | 16. 6 | 13.4 | 12.5 | 13. 3 | 14. 0 | 14. 5 | 15. 7 | 15. 2 | 16.1 |
| 1922 | 17. 2 | 17. 7 | 17.8 | 18.8 | 19. 5 | 20.9 | 22. 2 | 22.3 | 22. 2 | 22.7 | 22. 3 | 23.0 | 20.6 |
| 1923 | 23. 8 | 24.4 | 24.5 | 24, 2 | 24.1 | 24.5 | 25.8 | 25. 7 | 25. 5 | 25.0 | 24.2 | 24. 5 | 24.7 |

[^278]Table 554.-Wool: Average prices per pound in England, 1909-1929—Contd.
LINOOLN WETHERS. ${ }^{3}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { A ver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cersts. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents |
| 09 | 15. 5 | 16.0 | 16.0 | 16.0 | 16.0 | 16.5 | 15.5 | 16.0 | 17.0 | 17.0 | 18.0 | 18.5 | 16.5 |
| 1910 | 18.5 | 20.0 | 20.0 | 19.5 | 19.0 | 18.5 | 17.5 | 19.0 | 20.0 | 19.5 | 19.0 | 20.0 | 19.2 |
| 1911 | 19.7 | 20.0 | 20.2 | 20.0 | 19.5 | 19.5 | 19. 5 | 19.0 | 19.0 | 19. 0 | 19.5 | 19.5 | 19.5 |
| 1912 | 20.2 | 20.3 | 19.8 | 19.7 | 19.5 | 19.8 | 20.8 | 21.3 | 21.8 | 22.3 | 22.7 | 23. 2 | 20.1 |
| 1913 | 23.8 | 25.4 | 25.9 | 25. 9 | 25. 8 | 25. 9 | 25.4 | 24.8 | 24. 8 | 24. 8 | 24.8 | 24.7 | 25. 2 |
| Av. 1909-1913 | 19.5 | 20.3 | 20.4 | 20.2 | 20.0 | 20.0 | 19.7 | 20.0 | 20.5 | 20.5 | 20.8 | 21.2 | 20. |
| 1914 | 24.3 | 24.8 | 25. 3 | 24. 9 | 24.4 | 24.4 | 23.4 | 24.0 | 24.4 | 26.8 | 28.6 | 27.4 | 25.2 |
| 1915 | 27. 2 | 33. 1 | 33. 5 | 34.0 | 33. 4 | 35. 8 | 35. 7 | 33.8 | 33. 7 | 34.2 | 36. 0 | 36. 9 | 33.9 |
| $1916{ }^{2}$ | 37.6 | 37.7 | 39.7 | 39. 7 | 38.7 | 37.7 | 37. 7 | 37.7 | 38. 7 | 39.6 | 41.6 | 43.5 | 39.2 |
| 1920 | 41.3 | 38. 0 | 42. 5 | 42.4 | 33.7 | 32.1 | 28. 1 | 26. 4 | 25. 6 | 21.7 | 20.0 | 17.5 | 3.2 30 |
| 1921 | 17.2 | 16. 1 | 13. 0 | 12.3 | 11. 6 | 9.8 | 9. 8 | 10.3 | 10.5 | 11.3 | 12.0 | 11.7 | 12.1 |
| 1922 | 13.2 | 13. 6 | 13. 7 | 13. 8 | 14.4 | 14.4 | 15. 2 | 15. 3 | 14.3 | 14.3 | 15.4 | 17.8 | 14.6 |
| 1923 | 18.4 | 19.1 | 19.1 | 18.9 | 19.3 | 19.7 | 20.1 | 20.4 | 20.3 | 20.7 | 21. 9 | 23.6 | 20.1 |

Division of Statistical and Historical Research. The Yorkshire Observer "Trade Review" for 1922. Converted at par prior to 1912; after 1911, converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.
${ }^{2}$ Period of price control. Approximate issue prices: 1917, 50 cts.; 1918, 55 cts.; 1919, $46-48$ cts.
${ }^{8}$ Includes all fleeces shorn after the first.

## SHEEP SHIPMENT AND MARKETING.

Table 555.-Sheep: Percentage of shrinkage ${ }^{1}$ in shipments by cooperative associations, 1921.

| Distance. | By distance. |  |  |  | Month. | By months. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Straight shipments. ${ }^{2}$ |  | Mixed shipments. ${ }^{3}$ |  |  | Straight shipments. ${ }^{2}$ |  | Mixed ship- |  |
|  | Number of animals upon which figures based. | Shrinkage per centage of shipped | Number of animals upon figures $\stackrel{\text { are }}{\text { based. }}$ | Shrinkage per contweight shipped |  | Number of animals apon figures based. | Shrinkage per certage of shipped | $\begin{array}{\|c} \text { Number } \\ \text { of ani- } \\ \text { mals } \\ \text { upon } \\ \text { winich. } \\ \text { figures } \\ \text { are } \\ \text { based. } \end{array}$ | Shrink- age per cent- age of weight shipped |
| Less than 100 miles. | 2,479 | 8.90 | 10,881 | 7.56 | January | 1,922 | 5.20 | 4,865 | 6.18 |
| 100-150 miles ....-- | 6,472 | 7.10 | 8,373 | 6.88 | Febraary-.- | , 567 | 5. 88 | 2, 250 | 6. 55 |
| 150-200 miles | 5,139 | 7.02 | 1,676 | 5.92 | March.----- | 1,736 | 6,95 | 3,538 | 7.42 |
| 200-250 miles | 1,978 | 7. 22 | 9,904 | 8.01 | April.------- | 1,013 | 8.55 | 5, 081 | 7.84 |
| 250-300 miles | 860 | 8. 65 | 1,297 | 9.17 | May-------- | 1,060 | 9. 20 | 3,401 | 7.74 |
| 300-350 miles | 1,026 | 9.92 | 5, 204 | 7.92 | June-...--.-- | 1,723 | 10. 13 | 2,941 | 8.88 |
| $350-400$ miles | 2,237 | 10. 40 | 18,538 | 8.56 | July --. | 1,873 | 8.32 | 2,510 | 9.30 |
| 400-450 miles | 2,073 | 8.77 | 2,288 | 8. ${ }^{2} 8$ | August. | 3,285 | 8.90 | 5,863 | 10.08 |
| $450-500$ miles | 648 | 6. 87 | 359 | 10.02 | September -- | 3,098 | 8.11 | 6, 468 | 10.01 |
| $500-550$ miles |  |  |  |  | Oetober-...- | 2,983 | 7.79 | 9, 168 | 8.62 |
| $550-600$ miles | 1,186 | 8.22 |  |  | November -- | 3,349 $\mathbf{1} 489$ | 7.93 760 | 8,386 4,049 | ${ }^{7} .08$ |
|  |  |  |  |  | Decamber--- | 1,489 | 7.60 | 4,049 | 5. 56 |

[^279]Table 556.-Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.
BY MARKETS—STRAIGHT SHIPMENTG. 1

| Market. | Number of animals <br> upon <br> which <br> figures are based. | Average weight of animals. | Crippled. |  |  | Dead. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animais. | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animals. |
| Buffalo | 1,676 | Pounds. | 0. 24 | 0. 20 | Pounds. 65 | 0. 72 | 0.67 | Pounds. 71 |
| Chicago | 16,770 | 87 | . 20 |  |  | . 51 |  |  |
| East St. Louis | 1,926 | 73 | . 11 |  |  | . 52 |  |  |
| Kansas City | 3,390 | 74 | . 06 | . 06 | 80 | . 35 |  |  |
| Sioux City.- | 1,856 | 95 | . 27 | .37 | 128 | . 33 | . 38 | 110 |

BY MARKETS-MIXED SHIPMENTS. ${ }^{2}$

| Buffalo | 22, 826 | 78 | 0.30 |  |  | 0.73 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chicago | 3,124 | 84 | . 22 |  |  | 1.09 |  |  |
| East St. Louis | 856 | 72 | . 12 | 0.13 | 80 | . 35 |  |  |
| Pittsburgh | 19,305 2,782 | 72 99 | . 09 |  |  | . 16 |  |  |
| St. Paul | 2, 782 | 99 | . 07 | . 10 | 125 | . 21 | 0.21 | 91 |

Division of Oost of Marketing.
${ }^{1}$ Straight shipments contain but one species of livestock.
2 Mixed shipments contain more than one species of livestock.
$\mathrm{T}_{\text {able 55 }}$ 57.-Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.

BY DISTANCE.

| Distance. | Straight shipments. ${ }^{1}$ |  |  |  |  |  | Mixed shipments. ${ }^{2}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of animals upon which figures are based. | $\begin{gathered} \text { A ver- } \\ \text { age } \\ \text { weight } \\ \text { of } \\ \text { ani- } \\ \text { mals. } \end{gathered}$ | Crippled. |  |  | Percent age of total number shipped dead. | Number of animals upon which figures are based. | Average weight of animals. | Percentage of total number shipped crippled. | Percentage of total number shipped dead. |
|  |  |  | Percentage of total number shipped. | Percentage of total weight shipped. | Average weight of animals. |  |  |  |  |  |
| Less than 100 miles | 3,210 | Pounds. | 0.03 | 0.04 | Pounds 100 | 0.18 | 11, 174 | Pounds. | 0.01 | 0.39 |
| 100-150 miles.-- | 7,702 | 83 | . 04 | . 04 | 77 | . 35 | 10, 788 | 74 | . 06 | . 36 |
| 150-200 miles..- | 6, 255 | 87. | . 16 | . 18 | 97 | . 30 | 1,890 | 86 | . 16 | . 16 |
| 200-250 miles. | $\stackrel{4}{4}, 551$ | 85 | . 10 | . 07 | 52 | .31 | 10,973 | 88 | . 07 | . 19 |
| 250-300 miles. -- | 860 | 70 |  |  |  | . 46 | 1,297 | 75 | . 08 | 1.34 |
| 300-350 miles..- | 1,266 | 84 | . 08 | . 05 | 60 | . 23 | 5, 223 | 80 | . 15 | . 25 |
| 350-400 miles.-- | 2,898 | 88 | . 41 |  |  | . 72 | 21, 424 | 77 | . 27 | . 59 |
| 400-450 miles..- | 2,190 | 81 | . 64 | . 61 | 79 | . 39 | 2,457 | 89 | . 45 | 1.47 |
| 450-500 miles. | 648 | 82 | . 15 | . 24 | 130 |  | 375 | 81 | 1.07 | 1.87 |
| 500-550 miles. |  |  |  |  |  |  |  |  |  |  |
| 550-600 miles. | 1,186 | 80 |  |  |  | 2.36 |  |  |  |  |

BY MONTHS.


## Division of Cost of Marketing.

${ }^{1}$ Straight shipments contain but one species of livestock.
${ }_{2}$ Mixed shipments contain more than one species of livestock.

Table 558.-Sheep: Principal terminal marketing costs, six markets, 1921.

| Market. | Number of head upon figures are based. | Cents per 1,000 pounds, home weight, straight shipments. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Commission. |  |  | Yardage. |  |  | Feed. |  |  | Commission, yard age and feed combined. ${ }^{2}$ |  |  |
|  |  | Avg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ | Avg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ | A vg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ | Avg. ${ }^{1}$ | Low. ${ }^{1}$ | High. ${ }^{1}$ |
| Chicago | 15,874 | 151.1 | 118.5 | 208.0 | 78.0 | 58.0 | 111.5 |  | ${ }^{(3)}$ |  | 241.3 | 140.1 | 340.0 |
| East St. Louis | 1,926 | 166.0 | 140.0 | 243.0 | 102.4 | 91.1 | 125. 4 |  | (3) |  | 277.8 | 254.1 | 301. 9 |
| Kansas City-- | 3, 390 | 214.6 | 143.0 | 295.0 | 101. 2 | 72.0 | 107.5 |  |  |  | 321.9 | 223.0 | 388.1 |
| Sioux City-..- | 1, 856 | 134. 1 | 116. 6 | 167.0 | 81.1 | ${ }^{60.8}$ | 104. 0 | 10.7 | 7.0 | 21.0 | 267.6 | 184.4 | 327.0 |
| Buffalo-...--- | 1, 271 | 125. 1 | 118.2 | 146. 6 | 95.8 | 75. 2 | 201. 0 | 44.1 | 35.7 | 83.8 | 261. 2 | 235.9 | 431. 4 |
| St. Joseph ---- | 2, 443 | 214.0 | 105.0 | 229.0 | 104. 5 | 76.5 |  |  | ${ }^{(3)}$ |  | 323. 7 | 181.5 | 334.7 |

Division of Cost of Marketing. Data from Cooperative Shipping Associations in the Corn Belt.
${ }^{1}$ A verages are of associations shipping to the given market, weighted on the volume of business. Not based on shipments; low figures are for low cost associations, and high figures are for high cost associations. Exceptional items omitted.
${ }_{3}^{2}$ Feed cost if any, where not shown, is included in Commission or Yardage.
${ }^{3}$ Feed cost seldom incurred.
Table 559.-Livestock: Estimated number raised on farms, and value, 1919-1923.

| Classes of animals. | 1919 |  | 1920 |  | 1921 |  | 1922 |  | 1923, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Num- } \\ \text { ber. } \end{gathered}$ | Value. | Number. | Value. | Number. | Value. | Number. | Value. | Number. | Value. |
| Cattle | $\left.\begin{array}{\|c} \text { Thous. } \\ 24,517 \end{array} \right\rvert\,$ | Thous. dolls. 1, 578, 189 | Thous. $\text { 21, } 367$ | Thous. dolls. $1,194,185$ | Thous. | Thous. dolls. 785, 782 | Thous. $26,971$ | Thous. dolls. 974, 657 | $\begin{gathered} \text { Thous } \\ 26.286 \end{gathered}$ | Thous. dolls. 924, 28 |
| Horses | 1, 199 | 145, 706 | 1, 265 | 152, 065 | 1,682 | 156, 325 | 1, 803 | 152, 196 | 1,707 | 140,810 |
| Sheep | 15,769 | r39,980 | 12,342 | 94,512 | 15, 495 | 31, 811 | 17,575 | - 424,248 | 18,402 | - 35,848 |
| Swine | 64, 336 | 2, 230, 498 | 56,500 | 1, 575, 251 | 61,500 | 1, 091, 128 | 78, 878 | 1, 272, 880 | 77, 526 | 1, 144, 681 |
| Other | 1,579 | 9,001 | 1,579 | 7,982 | 1,599 | 4, 576 | 1,900 | 7,169 | 1,907 | 7, 857 |

Division of Crop and Livestock Estimates.
Table 560.-Livestock: Receipts, local slaughter, and stocker and feeder shipments at all public stockyards in United States, 1915-1923.

| Calendar year. | Cattle. |  |  | Hogs. |  |  | Sheep. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Receipts. | Local slaughter. | Stocker and feeder shipments. | Receipts. | Local slaughter. | Stocker and feeder shipments. | Receipts. | Local slaughter. | Stocker and feeder shipments. |
| 1915 | Thousands. 14, 553 | Thousands. 7, 912 | Thousands. (1) | Thousands. 36, 213 | Thousands 24, 893 | Thousands. <br> (1) | Thousands. 18, 435 | Thousands. 10, 254 | Thousands. (1) |
| 1916 | 17, 676 | 10, 294 | 3,847 | 43, 265 | 30, 984 | 194 | 20, 692 | 11, 228 | 3,277 |
| 1917 | 23, 066 | 13, 275 | 4,803 | 38, 042 | 25, 440 | 788 | 20, 216 | 9, 142 | 4,448 |
| 1918 | 25, 295 | 14, 874 | 5,013 | 44, 863 | 30, 441 | 989 | 22, 485 | 10, 266 | 5,208 |
| 1919. | 24, 624 | 13, 633 | 5,286 | 44, 469 | 30, 018 | 902 | 27, 256 | 12,646 | 6,956 |
| 1920 | 22, 197 | 12, 194 | 4,102 | 42, 121 | 26, 761 | 728 | 23, 538 | 10,981 | 5,180 |
| 1921 | 19, 787 | 11, 078 | 3, 504 | 41, 101 | 26, 335 | 499 | 24, 168 | 12, 858 | 3, 095 |
| 1922 | 23, 217 | 12, 435 | 4,929 | 44,067 | 28, 737 | 593 | 22, 364 | 10, 669 | 4,167 |
| 1923 | 23, 211 | 13,030 | 4,553 | 55, 330 | 36, 172 | 820 | 22, 025 | 10, 271 | 4,478 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
${ }^{1}$ Complete information for 1915 and 1916, particularly ch disposition of stock, is not obtainable from many markets.

## LIVESTOCK VALUES.

Table 561.-Livestock: Combined farm values, by States, Jan. 1, 1918-1924.


Division of Crop and Livestock Estimates.

1012 Pearbook of the Department of Agriculture, 1923.
Table 562.-Livestock: Animals slaughtered at Federal-inspected plants, 1907-1923.

| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 . \end{aligned}$ | Cattle. | Calves. | Sheep. | Goats. | Swine. | Horses. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1906-7 | 7,621, 717 | 1,763, 574 | 9, 681, 876 | 52, 149 | 31, 815, 900 |  | 50, 935, 216 |
| 1907-8 | 7, 116, 275 | 1,995, 487 | 9, 702, 545 | 45, 953 | 35, 113, 077 |  | 53, 973, 337 |
| 1908-9 | 7,325, 337 | 2, 046, 711 | 10, 802, 903 | 69, 193 | 35, 427, 931 |  | 55, 672, 075 |
| 1909-10 | 7, 962,189 | 2, 295, 099 | 11, 149, 937 | 115, 811 | 27, 656,021 |  | 49, 179, 057 |
| 1910-11 | 7,781,030 | 2, 219, 908 | 13, 005, 502 | 54, 145 | 29, 916, 363 |  | 52, 976, 948 |
| 1911-12 | 7, 532, 005 | 2, 242, 929 | 14, 208, 724 | 63, 983 | 34, 966, 378 |  | 59, 014, 019 |
| 1912-13 | 7, 155, 839 | 2, 098, 484 | 14, 724, 465 | 56,556 | 32, 287, 538 |  | 56, 322, 882 |
| 1913-14. | 6, 724, 117 | 1, 814,904 | 14, 958, 834 | 121, 827 | 33, 289, 705 |  | 56, 909,387 |
| 1914-15 | 6, 964, 502 | 1, 735, 902 | 12, 909,089 | 165, 533 | 36, 247, 858 |  | 58, 022, 884 |
| 1915-16 | 7, 404, 288 | 2, 048, 022 | 11,985, 926 | 180, 356 | 40, 482, 799 |  | 62, 101, 391 |
| 1916-17 | 9, 299, 489 | 2, 679, 745 | 11, 343, 418 | 174, 649 | 40, 210, 847 |  | 63, 708, 148 |
| 1917-18 | 10, 938, 287 | 3, 323, 077 | 8,769, 498 | 149, 503 | 35, 449, 247 |  | 58, 629, 612 |
| 1918-19 | 11, 241, 991 | 3, 674, 227 | 11, 268, 370 | 125, 660 | 44, 398, 389 |  | 70, 708, 637 |
| 1919-20 | 9, 709, 819 | 4, 227, 558 | 12, 334, 827 | 77, 270 | 38, 981, 914 | 1,089 | 65, 332, 477 |
| 1920-21 | 8, 179, 572 | 3,896, 207 | 12, 452, 435 | 20, 027 | 37, 702, 866 | 1,335 | 62, 252, 442 |
| 1921-22 | 7, 871, 457 | 3, 924, 255 | 11, 968, 434 | 13,758 | 39, 416, 439 | 1,898 | 63, 196, 241 |
| 1922-23 | 9, 029, 536 | 4, 337, 780 | 11, 403, 703 | 25, 129 | 48, 600, 069 | 1,459 | 73, 397, 676 |

Bureau of Animal Industry.

## MEAT PRODUCTS.

Table 563.-Meat and meat products ${ }^{1}$ prepared under Federal inspection, 1907-1923.

| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 \text {. } \end{aligned}$ | Placed in cure. | $\begin{aligned} & \text { Sau- } \\ & \text { sage } \\ & \text { chop- } \\ & \text { ped. } \end{aligned}$ | Canned meats. | Lard. | $\begin{gathered} \text { Lard } \\ \text { com- } \\ \text { pounds } \\ \text { and } \\ \text { substi- } \\ \text { tutes. } \end{gathered}$ | Oleo products. | $\begin{gathered} \text { Oleo- } \\ \text { mar- } \\ \text { garine. } \end{gathered}$ | All products. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | lbs. |  |  |  | 1,000 |  |  |  |  |
|  | 2, 393, | 267, 760 | 105, 196 | 1, 003, 602 | 353, 549 | 283, 971 | 55, 694 |  |  |
| 907 | 3, 059,814 | 416, 200 | 92, 582 | 1, 433, 778 | 436, 448 | 293, 425 | 79, 380 | 146, 671 | 5, 958, 298 |
|  | 2, 912, 759 | 457, 095 | 123, 810 | 1, 308, 986 | 488, 249 | 295, 889 | 91, 068 | 1, 113, 581 | 6, 791, 437 |
| 1909-10 | 2, 424, 667 | 485, 864 | 127, 283 | 948, 468 | 671, 526 | 296, 429 | 139, 158 | 1,130, 589 | 6, 223, 964 |
| 1910-11 | 2, 788, 054 | 488, 814 | 144, 942 | 1, 185, 503 | 672,845 | 330, 688 | 117, 848 | 1, 205, 539 | 6, 934, 233 |
| 1911-12 | 2, 828, 061 | 523, 893 | 153, 871 | 1,309,140 | 648, 443 | 297, 038 | 128, 319 | 1,390, 794 | 7,279, 559 |
| 1912-13 | 2, 702, 477 | 531, 626 | 115, 237 | 1, 222,857 | 670, 802 | 264, 705 | 145, 356 | 1,441, 750 | 7,094, 810 |
| 1913-14 | 2, 728, 550 | 542, 017 | 120, 473 | 1,187,963 | 580, 409 | 274, 625 | 143, 999 | 1, 445, 260 | 7, 033, 296 |
| 1914-15 | 3, 150, 693 | 502, 675 | 235, 963 | 1, 277, 734 | 520, 899 | 273, 049 | 145, 931 | 1, 426, 126 | 7, 533, 070 |
| 1915-16 | 3, 096, 391 | 565, 047 | 164, 200 | 1,277,870 | 397, 089 | 287, 047 | 152, 388 | 1,534,962 | 7, 474, 394 |
| 1916-17 | 3, 208, 074 | 635, 860 | 283, 319 | 1, 119, 315 | 466, 198 | 279, 197 | 225, 074 | 1,448,596 | 7,663, 633 |
| 1917-18 | 3, 443, 993 | 624, 827 | 468, 633 | 943, 851 | 453, 164 | 263, 630 | 265, 335 | 1, 431, 752 | 7, 905, 185 |
| 1918-19. | 4, 047, 787 | 667,602 | 632, 259 | 1, 256, 043 | 469, 732 | 266, 808 | 251, 170 | 1, 577,641 | 9, 169,042 |
| 1919-20 | 3, 100, 776 | 682, 521 | 211, 521 | 1, 316, 818 | 328, 567 | 364,992 | 217, 561 | 1, 552,302 | 7,755, 158 |
| 1920-21 | 2, 630,543 | 583, 777 | 86, 240 | 1, 487, 820 | 339, 366 | 253, 397 | 151, 638 | 1, 505, 039 | 7,127, 820 |
| 1921-22 | 2, 870,023 | 568, 626 | 109, 481 | 1, 650, 331 | 312, 014 | 238,034 | 118, 197 | 1, 521, 410 | 7,427, 116 |
| 1922-23 | 3, 585, 622 | 679, 315 | 160, 132 | 2, 017, 239 | 336,843 | 278, 137 | 129, 767 | 1, 700, 792 | 8,888, 547 |

Bureau of Animal Industry.
${ }_{1}$ The above figures do not represent production, as a product may be inspected more than once in course of further manufacture

Table 564.—Livestock: Condemnations of animals and primal parts under Federal meat inspection, 1907-1923.

| $\begin{aligned} & \text { Year } \\ & \text { ending } \\ & \text { June } \end{aligned}$$30-$ | Cattle. |  | Caives. |  | Sheep. |  | Goats. |  | Bwine. |  | Horses. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Car- | Parts. | Car- | Parts. | $\begin{gathered} \text { Car- } \\ \text { casses } \end{gathered}$ | Parts. | Carcasses. | Parts. | Carcasses. | Parts. | Carcasses | Parts. | Carcasses. | Parts. |
| 1906-7. | 27, 933 | 93, 174 | 6,414 | 245 | 9, 524 | 296 | 42 |  | 105, 879 | 436, 161 |  |  | 149, 792 |  |
| 1907-8. | 33, 216 | 67,482 | 5, 854 | 396 | 8, 090 | 198 | 33 |  | 127, 933 | 636, 589 |  |  | 175, 126 | 704, 668 |
| 1908-9- | 35, 103 | 99, 739 | 8,213 | 409 | 10, 747 | 179 | 828 |  | 86, 912 | 799, 300 |  |  | 141, 057 | 899, 628 |
| 1909-10- | 42, 426 | 122, 167 | 7,524 | 500 781 | 11, 127 | 24,714 7,394 | 228 61 |  | 53,439 59,477 | 728, 829 |  |  | 113, 742 | 1, 874, 211 |
| 1910-11- | 39, 402 | 123, 969 | 7,654 8,927 | - 781 | 15, 789 | 7,394 3,871 | 61 84 |  | 59, 477 | 877, 528 |  |  | 117,383 | $4,009,672$ 463,859 |
| 1911-12 | 50, 363 | 134, 783 | 8,927 9,216 | 1, 212 | 16, 657 | 3, 871 | 84 76 |  | 129,002 | 323, 992 |  |  | 253, 7781 | 463, 859 <br> 500 <br> 149 |
| 1913-14- | 48, 356 | 138, 085 | 6, 696 | 1, 234 | 20, 563 | 1,564 | 746 |  | 204, 942 | 422, 275 |  |  | 281, 303 | 563, 166 |
| 1914-15. | 52, 665 | 178, 409 | 6, 380 | 1,750 | 17, 650 | 298 | 658 | 14 | 222, 605 | 464, 217 |  |  | 298, 95 | 644, 688 |
| 1915-16 | 57, 673 | 188, 915 | 6, 840 | 1,988 | 15, 063 | 1,007 | 667 | 161 | 206, 711 | 546, 290 |  |  | 286, 954 | 738,361 |
| 1916-17- | 78, 773 | 249, 637 | 10, 168 | 2,927 | 16, 758 | 413 | 1,351 | 42 | 164, 682 | 528, 288 |  |  | 271, 732 | 781, 307 |
| 1917-18. | 68, 208 | 178, 940 | 8,127 | 2, 308 | 12, 568 | 227 | 419 |  | 116, 943 | 347, 003 |  |  | 206, 285 | 528, 481 |
| 1918-19. | 59, 336 | 166, 791 | 9,220 | 2, 479 | 14, 385 | 330 | 318 | 17 | 131, 274 | 433, 433 |  |  | 214, 833 | 603, 050 |
| 1919-20- | 58, 621 | 194, 058 | 13, 820 | 2,866 | 20, 031 | 627 | 135 |  | 135, 477 | 550, 580 | 64 |  | 228, 148 | 748, 136 |
| 1920-21- | 46, 881 | 176, 762 | 7,720 | 2, 323 | 12, 682 | 270 | 23 | 10 | 124, 208 | 492, 132 | 19 |  | 191, 533 | 671,504 |
| 1921-22- | 55, 188 | 166, 935 | 11, 409 | 2, 376 | 10, 488 | 496 | 30 | 21 | 162, 926 | 697, 393 | 30 |  | 240, 071 | 867, 221 |
| 1922-23. | 73, 330 | 176, 332 | 11, 824 | 2,383 | 13, 325 | 292 | 81 | 4 | 199, 689 | 832, 317 | 14 |  | 298, 263 | 1,011, 329 |

[^280]Table 565.-Meat: Yearly produetion, 1907-1923.


Division of Ptatistical and Historical Research. Compiled from reports of Bureau of Animal Industry. Quantities based on earcass weight; cambe ofial not included because of the variable percentage used in edible products. Subject to revision.
${ }^{1}$ Not including goat meat.

1014 Yearbook of the Department of Agriculture, 1923.
Table 566.-Meat: Yearly consumption, 1907-1923.

| Calendar year. | Consumption. |  |  |  |  |  | Percentage of total consumption. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Beef. | Veal. | Total beef and veal. | Lamb and mutton. | Pork. | Total meats. 1 | Beef. | Veal. | Total beef and veal. | Lamb and mutton. | Pork. | Total meats. |
|  | Mil- | Mil- | Mil- | Mil- | Mil- |  |  |  |  |  |  |  |
|  | lion | lion | lion | lion | lion | Million | Per | Per | Per | $\stackrel{\text { Per }}{ }$ | Per | Per |
| 1907 | lbs. | $l b s$. | lbs. | lbs. | lbs. | lbs. | cent. 47. | cent. 4.3 | ${ }_{\text {cent. }} \mathbf{5 1 . 9}$ | cent. <br> 3.8 | cent. | cent. 100 |
| 1907 | 6,967 6,448 | 626 605 | 7,053 | 554 | -6, 7,607 | 15, 214 | 42.4 | 4.0 | 46.4 | 3.6 | 50.0 | 100 |
| 1909 | 6,908 | 684 | 7,592 | 602 | 6,218 | 14,412 | 47.9 | 4.8 | 52.7 | 4.2 | 43.1 | 100 |
| 1910 | 6, 623 | 687 | 7,310 | 598 | 5,568 | 13, 476 | 49.1 | 5.1 | 54.2 | 4.4 | 41.4 | 100 |
| 1911 | 6,405 | 657 | 7, 062 | 735 | 7, 055 | 14, 852 | 43.1 | 4. 4 | 47.5 | 5. 0 | 47.5 | 100 |
| 1912 | 5,864 | 668 | 6, 532 | 783 | 6, 749 | 14, 064 | 41.7 | 4. 7 | 46.4 | 5.6 | 48. 0 | 100 |
| 1913. | 5, 902 | 488 | 6, 390 | 733 | 7,03? | 14, 160 | 41.7 | 3.4 | 45.1 | 5.2 | 49.7 | 100 |
| Av. 1909-1913 | 6,340 | 637 | 6,977 | 690 | 6, 525 | 14, 193 | 44.7 | 4.5 | 49.2 | 4.9 | 45.9 | 100 |
| 1914 | 5,804 | 438 | 6,242 | 733 | 6, 889 | 13, 864 | 41.9 | 3.2 | 45.0 | 5.3 | 49.7 | 100 |
| 1915 | 5, 559 | 429 | 5,988 | 631 | 6, 969 | 13, 588 | 40.9 | 3.2 | 44.1 | 4.6 | 51.3 | 100 |
| 1916 | 5,770 | 537 | 6, 307 | 619 | 7, 370 | 14,296 | 40.4 | 3. 8 | 44.1 | 4.3 | 51.6 | 100 |
| 1917 | 6,243 | 663 | 6,906 | 473 | 5,975 | 13,354 | 46.8 | 5. 0 | 51.8 | 3.5 | 44.7 | 100 |
| 1918 | 6,753 | 766 | 7, 519 | 483 | 6,997 | 14, 999 | 45.0 | 5.1 | 50.1 | 3.2 | 46.7 | 100 |
| 1919 | 6,090 | 809 | 6, 899 | 607 | 7, 200 | 14, 706 | 41.4 | 5.5 | 46.9 | 4.1 | 49.0 | 100 |
| 1920 | 6,514 | 846 | 7,360 | 537 | 7,350 | 15, 247 | 42.7 | 5.5 | 48.3 | 3. 5 | 48.2 | 100 |
| Av. 1914-1920. | 6, 105 | 641 | 6, 746 | 583 | 6,964 | 14, 293 | 42.7 | 4.5 | 47.2 | 4.1 | 48.7 | 100 |
| 1921 | 6,230 | 752 | 6,982 | 673 | 7, 869 | 15, 524 | 40.1 | 4.8 | 45.0 | 4.3 | 50.7 | 100 |
| 1922 | 6,711 | 798 | 7,509 | 545 | 8, 306 | 16, 360 | 41.0 | 4. 9 | 45. 9 | 3.3 | 50.8 | 100 |
| 1923. | 6,918 | 873 | 7,791 | 574 | 10,113 | 18,478 | 37.4 | 4.7 | 42.2 | 3.1 | 54.7 | 100 |

Division of Statistical and Historical Research. Compiled from reports of Bureau of Animal Industry. Quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.
${ }^{1}$ Not including goat meat.
Table 567.-Meat and lard: Annual per capita consumption, 1907-1923.


Division of Statistical and Historical Research. Compiled from reports of Bureau of Animal Industry; quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.
${ }^{1}$ Not including goat meat.

Table 568.-Livestock and meat: Live and dressed weights, 1922 and̈ 1923.

| Month | Cattle. |  |  |  | Calves. |  |  |  | Hogs. |  |  |  | Sheep and lamis. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average live weight. |  | Dressed weight as a percentage oflive weight. |  | Average live w ight. |  | Dressed weight as a percentage oflive weight. |  | Average live weight. |  | Dressed weight as a percentage oflive weighi. |  | Average live weight. |  | Dressed weight as a percentage oflive weight. |  |
|  | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 | 1922 | 1223 | 1922 | 1923 |
|  | Lbs. 1,019 | Lbs. | Pct. | Pct. | Lbs. | Lbss. | Pct. | Pct. | Lbs. | Lbs. | Pct. 78 | Pct. | Lbs. | Lbs. 87. | Pct. | Pct. 48 |
| Febru | 1,004. 8 | 973. 5 | 54 | 55 | 156. 7 | 162. 7 | 57 | 59 | 222. 2 | 227. 6 | 77 | 78 | 85. 0 | 88.2 | 47 | 47 |
| March | 1,012. 8 | 973.1 | 55 | 55 | 142. 7 | 148.8 | 57 | 59 | 222. 9 | 227.8 | 77 | 78 | 85.4 | 85.1 | 47 | 47 |
| April | 1,009. 3 | 970.5 | 56 | 56 | 134. 2 | 141.8 | 58 | 58 | 224. 7 | 228. 8 | 77 | 77 | 830 | 82.0 | 48 | 48 |
| May | 1,002. 1 | 949.7 | 56 | 56 | 146.6 | 146.4 | 57 | 56 | 226. 5 | 223. 5 | 77 | 76 | 77.8 | 78.1 | 49 | 49 |
| June | 982.4 | 955. 3 | 56 | 55 | 156.4 | 161.8 | 56 | 58 | 231. 3 | 227.7 | 77 | 77 | 71.9 | 76.0 | 49 | 48 |
| July | 985. 5 | 942.2 | 55 | 54 | 171. 6 | 176.8 | 57 | 57 | 239.4 | 232.1 | 77 | 76 | 72.7 | 75.4 | 49 | 49 |
| August | 97.2. 8 | 933.4 | 54 | 54 | 192. 7 | 196.0 | 57 | 56 | 241.5 | 236. 2 | 75 | 78 | 76.0 | 76.9 | 48 | 48 |
| September | 965.4 | 939.1 | 53 | 53 | 199. 7 | 204.5 | 56 | 55 | 234. 2 | 229.3 | 76 | 75 | 77.7 | 78.0 | 48 | 48 |
| October | 957.8 | 940.0 | 52 | 53 | 197. 2 | 199.7 | 54 | 56 | 219. 5 | 219.5 | 76 | 75 | 80.2 | 79.6 | 48 | 48 |
| November | 946. 2 | 933.5 | 52 | 54 | 188.6 | 189. 4 | 56 | 57 | 214. 8 | 215.7 | 76 | 76 | 83. 4 | 76.8 | 48 | 51 |
| December | 957.5 | 952.4 | 53 | 52 | 176.1 | 181.3 | 58 | 57 | 220.1 | 217.8 | 77 | 76 | 85. 8 | 83.1 | 48 | 47 |
| Weighted erage.- | 981.1 | 952.9 | 54 | 54 | 169.7 | 172.8 | 56 | 57 | 226.0 | 225.3 | 76 | 77 | 80.0 | 80.8 | 48 | 48 |

Division of Statistical and Historical Rescarch.
Table 569.-Meats, fresh: Monthly supply at eastern markets, 1923. RECEIPTS.

| Market, and month | Carcasses. |  |  |  |  |  |  | Cuts. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Steers. | Cows. | Bulls. | Veal. | Hogs. | Lambs. | Mutton. | Beef | Pork. | Veal. | Lamb |
|  | Num- | Num- | Num- | Num- | Num- | Num- <br> ber. | Num- <br> ber. | Lbs. |  | Lbs. | $L b s$. |
| Boston: Jan |  | ber. | ber. | 4,455 | ${ }^{\text {ber. }} 114$ | 60,116 | 4,452 | 7,200 | $1,702,551$ | Lbs. | Lbs. |
| Febru | 8, 877 | 7, 663 | 277 | 3,060 | 42 | 46, 017 | 4,254 |  | -989,824 |  |  |
| March | 9, 664 | 6, 354 | 186 | 3,840 |  | 52,304 | 4,173 | 2,997 | 1, 031, 126 |  |  |
| A pril | 10, 181 | 4,359 | 200 | 6, 665 | 10 | 52, 125 | 1,900 |  | 954, 933 |  |  |
| May | 14, 482 | 3, 834 | 343 | 6, 416 |  | 57, 352 | 4, 394 |  | 865, 242 |  |  |
| June | 11, 378 | 2,547 | 287 | 4,928 |  | 37, 703 | 3, 174 | 25 | 542, 986 |  |  |
| July | 9,417 | 1, 980 | 84 | 2, 724 |  | 36, 924 | 1,866 |  | 392, 727 |  |  |
| August | 15,386 | 3, 765 | 392 | 4,645 |  | 51, 016 | 1,803 | 41,383 | 994, 882 |  |  |
| Septemb | 11, 394 | 4,341 | 136 | 2, 725 |  | 46,587 | 1, 832 | 8, 165 | 489, 124 |  |  |
| Uctober | 14, 769 | 8, 231 | 181 | 5,503 | 131 | 67, 653 | 3, 406 | 2,448 <br> 17 | 778, 143 |  |  |
| November | 8, 373 | 6, 713 | 116 | 5,248 | 210 | 46,145 | 1,942 | 17,788 | 820, 743 |  |  |
| December | 9,301 | 5,630 | 228 | 3, 450 |  | 48,890 | 1,793 | 16,302 | 908, 944 |  |  |
| Total | 133,115 | 65, 434 | 2,686 | 53,659 | 507 | 602,832 | 34,989 | 96, 308 | 10,471,225 | ------ | ------- |
| New York: <br> January | 35, 874 | 6, 089 | 2, 100 | 50,384 | 13, 981 | 112, 317 | 40, 810 | 943, 837 | 7, 119, 415 | 600 | 230 |
| Februar | 28,853 | 4,728 | 3, 533 | 32, 956 | 11, 789 | 91, 355 | 30, 018 | 690, 961 | 5, 369, 385 | 9,372 | 18,566 |
| March | 26, 323 | 4,011 | 1,806 | 45, 071 | 9, 922 | 94, 983 | 27, 635 | 829, 910 | 5, 835, 127 | 100 | 30, 680 |
| Apıil | 30, 191 | 3, 072 | 5, 301 | 49,910 | 9, 213 | 106, 236 | 13, 442 | 670, 574 | 5, 157, 782 | 4, 988 | 1, 1,005 |
| May | 41, 952 | 2, 354 | 5, 951 | 61, 005 | 11, 425 | 97, 213 | 37, 101 | 791, 626 | $5,703,129$ $5,093,775$ | 6,239 78,244 | 132,700 48,945 |
| June | 30, 878 | 2, 324 | 1,874 | 47, 797 | 8,777 | 68, 679 | 24, 014 | 766,513 | 5, 093, 775 | 78, 844 | 48,945 33,199 |
| July | 29, 859 | 2, 229 | 2950 | 43, 279 | - 4,809 | 80,089 | 20, 741 | 367,951 706,914 | 3, 146, 018 | 86,658 43,543 | 33,199 19,090 |
| August | 41, 902 | 3, 525 | 2,009 | 51, 292 | -10, 404 | 82,671 82,133 | 17, 155 | 706,914 530,293 | 4, 361, 132 | 43,543 30,558 | 19, 090 |
| Septemb | 34,286 43,876 | 4,106 | 1, 201 | 39,362 57,378 | 7,112 | 82, 133 | 24,507 29,795 | 530,293 820,914 | 3, 899, 980 | 30,558 57,746 | 36,722 34,975 |
| November | 28, 832 | 3,798 | - 765 | 43, 454 | 18, 708 | 71, 808 | 19, 688 | 637, 024 | 6, 264, 130 |  |  |
| December | 27, 990 | 3,965 | 773 | 39, 023 | 14, 158 | 73,356 | 21,267 | 644, 601 | 5, 678, 328 | 10,010 |  |
| Total | 400,816 | 44, 580 | 27, 703 | 560,911 | 143,354 | 1,079,634 | 306, 173 | 8, 401, 118 | 63, 877, 800 | 328,054 | 246,112 |
| Philadelphia: |  |  | 601 |  |  | 39,469 | 12, 460 |  | 2,934, 739 |  |  |
| February | 14, 732 | 1, 788 | 97 | 6, 512 |  | 25, 533 | 9, 637 |  | 1,953, 692 |  |  |
| March | 9, 188 | 1, 870 | 238 | 7,164 |  | 25, 971 | 6, 202 |  | 1, 709, 717 |  |  |
| April | 11, 200 | 1,728 | 368 | 7, 371 |  | 32, 175 | 5, 412 |  | 1, 719, 197 |  |  |
| May | 14, 564 | 1, 665 | 1, 269 | 11, 739 |  | 30, 070 | 9, 878 |  | 1,813, 219 |  |  |
| June | 10, 241 | 1, 445 | 867 | 6,979 |  | 21, 444 | 6,659 |  | 1,297,043 |  |  |
| July: | 9, 668 | 2, 207 | 683 | 5,545 |  | 22, 693 | 5, 220 |  | 1, 151, 139 |  |  |
| August | 13, 047 | 3, 526 | 1,519 | 7,863 |  | 23, 857 | 3,754 | --- | 1,689, 322 |  |  |
| Septembe | 10, 877 | 2, 890 | 1, 092 | 7, 277 |  | 22, 446 | 7,080 |  | 1, 136, 213 |  |  |
| October | 13, 685 | 2, 845 | 1,056 | 7, 409 |  | 34, 021 | 6,271 |  | 1, 724, 166 |  |  |
| November | 9, 633 | 2, 246 | 712 | 6, 394 |  | 23, 348 | 6,661 6,454 |  | 2, 231,269 |  |  |
| December. | 9,785 | 3, 292 | 838 | 6,751 |  | 29,324, | 6, 454 |  | 2, 204, 831 |  |  |
| Total | 138,214 | 28, 036 | 9,340 | 90,374 |  | 330,351 | 85, 688 |  | 21; 564, 547 |  |  |

[^281]
## 1016 Yearbook of the Department of Agriculture, 1923.

Table 569.-Meats, fresh: Montnıy supply at eastern markets, 1923-Continued.
SLAUGHTER.

| Market, and month. | Under Federal inspection. |  |  |  | Under eity inspection. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cattle. | Calves. | Hogs. | Sheep. | Cattle. | Calves. | Hogs. | Sheep. |
| Boston: | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. |
| January | 7, 171 | 8,766 | 136,383 | 28, 602 |  | 1,155 | 7,706 |  |
| February | 5,311 | 5, 213 | 84, 086 | 21, 144 | 15 | 2,813 | 5,206 | $16$ |
| April. | - 5 5, 506 | 7,339 8,680 | 74,124 71,323 | 15,738 22,310 | 14 12 | 4,4481 | 4,954 4,622 |  |
| May | 6,914 | 11, 885 | 74, 012 | 29,600 | 9 | 2,387 | 5,422 |  |
| June | 4,978 | 8,484 | 79, 871 | 25,634 | 4 | 472 | 3,509 |  |
| July | 4,999 | 6,992 | 79, 261 | 23,558 | 5 | 966 | 4,662 | 11 |
| August | 8,405 | 8,302 | 93, 413 | 41, 692 | 27 | 1,415 | 3, 594 | 28 |
| September | 6,165 | 5,709 | 61,427 | 30,981 | 67 | 1,241 | 3,141 | 67 |
| October- | 12, 106 | 9,513 | 87, 968 | 35, 809 | 430 | 1,546 | 5,601 |  |
| November | 10,598 | 7,621 | 116, 325 | 32,847 | 146 | 1,008 | 4,113 |  |
| December | 8,870 | 5,751 | 134, 110 | 27, 486 | 249 | 1,061 | 5,199 | 14 |
| Total | 86,387 | 94, 255 | 1,092, 303 | 335, 401 | 989 | 23,993 | 57,729 | 159 |
| New York: |  |  |  |  |  |  |  |  |
| January | 51, 620 | 57, 166 | 299, 758 | 193,787 | 1 | 14, 124 | 625 | 911 |
| February | 39,856 | 48,660 | 231, 145 | 137, 147 |  | 13, 583 | 227 | 1,578 |
| March | 40, 008 | 57, 859 | 217, 569 | 135, 442 |  | 16,097 | 229 | 2, 911 |
| April | 42,974 | 71,006 | 204, 120 | 157, 078 | 1 | 15,442 | 178 | 2,936 |
| May | 50,511 | 83,712 | 248, 253 | 185, 325 | 4 | 12, 885 | 60 | 2,214 |
| Junc | 36,030 | 59,254 | 169, 958 | 158, 809 |  | 4,977 | 14 | 331 |
| July | 37, 726 | 55, 573 | 170,487 | 173, 833 |  | 4,068 | 29 | 41 |
| August | 48, 059 | 65, 685 | 215, 340 | 235, 511 | 20 | 4,370 |  | 85 |
| Scptemb | 35, 594 | 51,488 | 183, 887 | 184, 119 | 10 | 6,353 | 88 | 29 |
| October | 50, 545 | 62,716 | 278, 296 | 217, 460 |  | 10, 043 | 797 | 272 |
| November | 38,611 | 47, 324 | 244, 302 | 181, 635 | 24 | 6, 474 | 2, 873 | 349 |
| December | 39, 676 | 47,763 | 284, 231 | 189, 121 | 20 | 8,873 | 1,357 | 607 |
| Total | 511,210 | 708, 206 | 2, 747, 346 | 2, 149, 317 | 80 | 117, 289 | 6,477 | 12, 265 |
| Philadelphia: |  |  |  |  |  |  |  |  |
| January | 9,756 <br> 7 | 6,228 | 102, 202 | 19,653 | 1,095 | 4,557 | 2,653 | 8, 267 |
| March. | 7,986 7,837 | 4, ${ }^{4}, 295$ | 87,641 85,075 | 15,505 | 840 834 | 2, 737 | 1,475 | 5, 039 4,442 |
| April | 8,842 | 6,958 | 85, 462 | 17, 511 | 892 | 3,976 | 768 | 7,791 |
| May | 11, 272 | 9,798 | 108,497 | 20,837 | 945 | 4,851 | 769 | 8,951 |
| June. | 8,489 | 7,041 | 70, 761 | 16,840 | 449 | 3,636 | 538 | 7,693 |
| July - | 7,606 | 6,003 | 68, 861 | 16,710 | 610 | 3,908 | 465 | 7,969 |
| August | 10,027 | 7,489 | 89, 735 | 25,883 | 654 | 3,066 | 499 | 8,801 |
| Septemb | 7,878 | 5,101 | 83, 116 | 18,190 | 923 | 2,162 | 967 | 6,475 |
| October | 10,487 | 6,212 | 121, 666 | 18,198 | 1,552 | 4, 476 | 2,447 | 8, 290 |
| Novemb | 8,111 | 5,952 | 98, 537 | 17,364 | 1,248 | 3, 146 | 1,648 | 7,001 |
| December | 8,161 | 4, 118 | 101, 751 | 15,020 | 1,070 | 3, 023 | 1,421 | 6,840 |
| Total | 106, 452 | 74,649 | 1, 103, 304 | 216, 167 | 11, 112 | 42,331 | 14, 655 | 88, 559 |

SUMMARY.

| Market, and month. | Beef. |  | Veal. |  | Pork. |  | Lamb and mutton. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Car- } \\ & \text { casses. } \end{aligned}$ | Cuts. | $\begin{gathered} \text { Car- } \\ \text { casses. } \end{gathered}$ | Cuts. | $\begin{aligned} & \text { Oar- } \\ & \text { casses. } \end{aligned}$ | Cuts. | Carcasces. | Cuts. |
| Boston: | Number. | Pourds. | Number. | Pounds. | Number. | Pounds. | Number. | Pounds. |
| January | 27, 348 | 7,200 | 14, 376 |  | 144, 203 | 1, 702, 551 | 93, 172 |  |
| Februar | 22, 143 |  | 11, 086 |  | 89, 334 | 1,989,824 | 71, 431 |  |
| March | 21, 582 | 2,997 | 16,627 |  | 79, 078 | 1,031, 126 | 72, 215 |  |
| April | 20, 258 |  | 19, 826 |  | 75,955 | -954, 933 | 76, 335 |  |
| May | - 25, 582 |  | 20,688 |  | 79, 434 | 865, 242 | 91, 346 |  |
| June | 19, 194 | 25 | 13, 884 |  | 83, 380 | 542, 986 | 66, 511 |  |
| July | 16, 485 |  | 10,682 |  | 83, 923. | 392, 727 | 62, 359 |  |
| August | 27, 975 | 41, 383 | 14,362 |  | 87, 007 | 994, 882 | 94, 53.9 |  |
| September | 22, 103 | 8, 165 | 9,675 |  | 64, 568 | 489, 124 | 79, 467 |  |
| October | 35, 717 | 2,448 | 16,562 |  | 93,700 | 778, 143 | 106, 871 |  |
| November | 25, 946 | 17,788 | 13, 877 |  | 120,648 | 820, 743 | 80, 952 |  |
| December | 24, 278 | 16, 302 | 10, 262 |  | 139, 309 | 908,944 | 78, 183 |  |
| Total | 288, 611 | 96, 308 | 171,907 |  | 1, 150, 539 | 10, 471, 225 | 973, 381 | - |

Table 569.-Meats, fresh: Monthly supply at eastern markets, 1923-Continued. SUMMARY-Continned.

| Market, and month. | Beef. |  | Vesi. |  | Pork. |  | Lamb and mutton. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Careasges. | Cuts. | Carcasses. | Cuts. | Carcasses. | Cuts. | Carcasses. | Cuts. |
| New York: | Furnzer. | Pounds. | Nusaber. | Pounds. | Number. | Pounds. | Number. | Pounds. |
| January | 95, 684 <br> 76.970 | 933,837 <br> 690 <br> 961 | -121, ${ }^{\mathbf{9 5}, 189}$ | 600 9,372 | 314,364 $\mathbf{2 4 3}, 161$ | 5, 769,385 | 347,825 260,098 | 18, 258 |
| March | 72, 148 | 820,910 | 119, 027 | 100 | 227, 720 | 5, 835, 127 | 260, 971 | 30, 689 |
| April | 81,539 | 670, 574 | 136, 358 | 4, 984 | 213, 511 | 5, 157, 782 | 279, 692 | 1,005 |
| May | 100, 772 | 781, 626 | 157, 602 | 6, 239 | 259, 738 | 5, 7768, 129 | 321, 853 | 32,700 |
| June | 71, 106 | 768,513 | 112, 028 | 78,244 | 178,749 <br> 175,325 | 5, $3,093,775$ | 251, 833 | 48,945 33,199 |
| July--- | 76,764 <br> 05 <br> 515 | 7067,951 | 102,920 123,347 | 86,658 43,543 | 175, 325 | 3, 146, 018 | 274,704 335,423 | 33,199 9,990 |
| August | 95, 515 75,978 | 706,914 530,293 | 124,347 97 | 43,543 30,568 | 225, 744 | 4, 361,132 | 335,423 290,788 | 36, 722 |
| September | 100, 249 | 880, 914 | 130, 137 | 67, 746 | 302, 149 | 6, 249, 599 | 366, 321 | 34, 975 |
| November | 72, 030 | 637, 024 | 97, 252 |  | 265, 883 | 6, 264, 130 | 273,530 |  |
| December | 72, 484 | 644, 601 | 95,659 | 10,010 | 299, 746 | 5, 678, 328 | 284, 351 |  |
| Total | 184, 389 | 8, 401, 118 | 1,386, 406 | 328,054 | 2,897, 177 | 63, 877,800 | 3, 547, 389 | 246, 112 |
| Philadelphia: |  |  |  |  | 104, 855 | 2,934, 739 | 79, 849 |  |
| February | 22,443 |  | 13,703 |  | 89, 116 | 1, 953, 692 | 55, 714 |  |
| March | 19, 967 |  | 15, 252 |  | 86,080 | 1, 709, 717 | 51, 071 |  |
| April | 23, 030 |  | 18,305 |  | 86, 230 | 1, 719, 197 | 62, 889 |  |
| May | 29, 715 |  | 26, 388 |  | 109, 266 | 1, 813, 219 | ${ }_{59}^{69,736}$ |  |
| June | 21, 491 |  | 17, 656 |  | 71, 299 |  |  |  |
| July | 20,774 |  | 15,456 18,418 |  | 69,326 90,234 | 1, 151, 139 | 52,592 62,295 |  |
| August | 28,773 |  | 14, 548 |  | 84, 083 | 1, 136, 213 | 54, 191 |  |
| October | 29,625 |  | 18, 097 |  | 124, 113 | 1, 724, 166 | 67, 780 |  |
| November | 21, 950 |  | 15,492 |  | 100, 185 | 2, 231, 209 | 54,374 |  |
| Decemiber. | 23, $1 \times 6$ |  | 13, 832 |  | 108, 172 | 2, 204, 831 | 57, 638 |  |
| Total | 294, 154 |  | 207, 354 |  | 1,117,959 | 21,564, 547 | 720, 765 |  |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Diyision.

Table 570.-Meat and meat products: International trade, calendar years, 19111989.

| Country. | Average 1911-1913. |  | 1920 |  | 1921 |  | $\stackrel{1922,}{\text { preliminary. }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING countries. | 1,000 pounds. 3,487 | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 1,173,461 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pourds } \\ 575 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 1,284,827 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 1,155,799 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{aligned} & 1,000 \\ & \text { pounds. } \\ & 1,372,097 \end{aligned}$ |
| Australia | 1, 1,967 | -507, 143 | 1,025 | - 316, 228 | 722 | 1 338, 700 |  | 1331,445 |
| Brazil. | 54,012 | 1,529 | 10, 064 | 195, 479 | 10. 232 | 174, 160 |  | 90, 999 |
| Canada | 43, 327 | 60, 242 | 70, 111 | 208, 013 | 75, 436 | 158, 780 | 70,211 | 142, 648 |
| Chile | 11, 738 | 19,728 | 13,592 | 38,529 |  |  |  |  |
| China- | 85 | 64, 684 | 1,757 | 89,599 157,661 | 1,363 38,117 | 71,190 237,755 | 2, 141 2083 | $44,7.01$ 330,597 |
| Dermarix-- | $\begin{array}{r}32,184 \\ 359 \\ \hline 864\end{array}$ | 368,188 497,402 | 8,170 157,179 | 157, 887 <br> 288 <br> 185 | -18, 117 | 237, 3165 | 20, 201,659 | 330, 3983 |
| New Zealand | 35, 964 | 326, 539 | 1, 1.584 | 593, 445 | 1, 922 | 552, 426 | 201,682 | 458, 171 |
| Sweden | 24, 215 | 39, 768 | 58,828 | 24,999 | 34, 918 | 66, 513 | 45, 717 | 46,326 |
| United Stat | 18,7191702 | $\begin{array}{\|c} 1,277,524 \\ 196,911 \end{array}$ | 196, 425 | $\begin{array}{r} 1,851,692 \\ 280,410 \end{array}$ | 79,845 | 1,897, 992 | 77, 507 | 1, 786, 696 |
| Uruguay . |  |  |  |  |  |  |  |  |
| FRINCFRAL IMPORTING cGunteres. |  |  |  |  |  |  |  |  |
| Austria |  |  | 155, 210 | 7,516 | 131, 345 | 9, 287 |  |  |
| Austria-Hungary | $\begin{aligned} & 49,200 \\ & 179 \\ & 128,362 \end{aligned}$ | $\frac{12,420}{\left.(12), x_{1}^{2}\right)}$ | $\begin{aligned} & \mathbf{2 2 0 ,} 284 \\ & \mathbf{1 8 4 , 6 7 8} \end{aligned}$ | 58, 024 | 191, 536 | 48, 723 | 192, 809 | 23, 568 |
| Cuba-- |  |  |  |  |  |  |  |  |
| Czechoslorakia | $\begin{aligned} & 111,496 \\ & 559,752 \end{aligned}$ |  |  |  | 66,028 $.800,528$ | 1,314 66,893 | 114,570 240,906 | 94, 547 |
| Frence-- |  | $\begin{aligned} & 98,281 \\ & 19,525 \end{aligned}$ | $\begin{aligned} & 601, \boldsymbol{\theta} \mathbf{6 7 B} \\ & 884,375 \end{aligned}$ | 81,475 4,466 | - $\begin{array}{r}\text { 309, } \\ \hline\end{array}$ | $\begin{array}{r}66,893 \\ 3 \\ \hline\end{array}$ | 240,906 494,910 | 94, 19,961 |
| ${ }^{1}$ One year onl |  | ${ }^{2}$ Less than | 500 poun | ds. - | Eight m | onths, Ma | -Decemb |  |

## 1018 Yearbook of the Department of Agriculture, 1923.

Table 570.-Meats and meat products: International trade, calendar years, 1911-1922-Continued.

| Country | Average 1911-1913. |  | 1820 |  | 1921 |  | $\begin{aligned} & \text { preliminary. } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exprrts. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL Importing | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| COUNTRIES.--Con. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | poumds. | pounds. |
| Italy- | 104, 619 | 15, 708 | 174, 708 | 8,507 | 132,992 | 7,418 | 132, 419 | 25, 208 |
| Norway. | 42,416 | 3, 365 | 67,401 | 3, 362 | 73, 733 | 3, 026 | 77,906 | 2,918 |
| Philippine Islands | 21, 902 |  | 12, 695 |  | 23, 503 |  | 17,071 |  |
| Russia_ | 130, 897 | 53, 175 |  |  |  |  |  |  |
| Spain | 37, 974 | 3, 200 | 28, 328 | 2,776 | 21, 070 | 6,578 | 21, 045 | 6,155 |
| Switzerland | 60, 174 | 3,169 | 49, 913 | 5,415 | 62, 811 | 2, 088 | 32, 026 | 3,726 |
| Union of South Africa | 31, 103 | 404 | 17, 525 | 16, 401 | 6, 276 | 4, 658 | 9,906 | 2, 767 |
| United Kingdom | 2, 843, 605 | 117, 226 | 2, 854, 559 | 98, 296 | 3, 329, 020 | 90, 134 | 3, 197, 317 | 74,699 |
| Other countries_ | 126, 695 | 38,016 | 106, 303 | 84, 236 | 78, 876 | 22, 661 | 65, 946 | 23, 973 |
| All countries: |  |  |  |  |  |  |  |  |
| Beef | 2, 044, 172 | 2, 162, 336 | 2, 290, 522 | 2, 585, 503 | 2, 301, 526 | 2, 097, 371 | 2, 046, 335 | 1,960, 077 |
| Mutton | 611, 744 | 560,284 | 876, 661 | 636,426 | 835, 310 | 608, 891 | 701, 881 | 697,313 |
| Pork | 1, 632, 382 | 1, 638, 145 | 2,055, 395 | 1, 939, 721 | 1,889, 300 | 2, 190, 727 | 1, 831, 212 | 2,071,412 |
| Othe | 702, 072 | 663, 891 | 702, 267 | 540, 891 | 422, 557 | 400, 307 | 436, 152 | 474, 878 |
| Total | 4, 990, 370 | 5, 024, 656 | 5, 924, 845 | 5, 702, 541 | 5, 448, 693 | 5, 297, 296 | 5, 015, 580 | 5, 203, 680 |

Division of Statistical and Historical Research. Official sources.
Table 571.-Meats, frozen and cured: Cold-storage holdings in United States, 1917-1923.

| Calendar year. | Jan. 1. | Feb. 1. | Mar.1. | Apr. 1. | May 1. | June 1. | July 1. | Aug. 1. | Sept. 1. | Oct. 1. | Nov.1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mil- | Mil- | Mil- | Mil- | Mil- | Mil- | Mil- | Mil- | Mil- | Mil- | Mil- | Mil- |
|  | lion | lion | lion | lion | lion | lion | lion | lion | lion | lion | lion | lion |
|  | $l b s$. | $l b s$. | $l b s$. | lbs. | lbs. | lbs. | $l b s$. | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1917. | 804 | 875 | 914 | 852 | 828 | 832 | 879 | 893 | 778 | 633 | 587 | 709 |
| 1918 | 981 | 1,118 | 1,266 | 1,355 | 1,319 | 1,300 | 1,149 | 1,137 | 1,036 | 905 | 882 | 938 |
| 1919 | 1,199 | 1,452 | 1,436 | 1,389 | 1,332 | 1,284 | 1,254 | 1, 171 | 1,061 | 984 | 881 | 865 |
| 1920 | 1, 016 | 1,187 | 1,279 | 1,304 | 1,252 | 1,209 | 1,194 | 1, 115 | - 977 | 784 | 670 | 656 |
| 1921 | 820 | 976 | 1, 138 | 1, 108 | 1, 043 | 1, 017 | 989 | 899 | 777 | 607 | 491 | 505 |
| 1922 | 567 | 624 | 681 | 717 | 713 | , 745 | 817 | 789 | 727 | 589 | 512 | 569 |
| 1923. | 754 | 876 | 958 | 1,032 | 1,094 | 1,045 | 1,041 | 983 | 868 | 723 | 629 | 739 |

Division of Statistical and Historical Research.
Table 572.-Meats, fresh and smoked: Monthly average wholesale price per 100 pounds at Chicago and New York, calendar year 1.923.

CHICAGO.

| Class of meat | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beef: Steer- | $\left.\begin{array}{\|c\|} \hline \text { Dolls. } \\ 17,80 \end{array} \right\rvert\,$ | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| Choice |  |  |  |  | 16.77 | 17.45 | 17.66 | 18.05 |  | 18.23 | 18.16 | 19.01 |  |
| Good | 16. 27 | 15. 70 | 15.21 | 14.79 | 15. 34 | 16. 22 | 16. 59 | 16.80 | 17.62 | 16.76 | 16. 62 | 17.62 | 16. 30 |
| Medium | 13. 79 | 13.92 | 13.40 | 13.36 | 14. 33 | 14. 95 | 15. 58 | 15. 05 | 15. 54 | 14.05 | 13.95 | 15. | 14.45 |
| Common | 11. 12 | 11.42 | 11.08 | 11.55 | 12.88 | 13.75 | 14.08 | 12.87 | 11. 95 | 10. 18 | 10.40 | 12. | 96 |
| Cow- |  | 11. 40 | 11.09 | 11.50 | 12. 11 | 12.42 | 12.84 | 12.96 | 13. 00 | 12.5 | 11.85 | 12.50 | 12. 14 |
| Mediu | 9.78 | 10.10 | 9.50 | 9.82 | 10.70 | 11. 54 | 11.60 | 11.47 | 11.30 | 10.72 | 10. 55 | 11.50 | 10. 72 |
| Comm | 8.17 | 8. 50 | 8.61 | 8.91 | 9.86 | 10.18 | 9.75 | 8.50 | 8.10 | 8. 29 | 7.76 | . 00 |  |
| Bull- |  | 76 |  | 08 |  |  |  |  |  | 7.07 | 6.88 | 7.43 | 7.82 |
| Veal: | 18.22 | 20.28 |  |  |  |  |  |  |  |  | 15. 09 | 16. 25 |  |
| Good. | 16. 98 | 18. 20 | 16. 55 | 15. 25 | 15.67 | 16.35 | 17.82 | 17.50 | 19.05 | 17.16 | 13.36 | 14.75 | 16.55 |
| Mediun | 14. 92 | 15.62 | 15. 18 | 13. 50 | 13.6 | 14.50 | 1568 | 14.60 | 15. 00 | 14. 14 | 11.46 | 12. 98 | 14. 27 |
| Com | 12. | 13. |  |  |  |  |  |  | 10. | 9. 64 | 8.40 |  | 10.87 |

Table 572.-Meats, fresh and smoked: Monthly average wholesale price per 100 pounds at Chicago and New York, calendar year 1923-Continued.

## CHICAGO-Continued.



NEW YORK.

| Beef: Steer- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Choic | 18. 50 | 16. 15 | 15.01 | 15. 48 | 16. 75 | 17.60 | 18.82 | 19.65 | 20. 20 | 19.54 | 18. 75 | 19.48 | 17.99 |
| Good | 15. 14 | 14. 32 | 13.96 | 14.46 | 15.69 | 16. 60 | 17. 61 | 17.98 | 18. 64 | 17.09 | 15. 85 | 16.50 | 16. 15 |
| Medium | 12. 50 | 13.02 | 12.61 | 13. 44 | 14. 58 | 14. 66 | 15. 88 | 14. 66 | 14.92 | 13.44 | 12.78 | 13.88 | 13. 86 |
| Common | 10.96 | 11.32 | 11.00 | 12.13 | 12. 56 | 10. 59 | 13. 49 | 10.63 | 11. 60 | 10.18 | 10.41 | 11.88 | 11. 40 |
| Cow- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Good | 11. 09 | 11. 35 | 10.94 | 12.21 | 13. 36 | 12. 90 | 14.08 | 13.48 | 12.78 | 11. 36 | 11.41 | 11. 89 | 11. 24 |
| Medium | 10. 27 | 10.39 9.35 | 10.06 9.24 | 11.21 | 12.34 | 11. 49 | 12.86 | 11.38 | 11.52 9.98 | 9.99 8.58 | 10.35 9.08 | 11.89 9.60 | 11.05 9.82 |
| Bull- | 8.64 |  | - 21 | 10.31 | 11. 47 | 10.38 | 5 | ) | 8. 28 |  | 81 | 8. | 8. 21 |
| al: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Choice | 20.24 | 22.39 | 18.65 | 17. 25 | 18.62 | 17.80 | 20.65 | 21. 40 | 23.90 | 22. 36 | 17.06 | 19.00 | 19.94 |
| Good. | 17.68 | 20.44 | 17.00 | 15. 35 | 16. 26 | 15. 78 | 18. 72 | 18. 62 | 20. 55 | 19. 16 | 14.80 | 15.95 | 17.53 |
| Medium | 14. 68 | 17. 18 | 15.38 | 13.38 | 13. 76 | 13. 52 | 16. 09 | 13.69 | 15. 35 | 13. 25 | 11. 58 | 13.20 | 14. 26 |
| Common | 11.90 | 13.40 | 12.12 | 10.79 | 10.90 | 11. 58 | 13.82 | 9.81 | 12.35 | 10.64 | 9.54 | 10.90 | 11.43 |
| Lamb and mutton: <br> Lamb- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Choice | 25. 77 | 24.31 | 24.95 | 24.94 | 28.40 | 30. 22 | 27.81 | 28. 27 | 28.20 | 24.30 | 24. 76 | 24. 12 | 20.34 |
| Good | 24. 19 | 22. 94 | 23.90 | 23.85 | 26. 79 | 28. 30 | 26.01 | 26. 38 | 26.75 | 22. 70 | 23. 76 | 23.12 | 24. 89 |
| Medium | 21.90 | 20.97 | 22.85 | 22.60 | 24.80 | 26. 18 | 23. 64 | 23. 60 | 23.39 | 20.84 | 22. 26 | 21. 22 | 22.85 |
| Common | 19.82 | 19.92 | 21.02 | 20.80 | 23.58 | 22.72 | 19.72 | 20.01 | 19.36 | 18.06 | 19.26 | 19.00 | 20.27 |
| Mutton- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Good. | 15. 06 | 14. 01 | 14. 00 | 16. 54 | 16. 54 | 14. 52 | 17.00 | 18.93 | 15. 92 | 14. 28 | 15. 20 | 15.49 | 15. 62 |
| Medium | 13.11 | 12.42 | 12. 88 | 15. 00 | 14.73 | 12. 51 | 14. 65 | 15, 93 | 13. 45 | 12. 24 | 12.70 | 13.71 | 13. 61 |
| Common | 10.81 | 11.03 | 10.85 | 12. 56 | 12.35 | 10. 26 | 12. 18 | 13.84 | 10. 55 | 9.76 | 10. 20 | 11.72 | 11.34 |
| Fiesh pork cuts: Hams- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12-16 pounds average.-.- | 20.00 | 20.00 | 18.75 | 19.25 | 18. 50 | 18.38 | 19.00 | 19.50 | 19.88 | 18. 50 | 17. 75 | 16. 50 | 18.83 |
| Loins- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8-10 pounds |  |  |  |  |  | 16.86 | 19. 59 | 22. 34 | 28. 50 | 22. 69 | 15. 16 | 15. 15 | 18.80 |
| 10-12 pounds | 15.92 | 15. 44 | 15. 30 | 15. 44 | 17.62 | 15. 72 | 17.95 | 20.87 | 26. 80 | 21.35 | 14. 30 | 14.24 | 17. 58 |
| $85813^{\circ}$-Y | 192 | - |  |  |  |  |  |  |  |  |  |  |  |

Table 572.-Meats, fresh and smoked: Monthly average wholesale price per 100 pozands at Chicage and New York, calendar year 1923-Continued.

NEW YORK-Continued.

| Class of meat. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fresh pork cuts- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Continued. Loins-Contd. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| 12-14 pounds | 14.80 | 14.42 | 14.35 | 14.16 | 16.35 | 14.54 | 16.38 | 17.81 | 23.74 | 19.11 | 13.64 | 13.51 | 16. 07 |
| 14-16 pounds | 14.02 | 13. 65 | 13. 28 | 13.06 | 15. 30 | 13.24 | 14.96 | 15.71 | 21.71 | 17.83 | 13.02 | 13.05 | 14.90 |
| 16 pounds and over | 13. 47 | 12 | 12. 28 | 12. 34 | 14.02 | 12.08 | 13.72 | 14.03 | 19. 22 | 16. 69 | 12. 22 | 11.97 | 13.74 |
| Shoulders- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Skinned | 13. 32 | 13.03 | 12.85 | 11.92 | 11.72 | 10.48 | 10. 54 | 11.37 | 12.41 | 13.09 | 11. 52 | 10.63 | 11.91 |
| Picnics, 6-8 pounds | 10. 96 |  | 10.05 | 9.50 | 9.90 | 8. 95 |  | 9.50 | 10.65 | 10.64 | 9.84 | 9. 52 | 9.95 |
| Butts- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Boston style- | 15. 38 | 15. 44 | 14. 39 | 13. 42 | 12. 76 | 11. 61 | 12.64 | 12.71 | 16. 14 | 16.45 | 13.23 | 11.83 | 13. 83 |
| Spare Ilbs_----- | 13.75 | 13.31 | 11.50 | 11. 12 | 10.00 | 9. 12 | 8.50 | 9.10 | 9.62 | 10.40 | 9.50 | 8.88 | 10. 40 |
| Cured pork cuts: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hams, smoked, 10-12 pounds |  |  |  |  |  |  |  |  |  |  |  |  |  |
| average.----.-- | 20.60 | 20.88 | 20. 75 | 21.88 | 21.30 | 21.38 | 23.38 | 24.00 | 23.88 | 23. 20 | 22.25 | 21.12 | 22.05 |
| Shoulders, picnies, smoked | 13. 60 | 13.12 | 12. 00 | 11. 69 | 11.55 | 11.69 | 12. 44 | 12. 75 | 12. 62 | 12. 55 | 12.38 | 12. 62 | 12.42 |
| Bacon, breakfast- | 26. 00 | 24. 75 | 23. 00 | 23.38 | 24.10 | 22. 25 | 23. 12 | 23. 50 | 24, 25 | 21. 50 | 20.75 | 20. 00 | 23. 05 |
| Lard, tierces | 12.80 | 12.81 | 12.78 | 12.69 | 12.42 | 11.91 | 12.00 | 12.10 | 13.20 | 13.86 | 14.78 | 14.94 | 13.02 |
| Lard substitutes, tierces | 12. 12 | 12. 66 | 12. 44 | 13.03 | 12. 73 | 12.41 | 12. 56 | 12. 20 | 13. 22 | 13.90 | 13.35 | 14.38 | 12.92 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

Table 573.-Livestock: Freight and other marketing costs, 1921.

| Item. | Number of head upon figures are based. | Freight. |  | All other costs. |  | Total cost. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Per 1,000 pounds. | Percentage of total. | Per 1,000 pounds. | Percentage of total. |  |
| South Dakota sheep to Chicago. | 1,186 | \$6. 12 | 66 | \$3. 10 | 34 | \$9. 22 |
| Iowa cattle to Chicago. | 3, 659 | 3. 80 | 64 | 2. 12 | - 36 | 5. 92 |
| Iowa hogs to Chicage | 128, 336 | 4. 02 | 62 | 2.50 | 38 | 6. 52 |
| South Dakota hogs to Sioux City | 13, 038 | 3.76 404 | 60 | 2. 2.52 | 40 | 6. 78 |
| Indiana cattle to Buffalo | ${ }_{1} 288$ | 4.04 | ${ }_{60}^{60}$ | - ${ }_{3} .48$ | 40 | 9. 01 |
| Indiana sheep to Buffalo | 17, 271 | 5.45 4.43 | 60 59 | 3. 3.5 | 41 | 7. 50 |
| Indiana hogs to Buffalo --1.-. | 17,879 1,097 | 4.43 3.33 | 59 | 2.29 | 41 | 5. 62 |
| South Dakota sheep to Sioux City | 1,723 | 3.83 | 56 | 3.05 | 44 | 6. 88 |
| Ohio hogs to Pittsburgh | 31, 907 | 3. 22 | 54 | 2.69 | 46 | 5.91 |
| Itlinois hogs to Chicago | 148, 108 | 268 | 54 | ${ }_{2} 2.3$ | 47 | 4.94 |
| Kansas hogs to Kansas City | 14,971 | 2. 66 | 53 58 | 2.01 | 48 | 4.15 |
| Illinois cattle to Chicago- | 2,200 1,046 | 2.14 2.96 | 62 52 | 2.68 | - 48 | 5. 64 |
| Ohio cattle to Pitts burgh.-- | 1, 946 | - 2.40 | 52 | 2. 25 | 48 | 4. 65 |
| Wisconsin hogs to Milwaukee- | 14,711 | 2.25 | 52 | 2. 10 | 48 | 4. 35 |
| Indiana hogs to Pittsburgh | 5, 397 | 3. 73 | 52 | 3. 39 | 48 | 7. 71 |
| Ohio cattle to Cleveland. | 2, 424 | 2.39 | 51 | 2.32 | 49 | 4.45 |
| Iowa hogs to Omaha. | ${ }_{7}^{4,595}$ | ${ }_{2}{ }_{23}{ }^{23}$ | 50 | 2.62 | 50 | 5. 25 |
| Kansas hogs to st. Joseph |  | 2.63 2.69 | 49 | 2.75 2.75 | 51 | 5. 44 |
| Ohio hogs to Oleveland---. | 8,372 $\mathbf{3 9 9}$ | 3. 09 | 49 | 3. 20 | 51 | 6. 29 |
| Wisconsin cattle to Milwaukee- | 596 | 1. 73 | 48 | 1. 88 | 52 | 3. 61 |
| Minnesota hogs to St. Paul | 7,216 | 2.52 | 48 | 271 | 54 | 5. ${ }^{47}$ |
| Minnesota sheep to St. Paul. | 818 | ${ }_{1}{ }^{2} 9$ | 41 | 3. 49 | ${ }_{59}^{54}$ | 4. 53 |
| South Dakota hogs to Sioux Falks South Dakota cattle to Sioux Falls | $\begin{array}{r}14,808 \\ \hline 97\end{array}$ | 1. 1.67 | 41 | 2.36 2.36 | ${ }_{59}^{59}$ | 4. 4.03 |

Division of Cost of Marketing. Data from 237 cooperative shipping associations in the Corn Belt.

## HIDES AND SKINS.

Tāble 574.-Hides and skins: Quarterly stocks of hides in United States, 1921-1923.
RAW PACKER.

| Description and calendar year. | $\begin{aligned} & \text { Mar. } \\ & 31 . \\ & \hline \end{aligned}$ | June | Sept. $30 .$ | Dec. 31. | Description and calendar year. | $\begin{array}{\|c} \text { Mar. } \\ \text { 31. } \end{array}$ | $\begin{gathered} \text { June } \\ 30 . \end{gathered}$ | Sept. 30. | Dec. 31. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- |  | Thou- | Thou- | Thou- | Thou |
| Steers: | sands. | sands. | sands. | sands. | Mixed cattle: | sands. | sands. | sands. | sands. |
| 1921 | 1, 564 | 1,522 | 1,451 | 1,090 | 1921 | 265 | 378 | 273 | 305 |
| 1922 | 1,255 | 1,492 | 1,342 | 1,370 | 1922 | 292 | 202 | 208 | 241 |
| 1923 | 1,448 | 1,532 | 1,590 | 1,166 | 1923 | 239 | 188 | 164 | 210 |
| Cows: |  |  |  |  | Calfskins: |  |  |  |  |
| 1921 | 2,251 | 1,537 | 1,169 | 1,173 | 1921. | 913 | 1, 073 | 775 | 531 |
| 1922 | 1, 145 | 1,054 | 1, 186 | 1,584 | 1922 | 703 | 713 | 670 | 596 |
| 1923 | 1,368 | 1, 182 | 1,279 | 1,492 | 1923. | 731 | 683 | 584 | 509 |
| Bulls: |  |  |  |  | Kipskins: |  |  |  |  |
| 1921 | 188 | 165 | 162 | 125 | 1921.- | 377 | 290 | 240 | 183 |
| 1922 | 100 | 99 | 132 | 144 | 1922 | 124 | 87 142 | 196 | 274 |
| 1923 | 138 | 111 | 148 | 161 | 1923------------------ | 234 | 142 | 220 | 188 |

## DOMESTIC AND FOREIGN CATTLE HIDES (OTHER THAN PACKER).

| Calf, dry or dry salted: $1921$ | 384 | 456 | 590 | 564 | Steers, green salted: 1921 | 685 | 545 | 354 | 259 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1922----------------------- | 486 | 378 | 572 | 760 | 1922 | 291 | 202 | 340 | 405 |
| 1923 | 316 | 420 | 544 | 318 | 1923 | 444 | 522 | 282 | 133 |
| Calf, green salted: |  |  |  |  | Mixed cattle, green |  |  |  |  |
| 1921 | 1,763 | 2,362 | 2,110 | 1,870 | aited: |  |  |  |  |
| 1922 | 1, 775 | 2,507 | 2, 432 | 1,842 | 1921 | 1,109 | 847 | 1,191 | 1,021 |
| 1923 | 1,643 | 2,362 | 1,516 | 1,357 | 1922 | , 801 | 706 | 790 | 787 |
| Cattle, dry or dry salted: |  |  |  |  | 1923.-------------- | 1,081 | 813 | 698 | 705 |
| 1921 | 984 | 885 | 937 | 1,012 | Kip, dry or dry salted: |  |  |  |  |
| 1922 | 1,064 | 968 | 1,020 | 1,143 | 1921---------------- | 20 | 46 | 61 | 45 |
| 1923 | 1,217 | 1,144 | 872 | 595 | 1922 | 461 | 455 | 447 | 319 |
| Bulls, green salted: |  |  |  |  | 1923.-------- | 258 | 356 | 206 | 111 |
| 1921---------- | 58 | 76 | 54 | 58 | Kip, green salted: |  |  |  |  |
| 1922 | 54 | 44 | 37 | 37 | 1921. | 396 | 254 | 269 | 392 |
| 1923 | 45 | 43 | 43 | 41 | 1922 | 330 | 334 | 346 | 570 |
| Cows, green salted: |  |  |  |  | 1923 | 518 | 397 | 359 | 453 |
| 1921. | 703 | 1, 105 | 496 | 775 |  |  |  |  |  |
| 1922 | 660 | 579 | 462 | 636 |  |  |  |  |  |
| 1923 | 768 | 551 | 412 | 582 |  |  |  |  |  |

MISCELLANEOUS HIDES AND SKINS.

| Buffalo hides: | 211 | 188 | 170 | 141 | Horse, colt, ass, and mule frents: |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1922 | 138 | 139 | 156 | 109 | 1921-.-.-------------- | 43 | 57 | 57 | 62 |
| 1923 | 117 | 180 | 117 | 88 | 1922 | 44 | 62 | 94 | 115 |
| Cabretta skins: |  |  |  |  |  | 145 | 139 | 97 | 101 |
|  | 1,579 | 1,219 | 791 | 547 | Horse, colt, ass, and mule |  |  |  |  |
| 1922 | 361 | 878 | 810 | 930 |  |  |  |  |  |
| 1923 | 968 | 1, 128 | 914 | 736 | 1921. | 72 | 109 | 65 | 60 |
| Calf and kip skins (do- |  |  |  |  | 1922 | ${ }_{36}^{56}$ | 42 | 60 | 154 |
| mestic): |  |  |  |  | Kangaroo and WaHaby | 36 | 92 |  |  |
| 1921. | 4,302 | 4, 4226 | 4,464 | 3,990 | Kangaroo and Walaby |  |  |  |  |
| 1923 | 3, 700 | 4,360 | 3, 429 | 2,935 | 1921-.--------------- | 410 | 363 | 359 | 389 |
| Cattle and rip hides and |  |  |  |  | 1922 | 268 | 240 | 177 | 243 |
| skins (foreign tanned): |  |  |  |  | 1923 | 335 | 456 | 358 | 486 |
| 1921. | 293 | 240 | 202 | 151 | Pig and hog skins: |  |  |  |  |
| 1922 | 124 | 62 | 46 | 75 | 1921 | 251 | 120 | 89 | 97 |
| 1923 | 76 | 72 | 23 | 19 | 1922. | 111 | 111 | 108 | 96 |
| Cattle hides: |  |  | 6, 086 | 5,819 | Pig and hogstrips | 88 | 55 |  | 71 |
| 1922 | 1,662 | 5, 347 | 5,515 | 6,346 | (pounds): |  |  |  |  |
| 1023 | 6, 749 | 6,086 | 5, 487 | 5,086 | 1921. | 1,163 | 859 | 349 | 517 |
| Deer and elk |  |  |  |  | 1922 | 226 | 483 | 390 | 319 |
| 1921 | 119 | 212 | 216 | 275 | 1923 | 412 | 604 | 645 | 575 |
| 1922 | 136 | 166 | 187 | 188 | Sheep and lamb skins: |  |  |  |  |
| ${ }_{\text {Goat and }} 1923$ | 192 | 327 | 274 | 309 | $1922$ | 12,971 |  |  |  |
| Goat and $1921 \text {. }$ | 8,652 | 9,680 | 10,746 | 0,380 | 1923 | 8,510 | 9,916 | 0, 203 | 7,400 |
| 1922 | 044 | 10,720 | 8,641 | 8,730 | Skivers and fleshers |  |  |  |  |
| 1923. | 7,779 | 10,167 | 10,990 | 8,926 | (pipces): |  |  |  |  |
| Horse, colt, ass, and |  |  |  |  | 1921. | 1,611 | 1,778. | 1,784 | 1,770 |
| $\begin{aligned} & \text { mule hides: } \\ & 1921 \end{aligned}$ | 385 | 386 | 306 | 260 |  | 1,540 | 1, 1,838 | 1,584 | 1,408 |
| 1822 | 254 | 140 | 109 | 128 |  |  |  |  |  |
| 1923 | 166 | 128 | 100 | 111 |  |  |  |  |  |
| Horse, colt, ass, and mule butts: |  |  |  |  |  |  |  |  |  |
| 1921. | 222 | 193 | 191 | 207 |  |  |  |  |  |
| 1922 | 220 | 224 | 310 186 | 456 |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Census.

Table 575.-Hides and skins: International trade, calendar years, 1909-1922.

| Country. | Average 1909-1913. |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. | $\begin{array}{\|} 1,000 \\ \text { pounds. } \\ 3,103 \\ 207 \end{array}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 9,335 \\ 293,950 \\ 83,252 \end{gathered}$ | 1,000pounds.1,290 | 1,000 1,000 <br> pounds.  <br> 8,781 pounds. |  | 1,000 1,000 <br> pounds.  <br> 10,484  <br> 210,158 2,184 <br> pounds.  <br> $-\cdots$  |  | 1,000pound8.10,425 368, 259 |
|  |  |  |  |  |  |  |  |  |
| Algeria |  |  |  |  |  |  |  |  |
| Argentin |  |  |  | 90, 74491,971 |  |  |  |  |
| British In | 20,37646,820 | 169,857 | --10,585 |  | 8,040 | 92, 318 | 6,171 | 101, 738 |
| Canada |  | 45,46913,235 | $\begin{array}{r} 33,772 \\ 279 \end{array}$ | $\begin{aligned} & 33,501 \\ & 13,985 \end{aligned}$ | $\begin{array}{r} 25,356 \\ 84 \\ 4,618 \end{array}$ | $\begin{array}{r} 36,716 \\ 9,886 \\ 55,598 \end{array}$ | 41, 131 | 50, 455 |
| Chile- | 412,317 |  |  |  |  |  |  | 62, 552 |
| Cuina |  |  | $\begin{array}{r} 40 \\ 4,176 \end{array}$ | $\begin{array}{r} 68,523 \\ 5.546 \end{array}$ | 4,618 |  | 6,943 |  |
| Denmark | $\begin{array}{r}\text { 9, } \\ \hline 942 \\ \hline 135\end{array}$ | $\begin{aligned} & 14,293 \\ & 21,998 \end{aligned}$ |  | 9,606 | 6,236 | 22,137 | 243 | 26, 927 |
| Dutch East Indies. |  | 16,708 |  | 17, 102 | 371 | 9,899 | 17 | 1 10,797 |
| Egypt- |  | 10,754 41,012 | 1,910 | 5, 065 | 406 | 4,988 |  |  |
| Mexico | $\begin{array}{r} 2107 \\ 73,691 \\ 752 \\ 13,979 \end{array}$ | 41,012 | 40, 709 |  |  |  |  |  |
| New Zeal |  | 25, 577 | 611 | 33, 661 | , 210 | 31,042 |  |  |
| Norway |  | 13, 852 | 6,061 | 6, 608 | 6, 186 | 9,009 | 7,903 | 10, 295 |
| Peru | $\begin{array}{r} 619 \\ 219 \end{array}$ | $\begin{array}{r} 6,195 \\ 22,86 \\ \hline, 86 \end{array}$ | ---7-944 | $\begin{array}{r}3,955 \\ 4,102 \\ \hline\end{array}$ |  | $\begin{array}{r} 3,505 \\ 10,872 \end{array}$ |  | 4, 614 |
| Switzerland |  |  |  |  | 4,379 |  | $\begin{array}{r} 7,547 \\ 152 \end{array}$ | 63, 312 |
| Union of South Africa. |  | $\begin{array}{r} 50,737 \\ \begin{aligned} \hline, 105 \\ 9,764 \end{aligned} \end{array}$ | 1,199 | $\begin{array}{r} 49,057 \\ 34,172 \\ 6,810 \end{array}$ | 417 | 45, 735 |  |  |
| Uruguay |  |  |  |  | ---------- | 4,624 |  |  |
| Venezuel |  |  | ---------- |  |  |  |  |  |
| PRINCIPAL IMPORTING COUNTRIES. |  | $9,764$ |  |  |  |  |  |  |
| Austria | $\begin{array}{r} 87,566 \\ 180,930 \\ 39,332 \end{array}$ | $\begin{array}{r} 79,265 \\ 117,213 \\ 36,436 \end{array}$ | 6, 517 | 860 | 15,260 | 1,004 |  |  |
| Austria-Hungary |  |  | $\begin{array}{r} 54,192 \\ 10,937 \end{array}$ | $\begin{array}{r} 17,494 \\ 5,819 \end{array}$ | $\begin{array}{r} 73,207 \\ 7,803 \\ 24,281 \end{array}$ |  | 58, 864 | 19,963 |
| Belgium |  |  |  |  |  | 41, 558 |  |  |
| British Malaya |  |  |  |  |  | 1, 4173 | 7,865 | 5,573 |
| France. | 155,508440,200 | 131, 041 | 111,17998,082 | 54,6701,080 | [ $\begin{array}{r}78,856 \\ \triangle 195,753\end{array}$ | $\begin{array}{r} 92,129 \\ 41,151 \end{array}$ | $\begin{aligned} & 120,136 \\ & 240,566 \end{aligned}$ | 88,1304,382 |
| German |  |  |  |  |  |  |  |  |
| Greece | $\begin{array}{r}5,770 \\ 53,524 \\ \hline\end{array}$ | 2,28348,428 | $\begin{array}{r}7,831 \\ 55,721 \\ \hline\end{array}$ | $\begin{array}{r} 3,629 \\ 17,573 \end{array}$ | 8,16447,567 | $\begin{array}{r} 1,181 \\ 5,181 \\ 47,779 \end{array}$ | $\begin{array}{r} 9,122 \\ 70,547 \end{array}$ | r $\begin{array}{r}4,85 \\ 51,650\end{array}$ |
| Italy. |  |  |  |  |  |  |  |  |
| Japan. | 110, 143 | 96, 351 | 25, 323 |  | 23, 919 |  |  |  |
| Russia |  |  |  |  |  | 11, 738 | 22,560 |  |
| Spain | $\begin{array}{r}119,19 \\ 25,662 \\ \hline\end{array}$ | 17,45724,13038 | 30,049 |  | 17, $74{ }^{-1}$ |  |  | $\begin{gathered} 18,111 \\ 23,726 \\ 25,576 \\ 28,700 \\ 26,139 \end{gathered}$ |
| Sweden |  |  | -26, 226 | 9, ${ }^{9} 120$ | 21,873 76,775 |  |  |  |
| United Kingdom | $\begin{array}{r} 106,350 \\ 514,249 \\ 54,716 \end{array}$ | 38, 100 | $\begin{array}{r} 123,491 \\ 510,240 \\ 14,586 \end{array}$ | 17,06917,40283,122 | 76,775348,0777, | 18,500303,57726,771 | 104,620 <br> 551,258 |  |
| United States-- |  | 25,432 184,654 |  |  |  |  | $\begin{array}{r}\text { 551, } \\ 4,465 \\ \hline\end{array}$ |  |
| Total | 1, 959, 521 | 1,991, 355 | 1, 184, 986 | 941, 275 | 1,061, 553 | 1,007,561 | 1,345, 725 | 1, 096, 938 |

Division of Statistical and Historical Research. Official sources except where otherwise noted.

1 Java and Madura only.
${ }^{2}$ Four-year average.
${ }^{3}$ Singapore only.
${ }_{4}$ Eight months, May-December.

1 Table 576.-Hides and skins: Imports into the United States, 1910-1923.

| Year ending June 30. | Buffalo hides, dry. | Calfskins. |  | Cattle hides. |  | Goatskins. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dry. | Green or pickled. | Dry. | Green or pickled. | Dry. | Green or pickled. |
| 1909-10 | $1,000 \mathrm{lbs} .$ | $\underset{(2)}{1,000} \text { lbs. }$ | $\begin{aligned} & 1,000 \mathrm{lbs} . \\ & 875,593 \end{aligned}$ | $1,000 \mathrm{lbs} .$ | 1,000 lbs. <br> ${ }^{3} 318,004$ | 1,000 lbs. <br> (2) | $1,000 \mathrm{lbs} .$ |
| 1910-11. | 3,425 | 23,522 | 36,261 | 54,630 | 95, 498 | 64,338 | 22, 576 |
| 1911-12 | 4,906 | 41,992 | 63, 260 | 78, 131 | 172, 881 | 69, 143 | 28, 198 |
| 1912-13. | 16, 235 | 39, 974 | 54, 585 | 82,595 | 185, 447 | 70,563 | 25,687 |
| 1913-14. | 14, 493 | 27,768 | 54, 636 | 71, 486 | 208, 478 | 63, 374 | 21,385 |
| 1914-15. | 12, 423 | 15,678 | 30, 289 | 93, 001 | 241, 340 | 50, 713 | 15,834 |
| 1915-16 | 13, 004 | 26, 913 | 37, 222 | 153, 339 | 280, 839 | 85, 506 | 15, 152 |
| 1916-17- | 27, 095 | 33,936 | 12,400 | 161, 237 | 225, 363 | 92,425 | 13, 215 |
| 1917-18. | 10, 498 | 8,894 | 4,268 | 76,655 | 190, 844 | 56,736 | 10,195 |
| 1918-19. | 9,515 | 11, 602 | 9,046 | 33, 182 | 220, 695 | 78,159 | 10,845 |
| 1919-20. | 14,682 | 43, 209. | 25, 151 | 111, 252 | 328, 209 | 103, 828 | 23,167 |
| 1920-21. | 4, 617 | 11, 810 | 23,780 | 24, 814 | 173, 759 | 36, 816 | 4,912 |
| 1921-22 | 3, 084 | 16, 175 | 25,383 | 18,439 | 186, 498 | 68,228 | 15, 307 |
| 1922-23. | 2,537 | 14, 988 | 30, 736 | 58,770 | 346, 613 | 70,763 | 18,607 |

Table 576.-Hides and skins: Imports into the United States, 1910-1923-Contd.

| Year ending June 30. | Horse and ass skins. |  | $\begin{gathered} \text { Kangaroo } \\ \text { and } \\ \text { wallaby } \\ \text { skins. } \end{gathered}$ | Sheepskins. |  | $\underset{\text { other. }}{\text { All }}$ | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dry. | Green or pickled. |  | Dry. | Green or pickled. |  |  |
|  | 1,000 ibs. | 1,000 lbs. | 1,000 lbs. | 1,000 lbs. | 1,000 lbs. | 1,000 lbs. | 1,000 lbs. |
| 1909-10 |  | ${ }^{3} 19,512$ | (4) |  | ${ }^{3} 67,406$ | 12, 259 | 608,619 |
| 1910-11 | 4, 551 | 5, 704 | (4) | 18,787 | 36, 930 | 8,669 | 374,891 <br> 537 |
| 1911-12 | 7,194 10 | 5, 675 | ${ }^{(4)} 09$ | 25,645 | 34,755 40 4053 | 7,988 4,802 | 537, 572197 |
| 1912-13 | 10,979 7,620 | 8,448 4,645 | 1,097 1,329 | 31,132 2938 | 40,653 40,739 | 4, $\mathbf{1 5}, 780$ | $\stackrel{561,071}{56197}$ |
| 1913-14. | 7,620 | 4,645 | 1,329 | 29,338 | 40, 739 | 15, 780 | 561,071 |
| 1914-15. | 5,425 | 3,800 | 769 | 20, 886 | 37, 834 | 10, 226 | 538,218 |
| 1915-16. | 6,780 | 11, 347 | 1,219 | 54, 600 | 46,859 | 10, 890 | 743, 670 |
| 1916-17 | 12,185 | 15,485 | 959 | 55, 284 | 40,447 | 10, 176 | 790, 207 |
| 1917-18. | 2, 699 | 6, 360 | ${ }^{671}$ | 32, 239 | 23, 230 | 9,226 5,837 | 448, 4142 |
| 1918-19. | 2, 762 | 3, 551 | 1, 053 | 26,464 | 35, 431 | 5,837 | 448, 142 |
| 1919-20. | 13,910 | 22,407 | 1,193 | 42,501 | 58, 365 | 10,695. | 798,569 |
| 1920-21. | 1,142 | 5,461 | 878 | 22, 401 | 35, 899 | 5,904 | ${ }^{352,193}$ |
| 1921-22 | 1,295 | 3,430 | 724 | 12,593 53,828 | $\begin{array}{r}36,245 \\ \hline 57,864\end{array}$ | 5,503 29,920 | 392,904 658,179 |
| 1922-23. | 11,940 | 10,461 | 1,152 | - 3,828 | ${ }^{5} 57,864$ | 29, 920 | 65817 |

Division of Statistical and Historical Research.
$\begin{array}{ll}{ }^{2} \text { Included in green or pickled. } & { }^{4} \text { Included in all other. } \\ 5 \text { Except sheepskins with wool on. }\end{array}$
Table 577.-Hides, heavy native steer: Average price per pound at Chicago, 19101923.

PACKER HIDES.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { A ver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$0. 17 | \$0. 15 | \$0. 14 | \$0.15 | \$0. 16 | \$0. 18 | \$0.16 | \$0. 16 | \$0. 16 | \$0.16 | \$0. 15 | \$0. 14 | \$0.16 |
| 1911 | . 13 | . 13 | . 13 | . 13 | + | . 16 | . 16 | . 16 | . 16 | . 16 | . 16 | -16 | . 15 |
| 1912 | . 16 | . 16 | . 16 | . 16 | . 17 | . 17 | . 18 | . 19 | - 20 | . 20 | . 20 | .19 | . 18 |
| 1913 | .19 | . 18 | . 17 | . 17 | . 17 | . 18 | . 18 | . 19 | . 19 | . 20 | . 20 | . 18 | . 18 |
| 1914 | 18 | . 18 | . 18 | . 18 | . 18 | . 19 | . 20 | . 21 | . 21 | . 21 | 22 | 23 | 20 |
| 1915 | . 23 | . 23 | . 21 | . 19 | . 22 | . 24 | . 27 | . 27 | . 26 | . 28 | . 26 | ${ }^{25}$ | 24 |
| 1916 | . 23 | . 23 | . 22 | . 23 | . 22 | . 27 | . 27 | . 32 | $\stackrel{36}{.}$ | . 34 | $\stackrel{.}{32}$ | .35 | 32 |
| 1917 | . 32 | - 31 | $\stackrel{.}{.30}$ | $\stackrel{.}{.37}$ | $\stackrel{.}{.32}$ | . 32 | . 32 | $\stackrel{.}{.32}$ | ${ }^{.} 30$ | $\stackrel{.}{.30}$ | $\stackrel{.}{.29}$ | $\stackrel{.}{ } .29$ | 30 |
| 1918 | . 32 | - 29 | . 28 | . 31 | $\stackrel{.}{.37}$ | .$^{.} 41$ | $\stackrel{.}{.} 50$ | $\stackrel{.}{.53}$ | ${ }^{.} 46$ | . 48 | . 47 | . 40 | . 40 |
| 1919 | . 40 | . 28 | . | $\stackrel{.}{.36}$ | . 36 | . | . 31 | $\stackrel{88}{ }$ | . 28 | . 26 | . 22 | . 20 | . 32 |
| Av. 1914-1920. | . 28 | . 27 | . 26 | . 26 | . 29 | . 30 | . 31 | . 31 | . 30 | . 30 | . 30 | . 29 | 29 |
| 1921 | . 17 | . 15 | . 13 | . 11 | . 12 | . 14 | . 14 | . 14 | . 14 | . 15 | . 16 | . 16 | . 14 |
| 1922 | . 16 | . 16 | . 14 | . 14 | . 15 | . 17 | . 18 | . 20 | . 21 | . 23 | . 23 | . 21 | . 17 |
| 1923. | . 20 | . 20 | . 19 | . 19 | . 19 | . 16 | . 15 | . 15 | . 14 | . 15 | . 15 | . 14 | . 17 |

COUNTRY HIDES.


Division of Statistical and Historical Research. Compiled from data in "'Hide and Leather."
1024. Yearbook of the Department of Agriculture, 1923.

## HORSES AND MULES.

Table 578.-Horses and mules: Number and value on farms, United States, Jan. 1, 1867-1924.

| Jen. 1. | Horses |  |  | Mules. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Price per head Jan. 1. | Farm value Jan. 1. | Number. | Price per head Jan 1. | Farm value Jan. 1. |
|  | $\begin{array}{r} \text { Thousands. } \\ 5,401 \\ \mathbf{5}, 757 \\ \mathbf{6}, 33 \\ \mathbf{7}, 145 \\ \mathbf{8 , 7 0 2} \end{array}$ |  | Thousand |  | Dollars. | Thousand dollars. |
| 1867 |  | 59.05 | 318,924 | Thousands. | ars. | dollars. <br> 55, 048 |
| 1868 |  | 54.27 | 312, 416 | 856 | 56.04 | 47,954 |
| 1869 |  | 62.57 | 396, 222 | 922 | 79. 23 | 73, 027 |
| 1870, June 1 |  | 67.42 | 481, 719 | 1,125 | 90.16 | 101, 431 |
|  |  | 71.14 | 619, 039 | 1,242 | 91.98 | 114, 272 |
| 1872 | 8,9919 | 67.41 | 606, 111 | 1,276 | 87.14 | 111, 222 |
| 1873 |  | 66.39 | 612, 273 | 1,310 | 85.15 | 111, 546 |
| 1874 | 9, 334 | 65.15 | 608, 073 | 1,339 | 81.35 | 108, 953 |
| 1875 | $\begin{aligned} & \mathbf{9}, 504 \\ & \mathbf{9}, 935 \end{aligned}$ | $\begin{aligned} & 61.10 \\ & 57 \end{aligned}$ | 580, 708 | 1,394 | 71.89 | 100, 197 |
| 1876. |  |  | 557, 747 | 1,414 | 66. 46 | 94, 001 |
| 1877 | 10,155 |  | 567, 017 | 1,444 | 64.07 | 92,482 |
| 1878 |  | 56.6352.36 | 584, 999 | 1,638 | 62.03 | 101,579 |
| 1879 | 10, 939 |  | 572, 712 | 1,713 | 56. 00 | 95, 942 |
| 1880, June | 10,357 | 54.60 | 560, 916 | 1,815 | 62.19 | 112, 749 |
| 1881 | 11, 430 | 58.44 | 667, 954 | 1,721 | 69.79 | 120, 096 |
| 1882 | 10, 522 | 58.53 | 615, 825 | 1,835 | 71.35 | 130, 945 |
| 1883 | 10, 838 | 70. 59 | 765, 041 | 1,871 | 79. 49 | 148,732 |
| 1884 | 11, 170 | 74.64 | 833, 734 | 1,914 | 84.22 | 161,215 |
| 1885 | 11, 565 | 73.70 | 852, 283 | 1,973 | 82.38 | 162,497 |
| 1886 | 12, 078 | 71. 27 | 860, 823 | 2, 053 | 79.60 | 163, 381 |
| 1887 | 12,497 | 72.15 | 901, 686 | 2,117 | 78.91 | 167,058 |
| 1888 | 13, 173 | 71.82 | 946, 096 | 2,192 | 79.78 | 174, 854 |
| 1889 | 13, 663 | 71. 89 | 982, 195 | 2, 258 | 79. 49 | 179,444 |
| 1890, June | 14, 969 | 70.22 | 1,051, 182 | 2,296 | 78.04 | 179, 176 |
| 1881. | 14, 057 | 67.00 | 941, 823 | 2,297 | 77.88 | 178,847 |
| 1892 | 15, 498 | $\begin{aligned} & 65.01 \\ & 61.22 \end{aligned}$ | 1,007,594 | 2,315 | 75. 55 | 174, 882 |
| 1893 | 16, 207 |  | 992, 225 | 2,331 | 70. 68 | 164, 764 |
| 1894 | 16, 081 | 47.83 | 769, 225 | 2, 352 | 62.17 | 146, 233 |
| 1895 | 15, 893 | 36. 29 | 576, 731 | 2,333 | 47. 55 | 110, 828 |
| 1896 | 15, 124 | 33.07 | 500, 140 | 2, 279 | 45. 29 | 103, 204 |
| 1897 | 14,365 | 31.51 | 452, 649 | 2,216 | 41. 66 | 92,302 |
| 1898 | 13,961 | 34.26 | 478, 362 | 2,190 | 43. 88 | 96, 110 |
| 1899 | 13, 665 | 37.4043.68 | 611, 075 | 2, 134 | 44.96 | 95, 963 |
| 1900, June | 18,267 |  | 797, 907 | 5,265 | 51.41 | 167, 855 |
| 1901. | 16, 745 | 43.68 52.86 | 885, 200 | 2, 864 | 63.97 | 183, 232 |
| 1902 | 16,531 | $\begin{aligned} & 58.61 \\ & 62.25 \end{aligned}$ | 968, 935 | 2,757 | 67.61 | 186, 412 |
| 1903 | 16,557 |  | 1,030, 706 | 2,728 | 72.49 | 197,753 |
| 1904 | $\begin{array}{r}16,736 \\ 17,058 \\ \hline\end{array}$ | 67.93 | $1,136,940$ $1,200,310$ |  | 78.88 87.18 |  |
| 1905 | 17, 058 | $\begin{aligned} & 70.37 \\ & \hline \end{aligned}$ $80.72$ | $\begin{aligned} & 1,200,310 \\ & 1,510,890 \end{aligned}$ | 2,889 <br> $\mathbf{3 , 4 0 4}$ | 87.18 98.31 | 331, 881 |
| 1907 | 19,747 | $\begin{aligned} & 93.51 \\ & 93.41 \end{aligned}$ | 1,846, 578 | 3,817 | 112.16 | 428, 064 |
|  | 19, 992 |  | 1,867, 530 | 3,869 | 107.76 | 416, 939 |
| 1909-- | 20,640 | 95. 64 | 1, 074,052 | 4,053 | 107.84 | 437,082 |
| 1910, Apr. 15 | 19,838 | 108.03 | 2,142, 524 | 4,210 | 120.20 | 506,049 |
| 1911. | 20, 277 | $\begin{aligned} & 111.46 \\ & 105.94 \end{aligned}$ | 2, 259, 981 | 4,323 | 125.92 | 544, 359 |
| 1912 | 20, 509 |  | 2, 172, 694 | 4,362 4,386 | 120.51 | 545, 657 |
| 1913 | 20,567 | 110.77 | 2, 278, 222 | 4,386 | 124.31 | 545, 245 |
| Av. 1909-1913 | 20, 365 | 106. 34 | 2, 165, 495 | 4,267 | 119.92 | 511, 678 |
| 1914 | $\begin{aligned} & \begin{array}{l} 20,962 \\ 21,965 \\ 21,195 \\ 21,510 \\ 21,555 \\ 21,582 \\ 21,786 \end{array} \end{aligned}$ | $\begin{gathered} 109.32 \\ 103.33 \\ 10.39 \\ 102.89 \\ 104.24 \\ 98.45 \\ 9.41 \end{gathered}$ | $\begin{aligned} & 2,291,638 \\ & 2,190,102 \\ & 2,149,786 \\ & 2,182,307 \\ & 2,246,970 \\ & 2,114,897 \\ & 1,907,646 \end{aligned}$ | $\begin{aligned} & 4,449 \\ & 4,479 \\ & 4,593 \\ & 4,723 \\ & 4,873 \\ & 4,954 \\ & 5,427 \end{aligned}$ | 123.85 <br> 112.36 <br> 113.83 <br> 118.15 <br> 128.81 <br> 135.83 <br> 148.42 | $\begin{aligned} & 551,017 \\ & 503,271 \\ & 522,834 \\ & 558,006 \\ & 627,679 \\ & 672,922 \\ & 805,495 \end{aligned}$ |
| 1915 |  |  |  |  |  |  |
| 1916 |  |  |  |  |  |  |
| 1917 |  |  |  |  |  |  |
| 1918 |  |  |  |  |  |  |
| 1919 |  |  |  |  |  |  |
| 1920 |  |  |  |  |  |  |
| Av. 1914-1920 | 21, 047 | 102. 38 | 2, 154, 764 | 4,785 | 126.62 | 605, 889 |
| 1921 | $\begin{aligned} & 19,208 \\ & 19,056 \\ & 18,627 \\ & 18,263 \end{aligned}$ | $\begin{aligned} & 84.31 \\ & 7.54 \\ & 69.83 \\ & 64.41 \end{aligned}$ | $1,619,423$$1,344,136$$1,300,729$$1,176,282$ | $\begin{gathered} \mathbf{5}, 455 \\ \mathbf{5}, \mathbf{4 6 7} \\ 5,485 \\ \mathbf{5}, 436 \end{gathered}$ | $\begin{array}{r} 116.69 \\ 88.09 \\ 85.94 \\ 84.20 \end{array}$ | $\begin{aligned} & 636,508 \\ & 481,578 \\ & 471,385 \\ & 457,697 \end{aligned}$ |
| 1922 |  |  |  |  |  |  |
| 1923 |  |  |  |  |  |  |
| 19241 |  |  |  |  |  |  |

Division of Crop and Livestock Estimates; figures in italies are census returns.
${ }^{1}$ Preliminary.

Table 579.-Horses and mules: Number and value on farms, by States, Jan. 1, 1923 and 1924.


Division of Crop and Livestock Estimates.
${ }^{1}$ Preliminary.

Table 580.-Horses and mules: ${ }^{1}$ Estimated yearly losses per 1,000 from disease, 1888-1924.

| $\begin{aligned} & \text { Year ending } \\ & \text { Apr. } 30 . \end{aligned}$ | $\begin{gathered} \text { Losses } \\ \text { per } \\ 1,000 . \end{gathered}$ | $\begin{aligned} & \text { Year ending } \\ & \text { Apr. } 30 . \end{aligned}$ | $\begin{gathered} \text { Losses } \\ \text { per } \\ 1,000 . \end{gathered}$ | $\begin{aligned} & \text { Year ending } \\ & \text { Apr. } 30 \text {. } \end{aligned}$ | $\begin{gathered} \text { Losses } \\ \text { per } \\ 1,000 . \end{gathered}$ | $\begin{aligned} & \text { Year ending } \\ & \text { Apr. } 30 \text {. } \end{aligned}$ | $\begin{gathered} \text { Losses } \\ \text { per } \\ 1,000 . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1887-88. | 18.3 | 1897-98 | 20.0 | 1907-8 | 17.1 | 1917-18. | 16.5 |
| 1888-89 | 14.6 | 1898-99 | 23.4 | 1908-9 | 18.2 | 1918-19 | 15.7 |
| 1889-90 | 16.4 | 1899-1900 | 18.3 | 1909-10 | 19.9 | 1919-20 | 17.8 |
| 1890-91 | 16.6 | 1900-1. | 18.2 | 1910-11 | 19.0 | 1920-21 | 14.7 |
| 1891-92-.-- | 15.3 | 1901-2 | 20.2 | 1911-12 | 21.9 | 1921-22 | 15.7 |
| 1892-93- | 17.0 | 1902-3. | 19.7 | 1912-13. | 22.6 | 1922-23 | 15.0 |
| 1893-94 | 21.0 | 1903-4 | 19.6 | 1913-14 | 20.6 | 1923-24 | 15.2 |
| 1894-95 | 22.3 | 1904-5 | 17.9 | 1914-15 |  |  |  |
| 1895-96 | 20.2 | 1905-6 | 17.7 | 1915-16 | 17.5 |  |  |
| 1896-87 | 21.3 | 1906 | 18.9 | 1916-17 | 16.9 |  |  |

Division of Crop and Livestock Estimates. As reported by crop reporters on May 1 for year ending Apr. 30.
${ }^{1}$ Including mules since 1912.
Table 581.-Horses and mules: Receipts at principal markets and at all markets reported, 1900-1923.

| Calendar year. | Chicago. | Denver. | East St. <br> Louis. | Fort Worth | $\begin{aligned} & \text { Kan- } \\ & \text { sas } \\ & \text { City. } \end{aligned}$ | $\begin{aligned} & \text { Oma- } \\ & \text { ha. } \end{aligned}$ | $\begin{aligned} & \text { St. } \\ & \text { Jo- } \\ & \text { soph. } \end{aligned}$ | st. | Sioux City. | Total. | $\begin{array}{\|c} \text { All } \\ \text { other } \\ \text { mar- } \\ \text { kets } \\ \text { report- } \\ \text { ing. } \end{array}$ | $\begin{array}{\|c} \text { Total } \\ \text { all } \\ \text { mar- } \\ \text { kets } \\ \text { report- } \\ \text { ing. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- |
|  | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. | sands. |
| 1900 |  |  | 145 | ${ }^{(2)}$ | 103 | ${ }_{60}^{60}$ |  |  | ${ }^{31}$ | 501 |  |  |
| 1901 | 109 | 17 | 129 | ${ }^{(2)}$ | 97 | 36 | 23 | 15 | 18 | 444 |  |  |
| 1902 | 102 | 24 | 109 | 5 | 77 | 42 | 20 | 8 | 19 | 406 |  |  |
| 1903 | 101 | 19 | 129 | 10 | 67 | 53 | 20 | 8 | 12 | 419 |  |  |
| 1904- | 106 | 13 | 181 | 18 | 68 | 47 | 29 | 6 | 4 | 472 |  |  |
| 1905 | 127 | 16 | 178 | 18 | 66 | 45 | 32 | 6 | 15 | 503 |  |  |
| 1906 | 127 | 17 | 166 | 21 | 70 | 42 | 28 | 9 | 19 | 499 |  |  |
| 1907 | 102 | 11 | 117 | 19 | 62 | 44 | 27 | 15 | 16 | 413 |  |  |
| 1908 | 92 | 11 | 109 | 12 | 56 | 40 | 23 | 7 | 13 | 363 |  |  |
| 1909-. | 91 | 15 | 122 | 21 | 68 | 32 | 23 | 6 | 15 | 393 |  |  |
| 1910 | 83 | 16 | 130 | 34 | 70 | 30 | 28 | 5 | 16 | 412 |  |  |
| 1911 | 105 | 18 | 171 | 37 | 85 | 32 | 42 | 8 | 17 | 515 |  |  |
| 1912 | 93 | 15 | 164 | 49 | 73 | 33 | 39 | 5 | 10 | 481 |  |  |
| 1913 | 91 | 16 | 157 | 57 | 82 | 32 | 32 | 5 | 10 | 482 |  |  |
| 1914 | 106 | 17 | 148 | 48 | 87 | 31 | 25 | 6 | 10 | 478 |  |  |
| 1915 | 165 | 72 | 271 | 55 | 102 | 42 | 41 | 10 | 22 | 780 | 327 | 1,107 |
| 1916 | 205 | 53 | 267 | 79 | 123 | 27 | 27 | 12 | 17 | 810 | 668 | 1,478 |
| 1917 | 107 | 20 | 280 | 115 | 128 | 33 | 34 | 10 | 29 | 756 | 720 | 1,476 |
| 1918 | 88 | 15 | 242 | 79 | 85 | 22 | 39 | 7 | 23 | 600 | 616 | 1,216 |
| 1919 | 46 | 23 | 250 | 60 | 83 | 25 | 43 | 11 | 16 | 557 | 511 | 1,058 |
| 1920. | 43 | 18 | 141 | 45 | 72 | 19 | 30 | 10 | 23 | 401 | 324 | 725 |
| 1921 | 34 | 10 | 68 | 13 | 30 | 7 | 12 | 5 | 7 | 186 | 131 | 317 |
| 1922 | 32 | 13 | 95 | 29 | 38 | 9 | 16 | 2 | 8 | 242 | 201 | 443 |
| 1923 | 26 | 23 | 102 | 58 | 43 | 17 | 15 | 3 | 15 | 302 | 249 | 551 |
| January. | 3 | 1 | 23 |  |  |  |  |  | 1 | 46 | 40 | 86 |
| February. | 3 | 1 | 11 | 2 |  |  |  |  | 1 | 26 | 28 |  |
| March. | 5 | 1 | 11 | 2 | 5 | 1 | 1 | 1 | 2 | 29 | 32 | 61 |
| April.----.---- | 3 | 2 | 6 | 1 | 4 | 1 | 1 | (8) | 1 | 19 | 17 | 36 |
| May | 2 | 1 | 4 | (3) 1 |  |  |  |  | 1 | 12 | 8 | 20 |
| June.- | 1 | 1 | 2 | (8) |  | ${ }^{(8)}$ | (\%) | (8) | ${ }^{(8)}$ | 5 | 9 | 14 |
| July | 1 | $\stackrel{2}{2}$ | $\begin{aligned} & \overline{3} \\ & 6 \end{aligned}$ | $\frac{1}{4}$ | $\frac{1}{3}$ | $\stackrel{2}{2}$ | $\begin{aligned} & 1 \\ & 1 \end{aligned}$ | $\text { (8) } 1$ | $\stackrel{1}{2}$ | 14 21 | ${ }_{11}^{3}$ | 17 32 |
|  |  |  |  | 10 |  |  |  |  | 2 | 31 | 19 | 50 |
| Oeptober-...---- | 2 | 3 4 4 | 13 | 15 | 5 | 3 | 2 | (8) | 2 | 46 | 29 | 75 |
| November- | 1 | 3 | 8 | 10 | 4 | 1 | 1 | (8) | 1 | 29 | 30 | 59 |
| December----- | 2 | 2 | 8 | 6 | 3 | 1 | 1 | ${ }^{(3)}$ | 1 | 24 | 23 | 47 |

[^282]Table 582.-Horses and mules: Receipts at public stockyards in the United States, calendar years, 1915-1923.


Table 582.-Horses and mules: Receipts at public stockyards in the United.States, calendar years, 1915-1923-Continued.

| Market. | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Number. | Number. | Number. | Number. | Number | Number | Number | Number |
| Sioux City, Iows | 21, 742 | 16,717 | 29,391 | 23, 306 | 16, 272 | 23, 238 | 7,262 | 7,954 | 14, 921 |
| Sioux Falls, S. D |  |  | 49 | 243 | 253 | 176 | 69 | 375 | 320 |
| Spokane, Wash | 3,657 | 6, 493 | 7, 125 | 4,733 | 2, 926 | 2,535 | 761 | 1,103 | 828 |
| Tacoma, Wash. |  | 20 |  | 12 | 63 |  |  |  |  |
| Toledo, Ohio |  | 1,336 | 1,969 | 1,789 | 2, 788 | 4,558 | 960 | 922 | 442 |
| Washington, D. |  | 178 | 1,556 | 396 | 30 | 60 | 43 | 220 | 64 |
| Watertown, Mass |  | 44, 514 | 22, 084 | 6,578 | 1,440 |  |  |  |  |
| Wichita, Kans. | 14,472 | 17, 146 | 19,312 | 11, 150 | 16, 750 | 24, 714 | 10,885 | 17,936 | 22, 863 |
| Total | 1, 106, 501 | 1, 477, 983 | 1, 475, 854 | 1,215, 776 | 1,067, 597 | 724,811 | 317,445 | 442, 646 | 550, 703 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
Table 583.-Horses and mules: Receipts at all public stockyards, 1915-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Thousands. | Thousands. 95 | Thousands. 95 | Thousands. 88 | Thousands. 98 | Thousands. 103 | Thousands. 94 | Thou sands. 74 | Thousands. 85 | Thousands. 111 | Thousands. 97 | Thousands. 70 | Thousands. 1,107 |
| 1916 | 118 | 105 | 111 | 84 | 120 | 104 | 162 | 138 | 139 | 153 | 129 | 115 | 1, 478 |
| 1917 | 148 | 95 | 117 | 93 | 68 | 63 | 83 | 58 | 129 | 236 | 223 | 163 | 1,476 |
| 1918 | 161 | 149 | 133 | 44 | 36 | 45 | 53 | 84 | 128 | 162 | 145 | 76 | 1,216 |
| 1919 | 115 | 87 | 71 | 53 | 37 | 43 | 53 | 92 | 148 | 130 | 146 | 93 | 1,068 |
| 1920 | 146 | 112 | 87 | 48 | 43 | 34 | 38 | 75 | 62 | 40 | 23 | 17 | 725 |
| 1921 | 35 | 41 | 44 | 25 | 18 | 14 | 11 | 17 | 22 | 36 | 29 | 25 | 317 |
| 1922 | 48 | 37 | 47 | 29 | 21 | 16 | 17 | 24 | 41 | 61 | 55 | 47 | 443 |
| 1923 | 86 | 54 | 61 | 36 | 20 | 14 | 17 | 32 | 50 | 75 | 59 | 47 | 551 |

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

Table 584.-Horses and mules: Imports, exports, and prices, 1896-1923.

| $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { June } 30- \end{gathered}$ | Imports of horses. |  |  | Exports of horses. |  |  | Exports of mules. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Value. | A verage import price. | Number. | Value. | Average export price. | Number. | Value. | Average export price. |
|  | 9, | \$662, | \$66. 32 | 25, 126 | \$3, 530, 703 | \$140. 52 | 5,918 | \$406, 161 |  |
| 1896-97 | 6,998 | 464, 8 | 66.42 | 39, 532 | 4, 769, 265 | 12C.64 | 7,473 | 545, 331 | 72.97 |
| 1897-98 | 3, 085 | 414, 899 | 134. 49 | 51, 150 | 6, 176, 569 | 120. 75 | 8,098 | 664, 789 | 82.09 |
| 1898-99 | 3,042 | 551, 050 | 181.15 | 45, 778 | 5, 444, 342 | 118.93 | 6,755 | 516,908 | 76. 52 |
| 1899-1900 | 3, 102 | 596, 592 | 192. 32 | 64, 722 | 7,612, 616 | 117.62 | 43,369 | 3,919,478 | 90.38 |
| 1900 | 3, 785 | 985, 738 | 260.43 | 82, 250 | 8,873, 845 | 107.89 | 34,405 | 3, 210, 267 | 93.31 |
| 1901 | 4, 832 | 1, 577, 234 | 326. 41 | 103, 020 | 10,048, 046 | 97. 53 | 27, 586 | 2, 692, 298 | 97. 60 |
| 1902 | 4,999 | 1, 536, 296 | 307.32 | 34, 007 | 3, 152, 159 | 92.69 | 4, 294 | 521, 725 | 121. 50 |
| 1903 | 4,726 | 1, 460, 287 | 308. 99 | 42, 001 | 3, 189, 100 | 75. 93 | 3,658 | 412,971 | 112.90 |
| 19 | 5, 180 | 1, 591, 083 | 307. 16 | 34, 822 | 3,175, 259 | 91.19 | 5,826 | 645, 464 | 110.79 |
| 1905 | 6, | 1, 716, 675 | 285. 11 | 40,087 | 4, 365, 981 | 108.91 | 7, 167 | 989, 639 | 138.08 |
| 1906 | 6,080 | 1, 978, 105 | 325. 35 | 33, 882 | 4, 359, 9587 | 128.68 | 6,781 | ${ }_{999}^{850,901}$ | 125.48 |
| 1907 | 5,487 | 1, 604, 392 | 292.40 | 19,000 | 2, 612, 587 | 137. 50 | 6,609 3,432 | -990,667 | 149.90 137.53 |
| $1908-9$ 1909 | 7,084 11,620 | $\begin{aligned} & \text { 2, 007, 276 } \end{aligned}$ | 283. 35 283.65 28.63 | 21, 616 28,910 | 3, 386, 617 <br> 4, 081, 157 | 156.67 141.17 | 3,432 <br> 4,512 <br> 6,585 | 472,017 614,094 | 137.53 136.10 12. |
| 1910 | 9, | 2, 692, 074 | 280.63 | 25, 145 | 3, 845, 253 | 152.92 | 6, 585 | 1,070,051 | 162 |
| 1911-12 | 6,607 | 1,923, 025 | 291.06 | 34, 828 | 4, 764, 815 | 136.81 | 4,901 | 732, 095 | 149.38 |
| 1912-13 | 10,008 | 2, 125, 875 | 212.42 | 28,707 | 3,960, 102 | 137. 95 | 4,744 | 733, 795 | 154.68 |
| 1913-14 | 33, 019 | 2, 605, 029 | 78.89 | 22,776 | 3, 388, 819 | 148.79 | 4, 883 | 690, 974 | 141.51 |
| 1914-15 | 12,652 | 977, 380 | 77.25 | 289, 340 | 64, 046, 534 | 221.35 | 65, 788 | 12, 726, 143 | 193.4 |
| 1915-16 | 15, 556 | 1, 618,245 | 104.03 | 357, 553 | 73, 531, 146 | 205.65 | 111, 915 | 22,960, 312 | 205. 16 |
| 1916-17 | 12,584 | 1, 888, 303 | 150. 06 | 278, 674 | 59, 525, 329 | 213.60 | 136, 689 | 27, 800, 854 | 203. 39 |
| 1917-18 | 5, 111 | 1, 187, 443 | 232. 33 | 84, 765 | 14, 923, 663 | 176. 06 | 28, 879 | 4, 885, 406 | 169.17 |
| 1918-19. | 4, 003 | 750, 264 | 187.43 | 27, 975 | 5, 206, 251 | 186. 10 | 12,452 | 2, 333, 929 | 187.43 |
| 1919-20. | 4,906 | 799, 012 | 162. 86 | 18, 952 | 3,285, 066 | 173.34 | 8,991 | 1,815,888 | 201.9 |
| 1920 | 4, 044 | 1, 205, 457 | 298.09 | 12,638 | 1,923, 041 | 152.16 | 6,770 | 1,063, 254 | 157.05 |
| 1921-22 | 3, 136 | 531, 783 | 169.57 | 17, 827 | 1, 868, 099 | 104.79 | 11, 241 | 1,009, 567 | 89.81 |
| 1922-23 | 2, 816 | 845, 658 | 300.30 | 8, 668 | 1, 048, 879 | 121.01 | 12, 719 | 1, 324, 566 | 104. 14 |

Division of Statistical and Historical Research.

Fiarm Animals and their Products-Horses and Mules. 1029
Table 585.-Farm price of horses and mules, by age groups, United States, Jan. 1, 1894-1924.

| Jan. 1. | Horses. |  |  | Mules. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 1 year old. | $\begin{aligned} & 1 \text { and } \\ & \text { under } 2 \\ & \text { years. } \end{aligned}$ | 2 years and over. | Under 1 year old. | 1 and under 2 years. | 2 years and over. |
| 1894 | \$20. 19 | \$30.20 | \$57. 32 | \$26.79 | \$39. 11 | \$72.99 |
| 1895 | 14. 79 | 22.39 | 43.60 | 19.79 | 29.26 | 56.01 |
| 1896 | 13. 49 | 20. 29 | 39.73 | 17.87 | 26. 46 | 53.61 |
| 1897 | 13. 07 | 19.47 | 37.77 | 16.96 | 24.94 | 48.96 |
| 1888 | 14.94 | 21.76 | 40.78 | 18.03 | 26.17 | 51.46 |
| 1899 | 16. 51 | 24.05 | 44.40 | 18.81 | 27.20 | 52.51 |
| 1900 | 19. 44 | 28.67 | 53.01 | ${ }^{22 .} 71$ | 32.87 | 62.21 |
| 1901 | ${ }_{2}^{20.44}$ | 30. 59 | 57.63 | 26.14 | 37. 74 | 69.66 |
| 1902 | 22.02 | 33.39 | 63.99 | 27.01 | 39.55 | 73.61 |
| 1903 | 25.08 | 39.21 | 67.46 | 31.96 | 47.73 | 78.07 |
| 1904.- | 26.86 | 42.19 | 73.68 | 34.39 | 51.73 | 84.94 |
| 1905 | 28. 05 | 43.67 | 76. 30 | 37.85 | 56.93 | 94.13 |
| 1906. | 32.91 | ${ }_{61.36}$ | 87.35 | 43.46 | 64. 36 | 106. 04 |
| 1907 | 39.12 | 61.77 | 101.02 | 51. 35 | 74.73 | 120.82 |
| 1908. |  | (1) |  |  |  |  |
| 1909. | (1) | (1) | (1) |  |  | (1) |
| 1910 | 46. 05 | 72.63 | 116. 57 | 56.76 | 84.53 | 128.96 |
| 1911. | 48.09 | 75. 68 | 120.04 | 59.89 | 88.13 | 135. 11 |
| 1912 | 45.75 | 71.96 | 114. 24 | 56.12 | 83.00 | 129.46 |
| 1913 | 48. 75 | 76. 54 | 121.06 | 59.31 | 86.56 | 134.05 |
| 1914. | 47.95 | 74.87 | 119.77 | 57.45 | 83.87 | 133.76 |
| 1915 | 45. 36 | 70.62 | 113.10 | 51.80 | 76.46 | 121.46 |
| 1916 | 44.30 | 69.08 | 111. 34 | 51.59 | 76.82 | 123. 55 |
| 1917. | 45.17 | 70.21 | 112.64 | 53.98 | 80.28 | 128.17 |
| 1918. | 45.20 | 70.21 | 114.30 | 57.61 | 86.32 | 139.88 |
| 1919.- | 42.62 | 65.94 | 108. 17 | 59.14 | 89.14 | 147. 65 |
| 1920 | 37.22 | 58.88 | 103. 53 | 60.12 | 90.48 | 160. 54 |
| 1921 | 31.57 | 49.72 | 90.70 | 47.49 | 71.76 | 126. 39 |
| 1922 | 26.32 | 41. 24 | 76. 02 | 35.18 | 53.04 | 95.44 |
| 1923 | 28.14 | 41.01 | 75. 07 | 34. 20 | 51.54 | 93.19 |
| 1924. | 23.99 | 37.81 | 69.30 | 31.72 | 48.43 | 91.60 |

Division of Crop and Livestock Estimates.
${ }_{1}$ No data.
Table 586.-Horses: Farm price per head, 15th of month, United States, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { Weight- } \\ & \text { ed av- } \\ & \text { erage. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$140 | \$147 | \$150 | \$154 | \$148 | \$151 | \$148 | \$148 | \$145 | \$144 | \$143 | \$141 | \$146 |
| 1911 | 143 | 144 | 145 | 147 | 146 | 145 | 139 | 141 | 139 | 137 | 136 | 134 | 141 |
| 1912 | 134 | 137 | 140 | 142 | 144 | 145 | 142 | 142 | 141 | 140 | 139 | 139 | 140 |
| 1913 | 140 | 146 | 146 | 148 | 145 | 146 | 143 | 141 | 141 | 138 | 136 | 135 | 142 |
| Av. 1910-1913 | 139 | 144 | 145 | 148 | 146 | 147 | 143 | 143 | 142 | 140 | 138 | 137 | 142 |
| 1914 | 137 | 139 | 138 | 138 | 139 | 136 | 137 | 135 | 132 | 131 | 130 | 130 | 135 |
| 1915 | 130 | 132 | 132 | 132 | 133 | 132 | 134 | 131 | 131 | 129 | 127 | 126 | 130 |
| 1916 | 128 | 129 | 131 | 133 | 133 | 132 | 133 | 131 | 131 | 130 | 129 | 129 | 130 |
| 1917 | 129 | 131 | 133 | 136 | 138 | 137 | 135 | 132 | 132 | 130 | 129 | 129 | 132 |
| 1918 | 130 | 133 | 137 | 137 | 136 | 135 | 132 | 131 | 128 | 126 | 122 | 121 | 130 |
| 1919 | 120 | 121 | 124 | 127 | 129 | 127 | 127 | 125 | 119 | 114 | 113 | 113 | 121 |
| 1920 | 118 | 123 | 127 | 131 | 132 | 130 | 127 | 124 | 119 | 112 | 103 | 97 | 119 |
| Av. 1914-1920. | 127 | 130 | 132 | 133 | 134 | 133 | 132 | 130 | 127 | 125 | 122 | 121 | 128 |
| 1921. |  | 98 | 101 | 100 | 98 | 98 | 94 | 93 | 89 | 85 | 82 | 81 | 92 |
| 1922 | 82 | 84 | 86 | 87 | 89 | 88 | 88 | 86 | 84 | 81 | 79 | 79 | 84 |
| 1923. | 81 | 85 | 85 | 86 | 88 | 87 | 85 | 78 | 82 | 80 | 78 | 75 | 82 |

Division of Crop and Livestock Estimates.

## 1030 Yearbook of the Department of Agriculture, 1923.

Table 587.-Horses: Monthly farm price per head, 15th of month, by States, 1923.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{gathered} \text { A ver- } \\ \text { age. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dolls. | Dolls. | Dolls. | Lolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| Maine | 124 | 154 | 156 | 160 | 165 | 170 | 165 | 155 | 160 | 152 | 156 | 160 | 157 |
| New Hampsh |  | 111 | 128 | 130 | 125 |  | 150 | 150 | 140 | 135 | 136 | 130 | 134 |
| Vermont. | 129 | 145 | 145 | 130 | 140 | 138 | 130 | 145 | 140 | 137 | 140 | 135 | 138 |
| Massachusetts |  | 150 | 150 |  |  |  |  |  | 100 | 125 | 130 | 140 | 132 |
| Rhode Island | 150 |  |  |  |  |  |  |  |  |  |  |  |  |
| Connecticut |  | 175 |  | 165 | 168 | 162 | 170 | 170 | 165 | 170 |  | 150 | 166 |
| New York | 128 | 132 | 132 | 140 | 135 | 130 | 125 | 130 | 133 | 130 | 127 | 120 | 130 |
| New Jersey | 147 | 142 | 137 | 133 | 135 | 138 | 140 | 138 | 140 |  | 150 | 130 | 139 |
| Pennsylvania | 124 | 124 | 124 | 127 | 124 | 120 | 126 | 120 | 115 | 110 | 105 | 100 | 118 |
| Delaware.- | 75 |  | 92 | 100 |  |  | 103 |  | 90 | 85 | 87 | 85 | 90 |
| Maryland | 95 | 100 | 104 | 106 | 100 |  | 89 | 80 | 75 | 72 | 80 | 78 | 89 |
| Virginia. | 89 | 89 | 91 | 93 | 92 | 88 | 90 | 85 | 82 | 83 | 80 | 79 | 87 |
| West Virginia | 107 | 106 | 95 | 100 | 100 | 104 | 100 | 98 | 95 | 92 | 87 | 82 | 97 |
| North Carolina | 112 | 112 | 114 | 114 | 118 | 112 | 110 | 105 | 100 | 105 | 105 | 107 | 110 |
| South Carolina | 86 | 82 | 82 | 90 | 100 | 94 | 96 | 92 | 95 | 100 | 100 | 105 | 94 |
| Georgia | 90 | 90 | 98 | 94 | 93 | 91 | 88 | 85 | 85 | 87 | 87 | 90 | 90 |
| Florida | 125 | 123 | 125 | 132 | 133 | 130 | 120 | 124 | 116 | 110 | 100 | 105 | 120 |
| Ohio | 95 | 106 | 109 | 107 | 105 | 106 | 102 | 101 | 97 | 97 | 95 | 90 | 101 |
| Indiana | 84 | 86 | 87 | 87 | 85 | 84 | 84 | 82 | 78 | 84 | 72 | 73 | 82 |
| Illincis. | 85 | 93 | 87 | 89 | 94 | 90 | 92 | 90 | 87 | 85 | 71 | 75 | 86 |
| Michigan | 110 | 120 | 120 | 112 | 111 | 115 | 120 | 110 | 109 | 109 | 105 | 100 | 112 |
| Wisconsin | 110 | 112 | 114 | 118 | 119 | 113 | 110 | 108 | 112 | 112 | 108 | 104 | 112 |
| Minnesota | 88 | 93 | 95 | 98 | 102 | 98 | 94 | 95 | 92 | 90 | 87 | 80 | 93 |
| Iowa.- | 97 | 100 | 102 | 99 | 105 | 103 | 105 | 100 | 102 | 100 | 95 | 90 | 100 |
| Missour | 52 | 56 | 60 | 62 | 65 | 63 | 59 | 56 | 57 | 51 | 50 | 50 | 57 |
| North Dakota | 70 | 74 | 73 | 80 | 84 | 80 | 78 | 75 | 70 | 66 | 63 | 58 | 73 |
| South Dako | 71 | 74 | 70 | 75 | 78 | 74 | 75 | 70 | 72 | 70 | 65 | 62 | 71 |
| Nebraska_ | 68 | 75 | 72 | 70 | 75 | 77 | 74 | 72 | 72 | 75 | 74 | 72 | 73 |
| Kansas.- | 57 | 58 | 58 | 61 | 63 | 63 | 61 | 60 | 55 | 53 | 52 | 51 | 58 |
| Kentucky | 76 | 77 | 80 | 75 | 76 | 72 | 72 | 70 | 71 | 68 | 65 | 64 | 72 |
| Tennessee. | 83 | 80 | 83 | 85 | 85 | 82 | 80 | 78 | 75 | 72 | 74 | 70 | 79 |
| Alabana. | 77 | 80 | 76 | 80 | 84 | 83 | 83 | 84 | 82 | 80 | 80 | 75 | 80 |
| Mississippi | 67 | 66 | 70 | 71 | 73 | 77 | 75 | 72 | 70 | 71 | 65 | 64 | 70 |
| Louisiana. | 66 | 74 | 70 | 74 | 78 | 75 | 72 | 66 | 70 | 74 | 70 | 69 | 72 |
| Texas. | 67 | 61 | 65 | 68 | 70 | 68 | 64 | 63 | 63 | 64 | 66 | 64 | 65 |
| Oklahoma | 50 | 52 | 52 | 54 | 56 | 54 | 52 | 45 | 48 | 46 |  |  |  |
| Arkansas. | 59 | 59 | 65 | 62 | 63 | 60 | 60 | 56 | 57 | 58 | 55 | 53 | 59 |
| Montana. | 50 | 55 | 52 | 58 | 65 | 70 | 65 | ${ }^{60}$ | 58 | 55 | 57 | 50 | 58 |
| W yoming | 55 | 56 | 60 | 60 | 58 | 62 | 58 | 50 | 48 | ${ }^{45}$ | 47 | 46 | 54 |
| Colorado. | 60 | 64 | 66 | 70 | 70 | 70 | 65 | 67 | 70 | 66 | 60 | 55 | 65 |
| New Mex | 53 | 58 | 56 | 60 | 65 | 67 | 65 | 67 |  |  |  | 60 | 61 |
| Arizona |  |  |  | 76 |  | 70 | 65 |  | 75 | 80 | 85 90 |  | 75 96 |
| Utah | 100 | 106 | 104 | 100 | 95 | 100 | 97 | 98 | 90 | 85 | 90 | 87 | 96 |
| Nevada |  | 72 |  |  |  |  |  |  |  |  |  |  |  |
| Idaho - | 78 | 74 | 74 | 80 | 84 | 87 | 80 | 75 | 70 | 75 | 76 | 70 | 77 |
| W ashington | 97 | 100 | 95 | 90 | 95 | 97 | 95 | 97 | 94 | 90 | 90 | 92 | 94 |
| Oregon | 85 | 90 | 84 | 81 | 90 | 85 | 90 | 95 | 90 | 87 | 84 | 80 | 87 |
| California | 85 | 95 | 100 | 105 | 95 | 94 | 93 | 96 | 97 | 90 | 95 | 96 | 95 |
| United States.. | 81 | 85 | 85 | 86 | 88 | 87 | 85 | 78 | 82 | 80 | 78 | 75 | 82 |

[^283]
## LIVESTOCK, ALI CLASSES.

Table 588.-Livestock in undermentioned countries.


[^284] note (1); otherwise the figures are for cattle only.
${ }^{2}$ Census 1910.
${ }^{3}$ Census 1920.
${ }^{4}$ Less than 500 .
${ }^{5}$ Includes 22,000 reindeer and 20,000 work dogs in 1910 and 93,000 reindeer and 18,000 work dogs in 1920.
${ }^{6}$ Unofficial.
${ }_{8}^{7}$ Year 1918 .
${ }^{8}$ Census figures for goats, horses, etc., not yet avainde, 10,738 camels and 1,908 ostriches in 1913 and 11,73 and 780 ostriches in 1921
10 Former boundaries.
${ }_{12}$ Not including cattle of interior prairies estimated at 30,000 head in 1913 and at 38,980 in 1921.

Table 588.-Livestock in undermentioned countries-Continued.


[^285] note (1), otherw ise the figures are for cattle only.
${ }^{4}$ Less than 500.
${ }^{13}$ Camels.
14 The number of work animals only in 1921 compared with 1913 was as follows, the 1913 figures being given in parentheses: Cattle, $875,000(754,000)$; buffaloes, $148,000(146,000)$; horses, 174.000 ( 141,000 ).
${ }_{15}^{15}$ Llamas and alpacas.
${ }^{16}$ Hogs over 1 year old not included.
${ }_{17}$ Includes South Jutland, where the number of livestock on July 15, 1923, was as follows: Cattle, 213,000;
swine, 288,000; sheep, 19,000; goats, 2,000; horses, 38,000
${ }_{18}^{18}$ Animals belonging to British Army excluded.
${ }_{19}$ Preliminary estimate for numbers within present boundaries in 1913.

Table 588.-Livestock in undermentioned countries-Continued.

${ }^{1}$ Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.
${ }^{4}$ Less than 500 .
${ }^{10}$ Former boundaries.
${ }^{13}$ Camels.
${ }^{20}$ Animals owned by Europeans.
${ }^{21}$ Number of reindeer in 1921.
${ }_{22}$ Data for preceding year.
${ }^{23}$ Aray horses excluded. A ccording to the Ministry for National Defense they numbered 40,289 in 1922.
${ }_{4} 4$ Year 1917.

Table 588.-Livestock in undermentioned countries-Continued.


[^286] note (1); otherwise the figures are for cattle only.
${ }^{4}$ Less than 500.
${ }^{13}$ Camels.
${ }_{19}$ Preliminary estimate for numbers within present boundaries in 1913.
${ }_{22}^{20}$ Animals owned by Europeans.
${ }_{22}$ Data for preceding year.
${ }_{25}$ Zebus.
${ }^{20}$ Animals on sugar estates only.
${ }^{27}$ In addition there were 216,400 designated as "sheep and goats."
${ }_{28}$ Apr. 30, 1923.
${ }^{20}$ In rural districts only. The numbers in cities on Jan. 1, 1918, compared with Dec. 31, 1907, in parentheses, were as follows: Cattle, $3,754(5,133)$; swine, $4,478{ }^{(5,772)}$; sheep, 1,479 (1,650); goats, $843(500)$; horses, 7,945 (8,580).

Table 588.-Livestock in undermentioned countries-Continued.

${ }^{1}$ Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.
4 Eess than 500.
${ }^{18}$ Camels.
${ }^{15}$ Llamas and alpacas.
19 Preliminary estimate for numbers within present boundaries in 1913.
${ }^{20}$ Animals owned by Europeans.
${ }^{22}$ Data for preceding year.
${ }^{30}$ Carabao
${ }_{31}$ Former Kingdom and Bessarabia. The number in 1911, excluding Bessarabia, was as follows: Cattle and buffaloes, $2,667,000$; swine, $1,021,000$; sheep, $5,269,000$; goats, 187,000 ; horses, 825,000 ; mules and asses, 4,000.
${ }_{32}$ The 1920 census figures for Turkestan and Azerbaijan have been included in the 1922 figures for Asiatic Russia, as estimates for these republics were not included in the 1922 estimate.
${ }^{33}$ Elephants.

Table 588.-Livestock in undermentioned countries-Continued.

| Country. | Date. | Cattle. ${ }^{1}$ | Swine. | Sheep. | Goats. | Horses. | Mules. | Asses. | Miscellaneous. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tanganyika Territory (former German E as t |  | Thousands.$\begin{aligned} & 1,489 \\ & 3,147 \end{aligned}$ | Thousands. | $\begin{aligned} & \text { Thou- } \\ & \text { sands. } \end{aligned}$ | Thousands. | Thousands. | Thousands. | Thousands. | Thousands. |
| Africa) .--------- |  |  |  | $\begin{aligned} & \hline 2,793 \\ & 3,405 \end{aligned}$ |  | ${ }^{(4)}$ |  | 11 |  |
| Trinidad and Tobago $\qquad$ | Mar. 31, 1913------ | 3,148 |  |  |  | ( |  |  |  |
| Tu |  | 7 | 17 | 729 | 505 | 37 | 3 | 95 |  |
|  | 1922 | $\begin{array}{r} 18,190 \\ 4,118 \end{array} .$ | 18 | 2,820 | 1,002 | 75 | $\begin{array}{r} 249 \\ 85 \end{array}$ | 137 |  |
| Turkey, European and Asiatic. | $\left\|\begin{array}{l} 1907 \text { and } 190934 \\ 19196 \end{array}\right\|$ |  | 225 | $\begin{aligned} & 27,106 \\ & 11, \end{aligned}$ | $\begin{array}{r} 18,924 \\ 2,065 \end{array}$ | 1,263 630 |  | $1,745$ | $\begin{array}{r} 13327 \\ \\ 1395 \end{array}$ |
| Turks and Caicos Islands | 1913---------------- |  | (4) | (4) |  | $\left.{ }^{4}\right)$ |  |  |  |
| Uganda Protectorate. | May 31, 1914 _ | 775 |  | $\begin{aligned} & 537 \\ & 267 \end{aligned}$ | 838 | ${ }^{(4)}$ |  | $\left.{ }^{4}\right)$ | --- |
| Union of South Africa |  | 5,797 8,919 | 1,082 | 30,657 31,501 | 11,768 8,257 | 719 923 | 115 | $\begin{aligned} & 387 \\ & 743 \end{aligned}$ |  |
| United Kingdom: <br> England and Wales -..--- | June 4, 1913 |  | 2,102 | 17, 130 |  | 9231,4021,281 |  |  |  |
|  | June 4, 1923- | 5, 823 | 2, 612 | 13, 836 |  |  |  |  |  |
| Scotl | June 4, 1913 | 1,247 | 132 | 6, 801 |  | 204 |  |  |  |
|  | June 4, 1923--- | 1,190 4,933 | 185 1,060 | 6,763 3,621 |  | 203 | 30 |  |  |
| Ireland | June 4, 1913..- <br> June 4, 1922 | 4, 933 5,157 | 1,060 1,037 | 3, 3 367 | 250 | 614 544 | 26 | 232 |  |
| gu | 1908-.-.-. | 88,193 | 180 | 26, 288 | 20 | 556 | 22 | 232 |  |
|  | A pr. 20, 1916 | 7, 802 | 304 | 11, 473 | 12 | 555 | 14 | 3 |  |
| Venezuela | 1912. | 2, 36 2,778 | 1,618 | ${ }_{113}^{177}$ | 1,667 2,155 | 191 168 | 89 55 | 313 200 |  |
| Yugoslavia $\qquad$ <br> Grand total: ${ }^{37}$ Pre-war $\qquad$ Recent $\qquad$ | 1922.-.------- | $\begin{array}{r}36 \\ 4,090 \\ \hline\end{array}$ | 4,887 | 8,462 | 1,155 1,801 | 1,044 | 15 | 86 |  |
|  |  | $\begin{aligned} & 536,823 \\ & 579,923 \end{aligned}$ | $\begin{gathered} 259,492 \\ 221,967 \end{gathered}$ | $\begin{array}{\|l\|l\|} 38588,939 \\ 39499,579 \\ \hline \end{array}$ | $\begin{array}{r} 38 \\ 38925,163 \\ 38997 \end{array}$ | $\left\|\begin{array}{\|c\|} 40115,968 \\ 41197,572 \end{array}\right\|$ | $\begin{array}{r} 40115,968 \\ 41,43 \\ \hline 1 \end{array}$ | $\begin{array}{r} 42 \\ 41,43,634 \\ 41,902 \end{array}-$ | ----.-- |
|  |  |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. In order to secure comparable totals, that pre-war estimate nearest to 1913 giving statistics for each class of animal, is compared with the latest estimate available. Census returns are in italics, other returns are in roman.
${ }^{1}$ Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.
${ }^{4}$ Less than 500 . ${ }^{6}$ Unofficial. ${ }^{33}$ Camels.
${ }_{34}$ Comprised of the 1907 estimate for European Turkey and the 1909 estimate for Asiatic Turkey.
${ }^{35}$ As no estimate for the numbers of livestock in native locations and reserves was included in the 1922 estimate, the 1921 census figures for the numbers in these regions have been added to the 1922 estimate.
They are as follows: Cattle, 2,355,678; swine, 353,988; sheep, 3,005,572; goats, 2,728,071; horses, 155,853; mules, 1,619 ; asses, 123,200 .
${ }^{36}$ Year 1922.
${ }^{87}$ Pre-war and postwar totals are for approximately the same territory. Rough pre-war estimates have been included for former Russian territory according to 1923 boundaries, i. e., European and Asiatic Russia, Poland, Esthonia, Latvia, and Lithuania, Bessarabia being added to the pre-war Rumania estimate. Figures for Czechoslovakia and Yugoslavia are included in the total of recent estimates, since they were included in the pre-war estimates of the countries to which they formerly belonged.
${ }^{38} 13,124,000$ designated as "sheep and goats" included with sheep.
${ }^{89} 5,674,000$ designated as "sheep and goats" included with sheep.
40219,000 designated as "horses, mules, and asses" and "horses and mules" included with horses.
41278,000 designated as "horses, mules, and asses" and "horses and mules" included with horses
${ }^{42} 3,428,000$ designated as "mules and asses", included with mules.
43 2,229,000 designated as " mules and asses" included with mules.

## POULTRY.

Table 589.-Poultry and chickens on farms, and chicken eggs produced, United States, 1919-1924.

| Calendar year. | On hand, Jan. 1. |  |  |  | Production. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All poultry. |  | Chickens. |  | Chickens. |  | Chicken eggs. |  |
|  | Number | Value. | Number. | Value. | Number. | Value. | Dozens. | Value. |
|  | Thousands. | Thousand dollars. | Thousands. | Thousand dollars. | Thousands. 473, 302 | $\begin{gathered} \text { Thousand } \\ \text { dollars. } \\ 386,240 \end{gathered}$ | $\begin{gathered} \text { Thou- } \\ \text { sands } \\ 1,654,045 \end{gathered}$ | Thousand dollars. 676, 137 |
| $\begin{aligned} & 1919 \text { (census) } \\ & \text { 1920_------ } \end{aligned}$ | 1372,825 | ${ }^{1} 373,394$ | -359, 537 | 1349, 509 | 474, 700 | 412, 734 | 1,647, 043 | 725, 188 |
| 1921 | 370, 600 |  | 357, 700 | 319, 415 | 549, 700 | 392, 334 | 1, 888, 318 | 552, 616 |
| 1922 | 423, 400 |  | 408, 600 | 330, 015 | 579, 000 | 378, 450 | 1, 970, 755 | 509, 592 |
| 1923 | 439, 900 |  | 424, 800 | 316, 940 | 654, 200 | 420, 481 | 2, 196, 194 | 598, 961 |
| 1924 | 491, 600 | 376, 781 | 474, 500 | 351, 202 |  |  |  |  |

[^287]${ }^{1}$ Census.

Table 590.-Poultry: In undermentioned conntries. ${ }^{1}$


[^288]Table 590.-Poultry: In undermentioned countries ${ }^{1}$-Continued.

| Country. | Date. | Chickens. | $\begin{aligned} & \text { Tur- } \\ & \text { keys. } \end{aligned}$ | Ducks. | Geese. | Guinea fowls, pigeons, and un-designated poultry. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Japanese Empire-Continued. <br> Chosen (Korea) | 1910 | Thousands. | Thousands. | Thousands. | Thousands. | Thou- <br> sands. <br> 2, 796 | Thousands. 2, 79 |
|  | 1911 |  |  |  |  | 3, 421 | 3,421 |
|  | 1912 |  |  |  |  | 3, 932 | 3,932 |
|  | 1913 |  |  |  |  | 4, 194 | 4, 191 |
|  | 1914 |  |  |  |  | 4,110 <br> 4,278 | 4,117 4,273 |
|  | 1916 |  |  |  |  | 4, 400 | 4,40) |
|  | 1917. |  |  |  |  | 4,567 | 4, 567 |
|  | 1918 |  |  |  |  | 4, 913 | 4,913 |
|  | 1919 |  |  |  |  | 4,998 | 4,993 |
|  | 1920. | 8 |  |  |  | 5,972 | 5,972 |
|  | 1911--------------- | 12 |  | (2) | (2) |  | 12 |
|  | 1912---------------- | 12 |  | ${ }^{(2)}$ | ${ }^{(2)}$ |  | 12 |
|  | 1913 | 17 |  | ${ }^{(2)}$ | (2) | ----- | 17 |
|  | 1914----------- | 13 |  | $(2)$ $(2)$ | ${ }_{(2)}$ |  | 13 |
|  | 1915------------------- | 14 |  | ${ }^{(2)}$ | (2) |  | 14 |
|  | 1917 | 24 |  | ${ }^{(2)}$ | ${ }^{(2)}$ |  | 24 |
|  | 1918. | 23 |  | (2) |  |  | 23 |
|  | 1919 | 25 |  | (2) (2) | (2) |  | ${ }_{3}^{25}$ |
| Kenya Colony (British East Africa Protectorate) | 1920 |  |  |  |  |  |  |
|  | 1920 |  |  |  |  | 29 | 23 |
|  | 1921 |  |  |  |  | 34 <br> 34 | 31 |
| Luxemburg | Dec. 31, 1922-- | 428 |  |  |  |  | 428 |
| Netherlands. | May-June 1904 | 4,985 |  |  |  |  | 4,936 |
|  | May-June 1910 | 9,778 |  |  |  |  | ${ }_{9}^{9,778}$ |
| New Zealand | $\text { May-June } 1921$ | 9, 8 , 781 | 77 | 282 |  |  | 9,661 8,191 |
|  | 1911---------------- | 3,215 | 98 | 329 | 45 |  | 3,693 |
|  | Jan. 31, 1916-.- | 8, 141 | ${ }_{78}^{57}$ | 221 | 47 | 2 | 3,468 |
|  | Jan. 31, 1921- | 3,492 | 73 | 380 | 46 |  | 3,991 |
| Norway --. | Sept. 30, $1907^{\circ}-1$ Sept. $30,1916^{-}$ | 1,391 1,860 | 3 5 | 8 $-\quad 6$ | 10 |  | 1,412 1,883 |
|  | Jan. 1, 1918--- | 1,668 | 3 | 4 | 5 |  | 1,630 |
|  | June 20, $1918{ }^{6}$ |  |  |  |  | 1,676 | ${ }_{1}^{1,736}$ |
|  | Dec. 31, 1921-- |  |  |  |  | -159 | +159 |
|  | Dec. 31, 1922-- |  |  |  |  | 133 | 133 |
| Russia, European including Ukraine and Northern Caucasia | 1920 | 63,779 | 909 | 1,801 | 4,829 |  | 70,712 |
|  | 1920. | 12,979 | 86 | 927 | 2,419 |  | 16,411 |
| Sweden | June 1, 1917---- |  |  |  |  | 25, 103 | 25,103 6,030 |
|  | June 1, 1917--- | 6,035 <br> 4,775 | 4 | $\stackrel{23}{15}$ | 18 |  | 6, 4,812 |
|  | June 1, 1919---- | 4, 829 | 4 | 17 | 21 |  | 4,871 |
| Switzerland----------------------------1-1 | 1918--.------- | ${ }_{8}^{2,386}$ |  | 1949 |  |  | 2,405 |
|  | Apr. 21, 1921.- | 3,247 |  |  |  |  | 3,296 |
| Turkey (Asiatic) <br> Union of South Africa. | 1909 | 9,381 | 269 | 612 | 272 | 35,063 | 35,063 10,534 |
|  | May 5, 1918--- | 8, 436 | 495 | 271 | 218 |  | 9,420 |
|  | Apr 30, $1919{ }^{8}-$ | 7, 811 | 262 | 303 | 386 |  | 8,762 |
|  | Apr. 30, $1920{ }^{8}$ - | 7,138 | 181 | 318 | 210 |  | 7,847 |
|  | Apr. 30, 1921 -- | 9,419 | 236 | 357 | 216 |  | 10,288 8,299 |
|  | Apr. 30, $1922{ }^{\text {a }}$ | 7,513 | 244 | 349 | 193 |  | 8,299 |
| United Kingdom: <br> England and Wales ${ }^{10}$ | June 4, 1908... | 28, 249 | 628 | 2, 669 | 686 |  | 32, 232 |
|  | June 4, 1913.-- | 29, 026 | 652 | 2, 188 | 577 |  | 32,443 |
|  | June 4, 1921--- | 24, 816 | 445 57 5 | $\begin{array}{r}2,391 \\ \hline 209 \\ \hline\end{array}$ | $\begin{array}{r}517 \\ 21 \\ \hline\end{array}$ |  | 28,169 4,341 |
| Scotland.------------------------ | June 4, 1913-.- | 4,054 4,216 | 70 | 240 | 23 |  | 4,517 |
|  | June 4, 1922...- | 4,276 | 67 | 243 | 22 |  | 4,603 |

${ }^{1}$ Census returns in italics; other returns in roman. No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Poland, Roumania, Serbia, Tunis, Uruguay and Venezuela.
${ }^{2}$ Less than 500.
${ }^{6}$ Rural communities only.
${ }^{7}$ Owned by Europeans only.
${ }^{8}$ The numbers in natives locations, reserves, etc., on April 30, 1918 have been added to the 1919 and 1920 estimates. The numbers thus added were as follows, in thousands: Chickens, 2,943; turkeys, 18; ducks. 82; geese, 18.
${ }^{82}$; The members in native locations reserves, etc., on April 30, 1921, have been added to the 1922 estimate, The members thus added were as follows, in thousands: Chickens 3,090; turkeys 12; ducks 46 ; geese 18
10 The agricultural schedule for 1921 included an inquiry as to the number of poultry on farms on June 4.
Similar inquiries were made in 1908 and 1913.

Table 590.-Poultry: In undermentioned countries ${ }^{1}$ - Continued.

| Country. | Date. | Chickens. | Turkeys. | Ducks. | Geese. | Guinea fowls, pigeons, and un desigpoultry. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| United Kingdom-Continued. Ireland ${ }^{11}$ $\qquad$ | June 4, 1909-- | Thousands. | Thou- sands. - - - - - - - | Thousands. $\qquad$ | Thousands. | $\begin{aligned} & \text { Thou- } \\ & \text { sands. } \\ & 24,105 \end{aligned}$ | Thousands. 24, 105 |
|  |  |  |  |  |  | 24, 339 |  |
|  | June 4, 1911-- |  |  |  |  | 25, 448 | 25, 448 |
| - |  |  |  |  |  | 25, 526 | 25, 526 |
|  | $\begin{aligned} & \text { June 4, } 1912- \\ & \text { June 4, } 1913- \end{aligned}$ |  |  |  |  | 25, 701 | 25, 701 |
|  | $\begin{aligned} & \text { June 4, } 1913- \\ & \text { June 4, } 1914 \end{aligned}$ |  |  |  |  | 26, 919 | 26,919 |
|  | June 4, 1915 |  |  |  |  | 26, 089 | 26, 089 |
|  |  |  |  |  |  | 26, 473 | 26, 473 |
|  | June 4, 1915 <br> June 4, 1916 June 4, 1917 |  |  |  |  | 22, 245 | 22, 245 |
|  | June 4, 1918 Jan 31,1921 |  |  |  |  | 24,424 15,175 | 24, 424 |
| Yugoslavia. | Jan. 31, 1921 |  |  |  |  | 15,175 | 15, 175 |

Division of Statistical and Historical Research.
${ }^{1}$ Census returns in italics; other returns in roman. No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Polapd, Roumania, Serbia, Tunis, Uruguay and Venezuela.
${ }^{11}$ It was found impracticable to make an estimate of the number of poultry in 1919 and 1920 but the returns indicated an increase.

Table 591.—Poultry, dressed: Monthly receipts at four markets, 1920-1923.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1 | 1 | 1,0 | 1 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| ston | lbs | libs. | lbs. | libs. | lbs. | lbs. | libs. | lbs | Ibs | lbs. | lbs. | lbs. | lbs. |
| 1920 | 3, 934 | 1,749 | 1,597 | 1,037 | 1, 464 | 2, 221 | 1,858 | 1,696 | 2,096 | 2, 628 | 5, 911 | 7,895 | 34, 086 |
| 1921 | 3, 377 | 2, 220 | 1, 465 | 1,707 | 1,795 | 2, 086 | 1, 499 | 2, 437 | 2, 482 | 3, 581 | 7, 472 | 9, 791 | 39, 921 |
| 1922 | 4,175 | 2,765 | 2, 478 | 1,705 | 2, 551 | 2, 883 | 2, 091 | 2,198 | 2, 479 | 3, 306 | 7, 488 | 10, 444 | 44, 563 |
| 1923 | 7,690 | 3,785 | 2, ¢17 | 1,946 | 2, 439 | 2,778 | 2, 427 | 2,661 | 2,674 | 4,418 | 10,752 | 11, 526 | 56,013 |
| New York |  |  |  |  |  |  | 29 |  |  | 8, 053 |  |  |  |
| 19 | 11, 441 | 7,006 | 5, 190 | 5, 021 | 4,883 | 6, 150 | 5, 314 | 8,992 | 10,277 | 11, 887 | 21, 182 | 27, 208 | 124, 551 |
| 1922 | 10, 783 | 6,909 | 6, 371 | 6,399 | 7,896 | 8,822 | 6, 785 | 7,768 | 9, 115 | 12, 594 | 22, 232 | 32, 538 | 138, 212 |
| 1923 | 21, 730 | 12, 335 | 8,590 | 6,916 | 6,804 | 8,589 | 9,414 | 9, 497 | 9, 653 | 16, 509 | 26, 822 | 27, 289 | 163, 948 |
| Philadelp |  |  |  | 918 |  |  |  |  |  |  | 8 |  | 21, 606 |
| 1921 | 1,498 | 1,071 | 1,411 | 1,005 | 1,303 | 1, 565 | 1,226 | 1,419 | 1,587 | 2,020 | 2,882 | 5,905 | 22, 892 |
| 19 | 1,947 | 1,790 | 1, 077 | 664 | 1,182 | 1, 304 | 1,237 | 1,217 | 1,237 | 1,356 | 2,653 | 5, 655 | 21,319 |
| 1923 | 2,206 | 1,530 | 1,388 | 1, 042 | 1, 055 | 1,509 | 1,343 | 1,618 | 1, 348 | 1,749 | 3,281 | 6,542 | 24, 611 |
| Chicago: |  |  |  |  |  |  |  |  |  | 4,001 | 752 | 53 |  |
| 192 |  | 3, 328 | 2,794 | 2,104 | 2, 421 | 2, 524 | 2, 097 | 2, 615 | 3,804 | 4,157 | 15, 723 | 17,082 | 64,992 |
| 1922 | 5,345 | 3, 042 | 3,394 | 2, 744 | 2,744 | 3,597 | 3, 590 | 4,250 | 4, 290 | 4,178 | 13, 167 | 23, 320 | 73, 661 |
| 1923 | 11, 497 | 5,208 | 4,057 | -2, 532 | 2,912 | 3,329 | 3, 679 | 4,018 | 4,724 | 5,411 | 15, 163 | 27, 743 | 90,273 |
| Total four markets: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1920 | 23, 350 | 13, 874 | 8,411 | 4, 138 | 9, |  |  | 9,998 | 12, 783 | 16,270 | 36, 662 | 56, 148 | 214, 109 |
| 1921 | 22, 659 | 13, 634 | 10,860 | 9, 837 | 10, 402 | 12, 325 | 10,136 | 15, 463 | 18, 150 | 21, 645 | 47, 259 | 59, 986 | 252,356 |
| 1922 | 22, 250 | 14, 506 | 13, 320 | 11, 512 | 14, 373 | 16, 606 | 13, 703 | 15, 433 | 17, 121 | 21, 434 | 45, 540 | 71, 957 | 277,755 |
| 1923 | 43, 123 | 22, 858 | 16, 752 | 12, 436 | 13, 210 | $16,205$ | $16,863$ | 17, 794 | 18, 399 | 28, 087 | 56, 018 | 73, 100 | 334, 845 |

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

Gross weight.
Table 592.-Poultry, frozen: Cold-storage holdings in United States, 1917-1923.

| Calendar year. | Jan. 1. | Feb.1. | Mar.1. | Apr. 1 | May 1. | ane 1. | July 1. | Aug. 1. | Sept.1. | Oct. 1. | Nov.1. | Dec.1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  | -1,000 |  |
|  |  | 35, 601 | 27, 796 | 25, 988 | 67,242 |  |  | ${ }_{\text {ches. }}^{\text {cis2 }}$ | 56,093 | 46,737 | 51,743. |  |
| 1818 | 64, 557 | 68, 238 | 56,950 | 44, 115 | 26, 523 | 18, 929 | 17,652 | 18,756 | 23, 034 | 29, 798 |  | 71, 238 |
| 1919 | 108, 722 | 119, 675 | 109, 627 | 92, 897 | 71, 162 | 55, 616 | 49, 212 | 40,573 | 32, 918 | 30,492 | 33, 139 | 54, 749 |
| 1920 | 87, 512 | 92, 253 | 78, 421 | 61, 436 | 40, 525 | 30, 535 | 24, 790 | 22, 364 | 21,331 | 22, 953 | 31, 070 | 49, 046 |
| 1921 | 79, 025 | 81.096 | 79,001 | 62, 315 | 47, 651 | 35, 408 | 27, 268 | 21, 188 | 20,064 | 25, 602 | 34, 876 | 65, 167 |
| 1922 | 103, 697 | 103, 350 | 88, 709 | 68, 471 | 50, 840 | 38, 602 | 34, 837 | 30, 659 | 27, 671 | 25, 984 | 30, | 51, 781 |
| 1923---------------1 | 100, 17 | 121, 632 | 113, 503 | 94, 872 | 74, 562 | 57, 274 | 49, 100 | 41,250 | 34, 131 | 33, 142 | 40, 36 | 63, 274 |

Table 593.-Poultry, dressed: Receipts at five markets, by States of origin, 1923.
BOSTON.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | lbs. | lbs. | $l b s$. | lbs. | lbs. | lbs. | $l b s$. | $l b s$. | lbs. | lbs. | lbs. | lbs. | lbs. |
| Canada |  |  |  |  |  |  |  |  |  |  | 407 | 107 | 1, 1281 |
| Chicago | 153 3,073 | 76 1,650 | 196 1,159 | 70 1,015 | 1, 376 | 65 1,483 | 1, 269 | 1,498 | 97 1,266 | 2, 117 | 2, 207 | 3,417 | 1, 281 |
| Illinois | 3,073 1,031 | 1,650 379 | 1, 159 | 1, 015 | 1,376 330 | 1,483 386 | 1,269 432 | 1,498 427 | 1,266 567 | 2, 229 | 2, 592 | 3, 417 | 22, 027 |
| Iowa | 1,417 | 741 | 393 | 136 | 115 | 116 | 303 | 337 | 428 | 563 | 1,360 | 1, 222 | 7, 131 |
| Kansas | 355 | 95 | 286 | 141 | 29 | 87 | 104 | 38 | 77 | 97 | 465 | 340 | 2, 114 |
| Kentucky | 47 | 44 | 23 | 62 | 95 | 21 |  |  |  | 20 | 753 | 265 | 1, 330 |
| Maine. | 47 | 49 | 14 | 5 | - | 20 | 20 | 28 | 48 | 143 | 299 | 118 | 791 |
| Maryland | 8 | 2 | 1 |  |  |  |  |  | 1 | 7 | 37 | 3 | 59 |
| Massachusett | 16 | 6 | 6 | 11 | 42 | 19 | 15 | 23 | 24 | 31 | 48 | 116 | 357 |
| Michigan. | 103 | 46 | 37 | 1 |  | 3 |  |  | 3 | 52 | 122 | 160 | 527 |
| Minnesota | 327 | 88 | 50 | 3 | 2 |  |  |  |  | 121 | 654 | 977 | 2, 222 |
| Miscouri | 100 | 54 | 48 | 43 | 79 | 125 | 53 | 42 | 36 | 40 | 216 | 250 | 1,086 |
| Montana |  |  |  |  |  |  |  |  |  |  | 49 | 45 | 94 |
| Nebraska_ | 89 | 81 | 93 | 26 | 29 | 52 | 41 | 3 | 5 | 22 | 174 | 67 | 682 |
| New Hampshi | 5 | 2 | 2 |  | 1 |  | 1 | 2 | 1 | 8 | 18 | 7 | 47 |
| New York | 87 | 201 | 88 | 11 | 22 | 96 | 44 | 12 | 28 | 29 | 470 | 290 | 1, 378 |
| New York Cit | 39 | 3 | 27 | 58 | 47 | 71 | 24 | 78 | 49 | , | 2 | 72 | 472 |
| North Dakota | - 1 | 2 | 1 |  |  |  |  |  |  |  | 171 | 119 | 294 |
| Ohio | 189 | 97 | 14 | 3 | 58 | 65 | 44 | 37 | 36 | 49 | 319 | 230 | 1,141 |
| Oklahoma | 68 | 116 | 80 | 131 | 88 | 57 |  |  |  |  | 229 | 274 | 1, 043 |
| Pennsylvania. | 2 |  | 2 | 1 |  | 36 | 1 |  | 1 | 1 | 3 | 2 | 49 |
| Philadelphia_ |  |  |  | 2 | 21 |  |  |  |  |  |  |  | 23 |
| South Dakota | 4 | 1 |  |  |  |  |  |  |  |  | 25 | 91 | 121 |
| Tennessee. |  |  |  |  |  |  |  |  |  |  | 35 | 4 | 39 |
| Vermont | 8 | 4 | 1 |  | 6 |  |  |  | 5 | 9 | 94 | 22 | 149 |
| W isconsin | 27 | 3 |  |  |  | 32 |  | 19 |  | 1 | 29 | 180 | 291 |
| Other States | 462 | 44 | 36 | 1 | 44 | 14 | 48 | 3 | 3 | 40 | 1,453 | 2, 440 | 4,588 |

NEW YORK.

| Arkansas | 87 |  |  |  |  |  |  |  | 22 | 50 | 124 | 43 | 326 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| California | 8 | 6 | 210 | 209 | 96 | 122 | 104 | 128 | 2 | 2 | 169 | 5 | 1, 061 |
| Canada. | 6 | 164 | 141 |  |  | 1 | 50 |  |  | 2 | 19 | 149 | 532 |
| Delaware | 13 | 5 | 2 | 1 |  | 1 | 3 | 3 | 3 | 5 | 12 | 16 | 64 |
| Georgia | 6 | 2 | 1 |  |  |  | 1 | 2 |  |  | 1 | 1 | 15 |
| Illinois. | 5, 779 | 3,775 | 2, 334 | 2,761 | 2, 769 | 3, 280 | 3, 097 | 3, 151 | 3, 072 | 4, 443 | 6,470 | 7, 336 | 48, 267 |
| Indiana | 2, 488 | 1, 376 | 822 | 651 | 623 | 893 | 1, 116 | 1,242 | 1,071 | 1,758 | 1, 840 | 1,934 | 15, 814 |
| Iowa | 4, 105 | 2,001 | 510 | 430 | 230 | 611 | 696 | 412 | 1566 | 2, 148 | 3, 268 | 4,543 | 19, 520 |
| Kansas | 2,011 | 1,607 | 1,522 | 588 | 523 | 1,034 | 1, 034 | 974 | 1,076 | 1, 812 | 1,961 | 1,009 | 15, 151 |
| Kentucky | 296 | 196 | 346 | 576 | 765 | 553 | 309 | 389 | 326 | 587 | 580 | 601 | 5,524 |
| Maryland | 130 | 32 | 12 | 6 | 36 | 11 | 31 | 54 | 30 | 46 | 191 | 281 | 860 |
| Massachusetts | 10 | 10 | 16 | 59 | 26 | 58 | 145 | 69 | 38 | 87 | 92 | 22 | 632 |
| Michigan | 150 | 20 | 96 | 58 | 83 | 142 | 137 | 29 | 80 | 254 | 309 | 325 | 1, 683 |
| Minnesota | 817 | 546 | 224 | 100 | 144 | 145 | 298 | 228 | 398 | 548 | 1,402 | 1, 532 | 6,382 |
| Missouri | 2, 135 | 659 | 507 | 400 | 335 | 614 | 896 | 932 | 1,349 | 1, 817 | 2, 309 | 2, 677 | 14, 630 |
| Nebraska | 216 | 262 | 195 | 267 | 58 | 84 | 142 | 112 | 134 | 449 | 476 | 641 | 3, 036 |
| New Jersey | 470 | 234 | 73 | 17 | 34 | 28 | 22 | 37 | 32 | 105 | 226 | 274 | 1, 552 |
| New York | 202 | 198 | 434 | 254 | 394 | 414 | 254 | 224 | 75 | 280 | 161 | 172 | 3, 062 |
| North Carolina | 6 | 3 |  | 2 |  | 1 | 27 | 11 |  |  | 1 | 2 | 54 |
| North Dakota | 22 | 7 | 2 |  |  |  |  |  |  |  | 364 | 374 | 769 |
| Ohio. | 694 | 243 | 40 | 52 | 124 | 99 | 271 | 213 | 222 | 611 | 675 | 887 | 4, 131 |
| Oklahoma | 186 | 72 | 268 | 141 | 224 | 45 | 46 | 191 | 153 | 203 | 693 | 482 | 2, 704 |
| Oregon |  |  | 31 |  |  |  | 37 | 25 |  |  | 31 | 28 | 153 |
| Pennsylvania | 107 | 62 | 44 | 46 | 102 | 83 | 78 | 93 | 102 | 66 | 141 | 161 | 1, 085 |
| South Dakota | 276 | 133 |  |  | 1 |  | 78 | 58 | 89 | 114 | 57 | 334 | 1,140 |
| Tennessee | 211 | 151 | 209 | 249 | 181 | 187 | 185 | 392 | 363 | 490 | 545 | 282 | 3,445 |
| Texas | 1,006 | 402 | 140 | 45 |  | 48 | 40 | 39 | 22 |  | 3, 115 | 2, 349 | 7, 206 |
| Utah |  |  | 10 |  |  |  |  |  |  |  | 157 | 24 | 200 |
| Virginia | 124 | 39 | 9 | 2 | 42 | 61 | 208 | 284 | 205 | 263 | 471 | 248 | 1,956 |
| Washington |  | 32 | 61 |  | 6 | 20 | 58 | 13 |  |  | 2 | 46 | 238 |
| West Virginia | 2 | 2 |  |  |  | 2 |  | 4 |  | 3 | 10 | 10 | 33 |
| Wisconsin. | 149 | 90 | 102 | 1 | 4 | 50 | 49 | 154 | 222 | 365 | 824 | 354 | 2,364 |
| Other States. | 10 | 3 | 28 | 4 |  | 3 | 3 | 34 |  |  | 126 | 148 | 359 |

Table 593.-Poultry, dressed: Receipts at five markets, by States of origin, 1929Continued.

PHILADELPHIA.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Del | ${ }^{\text {lbs }}{ }_{11}$ | ${ }^{\text {lbs }} 12$ | ${ }^{\text {lbs. }} 7$ | lbs. | lbs. 5 | ${ }^{\text {lbs. }} 7$ | lbs. 3 | lbs. 1 | lbs. 2 | $l \mathrm{lbs}$. | 7bs. ${ }^{13}$ | lbs. | lbs. 138 |
| Illinois. | 734 | 769 | 653 | 506 | 426 | 450 | 724 | 616. | 628 | 459 | 1,228 | 2, 300 | 9, 497 |
| Indiana | 184 | 53 | 115 | 93 | 155 | 171 | 138 | 141 | 117 | 175 | 268 | 152 | 1,762 |
| Iowa. | 143 | 118 | 40 | 4 |  | 17 | 47 | 110 | 87 | 66 | 230 | 262 | 1,124 |
| Kansas | 43 | 50 |  | 10 | 45 | 118 | 12 | 66 | 23 | 81 | 111 | 96 | 665 |
| Kentucky | 4 | 2 | 2 |  | 27 | 1 |  | 21 |  |  | 5 | 6 | 68 |
| Maryland | 2 | 4 | 6 | 5 | 1 | 13 | 2 | - | 40 | 28 | 46 | 109 | 256 |
| Michigan |  | 1 |  |  | 28 |  |  |  |  | 5 | 2 |  | 36 |
| Minnesota | 378 | 125 | 32 |  | 13 | 83 | 45 | 110 | 106 | 426 | 355 | 716 | 2,389 |
| Missouri | 166 | 54 | 56 | 29 | 27 | 82 | 5 | 10 | 14 | 1 | 34 | 44 | 522 |
| Nebraska | 1 |  | 42 | 72 | 65 | 44 |  | 14 | 20 |  | 7 | 33 | 298 |
| New Jersey | 5 | 3 | 5 | 1 |  | 55 |  |  |  |  | 1 | 1 | 71 |
| New York. | 4 | 3 | 57 | 21 | 13 | 37 | 28 | 81 |  | 2 | 25 | 97 | 368 |
| North Carelina | 3 |  | 3 | 3 | 2 | 2 |  |  | 46 |  | 3 | 4 | 66 |
| North Dakota | 1 | 4 | 1 |  |  |  |  |  |  |  | 56 | 588 | 650 |
| Ohio | 55 | 67 | 18 | 20 | 8 | 73 | 52 | 29 | 23 | 48 | 171 | 256 | 820 |
| Oklahoma | 43 |  | 76 | 18 |  |  | 40 | 108 |  | 39 | 118 | 4 | 446 |
| Pennsylvania | 86 | 59 | 69 | 87 | 58 | 80 | 82 | 69 | 81 | 182 | 152 | 255 | 1,260 |
| South Dakota | , | 2 | 1 |  |  |  |  |  |  |  | 10. | 2 | , 16 |
| Tennessee. | 1 | 2 | 3 |  | 2 |  |  |  |  |  | 6 | 4 | - 18 |
| Texas. | 27 |  |  |  | 19 |  |  |  |  |  | 21 | 63 | 130 |
| Virginia | 152 | 130 | 134. | 109 | 111 | 139 | 101 | 97 | 107 | 157 | 283 | 1,068 | 2, 588 |
| West Virginia | 67 | 70 | 63 | 54 | 49 | 52 | 42 | 34 | 33 | 47 | 92. | 354 | 957 |
| Wisconsin... | 93 | 2 | 3 |  |  | 33 | 24 | 111 | 22 | 32 | 46 | 40 | 406 |
| Other States |  |  |  |  |  | 43 |  |  |  |  | 3 | 21 | 67 |

CHICAGO.

| Alabama |  |  | 2 | 1 | 1 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Arkansas | 21 | 52 | 52 | 64 | 43 | 25 | 13 | 5 | 25. | . | 13 | 54 | 372 |
| Canada | 25 |  |  |  | 5 |  |  |  |  |  |  |  | 30 |
| Colorado |  | 3 | 1 |  |  |  |  |  |  |  | 3 | 73 | 80 |
| Georgia. | 25 |  |  |  |  |  |  |  | 1 |  |  |  | 26 |
| Idaho.- |  |  |  |  |  |  |  |  |  |  |  | 40 | 40 |
| Illinois | 2, 142 | 1, 190 | 1,097 | 815 | 1,204 | 976 | 1,164 | 1,492 | 1,454. | 1,250 | 2,027 | 2,676 | 17,497 |
| Indiana | 115 | 196 | 47 | 50 | 60 | 56 | 34 | 43 | 1,52 | , 43 | 79 | 143 | 818 |
| Iowa_- | 3,372 | 1, 124 | 860 | 462 | 639 | 801 | 744 | 675 | 1,021 | 1,137 | 2,599 | 5,220 | 18, 654 |
| Kansas | 617 | 171 | 123 | 69 | 25 | 217 | 169 | 170 | 361 | 511 | 561 | 608 | 3, 602 |
| Kentucky | 104 | 78 | 174 | 94 | 72 | 41 | 824 | 64 | 42. | 57 | 81 | 48 | . 937 |
| Michigan | 40 | 44 | 26. | 3 | 18 | 9 | 9 | 11 | 29 | 18 | 41 | 28 | 1276 |
| Minnesota | 1,462 | 944 | 392 | 365 | 207 | 107. | 277 | 248 | 240 | 531 | 1,832 | 4,159 | 10, 764 |
| Mississippi | 111 | 6 | 9 | 9 | 8 | 9 | 2 | 45 | 15 | 5 | ${ }^{8}$ |  | 6, 94 |
| Missourin. | 787 | 180 | 202 | 184 | 228 | 338 | 337 | 354 | 565. | 623 | 1,115 | 1, 308 | 6, 231 |
| Montana | 11 | 31 | 3. |  |  |  |  |  |  |  | 406 | 1, 049 | 1, 500 |
| Nebraska | 469 | 115 | 113 | 31 | 2 | 32 | 70 | 5 | 60 | 92 | 292 | 532 | 1,813 |
| New Jersey |  |  |  |  |  |  |  |  |  |  | 28 |  | 29 |
| New York | 57 | 39 | 1 | 2. | 26 | 41. | 20. | 66 | 56. | 22 |  |  | 335 |
| North Dakota | 304 | 231 | 194 | 231 | 7 | 23 | 10. | 7 | 14. | 15 | 2,901 | 3, 865 | 7,594 |
| Pennsylvania |  | 14 |  | 1 | 2 |  |  | 19 | 2 | 3 |  |  | 41 |
| Ohio | 3 | 1. |  | 29 |  |  | 2 |  |  |  | 1 |  | 46 |
| Oklahoma | 336 | 116 | 54 | 34 | 109 | 70 | 112 | 139 | 201 | 312 | 280 | 454 | 2,217 |
| South Dakot | 434 | 242 | 230 | 64 | 38 | 128 | 85. | 121 | 117 | 164 | 751 | 2, 135 | 4,509 |
| Tennessee | 13 | 52. | 104 | 86 | 59 | 17 | 76. | 132 | 92 | 39 | 110 | 30 | 810 |
| Texas | 348 | 33 | 4 | 23 | 21. | 56 | 72 |  |  | 1. | 362 | 3,587 | 4, 507 |
| Wisconsin | 801 | 433. | 367 | 123 | 138 | 380 | 398 | 449 | 378 | 574 | 1, 639 | 1,692 | 7, 372 |
| W yoming |  |  |  |  |  |  |  |  |  |  | -8 | 31 | 39 |
| Other States |  |  | 1 |  |  |  |  | 8 |  |  | 19. | 1. | 30 |

SAN FRANCISCO.


[^289]
## 1042 <br> Yearbook of the Department of Agriculture, 1923.

Table 594.-Poultry (live): International trade, calendar years, 1909-1922. ${ }^{1}$

| Country. | A verage, 1909-1913 |  | 1920 |  | 1921 |  | $\stackrel{1922,}{\text { preliminary. }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. | Thou- | Thou- | Thou- | Thou- | Thou- | Thou- | Thow- | Thou- |
| Austria-Hungary |  |  |  |  |  |  |  |  |
| Austria-Hungary* | -2, 8,435 | 16,617 |  |  |  |  |  |  |
| Canada-......-. | 15 | (2) | 141 | 705 | 249 | 857 | 418 | 609 |
| China | 15 | 2, 462 | 14 | 3, 291 | 36 | 3,871 | 31 | 3,743 |
| Finland | 17 |  | ${ }^{(3)}$ |  | ${ }^{(3)}$ |  |  |  |
| Italy*-- | $\underset{(4)}{2,010}$ | $\underset{(1)}{9,606}$ | ${ }_{3}^{6}$ | 724 22 | 786 24 | 2, 182 | 3,967 63 | 2,575 |
| Netherlands |  |  | 3 |  |  |  |  |  |
| PRINCTPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Belgium* | 1,797 | 685 |  | 10 |  | ${ }^{383}$ | 1,296 | 1,442 |
| Denmark | 8,967 | 795 | 2,771 | 110 | 11, 345 | 118 | 17, 504 | 294 |
| Geese. | 8,111 | 32 | 237 | 3 | 293 | 1 | 54 |  |
| Other poultry* | 29, 829 | 278 | 18 | 9 | 159 | 55 | 339 | 76 |
| Switzerland* | 1,382 | 28 | 398 | 2 | 1,144 | 4 | 879 | 4 |
| United Kingdom | 877 | 50 | 2 | 5 | 61 | 8 | 224 | 14 |
| Total reported in number | 11, 514 | 6,690 | 398 | 4, 028 | 665 | 4, 866 | 790 | 4,706 |
| Total reported in | 52, 420 | 28,009 | 3,275 | 855 | 14, 197 | 2, 745 | 23, 685 | 4,391 |

Division of Statistical and Historical Research. Official sources.
${ }^{1}$ Items carrying an asterisk (*) in the stub were reported in pounds and are shown in thousands of pounds.
${ }^{2}$ Expressed only in value.
${ }^{3}$ Less than 500.
4 Not separately stated.
Table 595.-Poultry (dead): International trade, calendar years, 1909-1922.

| Country. | Average, 1909-1913. |  | 1920 |  | 1921 |  | $\stackrel{1922,}{\text { preliminary. }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTing countries. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | 1,000 pounds. | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ |
| Austria-Hungary...-- | 371 <br> ${ }_{232}$ | 9,854 1,649 |  | 8 | 149 | 89 | 153 | 290 |
| China | (1) | 1,211 | (1) | 6, 155 | (1) | 1,644 | (1) | 1,989 |
| Finland | 373 | 1,162 | 86 | 756 |  | 876 |  | 797 |
| France. | 2,920 | 12, 296 | 1,442 | 3,610 | 1,997 | 5, 334 | 3,659 | 6,627 |
| Italy--1--- | (1) 288 | ${ }_{(1)}^{6,019}$ | 28 4 | 1,484 | 957 37 | 2,335 502 | 1,029 44 | $\begin{array}{r}\text { 3,786 } \\ \hline 93\end{array}$ |
| PRINCIPAL IMPORTing countries. |  |  |  |  |  |  |  |  |
| Austria. |  |  | 1,541 | 109 | 3,012 | 288 |  |  |
| Cuba | 76 |  | 350 |  |  |  |  |  |
| Denmark | 1,765 | 10 | 7 | 41 | 418 |  |  |  |
| Germany | 18, 875 | 535 | 451 | 36 | ${ }^{2} 46$ | 251 | 65 | . 69 |
| Norway-.----------- | 63 349 |  | 21 102 |  | $\begin{array}{r}24 \\ 22 \\ \hline\end{array}$ |  |  |  |
| Sweden---.-.-...------- | 349 8,319 | 12 | 102 3,546 | 1 | $\begin{array}{r}227 \\ 4,196 \\ \hline 8\end{array}$ | . ${ }^{2}$ | 4,245 | 4 |
| United Kingdom-------- | 10,994 | 127 | 8,125 | 91 | 8,818 | 185 | 18,676 | 272 |
| Total 15 coun- | 44, 625 | 32, 888 | 15,872 | 12,476 | 19,882 | 11,337 | 27,871 | 14,767 |

[^290]Table 596.-Chickens: Farm price per pound, 15th of month, United States, 1910-1923.

| Year beginning July 1. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | Weighted a verage. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cent |
| 1910-11 | 12. 2 | 12.0 | 11.8 | 11.4 | 11.0 | 10.6 | 10.6 | 10.6 | 10.7 | 10.9 | 11.0 | 11.1 | 11.0 |
| 1911-12 | 11.2 | 11.2 | 11.0 | 10.6 | 10.0 | 9.7 | 10.0 | 10.4 | 10.6 | 11.0 | 11.1 | 11.0 | 10.4 |
| 1912-13 | 11.2 | 11.3 | 11. 4 | 11. 4 | 11.0 | 10.8 | 10.8 | 11.0 | 11. 4 | 11. 7 | 11. 9 | 12.0 | 11.2 |
| 1913-14 | 13.0 | 12.8 | 12. 7 | 13.0 | 11.4 | 11.3 | 11.5 | 12.0 | 12. 4 | 13.0 | 12.7 | 13.1 | 12.0 |
| Av. 1910-1913. | 11.9 | 11.8 | 11.7 | 11.6 | 10.8 | 10.6 | 10.7 | 11.0 | 11.3 | 11.6 | 11.7 | 11.8 | 11.2 |
| 1914-15 | 13. 4 | 13.1 | 12.8 | 12.0 | 11.1 | 10.7 | 10.9 | 11.3 | 11. 7 | 11.9 | 12. 0 | 12.2 | 11.5 |
| 1915-16 | 12.2 | 12. 2 | 12.0 | 11.8 | 11. 5 | 11.2 | 11.5 | 12. 1 | 12. 5 | 13. 1 | 13. 6 | 14.0 | 12. 0 |
| 1916-17 | 14. 1 | 14. 1 | 14. 2 | 14. 4 | 13. 9 | 13.6 | 14. 1 | 15.1 | 15. 7 | 17.3 | 17.5 | 17.7 | 14.6 |
| 1917-18 | 17.4 | 16. 7 | 18.4 | 18.5 | 17.0 | 17.5 | 18.4 | 20.3 | 20.2 | 20.7 | 20. 6 | 21.3 | 18.4 |
| 1918-19 | 23.2 | 23. 4 | 23.6 | 22. 2 | 21.7 | 22. 4 | 22.1 | 21.8 | 23.4 | 25. 7 | 26. 7 | 26.4 | 23.0 |
| 1919-20 | 26.8 | 26. 1 | 25. 0 | 23.3 | 22. 0 | 22.0 | 23.3 | 25.7 | 26. 9 | 28.4 | 28. 0 | 27.4 | 24.2 |
| 1920-21 | 28.4 | 26.6 | 26.9 | 24. 6 | 22.9 | 20.7 | 21.7 | 22.3 | 22.8 | 22.2 | 21.8 | 21.5 | 22.8 |
| Av. 1914-1920. | 19.4 | 18.9 | 19.0 | 18. 1 | 17.2 | 16. 9 | 17.4 | 18.4 | 19.0 | 19.9 | 20.0 | 20.1 | 18. 1 |
| 1921-22 | 21.7 | 21.4 | 20.2 | 19. 1 | 18. 6 | 18. 2 | 18.9 | 19.0 | 19.4 | 20.0 | 20.2 | 20.6 | 19.3 |
| 1922-23 | 20.7 | 18. 9 | 18. 6 | 18. 1 | 17.2 | 17.2 | 17.3 | 18.6 | 18.8 | 19.4 | 20.1 | 20.3 | 18.2 |
| 1923-24 | 20.6 | 19.8 | 19: 7 | 19.0 | 17.7 | 16.6 |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 597.-Turkeys: Farm price per pound, 15th of month, United States, 1912-1923.

| Year beginning Oct. 1. | Oct. 15. | Nov. 15. | Dec. 15. | Jan. 15. | Year beginning Oct. 1. | Oct. 15. | Nov. 15. | Dec. 15. | Jan: 15. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. |  | Cents. | Cents. | Cents. | Cents. |
| 1912-13. | 13.6 | 14.4 | 14.8 | 14.9 | 1918-19.- | 23.9 | 25.7 | 27.0 | 27.3 |
| 1913-14. | 14.6 | 15.2 | 15. 5 | 15. 5 | 1919-20 | 26.6 | 28.3 | 31.1 | 32.0 |
| 1914-15. | 14.1 | 14.1 | 14. 5 | 14.5 | 1920-21 | 30.0 | 31.8 , | 33.1 | 33.0 |
| 1915-16 | 13.7 | 14.8 | 15. 5 | 15.6 | 1921-22. | 25.7 | 28.2 | 32.5 | 30.7 |
| 1916-17 | 17.0 | 18. 6 | 19.6 | 19.5 | 1922-23. | 25.1 | 29.5 | 32.3 | 29.7 |
| 1917-18 | 20.0 | 21.0 | 23.0 | 22.9 | 1923-24 | 26.6 | 27.9 | 24.5 |  |

Division of Crop and Livestock Estimates.

## EGGS.

Table 598.-Eggs: Monthly receipts, at five markets, 1917-1923.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Atug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Boston: | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cabes. | cases. | cases | cases | cases. |
| 1917 | 56 | 75 | 171 | 252 | 318 | 193 | 113 | 87 | 84 | 80 | 43 | 30 | 1,502 |
| 1918 | 31 | 59 | 192 | 309 | 305 | 171 | 133 | 119 | 91 | 96 | 46 | 52 | 1,604 |
| 1919 | 67 | 116 | 184 | 327 | 235 | 189 | 148 | 128 | 80 | 97 | 48 | 40 | 1,659 |
| 1920 | 72 | 113 | 149 | 253 | 384 | 204 | 119 | 110 | 95 | 66 | 49 | 34 | 1,648 |
| 1921 | 84 | 138 | 206 | 359 | 294 | 183 | 137 | 130 | 100 | 88 | 52 | 52 | 1,823 |
| 1922 | 101 | 133 | 214 | 403 | 312 | 224 | 143 | 105 | 85 | 106 | 74 | 70 | 1,970 |
| 1923 | 99 | 106 | 244 | 285 | 381 | 219 | 128 | 131 | 101 | 108 | 73 | 69 | 1;914 |
| New York: $1917$ | 143 | 139 | 405 | 747 | 738 | 565 | 395 | 337 | 333 | 284 | 169 | 102 |  |
| 1918 | 106 | 155 | 712 | 908 | 681 | 551 | 483 | 450 | 333 | 288 | 183 | 177 | 5,027 |
| 1919 | 214 | 486 | 667 | 1, 026 | 911 | 669 | 532 | 438 | 377 | 318 | 192 | 178 | 6,008 |
| 1920 | 207 | 315 | 618 | 563 | 697 | 725 | 470 | 370 | 334 | 272 | 209 | 211 | 4,991 |
| 1921 | 314 | 476 | 999 | 1, 012 | 742 | 681 | 525 | 517 | 440 | 362 | 251 | 260 | 8, 579 |
| 1922 | 335 | 424 | 919 | 1, 178 | 994 | 784 | 574 | 427 | 381 | 337 | 226 | 242 | 6,821 |
| 1923. | 386 | 447 | 981 | 924 | 1,163 | 796 | 596 | 528 | 416 | 377 | 270 | 272 | 7, 156 |
| Philadelphia: |  |  | 112 | 164 | 190 | 164 | 147 | 107 | 102 | 112 | 3 | 56 |  |
| 1919 | 64 | 100 | 174 | 301 | 271 | 185 | 129 | 115 | 107 | 119 | 76 | 63 | 1,704 |
| 1920 | 76 | 81 | 120 | 164 | 242 | 180 | 107 | 116 | 118 | 81 | 57 | 54 | 1,396 |
| 1921 | 64 | 120 | 202 | 237 | 235 | 158 | 121 | 145 | 124 | 100 | 66 | 70 | 1,642 |
| 1922 | 109 104 | 113 | 192 179 | 316 187 | 273 278 | 142 | 126 | 124 | 108 | 176 | 60 74 | 8 | 1,703 1,727 |

Table 598.-Eggs: Monthly receipts, ai five markets, 1917-1928-Continued.

| Market, and calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Chicago: | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. |
| 1917 | 118 | 86 | 376 | 927 | 1, 200 | 897 | 626 | 450 | 361 | 295 | 193 | 150 | 5,679 |
| 1918 | 108 | 29 | 415 | 1,027 | 928 | 733 | 564 | 460 | 338 | 240 | 124 | 86 | 5, 050 |
| 1919 | 101 | 253 | 458 | 1,024 | 915 | 767 | 401 | 275 | 220 | 125 | 51 | 27 | 4,617 |
| 1920 | 109 | 251 | 458 | 840 | 800 | 620 | 380 | 260 | 217 | 132 | 47 | 40 | 4,154 |
| 1921 | 133 | 356 | 679 | 750 | 684 | 460 | 297 | 258 | 201 | 137 | 86 | 114 | 4, 155 |
| 1922 | 210 | 296 | 525 | 887 | 898 | 695 | 389 | 300 | 191 | 140 | 82 | 71 | 4, 684 |
| 1923 . | 198 | 308 | 619 | 775 | 943 | 763 | 424 | 332 | 276 | 191 | 84 | 96 | 5, 009 |
| San Francisco: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1917 | 50 <br> 53 | 76 81 | 94 80 | $\stackrel{91}{93}$ | 92 83 | 79 71 | 52 51 | 45 39 | 35 <br> 34 | $\begin{array}{r}37 \\ 27 \\ \hline\end{array}$ | 28 | 37 29 | 716 667 |
| 1919 | 48 | 59 | 73 | 83 | 93 | 80 | 66 | 62 | 42 | 32 | 27 | 33 | 698 |
| 1920 | 44 | 55 | 102 | 114 | 80 | 76 | 67 | 55 | 42 | 43 | 36 | 43 | 757 |
| 1921 | 58 | 71 | 123 | 109 | 109 | 79 | 62 | 57 | 44 | 40 | 33 | 35 | 811 |
| 1922 | 54 | 59 | 102 | 118 | 106 | 81 | 72 | 63 | 51 | 45 | 42 | 45 | 838 |
| 1923 | 65 | 60 | 95 | 97 | 87 | 92 | 70 | 61 | 54 | 58 | 54 | 62 | 855 |

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

Table 599.-Eggs: Receipts at five markets, by States of origin, 1928.
BOSTON.

| State. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | cases. | cases. | cases. | cases. | casts. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. |
| Chicago | 13 | 14 | 13 | 1 | 3 |  | 2 |  |  | 2 | 2 | 11 | 51 |
| Illinois | 28 | 39 | 103 | 187 | 168 | 101 | 55 | 61 | 38 | 43 | 12 | 10 | 795 |
| Indiana | 6 | 9 | 21 | 47 | 66 | 27 | 13 | 9 | 13 | 10 | 7 | 5 | 233 |
| Iowa. | 3 | 7 | 19 | 19 | 32 | 15 | 11 | 13 | 9 | 8 | 6 | 4 | 146 |
| Kansas | 9 | 9 | 24. | 4 |  |  | 1 | 2 | 1 | 2 | 4 | 5 | 61 |
| Maine. | 9 | 8 | 9 | 9 | 13 | 14 | 11 | 10 | 10 | 11 | 9 | 9 | 122 |
| Massachusetts | 2 | 1 | 1 | 1 | 1 |  | 2 | 1 | 1 | 1 | 4 | 6 | 21 |
| Michigan |  | 1 | 1 | 7 | 7 | 6 | 6 | 5 | 5 | 3 | 1 | 1. | 43 |
| Minnesota | 2 |  | 3 | 15 | 34 | 18 | 6 | 9 | 6 | 9 | 4 | 3 | 109 |
| Missouri. | 8 | 4 | 21 | 7 | 7 | 4 | 3 | 2 | 4 | 5 | 6 | 7 | 78 |
| Nebraska | 3 | 2 | 3 | 1 | 2 | 1 | 1 | 1 |  |  | 2 | 3 | 19 |
| New Hampshi | 6 | 4 | 6 | 5 | 4 | 4 | 3 | 2 | 2 | 3 | 3 | 2 | 44 |
| New York | 2 | 1 | 1 | 2 | 4 | 4 | 2 | 2 | 2 | 3 | 5 | 4 | 32 |
| Ohio | 3 | 3 | 6 | 17 | 20 | 13 | 5 | 6 | 5 | 4 | 3 | 2 | 87 |
| Vermont | 3 | 3 | 3 | 3 | 4 | 5 | 3 | 3 | 2 | 3 | 2 | 2 | 36 |
| Wisconsin | 1 |  |  |  | 2 | 3 | 3 | 1 | 1 | 1 |  |  | 12 |
| Other States. | 2 | 2 | 9 | 12 | 11 | 3 | 2 | 3 | -- | 3 | 3 | 3 | 53 |

NEW YORK.


Table 599.-Eggb: Recsipts at five markets, by States of origin, 1928-Contd. PHILADELPHIA.

| State. | Jan. | Feb. | Mar. | Apr. | May. | Јипе. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | $\begin{aligned} & 1,000 \\ & \text { cases } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { eases. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { cases. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { catez. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { caser. } \end{aligned}$ | 1,000 | $\begin{aligned} & 1,000 \\ & \text { caets. } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { cases. } \end{aligned}$ | $\begin{aligned} & 1,009 \\ & \text { cases } \end{aligned}$ | $\begin{aligned} & 1,000 \\ & \text { cases. } \end{aligned}$ | $\left.\begin{array}{\|c\|} \hline 1,000 \\ \text { cases. } \end{array} \right\rvert\,$ | 1,000 cases. |
| Delawar Illino is | -38 | $4{ }^{4}$ | 9 19 | ${ }_{20}^{9}$ | $\begin{array}{r}9 \\ 5 \\ \hline\end{array}$ | ${ }_{25}^{5}$ | ${ }_{33}^{4}$ |  | 2 | 2 |  |  | 53 |
| Indiana | 4 | 6 | 10 | 16 | 27 | 20 | 11 | 12 | 9 | 8 | 2 | 2 | ${ }_{125} 12$ |
| Iowa. | 1 | 2 | 4 | 10 | 11 | 11 | 6 | 8 | 14 | 7 | 5 | 1 | 80 |
| Kansas | 7 | 17 | 18 | 1 | 2 | 6 | 2 | 4 | 8 | 2 |  | 3 | 70 |
| Kentucky | 1 | 1. | 2 | 1 | 2 | 1 |  |  |  |  |  |  |  |
| Maryland | 4 | 5 | 11 | 11 | 13 | 5 | 5 | 3 | 2 | 2 | 2 | 3 | 66 |
| Mbchigan |  |  | 4 | 16 | 50 | 32 | 16 | 18 | 16 | 10 | 1 |  | 163 |
| Minnesota | 1 |  | 6 | 8 | 6 | 8 | 5 | 10 | 11 | 12 | 4 | 2 | 75 |
| Missouri | 20 | 9 | 11 | 9 | 6 | 16 | 12 | 13 | 18 | 12 | 5 | 17 | 148 |
| Nebraska | 2 | 10 | 11 | 3 | 4 |  |  |  | 2 | 1 | 1 | 1 | 36 |
| Neen Yor | 3 |  | 1 | 1 | 2 | 3 | 7 | 2 | 2 | 4 | 8 | 8 | 35 |
| Ohio-- | 4 | 4 | 5 | 14 | 24 | 15 | 7 | 7 | 9 | 7 | 2 | 2 | 100 |
| Pennsylvania | 12 | 16 | 24 | 25 | 25 | 19 | 12 | 10 | 8 | 8 | 7 | 10 | 174 |
| South Dakot |  |  | 1 |  | 1 | 2 | 2 | 3 | 1 | 3 | 1 |  | 16 |
| Tennessee | 1 | 3 | 7 | 6 | 6 | 1 |  |  |  |  |  | 1 | 25 |
| Texas | 1 | 1 | 7 | 2 |  |  |  |  |  |  |  |  | 11 |
| Virginia | 7 | 9 | 18 | 23 |  |  | 12 |  |  |  | 6 | 11 | 149 |
| West Virginia | 2 | 2 | 4 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 26 |
| Wisconsin.- | 1 | 1. | 1 | 2 | 7 | 1 | 2 | 4 | 4 | 2 | 5 | 2 | 34 |
| Other States | 2 | 2 | 8 | 4 | 2 | 1 |  |  |  |  |  | 1 | 20 |

CHICAGO.

| Arkansas | 1 | 4 | 6 | 5 | 3 |  |  |  | 1 |  |  |  | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Illinois | 12 | 12 | 29 | 42 | 59 | 45 | 19 | 15 | 8 | 8 | 3 | 4 | 256 |
| Indiana | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1. |  |  |  | 1 | 11 |
| Iowa. | 30 | 57 | 101 | 159 | 204 | 178 | 83 | 63 | 49 | 31 | 16 | 25 | 996 |
| Kansas | 33 | 60 | 110 | 64 | 85 | 38 | 25 | 32 | 26 | 16 | 5 | 7 | 501 |
| Michigan | 1 | 1 | 1 | 1 | 3 | 3 | 4 | 1 | 1 | 1 |  | 1 | 18 |
| Minnesota | 12 | 13 | 36 | 76 | 116 | 129 | 72 | 53 | 48 | 27 | 15 | 13 | 610 |
| Missouri. | 36 | 53 | 97 | 196 | 173 | 117 | 53 | 40 | 43 | 41 | 16 | 15 | 880 |
| Nebraska | 22 | 46 | 55 | 43 | 49 | 36 | 28 | 23 | 21 | 14 | 10 | 12 | 359 |
| North Dakota |  |  | 1 | 6 | 8 | 8 | 2 | 3 | 3 | 2 |  |  | 33 |
| Oklahoma | 17 | 22 | 46 | 8 | 5 |  | 1 |  | 1 |  |  | 1 | 101 |
| South Dakota | 8 | 19 | 55 | 74 | 92 | 93 | 72 | 50 | 41 | 30 | 8 | 9 | 551 |
| Tennesseo | 1 | 1 | 2 | 4 | 1 |  |  |  |  | 1 | 1 |  | 11 |
| Texas.- | 4 | 2 | 27 | 10 | 4 |  |  |  |  |  | 2 |  | 49 |
| Wisconsin | 16 | 14 | 45 | 79 | 132 | 112 | 65 | 51 | 34 | 21 | 7 | 8 | 584 |
| Other States | 3 | 3 | 7 | 5 | 8 | 1 |  |  | 1 |  |  |  | 28 |

SAN FRANCISCo.

| California | 63 | 60 | 94 | 96 | 85 | 89 | 66 | 57 | 49 | 54 | 53 | 59 | 825 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Idaho. |  |  |  |  | 1 | 2 | 1 | 1 | 1 |  |  |  | 6 |
| Oreson | 2 |  |  | 1. | 1 | 1 | 1 | 2 | 2 | 2 |  | 1 | 13 |
| Weshington. |  |  |  |  |  | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 10 |

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

Table 600.-Eggs, case: Cold-storage holdings in United States, 1916-1923.

| Calendar year. | Jan. 1. | Feb. 1. | Mar. 1. | Apr. 1. | May 1. | June 1. | July 1. | Aug. 1. | Sept. 1. | Oct.1. | Nov. 1. | Dec. 1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,009 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. | cases. |
| 1916 | 1,508 | 458 | 35 | 264 | 2,397 | 4,593 | 5,574 | 6,060 | 5,600 | 4,868 | 3, 985 | 2,146 |
| 1917 | 920 | 149 | 7 | 190 | 2, 105 | 4,922 | 6, 617 | 6,895 | 6, 436 | 5,837 | 4,638 | 2,948 |
| 1918 | 1,300 | 200 | 20 | 344 | 2,957 | 5,499 | 8, 554 | 6, 568 | 6, 265 | 5,369 | 3, 812 | 2,071 |
| 1919 | 740 | 130 | 26 | 320 | 3, 278 | 6,098 | 7,659 | 7,850 | 7,685 | 6.858 | 5, 087 | 3,341 |
| 1920 | 1,542 | 342 | 29 | 122 | 2, 135 | 5,143 | 6,747 | 6,872 | 6,372 | 5,295 | 3, 838 | 1,824 |
| 1921 | 408 | 43 | 43 | 1,026 | 4,909 | 6, 844 | 7,534 | 7,605 | 7,210 | 6,289 | 4,380 | 2,403 |
| 1922 | 889 | 179 | 13 | 950 | 4,648 | 8,056 | 9,811 | 10, 161 | 9,608 | 7,924 | 5,726 | 3,257 |
| 1923 | 1,311 | 213 | 13 | 453 | 3, 737 | 7,890 | 10,222 | 10,509 | 9,883 | 8,737 | 6,645 | 4,028 |

Division of Statistical and Historical Research.

## 1046 Yearbook of the Department of Agriculture, 1923.

Table 601.-Eggs in the shell: International trade, 1909-1922.

| Country. | Calendar years. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { A verage, 1909- } \\ & 1913 . \end{aligned}$ |  | 1920 |  | 1921 |  | $\stackrel{\text { 1922, }}{\text { preliminary. }}$ |  |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports | Exports. |
| PRINCIPAL EXPORTING countries. | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | dozens. | dozens. | dozens. | dozens. | dozens. | dozens. | dozens. | dozens. |
| Argentina Austria |  |  | $\begin{aligned} & (1) \\ & 3,866 \end{aligned}$ |  | 5,417 | 6,358 |  | 3,557 |
| Austria-Hungary | 91, 561 | 177, 163 |  |  |  |  |  |  |
| China. | 270 | 25, 542 | 183 | 53, 892 | 139 | 98, 393 | 234 | 98,498 |
| Denmark | 2, 243 | 34, 340 | 95 | 45, 517 | 86 | 54, 007 | 682 | 60, 840 |
| Finland | 2, 899 |  | ${ }^{(1)}$ |  | ${ }^{(1)}$ | 871 |  |  |
| Italy-: | 4, 104 | 33,482 | 39 | ${ }^{346}$ | 316 | - 392 | 2,534 | 13, 363 |
| Netherlands | 19,542 | 29,360 | 61 1,709 |  | 1,047 3,063 | 9,738 33,291 | 1,392 1,019 | 13,087 34,620 |
| United States | ${ }^{2} 1,701$ | 12, 108 | 1,709 | , 26, 842 | 3, 063 . | 33, 291 | 1,019 | 34, 620 |
| principal importing COUNTRIES. |  |  |  |  |  |  |  |  |
| Belgium | 19,148 | 11, 521 | 521 | 60 | 4,394 | 137 | 9, 473 | 1,179 |
| Canada | 6, 341 | 148 | 6,516 | 6, 323 | 6, 583 | 5,444 | 8, 141 | 3,619 |
| Cuba-- | 4,732 |  | $\begin{array}{r}\text { 9,925 } \\ \hline 11 \\ \hline\end{array}$ |  |  |  |  |  |
| France.-. | 37,215 228,279 | 8,920 675 | 11,370 2,452 | 1,216 | 11,847 3 1 | ${ }_{3}^{1,451} 913$ | 26,711 194 | $\begin{aligned} & 6,588 \\ & 1,069 \end{aligned}$ |
| Japan.-- | 6,867 |  | 23, 534 |  | 53, 277 |  |  |  |
| Norway | - 387 |  | 4, 519 | 3 | 4, 889 | 2 | 4, 521 |  |
| Sweden | 4, 207 | 3,781 | $\begin{array}{r}2,190 \\ 7 \\ \hline 150\end{array}$ | ${ }_{(1)}^{823}$ | 2,647 14,685 | (1) 989 | 2,519 14,633 | (1) 828 |
| Switzerland | $\begin{array}{r} 19,747 \\ 190,015 \end{array}$ | 48 | 7,950 70,598 | ${ }^{(1)} 10$ | 14,685 105,305 | ${ }^{(1)} 23$ | 134, 633 |  |
| Total 19 countries. | 641, 609 | 337, 095 | 145, 528 | 137, 666 | 214, 317 | 212, 014 | 208, 670 | 237, 572 |

Division of Statistical and Historical Research. Official sources.
${ }^{1}$ Less than 500 dozen. $\quad 2$ One year only. $\quad{ }^{3}$ Eight months, May-December.
Table 602.-Eggs not in the shell: International trade, calendar years, 1909-1922.

| Country. | Average 1909-1913. |  | 1920 |  | 1921 |  | $\stackrel{1922,}{\text { preliminary. }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. <br> China $\qquad$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 17,217 \end{gathered}$ | $\begin{array}{\|c} 1,000 \\ \text { pounds. } \end{array}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 99,442 \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} \text { 1,000 } \\ \text { pounds. } \\ 64,545 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 94,455 \end{gathered}$ |
| PRINCIPAL IMPORTING countries. |  |  |  |  |  |  |  |  |
| Austria-Hungary | 1,100 | 188 16 | 629 |  | 291 | 9 |  |  |
| France--- | 1,967 | 426 | 3, 740 | 19 | 2,037. | 26 | 3, 860 | 15 |
| Germany | 11,214 | 3,225 | 5,707 | 412 | ${ }^{2} 6,105$ | ${ }^{2} 556$ | 9,717 | 1,362 |
| Italy--- | 381 | 4 | 1,839 2,050 |  | 202 3,014 | 27 486 | 1,056 487 |  |
| Netherlan <br> Sweden |  |  |  | 258 89 | 3,014 |  |  | 796 |
| United Kingdom | (5) | (5) | 45,284 | ${ }^{445}$ | 42, 609 | $6^{453}$ | 41,863 24,809 |  |
| United States-.- |  |  | 38, 134 | (6) | 22, 537 | ${ }^{(9)}$ | 24, 809 | 718 |
| Total ten countries | 15,443 | 21, 066 | 97, 63̣4 | 100, 666 | 7¢,795 | 66, 102 | 81, 792 | 97, 352 |

Division of Statistical and Historical Research. Official sources.

[^291]Table 603.-Eggs: Farm price per dozen, 15th of month, United States, 1910-1923.

| $\begin{gathered} \text { Year beginning } \\ \text { Apr. } 1 . \end{gathered}$ | Apr. | May. | June. | July. | Aug. | Sept | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Weighted av. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1910-11 | 18.6 | 18.4 | 18. 2 | 17.9 | 18.5 | 20.9 | 23.8 | 27.2 | 29.7 | 26.2 | 19.3 | 15.7 | 19.3 |
| 1911-12 | 14.8 | 14.6 | 14. 4 | 14.8 | 16.4 | 18.7 | 21.8 | 26.1 | 29.1 | 29.3 | 26.8 | 21.2 | 18.2 |
| 1912-13 | 17.4 | 16.9 | 16.7 | 17.0 | 18.2 | 20.6 | 24.0 | 27.8 | 28.2 | 24.8 | 21.1 | 17.9 | 18.9 |
| 1913-14 | 15.9 | 16. 5 | 16.8 | 16. 4 | 17.7 | 21.3 | 26.0 | 31.3 | 32.9 | 29.8 | 25.3 | 22.2 | 19.8 |
| v. 1910 | 16.7 | 16. 6 | 16.5 | 16.5 | 17.7 | 20.4 | 23.9 | 28.1 | 30.0 | 27.5 | 23.1 | 19.2 | 19. |
| 1914 | 16.4 | 16.9 | 17.2 | 17.5 | 19.1 | 22.5 | 23.7 | 28.2 | 31.9 | 31.7 | 23.7 | 16. 5 | 19.3 |
| 1915-16 | 16.6 | 16.5 | 16.1 | 16.3 | 17.3 | 20.6 | 24.6 | 29.4 | 31.1 | 28.8 | 24.2 | 18.2 | 19.0 |
| 1916-17 | 17.7 | 18.5 | 18.9 | 19.9 | 21.6 | 25.3 | 30.4 | 34. 9 | 38. 3 | 38.1 | 35.7 | 25.3 | 23.3 |
| 1917-18 | 28.5 | 30.2 | 29.9 | 29.0 | 30.5 | 35.8 | 38.5 | 41.2 | 45.9 | 48.9 | 45.8 | 30.9 | 33.0 |
| 1918-19 | 30.4 | 30.6 | 29.5 | 33.0 | 35. 2 | 39.1 | 44.9 | 51.7 | 59.3 | 55. 3 | 34.8 | 33.9 | 34. 9 |
| 1919-20 | 36.0 | 38.9 | 36.1 | 37.9 | 40.6 | 43.1 | 51.0 | 59.1 | 69.6 | 60.9 | 48.5 | 40.5 | 41.8 |
| 1920-21 | 36.6 | 37.5 | 35. 9 | 37.8 | 42.5 | 48.6 | 54.6 | 62. 9 | 67.1 | 54.5 | 31.0 | 26.8 | 39.3 |
| v. 1914-192 | 26.0 | 27.0 | 26.2 | 27.3 | 29.5 | 33.6 | 38.2 | 43.9 | 49.0 | 45.5 | 34.8 | 27. | 30. |
| 1921-22 | 20.5 | 19.4 | 20.1 | 24.3 | 28.9 | 30.9 | 39.4 | 50.0 | 51.1 | 31.7 | 31.4 | 19.5 | 25.3 |
| 1922-23 | 20.0 | 20.9 | 20.2 | 20.3 | 20.6 | 27.3 | 34. 6 | 43.6 | 47.2 | 37.8 | 29.9 | 25.4 | 24.7 |
| 1923-24. | 21.6 | 21.8 | 20.9 | 21.3 | 23.6 | 29.8 | 34.6 | 45.6 | 45.5 |  |  |  |  |

Division of Crop and Livestock Estimates.
Table 604.-Eggs: Average price per dozen at certain cities, 1910-1923.
Western firsts, at boston.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$0. 32 | \$0. 27 | \$0. 23 | \$0.22 | \$0. 21 | \$0. 20 | \$0. 19 | \$0. 21 | \$0. 24 | \$0. 26 | \$0.30 | \$0. 32 | \$0.25 |
| 1911 | . 27 | . 19 | . 17 | . 17 | . 17 | . 16 | . 18 | . 18 | . 20 | . 25 | . 29 | . 33 | . 21 |
| 1912 | . 33 | . 36 | . 22 | . 21 | . 20 | 19 | . 20 | . 21 | . 25 | . 28 | . 31 | . 30 | . 26 |
| 1913 | . 26 | . 24 | . 20 | . 20 | . 21 | . 20 | . 18 | . 23 | . 28 | . 30 | . 40 | . 36 | . 26 |
| 1914 | . 33 | 30 | . 25 | . 20 | . 21 | . 20 | . 21 | . 23 | . 25 | 26 | . 34 | . 38 | 26 |
| 1915 | . 36 | . 27 | . 20 | . 21 | . 20 | . 19 | . 19 | . 20 | . 25 | . 28 | . 32 | . 34 | . 25 |
| 1916 | . 31 | . 27 | . 23 | . 22 | . 23 | . 23 | . 24 | . 27 | . 31 | -. 34 | . 40 | . 46 | . 29 |
| 1917 | . 45 | . 43 | . 31 | . 34 | . 36 | . 33 | . 34 | . 37 | . 41 | . 41 | . 49 | . 56 | . 40 |
| 1918 | . 63 | . 57 | . 38 | . 36 | . 35 | . 35 | . 41 | . 42 | . 46 | . 54 | . 65 | . 68 | . 48 |
| 1919 | . 63 | . 45 | . 42 | . 44 | . 47 | . 43 | . 45 | . 46 | . 47 | . 61 | . 67 | . 80 | . 52 |
| 1920 | . 71 | . 60 | . 48 | . 45 | . 45 | . 43 | . 45 | . 50 | . 55 | . 62 | . 76 | . 80 | . 57 |
| Av. 1914-1920 | . 49 | . 41 | . 32 | . 32 | . 32 | . 31 | . 33 | . 35 | . 39 | . 44 | . 52 | . 57 | . 40 |
| 1921 | . 68 | . 43 | . 31 | . 27 | . 25 | . 26 | . 32 | . 34 | . 38 | . 49 | . 60 | . 54 | . 41 |
| 1922 | . 42 | 40 | . 26 | . 26 | . 27 | . 25 | . 24 | . 25 | . 38 | . 44 | . 53 | . 55 | . 35 |
| 1923. | . 43 | . 38 | . 31 | . 28 | . 27 | . 25 | . 25 | . 28 | . 33 | . 40 | . 55 | . 48 | . 35 |

FRESH FIRSTS, AT NEW YORK.

| 1910 | \$0. 38 | \$0. 27 | \$0. 23 | \$0. 22 | \$0. 21 | \$0. 20 | \$0. 18 | \$0. 21 | \$0. 24 | \$0. 26 | \$0. 31 | \$0. 34 | \$0. 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1911 | . 28 | . 19 | . 17 | + 17 | . 17 | . 15 | . 17 | . 18 | . 21 | . 24 | . 32 | . 35 | . 22 |
| 1912 | . 34 | . 36 | . 22 | . 20 | . 19 | . 19 | . 20 | . 21 | . 24 | . 26 | . 31 | . 29 | . 25 |
| 1913 | . 24 | . 22 | . 19 | . 19 | . 20 | . 19 | . 19 | . 23 | . 27 | . 29 | . 39 | . 38 | . 25 |
| 1914 | . 33 | . 29 | . 26 | . 20 | . 20 | . 21 | . 21 | . 24 | 26 | 27 | . 35 | . 38 | . 27 |
| 1915 | . 38 | . 26 | . 20 | . 21 | . 20 | . 20 | . 20 | . 22 | . 26 | . 30 | . 35 | . 34 | . 26 |
| 1916 | . 31 | . 26 | . 22 | . 22 | . 22 | . 23 | . 25 | . 29 | . 33 | . 34 | . 41 | . 46 | . 30 |
| 1917 | . 46 | . 45 | . 31 | . 34 | . 35 | . 33 | . 34 | . 38 | . 41 | . 41 | . 49 | . 57 | . 40 |
| 1918 | . 65 | . 58 | . 38 | . 35 | . 35 | . 36 | . 41 | . 43 | . 47 | . 53 | . 65 | . 67 | . 49 |
| 1919 | . 62 | . 44 | . 44 | . 43 | . 46 | . 44 | . 46 | . 48 | . 51 | . 62 | . 69 | . 79 | . 53 |
| 1920 | . 71 | . 59 | . 48 | . 44 | . 44 | . 43 | . 47 | . 51 | . 57 | . 64 | . 77 | . 78 | . 57 |
| Av. 1914-1920 | . 49 | 41 | . 33 | . 31 | . 32 | . 31 | . 33 | . 36 | . 40 | . 44 | . 53 | . 57 | . 40 |
| 1921 | 67 | . 42 | . 31 | . 27 | . 25 | . 27 | . 33 | . 35 | . 39 | . 49 | . 58 | . 54 | . 41 |
| 1922 | . 41 | . 38 | . 25 | . 26 | . 27 | . 25 | . 24 | . 26 | . 39 | . 43 | . 53 | . 53 | . 35 |
| 1923. | . 42 | . 37 | . 31 | . 27 | . 27 | . 24 | . 25 | . 29 | . 35 | . 39 | . 53 | . 47 | . 35 |

1048 Yearbook of the Department of Agriculture, 1923.
Table 604.-Eggs: Average price per dozen at certain cities, 1910-1923Continued.

WESTERN EXTRA FIRSTS AT PHILADELPHIA.

| Calendar year | Jan. | Feb. | Mar. | Apr. | May. | June. | July, | Aug. | Sept. | Oct | Nov. | Dec. | $\begin{aligned} & \text { A ver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$0. 36 | \$0. 29 | \$0. 23 | \$0. 22 | \$0. 22 | \$0. 21 | \$0. 22 | \$0. 24 | \$0. 26 | \$0. 29 | \$0. 33 | \$0. 37 | \$0. 27 |
| 1911 | . 28 | . 21 | . 18 | . 18 | . 18 | . 17 | . 18 | . 20 | . 23 | . 27 | . 34 | . 33 | . 23 |
| 1912 | . 34 | . 36 | . 23 | . 21 | . 20 | . 21 | . 22 | . 23 | . 26 | . 30 | . 34 | . 31 | . 27 |
| 1913 | . 26 | . 23 | . 19 | . 19 | . 21 | . 21 | . 22 | 27 | . 30 | . 33 | . 39 | . 37 | 26 |
| 1914 | . 34 | . 28 | . 27 | . 20 | . 21 | 22 | . 22 | . 26 | . 28 | . 30 | . 35 | . 40 | 28 |
| 1915 | . 39 | . 27 | . 20 | . 21 | . 20 | . 20 | . 20 | . 23 | . 27 | . 32 | . 39 | . 36 | . 27 |
| 1916 | . 31 | . 26 | . 23 | . 22 | . 23 | . 24 | . 26 | . 29 | . 33 | . 36 | . 41 | . 45 | . 30 |
| 1917 | . 47 | . 45 | . 31 | . 35 | . 36 | . 35 | . 36 | . 39 | . 42 | . 42 | . 48 | . 56 | . 41 |
| 1918 | . 62 | . 61 | . 37 | . 37 | . 36 | . 39 | . 43 | . 46 | . 50 | . 56 | . 67 | . 69 | . 50 |
| 1919 | . 63 | . 44 | . 41 | . 44 | . 47 | . 46 | . 51 | . 52 | . 54 | . 65 | . 73 | . 80 | . 55 |
| 1920 | . 73 | . 62 | . 48 | . 44 | . 45 | . 47 | . 50 | . 54 | . 60 | . 67 | . 81 | . 80 | . 59 |
| A v. 1914-1920 | . 50 | 42 | . 32 | . 32 | . 33 | . 33 | . 35 | . 38 | . 42 | . 47 | . 55 | . 58 | . 41 |
| 1921. | . 66 | . 43 | . 32 | . 28 | . 25 | . 28 | . 35 | . 39 | . 41 | . 53 | . 64 | . 57 | . 43 |
| 1922 | . 42 | . 40 | . 26 | . 27 | . 27 | . 27 | . 26 | . 27 | . 39 | . 48 | . 59 | . 55 | . 37 |
| 1923 | . 43 | . 38 | . 31 | . 28 | . 29 | . 27 | . 29 | . 33 | . 42 | . 43 | . 62 | . 52 | . 38 |

FRESH FIRSTS AT CHICAGO.


FRESH EXTRAS AT SAN FRANCISCO.


Division of Statistical and Historical Research.

## SILK.

Table 605.—Silk, Japanese, filatures, Kansai No. 1: Average wholesale price per pound, New York, 1890-1923.

| Calendar year. | Jan. | Feb | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1890 | \$5. 117 | \$5. 456 | \$5. 335 | \$5. 335 | \$5. 335 | \$5. 335 | \$5. 141 | \$5. 141 | \$5. 141 | \$5. 092 | (1) | (1) |  |
| 1891 | (1) | (1) | 3. 941 | 4. 135 | 4. 135 | 4. 135 | 4. 026 | 4. 026 | 4. 026 | 3. 807 | \$3. 856 | \$4. 026 |  |
| 1892 | 4. 026 | 4. 026 | 4. 026 | 4. 026 | 4. 122 | 4. 026 | 4. 026 | 4. 074 | 4. 680 | 5. 093 | 4. 996 | 4. 802 | \$4.327 |
| 189 | 4. 802 | 4.971 | 5. 153 | 5. 274 | 5. 153 | 4. 971 | 4. 668 | 4. 244 | 4. 001 | 3. 880 | 3. 759 | 3. 613 | 4. 541 |
| 18 | 3. 589 | 3. 516 | 3. 419 | 3. 322 | 3. 298 | 3. 201 | 3. 250 | 3. 298 | 3. 468 | 3. 371 | 3. 322 | 3. 298 | 3. 363 |
| 1895 | 3. 346 | 3. 540 | 3. 371 | (1) | (1) | 3.516 | 4. 001 | 3. 759 | 4. 123 | 4. 123 | 4. 123 | 3. 953 |  |
| 1896 | 3. 856 | 3. 686 | 3. 589 | 3. 444 | 3. 116 | (1) | 3. 177 | 3. 152 | 3. 250 | 3. 419 | 3. 516 | 3. 274 |  |
| 1897 | 3. 250 | 3. 250 | 3. 274 | 3. 346 | 3.456 | 3.346 | 3. 444 | 3. 456 | 3. 613 | 3. 759 | 3. 759 | 3. 613 | 3. 464 |
| 1898 | 3. 686 | 3. 759 | 3. 710 | 3. 662 | 3. 565 | 3. 710 | 3. 565 | 3. 613 | 3. 710 | 3. 565 | 3. 565 | 3. 541 | 3. 638 |
| 1899 | 3.601 | 3. 928 | 4. 074 | 4. 365 | 4. 559 | 4. 462 | 4. 559 | 4. 341 | 4. 486 | 4. 389 | 4. 680 | 5. 456 | 4. 408 |
| 1900 | 5.311 | 5. 092 | 4. 898 | 4. 802 | 4. 365 | 3. 807 | 3.953 | 3. 832 | 3. 928 | 3. 177 | 3. 468 | 3. 395 | 4. 169 |
| 1901 | 3. 334 | 3. 298 | 3. 371 | 3. 346 | 3. 322 | 3. 395 | 3. 565 | 3. 613 | 3. 832 | 3. 759 | 3. 686 | 3. 638 | 3. 513 |
| 1902 | 3. 638 | 3. 734 | 3. 832 | 3. 759 | 3. 734 | 3. 759 | 3. 783 | 3. 783 | 3. 807 | 4. 038 | 4. 001 | 4. 001 | 3. 822 |
| 1903 | 4. 207 | 4. 256 | 4. 268 | 4. 171 | 4. 122 | 4. 207 | 4. 171 | 4. 147 | 4. 159 | 4. 171 | 4. 001 | 3. 735 | 4. 135 |
| 190 | 3. 783 | 3. 807 | 3. 613 | 3. 540 | 3. 565 | 3. 541 | 3. 492 | 3. 638 | 3. 650 | 3. 601 | 3. 734 | 3. 734 | 3. 642 |
| 1905 | 4. 074 | 3. 928 | 3. 832 | 3. 771 | 3. 771 | 3. 856 | 4. 026 | 4. 098 | 4. 268 | 4. 268 | 4.098 | 3. 904 | 3.991 |
| 1906 | 3. 977 | 3. 953 | 4. 052 | 4. 171 | 4. 147 | 4. 050 | 4. 026 | 4. 050 | 4. 195 | 4. 195 | 4. 341 | 4. 802 | 4. 163 |
| 1907 | 5.117 | 5. 020 | 5. 214 | 5. 480 | 5. 602 | 5. 286 | 5. 044 | 4. 753 | 5. 311 | 4. 874 | 4. 777 | 4. 244 | 5. 060 |
| 190 | 4. 050 | 4. 050 | 3. 759 | 3. 565 | 3. 468 | 3. 565 | 4. 001 | 4. 001 | 4. 050 | 4. 050 | 4. 026 | 4. 098 | 3.890 |
| 1909 | 4.098 | 4. 195 | 4.244 | 4.195 | 3. 807 | 3. 759 | $\overline{3.856}$ | 3.662 | 3. 662 | 3. 662 | 3.516 | 3.419 | 3.840 |
| 1910 | 3. 516 | 3. 468 | 3. 322 | 3. 419 | 3. 516 | 3. 419 | 3.419 | 3.371 | 3.419 | 3. 613 | 3.856 | 3.953 | 3.524 |
| 1911 | 3. 795 | 3. 795 | 3. 659 | 3. 480 | 3. 407 | 3. 407 | 3. 359 | 3. 310 | 3. 419 | 3. 274 | 3. 274 | (1) |  |
| 1912 | 3. 322 | 3. 346 | 3. 444 | 3. 444 | 3. 444 | 3. 395 | 3. 322 | 3. 444 | 3. 589 | 3. 686 | 3. 492 | 3. 414 | 3. 445 |
| 191 | 3. 468 | 3. 492 | 3. 395 | 3. 492 | 3. 444 | 3. 613 | 3.613 | 4. 050 | 4. 026 | 3. 759 | 3. 686 | 3. 638 | 3. 640 |
| Av. 1909-1913 | 3. 640 | 3.659 | 3.613 | 3. 606 | 3.524 | 3.519 | 3.514 | 3.567 | 3. 623 | 3.599 | 3.565 | 3. 606 | 3. 612 |
| 1914 | 3.832 | 3. 977 | 4.026 | 3.977 | 4. 074 | 4.074 | 3.977 | 3.953 | 3. 468 | 3. 201 | 2.910 | 2.862 | 3.694 |
| 1915 | 2. 910 | 3. 177 | 3. 031 | 3. 201 | 3. 201 | 3. 201 | 3. 007 | 3. 080 | 3. 322 | 3.322 | 3. 783 | 4. 583 | 3. 318 |
| 1916 | 4. 462 | 4. 996 | 5. 432 | 4. 777 | 4. 462 | 4. 363 | 4. 527 | 4. 874 | 4. 704 | 4. 996 | 5. 432 | 5. 384 | 4. 867 |
| 191 | 5. 335 | 5. 141 | 4. 947 | 5. 384 | 5. 287 | 5. 675 | 5. 675 | 6. 645 | 6. 063 | 5. 432 | 5. 432 | 5. 093 | 5. 509 |
| 1918 | 5. 384 | 5. 481 | 5. 481 | 5. 772 | 6. 160 | 6. 160 | 6. 888 | 6. 790 | 6. 887 | 6. 742 | 6. 984 | 6. 548 | 6. 273 |
| 1919 | 5. 675 | 5. 772 | 6. 063 | 6. 645 | 7. 663 | 9. 603 | 9. 749 | 8. 827 | 9. 506 | 11. 058 | 12. 368 | 13. 629 | 8. 880 |
| 1920 | 16.975 | 14. 065 | 12.998 | 9. 506 | 6. 305 | 6. 451 | 4.608 | 4. 705 | 6. 321 | 5. 978 | 5. 782 | 5.635 | 8. 277 |
| Av. 1914-1920. | 6. 368 | 6.087 | 5.997 | 5.609 | 5.307 | 5.647 | 5.490 | 5.553 | 5.753 | 5.818 | 6. 099 | 6. 248 | 5.831 |
| 1921 | 5.782 | 5.733 | 5. 880 | 5. 782 | 5.635 | 5.733 | 5.733 | 5. 390 | 5.978 | 6.027 | 7.154 | 7.595 | 6.035 |
| 1922 | 6. 762 | 6. 566 | 6. 027 | 6. 517 | 7. 203 | 7. 301 | 7.056 | 7. 105 | 7. 644 | 8.330 | 7. 889 | 8. 232 | 7. 219 |
| 192 | 8. 183 | 8. 771 | 8. 624 | 9. 310 | 8. 428 | 7.693 | 7.154 | 7.350 | 9.800 | 7.840 | 7.840 | 7.742 | 8. 228 |

[^292]Table 606.-Raw silk: Production in undermentioned countries, 1909-1922.

| Country. | Average 19091913. | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Italy WESTERN EUROPE. | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 8,524 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds } \\ 7,963 \end{gathered}$ | $\begin{array}{\|c} 1,000 \\ \text { pounds. } \\ 6,217 \end{array}$ | $\begin{array}{r} 1,000 \\ \text { pounds. } \\ 5,942 \end{array}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 4,079 \end{gathered}$ | $\begin{array}{r} 1,000 \\ \text { pounds. } \\ 7,330 \end{array}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 7,154 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ $8,234$ |
| France | -992 | ${ }^{7} 485$ | - 452 | 529 | ${ }^{4} 408$ | +551 | - 430 | 437 |
| Spain | 182 | 198 | 154 | 165 | 154 | 177 | 132 | 170 |
| Total | 9, 698 | 8,646 | 6, 823 | 6,636 | 4,641 | 8,058 | 7,716 | 8,841 |
| Eastern Europe, Levant, and Central Asia ${ }^{1}$ | 6,611 | 2, 623 | 2, 624 | 2, 624 | 2, 039 | 1,653 | 1,213 | 1,543 |
| China: |  |  |  |  |  |  |  |  |
| Exports from Shanghai | 12, 576 | 10, 340 | 10, 097 | 10, 251 | 8,598 | 7, 860 | 8, 840 | 10,648 |
| Exports from Canton | 5, 146 | 5, 346 | 5,170 | 4,134 | 5, 071 | 4,167 | 5, 688 | 7,000 |
| Japan: Exports from Yokohama | 21, 898 | 29, 431 | 34, 050 | 31, 416 | 32, 188 | 24, 008 | 40,984 | 41,546 |
| British India: Exports from Bengal and Cashmere | 428 | 254 | 232 | 242 | 220 | 176 | 187 | 165 |
| Indo-China: Exports from Saigon, Haiphong, etc | ${ }^{2} 32$ | 7 | 11 | 11 | 11 | 33 | 44 | 55 |
| Total | 40,080 | 45, 378 | 49, 560 | 46,054 | 46,088 | 36,244 | 55, 743 | 59, 414 |
| Grand total | 56,389 | 56,647 | 59,007 | 55, 314 | 52,768 | 45,955 | 64,672 | 69,788 |

[^293]
## FORESTRY AND FOREST PRODUCTS.

## Table 607.-Forest areas, United States.

| Region. | Original forest areas. |  | Present forest areas. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Total. ${ }^{1}$ |  | Saw timber. |  | Cordwood. | Not re-stocking. | Conifers. | Hardwoods. |
|  |  |  | Virgin. | Second growth |  |  |  |  |
|  | 1,000 | Per |  |  | 1,000 | Per | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | acres. | cent. | acres. | cent. | acres. | acres. | acres. | acres. | acres. | acres. |
| New England.- | 38, 908 | 4.7 | 25, 708 | 5. 5 | 2,000 | 9, 261 | 8,872 | 5,575 | 16, 208 | 9,500 |
| Middle Atlantic | 69, 610 | 8.5 | 28,678 | 6.1 | 1,896 | 9,559 | 10,793 | 6, 430 | 11, 550 | 17, 128 |
| Lake-1. | 103, 680 | 12.6 20.7 | 57,100 60,182 | 12.8 | 10,100 7,600 | $\xrightarrow{13,930}$ | 12,570 | 20,500 2,270 | 28,150 3,220 | 28,950 56,962 |
| South Atlantic and | 170, 560 | 20.7 | 60, 182 |  |  |  |  |  |  |  |
| East Gulf .-.-.-.-..- | 170, 240 | 20.7 | 99, 000 | 21.1 | 18,300 | 27,900 | 32,080 | 20, 720 | 71,700 | 27,300 |
| Lower Mississippi Val- | 128, 400 | 15.6 | 78, 865 | 16.8 | 20,835 | 20, 200 | 24,075 | 13,755 | 42,664 | 36,201 |
| Rocky Mountain. | 63, 720 | 7.8 | 60, 842 | 12.9 | 37, 746 | 3,313 | 14, 533 | 5, 250 | 60, 842 |  |
| Pacific ${ }^{2}$-... | 77, 120 | 9.4 | 59, 100 | 12.6 | 39, 683 | 5,292 | 7,425 | 6,700 | 59,100 |  |
| United States | 822, 238 | 100.0 | 469, 475 | 100.0 | 138, 160 | 113,756 | 136, 359 | 81, 200 | 293, 434 | 176, 041 |

'Forest Service. Compiled from report on Senate Resolution 311 and "Forest Resources of the World."
${ }^{1}$ The areas given in this table refer only to land capable of producing saw timber or pulp timber in commercial quantities, and do not include the open woodland and chaparral of the Southwest.
${ }_{2}$ Alaskan areas are not tabulated because so little is known of the interior forests that the best estimates are only approximations. The figures now commonly used indicate $65,000,000$ acres of coniferous forest and $5,000,000$ acres of hardwoods. The bulk of the merchantable timber is confined to a belt along the coast of the southeastern part of the Territory, containing approximately $5,000,000$ acres of forest.

Table 608.-National forests, State forests and parks, and municipal forests, areas 1923. ${ }^{1}$

| State. | Aggregate. | $\begin{gathered} \text { National } \\ \text { forests } \\ \text { (net area). } \end{gathered}$ | State forest lands. |  |  |  | Municipal and county forest land. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Total. ${ }^{2}$ | State forests. | State parks. | Other State forest land. |  |
| Alabama | Acres. $291,430$ | Acres. $97,198$ | Acres. <br> 175, 000 | Acres. | Acres. | Acres. <br> 175, 000 | $\begin{gathered} \text { Acres. } \\ 19,232 \end{gathered}$ |
| Arizona- | 11,235, 434 | 11, 204,304 | 31, 130 |  |  |  |  |
| Arkansas | 19, 2111,472 | 19,147, 587 | 56, 245 |  | 11, 400 | 44,845 | 7,640 |
| Colorado | 13, 426,668 | 13, 277, 038 | 120,000 |  |  | 120, 000 | 29,630 |
| Connecticut | 28,472 |  | 14,150 | 6,529 | 5,121 | 2,500 | 14,322 |
| District of Colum | 1,632 339 |  |  |  |  |  | 1,632 |
| Florida-. | 339,858 | 337, 938 | 1,920 |  | 1,920 |  |  |
| Georgia | 153,457 $19,984,185$ | 19,056,871 | 927, 154 | 685, 000 | 14, 814 | 227, 340 | 160 |
| Illinois. | 25, 040 |  | 40 |  | 40 |  | 25, 000 |
| Indiana | 4, 351 |  | 4,351 4 500 | 2,851 |  |  |  |
| Iowa-.. | 4, 450 |  | 4, ${ }^{4} 500$ |  | 4, 500 |  | 200 |
| Kansas | 418, 059 | 32,256 | 385, 000 |  |  | 385,000 | 803 |

[^294] unreserved public domain. The State and municipal forests are as of July 1, 1922.

Table 608.-National forests, State forests and parks, and municipal forests, areas 1923-Continued.

| State. | Aggregate. | National forest (net area). | State forest lands. |  |  |  | Municipal and county forest land. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Total. | State forests. | State parks. | Otber State forest land. |  |
| Maryland | Acres. $13,235$ | Acres. | Acres. $5,835$ | Acres. $3,835$ | Acres. | Acres. 2, 000 | Acres. $7,400$ |
| Massachusetts | 129, 513 |  | 83, 353 | 50,353 | 13, 000 | 20,000 | 46,160 |
| Michigan | 773, 117 | 124, 082 | 648, 000 | 338,000 | 10,000 | 300, 000 | 1,035 |
| Minnesota | 1, 784, 069 | 1,047, 941 | 736,068 | 381, 000 | 5,068 | 350, 000 | , .60 |
| Missouri. | 50,000 | 1,017,011 | 50, 000 | 381, |  | 50,000 |  |
| Montana | 16, 447, 715 | 15, 881, 715 | 566, 000 | 460, 000 |  | 106,000 |  |
| Nebraska | 205, 986 | 205, 944 |  |  |  |  | 42 |
| Nevada. | 4, 976, 513 | 4, 976, 513 |  |  |  |  |  |
| New Hampshir | 431, 951 | 404, 945 | 18,950 | 18,000 |  | 950 | 8,056 |
| New Jersey | 53, 164 |  | 17, 064 | 16,504 | 560 |  | 36, 100 |
| New Mexico | 8, 705, 984 | 8, 535, 984 | 170, 000 |  |  | 170,000 |  |
| New York | 2, 215, 853 |  | 2,046, 853 | 1,992, 516 | 33,962 | 20,375 | 169,000 |
| North Carolina | 390, 279 | 359, 690 | 3, 725 | . 300 | 1,225 | 2, 200 | 26, 864 |
| North Dakota | 250 |  | 250 |  | 250 |  |  |
| Ohio. | 54,948 |  | 43,471 | 20, 371 | 200 | 22, 900 | 11,477 |
| Oklahoma | 61, 480 | 61, 480 |  |  |  |  |  |
| Oregon | 13, 217, 047 | 13, 137, 447 | 74,800 |  | 809 | 74,000 | 4,800 |
| Pennsylvania | 1, 193, 134 |  | 1, 174, 401 | 1, 126, 237 | 1,410 | 46,754 | 18,733 |
| Rhode Island | , 104 |  |  |  |  |  | 104 |
| South Carolina | 18,558 | 18,558 |  |  |  |  |  |
| South Dakota | 1, 145, 587 | 1, 057, 747 | 87, 840 | 61, 440 |  | 26, 400 |  |
| Tennessee. | 266, 210 | 241, 210 | 25, 000 |  |  | 25, 000 |  |
| Texas. Utah. | 7, 455, 3110 |  |  |  |  |  | 310 |
| Vermont | $7,455,110$ 43,945 | 7, 453, 400 |  |  |  |  | 1,710 |
| Vermont | 43, 945 |  | 42, 100 | 29,300 | 800 | 12, 000 | 1,845 |
| Virginia | 443, 301 | 431, 513 | 2, 088 | 588 |  | 1,500 | 9,700 |
| Washington | 10, 776, 433 | 9, 900, 869 | 863, 600 | 58, 000 | 5, 600 | 800, 000 | 11,964 |
| West Virginia | 132, 108 | 132, 108 |  |  |  |  |  |
| Wisconsin | 300, 055 |  | 300, 055 | 300, 000 | 55 |  |  |
| W yoming. | 8, 417, 773 | 8, 417, 773 |  |  |  |  |  |
| Alaska. | 20, 571, 549 | 20, 571, 549 |  |  |  |  |  |
| Porto Rico | 12,443 | 12, 443 |  |  |  |  |  |
| Total | 166, 369, 984 | 157, 236, 807 | 8, 679, 198 | 5,550, 824 | 112, 480 | , 015,894 | 453, 979 |

Forest Service.
Table 609.-Forest areas of the world, by principal divisions and countries.

| Division and country. | Forest area. | Division and country. | Forest area. |
| :---: | :---: | :---: | :---: |
| Asiatic Russia | Acres. $1,136,153,150$ | Belgian Congo | Acres. $180,000,000$ |
| India | 260, 139, 520 | Rhodesia. | 170, 304, 009 |
| China | 190, 000, 000 | Nigeria | 139, 776, 600 |
| Dutch East Indies | 154, 339, 000 | French Congo | $80,000,000$ |
| Japan. | 90, 484, 640 | Cameroon. | $35,000,000$ |
| Other As | 264, 898, 280 | Ivory Coast | 30,000, 000 |
| Asia. | 2, 096, 014, 590 | Other Africa | 162, 378, 030 |
| Brazil | 1,000,000,000 | Africa | 797, 458,000 |
| Argentina | 264, 000,000 | Russia | 440,000, 000 |
| Peru | 224, 000, 000 | Sweden | 55, 550, 000 |
| Colombia | 150, 000, 000 | Finland | 49, 410, 000 |
| Bolivia | 128, 000, 000 | Germany | 30, 905, 840 |
| Venezuela | 103, 840, 000 | France | 25,508, 420 |
| Other South America | 222, 850, 000 | Other Europe. | 172, 744, 200 |
| South America | 2,092, 690,000 | Europe | 774, 118, 460 |
| Canada | 596, 746, 000 | New Guinea | 160,020,000 |
| United States ${ }^{1}$ | 550, 000, 000 | Australian Commonwealth | 90, 291, 500 |
| Alaska | 95, 000, 000 | New Zealand. | 17,073, 920 |
| Mexico | 74, 100,000 | Other Oceania | 16, 073, 300 |
| Other North America | 128, 111, 000 | Australia and Oceania | 283, 458, 720 |
| North America | 1, 443, 957, 000 | Total world divisions | 7, 487, 696, 770 |

[^295]Table 610.-Woodland and timberland on farms, area by States and lumber regions, 1919.

| States and regions. | Total. ${ }^{1}$ | Woodland. | Timberland. ${ }^{2}$ |
| :---: | :---: | :---: | :---: |
|  | Acres. | Acres. | Acres. |
| Alabama | 8, 301, 177 | 5, 799, 880 | 2, 501, 297 |
| Arizona | 523, 648 | 469, 136 | 54,512 |
| Arkansas | 7, 396, 028 | 5, 036, 550 | 2, 359, 478 |
| California | 4, 252, 287 | 3, 680, 248 | 572, 03. |
| Colorado. | 1, 415, 420 | 1, 272, 491 | 142, 929 |
| Connecticut | 683, 719 | 611, 089 | 72,630 |
| Delaware -------- | 222, 658 | 176, 471 | 46, 187 |
| District of Columbia | - 78.828 | $\begin{array}{r}779 \\ \hline 23193\end{array}$ | 548, 858 |
| Florida | 2, 780, 790 | 2, 231, 932 | 548, 858 |
| Georgia. | 10, 491, 848 | 7, 798, 508 | 2, 693, 340 |
| Idaho. | 820, 876 | 647, 027 | 173, 849 |
| Illinois. | 3, 102, 579 | 2, 644, 115 | 458, 464 |
| Indiana | 3, 141, 042 | 2, 331, 218 | 809, 824 |
| Iowa | 2, 295, 274 | 2, 142, 832 | 152, 442 |
| Kansas. | 1,313, 093 | 1, 271, 729 | 41,364 |
| Kentucky | 6, 018, 280 | 4, 196,708 | 1,821,572 |
| Lauisiana | 3, 614, 040 | 2, 930, 557 | 683, 483 |
| Maine. | 3, 447, 597 | 1, 803, 696 | 643, 901 |
| Maryland | 1,327, 221 | 1, 021, 463 | 305,758 |
| Massachusetts | 1, 030, 386 | 782, 043 | 248, 343 |
| Michigan | 3, 217, 000 | 2, 774, 353 | 442, 647 |
| Minnesota | 4,482, 656 | 3, 953, 264 | 529,392 |
| Mississippi | 7,014, 898 | 5, 417, 649 | 1,597, 249 |
| Missouri. | 8, 553, 857 | 6, 414, 327 | 2, 139, 530 |
| Montana | 1,646, 462 | 1, 496, 980 | 149, 482 |
| Nebraska | 900, 933 | 870, 396 | 30, 537 |
| Nevada. | 28, 637 | 26, 622 | 2, 015 |
| New Hampshire | 1,299, 838 | 872, 723 | 427, 115 |
| New Jersey | 454,768 | 380, 015 | 74, 753 |
| New Mexico | 1,817,469 | 1,750, 297 | 67,163 |
| New York | 4, 100, 567 | 3, 132, 799 | 1,027,768 |
| North Carolina | 10, 299, 547 | 8, 192, 526 | 2, 107, 021 |
| North Dakota | 679, 836 | 671, 077 | 8,759 |
| Ohio | 3, 198, 929 | 2, 338, 085 | 800, 844 |
| Oklahoma | 4,206, 171 | 3, 976, 689 | 220, 472 |
| Oregon | 2, 309, 596 | 1,550, 132 | 759, 464 |
| Pennsylvania | 4, 043, 902 | 2, 847, 766 | 1, 196, 136 |
| Rhode Island . | 130, 462 | 100, 243 | 30, 219 |
| South Carolina | 5, 302, 575 | 4, 018, 413 | 1, 284, 162 |
| South Dakota | 530, 183 | 521, 839 | 14, 344 |
| Tennessee | 7,080, 169 | 4,866,948 | 2, 213, 221 |
| Texas | 14, 532, 913 | 13, 466, 924 | 1, 065,989 |
| Utah | 212, 762 | 204, 354 | 8,408 |
| Vermont | 1,428, 309 | 954, 592 | 473,717 |
| Virginia | 7, 907, 352 | 5, 757, 322 | 2, 150,030 |
| Washington | 1, 813, 061 | 1, 475, 510 | 337, 551 |
| West Virginia | 3, 469, 444 | 2, 334, 658 | 1, 134,786 |
| Wisconsin. | 5, 401, 910 | 4, 858, 406 | 543, 504 |
| W yoming | 421, 806 | 386, 876 | 34, 930 |
| United States. | 167, 730, 794 | 132, 460, 267 | 35, 27e, 527 |
|  |  |  |  |
| Northeastern | 17, 230, 255 | 12,683, 679 | 4, 546, 576 |
| Lake. | 13, 101, 566 | 11, 586, 023 | 1,515,543 |
| Central | 34, 564, 300 | 25, 126,059 | 9, 438,241 |
| North Carolina p | 23, 509, 474 | 17, 968, 261 | 5,541, 213 |
| Southern | 58, 337, 865 | 46, 658, 699 | 11, 679, 166 |
| North Pacific. | 4,122,657 | 3, 025, 642 | 1,097,015 |
| South Pacific | 4, 280, 924 | 3, 706, 870 | 574,054 |
| North Rockies. | 2, 467, 338 | 2, 144, 007 | 323, 331 |
| South Rockies. | 4, 391, 096 | 4, 083, 154 | 307,942 |
| Prairie.- | 5, 725, 319 | 5, 477, 873 | 247, 446 |

Forest Service. Compiled from reports of Bureau of the Census.
${ }^{1}$ The total embraces all land on farms covered with natural or planted forest trees, which produce or later may produce firewood or other forest products.
${ }_{2}$ Timberland is that part of the total forested area on farms which is covered with trees mostiy of sawlog sizes.

Table 611.-Total stand and saw timber of the United States and Alaska, 1920.

| Region. | Total stand. |  |  |  | Saw timber. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total. | Per cent. | On saw timber areas. | On cordwood areas. | Total. | Softwoods. | Hardwoods. |
| New England. | Million cubic feet. 2085 | 3 | Million cubic feet. 15, 492 | Million cubic feet. | Million board feet. | Million board feet. | Million board feet. |
| Middle Atlantie | 24, 897 | 3 | 17, 126 | 7,771 | 44, 857 | 15, 353 | 29,501 |
| Lake. | 50, 584 | 7 | 41, 534 | 9,050 | 110, 110 | 40,760 | 69, 3亏0 |
| Central | 85, 118 | 11 | 61, 319 | 23, 799 | 144, 470 | 11,318 | 133, 152 |
| South Atlantic and East Gulf | 95, 158 | 13 | 73, 060 | 23, 098 | 220, 577 | 136, 827 | 83,750 |
| Lower Mississippi Valley | 118, 364 | 16 | 95, 252 | 23, 112 | 280, 908 | 148, 308 | 132,600 |
| Rocky Mountain. | 61, 893 | 8 | 53, 755 | 8,138 | 223, 141 | 223, 141 |  |
| Pacific coast | 287, 724 | 39 | 274, 874 | 12,850 | 1, 141, 031 | 1, 141, 031 | (1) |
| United States. |  | 100 |  | 113, 176 | 2, 214, 893 | 1,755, 218 | 459, 675 |
| Alaska ----------------1.- | ${ }^{(2)}$ |  | ${ }_{6}{ }^{(3)}$ | ${ }_{112}{ }^{(2)}$ | ${ }^{3} 102,000$ | ${ }^{3} 100,000$ | ${ }^{3} 2,000$ |
| United States and Alaska | 745, 588 | 100 | 632, 412 | 113, 176 | 2, 316, 893 | 1, 855, 218 | 461,675 |

Forest Service. Compiled from "Forest Resources of the World" and other sources.
1 Relatively small quantities of hardwoods. No estimates available.
2 No estimate.
${ }_{3}$ Figures only approximations, due to the lack of knowledge, particularly of the forests of interior Alaska.
Table 612.-Saw timber stand in the United States by species and regions, 1920.

| Species. | Total. | New England. | Middle Atlantic. | Lake. | 'Central. | Soath Atlantic and East Gulf. | Lower Mississippi. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Million | Millios | Natution | Miltion | Mrillion | Million | Million |
|  | board | board | board | board | board | board | board |
|  | feet. | feet. | feet. | feet. | feet. | feet. | feet. |
| Oak | 157, 372 | 1,510 | 5,500 | 8, 301 | 64, 712 | 27, 889 | 49, 460 |
| Birch, beech, and maple | 90, 784 | 8,143 | 16, 897 | 36,076 | 20, 505 | 4,522 | 4,641 |
| Bed gam --------- | 44, 222 |  | 176 |  | 3, 728 | 13,400 | 26,918 |
| Chestnut | 19, 319 | 960 | 3,754 |  | 7,989 | 6, 616 |  |
| Hickory | 15, 784 | 40 | 412 | 187 | 6, 791 | 3, 183 | 5,171 |
| Cottonwood and aspen | 10, 824 | 374 | 13 | 999 | 2,131 | 1,340 | 5,967 |
| Ash | 9,988 | 215 | 513 | 1,893 | 2, 929 | 1,256 | 3,182 |
| Yellow poplar | 9,611 |  | 126 | 1,8 7 | 5, 193 | 4, 020 | 265 |
| Others | 101, 771 | 77 | 2,113 | 21,887 | 19, 174 | 21, 524 | 36,996 |
| Fastern hardwoods. | 459, 675 | 11, 319 | 20,504 | 69,350 | 133, 152 | 83,750 | 132, 660 |
| Southern yellow pine | 257, 691 |  |  |  | 365 | 121, 442 | 135,884 |
| Hemlock | 30, 896 | 1,804 | 5, 066 | 18,301 | 3,910 | 1,845 |  |
| Spruee and fir | 31, 572 | 23, 971 | 2,948 | 3,772 |  | 881 |  |
| Whpress --------- | 22,921 | 9,816 | 4,037 | 8,090 | 515 | 11,208 | 11,733 |
| Others--------------- | 24, 509 | 2,880 | 13,382 | 10,687 | ${ }^{1} 6,528$ | $\bigcirc 362$ | 711 |
| Eastern softwoods | 391, 046 | 38, 480 | 15, 353 | 40,760 | 11,318 | 136, 827 | 148,308 |
|  |  | Rocky Mountain. | Pacific coast. |  |  |  |  |
| Domgras fir | 595, 505 | 36, 094 | 558, 571 |  |  |  |  |
| Western yellow pine and Jeffrey pine.- | 249, 578 | 06, 125 | 183, 453 |  |  |  |  |
| Western fremlock | 95, 092 | 1,092 | 94,000 |  |  |  |  |
| True firs | 91, 349 | 8,870 | 82,479 |  |  |  |  |
| Pedwood. | 72, 208 |  | 72, 808 |  |  |  |  |
| Western white pine and sugar pine. $\qquad$ | 57, 071 | 18,586 | 38, 485 |  |  |  |  |
| Western red oedar. | 53, 348 | 4,348 | 40, 000 |  |  |  |  |
| Lrodgepole pine | 43,919 | 39, 353 | 4,586 |  |  |  |  |
| Spruce. | 39, 822 | 26,467 | 13,355 |  |  |  |  |
| Others | 66, 280 | 21, 366 | 44, 914 |  |  |  |  |
| Western softwoods. | 1, 364, 172 | 223, 141 | 1,141, 1 ¢1 |  |  |  |  |

## Forest service.

${ }^{1}$ Includes small amounts of various species of yellow pine.

Table 613.-National forests: Estimated quantities of standing timber June 30, 1922.


Lincoln
${ }^{1}$ Montana, northeastern W ashington, northern Idaho, and northwestern South Dakota
${ }_{2}^{1}$ Colorado, W yoming (except western Wyoming), South Dakota, Nebraska, northern Michigan, and northern Minnesota.
${ }^{3}$ Arizona (except north of Grand Canyon) and New Mexico.
1 Utah, southern Idaho, western W yoming, eastern and central Nevada, and northwestern Arizona.

- California and southwestern Nevada.

Table 613.-National forests: Estimated quantities of standing timber June 30, 1922-Continued.

| District and forest. | Saw timber. | Cordwood. | District and forest | Saw timber. | Cordwood. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| DISTRICT 6.6 |  |  | DISTRICT 7.7 |  |  |
| Cascade | $\begin{gathered} M \text { feet b. m. } \\ 23,589,613 \end{gathered}$ | Cords. | Alabama | $M$ feet b. $m$. 94, 489 | Cords. 30, 000 |
| Chelan | 4,548, 126 |  | Arkansas | 1,281,380 |  |
| Columbia | 11, 011, 571 |  | Cherokee | -346, 709 | 407, 423 |
| Colville. | 2, 681, 508 |  | Florida | 182, 250 | 1,287,785 |
| Crater. | 8, 860, 128 |  | Luquillo |  |  |
| Deschutes | 7, 317, 000 |  | Monongahela | 22, 015 | 10,700 |
| Fremont | 6, 597, 280 |  | Nantahala | 282, 381 | 617,600 |
| Malheur | 6,560, 000 |  | Natural Bridge | 152, 314 | 251, 768 |
| Ochoco | 7, 675, 000 |  | Ozark | 416, 750 | 251, |
| Olympic | 30,000, 000 |  | Pisgah | 289, 030 | 2,280, 000 |
| Oregon | 14, 105, 653 |  | Shenandoah | 140, 172 | 226,671 |
| Rainier | 7,232, 290 |  | Unaka_---------------- | 152, 732 | 515, 024 |
| Santiam | 12, 023, 499 |  | White Mountain .-.-.-. | 923, 764 |  |
| Siskiyou | 11, 980, 343 |  | Wichita |  |  |
| Siuslaw | 5,913, 080 |  | Total, district 7-.- | 4, 283, 986 | 5, 626, 971 |
| Snoqualmie | 8, 936, 786 |  |  |  |  |
| Umatilla | 4, 528, 795 |  | DISTRICT 8.8 |  |  |
| Umpqua | 23, 594, 201 |  |  |  |  |
| Wallowa | 1, 800, 130 |  | Chugach <br> Tongass | $\begin{array}{r} 6,589,950 \\ 73,538,000 \end{array}$ |  |
| Washington | 10, 437, 269 |  |  |  |  |
| Wenatchee | 3, 608, 500 |  | Tôtal, district 8. | 80, 127, 950 |  |
| Whit | 5, 864, 758 |  | Total, all districts | 557, 571, 143 | 93, 721, 134 |
| Total, district 6..- | 218, 865, 530 |  | , all districts | 557, 571, | 9, 721,134 |

SUMMARY BY STATES.

| State, | Saw timber. | Cordwood. | State. | Saw timber. | Cordwood. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Alabama | $\begin{array}{r} M \text { feet } b . ~ m . ~ \\ 94,489 \end{array}$ | Cords. $30,000$ | New Hampshire | $M \text { feet b. } m$ | Cords. |
| Alaska | 80, 127, 950 |  | New Mexico-. | 10, 262, 864 | 11, 484, 420 |
| Arizona | 14, 575, 357 | 11, 426, 533 | North Carolina | 454, 917 | 2,662,531 |
| Arkansas | 1, 689, 130 |  | Oklahoma. |  |  |
| California | 99, 591, 705 | 25, 430, 728 | Oregon. | 136, 096, 751 |  |
| Colorado | 21, 177, 413 | 10,659, 397 | Porto Rico |  |  |
| Florida | 182, 250 | 1, 287, 785 | South Carolina | 24, 064 | 52, 636 |
| Georgia | 259, 695 | 1390, 730 | South Dakota | 2, 641, 931 | 896, 000 |
| Idaho | 54, 223, 550 | 6,017, 207 | Tennessee | 295, 008 | 588, 816 |
| Maine | 67, 725 |  | Utah | 5, 364, 881 | 6, 669, 716 |
| Michigan | 4,295 | 18, 580 | Virginia | 309, 746 | 570, 004 |
| Minnesota | 524, 500 | 1, 952, 000 | W ashington | 80, 461, 018 |  |
| Montana | 35, 189, 369 |  | West Virginia | 41, 923 | 44,469 |
| Nebraska |  |  | W yoming | 12, 876, 222 | 6, 971,836 |
| Nevada | 169,351 | 6,567, 746 | Tota | 557, 571, 143 | 93, 721, 134 |

Forest Service.
6 Washington (except northeastern Washington) and Oregon.
${ }^{7}$ Arkansas, Alabama, Florida, Oklahoma, South Carolina, Georgia, North Carolina, Tennessee, Virginia, West Virginia, New Hampshire, Maine, Porto Rico.
8 Alaska.
Note.-In round numbers the total estimated stand, including cordwood converted to board feet, is $590,000,000 \mathrm{M}$ feet b . m .

Table 614.-National forests: Estimated quantities of saw timber, by species, June 30, 1922.

| Species. | Thousands of board feet. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | District 1. | District 2. | District 3. | District 4. | District 5. | District 6. | District 8. | - Total. |
| Douglas fir. | 12, 554, 153 | 1,549, 301 | 2, 195, 112 | 8,830,525 | 16, 476, 048 | 100, 960, 806 |  | 142, 565, 945 |
| Western yellow pine $\qquad$ | $5,450,232$ | 5, 031, 374 | 19, 058, 288 | 11, 286, 392 | 31, 192, 012 | 33, 122, 435 |  | 105, 190, 733 |
| Western hemlock.-- | 5, 51, 661 |  |  |  |  | 29, 693, 309 | 52, 633, 428 | 82, 378, 398 |
| Lodgepole pine.---- | 17, 604, 352 | 10, 109, 010 |  | 8, 507, 930 | 2,634,906 | 4, 737, 354 |  | 43, 593, 552 |
| Alpine species | 1, 808, 340 | 1, 789, 136 | 129, 301 | 2, 320,992 | 75,211 | 25, 345, 312 |  | 31, 468, 292 |
| Cedar--------------- | 2, 738, 161 | 5, 275 |  |  | 4, 404, 971 | 8, 573, 908 | 8, 104, 406 | 23, 826,721 |
| Engelmann spruce- | 5, 448, 782 | 12, 363, 529 | 754, 297 | 3, 796, 926 |  | 1, 396, 774 |  | $\begin{aligned} & 23,760,308 \\ & 23,756,657 \end{aligned}$ |
| White fir | ${ }^{1} 3,246,189$ | 48,064 | 739, 027 | 132, 622 | 14, 461, 403 | $5,129,352$ $1,555,005$ |  | $\begin{aligned} & 23,750,657 \\ & 20,065,758 \end{aligned}$ |
| Sitka spruce |  |  |  |  |  | 1, 555, 005 | 18, 510, 753 | $\begin{aligned} & 20,065,758 \\ & 13,384,526 \end{aligned}$ |
| Sugar pine |  |  |  |  | 11, $12,935,782$ | 1, 729, 437 |  | $\begin{aligned} & 13,384,526 \\ & 12,934,782 \end{aligned}$ |
| Larch. | 6, 852, 121 |  |  | 499, 639 |  | 4, 312, 438 |  | 11, 664, 198 |
| White pine. | 6, 045, 523 | 40,200 |  |  | 151, 681 | 1,247, 365 |  | 7, 484, 769 |
| Jeffirey pine |  |  |  |  | 1,925, 605 |  |  | 1,925, 605 |
| Hardwoods ------- | 2, 600 | 1, 225, 305 |  | 505, 949 |  | 33, 376 | 122, 703 | 1,889, 933 |
| Black and white spruce |  | 117, 020 |  |  |  |  | 756, 660 | $\begin{aligned} & 873.680 \\ & 336,297 \end{aligned}$ |
| Redwood |  |  |  |  | 258, 147 | 78, 150 |  | $\begin{aligned} & 336,297 \\ & 200,400 \end{aligned}$ |
| Blue spruc |  | $\begin{array}{r} 96,000 \\ 182,300 \end{array}$ |  | 104, 400 |  |  |  | $\begin{aligned} & 200,400 \\ & 182,300 \end{aligned}$ |
| Norway pine |  | 76,000 |  |  |  |  |  | 76, 0\%0 |
| Juniper | 3,500 | 8,000 |  | 43, 330 |  |  |  | 54, 830 |
| Miscellaneous_-.-.- <br> Total, all species, district 7 .-....- | ${ }^{2} 1,924,783$ | ${ }^{3} 19,595$ | ${ }^{4} 243,277$ | ${ }^{5}$ 2, 189, 351 | ${ }^{6} 345,958$ | 950, 509 | --. - | $\begin{aligned} & 5,673,473 \\ & 4,283,986 \end{aligned}$ |
| Total | 63, 730, 397 | 32, 710, 109 | 23, 119, 302 | 38, 218, 056 | 96, 515, 813 | 218, 865, 530 | $80,127,950$ | $557,571,143$ |

DISTRICT $7 .{ }^{7}$

| Species. | M feet $\mathrm{b} . \mathrm{m}$. | Species. | M feet b. m. | Species. | M feet b.m. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Yellow pine ${ }^{8}$ | 1, 228,368 | Gum. | 82,031 | Spanish Oak | 2, 600 |
| Spruce and fir | - 508, 717 | White pine | 67, 901 | Wainut--- | 976 |
| White oak | 482, 336 | Heech. | 62, 929 | Locust | 909 |
| Chestnut | 317, 146 | Hickory | 51, 911 | Cherry | 875 |
| Longleaf pine | 179, 456 | Mixed oak | 33, 446 | Cypress. | 80 |
| Red oak. | 168, 035 | Basswood | 17, 934 | Pond pine. | 75 |
| Hemlock | 142, 927 | Aspen. | 14,340 | Juniper--- | 10 |
| Chestnut oak | 137,489 | Ash. | 10, 403 | Miscellaneous | 76, 046 |
| Maple...... | 127, 822 | Scarlet oak | 8, 882 | Tie timber | 123, 569 |
| Yellow birch | 101, 819 | Buckeye. | 6,017 |  |  |
| Black oak | 108, 351 | Birch_- | 4,742 | Total | 4,283,986 |
| Yellow poplar | 105, 234 |  | 2,958 2,629 |  |  |
| Paper birch | 95, 971 | Slash pine. | 2,629 |  |  |

## Forest Service.

1 Includes some hemlock.
2 Includes balsam, white fir, hemlock, and others.
${ }^{3}$ Includes piñon pine, tamarack, hemlock.
4 Includes Mexican white pine, cork bark fir, foxtail pine, Chihuahua pine, cypress, etc.
5 Includes balsam, dead, and other species not specified.
6 Includes Coultor pine, big cone spruce, and miscellaneous.
7 Presented separately due to difference in species.
${ }^{8}$ Includes shortleaf, Virginia scrub, table-mountain, and pitch pine.

Table 615.-Forest planting.
AREAS PLANTED PRIOR TO JANUARY, 1923.


AREAS PLANTED DURING CALENDAR YEAR 1922.


Forest Service. Includes relatively small areas sown with forest seeds.
${ }^{1}$ New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
${ }^{3}$ Middle Atlantic: New York, New Jersey, Pennsylvania.
${ }_{8}$ Central hardwoods: Ohio, Indiana, Illinois, Kentucky, Tennessee, Arkansas, Missouri.
${ }^{4}$ Lake: Michigan, Wisconsin, Minnesota.
${ }^{5}$ South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
${ }^{6}$ Gulf Coast: Alabama, Mississippi, Louisiana, Texas.
${ }^{7}$ Plains and prairie: North Dakota, South Dakota, Iowa, Nebraska, Kansas, Oklahoma.
${ }^{8}$ Rocky Mountain: Idaho, Montana, W yoming, Nevada, Utah, Colorado, Arizona, New Mexico.
${ }^{\circ}$ Pacific Coast: Washington, Oregon, California.

Table 616.-National forest: Construction, improvement, and maintenance of roads and trails.

| State. | Year ending June 30, 1923. |  | Total prior to June 30, 1923. |  |  |  | Expenditures prior to June 30, 1923. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Miles constructed. |  | $\begin{gathered} \text { Miles } \\ \text { constructed. } \end{gathered}$ |  | $\begin{gathered} \text { Miles } \\ \text { maintained. } \end{gathered}$ |  |  |  |  |
|  | Roads. | Trails. | Roads. | Trails. | Roads. | Trails. | Federal funds. | Cooperative funds. | Total funds. |
| Alabama | 10. 0 |  | 10.0 |  | 10.0 | 19.0 | \$5, 738.74 |  | \$5, 738. 74 |
| Alaska | 19.1 | 40.6 | 80.2 | 96. 7 | 133.2 | 96.7 | $895,613.19$ | \$171, 243. 56 | 1, 066, 856.75 |
| Arizona | 136.7 | 313.8 | 465.6 | 993.8 | 578.1 | 506.8 | 1, 305, 519. 38 | 660, 725. 20 | 1,966, 244. 58 |
| Arkansas | 29.6 | 62.3 | 108.5 | 133.4 | 66.8 | 267.3 | 302, 644.32 | 24, 184.93 | 326, 829.25 |
| Californ | 140.5 | 463.5 | 462.7 | 1,211. 2 | 1,540.7 | 5, 029.4 | 3, 478, 506.08 | 978, 348.99 | 4, 456, 855. 07 |
| Colorado | 122.5 | 175.9 | 597.2 | 807.1 | 371.1 | 1,383.5 | 2, 180, 422.56 | 517, 220. 17 | 2, 697, 642. 73 |
| Florida | 4.0 |  | 42.4 |  | 23. 7. | 36. 5 | 85, 281.88 | 63, 347.39 | 148, 629. 27 |
| Georgia | 5. 0 | 34. 0 | 13.5 | 69.4 | 10.0 | 114.6 | 127, 583. 32 |  | 127, 583. 32 |
| Idaho | 206. 7 | 647.4 | 958.1 | 1,946. 7 | 380.6 | 5,071.0 | 3, 431, 191.47 | 891, 895. 01 | 4, 323, 086. 48 |
| Kansas |  |  | 3.4 |  |  |  | 2, 111. 51 |  | 2, 111. 51 |
| Maine | 4.3 |  | 4.3 | 30.0 | 7.1 | 32.3 | 10,344. 08 |  | 10, 344. 08 |
| Michigan |  |  | 40.4 |  | 27.0 |  | 6, 318. 98 | 186. 95 | 6,505. 93 |
| Minnesota | 25.0 |  | 70. 5 | 39.0 | 30. 0 | 18.0 | 158, 371. 88 | 92, 189. 48 | 250, 561. 36 |
| Montana | 41. 2 | 380.5 | 388.8 | 683.7 | 512.8 | 5, 315.8 | 1, 893, 354. 78 | 354, 786. 57 | $\begin{array}{r} 2,248,141.30 \\ 18.043 .86 \end{array}$ |
| Nebraska | 10.5 |  | 24.6 |  | 2.0 |  | 18,043.86 |  |  |
| Nevada | 3.0 | 143.3 | 299.3 | 340.8 | 142.7 | 82.0 | 261, 411. 65 | 98, 163. 46 | 359, 575. 11 |
| New Hampshire | 6. 6 | 22.1 | 11. 1 | 258.1 | 31.7 | 237.3 | 39, 351.68 | 220. 25 | 39, 577.93 |
| New Mexico - | 59.2 | 403.8 | 293.9 | 870.7 | 220.3 | 860.8 | 1, 191, 822.38 | 191, 264. 71 | 1, 383, 087.09 |
| North Carolina | 11.0 | 70.8 | 61.9 | 110.9 | 41.5 | 347.1 | 202, 727.60 | 34, 056. 37 | 236, 783.97 |
| North Dakota |  |  | 1.0 |  |  |  | 65. 75 |  |  |
| Oklahoma | 3.0 |  | 6.0 |  | 19.0 |  | 14, 488. 95 | 1,937. 36 | 16, 426. 31 |
| Oregon- | 395.4 | 354.3 | 1,147.4 | 944.6 | 1,341.3 | 3, 507. 0 | 3, 421, 762.02 | 2, 080, 008. 66 | 5,501,770. 68 |
| P'orto Rico |  | 14.0 |  | 30.3 |  | 30.3 | $8,67264$ |  |  |
| Souih Carolina | 2.0 | 4.0 | 5. 1 | 4.0 | 22.8 |  | $50,432.32$ | 114, 2001.31 | $\begin{array}{r} 62,332.32 \\ 407,532.02 \end{array}$ |
| South Dakota | 34.4 |  | 132.1 | 20.6 | 74.6 | 3.3 | 293, 330.71 | 114, 201.31 | 407, 532.02 |
| Tenness |  | 105. 2 | 12.2 | 151.7 | 11.0 | 281.2 | 103, 872.97 | 80, 050. 00 | 183, 922.97 |
| Utah. | 472.6 | 279. 0 | 801.1 | 740.0 | 485. 7 | 651.0 | 1, 216,473. 65 | 624, 262.31 | 1, 840, 7335.96 |
| Virginia- | 17274 | 102. ${ }^{2}$ | 24.5 367.6 | 158.9 674.8 | 130.8 380.4 3 | 3,762. ${ }^{364}$ |  |  | $\begin{array}{r} 147,587.98 \\ 3,252,056.48 \end{array}$ |
| W ashington - <br> West Virginia | 127.6 | 335. 3 20.5 | 367.6 | 674.8 20.5 | 380.4 <br> 36.5 <br> 1 | $\begin{array}{r}3,762.0 \\ 143 \\ \hline 9\end{array}$ | $\begin{gathered} 9,951.03 \\ 4,913.25 \end{gathered}$ |  | 3, 252, 513.25 |
| Wyoming - | 136.9 | 150.7 | 430.3 | 338.4 | 611.5 | 917.5 | 1,371, 868.42 | 242, 285. 04 | 1,614, 153.46 |
| Tota | 2,024.2 | 4,123. 5 | 6, 873.7 | 10, 675.3 | 7, 242.9 | 29, 078.6 | 24, 559, 019.07 | 8, 155, 843. 08 | 32, 714, 862 . 15 |

Forest Service.
Tıble 617.-Forest fires: Number, damage, and area, United States, 1916-1922.


[^296]Table 617.-Forest fires: Number, damage, and area, United States, 1916-1922-Continued.


Table 617.-Forest fires: Number, damage, and area, United States, 1916-1920-Continued.

| Group and State. | Number of fires by size. |  |  |  |  | Damage caused by fires. |  |  | Area burned. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Calendar year. | Total. | Under $\frac{1}{2}$ acre. | $\begin{aligned} & \frac{1}{2-10} \\ & \text { acres. } \end{aligned}$ | $\begin{gathered} \text { Over } \\ 10 \\ \text { acres. } \end{gathered}$ | Total. | $\begin{aligned} & \text { Damage } \\ & \text { to } \\ & \text { timber. } \end{aligned}$ | Other damage | Forest land. | Total. |
| $\begin{gathered} 1922 . \\ \text { S u m mary b y } \\ \text { groups-Contd. } \\ \text { West Missis- } \\ \text { sippi States.-. } \\ \text { Lake } \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | Acres. |  |
|  |  |  |  | 3, 220 | 4,638 | \$1, 956, 707 | \$1, 648, 284 | \$308, 423 | 1,377,502 | 2, 175, 120 |
|  |  | 2,019 | ${ }_{4} 16$ | ${ }^{3} 652$ | ${ }^{\text {, } 951}$ | 1, 199, 459 | 862, 319 | 337, 140 | 1,333, 228 | 583, 394 |
|  |  | ${ }^{2} 36$ | 17 | 15 | 4 | 121 | 121 |  | 155 | 1,695 |
| Rocky Moun-tain- |  |  |  |  |  |  |  |  |  |  |
| Northern subgroup |  | 2,474 | 1,623 | 582 | 269 | 807, 719 | 756, 247 | 51, 472 | 73,387 | 97, 436 |
| Southern |  |  |  |  |  |  |  |  |  |  |
| Pacific.------ |  | 5,729 | 1,797 | 1,883 | 2,049 | $\text { 3, 081, } 551$ | 1, 670, 669 | 1, 410, 882 | 613, 669 | 1, 313, 764 |

Forest Service. Compiled from Federal and State sources. Figures in parentheses indicate office estimates.

Table 618.-Forest fires: Causes, United States, 1916-1922.


[^297]Table 618.-F'orest fires: Causes, United States, 1916-1922-Continued.

| Group and State. | Calyear. | Total number. | Number of fires by causes. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lightning. | $\begin{aligned} & \text { Rail- } \\ & \text { roads. } \end{aligned}$ | Camp fires. ${ }^{1}$ | Smokers. | Brush burning. | Incendiary. | Lum-bering. | Miscel-laneous. | $\begin{aligned} & \text { Un- } \\ & \text { known. } \end{aligned}$ |
| East Mississippi |  |  |  |  |  |  |  |  |  |  |  |
| group: |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 117 |  | 28 | 23 | 7 | 19 | 17 | 5 | 3 | 15 |
| Indiana |  | 86 |  | 20 | 2 | 17 | 28 | 17 |  | 2 |  |
| Illinois. |  | (85) |  | (20) | (2) | (17) | (27) | (17) |  | (2) |  |
| Kentucky |  | 779 | 458 | 53 | 45 | 28 | 70 | 55 | 40 | 30 |  |
| Tennessce. |  | 400 |  | 58 | 66 | 20 | 29 | 123 | 37 | 14 | 53 |
| West Mississippigroup: |  |  |  |  |  |  |  |  |  |  |  |
| Missouri_-..-------- 2,429 246 98 251 235 610 481 71 437 |  |  |  |  |  |  |  |  |  |  |  |
| Arkansas |  | 3,120 | 58 | 199 | 368 | 211 | 379 | 1, 424 | 131 | 350 |  |
| Oklahoma |  | 277 |  | 37 | 48 | 17 | 122 | , 32 | 9 | 12 |  |
| 1.ouisiana. |  | 1,544 | 4 | 192 | 204 | 92 | 112 | 156 | 128 | 220 | 436 |
| Texas |  | 1,967 | 11 | 83 | 198 | 295 | 130 | 470 | 421 | 223 | 136 |
| Lake State group: |  |  |  |  |  |  |  |  |  |  |  |
| Michigan...... |  | 538 | 8 | 125 | 139 | 110 | 99 | 22 | 23 | 12 |  |
| Wisconsin |  | 188 |  | 10 | 16 | 2 | 22 | 2 |  | 2 | 134 |
| Minnesota |  | 1,293 | 2 | 297 | 107 | 80 | 151 | 10 | 10 | 240 | 398 |
| Prairie group: |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iowa- |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Idaho. |  | 1,709 | 1,003 | 103 | 181 | 135 | 75 | 29 | 63 | 19 | 101 |
| W yoming |  | 62 | 13 | 4 | 30 | 12. | 2 |  |  | 1. |  |
| Southern sub-group- |  |  |  |  |  |  |  |  |  |  |  |
| Colorado.-.--- |  | 158 | 47 | 20. | 48. | 35 | 4 | 1. |  | 3 |  |
| New Mexico. |  | 371 | 205 | 1. | 48 | 71 | 14 | 10 | 9 | 13. |  |
| Arizona. |  | 532 | 361 | 23 | 29 | 81 | 10 | 4 | 7 | 17. |  |
| Utah. |  | 23 | 6 |  | 8 | 4 | 4. |  |  | 1 |  |
| Nevade |  | 7 |  |  | 4. | 1 |  |  |  | 1. | -. |
| Pacifie group: |  |  |  |  |  |  |  |  |  |  |  |
| Wishington |  | 1,624 | 134 | 164 | 523 | 216 | 227 | 80 | 166 | 105 |  |
| Oregon...-- |  | 2,127 | 465 | 47 | 284 | 237 | 198 | 430 | 98 | 362 |  |
| California |  | 1,978 | 270 | 92 | 308 | 483 | 203 | 206 | 55 | 147 | -214 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| group- |  |  |  |  |  |  |  |  |  |  |  |
| Softwood subgroup $\qquad$ |  |  | 17 | 471 | 371 | 204 | 237 | 26 | 32 | 79 | 178 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| subgroap.-.- |  | 6, 439 | 1. | 2,099 | 101 | 7609 | 813 | 142 | 8 | 437 | 2,072 |
| Appalachian group. |  | 5, 749 | 12 | 1,297 | 470 | 1,115 | 569 | 642 | 156 | 254 | 1,234 |
| Southeastern group |  | 15, 935 | 362 | 1,523 | 1,298 | 1,096 | 3,293 | 5,681 | 1,210 | 1,068 | 4, 404 |
| East Mississippi |  | 15, 335 |  |  |  | 1,05 |  |  |  |  |  |
| group.---.----- |  | 1,467 | 458 | 179 | 138 | 89 | 173 | 229 | 82 | 51 | 63 |
| West Mississippi |  |  |  |  | 1,080 |  |  |  |  |  |  |
| group |  | 9,337 | 319 | 609 | 1,089 | 850 | 1,353 | 2, 563 | 760 | 1,242 | 572 |
| Lake States group. |  | 2, 019 | 10 | 432 | 262 | 192 | 272 | 34 | 33 | 254 | 530 |
| Prairie group |  | 36 | 19 | 1 | 1 | 9 | 1 |  |  | 4 |  |
| Rocky Mountain group: |  |  |  |  |  |  |  |  |  |  |  |
| Northern subgroup |  | 2, 474 | 1,247 | 181 | 310 | 245 | 120 | 137 | 78 | 36 | 129 |
| Southern sub- |  |  |  |  |  | , | , |  |  |  |  |
| group......-- |  | 1,091 | 619 | 44 | 137 | 192 | 33 | 15 | 16. | 35 |  |
| Pacific group |  | 5.729 | 869 | 303 | 1,115 | 936 | 628 | 731 | 319 | 614 | 214 |

Forest service. Compiled from Federal and State sources. Figures in parentheses indicate office estimates.
${ }^{1}$ Includes smokers, 1916-1921.

Table 619.-Grazing in the national forests: Number of permits issued and stock grazed, 1905-1922.

| Year ending June 30. | Cattle, horses, and hogs. |  |  |  | Sheep and goats. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of permits. | Number grazed. |  |  | Number of permits. | Number grazed. |  |
|  |  | Cattle. | Horses | Hogs. |  | Sheep. | Goats. |
| 1904-5 | 7,981 | 632, 793 | 59,331 |  | ${ }^{(2)}$ | 1, 709, 987 |  |
| 1905-6 | 14, 093 | 1, 015, 148 |  |  | 2,500 | 5, 762, 200 | ${ }^{(3)}$ |
| 1906-7 | 17, 979 | 1, 200, 158 | (1) 0 |  | 3,809 | 6, 657, 083 |  |
| 1907-8 | 19,845 | 1, 304, 142 | 76, 003 | 2,076 | 4, 282 | 6,960, 919 | 126, 192 |
| 1908 | 22, 163 | 1, 491, 385 | 90, 019 | 4, 501 | 5,074 | 7, 679, 698 | 139, 896 |
| 1909-10. | 20,692 | 1, 409, 873 | 84, 552 | 3, 145 | 4, 995 | 7,558, 650 | 90, 300 |
| 1910-11 | 20,499 | 1, 351, 922 | 91, 516 | 4,500 | 5,105 | 7, 371, 747 | 77, 668 |
| 1911-12 | 21, 188 | 1, 403, 025 | 95, 343 | 4,330 | 5, 313 | 7, 467, 890 | 83, 849 |
| 1912-13. | 22, 032 | -1, 455, 922 | 97, 919 | 3, 277 | 5,434 | 7, 790, 953 | 76,898 |
| 1913-14 | 23,757 | 1,517, 045 | 99, 835 | 3, 381 | 5,188 | 7, 560, 186 | 58,616 |
| 1914-15. | 25, 641 | 1,627, 321 | 96, 933 | 2,792 | 4, 969 | 7, 232, 276 | 51, 409 |
| 1915-16 | 28, 052 | 1,758, 764 | 98,903 | 2,968 | 5,276 | 7,843, 205 | 43, 268 |
| 1916-17 | 31, 136 | 1, 953, 198 | 98, 880 | 2, 306 | 5, 502 | 7, 586, 034 | 49, 939 |
| 1917-18 | 32, 600 | 2, 137, 854 | 102, 156 | 3,371 | 6,513 | 8, 454, 240 | 57,968 |
| 1918 | 32, 528 | 2, 135, 527 | 93, 251 | 5,154 | 6, 624 | 7, 935, 174 | 60,789 |
| 1919-20 | 31, 301 | 2, 033, 800 | 83, 015 | 4, 066 | 6,199 | 7, 271, 136 | 53, 685 |
| 1920 (last 6 months) | 2, 146 | 88, 599 | 6,444 | 1,010 | 652 | 553, 263 | 3;346 |
| 1921 (calendar year) | 31, 027 | 1,999,680 | 78, 115 | 2, 453 | 6,214 | 6, 936, 377 | 43,574 |
| 1922 (calendar year) | 30, 148 | 1, 915, 113 | 69,640 | 1,888 | 5,811 | 6, 851, 690 | 39,889 |

Forest Service.
${ }^{1}$ Included with cattle. $\quad{ }^{2}$ Included in number of permits for cattle. ${ }^{3}$ Includded with sheep.
Table 620.—Timber sales from national forests, 1905-1922.

| Year ending June 30. | Number of sales. |  |  | Amount cut in board feet ( 000 omitted). |  |  | Value of timber cut. |  |  | Othertim-berprod-ucts. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total. | Com-mercial. | " Cost" sales. | Total. | Com-mersales. | $\left\|\begin{array}{c} \text { "Cost } " \\ \text { sales. } \end{array}\right\|$ | Total. | Commercial sales. | $\left\|\begin{array}{c} \text { "Cost } " \\ \text { salcs. }{ }^{1} \end{array}\right\|$ |  |
|  | 411 | 411 |  | 75 | 68, 475 |  | ${ }^{3} \$ 85,597$ | 3\$85, 597 |  |  |
|  | 1,023 | 1,023 |  | 138, 665 | 138, 665 |  | ${ }^{3} 203,333$ | ${ }^{3} 203,333$ |  |  |
| 1906 | 1, 508 | 1,508 |  | 194, 872 | 194, 872 |  | 337, 952 | 337, 952 |  |  |
| 1907 | 5, 062 | 5,062 |  | 392, 792 | 392, 792 |  | 794, 252 | 794, 252 |  |  |
| 1908 | 4,980 | 4,980 |  | 352, 434 | 352, 434 |  | 677, 784 | 677, 784 |  |  |
| 1909-10 | 5,398 | 5,398 |  | 379, 616 | 379, 616 |  | 906, 308 | 906, 308 |  |  |
| 1910-11 | 5, 653 | 5, 653 |  | 374, 678 | 374, 678 |  | 842, 993 | 842, 993 |  |  |
| 1911-12 | 5.772 | 5,772 |  | 431, 492 | 431, 492 |  | 942, 819 | 942, 819 |  |  |
| 1912-13 | 6, 182 | 6,091 | 91 | 495, 668 | 494, 950 | 718 | 1, 075, 185 | 1, 074, 682 | \$503 |  |
| 1913-14 | 8,298 | ᄃ, 957 | 2, 341 | 626, 306 | 616, 661 | 9, 645 | 1, 271, 060 | 1, 264, 490 | 6, 570 |  |
| 1914-15 | 10, | 6,343 |  | 565, 754 | 546,508 | 19,246 | 1, 179, 448 | 1,165, 268 | 14, 180 |  |
| 1915-16 | 10, 840 | 6, 407 | 4,433 | 595, 022 | 575, 552 | 19,470 | 1, 255, 698 | 1, 241,105 | 14, 599 |  |
| 1916-17 | 11, 607 | 6,921 | 4, 686 | 727, 416 | 706, 558 | 20, 858 | 1, 506, 909 | 1, 490, 8121 | 16, 095 | 837 |
| 1917-18 | 13, 037 | 7, 130 | 5,907 | 727, 983 | 706, 342 | 21, 641 | 1, 523, 421 | 1,507, 121 | 16, 300 | 4, 837 |
| 1918-19 | 12, 592 | 6,570 | 6, 022 | 704, 769 | 685, 172 | 19, 597 | 1, 512, 373 | 1, 497, 702 | 14, 671 | 7,779 |
| 1919-20 | 13, 272 | 7,690 | 5,582 | 806, 131 | 783, 947 | 22, 184 | 1, 770, 401 | 1, 754, 600 | 15,801 | 10, 381 |
| 1920 (last 6 months) | 6, 653 | $\begin{aligned} & 3,608 \\ & 7 \end{aligned}$ | 3, 045 | $\begin{aligned} & 504,113 \\ & 687,922 \end{aligned}$ | $\begin{aligned} & 489,841 \\ & 666 \end{aligned}$ | $\begin{aligned} & 14,272 \\ & 21,731 \end{aligned}$ | $\begin{aligned} & 1,178,759 \\ & 1,663,182 \end{aligned}$ | $\begin{aligned} & 1,168,885 \\ & 1,646,818 \end{aligned}$ | $\begin{array}{r} 9,874 \\ 16 . \end{array}$ | 7,562 4,511 |
| 1921 (calendar year) | $\begin{aligned} & 13,690 \\ & 12,926 \end{aligned}$ | $\begin{aligned} & 7,069 \\ & 7,200 \end{aligned}$ |  | 687,922 876,973 | $\begin{aligned} & 666,191 \\ & 856,147 \end{aligned}$ | 21,731 20,826 |  |  | $\begin{aligned} & 16,364 \\ & 17,332 \end{aligned}$ |  |
| 1922 (calendar year) | $12,926$ | $7,200$ | 5, 726 | 876,973 | 856, 147 | 20, 826 | 2, 235, 497 | 2, 218, 165 | $17,332$ | 8, |

## Forest service.

"Cost" sales are special sales made to farmors and settlers who are entitled by law to purchase for domestic use mature or dead national forest timber at the cost of making and administering the sale.
${ }^{2}$ Value of other timber products, not convertible into board feet, taken from the national forests.
¿ Estimated.
Table 621.-Timber granted without charge from national forests, to local residents, under "free use" regulations, 1907-1922.

| Year ending June 30. | Number of users. | Amount cut, M board feet. | Estimated value. | Year ending June 30. | Number of users. |  | Esitmated value. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1906-7 | 17, 399 | 86, 818 | \$100, 362 | 1915-16 | 42, 070 | 119,488 | \$184, 720 |
| 1907-8 | 30, 377 | 131, 977 | 169, 320 | 1916-17 | 41, 427 | 113, 073 | 149, 802 |
| 1908-9 | 33, 431 | 105, 205 | 169, 081 | 1917-18 | 38, 073 | 96, 616 | 127, 688 |
| 1909-10. | 35, 364 | 104, 796 | 176, 167 | 1918-19 | 34, 617 | 90, 798 | 113, 117 |
| 1910-11 | 40, 660 | 123, 488 | 196, 930 | 1919-20 | 37, 336 | 88, 080 | 113, 000 |
| 1911-12 | 38, 749 | 123, 233 | 196, 335 | 1920 (last 6 months) | 21, 168 | 56, 813 | 60, 391 |
| 1912-13 | 38, 264 | 121, 750 | 191, 825 | 1921 (calendar year) | 40, 535 | 123,245 | 117,054 98,843 |
| 1913-14 | 39,466 40,040 | 120,575 123,259 | $\begin{aligned} & 183,223 \\ & 206,597 \end{aligned}$ | 1922 (calendar year) | 37, 158 | 89, 510 | 98, 843 |

## Forest Service.

Table 622.-Lumber: Production by States, calendar years, 1870-1922.


[^298][^299]1164 Yearbook of the Department of Agriculture, 1923.
Table 696.-Foreign exchange: Average rates at New York, 1912-1923-Contd.
INDIAN RUPEE. ${ }^{4}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1919 | 35. 650 | 35. 650 | 35. 875 | 35. 650 | 42. 500 | 42. 500 | 43.000 | 43.500 | 45.000 | 43. 000 | 43. 375 | 45. 000 |
| 1920 | 44. 125 | 45. 500 | 47. 250 | 46.500 | 43. 500 | 40.875 | 37. 875 | 35. 750 | 33. 788 | 30.625 | 29.375 | 27.250 |
| 1921 | 28.574 | 28. 938 | 26. 906 | 26. 100 | 26. 344 | 25. 422 | 23. 059 | 24. 224 | 26.390 | 27. 419 | 26. 874 | 27. 449 |
| 1922 | 27.810 | 28. 143 | 27.822 | 27.810 | 28. 751 | 28.911 | 28. 891 | 29. 014 | 28.741 | 28.842 | 29. 511 | 30. 649 |
| 1923 | 31.726 | 31.850 | 31. 566 | 31.346 | 31.081 | 30.992 | 30.859 | 30. 461 | 30.602 | 31. 063 | 30. 860 | 31. 005 |

POUND STERLING. ${ }^{5}$

| 1912 | \$4. 8699 | \$4.87 | \$4. 8721 | \$4 | 4. 8720 | \$4. 875 | \$4. 8752 | \$4. 87 | \$4. 86 | \$4. 8574 | \$4.8506 | \$4. 8502 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 4.8688 | 4. 8746 | 4. 8729 | 4. 8688 | 4. 8651 | 4. 8670 | 4. 8678 | 4. 8640 | 4. 8568 | 4. 8580 | 4. 8526 | 4.8535 |
| 191 | 4.8623 | 4.8570 | 4. 8628 | 4. 8698 | 4. 8831 | 4. 8849 | 4. 8878 | 5. 0000 | 4. 9812 | 4. 9530 | 4. 9031 | 4. 8715 |
| 191 | 4.8422 | 4.8206 | 4. 8018 | 4. 7945 | 4. 7925 | 4. 7755 | 4. 7648 | 4. 7062 | 4. 6912 | 4. 6858 | 4. 6706 | 4. 7208 |
| 191 | 4. 7506 | 4. 7591 | 4. 7641 | 4. 7648 | 4. 7581 | 4. 7579 | 4. 7577 | 4. 7575 | 4. 7574 | 4. 7567 | 4. 7567 | 4. 7179 |
| 191 | 4.7567 | 4. 7550 | 4. 7544 | 4.7567 | 4. 7555 | 4. 7544 | 4. 7553 | 4. 7545 | 4. 7548 | 4. 7522 | 4. 7520 | 4. 7517 |
| 1918 | 4.7525 | 4.7525 | 4. 7525 | 4.7550 | 4. 7550 | 4.7538 | 4. 7525 | 4. 7562 | 4. 7550 | 4. 7550 | 4.7575 | 4. 7575 |
| 1919 | 4. 7575 | 4. 7575 | 4. 7000 | 4. 6512 | 4.6562 | 4.6125 | 4. 4275 | 4. 2725 | 4. 1800 | 4. 1712 | 4. 0812 | 3. 7688 |
| 1920 | 3. 6700 | 3. 3762 | 3. 7712 | 3. 9130 | 3. 8500 | 3. 9475 | 3. 8525 | 3. 6200 | 3. 5125 | 3. 4730 | 3.4250 | 3. 4912 |
| 1921 | 3. 7562 | 3. 8712 | 3. 9150 | 3. 9300 | 3. 9775 | 3. 7725 | 3. 6321 | 3. 6536 | 3. 7240 | 3. 8729 | 3. 9702 | 4. 1561 |
| 1922 | 4. 2248 | 4. 3620 | 4.3757 | 4. 4134 | 4. 4461 | 4. 4519 | 4. 4464 | 4. 4647 | 4. 4307 | 4. 4385 | 4. 4799 | 4. 6098 |
| 1923 | 4.6546 | 4. 6908 | 4. 6957 | 4. 6555 | 4.6257 | 4. 6147 | 4. 5834 | 4.5603 | 4. 5422 | 4. 5237 | 4.3822 | 4. 3602 |

## Division of Statistical and Historical Research.

${ }^{4}$ Federal Reserve Bulletins. January-September, 1919 highest rate for month. October 1919-December 1920, average of high and low quotations for month. January, 1921-June, 1921, average of weekly high and low quotations for month. July, 1921 to date, average rate of exchange.
${ }^{6}$ International Yearbook of Agricultural Statistics, 1921, pages 504 and 498. Federal Reserve Bulletins, July 1921 to date. Sight drafts 1912-1920; cables 1921 to date.

Table 697.-Farmers' organizations handling grain, 1923.

| State. | TotalNum-berre-port-ing. | Membership. |  | Volume of business. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Num-berre-port-ing. | Members. | Num-berre-port-ing. | Amount. ${ }^{1}$ | Grain handled, thousands of bushels. |  |  |  |  |  |
|  |  |  |  |  |  | $\left\lvert\, \begin{gathered} \text { Num- } \\ \text { ber } \\ \text { re-- } \\ \text { port- } \\ \text { ing. } \end{gathered}\right.$ | Wheat | Rye. | Oats. | Other grains | Total. |
| Illinois | 392 | 328 | 39, 318 | 269 | \$52, 445, 000 | 276 | 11, 075 | 547 | 19,373 | 34, 003 | 64,998 |
| Nebraska | 335 | 247 | 30, 177 | 185 | 33, 341, 000 | 181 | 10, 802 | 253 | 2, 169 | 12, 625 | 25, 849 |
| Iowa | 325 | 232 | 31, 295 | 181 | 39, 459, 000 | 189 | 1,462 | 195 | 18, 404 | 24, 300 | 44, 361 |
| South Dakota | 323 | 251 | 25, 901 | 211 | 35, 246, 000 | 224 | 24, 252 | 5,958 | 1,237 | 4, 872 | 36, 319 |
| Kansas. | 289 | 217 | 29, 911 | 160 | 32, 160, 000 | 173 | 21, 233 | 58 | 659 | 2, 698 | 24, 648 |
| Minnesota | 249 | 204 | 31, 803 | 176 | 25, 405, 000 | 177 | 5,095 | 3,498 | 9, 916 | 8, 611 | 27, 120 |
| North Dakota | 205 | 148 | 19, 274 | 112 | 16, 743, 000 | 122 | 6, 674 | 1,167 | 4, 092 | 6,359 | 18, 292 |
| Ohio | 192 | 155 | 24, 136 | 127 | 20, 403, 000 | 127 | 3,979 | 66 | 2, 409 | 3, 115 | 9, 569 |
| Missouri | 150 | 119 | 18, 144 | 90 | 22, 648, 000 | 89 | 11, 149 | 103 | 526 | 2, 842 | 14,620 |
| Indiana | 118 | 91 | 12, 887 | 73 | 9, 717, 000 | 73 | 1,562 | 253 | 3, 018 | 3,123 | 7,956 |
| Oklahoma | 86 | 67 | 17, 227 | 54 | 10, 814, 000 | 58 | 7, 593 | 4 | 206 | 1, 235 | 9, 038 |
| Michigan. | 78 | 67 | 14, 716 | 48 | 8, 805, 000 | 48 | 1,314 | 295 | 605 | 403 | 2,617 |
| Montana | 62 | 49 | 5,185 | 41 | 6, 226, 000 | 39 | 10, 810 | 152 | 154 | 397 | 11, 513 |
| W isconsin | 49 | 43 | 7,335 | 26 | 2, 218, 000 | 21 | 36 | 211 | 343 | 259 | 849 |
| Colorado | 43 | 43 | 6,303 | 19 | 4, 720,000 | 17 | 1,726 | 73 | 57 | 623 | 2,479 |
| Washington - | 40 | 34 | 5,355 | 28 | 7,920,000 | 28 | 7,181 | 46 | 146 | 33 | 7,406 |
| Texas. | 18 | 12 | 4,069 | 8 | 2, 458, 000 | 7 | 1,001 |  | 16 | 191 | 1,208 |
| Idaho | 15 | 7 | 977 | 7 | 1, 056, 000 | 5 | 914 |  | 33 | 850 | 1,797 |
| California | 13 | 11 | 2,523 | 8 | 4, 725, 000 | 9 | 2, 130 |  | 66 | 2, 083 | 4,279 |
| Oregon | 9 | 8 | 3, 628 | 7 | 10, 473, 000 | 7 | 3,771 |  | 12 | 48 | 3, 831 |
| W yoming | 9 | 4 | 328 | 2 | 164,000 | 1 | 47 | 24 | 1 | 1 | 73 |
| New Mexico. | 5 | 3 | 148 | 1 | 6,000 |  |  |  |  |  |  |
| All others | 24 | 18 | 2,920 | 15 | 2,047,000 | 11 | 258 |  | 78 | 226 | 567 |
| United States | 3,029 | 2, 358 | 333,560 | 1,848 | 349, 199, 000 | 1,882 | 134,064 | 12,908 | 63, 520 | 108,897 | 319, 389 |

Division of Agricultural Cooperation. Reports from associations to Feb. 5, 1924.
${ }^{1}$ Including sales of supplies to members.

Table 622．－Lumber：Production by States，calendar years，1870－192思—Contd．

| State． | 1910 |  | 1911 |  | 1912 |  | 1913 |  | 1914 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{\|c\|} \stackrel{\mu}{\mathrm{g}} \\ \underset{\sim}{9} \end{array}$ | Quantity （M feet）． | $\begin{aligned} & \text { 总 } \\ & \text { 品 } \end{aligned}$ | Quantity （M feet）． | $\begin{aligned} & \text { 舀 } \\ & \text { M } \end{aligned}$ | Quantity （M feet） <br> （M feet）． | $\begin{aligned} & \text { H } \\ & \text { 总 } \end{aligned}$ | Quantity <br> （M feet）． | $\begin{aligned} & \text { 总 } \\ & \text { Mू } \end{aligned}$ | Quantity <br> （M feet）． |
| Alabama | 11 | $\begin{array}{r} 1,465,623 \\ 72,655 \\ 1,844,446 \\ 1,254,826 \\ 121,398 \end{array}$ | 13 | $\begin{array}{r} 1,2266,212 \\ 7,139 \\ 1,777,303 \\ 1,207,561 \\ 95,908 \end{array}$ | 12 | $\begin{array}{r} 1,378,151 \\ 76,287 \\ 1,821,811 \end{array}$ | 8 | $\begin{array}{r} 1,523,936 \\ 77,363 \end{array}$ | 8 | 1，494，732 |
| Arizona |  |  |  |  |  |  |  |  |  |  |
| Arkansas | 714 |  | 6 |  | 7 |  | 7 | 1，911， 647 | 6 | 1，796， 780 |
| California |  |  | 14 |  | 14 | 1， 203,069 | 13 | 1，183， 380 | 12 | 1，363， 183 |
| Colorado |  |  |  |  |  | 88， 451 |  | 74， 602 |  | 102， 117 |
| Connectic |  | $\begin{array}{r} 126,463 \\ 46,642 \end{array}$ |  | 124， 661 |  | $\begin{array}{r} 109,251 \\ 28,285 \end{array}$ |  | $93,730$ | $81,883$ |  |
| Delaware |  |  |  | 23，853 |  |  |  |  |  |  |  |
| Florida | 18 | 992， 091 | 16 | 883,824 | 15 | 1，067， 525 | 15 | 1， 055,047 | 15 | 1，073， 821 |
| Goorgia | 12 | $1,041,617$745,984 | 19 | 801，611 | 17 | 941， 291 |  | 652， 616 | 20 | －763， 508 |
| Idaho． |  |  | 20 | 765， 670 | 21 | 713， 575 | 21 |  |  |  |
| Illineis |  | 113， 506 |  | 96，651 |  | 122， 528 | 102， 902 |  |  | 66,227298,571 |
| Indiana |  | 422，963 |  | 360， 613 |  | 401， 4617 | 332,99321,676 |  |  |  |
| Iowa－ |  |  |  |  |  |  |  |  | 22 | 298， 11， 243 |
| Kansas |  | $\begin{array}{r} 3,440 \\ 753,556 \end{array}$ |  |  |  | （1） 641， 296 |  | $\begin{gathered} (1), \\ 541,531 \end{gathered}$ |  | $\stackrel{11}{596,392}^{17}$ |
| Kentac | 20 |  | 21 |  | 22 |  |  |  |  |  |
| Lourisian | 19 | $\begin{array}{r} 3,733,900 \\ 860,273 \\ 154,554 \\ 239,206 \\ 1,681,081 \end{array}$ | 18 | 3，566， 456 | 19 | 3，876， 211 | ${ }_{18}^{2}$ | 4，161，560 | 17 | 3，956， 434 |
| Maine |  |  |  | 828， 417 |  | $\begin{aligned} & 882,128 \\ & 174,320 \end{aligned}$ |  | 834， 673140,469 |  | 992，594 |
| Maryland |  |  |  | 144， 078 |  |  |  |  |  |  |
| Massachuse |  |  | －10 | $\begin{array}{r} 273,317 \\ 1,466,754 \end{array}$ |  | $\begin{array}{r} 259,329 \\ 1,488,827 \end{array}$ |  | $\begin{array}{r} 224,580 \\ 1,222,983 \end{array}$ |  | $143,094$ |
| Michigan | 9 |  |  |  | －10 |  | 12 |  | 13 | $1,214,435$ |
| Minnesota | $\begin{array}{r} 12 \\ 3 \\ 24 \end{array}$ | $\begin{gathered} 1,457,734 \\ 2,122,205 \\ 501,691 \\ 319,089 \\ (1) \end{gathered}$ | 9325 | $\begin{array}{r} 1,485,015 \\ 2,041,615 \\ 418,586 \\ 288,416 \end{array}$ <br> （I） | 11 | $\begin{array}{r} 1,436,726 \\ 2,381,893 \\ 422,470 \\ 272,174 \end{array}$ <br> ${ }^{(1)}$ | 14 | 1，149， 704 | ${ }_{1}^{11}$ | 1，312，230 |
| Mississip |  |  |  |  |  |  |  |  |  |  |
| Missotari |  |  |  |  |  |  | 24 | 416， 608 | 25 | 370， 571 |
| Montana |  |  |  |  |  |  |  | 357， 974 |  | 317，842 |
| Nebraska |  |  |  |  |  |  |  |  |  |  |
| Nevada |  | （1） 443,907 |  | （1）${ }^{(1)}$ |  | ${ }^{(1)} 479,499$ |  | （1） 309 |  | ${ }^{(1)}$ |
| New Hampsh |  |  |  | －25 | －－－－ |  | －7 |  | 482， 744 |  |
| New Jersey |  | 36，542 |  |  | 28， 639 | 34， 810 |  | 27， 248 |  | 48，748 |
| New Mexic |  | $\begin{gathered} 83,544^{\circ} \\ 506,074 \end{gathered}$ | 23 | $\begin{array}{r} 83,728 \\ 526,283 \end{array}$ | 23 | $\begin{gathered} 82,850 \\ 502,351 \end{gathered}$ | 23 | $\begin{array}{r} 0,75 \\ 457,720 \end{array}$ |  | 486，195 |
| New York | 23 |  |  |  |  |  |  |  | 23 |  |
| North Caro | －88 | $1,824,722$490,039 | 524 | $\begin{array}{r} 1,798,724 \\ 427,161 \\ 143,869 \\ 1,803,698 \end{array}$ | ${ }_{24}^{4}$ | $\begin{array}{r} 2,198,398 \\ 499,834 \\ 1,98,806 \\ 1,916,160 \end{array}$ | ${ }^{6} 5$ | 1，957， 258 | 4 | 2，227， 851 |
| Ohio．．．． |  |  |  |  |  |  |  | 414， 943 |  | 286，063 |
| Oklahoma |  | 164， 663 |  |  |  |  |  | 140， 284 |  | 200，594 |
| Oregon | 15 | $\begin{aligned} & 2,084,633 \\ & 1,241,199 \end{aligned}$ | $\begin{array}{r} 4 \\ 15 \end{array}$ |  | $\left\lvert\, \begin{array}{r} 5 \\ 16 \end{array}\right.$ |  | $\begin{array}{r} 4 \\ 19 \end{array}$ | $\begin{array}{r} 2,098,467 \\ 781,547 \end{array}$ | 5 | 1，817， 875 |
| Pennsylv |  |  |  | $\begin{aligned} & 1,803,698 \\ & 1,048,606 \end{aligned}$ |  | 992， 180 |  |  | 19 | 1，864，710 |
| Rhode Island． |  | $\begin{array}{r} 14,392 \\ 706,831 \\ 16,340 \end{array}$ |  | $\begin{array}{r} 9,016 \\ 584,872 \\ 13,046 \end{array}$ |  | $\begin{array}{r} 14,421 \\ 816,930 \\ 20,986 \\ 020, \end{array}$ |  | $\begin{array}{r} 14,984 \\ 752,184 \\ 19,103 \end{array}$ | 21 | 15，902 |
| South Carolina | 22 |  | －22－ |  | ${ }^{20}$ |  | 20 |  |  |  |
| South Dakota |  |  |  |  |  |  |  |  |  | 18,885,035 |
| Tennesse | 17 | $\begin{aligned} & 1,016,475 \\ & 1,884,134 \end{aligned}$ | $\begin{array}{r} 17 \\ 8 \end{array}$ | $\begin{array}{r} 914,579 \\ 1,681,080 \end{array}$ | $\begin{array}{r} 18 \\ 6 \end{array}$ |  | 16 |  | $\begin{array}{r} 18 \\ \hline \end{array}$ |  |
| Texas |  |  |  |  |  | $\begin{array}{r} 932,572 \\ 1,902,201 \end{array}$ |  | $\begin{array}{r} 872,311 \\ 2,081,471 \end{array}$ |  | 1，554，005 |
| Utah |  | 11，786 |  | 10，573 |  | 9，055 |  | 5，403 |  | 8，680 |
| Vermont |  | 284， 815 |  | 239， 254 |  | 235， 983 |  | 194， 647 |  | 249，608 |
| Virginia | 1011 | 1，652， 192 | $\begin{array}{r} 12 \\ 1 \end{array}$ | 1，359，790 <br> 4，064， 754 | $\begin{aligned} & 8 \\ & 1 \end{aligned}$ | 1，569，997 <br> 4， 099,775 | $\begin{array}{r} 10 \\ 1 \end{array}$ | $1,273,953$$4,592,053$ | 9 <br> 2 | 1，488， 070 3，946， 189 |
| Washingt |  | 4，097， 492 |  |  |  |  |  |  |  |  |
| West Virgini | 135 | $\begin{array}{r} 1,376,737 \\ 1,891,291 \\ 30,931 \\ 211,955 \end{array}$ | 117 | $\begin{array}{r} 1,387,786 \\ 1,761,986 \\ 33,309 \\ 311,786 \end{array}$ | 139 | $\begin{array}{r} 1,318,732 \\ 1,498,876 \\ 13,560 \\ 822,525 \end{array}$ | 119 | $\begin{array}{r} 1,249,559 \\ 1,493,353 \\ 12,940 \\ \mathbf{3} 19,461 \end{array}$ | 10 | $\begin{array}{r} 1,118,480 \\ 1,391,001 \\ 11,852 \\ 315,672 \end{array}$ |
| Wisconsin |  |  |  |  |  |  |  |  |  |  |
| Wyoming |  |  |  |  |  |  |  |  |  |  |
| All other |  |  |  |  |  |  |  |  |  |  |
| United States |  | 40，018，282 |  | 437，003，207 |  | ${ }^{4} 39,158,414$ |  | ${ }^{4} 38,387,009$ |  | ${ }^{6} 5$ 37，346，023 |
| State groups： Northeastern |  | 3，954， 087 |  | 3，634， 743 | 6 | 3，712，557 | 6 | 3，097，061 | 6 | 3，553， 092 |
| Contral． | 4 | 4，674，967 | 4 | 4，237，791 | 5 | 4，338， 419 | 4 | 3，930， 847 | 5 | 3，621， 339 |
| Southern | 1 | 13，248， 679 | 1 | 12，231，970 | 1 | 13，537， 894 | 1 | 14，328， 810 | 1 | 13，383， 523 |
| N．C．p | 5 | 4，183， 74.5 | 5 | 3，743， 386 | 3 | 4，580， 235 | 3 | 3，988， 395 | 3 | 4，417， 464 |
| Lake | 3 | 5，030， 106 | 3 | 4，713， 755 | 4 | 4，224， 429 | 5 | 3，866， 040 | 4 | 3，917， 666 |
| North Pacific | ， | 6，182， 125 | 2 | 5，888， 452 | 2 | 6，015， 935 | 2 | 6，696， 520 | 2 | 5，764， 064 |
| SouthPacific |  | 1，254，826 | 7 | 1，297，561 | 7 | 1，203， 059 | 7 | 1，183， 380 | 7 | 1，303， 183 |
| N．Rocky Mt． | 8 | 1， 065,073 | 8 | 994， 086 | 8 | 985， 749 | 8 | 1，010， 590 | 8 | 1，081， 350 |
| S．Rocky Mt | － | 320， 314 | 9 | 2296， 657 | 9 | 270， 003 | 9 | 236， 126 | 9 | 258， 483 |
| Prairi | 10 | ${ }^{6} 104,380$ | 10 | 6 84， 806 | 10 | ${ }^{690} 104$ | 10 | ${ }^{6} 60,240$ | 10 | 645,859 |

[^300]Table 622.-Lumber: Production by States, calendar years, 1870-1922—Contd.


[^301]Table 622.-Lumber: Production by States, calendar years, 1870-1922-Contd.

| State. | 1919 |  | 1920 |  | 1921 |  | 1922, prelimmary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rank. | Quantity (M feet). | Rank. | Quantity <br> (M feet). | Rank. | Quantity <br> (M feet). | Rank. | Quantity <br> (M feet). |
| Alabama | 5 | 1,798,746 | 7 | 1, 439, 200 | 6 | 1, 386, 426 | 7 | 1,457, 608 |
| Arizona |  | 73, 655 |  | 121, 160 |  | 46, 418 |  | 88, 800 |
| Arkansas | 6 | 1,772, 157 | 6 | 1,452, 200 | 8 | 1,301, 095 | 8 | 1,382, 032 |
| California | 9 | 1,259, 363 | 5 | ${ }^{1} 1,513,000$ | 7 | 1, 350, 438 | 5 | ${ }^{1} 1,720,556$ |
| Colorado |  | 64, 864 |  | 70, 000 |  | 41, 076 |  | 38, 917 |
| Connecticut |  | 86, 708 |  | 71, 600 |  | 64,841 |  | 53, 198 |
| Delawar |  | 27,437 |  | 19,800 |  | 20, 839 |  | 14, 139 |
| Florida | 10 | 1, 137, 432 | 12 | 1,000,900 | 10 | 922, 332 | 9 | 980,014 |
| Georgia | 13 | 893, 965 | 15 | 761, 800 | 12 | 792, 579 | 13 | 809,391 |
| Idaho. | 16 | 765, 388 | 13 | 970, 000 | 16 | 542, 620 | 11 | 857, 581 |
| Illinois |  | 64, 628 |  | 56, 900 |  | 42,531 |  | 24,387 |
| Indiana |  | 282, 487 |  | 258, 3C0 |  | 138,397 |  | 148, 569 |
| Iowa. |  | 18, 493 |  | 14, 300 |  | 5,372 |  | 6, 131 |
| Kansas |  | 2,840 |  | $2{ }^{2} 4,500$ |  |  |  | ${ }^{2} 3,657$ |
| Kentucky | 22 | 512, 078 | 22 | 421, 100 | 24 | 255, 922 | 24 | 210,360 |
| Louisiana | 2 | 3, 163, 871 | 3 | 3,120,000 | 2 | 3,215, 110 | 2 | 3,386, 000 |
| Maine | 21 | 596, 116 | 21 | 505, 600 | 19 | 421, 536 | 20 | 362, 224 |
| Maryland |  | 113, 362 |  | 85,600 |  | 71, 169 |  | 54, 358 |
| Massachuset |  | 166,841 |  | 139, 200 |  | 136,736 |  | 94,656 |
| Michigan | 14 | 875, 891 | 16 | 749, 800 | 15 | 571, 387 | 15 | 656, 952 |
| Minnesota | 18 | 699,639 | 19 | 576, 300 | 20 | 412, 145 |  | 511, 744 |
| Mississippi | 4 | 2, 390, 135 | 4 | 2, 224, 000 | 3 | 2, 081, 520 | 4 | 2, 267, 695 |
| Missouri | 25 | 321, 383 | 25 | 274, 200 |  | 158, 418 | 25 | 201, 849 |
| Montana |  | 287, 378 | 24 | 410, 000 | 25 | 213, 989 | 22 | 303, 458 |
| Nebraska |  | 505 |  |  |  |  |  |  |
| Nevada. |  | 20,335 |  | ${ }^{5}$ ) |  | ${ }^{(3)}$ |  | ${ }^{5}$ ) |
| New Hampsh | 24 | 338,777 |  | 248, 600 | 23 | 261,999 |  | 180, 706 |
| New Jersey |  | 36, 888 |  | 23, 300 |  | 23, 860 |  | 9, 553 |
| New Mexico |  | 86, 808 |  | 112, 240 |  | 94, 520 |  | 126,449 |
| New York | 23 | 357, 764 | 23 | 410, 900 | 22 | 283, 863 | 23 | 222, 257 |
| North Carolina | 7 | 1,654, 435 | 9 | 1,246, 700 | 9 | 931, 015 | 10 | 936, 248 |
| Ohio-. |  | 280, 076 |  | 247, 400 |  | 133, 218 |  | 136, 877 |
| Oklahom |  | 168, 403 |  | 163, 400 |  | 120, 371 |  | 149, 323 |
| Oregon | 3 | 2, 577, 403 | 2 | 3,317,000 | 4 | 2, 222,219 | 3 | 3, 223,768 |
| Pennsylva | 19 | 630, 471 | 20 | 520, 000 | 21 | 368, 102 | 21 | 333, 289 |
| Rhode Island |  | 11, 030 |  | 8,900 |  | 4,946 |  | 3, 030 |
| South Carolina | 20 | 621, 679 | 18 | 610, 500 | 13 | 684, 333 | 12 | 854,799 |
| South Dak |  | 42, 970 |  | 45, 100 |  | 27,062 |  | 35, 395 |
| Tennessee | 15 | 792,132 | 14 | 779, 800 | 18 | 451,937 | 19 | 485, 979 |
| Texas. | 8 | 1,379, 774 | 8 | 1,328, 800 | 5 | 1, 502, 333 | c | 1,542, 708 |
| Utah. |  | 11, 917 |  | 7,750 |  | 7,689 |  | 6,827 |
| Vermont |  | 218, 479 |  | 164,500 |  | 139, 183 |  | 95,967 |
| Virginia | 12 | 1,098, 038 | 11 | 1,014, 400 | 14 | 592, 979 | 16 | 617,493 |
| Washington | 1 | 4, 961, 220 | 1 | 5, 525, 000 | 1 | 3, 831, 800 | 1 | 5, 836, 277 |
| West Virgina | 17 | 763, 103 | 17 | 697, 600 | 17 | 467, 002 | 17 | 554, 277 |
| Wisconsin | 11 | 1, 116, 338 | 10 | 1, 059, 900 | 11 | 800, 477 | 14 | 775, 540 |
| Wyoming |  | 8, 674 |  | 7, 550 |  | 5,750 |  | 7,850 |
| All other |  | ------------- | -- | ----.-... |  | ${ }^{6} 13,310$ |  |  |
| United St |  | 7,8 34,552,076 |  | ${ }^{9} 33,798,800$ |  | ${ }^{10} 26,960,864$ |  | ${ }^{9} 31,568,888$ |
| State groups: |  |  |  |  |  |  |  |  |
| Northeastern | 6 | 2, 583, 873 | 6 | 2, 198, 000 | 4 | 1,797, 074 | 7 | 1,423, 377 |
| Central. | 4 | 3, 015, 887 | 4 | 2, 735, 300 | 5 | 1,784, 009 | 5 | 1,762, 298 |
| Southern | 1 | 12, 704, 483 |  | 11, 490, 300 | 1 | 11, 321, 766 | 1 | 11, 974, 771 |
| N. Carolina pine.- | 3 | 3, 374, 152 | 3 | 2, 871, 600 | 3 | 2, 208, 327 |  | 2, 408, 540 |
| Lake. | 5 | 2, 691,868 | 5 | 2, 386, 000 | 6 | 1, 647, 425 | 4 | 1,944, 236 |
| North Pacific | 7 | 7, 538, 623 | 2 | 8, 842, 000 | 2 | 5, 854, 019 | 2 | 8, 860, 045 |
| South Pacific | 7 | 1,279, 698 | 7 | 1, 513, 000 | 7 | 1, 350, 438 | 6 | 1,720,556. |
| N. Rocky Mt | 8 | 1,052, 766 | 8 | 1, 380,000 | 8 | 756,609 | 8 | 1, 161,039 |
| S. Rocky Mt. | 9 | 245, 918 | 9 | 318, 700 |  | 195,453 | 9 | 268, 843 |
| Prairie------- | 10 | 64,808 | 10 | 63,900 | 10 | ${ }^{11} 45,744$ | 10 | 45, 183 |

Forest Service. Compiled from Forest Service and Bureau of the Census reports. Figures 1915-1918 and for 1920 include estimates for firms not reporting.

Northeastern: Connecticut, Delaware, Maine, Maryland, Massachusetts, NewHampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont
Central: Illinois, Indiana, Kentucky, Missouri, Ohio, Tennessee, West Virginia.
Southern: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, Texas
North Carolina Pine: North Carolina, South Carolina, Virginia.
Lake: Michigan, Minnesota, Wiseonsin.
North Pacific: Oregon, W ashington.
South Pacific: California, Nevada.
North Rocky Mountain: Idaho, Montana.
South Rocky Mountain: Arizona, Colorado, New Mexico, Utah, Wyoming.
Prairie: Iowa, Kansas, Nebraska, South Dakota, North Dakota.
${ }^{1}$ Includes cut of Nevada.
${ }_{2}$ Includes cut of Nebraska
${ }^{3}$ Included in "All other."
${ }^{4}$ Included with Kansas.
${ }^{6}$ Included with California.
${ }^{6}$ Includes cut of Kansas, Nebraska, and Nevada.

1068 Yearbook of the Department of Agriculture, 1923.
Table 623.-Lumber value: Production by Siates, calendar years, 1840, 1850, and 1860 compared with 1920.


Forest Service. Compiled from Forest Service and Bureau of the Census reports.

[^302]Table 624．－Lumber production：By species，calendar years，1899－1922．

| Species or kind of wood． | 1899 |  | 1904 |  | 1905 • |  | 1906 |  | 1907 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { 垖 } \\ & \text { 品 } \end{aligned}$ | Quantity （M feet）． | $\begin{aligned} & \text { 总 } \\ & \text { 品 } \end{aligned}$ | Quantity （M feet）． | $\begin{aligned} & \text { 追 } \\ & \text { 쎨 } \end{aligned}$ | Quantity <br> （M feet）． | $\begin{aligned} & \text { 总 } \\ & \text { 品 } \end{aligned}$ | Quantity （M feet）． | $\begin{aligned} & \text { 䛔 } \\ & \text { ¢ } \end{aligned}$ | Quantity <br> （M feet）． |
| Yellow pine | 1 | 9，658，548 | 1 | 11，533， 070 | 1 | 8，771， 966 | 1 | 11，661， 077 | 1 | 13，215， 185 |
| Douglas fir． | 5 | 1，736， 507 | 4 | 2，928， 409 | 3 | 4，319， 479 | 2 | 4，969， 843 | 2 | 4，748， 872 |
| White pine | 2 | 7，772， 391 | 2 | 5，332， 704 | 2 | 4，983， 698 | 3 | 4，583， 727 | 3 | 4，192， 708 |
| Hemlock | 4 | 3，420， 673 | 3 | 3，268， 787 | 4 | 2，804， 083 | 4 | 3，537， 329 | 5 | 3，373，016 |
| Western yellow | 8 | 944， 560 | 7 | 1，279， 237 | 7 | 988， 542 | 7 | 1，386， 777 | 7 | 1，527， 195 |
| Spruce | 6 | 1，448， 091 | 6 | 1，303， 886 | 6 | 1，165， 940 | 6 | 1，644， 987 | 6 | 1，726，797 |
| Cypress | 10 | 495， 836 | 9 | －749， 592 | 8 | 753， 369 | 9 | 839， 276 | 10 | 757， 639 |
| Redwood | 13 | 360， 167 | 12 | 519，267 | 11 | 411， 689 | 11 | 659，678 | 13 | 569，450 |
| Cedar |  | 232， 978 |  | 223， 035 | 12 | 363，900 |  | 357， 845 |  | 251，002 |
| Larch |  | 50， 619 |  | 31， 784 |  | 140， 636 |  | 280， 473 |  | 324， 509 |
| White fir |  |  |  |  |  | 52， 725 |  | 104， 329 |  | 146， 508 |
| Sugar pine |  | 53， 558 |  |  |  | 123， 085 | － | 133， 640 |  | 115，005 |
| Balsam fir |  |  |  |  |  | 35， 506 |  |  |  | 153,339 |
| Lodgepole pine |  |  |  |  |  |  |  |  |  |  |
| All other soft woods |  | 9， 135 |  | 183， 541 |  |  |  | 67， 264 |  |  |
| Softwoods |  | 26，153， 063 |  | 27，353， 312 | －－ | 24，914， 618 |  | 30，235， 245 |  | 31，001， 225 |
| Oak | 3 | 4，438， 027 | 5 | 2，902， 855 | 5 | 1，833， 769 | 5 | 2，820， 383 | 4 | 3，718， 760 |
| Maple | 9 | 633， 466 | 10 | 587， 558 | 9 | 608， 746 |  | 882， 878 |  | 939，073 |
| Gum，red an | 15 | 285， 417 | 11 | 523， 990 | 13 | 316， 588 | 12 | 453， 678 | 11 | 689， 200 |
| Yellow popl | 7 | 1，115， 242 | 8 | 853， 554 | 10 | 582，748 | 10 | 683， 132 | 9 | 862，849 |
| Chestnut |  | 206， 688 | 15 | 243， 537 |  | 224， 413 | 13 | 407， 379 | 12 | 653， 239 |
| Birch |  | 132， 601 |  | 224， 009 | 15 | 240， 704 | 15 | 370， 432 | 15 | 387， 614 |
| Beech |  |  |  |  |  | 219，000 |  | 275， 661 | 14 | 430， 005 |
| Basswood | 14 | 308， 069 |  | 228， 041 | 14 | 258，390 | 14 | 376， 838 |  | 381， 088 |
| Elm． | 11 | 456， 731 | 14 | 258， 330 |  | 227， 038 |  | 224，795 |  | 260， 579 |
| Cottonwood | 12 | 415， 124 | 13 | 321， 574 |  | 236， 000 |  | 263， 996 |  | 293， 161 |
| Ash |  | 269， 120 |  | 169， 178 |  | 159， 634 |  | 214，460 |  | 252， 040 |
| Hickory |  | 96，636 |  | 106， 824 |  | 95， 803 |  | 148， 212 |  | 203， 211 |
| Tupelo |  |  |  |  |  | 35， 794 |  | 47， 882 |  | 68， 842 |
| Walnut |  | 38，681 |  | 31，455 |  | 29，851 |  | 48， 174 |  | 41， 490 |
| Sycamore |  | 29，715 |  | 18，002 |  |  |  |  |  | 46，044 |
| Cherry |  |  |  |  |  |  |  |  |  | 9，087 |
| All other hardwo |  | 208， 504 |  | 312， 920 |  | 2519,865 |  | 97， 581 |  |  |
| Minor species |  |  |  |  |  |  |  |  |  | 18，647 |
| Hardwo |  | 8，634， 021 |  | 6，781，827 |  | 5，588， 343 |  | 7，315，491 |  | 9，254， 929 |
| Tot |  | 34，787， 084 |  | 34，135， 139 |  | 30，502， 961 |  | 37，550， 736 |  | 40，256， 154 |
| Species or kind of wood． | 1908 |  | 1909 |  | 1910 |  | 1911 |  | 1912 |  |
|  | $\begin{gathered} \text { 息 } \\ \text { H } \end{gathered}$ | Quantity （M feet）． | $\begin{aligned} & \text { 箅 } \\ & \text { M } \end{aligned}$ | Quantity <br> （ $M$ feet）． | $\begin{aligned} & \text { 盖 } \\ & \text { M } \end{aligned}$ | Quantity <br> （M feet）． | 咅 | Quantity （M feet）． | $\begin{aligned} & \text { 总 } \\ & \text { م } \end{aligned}$ | Quantity <br> （M feet）． |
| Yellow pine． | 2357 | 11，236， 372 | 1 | $\begin{array}{r} 16,277,135 \\ 4,856,378 \end{array}$ | 1 | 14，143， 471 | 1 | 12，896， 706 | 1 | 14，737，052 |
| Douglas fir |  | 3，675， 114 | 2 |  | 2 | 5，203， 644 | 2 | 5，054， 243 | 2 | 5，175， 123 |
| White pine |  | 3，344， 921 | 4 | 3，900， 034 | 4 | 3，352， 183 | 3 | 3，230， 584 | 4 | 3，138， 227 |
| Hemlock |  | 2，530， 843 | 5 | 3，051， 399 | 5 | 2，836， 129 | 5 | 2，555， 308 | 5 | 2，426， 554 |
| Western yellow pine |  | 1，275， 550 | 7 | 1，499，985 | 6 | 1，562， 106 | 6 | 1，330， 700 | 7 | 1，219， 444 |
| Spruce | $\begin{array}{r}9 \\ 14 \\ \hline\end{array}$ | 1，411， 9732 | 6 | 1，748， 547 | 7 | 1，449， 912 | 7 | 1，261， 728 | 6 | 1，238， 600 |
| Cypress |  |  | 9 | 955， 635 | 9 | 935， 659 | 8 | 981， 527 | － | 997， 227 |
| Redwood |  | $\begin{aligned} & 404,802 \\ & 272,764 \end{aligned}$ | 13 | 521， 630 | 12 | 543， 493 | 13 | 489， 768 | 13 | 496，796 |
| Cedar | 14 |  |  | 346， 008 |  | 415， 039 |  | 374， 925 |  | 329，000 |
| Larch． |  | $382,466$ | $\stackrel{-15}{15}$ | 421， 214 |  | 382， 514 |  | 368， 216 | 15 | 407， 064 |
| White fir |  |  |  | 89，318 |  | 132， 327 |  | 124， 307 |  | 122， 813 |
| Sugar pine | 69，956 |  |  |  |  | 103， 165 |  | 117，987 |  | 132，416 |
| Balsam fir |  |  |  | $108,702$ |  | 74， 580 |  | 83， 375 |  | 84， 261 |
| Lodgepole pine |  |  | © |  |  | 26， 634 |  | 33， 014 |  | 22，039 |
| All other softwoods |  |  |  |  |  |  |  |  |  |  |
| Softwoods |  | 25，546， 006 | －－ | 33，896， 959 | －－－ | 31，160， 856 | －－－ | 28，902， 388 | －－ | 30，528， 418 |

[^303]${ }^{2}$ Reported as＂Mixed＂and probably includes some softwoods

Table 624．－Lumber production：By species，calendar years，1899－1922－Contd．

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Species or kind of wood．} \& \multicolumn{2}{|r|}{${ }^{\bullet} 1908$} \& \multicolumn{2}{|r|}{1909} \& \multicolumn{2}{|r|}{1910} \& \multicolumn{2}{|r|}{1911} \& \multicolumn{2}{|r|}{1912} <br>
\hline \& $$
\begin{aligned}
& \text { 沓 } \\
& \text { N }
\end{aligned}
$$ \& Quantity （M feet）． \& $$
\begin{aligned}
& \text { 畐 } \\
& \text { 品 }
\end{aligned}
$$ \& Quantity
（M feet）． \&  \& Quantity （M feet）． \& $$
\begin{gathered}
\text { 总 } \\
\text { ¢ }
\end{gathered}
$$ \& Quantity （M feet）． \& $$
\begin{aligned}
& \text { 茞 } \\
& \text { M }
\end{aligned}
$$ \& Quantity
（M feet）． <br>
\hline Oak \& 4 \& 2，771， 511 \& 3 \& 4，414， 457 \& 3 \& 3，522， 098 \& 4 \& 3，098， 444 \& 3 \& 3，318， 952 <br>
\hline Maple \& 8 \& 874， 983 \& 8 \& 1，106， 604 \& 8 \& 1，006， 637 \& \& 951， 667 \& 8 \& 1，020， 864 <br>
\hline Gum，red and sap \& 11 \& 589， 347 \& 11 \& 706， 945 \& 11. \& 610， 208 \& 11 \& 582， 967 \& 10 \& 694， 260 <br>
\hline Yellow poplar \& 10 \& 654， 122 \& 10 \& 858， 500 \& 10 \& 734， 926 \& 10 \& 659， 475 \& 11 \& 623， 289 <br>
\hline Chestnut \& 12 \& 539， 341 \& 12 \& 663， 891 \& 13 \& 535， 049 \& 12 \& 529， 022 \& 12 \& 554， 230 <br>
\hline Birch \& 15 \& 386， 367 \& \& 452，370 \& 15 \& 420， 769 \& 14 \& 432， 571 \& \& 388， 272 <br>
\hline Beech \& 13 \& 410， 072 \& 14 \& 511， 244 \& 14 \& 437， 325 \& 15 \& 403， 881 \& 14 \& 435， 250 <br>
\hline Basswoo \& \& 319， 505 \& \& 399， 151 \& \& 344， 704 \& \& 304， 621 \& \& 296， 717 <br>
\hline Elm． \& \& 273， 845 \& \& 347， 456 \& \& 265， 107 \& \& 236， 108 \& \& 262， 141 <br>
\hline Cottonwood \& \& 232，475 \& \& 265， 600 \& \& 220， 305 \& \& 198， 629 \& \& 227， 477 <br>
\hline Ash \& \& 225， 367 \& \& 291， 209 \& \& 246， 035 \& \& 214， 398 \& \& 234， 548 <br>
\hline Hickory \& \& 197， 372 \& \& 333， 929 \& \& 272， 252 \& \& 240， 217 \& \& 278， 757 <br>
\hline Tupelo \& \& 69， 170 \& \& 96， 676 \& \& 92,071 \& \& 98， 142 \& \& 122，545 <br>
\hline Walnut \& \& 43， 681 \& \& 46， 108 \& \& 36，449 \& \& 38， 293 \& \& 43，083 <br>
\hline Sycamor \& \& 43， 332 \& \& 56， 511 \& \& 45，063 \& \& 42， 836 \& \& 49，468 <br>
\hline Cherry \& \& 18， 054 \& \& 24， 594 \& \& 18， 237 \& \& 21， 422 \& \& 22， 245 <br>
\hline Minor species \& \& 29,819 \& \& 37， 557 \& \& 50， 191 \& \& 48， 126 \& \& 59，900 <br>
\hline Hardwoo \& \& 7，678，363 \& \& 10，612， 802 \& \& 8，857， 426 \& \& 8，100， 819 \& \& 8，631， 998 <br>
\hline Tota \& \& 33，224， 369 \& \& 44，509， 761 \& \& 40，018， 282 \& \& 37，003， 207 \& \& 39，158， 414 <br>
\hline \multirow[b]{2}{*}{Species or kind of wood．} \& \multicolumn{2}{|r|}{1913} \& \multicolumn{2}{|r|}{1914} \& \multicolumn{2}{|r|}{1915} \& \multicolumn{2}{|r|}{1916} \& \multicolumn{2}{|r|}{1917} <br>
\hline \& $$
\begin{aligned}
& \text { 永 } \\
& \text { Mi }
\end{aligned}
$$ \& Quantity
（M feet）． \& $$
\begin{aligned}
& \text { 总 } \\
& \text { ⿷⿱口⿰口口山刂灬}
\end{aligned}
$$ \& Qusntity （M feet）． \& 登 \& $$
\begin{aligned}
& \text { Quantity } \\
& \text { (M feet). }
\end{aligned}
$$ \& $$
\begin{aligned}
& \text { 沓 } \\
& \text { ल्\& }
\end{aligned}
$$ \& Quantity
（M feet）． \& $$
\begin{aligned}
& \text { 喿 } \\
& \text { an }
\end{aligned}
$$ \& Quantity
（M feet）． <br>
\hline Yellow pine \& \multirow[t]{4}{*}{1
2
4
5
6} \& \multirow[t]{4}{*}{$$
\begin{aligned}
& 14,839,363 \\
& 5,556,096 \\
& 2,568,636 \\
& 2,319,982 \\
& 1,258,528
\end{aligned}
$$} \& \multirow[t]{4}{*}{1
2
4
4
5
6} \& 14，472， 804 \& 1 \& 14，700， 000 \& 1 \& 15，055， 000 \& 1 \& 13，539，464 <br>
\hline Douglas fir \& \& \& \& 4，763， 693 \& 2 \& 4，431， 249 \& 2 \& 5，416，000 \& 2 \& 5，585， 000 <br>
\hline White pine \& \& \& \& $2,632,587$
$2,165,728$ \& $\stackrel{4}{5}$ \& ${ }_{2,275,000}$ \& $\stackrel{4}{5}$ \& 2， 350,000 \& $\stackrel{3}{5}$ \& $2,200,000$ <br>
\hline Wemlock yello \& \& \& \& 1，327， 365 \& 7 \& 1，293， 985 \& 6 \& 1，690， 000 \& 5 \& 1，960，000 <br>
\hline Spruce \& \multirow{4}{*}{${ }_{12}^{7}$} \& \multirow[t]{5}{*}{$$
\begin{array}{r}
1,046,816 \\
1,097,247 \\
510,271 \\
358,444 \\
395,273
\end{array}
$$} \& \multirow[t]{2}{*}{$$
\begin{array}{r}
7 \\
8
\end{array}
$$} \& 1，245， 614 \& 6 \& \multirow[t]{2}{*}{$1,400,000$
$1,100,000$} \& \& 1，250，000 \& 7 \& \multirow[t]{2}{*}{1，125， 0000} <br>
\hline Cypress \& \& \& \& $1,013,013$ \& \multirow[t]{2}{*}{－8} \& \& \multirow[t]{2}{*}{13} \& 1， 0000000 \& \multirow[t]{2}{*}{88} \& <br>
\hline Redwood \& \& \& \multirow[t]{2}{*}{12} \& \multirow[t]{3}{*}{$$
\begin{aligned}
& 499,903 \\
& 358,561
\end{aligned}
$$} \& \& \multirow[t]{2}{*}{$$
\begin{aligned}
& 420,294 \\
& 420,000
\end{aligned}
$$} \& \& 490， 850 \& \& 487， 458 <br>
\hline Cedar \& \& \& \& \& 14 \& \& \multirow[t]{2}{*}{－14－1} \& \multirow[t]{2}{*}{$$
\begin{aligned}
& 410,000 \\
& 455,000
\end{aligned}
$$} \& \multirow[b]{2}{*}{14} \& \multirow[t]{2}{*}{265,000
360,000} <br>
\hline Larch \& \multirow[t]{2}{*}{14} \& \& 395， 273 \& \& \multirow[t]{2}{*}{----} \& 375，000 \& \& \& \& <br>
\hline White fir \& \& 88， 109 \& \& 112，627 \& \& 125， 048 \& \& 190， 000 \& －－－－ \& \multirow[t]{4}{*}{$$
\begin{array}{r}
218,200 \\
132,600 \\
88,900 \\
12,500
\end{array}
$$} <br>
\hline Sugar pine \& \& 149， 926 \& \& 136， 159 \& \& 117，701 \& \& 169， 250 \& －．－－ \& <br>
\hline Balsam fir \& \& 93， 752 \& \& 125， 212 \& \& 100， 000 \& \& 125， 000 \& \& <br>
\hline Lodgepole p \& \& 20， 106 \& \& 18，374 \& \& 26，486 \& \& 30， 800 \& \& <br>
\hline Softwoods \& \& 30，302， 549 \& －－－ \& 29，406， 839 \& －－－－ \& 29，484， 763 \& －－－－ \& 31，331，900 \& －－－ \& 29，174， 122 <br>
\hline Oak \& \multirow[t]{5}{*}{3
9
10
11
13} \& \multirow[t]{5}{*}{$$
\begin{array}{r}
\hline 3,211,718 \\
901,487 \\
772,514 \\
620,176 \\
505,802
\end{array}
$$} \& 3 \& \multirow[t]{5}{*}{$$
\begin{array}{r}
3,278,908 \\
909,743 \\
675,380 \\
519,221 \\
540,591
\end{array}
$$} \& \multirow[b]{5}{*}{10
12
11} \& \multirow[t]{5}{*}{$$
\begin{array}{r}
2,970,000 \\
900,000 \\
655,000 \\
464,000 \\
490,000
\end{array}
$$} \& \multirow[b]{5}{*}{10
11
12} \& \multirow[t]{5}{*}{$$
\begin{array}{r}
3,300,000 \\
975,000 \\
800,000 \\
50,000 \\
535,000
\end{array}
$$} \& \multirow[t]{5}{*}{$$
\begin{array}{r}
4 \\
9 \\
10 \\
15 \\
13
\end{array}
$$} \& \multirow[t]{5}{*}{$$
\begin{array}{r}
2,250,000 \\
860,000 \\
788,000 \\
350,000 \\
415,000
\end{array}
$$} <br>
\hline Maple \& \& \& 9 \& \& \& \& \& \& \& <br>
\hline Gum，red and s \& \& \& 10 \& \& \& \& \& \& \& <br>
\hline Yellow popl \& \& \& 13 \& \& \& \& \& \& \& <br>
\hline Chestnut．－ \& \& \& 11 \& \& \& \& \& \& \& <br>
\hline Birch． \& \multirow[t]{2}{*}{15} \& \multirow[t]{5}{*}{$$
\begin{aligned}
& 378,739 \\
& 356,501 \\
& 257,102 \\
& 214,532 \\
& 208,938
\end{aligned}
$$} \& \multirow[t]{2}{*}{15} \& \multirow[t]{5}{*}{$$
\begin{aligned}
& 430,667 \\
& 376,464 . \\
& 264, \\
& 214,296 \\
& 195,298 \\
& 195,198
\end{aligned}
$$} \& \multirow[t]{2}{*}{15} \& \multirow[t]{2}{*}{415,000
3600000} \& \multirow[t]{2}{*}{15} \& \multirow[t]{4}{*}{$$
\begin{aligned}
& 450,000 \\
& 360,000 \\
& 275,000 \\
& 240,000
\end{aligned}
$$} \& 12 \& \multirow[t]{5}{*}{$$
\begin{aligned}
& 415,000 \\
& 296,000 \\
& 203,000 \\
& 205,000 \\
& 190,000
\end{aligned}
$$} <br>
\hline Beech \& \& \& \& \& \& \& \& \& \& <br>
\hline Basswood \& \& \& \& \& \& 260， 000 \& \& \& \& <br>
\hline Elm． \& \& \& \& \& \& 210， 000 \& \& \& \& <br>
\hline Cottonwood \& \& \& \& \& \& 180， 000 \& \& 200， 000 \& \& <br>
\hline Ash． \& \& \multirow[t]{2}{*}{$$
\begin{aligned}
& 207,816 \\
& 162,980
\end{aligned}
$$} \& \& \multirow[t]{2}{*}{189,499
116,113} \& \& \multirow[t]{2}{*}{$$
\begin{aligned}
& 190,000 \\
& 100,000
\end{aligned}
$$} \& \multicolumn{2}{|r|}{\multirow[t]{2}{*}{$$
\begin{aligned}
& 210,000 \\
& 125,000
\end{aligned}
$$}} \& \& \multirow[t]{2}{*}{175,000
95,000} <br>
\hline Hickory \& \& \& \& \& \& \& \& \& \& <br>
\hline Tupelo \& \& \multirow[t]{2}{*}{120,420
40,565} \& \& \multirow[t]{2}{*}{124,480
25,573
22,773} \& \& \multirow[t]{2}{*}{170,000
90} \& \& \multirow[t]{2}{*}{90，

4000} \& \multicolumn{2}{|l|}{\multirow[t]{3}{*}{$$
\begin{aligned}
& 62,000 \\
& 32,000
\end{aligned}
$$}} <br>

\hline Sycamor \& \& \& \& \& \& \& \& \& \& <br>
\hline \& \& \& \& \& \& \& \& \& \& <br>

\hline Cherry．．． \& \& \multirow[t]{2}{*}{$$
\begin{aligned}
& 14,126 \\
& 71,240
\end{aligned}
$$} \& \multirow[t]{2}{*}{} \& \multirow[t]{2}{*}{55， 624} \& \multirow[t]{2}{*}{－－－} \& \multirow[t]{2}{*}{－47， 893} \& \multirow[t]{2}{*}{} \& \multirow[t]{2}{*}{40， 351} \& \multicolumn{2}{|r|}{\multirow[t]{2}{*}{56，117}} <br>

\hline Minor species \& \& \& \& \& \& \& \& \& \& <br>
\hline Hardwoods \& \& 8，084， 460 \& \& 7\％939， 184 \& \& 7，526， 893 \& \& 8，475， 351 \& \& 6，657， 117 <br>

\hline To \& \multicolumn{2}{|r|}{38，387， 009} \& \multicolumn{2}{|l|}{$$
\cdots 37,346,023
$$} \& \multicolumn{2}{|l|}{\[

37,011,656

\]} \& \multicolumn{2}{|l|}{\[

\cdots 39,807,251 .
\]} \& \multicolumn{2}{|l|}{$35,831,239$} <br>

\hline
\end{tabular}

Table 624．－Lumber production：By species，calendar years，1899－1928－Contd．

| Species or kind of wood． | 1918 |  | 1919 |  | 1920 |  | 1921 |  | $\stackrel{1922,}{\text { preliminary．}}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { 哲 } \\ & \text { مٌ } \end{aligned}$ | Quantity （M feet）． | $\begin{aligned} & \text { M } \\ & \text { 总 } \end{aligned}$ | Quantity （M feet）． | $\begin{aligned} & \text { 息 } \\ & \text { ⿷匚斤 } \end{aligned}$ | Quantity <br> （M feet）． | $\begin{array}{\|l\|} \hline \text { 总 } \\ \text { N } \end{array}$ | Quantity （M feet）． | $\begin{aligned} & \text { 쎰 } \\ & \text { M } \end{aligned}$ | $\begin{aligned} & \text { Quantity } \\ & \text { (M feet). } \end{aligned}$ |
| Yellow pine | 1 | 10，845， 000 | 1 | 13，062， 938 | 1 | 11，091， 000 | 1 | 10，959， 863 | 1 | 11，500，771 |
| Douglas fir | 2 | 5，820， 000 | 2 | 5，902， 169 | 2 | 6，960， 000 | 2 | 4，642， 122 | 2 | 6，831， 580 |
| White pine | 3 | 2，200， 000 | 6 | 1，723， 642 | 6 | 1，500， 000 | 5 | 1，273， 710 | 6 | 1，382， 755 |
| Hemlock． | 5 | 1，875， 000 | 5 | 1，754，998 | 5 | 1，850， 000 | 6 | 1，201， 063 | 5 | 1，534， 641 |
| Western yellow pine | 6 | 1，710，000 | 4 | 1，755， 015 | 4 | 2，290， 000 | 4 | 1，432， 273 | 3 | 2，080， 994 |
| Spruce | 7 | 1，125，000 | 7 | 979， 968 | 9 | 825， 000 | 9 | 629， 256 | 9 | 731， 371 |
| Cypress | 10 | 630， 000 | 10 | 656， 212 | 10 | 625， 000 | 7 | 770， 920 | 7 | 868， 952 |
| －Redwood | 11 | 443， 231 | 12 | 410， 442 | 11 | 476， 500 | 11 | 467， 804 | 11 | 565， 965 |
| Cedar |  | 245， 000 |  | 332， 234 |  | 260， 000 | 15 | 234， 576 | 12 | 334， 083 |
| Larch | 14 | 355， 000 | 13 | 388， 121 | 14 | 390， 000 |  | 213， 397 | 15 | 274， 589 |
| White fir |  | 213， 000 |  | 223， 422 |  | 280， 000 |  | 186， 363 | 14 | 297， 727 |
| Sugar pine |  | 111， 800 | －－－ | 133， 658 |  | 146， 000 |  | 133， 566 |  | 194，067 |
| Balsam fir |  | 82， 000 |  | 68， 030 |  | 85， 000 |  | 29，350 |  | 32，903 |
| Lodgepole pi |  | 12， 500 |  | 16， 281 |  | 31， 000 |  | 11， 241 |  | 13，936 |
| Softwoods |  | 25，667， 531 |  | 27，407， 130 |  | 26，809， 500 |  | 22，185， 504 |  | 26，644， 334 |
| Oak | 4 | 2，025， 000 | 389 | 2，708， 280 | 3 | 2，500， 000 | 3 | 1，592， 175 | 4 | 1，605，154 |
| Maple | 8 | 815， 000 |  | 857， 489 | 7 | 875， 000 | 10 | 609， 852 | 10 | 639，781 |
| Gum，red | 9 | 765， 000 |  | 851， 431 | 8 | 850， 000 | 8 | 683， 398 | 8 | 808， 461 |
| Yellow poplar | 15 | 290， 000 |  | 328， 538 | 15 | 350，000 | 14 | 235， 418 |  | 273， 971 |
| Chestnut | 12 | 400， 000 | 11 | 545， 696 | 12 | 475， 000 | 13 | 312， 486 | 13 | 310， 801 |
| Birch | $\begin{aligned} & 13 \\ & 15 \end{aligned}$ | $\begin{aligned} & 370,000 \\ & 290,000 \end{aligned}$ | 14 <br> 15 | $\begin{aligned} & 375,079 \\ & 358,985 \end{aligned}$ | 13 | $\begin{aligned} & 405,000 \\ & 325,000 \end{aligned}$ | 12 | $\begin{aligned} & 319,192 \\ & 190,387 \end{aligned}$ | －－ | 263,094163,448 |
| Beech |  |  |  |  |  |  |  |  |  |  |
| Basswood |  |  |  | 183， 562 | －－ | $\begin{array}{r} 195,000 \\ \cdot \quad 225,000 \end{array}$ | －－－ | 125,633 132,276 | －－－ | $\begin{aligned} & 134,168 \\ & 142,702 \end{aligned}$ |
| Elm |  | $\begin{aligned} & 200,000 \\ & 195,000 \end{aligned}$ |  | 194， 417 |  |  |  | 132， 276 |  |  |
| Cottonwo |  | 175， 000 | 144， 155 |  | ---- | $155,000$ | －－－－ | 122， 305 |  | 113， 829 |
| Ash |  | $\begin{aligned} & 170,000 \\ & 100,000 \end{aligned}$ | $\begin{aligned} & 154,931 \\ & 170.013 \end{aligned}$ |  |  | $\begin{aligned} & 170,000 \\ & 150,000 \end{aligned}$ |  | $\begin{array}{r} 127,843 \\ 73,523 \end{array}$ |  | 130,73556,682 |
| Hickory |  |  |  |  |  |  |  |  |  |  |
| Tupelo |  | 237， 000100,000 | 143,73039,218 |  |  | 180,00035,000 |  | 134，751 |  | 158,93838,735 |
| Walnut |  |  |  |  |  |  |  | 17，932 |  |  |
| Sycamore |  | 30，000 | 28， 114 |  |  | 31，000 |  |  | －－－－ | 17，901 |
| Cherry |  |  |  | 61， 308 | －－－ | 68， 300 |  | 67，068 |  | 66， 154 |
| Minor species |  | 60，963 |  |  |  |  | －－－ |  | －－－ |  |
| Hardwoods． <br> Total |  | 6，222， 963 | －－－ | 7，144， 946 | ．．． | 6，989， 300 |  | 4，775， 360 |  | 4，924， 554 |
|  |  | $31,890,494$ | －－－34，552， 076 |  | －－－ $33,798,800$ |  |  | 26，960， 864 | －－． $31,568,888$ |  |

Forest Service．Compiled from Forest Service and Bureau of the Census reports．Figures for 1915－1918 and for 1920 include estimates for firms not reporting．

Table 625-Lath and shingles: Production by States, calendar years, 1870-1928.

| State. | 1870 |  | 1880 |  | 1890 |  | 1899 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lath. | Shingles. | Lath. | Shingles. | Lath. | Shingles. | Lath. | Shingles. |
| Alabama | Thousands. 1,115 | Thousands. 1, 422 | Thousands. 14, 147 | Thousands. 5, 427 | Thousands. 35, 105 | Thousands. 292, 583 | Thousands. 28, 721 | Thousands. 267, 273 |
| Arizona |  |  |  | 1,760 |  | 1,500 | 2, 040 | 350 |
| Arkansas | 2, 200 | 4,747 | 6, 527 | 61,758 | 20,364 | 329, 823 | 21, 164 | 349, 522 |
| California | 2,877 | 103,547 | 2,420 | 138,718 | 7,350 | 305, 964 | 11, 507 | 650, 090 |
| Colorado | 2,710 | 3,675 | 4,925 | 27, 214 | 4,500 | 10,625 | 5,558 | 5,165 |
| Connecticut | 813 | 15,510 | 1,719 | 7,192 | 1,500 | 3, 523 | 418 | 3,214 |
| Delaware ---...---- | 100 |  | 317 | 506 | 650 | 100 | 1,130 | 30 |
| District of Columbia- |  |  | 1,000 |  |  |  |  |  |
| Florida | 1,400 |  | 20, 101 | 3,061 | 35,000 | 114,-107 | 21,761 | 177, 123 |
| Georgia | 1,883 | 1,560 | 17,438 | 25, 332 | 23, 250 | 102, 877 | 31, 496 | 243, 797 |
| Idaho. |  | 400 | 750 | 4,235 | 1,000 | 7,825 | 3,220 | 15, 806 |
| Illinois | 13,650 | 40, 928 | 25,977 | 15, 306 | 30,000 | 18, 339 | 30,674 | 42, 825 |
| Indiana | 11, 202 | 73,707 | 28,031 | 28, 634 | 23, 300 | 78, 789 | 10, 138 | 34, 198 |
| Iowa | 47, 884 | 97, 928 | 79, 924 | 128, 100 | 110, 500 | 209, 649 | 58,638 | 66, 140 |
| Kansas | 320 | 12, 108 | 25 | 835 |  |  |  |  |
| Kentucky | 8, 050 | 13, 573 | 26, 856 | 25, 253 | 35, 808 | 36, 748 | 17,091 | 59,375 |
| Louisiana |  |  | 7,745 | 30, 195 | 7,500 | 411, 725 | 99, 852 | 504, 819 |
| Maine. | 266, 889 | 364, 201 | 184, 820 | 426, 530 | 190, 355 | 483, 153 | 217, 376 | 465, 862 |
| Maryland. | 5,849 | 3, 869 | 7,955 | 4,429 | 3,500 | 12, 277 | 5,369 | 22, 824 |
| Massachusetts | 873 | 36, 486 | 16,947 | 19,667 | 20, 365 | 24, 523 | 8,807 | 20,500 |
| Michigan | 304, 054 | 658. 741 | 461, 805 | 2, 584, 717 | 478, 935 | 2, 848, 820 | 259, 917 | 1,926, 110 |
| Minnesota | 49, 768 | 127, 813 | 88, 088 | 194, 566 | 176, 300 | 461, 472 | 387, 064 | 498, 800 |
| Mississipp | 651 | 5,500 | 7,908 | 5,355 | 10, 355 | 11, 270 | 6, 083 | 32, 027 |
| Missouri. | 12, 970 | 10,442 | 20, 839 | 8,832 | 26,785 | 24, 089 | 24, 835 | 28, 227 |
| Montana | 400 | 2, 356 | 2,620 | 9,627 | 3, 360 | 1,295 | 14, 231 | 6,880 |
| Nebraska |  | 900 |  |  |  | 2,805 | 1 |  |
| Nevada | 75 | 700 |  | 485 |  |  |  |  |
| New Hamps | 10,383 | 52, 225 | 49, 454 | 67, 086 | 55, 834 | 79,193 | 74, 221 | 40,499 |
| New Jersey | 3,167 | 3,624 | 8,948 | 10, 717 | 9, 150 | 17, 608 | 3, 559 | 33,835 |
| New Mexico |  |  | 107 | 722 | 2,310 | 3,140 | 2, 165 | 4,800 |
| New York | 87,999 | 372, 183 | 79,399 | 305, 711 | 85,250 | 491, 641 | 66, 468 | 160, 294 |
| North Carolina | 1,530 | 13, 817 | 13,340 | 8,707 | $19,330$ | 100, 442 | 48,782 | 212, 467 |
| North Dakota |  |  |  |  | 1,600 38,265 | 2,000 49,302 |  |  |
| Oklahom | 15, 238 | 59,632 | 50, 625 | 24, 876 | 38, 265 | 49,302 | 18, 175 | $\begin{array}{r} 13,605 \\ 103 \end{array}$ |
| Oregon. | 7,346 |  | 18, 245 | 5,040 | 14, 110 | 51,530 | 41,779 | 31, 189 |
| Pennsylvania | 95, 592 | 275, 273 | 183, 740 | 288, 561 | 195, 273 | 422, 701 | 266, 949 | 369, 858 |
| Rhode Island |  | 5,119 | 10 | 1,986 |  | 3,790 | 16 | 2, 267 |
| South Carolina | 2, 500 | 1,200 | 23, 133 | 10, 036 | 19, 150 | 23,618 | 26,311 | 88, 878 |
| South Dakota |  |  | ${ }^{2} 564$ | ${ }^{2} 4,823$ | 1,080 | 7, 845 | 1,856 | 800 |
| Tennessee | 5,370 | 11, 337 | 21, 275 | 14, 205 | 35, 350 | 19,537 | 33, 199 | 59,735 |
| Texas | ${ }^{623}$ | 30, 209 | 14, 131 | 112, 523 | 39, 565 | 214, 082 | 4, 181 | 210, 633 |
| Utah | 1,138 | 8,061 | 1,583 | 9, 293 |  | 1,115 | 793 | 2,460 |
| Vermont | 6, 672 | 28, 502 | 19,745 | 55, 711 | 23, 475 | 69, 035 | 9, 314 | 52,899 |
| Virginia | 4,258 | 614 | 14, 402 | 8,223 | 19, 204 | 11,566 | 36, 502 | 27,784 |
| Washington | 17,000 | 10, 450 | 6,550 | 3, 610 | 49, 600 | 545, 297 | 145, 134 | 4, 337, 992 |
| West Virginia | 197, 871 | 5,600 | 12, 071 | 3, 695 | 23, 480 | 1, 009 | 58, 440 | 34, 350 |
| Wisconsin- | 102, 663 | 806, 807 | 215, 132 | 862, 922 | 385, 500 | 1, 366, 022 | 418, 011 | 994,427 |
| Wyoming |  | 750 | 300 | 865 |  | 1,385 | 629 | 2, 185 |
| United States .- | 1, 295, 091 | 3, 265, 516 | 1,761,788 | 5, 555, 046 | 2, 263,308 | 9,275,809 | 2, 523, 998 | 12,102, 017 |

[^304]${ }^{1}$ Includes Indian Territory.
${ }^{2}$ Includes both Dakotas.
${ }^{3}$ Reported as the cut of Alaska.

Table 625-Lath and shingles: Production by States, calendar years, 1870-1922Continued.

| State. | 1904 |  | 1905 |  | 1906 |  | 1907 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lath. | Shingles. | Lath. | Shingles. | Lath. | Shingles. | Lath. | Shingles. |
| Alabama | Thousamds. 24, 569 | Thousands. 112, 093 | Thourands. | Thousands. 285, 080 | Thousands. | Thousands. | Thousands. 39, 948 | Thousands. 147, 641 |
| Arizona. | 5, 635 |  | (1) | ( ${ }^{\text {a }}$ |  |  | 13, 845 |  |
| Arkansas | 52, 594 | 269, 706. |  | 302, 135 |  | 228, 563 | 71,163 | 186,163 762,178 |
| California | 16,962 | 737, 589 - |  | 547, 863 |  | 834, 329 | 18,035 8,056 | $762, \frac{178}{725}$ |
| Colorado.- | 17, 171 | 950 |  |  |  |  | 8, 056 |  |
| Connecticut. | 475 | 6,225 |  |  |  |  | 215 | 3, 528 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Florida------------------------ | 20,975 28,569 | 188, 652 |  | 177, 988 |  | 161, 339 | 66, 674 | 194, 263 |
| Idaho. | 16, 137 | 41,972 |  |  |  |  | 45, 763 | 63, 678 |
| Itinois | 16,572 | 12,408 |  |  |  |  | 1,597 | 200 |
| Indiana | 2, 960 | 3, 960 |  |  |  |  | 3, 249 | 2, 327 |
| Iowa.- | 58, 807 | 35, 404 |  |  |  |  | 22, 439 | 11,754 |
| Kansas |  |  | (1) | (1) |  |  |  |  |
| Kentucky | 15, 837 | 43, 775 |  |  |  |  | 36, 589 | 24, 053 |
| Louisiana | 151, 403 | 801, 866 | 259, 259 | 743, 398 | 348, 530 | 866, 597 | 281, 495 | 812, 587 |
| Maine. | 237, 173 | 482, 414 | 255, 482 | 312, 497 | 329, 549 | 340, 948 | 294, 558 | 401, 759 |
| Maryland | 13, 616 | 6, 677 |  |  |  |  | 16, 843 | 5,467 |
| Massachusetts. | 4,877 | 10, 086 |  |  |  |  | 8,573, | 12, 168 |
| Michigan | 236, 343 | 1, 347, 163 | 221, 386 | 875, 051 | 317, 395 | 915, 153 | 268, 287 | 855, 749 |
| Minnesota | 368, 843 | 318, 783 | 422, 025 | 193, 738 | 501, 673 |  | 497, 628 | 51,540 |
| Mississippi | 60, 410 | 50, 654 |  |  |  |  | 74, 14.170 | 51, 48.651 |
| Missouri ------------ | 22, 509 | 74,036 4,586 |  |  |  |  | 14, 17, | 48,681 4,069 |
|  |  |  |  |  |  |  |  |  |
| Nebraska |  |  | (1) | (1) |  |  |  | ----- |
| Nevada. |  | (1) | ${ }^{1}$ ) | ${ }^{(1)}$ |  |  |  |  |
| New Hampshire | 19, 082 | 17, 327 |  |  |  |  | 94, 482 | 19,346 |
| New Jersey -- | 12, 977 | 31, 411 |  |  |  |  | 10,345 | 26,990 |
| New Mexico-.------- | 12, 654 | 950 . | (1) | (1) |  |  | 19, 778. | 7, 724 |
| New York | ${ }^{2} 55,233$ | ${ }^{2} 55,581$ |  |  |  |  | ${ }^{2} 81,187$ | 2 65, 554 |
| North Carolina | 31, 907 | 192, 233 |  |  |  |  | 51, 040 | 129, 101 |
|  |  |  |  |  |  |  |  |  |
| Ohio. | 8,671 | 3, 820 : |  |  |  |  | 16, 395 | + 953 |
|  |  |  |  |  |  |  |  |  |
| Oregon. | 76,915 | 117, 511 | 116, 456 |  | 156, 973 |  | 134, 048 | 206, 766 |
| Pennsylvania | 219, 630 | 115, 211 | 219, 143 |  | 200, 494 |  | 245, 482 | 108, 910 |
| Rhode Island |  | 620 |  |  |  |  | 2 | 8829 |
| South Carolina. | 20,177 | 81, 108 |  |  |  |  | 21,697 | 43, 767 |
|  |  |  |  |  |  |  |  |  |
| Tennessee | 21, 215 | 35, 121 |  |  |  |  | 37, 967 | 8, 609 |
| Texas | 9,567 | 75,926 |  |  |  |  | 58, 259 | 95,753 |
| Utah | 929 | 550 |  |  |  |  | 338 | 1,370 |
| Vermont | 18,649 | 16,415 |  |  |  |  | 14, 784 | 19, 184 |
|  |  |  |  |  |  |  |  |  |
| W ashington | 229, 720 | 8, 357, 457 | 559, 813 | 10, 509, 914 | 479, 187 | 7, 286, 508 | 430, 791 | 6, 886, 542 |
| West Virginia. | 66, 325 | 24, 630 |  |  | 137, 506 |  | 142, 595 | 3,323 348,170 |
| Wisconsin. | 416, 282 | 474, 928 | 328, 905 | 417, 046 | 457, 880 | 302, 876 | 364, 180 | 348, 170 |
| Wyoming-- | 560 | 1,071 |  |  |  |  | 684 | 1,159 |
| All other States |  | ${ }^{3} 1,226$ | * 728, 688 | 4821, 677 | ${ }^{5} 883,620$ | -746,227 |  |  |
| United States. - | 2, 647, 847 | 14, 547, 477 | 3, 111, 157 | 15, 340,909 | 3,812, 807 | 11, 858, 260 | 3, 663, 602 | 11, 824, 475 |

[^305]Table 625-Lath and shingles: Production by States, calendar years, 1870-1922Continued.


[^306]Table 625-Lath and shingles: Production by States, calendar years, 1870-1922Continued.

| State. | 1912 |  | 1915 |  | 1916 |  | 1917 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lath. | Shingles. | Lath. | Shingles. | Lath. | Shingles. | Lath. | Shingles. |
| Alabama | Thousands. 56, 595 | Thousands. 126, 205 | Thousands. 59, 570 | Thousands. 67, 629 | Thousands. 64, 922 | Thousands. 183, 662 | Thousands. 39, 685 | Thousands. 54,735 |
| Arizona | 7,985 |  | 23, 293 | 200 | 24, 918 |  | 19, 878 | 180 |
| Arkansas | 90, 216 | 114, 458 | 97, 185 | 20,501 | 78, 157 | 45, 411 | 147, 578 | 59, 927 |
| California | 18,954 | 471, 592 | ${ }^{1} 38,284$ | 200, 755 | ${ }^{1} 30,713$ | 348, 622 | ${ }^{1} 37,651$ | 261, 434 |
| Colorado | 4,975 | 265 | 8, 003 |  | 5, 964 | 172 | 491 | 35 |
| Connecticut. | 1,409 | 2, 240 | 343 | 833 | 12, 805 | 202 | 736 | 555 |
| Delaware <br> District of Columbia | 765 | 290 | 400 | 25 | 30 | 89 | 568 | 20 |
| Florida-..-......-...-- | 51,078 | 309, 081 | 89, 860 | 116, 054 | 85, 187 | 131, 795 | 97,954 | 143,792 |
| Georgia. | 37, 702 | 216, 688 | 34, 969 | 69,308 | 49,316 | 131, 763 | 46, 889 | 112,430 |
| Idaho | 50, 895 | 37, 641 | 85, 672 | 49,512 | 117,365 | 79,960 | 86, 264 | 52,631 |
| Ilinois | 366 | 50 | 384 391 | 270 | 1, 8245 | 162 | 415 |  |
| Iowa--.---------------------- | 4,734 | 1,260 |  | 100 | 500 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Kentucky | 10, 481 | 8,623 | 12, 588 | 6, 835 | 9,340 | 4, 672 | 7,153 | 1,601 |
| Louisiana | 330, 474 | 718, 026 | 418, 554 | 385, 610 | 354, 551 | 404, 263 | 348, 806 | 453, 819 |
| Maine | 210, 023 | 393,772 | 172, 346 | 268, 004 | 396, 935 | 221, 039 | 142, 488 | 166, 101 |
| Maryland | 6,535 | 3,437 | 12, 877 | 430 | 5,774 | 1,601 | 208 | 751 |
| Massachusetts | 5, 032 | 7,310 | 558 | 1,832 | 2, 036 | 865 | 583 | 533 |
| Michigan | 173, 415 | 459, 359 | 124, 543 | 250, 640 | 335, 846 | 201, 171 | 84, 352 | 203, 907 |
| Minnesota | 269, 095 | 30, 834 | 230, 686 | 8, 041 | 267, 788 | 6, 577 | 213, 092 | 1,498 |
| Mississippi | 81, 315 | 72, 700 | 123, 011 | 11,950 | 162, 689 | 25, 196 | 133, 925 | 39, 261 |
| Missouri | 4, 128 | 33, 917 | 9,855 | 3,820 | 1,332 | 998 | 5, 485 | 2,362 |
| Montana | 15, 064 | 210 | 27, 334 | 10,280 | 25,522 | 16, 266 | 23, 332 | 3, 259 |
| Nebraska |  |  |  |  |  |  |  |  |
| Nevada-..... |  |  |  |  |  |  |  |  |
| New Hampshi | 11,487 | 8,847 | 24,663 | 5,936 | $\begin{array}{r}18,398 \\ 5 \\ \hline\end{array}$ | - ${ }^{3,543}$ |  |  |
| New Jersey <br> New Mexico | 19,016 9,097 | 29,129 | 9, 482 2,992 | 17, 289 | 5,808 10,851 | 17,876 320 | 9,504 | 7,797 1,500 |
| New York | 28,188 | 27,919 | 15, 111 | 5,247 | 12, 829 | 9,577 | 10,478 | 8,302 |
| North Dakota | 94, 086 | 196, 943 | 96, 474 | 74, 773 | 86, 551 | 123, 959 | 36, 287 | 73,703 |
|  | 14,051 | 488 | 4,717 | 25 | 6,976 | 125 | 3, 004 | 15 |
| Oklahoma | 9,391 | 2, 547 | 11, 176 | 890 | 19,711 | 220 | 18,866 | 338 |
| Pennsylvania | 131, 734 | 271, 205 | 95, 801 | 336, 652 | 142, 352 | 471, 762 | 132,418 | 481, 353 |
|  | 78, 758 | 26, 957 | 70,877 | 8, 064 | 63, 016 | 8, 652 | 43, 928 | 3,924 |
| Rouode Island |  | 432 |  | 400 |  | 125 | 30 | 70 |
| South Carolina | 13, 259 | 57, 812 | 13, 350 | 11,854 | 44, 967 | 24, 382 | 21, 834 | 13, 610 |
| South Dakota.-.-.-.--- | 381 | 271 | 7, 292 | 436 | 7, 055 | 334 | 100 | 336 |
| Tenness | 16, 575 | 29,713 | 24, 510 | 7,912 | 13,795 | 9, 176 | 10,318 | 5,167 |
|  | 28, 152 | 73, 870 | 40,698 | 22, 245 | 42,686 | 32,749 | 47, 654 | 61, 011 |
| Texas | 172 | 177 | 744 | 920 | 979 | 392 | 333 | 1,295 |
| Vermont | 4,538 | 9,363 | 6,290 | 6,388 | 9,990 | 7,993 | 6,170 | 2,894 |
|  | 71, 356 | 27,752 | 97, 921 | 49,758 | 63, 263 | 43,387 | 30, 244 | 9,000 |
| W ashington-..--....- | 336, 538 | 7, 996, 251 | 389, 995 | 6, 313, 335 | 264, 690 | 6, 739, 388 | 230, 194 | 6, 313, 364 |
| West Virginia.-....- | 159, 119 | 1,441 | 882, 561 |  | 96, 665 | 2, 800 | 44, 233 |  |
|  | 257, 657 | 267, 045 | 179, 193 | 122, 882 | 218, 598 | 175, 455 | 185, 074 | 151, 726 |
| Wyoming |  |  | 581 | 785 | 289 | 376 |  | 65 |
| United States.- | 2, 719, 163 | 12,037, 685 | 2, 745, 134 | 8, 459, 378 | 3, 163, 029 | 9, 477, 077 | 2, 281, 738 | 8, 696, 513 |

${ }^{1}$ Includes cut of mills in Nevada.

1076 Yearbook of the Department of Agriculture, 1923.
Table 625-Lath and shingles: Production by States, calendar years, 1870-1.922Continued.


[^307]${ }^{1}$ Includes cut of Nevada.

Table 626.-Wood and saw timber: Annual world production and consumption.

| Country. | Production. |  | Consumption. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total wood. | Saw timber. | Wood. |  | Saw timber. |
|  |  |  | Total | Per capita. |  |
| United States | $\begin{aligned} & 1,000 \text { cubic } \\ & \text { feet. } \\ & 24,300,000 \end{aligned}$ | $\begin{array}{r} 1,000 \text { cubic } \\ \text { feet. } \\ 13,750,000 \end{array}$ | $\begin{aligned} & 1,000 \text { cubic } \\ & \text { feet. } \\ & 24,104,000 \end{aligned}$ | Cubic feet. 228.0 | $\begin{gathered} 1,000 \text { cubic } \\ \text { feet. } \\ 13,556,000 \end{gathered}$ |
| Canada | 2, 500,000 | 1, 106, 900 | 2, 058, 440 | 285.0 | 665, 340 |
| Mexico | 700, 000 | 42, 000. | 710,000 | 45.8 | 52,000 |
| Other North and Central Am | 306, 420 | 86, 715 | 319, 350 |  | 98,425 |
| North America | 27, 806, 420 | 14,985, 615 | 27, 191, 790 | 188.0 | 14, 371, 765 |
| Russia- | 7,000,000 | 4,000, 000 | 6, 600, 000 | 66. 0 | 3, 600, 000 |
| Sweden | 1, 564, 826 | 1, 191, 415 | 749,710 | 129.3 | 383, 355 |
| Finland | 1, 316, 664 | 877, 776 | 1,001, 504 | 299.0 | 606,930 |
| Germany | 1,172, 395 | 604, 583 | 1,702, 395 | 27.0 | 1, 134, 583 |
| France | 963, 000 | 300, 000 | 1,098, 910 | 26.0 | 426, 410 |
| Great Britain and Ireland | 45, 000 | 20,000 | 693,719 | 15.3 | 668, 719 |
| Other Europe | 4, 941, 202 | 2, 166, 462 | 4, 795, 059 |  | 2, 024, 294 |
| Europe | 17, 003, 087 | 9, 160, 236 | 16, 641, 297 | 35.8 | 8,844, 291 |
| Japan: | 2, 255, 620 | 383, 455 | 2,220, 000 | 28.4 | 347,835 |
| China | 1,972, 263 | 284, 163 | 1,986, 000 | 6.0 | 297, 900 |
| India. | 1,572, 275 | 174, 000 | 1,575, 000 | 5.0 | 176, 725 |
| Asiatic Russia | 1,100, 000 | 571, 000 | 1,098,000 | 52.1 | 569,000 |
| Other Asia. | 1,028, 872 | 143, 650 | 1,037, 516 |  | 147, 113 |
| Asia | 7,929, 030 | 1,556, 268 | 7,916,516 | 9.1 | 1,538,573 |
| Brazil | 1,300, 000 | 100,000 | 1,296,900 | 42.5 | 96,900 |
| Chile | 684, 020 | 45,700 | 687, 620 | 177.7 | 49,300 |
| Argentina | 197, 800 |  | 225, 800 | 27.3 | 106,800 |
| Colombia | 110, 000 | 10,000 | 110, 000 | 20.1 | 10;000 |
| Other South America | 199,645 | 25, 105 | 206, 570 |  | 31,390 |
| South America | 2, 491, 465 | 258,605 | 2, 526, 890 | 39.2 | 294, 390 |
| Rhodesia | 126, 962 | 10, 141 | 127, 186 | 73.6 | 10,365 |
| Nigeria----- | 86, 250 | 2,005 19 19803 | 86, 250 85,399 | 5.0 14.2 | 2,005 39,260 |
| Union of South A Other Africa | 65,942 438,219 | 19,803 30,501 | 85,399 475,481 | 14.2 | 39,260 $\mathbf{6 2 , 4 9 6}$ |
| Africa | 717, 373 | 62, 450 | 774, 316 | 5.7 | 114, 126 |
| Australian Commonwealth | 197,379 | 49, 874 | 213,752 | 41.8 | 66, 247 |
| New Zealand. | 67,000 | 42,000 | 63, 269 | 59.7 | 38, 289 |
| Oceania | 10,309 | 867 | 19,741 | 10.0 | 9,888 |
| Australis and Oeesnia. | 274, 688 | 92,741 | 296, 762 | 36.4 | 114,404 |
| Tokal world production | 56, 222, 063 | 26, 115, 015 | ${ }^{1}$ 55,347, 571 | 32.2 | ${ }^{1} 25,277,549$ |

## Forest Service. Compiled from "Forest Resources of the World."

${ }^{1}$ The figures for total world consumption do not exactly correspond with those for production, although they must be approximately equal. The differences are due to various discrepancies in tire data, such as differences in the years for which figures on individual countries are based, different converting factors used in different cerantries, and differences in the completeness of customs statistics. Data represent averages of recent years.

1078 Yearbook of the Department of Agriculture, 1923.
Table 627.-Wood pulp: Production of the United States, 1869-1922.

| Caiendar year. | Total. | Mechanical. |  | Sulphite. |  | Soda. |  | Sulphate. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Short tons. | Short tons. | $\begin{gathered} \text { Per } \\ \text { cent. } \end{gathered}$ | Short tons. | Per. cent. | Short tons. | $\begin{gathered} \text { Per } \\ \text { cent. } \end{gathered}$ | Short tons. | $\begin{gathered} \text { Per } \\ \text { cenl. } \end{gathered}$ |
| 1869 | 1,077 | (1) |  | (1) |  | (1) |  |  |  |
| 1879 | 22,570 | ${ }^{(1)}$ |  | (1) |  | (1) |  |  |  |
| 1889 | 305, 544 | (1) |  |  |  | (1) |  |  |  |
| 1899 | 1,179,525 | 586, 374 | 50 | 416, 037 | 35 | 177, 114 | 15 |  |  |
| 1904 | 1, 921,768 | 968, 976 | 51 | 756, 022 | 39 | 196, 770 | 10 |  |  |
| 1907. | 2,547, 879 | ${ }^{(1)}$ |  | ${ }^{(1)}$ |  | ${ }^{(1)}$ |  |  |  |
| 1908 | 2, 118, 947 | ${ }^{(1)}$ |  | ${ }^{(1)}$ |  |  |  |  |  |
| 1909 | 2, 495, 523 | 1, 179, 266 | 47 | 1,017, 631 | 41 | $\underset{(1)}{298,626}$ | 12 |  |  |
| 1911 | 2, 2886,134 | (1) |  | (1) |  | (1) |  |  |  |
| 1914. | ${ }^{2} 2,893,150$ | 1,293, 661 | 45 | 1, 151, 327 | 39 | 347, 928 | 12 | 52, 641 | 2 |
| 1916 | 3, 435, 001 | 1, 508,139 | 44 | 1,466, 402 | 43 | 387, 021 | 11 | 73, 439 | 2 |
| 1917 | 3, 509, 939 | 1, 535, 953 | 44 | 1,451, 757 | 41 | 437, 430 | 13 | 84, 799 | 2 |
| 1918 | 3, 313, 861 | 1,364, 504 | 41 | 1, 456, 633 | 44 | 350, 362 | 11 | 142,362 120,378 | 4 |
| 1919 | ${ }^{3} 3,517,952$ | 1, 518, 829 | 843 | 1,419,829 | 40 | 411, 693 | 12 | 120, 378 | 4 |
| 1920. | 3, 821, 704 | 1, 583, 914 | 41 | 1,585, 834 | 42 | 463, 305 | 12 | 188, 651 |  |
| 1921 | 4 2, 875, 601 | 4 1, 267, 382 | 44 | 4 1, 166, 926 | 41 | 4 300, 533 | 10 | ${ }^{4} 140,760$ | 5 |
| 1922 | 3, 521, 644 | 1, 483, 787 | 42 | 1, 374, 319 | 39 | 419, 857 | 12 | 243, 681 | 7 |

Forest Service. Compiled from Forest Service and Bureau of the Census repots.
${ }^{1}$ Not reported separately.
${ }_{2}$ Includer screenings, mechanical 11,769 tons, and chemical not shown by process, 35,824 tons; combined equal to 1.6 per cent of total.
${ }_{3}$ Includes screenings, mechanical 12,220 tons, and chemical not shown by process, 35,003 tons; combined equal to 1.3 per cent of total.
${ }^{1}$ Incluydes screenings.
Table 628.-Paper: Production, United States, 1810-1922.

| Calen- | Total. | Newsprint. |  | Book. |  | Boards. |  | Wrapping. |  | Fine. |  | All other. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1810 | Short tons. 13,000112,500 12, 500 | Short tons. 500 | $\left\|\begin{array}{c} P e r \\ \text { cent. } \\ . \end{array}\right\|$ | Short tons. 630 | $\left.\begin{array}{\|c\|} \hline \boldsymbol{P e r} \\ \text { cent. } \\ 21 \end{array} \right\rvert\,$ | Short tons. | Per cent. | Short tons. | $\begin{gathered} \text { Per } \\ \text { cent. } \end{gathered}$ | Short tons. 650 | $\begin{gathered} \text { Per } \\ \text { cent. } \\ 22 \end{gathered}$ | Short tons. 1, 220 | $\begin{array}{r} \text { Per } \\ \text { cent. } \\ 40 \end{array}$ |
| 1819 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1839 | 138,000 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1849. | ${ }^{1} 78,000$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 1859 | $126,889$ | ${ }^{2} 65,754$ | 52 |  |  | 8,150 | 6 | 33,379 | 26 | 11,134 | 9 | 8,472 |  |
| 1869 | $\begin{array}{r} 1386,000 \\ 452,107 \end{array}$ | ${ }^{2} 149,177$ | 33 |  |  |  | 4 | 134, 294 | 0 | 32, 837 | - | 115,685 | 23 |
| 1889 | 11,098,029 | 196, 053 | 18 | 150, 888 | 14 | 149, 901 | 14 | 276, 973 | 25 | 69, 199 | 6 | 255, 017 | 23 |
| 1899 | 2, 167, 593 | 569, 212 | 26 | 323, 208 | 15 | 394, 111 | 18 | 535, 252 | 25 | 112, 707 | 5 | 233, 103 | 11 |
| 150 | 3, 106, 696 | 912, 822 | 29 | 515,547 | 17 | 520, 651 | 17 | 644, 291 | 21 | 146, 832 |  | 366, 553 | 1 |
| 1909 | 4, 216, 708 | 1, 175, 554 | 28 | 694, 905 | 16 | 883, 088 | 21 | 763, 067 | 18 | 198, 213 | 5 | 501, 881 | 12 |
| 1914 | 5, 270, 047 | 1, 321, 167 | 25 | 934, 979 |  | 1,291, 805 | 25 | 881,799 | $\begin{array}{r}17 \\ 14 \\ \hline 1\end{array}$ | 247, 728 | 5 | 792, 569 | 12 |
| 1917. | 5, 919, 647 | 1, 359, 012 | 23 | 892, 283 | 15 | $1,804,589$ | 31 |  | 14 |  | ${ }_{6}$ |  | 12 |
| 1918 | 6, 051, 523 | 1, 260, 285 |  | 849, 157 |  | $1,926,986$ | 32 |  | 15 | 368, 012 | ${ }^{6}$ | 755, 721 | 12 |
| 1919 | 6, 190, 361 | 1, 374, 517 | 22 | $\begin{array}{r} 914,823 \\ 1,104,464 \end{array}$ |  | $\begin{aligned} & 1,950,037 \\ & 2,313,449 \end{aligned}$ | 32 | $\begin{array}{r} 869,631 \\ 1,043,812 \end{array}$ | 14 | $\begin{aligned} & 343,762 \\ & 389, \\ & 322 \end{aligned}$ | 5 | $\begin{aligned} & 737,591 \\ & 971,599 \end{aligned}$ | 12 |
| 1921 | 5, 356, 317 | 1, 226, 189 | 23 | 725, 992 |  | 1, 664, 931 | 31 | 782, 468 | 15 | 242, 485 |  | 714, 252 | 13 |
| 1922 | 7,017, 800 | 1, 447, 688 | 21 | 981, 919 |  | 2, 156, 113 | 31 | 1, 048, 393 | 15 | 361, 050 |  | 1, 022,637 | 14 |

Forest Service. Compiled from Bureau of the Census reports prior to 1917; Federal Trade Commission. 1917-1922.
${ }_{2} 1$ Estimated from values reported by the Bureau of the Census.
${ }^{2}$ Includes both newsprint and book paper.

Table 629.-Timber removed annually from forests of the United States.

| Kind of material. | Timber removed |  | Approximate value or cost. ${ }^{1}$ | Equivalent in lumber which could have been sawed from same trees. |  |  | Equivalent in standing timber. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Unit. | Quantity. |  | Hardwoods. | Softwoods. | Total. | Hardwoods. | Softwoods | Total. | Per cent. |
| Fuel wood | Cords | 100, 000, 000 | Dollars. $475,000,000$ | $\begin{array}{r} M \text { board eet. } \\ 3,500,000 \end{array}$ | $\begin{array}{r} M \text { board feet. } \\ 1,500,000 \end{array}$ | $\begin{gathered} M \text { board feet. } \\ 5,000,000 \end{gathered}$ | $M$ cubic feet. $6,650,000$ | M cubic feet. $2,850,000$ | M cubic feet. $9,500,000$ | 38.33 |
| Lumber, dimension material, and sawed ties $\qquad$ | M board feet. | 37, 700, 000 | 1, 138, 917, 000 | 9, 425, 000 | 28, 275, 000 | 37, 700, 000 | 2,064,075 | 6, 192, 225 | 8,256, 300 | 33.31 |
| Fencing-- | Number of posts.-- | 900,000, 000 | 225, 000, 000 | 165,000 | 660, 000 | 825, 000 | 360, 000 | 1, 440, 000 | 1, 800, 000 | 7.26 |
| Ties, hewed | Number---------- | 70, 000, 000 | 73, 500, 000 | 1,680, 000 | 420, 000 | 2, 100, 000 | 672, 000 | 168,000 | 1,840, 000 | 3. 39 |
| Pulpwood.- | Cords | $5,000,000$ | 79, 750, 000 | 195, 000 | 2, 145, 000 | 2, 340, 000 | 48, 700 | 536, 300 | 585, 000 | 2. 36 |
| Mine timbers | Cubic feet | 293, 000, 000 | 56, 913, 000 | 439,500 | 439, 500 | 879,000 | 197, 775 | 197, 775 | 395, 550 | 1. 60 |
| Cooperage: <br> Tight staves. | M staves. | 350, 000 | 19, 250, 000 | 399, 000 | 133, 000 | 532, 000 | 87, 450 | 29, 100 | 116,550 |  |
| Tight heading | M sets... | 24, 000 | 12, 000,000 | 141, 800 | 136,200 | 178, 000 | 31, 000 | -2, ${ }^{\text {8, }} 000$ | 116,550 39,000 |  |
| Slack staves.- | M staves. | 1,200, 000 | 18,000, 000 | 240, 400 | 121, 600 | 362, 000 | 52, 800 | 26, 400 | 79, 200 | 1. 27 |
| Slack heading | M sets | 90, 000 | 10, 800, 000 | 166, 500 | 166, 500 | 333, 000 | 36,490 | 36, 500 | 72, 990 |  |
| Hoops.- | Thousands | 120, 000 | 1,800, 000 | 21, 500 |  | 21, 500 | 7,080 |  | 7,080 |  |
| Shingles | do | 9,000,000 | 37, 710, 000 |  | 900, 000 | 900, 000 |  | 198, 000 | 198, 000 | . 80 |
| Distillation woo | Cords. | 1, 400, 000 | 9, 268, 000 | 185, 000 |  | 185, 000 | 120,000 | 13, 000 | 133, 000 | . 54 |
| Veneer logs. | M feet, log scale..- | 576, 000 | 25, 079, 000 | 587, 520 | 103, 680 | 691, 200 | 90, 000 | 15, 980 | 105, 980 | . 43 |
| Tanning extract wood | Cords | 1,000,000 | 10, 250, 000 | 87, 000 |  | 87, 000 | 95, 000 |  | 95, 000 | . 38 |
| Poles.--- | Number | 4, 250, 000 | 10, 625, 000 | 55, 000 | 200, 000 | 255, 000 | 11,700 | 43, 550 | 55, 250 | . 22 |
| Vehicle stock, woodenware, handles, furniture, etc. | M board feet.-.--- | 200, 000 | 7, 288, 000 | 197, 700 | 2, 300 | 200, 000 | 45, 070 | 730 | 45, 800 | . 18 |
| Piling-.-.------------------------- | Number of pieces. | 1,500,000 | 6, 000,000 | 40,000 | 140,000 | 180, 000 | 7,800 | 31, 200 | 39,000 | . 16 |
| Excelsior wood | Cords ------------ | 200, 000 | 1,800, 000 | 60, 000 | 15, 000 | 75, 000 | 18, 720 | 4, 680 | 23, 400 | . 09 |
| Export logs and hewn timbers..----.- | M board feet | 100, 000 | 3, 445, 000 | 50, 000 | 50, 000 | 100, 000 | 9, 200 | 9, 200 | 18,400 | . 07 |
| Lath.- | Thousands. | 2, 000, 000 | 9,620, 000 |  |  |  |  |  |  |  |
| Total. |  |  | 2, 232, 015, 000 | 17, 635, 920 | 35, 307, 780 | 52, 943, 700 | 10,604, 860 | 11, 800, 640 | 22,405, 500 | 90.39 |
| Destroyed by fire ${ }^{2}$ | M cubic fe | 1,080,000 | 10,000,000 | 500, 000 | 1,750, 000 | 2, 250, 000 | 10,330, 000 | -750,000 | 1,080,000 | 4. 36 |
| Destroyed by insects, disease, and windfall. | do | 1,300,000 | 12, 000, 000 | 1, 000,000 | 4,000, 000 | $5,000,000$ | 325, 000 | 975, 000 | 1,300, 000 | 5. 25 |
| Grand total |  |  | 2, 254, 015, 000 | 19, 135, 920 | 41, 057, 780 | 60, 193, 700 | 11, 259, 860 | 13, 525, 640 | 24, 785, 500 | 100.00 |

Forest Service. Averages of recept years.
${ }^{1}$ Based on values of approximately 1919, milled products at the mill, fuel at point of production, all others at point of consumption except exports (declared raluation).
${ }_{2}$ These figures express mainly that part of the damage done by fire which can be readily stated in dollars, namely, the loss of merchantable timber. Other damages suffered are the loss of young growth and forage, the injury of trees, resulting in admitting the inroads of insects and disease, the deterioration of orest types resulting from the decrease of
valuable species which are sensitive to fire, accelerated run-off followed by soil erosion and irregular stream flow, destruction of animals, fish, and birds, and the prevention of valuable species which are sensitive to fire, accelerated run-off followed by soil erosion and irregular stream flow, destruction of animals, fish, and birds, and the prevention of
recreational uses. One of the most menacing features of the present forest situation is the lowered productivity of forest soils sometimes amounting to absolute sterility, which recreational uses. One of the $m$
results from the action of fires.

Table 630.-Pulp wood: Consumption, United States.

| Calendar year. | Grand total. | Total domestic. | $\begin{aligned} & \text { Total } \\ & \text { ime } \\ & \text { ported. } \end{aligned}$ | Spruce. |  | Poplar. |  | Hemlock. | Pines. | Balsam fir. | $\begin{gathered} \text { All } \\ \text { other } \end{gathered}$ | Slabs and mill waste. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Domestic. | Im- | Do-mestic. | $\left\|\begin{array}{c} \text { Im- } \\ \text { ported. } \end{array}\right\|$ |  |  |  |  |  |
|  | Cordir. | Cords. | Cords. | Cords. | Cords. | Cords. | Cords. | Cords. | Cords. | Cords. | Cords. | Cords. |
| 1869 | 2, 200 |  |  |  |  |  |  |  |  |  |  |  |
| 1879 | 41,000 |  |  |  |  |  |  |  |  |  |  |  |
| 1889 | 583, 200 |  |  |  |  |  |  |  |  |  |  |  |
| 1899 | 1,986, 310 | 1, 617, 093 | 369, 217 | 1, 160, 118 | 349, 084 | 236, 820 | 20, 133 | (1) | (1) | (1) | 220, 155 | (1) |
| 1904 | 3, 050, 71' | 2, 477, 099 | 573, 618 | 1, 732, 531 | 538, 305 | 213, 058 | 35, 313 | (1) | (1) | (1) | 531, 510 | (1) |
| 1905 | 3, 192, 123 | 2, 546, 695 | 645, 428 | 1, 650, 709 | 622, 545 | 299, 175 | 22, 883 | 375, 422 | 57,399 | 56, 744 | 107, 248 | (1) |
| 1906 | 3, 661, 176 | 2, 822,304 | 738, 872 | 1, 785, 680 | 721, 322 | 310, 920 | 17, 550 | 523, 381 | 69,277 | 33, 886 | 194, 160 | (1) |
| 1907 | 3, 962,660 | 3, 037, 287 | 925, 373 | 1, 795, 278 | 905, 575 | 352, 142 | 19,798 | 576, 154 | 78, 583 | 43, $88 i$ | 191, 246 | (1) |
| 1908 | 3, 346, 953 | 2, 651, 817 | 695, 136 | 1, 487, 356 | 672, 483 | [279, 564 | 22, 653 | 569, 173 | 84, 189 | 45, 309 | 186, 226 | (?) |
| 1909 | 4,001, 607 | 3, 207, 653 | 793, 954 | 1, 653, 249 | 768, 332 | 302,876 | 25, 622 | 559, 657 | 90, 885 | 95, 366 | 256, 643 | 248, 977 |
| 1910 | 4, 094, 306 | 3, 146, 540 | 947, 766 | 1, 473, 542 | 902, 407 | 315, 717 | 45, 359 | 610, 478 | 105, 882 | 132, 362 | 245, 922 | 202, 637 |
| 1911 | 4, 328, 052 | 3, 390, 382 | 937, 670 | 1, 612, 355 | 903, 375 | 333, 929 | 34, 295 | 616, 663 | 124, 019 | 191, 779 | 231, 103 | 280, 534 |
| 1914 | 4, 470, 763 | 3, 641, 063 | 829, 700 | 1, 892, 739 | 768,056 | 328, 513 | 61, 644 | 602. 754 | 141, 359 | 125, 296 | 296, 515 | 253, 887 |
| 1916. | 5, 228, 558 | 4, 444, 565 | 783, 993 | 2, 399, 993 | 701, 667 | 329, 370 | 82, 326 | 760, 226 | 172, 923 | 301, 032 | 280, 177 | 200, 844 |
| 1917. | 5, 480, 075 | 4, 706,327 | 773, 748 | 2, 385, 966 | 681, 450 | 313, 955 | 92, 298 | 775, 003 | 221, 038 | 382, 036 | 394, 347 | 233,932 |
| 1918 | 5, 250, 794 | 4, 506, 276 | 744,518 | 2, 204, 143 | 666, 164 | 210, 849 | 78, 354 | 836, 406 | 296, 081 | 368, 117 | 436.077 | 154,603 |
| 1919 | 5, 477, 832 | 4, 445, 817 | 1, 032, 015 | 2, 313, 419 | 873, 795 | 180, 160 | 158, 220 | 795,154 | 293, 610 | 288, 814 | 389, 579 | 175, 081 |
| 1920. | 6, 114, 072 | 5, 014, 513 | 1, 099, 559 | 2, 565, 787 | 921, 811 | 189, 946 | 177, 748 | 885, 485 | 365, 688 | 328, 882 | 508, 499 | 170,229 |
| 1921 | 4, 557, 179 | 3, 740, 406 | 816, 773 | 1, 813, 762 | 701, 131 | 131, 038 | 115, 642 | 863, 043 | 282, 375 | 226, 726 | 356, 445 | 67, 017 |
| 1922 | $5,548,842$ | 4, 498, 808 | 1, 050, 034 | 2, 162, 848 | 870, 042 | 157, 939 | 179, 592 | 893, 195 | 422, 724 | 308, 261 | 466, 123 | 87, 718 |

Forest Service. Compiled from Forest Service and Bureau of the Census reports.
${ }^{1}$ No data available.
${ }^{2}$ Distributed according to species.
Table 631.-Paper: Consumption, Uniied States.

| $\begin{aligned} & \text { Cal- } \\ & \text { endar } \end{aligned}$ | Total. | Newsprint. |  | Book. |  | Boards. |  | Wrapping. |  | Fine |  | All other. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1810 | Short tons. 13,000 | Short tons. | Per cent. | Short tons. | Per cent. | Short tons. | Per cent. | Short tons. | Per cent. | Short tons. | Per ceni. | Short tons. | Per <br> cent. |
| 1819 | 112,000 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1829. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1839.- | ${ }^{1} 38,000$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 1849-- | 2 78,000 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1859.- | 1127,000 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1869-- | 391, 000 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1879-- | 457, 000 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1889-- | $1,121,000$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 1899.- | $2,158,000$ | 569, 000 | 26 | 314, 000 | 15 | 394, 000 | 18 | 535, 000 | 25 | 113, 000 | 5 | 233, 000 | 11 |
| 1904-- | 3, 050, 000 | 883,000 | 29 | $495,000$ | 16 | $521,000$ | 17 | 644, 000 | 21 | 142,000 | 5 | 365,000 | 12 |
| 1909. | $\left\lvert\, \begin{aligned} & 0,22 A, 000 \\ & 5 \\ & 5 \end{aligned}\right.$ | $1,159,000$ | $27$ | $689,000$ | 16 | $883,000$ | 21 | $763,000$ | 18 | 193, 000 | 5 | 537,000 | 13 |
| 1914-- | $\frac{4}{4}, 496,000$ | $1,576,000$ | 29 | $926,000$ | 17 | $1,292,000$ | 24 | $892,000$ | 16 | 244, 000 | 4 | 565, 000 | 10 |
| 1917- | $6,256,000$ | $1,824,000$ | 229 | $846,000$ $800,000$ | 14 | $1,805,000$ | 29 30 | 814,000 859,000 | 13 | 276,000 348,000 | 4 | 691,000 693,000 | 11 |
| 1918-- | $\left\lvert\, \begin{aligned} & 0,28 Z, 000 \\ & 6, \end{aligned}\right.$ | $\begin{aligned} & 1,24,000 \\ & 1,760,000 \end{aligned}$ |  | 800,000 | 13 | 1, 927, 000 | 30 | 859, 000 | 13 | 348, 000 | 5 | 693, 000 | 11 |
| 1919-- | $6,483,000$ | $1,892,000$ | 29 | $838,000$ | 13 | 1,940,000 | 30 29 | $825,000$ | 13 | 306,000 371,000 | 5 | 692,000 930,000 | 10 |
| 1921-- | 6, 054,000 | 2, 002,000 | 33 | 707,000 |  | 1, 641, 000 | 27 | 770,000 | 13 | 230, 000 | 位 | 704, 000 | 12 |
| 1922 | $8,003,000$ | 2. 451,000 | 31 | 968, 000 | 12 | 2, 154, 000 | 27 | , 059,000 | 13 | 356, 000 | , | 1,015, 000 | 13 |

Forest Service.
1 United States production.

Table 632.-Lumber: Imports and exports, and pulpwood imports, 1907-1923.


Forest Service. Compiled from reports of the Bureau of Foreign and Domestic Commerce. Pulpwood is stated in cords of 128 cubic feet. The earliest Government record of pulpwood commerce shows 322,758 cords imported in the last half of 1906. Reports of manufacturers, which are not comparable with the Government record, show foreign pulpwood, consumed in calendar years antedating this table, as follows: In $1899,369,217$ cords; in 1905, 645,428 cords; in 1906, 738,872 cords.

Table 633.-Wood pulp: Imports, United States, 1889-1922.

| $\begin{aligned} & \text { Calen- } \\ & \text { dar year. } \end{aligned}$ | Grand total. | $\begin{gathered} \mathrm{Me}- \\ \text { chani- } \end{gathered}$cal. | $\begin{gathered} \text { Total } \\ \text { chemical. } \end{gathered}$ | Total phite phite | $\begin{gathered} \text { Total } \\ \text { sul. } \\ \text { phate. } \end{gathered}$ | Chemical unbleached. |  |  | Chemical bleached. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | $\begin{gathered} \text { Un- } \\ \text { classi- } \\ \text { ffed. } \end{gathered}$ | $\begin{aligned} & \text { Sul- } \\ & \text { phite. } \end{aligned}$ | $\begin{aligned} & \text { Sul- } \\ & \text { phate. } \end{aligned}$ | $\begin{aligned} & \text { Un- } \\ & \text { classi- } \\ & \text { fied. } \end{aligned}$ | $\begin{aligned} & \text { Sul- } \\ & \text { phite. } \end{aligned}$ | $\begin{aligned} & \text { Sul- } \\ & \text { phate. } \end{aligned}$ |
|  | ${ }_{\text {Short }}^{\text {Shent }}$ tons. | Short tons. | Short tons. | Short tons. | Short tons. | $\begin{aligned} & \text { Short } \\ & \text { fons } \end{aligned}$ | $\begin{aligned} & \text { Short } \end{aligned}$ | Short tons. | Short tons. | $\begin{aligned} & \text { Short } \\ & \text { tons. } \end{aligned}$ | Short tons. |
| 1889 <br> 1899 | 25, 738 |  |  |  |  |  |  |  |  |  |  |
| 1904 | 179, 324 |  |  |  |  |  |  |  |  |  |  |
| 1805 | 170, 867 |  |  |  |  |  |  |  |  |  |  |
| 1900 | 199, 772 |  |  |  |  |  |  |  |  |  |  |
| 1907 | - ${ }_{1250,785}$ | ${ }^{2} 71,217$ | ${ }^{2} 78,733$ |  |  | 259,670 |  |  | 219063 |  |  |
| 1909 | 367, 650 | 142, 989 | 224,661 |  |  | 161, 772 |  |  | 62, 889 |  |  |
| 1910 | 506, 776 | 224, 184 | 282, 592 |  |  | [ 203,745 |  |  | 76,847 8602 |  |  |
| 1911 | 562, 424 | 262, 681 | 290, 743 |  |  | 277, 201 |  |  | 77, 146 |  |  |
| 1913 | 541, 45 | 167, 889 | 373, 566 |  |  | 296, 255 |  |  | 77, 31 |  |  |
| 1914 | 675,564 | 217, 256 | 458, 308 |  |  | 330, 270 |  |  | 123,038 |  |  |
| 1915 | 568,379 <br> 683 <br> 765 | 174, 056 | 394, 323 |  |  | 退 3121,700 |  |  | 52, 84 |  |  |
| 1916 | 683 677,841 | 279, ${ }^{2673}$ | - 3981,768 | 289, 210 | 109, 558 |  | 248, 173 | -107, 933 |  | 41,037 | 1, 625 |
| 1918 | 578,209 | 185, 478 | 392, 731 | 280, 211 | ${ }^{122,520}$ |  | 233,454 | 1185, 761 |  | 42,755 | - ${ }^{3,759} \mathbf{1 4 5}$ |
| 1919 | 636,016 906,297 | ${ }_{233,148}^{202,253}$ | 433, 673,149 | ${ }_{473,175}^{282}$ | 199,974 |  | 344,989 | 182, 687 |  | 128, 206 |  |
| 1921 |  | 190, 744 | 506, 356 | 328, 270 |  |  |  | lint ${ }^{174,004}$ |  | -95, 2364 | ${ }^{4,773}$ |
| 1922 | ${ }^{31}, 258,961$ | 215,811 | ${ }^{31,043,150}$ | 712,088 | 330, 337 |  | 473, 424 | 308, 564 |  | 238,664 | 21,7 |

Forest Service. Compiled from reports of Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Includes 725 tons of soda, September-December only.
2 July 1-December 31.
${ }^{3}$ Includes 100,535 tons of wood pulp, grade unclassified, imported January 1-June 30.

Forest Service. Compiled from reports of Forest Service, and Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Includes exports of domestic products only.
'Table 635.-Wood pulp: International trade, calendar years, 1909-1913, and 19201922.

| Country | Average 1909-1913. |  | 1920 |  | 1921 |  | 1922, preliminary. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \\ \text { ce } 0 \text { nco } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $1,000$ pounds. |
| ^ustria-Hungary | 13, 366 | 205, 364 |  |  |  |  |  |  |
| Canada---.--- | 9, 481 | 606, 203 | 42,282 | 1, 639,970 | 34,710 | 1, 054,446 | 34, 601 | 1, 636,493 |
| Finland.. | 526 | 236, 881 |  | 424, 441 |  | 422, 386 |  | 549, 231 |
| Germany | 112, 660 | 384, 709 | 143, 027 | 81, 125 | ${ }^{2} 48,171$ | ${ }^{2} 84,452$ | 158,765 | 162, 972 |
| Norway.. | ${ }^{3} 64,911$ | 1,437, 078 | 44, 923 | 1,318, 287 | 55, 450 | 804, 351 |  | 1, 334, 519 |
| ${ }_{\text {Sumeden }}$ | 9,515 | 1, 822, 023 | 24, 494 | 2, 220, 331 | 8,153 | 1, 166, 330 |  | 2, 583, 954 |
| Switzerland | 21,059 | 13, 072 | 20,544 | 27, 180 | 7, 840 | 21, 300 | 12, 601 | 25, 003 |
| PRINCIPAL IMPORTING COUNTRIEA. |  |  |  |  |  |  |  |  |
| Argentina | 52, 016 |  | 34, 123 |  |  |  |  |  |
| Belgium | 291, 254 | 80, 647 | 258, 458 | 34, 572 | 144, 929 | 10,855 | 258, 140 | 7,369 |
| Denmark | 110, 866 |  | 149, 984 |  | 43, 012 |  | 99, 688 |  |
| France. | 836, 899 | 1,720 | 794, 680 | 668 | 385, 666 | 1,101 | 861, 194 | 119 |
| Italy | 179, 267 | 485 | 157, 602 | 269 | 86, 022 | 2, 748 | 197, 253 | 1,128 |
| Japan | 79, 260 |  | 104, 849 | 654 | 87,527 43,051 | 2, 5658 | 99, 826 | 670 |
| Portugal | 18,662 | 4, 144 |  |  |  |  |  |  |
| Russia. | 56, 072 | 52, 735 |  |  |  |  |  |  |
| Spain | 92, 770 |  | 145, 363 |  | 52,091 |  | 144, 379 |  |
| United Kingdom | 1,891, 006 |  | 2, 446, 535 | 112 | 1, 315, 227 | 688 | 2, 068, 020 |  |
| United States-- | 1, 007, 239 | 24, 309 | 1, 812, 595 | 63, 932 | 1,394, 201 | 56, 965 | 2, 517, 921 | 49,000 |
| Other countries | 10, 134 | 69, 137 | 35, 590 | 24 | 13, 805 | 158 | 3, 424 | 700 |
| Total | 4, 856, 963 | 4, 938, 507 | 6, 339, 509 | 5, 867, 415 | 3, 742, 733 | 3, 697, 267 | 6, 455, 812 | 6,351,158 |

Division of Statistical and Historical Research. All kinds of pulp from wood are included, but no pulp made from other fibrous substances.
${ }^{1}$ Less than 500 pounds.
© Eight months, May-December.
${ }^{3}$ Four-year average.
Table 636.-Newsprint-paper: Imports, United States.

| Calendar year. | Total. | Country of origin. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Canada. ${ }^{1}$ |  | Sweden. |  | Germany. |  | Finland. |  | Norway. |  | All other. |  |
|  |  | Short | Per | Short | Per | Short | Per | Short | Per | Short | Per | Short | Per |
| 1911. | Short tons. <br> 55, 830 | tons. <br> 54, 478 | cent. | tons. | cent. | tons. | cent. |  |  | tons. |  | tons. 5 |  |
| 1912 | 85, 593 | 84, 652 | 99 | 337 |  | 8 |  |  |  | 596 |  |  |  |
| 1913 | 219, 844 | 218, 794 | 100 | 258 |  | 168 |  |  |  | 624 |  |  |  |
| 1914 | 315, 475 | 310, 397 | 99 | 963 |  | 463 |  |  |  | 3, 565 |  | 87 |  |
| 1915 | 368, 409 | 366, 921 | 100 | 403 |  | 30 |  |  |  | 908 |  | 147 |  |
| 1916 | 468, 230 | 468, 070 | 100 | 11 |  |  |  |  |  | 34 |  | 115 |  |
| 1917 | 559, 113 | 557, 863 | 100 | 56 |  |  |  |  |  | 1, 194 |  |  |  |
| 1918 | 596, 270 | 595, 849 | 100 | 166 |  |  |  |  |  |  |  | 255 |  |
| 1919 | 627, 734 | 627, 687 | 100 |  |  |  |  |  |  |  |  | 47 |  |
| 1920 | 729, 869 | 679, 309 | 93 | 18,875 | 3 | 21, 066 | 3 | 3,244 |  | 5,918 | 1 | 1,457 |  |
| 1921 | 792, 509 | 657, 149 | 83 | 48, 933 | 6 | 39, 013 | 5 | 22, 664 | 3 | 20, 194 | 2 | 4,556 | 1 |
| 1922 | 1,029, 268 | 896, 312 | 87 | 51, 812 | 5 | 32, 837 | 3 | 26, 205 | 2 | 17, 293 | 2 | 4,809 | 1 |

Forest Service. Compiled from reports of Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Includes Newfoundland and Labrador.

1084 Yearbook of the Department of Agriculture, 1923.
Table 637.-Turpentine and rosin: Siocks, United States, March 31, 1919-1923.
TURPENTINE.

| Stocks. | 1919 | 1920 | 1021 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Stocks at stills | Casks, 50 gal . 24, 050 | Cusks, <br> 50 gal . <br> 28,394 | Casks, 50 gal . 30, 129 | Casks, 50 gal . 20,73 | Casks, 50 gal . 12. 194 |
| Stocks at wood distillation plants | 24,050 | 28,394 2,000 | 30,129 5,000 | 20,732 2,850 | 12, 5 ,994 |
| Stocks at primary southern ports | 122, 853 | 34, 519 | 60,916 | 24, 099 | 21,040 |
| Stocks at eastern ports and distributing points | 1, 513 | 2,363 | 2, 258 | 1,675 | 2,652 |
| Stocks at central distributing points | 5, 771 | 14, 558 | 10, 364 | 8,195 | 10, 881 |
| Stocks at western ports and distributing points | 2, 751 | 2, 634 | 848 | 900 | 2,225 |
| Stocks at plants of consuming industries | 28, 500 | 26, 340 | 30, 528 | 26, 717 | 16,670 |
| Total. | 187, 403 | 110, 808 | 140, 343 | 85, 168 | 71,656 |

ROSIN.

| Stocks. | 1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Barrels, 500 lbs. | Barrels, 500 lbs. | Barrels. 500 bbs. | Barrels, 500 lbs. | Barrcls, 500 lbs. |
| Stocks ait stills_ | 130, 035 | 138, 535 | 327, 055 | 499, 797 | 474, 829 |
| Stocks at wood distillation plants | 12,304 | 23, 000 | 40, 000 | 19,143 | 25, 063 |
| Stocks at primary southern ports | 326, 933 | 211, 238 | 432, 237 | 347, 730 | 278, 414 |
| Stocks at eastern poris and distributing poinis | 81, 440 | 23, 417 | 11, 063 | 11, 359 | 8, 078 |
| Stocks at central distributing points. | 22, 608 | 28,514 | 35, 567 | 49,043 | 46,938 |
| Stocks at westeru'ports and distributing points. | 1,743 | 777 | 275 | 6,447 | 1,340 |
| Stocks at plants of consuming industries | 203, 000 | 290,045 | 217, 302 | 263, 488 | 297, 843 |
| Total | 778, 063 | 715, 526 | 1, 063, 499 | 1,199, 007 | 1,132, 505 |

Burcau of Chemistry. Compiled from reporis of Bureau of Chemistry and Bureau of the Census.
Table 638.-Turpentine (spirits): International trade, calendar years, 1909-1913, and 1920-1922.

| Country. | A verage, 1909-1913. |  | 1920 |  | 1921 |  | $\begin{gathered} 1922, \\ \text { preliminary. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. <br> France $\qquad$ | 1,000 gallons. 48 | $1,000$ <br> gallons. $2,594$ | $1,000$ galbons. 85 | $\begin{gathered} 1,000 \\ \text { gallons. } \\ 3,659 \end{gathered}$ | 1,000 gallons. 16 | $\begin{gathered} 1,000 \\ \text { gallons. } \\ 3,006 \end{gathered}$ | 1,000 gallons. 21 | $\begin{aligned} & 1,000 \\ & \text { gallons. } \\ & \mathbf{2 , 7 8 3} \end{aligned}$ |
| Greece. | 2 | 368 |  | 324 |  | 254 |  | 23.3 |
| Russia | 273 | 2,322 |  |  |  |  |  |  |
| Spain. |  | 1,156 |  | 944 |  | 1,439 | 6 | 1,297 |
| Sweden | 134 | 1,62 | 112 | 271 | 132 | 9 275 | 118 | -270 |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Argentina----------- | 554 |  | 573 |  |  |  |  |  |
| Australia | 564 |  | 538 | 3 | 527 | (1) |  |  |
| Austria-- |  |  | 19 | 14 | 205 | 27 |  |  |
| Austria-Hungary | 2,581 | 53 |  |  |  |  |  |  |
| Belgium | 1,932 | 1,144 | 1,580 | 1,558 | 2, 418 | 1,610 | 950 | 174 |
| Brazil. | ${ }^{2} 311$ |  | 51.0 |  | 138 |  |  |  |
| Canada | 1,175 |  | 962 |  | 1,088 |  | 1,267 | 1 |
| Chilo--------- | 198 |  | 267 |  | 67 |  |  |  |
| Czechoslovakia_ |  |  |  |  | 418 |  | 1,742 |  |
| Germany | 9, 368 | 460 | 1,252 | 18 | 3 2, 433 | ${ }^{3} 82$ | 2, 036 | 127 |
| Italy ---------------- | 940 | 3 | 749 | 3 | 868 | 11 | 852 | 16 |
| Netherlands--------- | 3,998 | 2, 750 | 947 | 12 | 1,159 | 11 | 1,225 | 34 |
| New Zealand.--------- | 178 |  | 93 |  | 69 |  | 226 |  |
| Switzerland ------------ | 466 | 9 | 550 |  | 522 |  | 571 |  |
| United Kingdom...-- | 7,782 |  | 6,752 | 236 | 4,281 | 158 | 6, 079 |  |
| Other countries | 696 | 154 | 1,082 | 161 | 698 | 204 | 515 | 24 |
| Total | 31,200 | 28,943 | 16,071 | 16,661 | 15, 039 | 16,34b | 15, 608 | 14,388 |

Division of Statistical and Historical Research. "Spirits of turpentine" includes only "spirits" or "oil" of turpentine and, for Russia, skipidar; it excludes crude turpentine, pitch, and, for Russia, turpentine.
${ }^{1}$ Less than 500 gallons. $\quad{ }^{2}$ Four-year average. $\quad{ }^{3}$ Eight months, May-December.

Table 639.-Turpentine and rosin: Production in the United States, 1910-1922.

| Year beginning Apr. 1- | Turpentine. |  |  | Rosin. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Gum. | Wood. | Total. | Gum. | Wood. | Total. |
|  | Gallons. | Gallons. | Gallons. | Barrels, 500 lbs. | Barrels, 500 lbs. | Barrels, 500 lbs . |
| 1910-11 ${ }^{1}$ | 29, 750, 000 | 1,250, 000 | 31, 000, 000 | 2,970, 000 | 14,000 | 1,984,000 |
| 1911-12 ${ }^{1}$ | 31,900,000 | 1,000, 000 | 32, 900, 000 | 2, 125, 000 | 16,000 | 2, 141,000 |
| 1912-13 ${ }^{1}$ | 34, 000, 000 | 1,000,000 | 35, 000, 000 | 2, 267, 000 | 20,000 | 2, 287, 000 |
| 1913-141 | 32,000, 000 | 800,000 | 32, 800, 000 | 2, 132, 000 | 24,000 | 2, 156, 000 |
| 1914-152 | 27,000, 000 | 576,000 | 27, 576, 000 | 1,706,000 | 29, 000 | 1,735,000 |
| 1915-16 ${ }^{1}$ | 23,500,000 | 700, 000 | 24, 200, 000 | 1,565,000 | 40,000 | 1,605, 000 |
| 1916-17 ${ }^{1}$ | 26,750, 000 | 1,000,000 | 27, 750, 000 | 1,782, 000 | 80, 000 | 1,862,050 |
| 1917-18 ${ }^{1}$ | 23, 700, 000 | 1,200, 000 | 24,900, 000 | 1,531, 000 | 100,000 | 1,631,030 |
| 1918-19 ${ }^{3}$ | 17,050, 000 | 1,600, 000 | 18, 650, 000 | 1,115,000 | 123, 000 | 1, 238, 000 |
| 1919-20 ${ }^{3}$ | 18,300, 000 | 1,500, 000 | 19, 800, 000 | 1,237, 000 | 158, 000 | 1,395, 000 |
| 1920-21 ${ }^{3}$ | 24, 450, 000 | 1, 750, 000 | 26, 200, 000 | 1, 577, 000 | 180, 000 | 1, 757, 000 |
| 1921-22 ${ }^{4}$ | 24, 329, 000 | 442,000 | 24,771, 000 | 1,662, 000 | 53,000 | 1,715, 000 |
| 1922-23 ${ }^{4}$ | 22,395, 000 | 1,859, 000 | 23, 254, 000 | 1,500,000 | 152,000 | 1, 652, 000 |

Bureau of Chemistry.
${ }_{1}$ Trade estimates.
${ }^{3}$ Statistics compiled by Bureau of Chemistry.
${ }^{2}$ Bureau of Chemistry estimates. 4 Statistics compiled by Bureau of the Census.
Table 640.-Rosin: International trade, calendar years, 1909-1918, and 1920-1922.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow{2}{*}{Country.} \& \multicolumn{2}{|l|}{A verage, 1909-1913.} \& \multicolumn{2}{|c|}{1920} \& \multicolumn{2}{|r|}{1921} \& \multicolumn{2}{|l|}{\[
\begin{gathered}
\text { preliminary. } \\
\text { per }
\end{gathered}
\]} \\
\hline \& Imports. \& Exports. \& Imports. \& Exports. \& Imports. \& Exports. \& Imports. \& Exports. \\
\hline PRINCIPAL EXPORTING COUNTRIES. \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \& \[
\begin{gathered}
1,000 \\
\text { pounds. }
\end{gathered}
\] \\
\hline France \& 2, 432 \& \multirow[t]{4}{*}{\[
\begin{array}{r}
118,286 \\
10,423 \\
20,073 \\
655,520
\end{array}
\]} \& 1, \({ }^{-734}\) \& \multirow[t]{4}{*}{\[
\begin{array}{r}
129,007 \\
10,303 \\
26,855 \\
326,012
\end{array}
\]} \& 456 \& \multirow[t]{4}{*}{\[
\begin{array}{r}
164,913 \\
62,072 \\
220,416 \\
28,432
\end{array}
\]} \& 949 \& 128,166 \\
\hline Greece \& \& \& \& \& \& \& \& \multirow[t]{3}{*}{\[
\begin{array}{r}
9,359 \\
24,213 \\
399,587
\end{array}
\]} \\
\hline Spain \& 1,827 \& \& 617 \& \& 990 \& \& 290 \& \\
\hline United \& \& \& \& \& \& \& \& \\
\hline PRINCIPAL Importing countries. \& \& \& \& \& \& \& \& \\
\hline Argentina \& \multirow[t]{2}{*}{\[
\begin{aligned}
\& 32,719 \\
\& 13,724
\end{aligned}
\]} \& \multirow[t]{2}{*}{\[
\begin{array}{r}
145 \\
1,255
\end{array}
\]} \& 43,577 \& 45 \& \multicolumn{2}{|l|}{} \& \& \\
\hline Australia \& \& \& 2,183 \& \multirow[b]{2}{*}{689} \& \multirow[t]{2}{*}{5, 014} \& 723 \& \& \\
\hline Austria-Hungary \& \multirow[t]{2}{*}{\begin{tabular}{r|r|r}
77,163 \& 32,830 \\
\hline 46,905 \& \\
\hline\(-\cdots\)
\end{tabular}} \& \multirow[t]{2}{*}{\[
\begin{array}{r}
2,205 \\
32,830
\end{array}
\]} \& 2,183 \& \& \& \& \& \\
\hline Belgium \& \& \& \multicolumn{2}{|l|}{} \& \multicolumn{2}{|l|}{106, 840} \& 31, 252 \& 13, 711 \\
\hline \({ }_{\text {Brazitish }}\) Indi \& \multicolumn{2}{|l|}{\multirow[t]{2}{*}{36,905
6,171
25,
706}} \& \multicolumn{2}{|l|}{\multirow[t]{2}{*}{3,936
28,763}} \& \[
\begin{gathered}
16,628 \\
1,073
\end{gathered}
\] \& \& \& \\
\hline Canada. \& \& \& \& \& \[
20,905
\] \& \& 27, 210 \& \\
\hline Chile \& \multicolumn{2}{|l|}{\[
\begin{array}{r}
25,506 \\
7,410
\end{array}
\]} \& \multicolumn{2}{|l|}{} \& \[
\cdot 1,550
\] \& \& \& \\
\hline Cuba.- \& \multicolumn{2}{|l|}{4,123} \& \multicolumn{2}{|l|}{\(\begin{array}{r}\text { 4, } \\ 4 \\ 3,571 \\ \hline\end{array}\)} \& \& \& \& \\
\hline Czechosloval \& \multicolumn{2}{|l|}{\multirow[b]{2}{*}{3,236}} \& \multirow[t]{2}{*}{2,575} \& \multirow[b]{2}{*}{24} \& \multirow[t]{3}{*}{\[
\begin{array}{r}
14,344 \\
2,074 \\
16,658
\end{array}
\]} \& \& 14, 871 \& \\
\hline Denmark \& \& \& \& \& \& 2 \& -4,127 \& ------- \\
\hline Dutch East Indies \& \(\begin{array}{r}15,039 \\ 6,027 \\ \hline\end{array}\) \& \& \[
\begin{array}{r}
22,262 \\
3,682
\end{array}
\] \& \& \& 163 \& 2

16,093
5,756 \& 872 <br>

\hline Germany \& \multicolumn{2}{|l|}{\multirow[t]{2}{*}{| 233,100 |  |
| ---: | ---: |
| 34,171 | 50,110 |
| 33 |  |}} \& \[

$$
\begin{array}{r}
3,682 \\
49,255
\end{array}
$$
\] \& 67

514 \& $$
\begin{array}{r}
429 \\
.76,503
\end{array}
$$ \& ${ }^{3} 1,216$ \& 92, 180 \& 1,105 <br>

\hline Italy \& \& \& \multirow[t]{2}{*}{$$
\begin{aligned}
& 36,134 \\
& 36,686
\end{aligned}
$$} \& 315 \& 55, 280 \& 419 \& 41,637 \& 170 <br>

\hline Japan- \& \multicolumn{2}{|l|}{10, 073 --------} \& \& \& \multirow[t]{2}{*}{$$
\begin{array}{r}
10,019 \\
7,416 \\
\mathbf{1}, 188
\end{array}
$$} \& \& \& <br>

\hline Netherland \& $$
\begin{array}{r}
73,991 \\
6,732 \\
6
\end{array}
$$ \& 59,366 \& \[

$$
\begin{aligned}
& 9,618 \\
& 5,411
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 64 \\
& \hline
\end{aligned}
$$

\] \& \& (9) ${ }^{182}$ \& \[

$$
\begin{aligned}
& \mathbf{9}, 952 \\
& \mathbf{4}, 499
\end{aligned}
$$
\] \& 75 <br>

\hline Rumania \& \multirow[t]{2}{*}{$\begin{array}{r}5,04 \\ 68,429 \\ \hline\end{array}$} \& 51 \& 3,068 \& \& \& \& \& <br>
\hline Russia. \& \& \& \& \& \& \& \& <br>

\hline Sweden-- \& \multirow[t]{4}{*}{$$
\begin{array}{r}
3,896 \\
4,983 \\
166,075 \\
15,965
\end{array}
$$} \& \& \multirow[t]{4}{*}{\[

$$
\begin{array}{r}
12,698 \\
4,302 \\
124,368 \\
10,655
\end{array}
$$
\]} \& 192 \& 5,089 \& 22 \& 11,519 \& <br>

\hline Switzerland. \& \& ${ }^{8} 8$ \& \& \& 3,077 \& 5 \& 4,993 \& 5 <br>
\hline United Kingdom.---- \& \& \& \& \& 85,260
7131 \& \& 136,915
5,352 \& 161 <br>
\hline Other countries. \& \& 70 \& \& 517 \& 7, 131 \& 6 \& 5, 352 \& 161 <br>

\hline Total \& 900,441 \& $$
950,381
$$ \& \[

528,620
\] \& 548, 094 \& 445, 924 \& 529, 333 \& 409,615 \& 579,603 <br>

\hline
\end{tabular}

Division of Statistical and Historical Research. For rosin only the resinous substance known as "rosin" in the exports of the United States is taken.
1 Four-year average. ${ }^{3}$ Eight months, May-Decomber.
${ }^{2}$ Java and Madura only. ${ }^{2}$ Less than 500 pounds.

## 1086

 Yearbook of the Department of Agriculture, 1923.Table 641.-Rubber: International trade, calendar years, 1909-1913, and 19201922.

| Country. | Average, 1909-1913. |  | 1920 |  | 1921 |  | $\begin{gathered} \text { 1922, } \\ \text { preliminary. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL EXPORTING COUNTRIES. | 1,000 pounds. | $1,000$ pounds. | 1,000 pounds. | 1,000 pounds. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | 1,000 pounds. |
| Angola |  | 5, 620 |  | 11,640 |  | 1491 |  | 1259 |
| Belgian Con |  | 7,755 |  | 2, 473 |  | 11,746 |  |  |
| Bolivia |  | 8,395 |  | 8,288 |  | 14,802 |  |  |
| Brazil. |  | 84,938 | 193 | 51, 896 | 154 | 38, 217 |  | 43,772 |
| British India |  | 21,504 | 2 | 14, 285 | 8 | 11, 883 | 1 | 10,875 |
| British Malay | 153,472 | 185,435 | 224, 085 | 778, 286 | 306, 202 | 415, 350 | 394, 192 | 479, 324 |
| Ceylon | 2 1, 299 | 10,953 | 4,465 | 88, 553 | 3, 867 | 88, 125 | 5,475 | 104, 595 |
| Dutch East | ${ }^{3} 1$ | 7,679 | 11 | 199, 908 |  | 164, 045 |  | 4 70,607 |
| Ecuador |  | 1, 040 |  |  |  |  |  |  |
| French Congo | ${ }^{(5)}$ | 3, 797 |  | 14,680 |  | ${ }^{1} 3,160$ |  | 1 1, 536 |
| French Guinea | 1241 | 3, 937 | 11 | 11,521 | 11 | 1577 |  | 1666 |
| French Indo-Cl | 1 | 398 |  | 6, 927 |  | ${ }^{1} 8,043$ |  | 110,192 |
| Gold Coast |  | 2, 393 |  | ${ }_{1} 299$ |  | 1103 |  | 116 |
| Kamerun |  | 6,409 |  | ${ }^{1} 1,268$ |  | 1 1, 553 |  | 1 1, 236 |
| Malacea | 1164 | 13,279 | 10,543 | 13, 853 | 18,121 | ${ }^{1} 56,643$ | 1 12, 520 | 174,890 |
| Mexico |  | 14,262 |  |  |  |  |  |  |
| Nigeria |  | 3, 054 |  | ${ }^{1} 1,129$ |  | F237 |  |  |
| Peru.- |  | 5, 030 |  | 3,258 |  | 335 |  | 3, 299 |
| Senegal | 4 | 1,087 |  | 187 |  | 142 |  | 121 |
| Venezuela |  | 772 | 132 | 388 | 48 | 50 |  |  |
| FRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Austria |  |  | 3,090 | 171 | 4,927 | 1227 | 14,757 | ${ }^{1} 293$ |
| Austria-Hungary | 6,696 | 1,619 |  |  |  |  |  |  |
| Belgium.-.-.-. | 25,891 | 20, 749 | 14,120 | 5,519 | 7, 140 | 3,321 | 5,313 | 4,856 |
| Canada. | 3,945 |  | 26, 682 | ${ }^{5}$ ) | 18,476 |  | 20,980 300 | -.----- |
| Denmark | 32 2504 |  | 1,074 60,042 |  | 563 41,664 |  | 300 67,893 |  |
| France. | 32, 704 | 21, 615 | 60, 042 | 23, 588 | 41,664 149,378 | 7,762 7 | 67,893 63,483 | $\begin{array}{r} 5,907 \\ 1,779 \end{array}$ |
| Germany | 42,004 | 9,844 | 26,918 1353 | 254 | $\begin{array}{r} 149,378 \\ 1860 \end{array}$ | ${ }^{7} 277$ | 63,483 1 1444 | 1,779 13 |
| Italy | 5,381 | 225 | 15, 000 | 1,284 | 9, 745 | 997 | 14,435 | 32 |
| Japan. | 1,917 |  | 13, 581 |  | 51, 888 |  | ${ }^{1} 36,847$ |  |
| Netherlands | 10, 822 | 7,172 | 27, 296 | 14, 954 | 32, 657 | 30, 369 | 19,628 | 28, 153 |
| Russia | 19, 131 |  | 11,128 |  | ${ }^{1} 397$ |  | $\begin{array}{r}15,345 \\ 5,103 \\ \hline\end{array}$ |  |
| Spain. | 1,067 |  | 9,202 |  | 7,968 1,800 |  | 5,103 2,795 |  |
| Sweden---- | 1,695 | 1 725 | 3,372 425 | 215 1,048 | 1,800 431 | 99 355 | 2,795 450 | 135 210 |
| United Kingdom | 43, 141 |  | 127, 332 |  | 94, 275 |  | 24, 870 |  |
| United States. | 100, 180 |  | 566, 546 |  | 415, 283 | -------- | 674, 410 |  |
| Oiher countries | 5,799 | 58,091 | 4,457 | 117, 623 | 1,809 | 21, 693 | 3,319 | 1,440 |
| Total | 356,196 | 377, 778 | 1,139, 950 | 1,343,295 | 1,057,562 | 860,502 | 1, 362,860 | 844,096 |

Division of Statistical and Historical Research. Figures for rubber include "india rubber", so called, and caoutchouc, caucho, jebe (Peru), hule (Mexico), borracha, assaranduba, amabeira, manicoba, sorva, and seringa (Brazil), gomelastiek (Dutch East Indies), caura, ser nambi (Venezuela). Official sources except where otherwise noted.

| 1International Institute of Agriculture. | 5 Less than 500 pounds. |
| :--- | :--- |
| ? Three-year average. | 6 Two-year average. |
| 2 One year only. |  |
| 4Java and Madura only. | 7 Eight months, May-December. |

Three-year average.
'Java and Madura only.
Table 642.-Lumber: Average value at the mill per $M$ feet, board measure, by kinds of wood, for specified calendar years.


Table 642.-Lumber: Average value at the mill per $M$ feet, board measure, by kinds of wood, for specified calendar years-Continued.

| Kind of Wood. | 1899 | 1904 | 1907 | 1909 | 1910 | 1911 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hardwood |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ash | 15. 84 | 18.77 | 25.01 | 24. 44 | 22. | 21.21 | 22.15 | 23.85 | 30. |  | 52. |  |  |  |
| Basswoo | 12.84 | 16.86 | 20. 03 | 19. 50 | 20. 94 | 19. 20 | 18. 89 | 21. 05 | 25. | 34. 00 | 40. | 54. 28 | 33. 09 | 35. 6 |
| Beech | (12) 50 | ${ }_{15}^{(1)}$ | 14.30 17 | 13.25 | 14. 34 | 14. 09 | 14.01 | 16. 20 | 19.58 | 25. 06 | ${ }_{3}^{29}$ | 36. 51 | 26. 99 | 26.84 |
| Chest | 12.37 |  | 17. 04 | 16. | 17. |  | 16. 52 | 19. 59 | 24.0 21.5 | 27. <br> 27 <br> 1 | 35. 7 | 53.44 42.48 |  |  |
| Cottonw | 10.37 | 14. 92 | 18.42 | 18.05 | 17.7 | 18. 12 | 17.3 | 17. 42 | 23. 19 | 26. 13 | 32. | 33. 38 | 25.05 | 26.95 |
| Elm | 11.47 | 14. 45 | 18.45 | 17. 52 | 18.67 | 17. 13 | 16. 98 | 19.46 | 23. 89 | 28.19 | 36.3 | 47. 23 | 29.63 | 33.28 |
| Gum, red |  |  | 14. |  |  |  |  |  |  |  |  |  |  |  |
| Hicko | 18, | 23. 94 | 29.50 | 30. 80 | 26.55 | 22. 47 | 23. 35 | 23. 8 | 29.48 | 37.95 | 44.3 | 52. 57 | 36. 6 | 36. 20 |
| Mapl | 11. 83 | 14. 94 | 16. 84 | 15. 77 | 18.16 | 15. 49 | 15. 21 | 18. 24 | 23. 16 | 29. 05 | 35.5 | 50.16 | 30.34 | 33. 52 |
| ak | 13. 78 | 17.51 | 21. 23 | 20. 50 | 18. 76 | 19. 14 | 18. 73 | 20. 06 | 24. 49 | 31. 11 | 37.87 | 46. 88 | 30. | 34. 01 |
| Sycamor | 11.04 | (1) | 14. 58 | 14. 87 | 14. 10 | 13. 16 | 13. 86 | 14. 65 | 18. 68 | 23. 59 | 30. 32 | 32.12 | 22. | 25. 29 |
| Tupel |  | (1) | 14. 48 | 11.87 | 12. 14 | 12. 46 | 12. 25 | 13.0 | 18. 06 | 22.73 | 28.4 | 33. | 18. 59 | 22.86 |
| Yellow poplar | 14. 03 | 18. 99 | 24. 91 | 25. 39 | 24. 71 | 25. 46 | 22. 45 | 21. 8 | 27. 17 | 35. 06 | 41.6 | 58.87 | 37. 3 | 39. 18 |
| Walnut | 36. | 45.64 | 43.31 | 43.79 | 34.91 | 31.70 | 48.37 | 42.3 | 72. 99 | 77. 60 | 72. 13 | 88. 92 | 88. | 80. 08 |
| 1 kin | 11. 13 | 12 | 16. 56 | 15. 38 | 30 | 16.05 | 14. | 15. 32 | 20. 32 | 24. | 30. 21 | 38. | 23. | 26. |

Forest Service and Bureau of the Census.
${ }^{1}$ No data.
Table 643.-Lumber prices per $M$ feet, in eastern markets of the United States, 1840-1922.

| Calendar year. | First quality, 1 inch. |  | Average quality, 1 inch. |  | Calendar year | First quality, 1 inch. |  | Average quality, 1 ineh. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{\|c} \text { Soft- } \\ \text { woods. } \end{array}$ | Hardwoods. | Soft- woods | Hardwoods. |  | Softwoods. | Hardwoods. | Softwoods. | Hardwoods. |
| 1840 | \$20. 91 |  | \$10. 50 |  | 1880 | \$38.41 | \$31.62 | \$14.00 |  |
| 1841 | 26. 21 |  | 10. 50 |  | 1881 | 38.51 | - 31.62 | 16.50 |  |
| 1842 | 26. 21 |  | 10. 00 |  | 1882 | 39. 93 | 31. 49 | 18.00 |  |
| 1843 | 21.35 |  | 10. 50 |  | 1883 | 42.88 | 31.41 | 15.00 |  |
| 1844 | 22.01 |  | 10.50 |  | 1884 | 41.80 | 31.41 | 16.50 |  |
| 1845 | 21. 46 |  | 10.50 |  | 1885 | 41.51 | 31.46 | 17.00 |  |
| . 1846 | 23.37 |  | 11. 00 |  | 1886 | 39.47 | 32.13 | 17.00 |  |
| 1847 | 23. 01 |  | 11. 00 |  | 1887 | 36. 96 | 32.75 | 18.00 |  |
| 1848 | 25. 10 |  | 11.00 |  | 1888 | 34. 53 | ${ }^{33.85}$ | 16. 88 | \$29. 29 |
| 1849 | 24. 22 |  | 11.00 |  | 1889 | 33.83 | 33.93 | 15.88 | 28.86 |
| 1850 | 24.35 |  | 10. 50 |  | 1890 | 34. 48 | 33.07 | 16.40 |  |
| 1851 | 24.08 |  | 11. 00 |  | 1891 | 32. 43 | 33.11 | 16. 00 |  |
| 1852 | 24. 28 |  | 11.00 |  | 1892 |  |  | 18.50 |  |
| 1853 | 25.82 |  | 11.00 |  | 1893 | 29.32 | 32.86 | 17.45 | 24.80 |
| 1854 | 27.02 |  | 11.50 |  | 1894 | 30.56 | 36.10 | 17.43 | 24. 80 |
| 1855 | 26.15 | \$11. 03 | 11.00 |  | 1895 | 29.39 | 34.52 | 16.55 | 24.76 |
| 1856 | 27.67 | 11. 77 | 10.00 |  | 1896 | 28.77 | 34.51 | 16. 54 | 24. 76 |
| 1857 | 29. 80 | 11.87 | 11. 00 |  | 1897 | 28.75 | 34. 51 | 17.09 | 24.76 |
| 1858 | 30.37 | 11.87 | 11.00 |  | 1898 | 28.68 | 24. 26 | 16. 23 | 24.76 |
| 1859 | 22.38 | 11.97 | 11.00 |  | 189 | 30.06 | 35. 72 | 16.01 | 24. 69 |
| 1860 | 24.45 | 12.24 | 11.50 |  | 1900 | 34.06 | 39.29 | 21.50 | 27.57 |
| 1861 | 24. 32 | 21.60 | 12.00 |  | 1901 | 33.98 | 37.06 | 21.32 | 29. 32 |
| 1862 | 23.76 | 26.25 | 13.18 |  | 1902 |  |  |  |  |
| 1863 | 20. 55 | 20.01 | 12:41 |  | 1903 | 41.93 | 46.43 | 20.40 | 31.75 |
| 1864 | 27.73 | 23. 18 | 12.86 |  | 1904 | 39.09 | 46.07 | 21.20 | 33.72 |
| 1865 | 20.43 | 13.57 | 9.25 |  | 1905 | 42.59 | 41.97 | 22. 06 | 31.80 |
| 1866 | 41. 32 | 20. 94 | 14. 28 |  | 1906 | 44. 65 | 44. 47 | 24.99 | 34.06 |
| 1867 | 43. 25 | 21.52 | 12.63 |  | 1907 | 45. 32 | 47.79 | 27.87 | 36. 94 |
| 1868 | 34. 58 | 20.92 | 11.55 |  | 1908 | 44.11 | 50.92 | 27.14 | 38. 12 |
| 1869 | 34.35 | 21.36 | 12.54 |  | 1909 | 42.10 | 47.16 | 25.44 | 34.72 |
| 1870 | 37. 70 | 24. 89 | 14. 01 |  | 1910 | 43.50 | 49.17 | 24. 60 | 35. 61 |
| 1871 | 35. 90 | 27.81 | 18.09 |  | 1911 | 45.06 | 50.59 | 24.52 | 35. 45 |
| 1872 | 41. 56 | 28.93 | 18. 33 |  | 1912 | 44.53 | 51.44 | 25. 29 | 35. 73 |
| 1873 | 41.92 | 28. 00 | 19.52 |  | 1913 | 44.92 | 53.99 | 27. 88 | 38. 61 |
| 1874 | 40.16 | 27.91 | 17.95 |  | 1914 | 42.76 | 54. 94 | 25. 19 | 38. 23 |
| 1875 | 39.93 | 27.64 | 13. 33 |  | 1915 | 41.89 | 52.94 | 24.68 | 35. 49 |
| 1876 | 32.85 | 27.56 | 13.30 |  | 1916 | 41, 53 | 54.59 | 26.86 | 37, 64 |
| 1877 | 34.29 | 29.30 | 13. 18 |  | 1917 | 42. 60 | 56.00 | 29. 09 | 38. 92 |
| 1878 | 33. 28 | 30.87 | 13.81 |  | 1918 | 51.45 | 66.65 | 39. 90 | 46.42 |
| 187 | 34.11 | 31.40 | 14.00 |  | 1919. | 61. 58 | 72.62 | 44. 42 | 55.54 |
|  |  |  |  |  | 1920 | 131. 55 | 178.82 | 73. 26 | 123.80 |
|  |  |  |  |  | 1921 | 85. 17 | 140. 26 | 58. 98 | 94.89 |
|  |  |  |  |  | 1922 | 72.45 | 120. 21 | 53.13 | 70.12 |

Forest Service. Reports of actual sales.

Table 644.-Lumber: Average prices per M. feet, f. o. b. mill, Douglas fir and southern yellow pine, 1913-1923.

| Year. | Douglas fir. |  | Yellow pine. |  | Year. | Douglas fir. |  | Yellow pine. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Price. | Index (1913= 100 ). | Price. | $\begin{gathered} \text { Index } \\ (1913= \\ 100) . \end{gathered}$ |  | Price. | $\begin{gathered} \text { Index } \\ (1913= \\ 100) . \end{gathered}$ | Price. | Index (1913) 100). |
| 1913. | \$11. 44 | 100.0 | \$14. 77 | 100.0 | 1921-Con. |  |  |  |  |
| 1914 | 10. 58 | 92.5 | 13. 68 | 92.6 | August | \$14.98 | 130.8 | \$20. 40 | 138.1 |
| 1915 | 9.80 | 85.5 | 13. 02 | 88.2 | September | 14. 86 | 129.8 | 20.61 | 139.5 |
| 1916 | 11. 63 | 101. 7 | 16. 12 | 109. 2 | October - | 15. 97 | 139.6 | 21. 59 | 146.2 |
| 1917 | 16. 93 | 147. 9 | 21. 13 | 143. 1 | November | 17.07 | 149. 2 | 23. 14 | 156.7 |
| 1918 | 21. 21 | 186. 3 | 26.45 | 179.1 | December | 17. 75 | 155.1 | 21.77 | 147.4 |
| 1919 | 25. 83 | 225. 9 | 33.94 | 229.8 |  |  |  |  |  |
| 1820 | 36. 78 | 323.3 | 44. 74 | 302.9 | 1922. |  |  |  |  |
| 1921 | 19.98 | 174.7 | 21. 18 | 143. 4 | January | 18. 73 | 163.7 | 22. 68 | 153.6 |
| 1922 | 23.90 | 208. 9 | 28. 44 | 179. 0 | February | 22. 75 | 198. 9 | 22. 61 | 153.1 |
| 1923 | 28.93 | 252.9 | 30.81 | 208.6 | March | 22. 40 | 195. 8 | 22. 27 | 151.5 |
|  |  |  |  |  | April | 20. 44 | 178.7 | 22. 78 | 154.2 |
| 1920. |  |  |  |  | May | 21. 10 | 184.4 | 24.85 | 168.2 |
| January | 41.98 | 366.0 | 52.21 | 353.5 | June. | 23.24 | 203.1 | 29.07 | 196.8 |
| February | 46.31 | 404.8 | 57.94 | 392.3 | July | 24. 18 | 211.3 | 27. 19 | 184.9 |
| March | 46. 66 | 407.0 | 61. 60 | 417. 1 | August | 24. 83 | 217.0 | 28.47 | 192.8 |
| April | 43.15 | 377.1 | 57. 53 | 389.5 | September | 27.13 | 237.2 | 31. 24 | 211.5 |
| May | 40. 21 | 351.2 | 54.65 | 370.0 | October | 27.97 | 244.5 | 31. 71 | 214.7 |
| June. | 36. 05 | 315.1 | 40.05 | 271.2 | November | 25. 82 | 225.7 | 30.61 | 207.2 |
| July | 33. 69 | 294. 5 | 41. 34 | 279.9 | December | 26. 49 | 231.6 | 30.61 | 207.2 |
| August | 32. 86 | 287.2 | 43.42 | 294. 0 |  |  |  |  |  |
| September | 31. 29 | 273.4 | 41. 09 | - 278. 2 | 1923. |  |  |  |  |
| October- | 27.57 | 241.0 | 34. 44 | 233.2 | January . | 28.54 | 249.5 | 30.42 | 205.9 |
| November | 24. 05 | 210.0 | 26. 67 | 180. 6 | February | 29.42 | 257.2 | 32.81 | 222. 1 |
| December | 22.61 | 197.6 | 25. 88 | 175.2 | March | 30.22 | 264.2 | 33.71 | 223.2 |
|  |  |  |  |  | April | 31.46 | 275.0 | 33.38 | 226.0 |
| 1921. |  |  |  |  | May | 31.02 | 271.2 | 33. 85 | 229.2 |
| January | 20. 20 | 177.6 | 21.35 | 144. 6 | June. | 30.36 | 285.4 | 32. 40 | 219.4 |
| February | 18. 85 | 164.7 | 21.18 | 143. 4 | July | 27. 68 | 241.9 | 31.14 | 210.8 |
| March | 17. 59 | 153. 2 | 20.92 | 141. 7 | August | 26.97 | 235.7 | 30.82 | 208.6 |
| April | 16. 87 | 147. 3 | 20.36 | 137.9 | September | 27.18 | 237.5 | 27.53 | 186.4 |
| May | 16. 42 | 143. 2 | 20.82 | 140.9 | October | 27.24 | 238.1 | 28.77 | 194.7 |
| June. | 15. 90 | 143.5 | 22. 32 | 151. 1 | November | 28.97 | 253.2 | 27.83 | 188.4 |
| July.. | 15. 28 | 133.4 | 20. 75 | 140.5 | December | 26.94 | 235.5 | 26.56 | 179.8 |

Forest Service. Reports of actual sales.
Table 645.-Wood pulp, sulphite, domestic, unbleached: Average wholesale price per 100 pounds, New York, 1914-1929.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | \$2. 125 | \$2. 100 | \$2. 050 | \$2. 050 | \$2. 050 | \$2. 075 | \$2.075 | 2. 000 | \$2. 375 | \$2. 325 | \$2. 325 | \$2. 325 | \$2. 156 |
| 1915 | 2. 125 | 2. 050 | 2. 150 | 2. 100 | 2. 100 | 2. 100 | 2. 075 | 2. 075 | 2075 | 2. 075 | 2. 150 | 2. 350 | 2.119 |
| 1916 | 2. 575 | 2. 575 | 2. 850 | 3. 150 | 3. 625 | 3. 625 | 3. 625 | 3.875 | 4. 250 | 5. 125 | 5. 125 | 5. 375 | 3.815 |
| 1917 | 5. 375 | 5. 525 | 5. 400 | 5. 475 | 5. 475 | 5. 475 | 4.975 | 4.975 | 5. 375 | 3. 675 | 3. 225 | 2. 800 | 4. 812 |
| 1918 | 2. 800 | 2. 800 | 2.913 | 3. 285 | 3. 594 | 4. 250 | 4. 250 | 4.325 | 4.638 | 4.975 | 4. 500 | 3. 975 | 3. 859 |
| 1919 | 3. 688 | 3. 500 | 3. 500 | 3. 400 | 3. 375 | 3.375 | 3. 375 | 3. 563 | 3. 625 | 3.625 | 3. 625 | 3, 625 | 3. 523 |
| 1920 | 3. 625 | 3. 625 | 3. 825 | 5. 719 | 6.938 | 7. 400 | 8. 250 | 8. 250 | 8. 250 | 8. 125 | 7. 750 | 6. 969 | 6. 560 |
| Av. 1914-1920. | 3. 188 | 3. 168 | 3. 241 | 3. 597 | 3.880 | 4.043 | 4.089 | 4. 152 | 4.370 | 4. 275 | 4. 100 | 3.917 | 3.835 |
| 1921 | 6. 000 | 4. 656 | 4.075 | 3. 344 | 3. 875 | 3. 625 | 3.438 | 2. 625 | 2. 625 | 2. 625 | 2. 625 | 2. 625 | 3.512 |
| 1922 | 2. 545 | 2. 525 | 2. 525 | 2. 525 | 2.525 | 2. 525 | 2. 525 | 2. 525 | 2. 538 | 2. 635 | 2. 675 | 2. 675 | 2. 562 |
| 1923 | 2.675 | 2. 675 | 2. 731 | 2. 888 | 3. 155 | 3. 225 | 3. 225 | 3. 200 | 3. 113 | 3. 105 | 2.913 | 2. 706 | 2. 968 |

Division of Statistical and Historical Research. Compiled from Buresu of Labor Statistics reports.

Table 646.-Rubber, Para Island, fine: Average wholesale price per pound, New York, 1890-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{array}{\|l} \text { Aver- } \\ \text { age } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1890 | \$0.725 | \$0.680 | \$0. 795 | \$0.845 | \$0.885 | \$0.930 | \$0. 910 | \$0.915 | \$0.965 | \$0.850 | \$0. 805 | \$0.750 | \$0. 838 |
| 1891 | . 780 | . 890 | . 885 | . 930 | . 900 | . 885 | . 855 | 810 | . 615 | . 645 | . 640 | . 655 | . 791 |
| 1892 | . 635 | . 645 | . 680 | . 735 | . 685 | . 680 | . 700 | . 675 | . 635 | . 680 | . 670 | 685 | 676 |
| 1893 | . 685 | . 790 | . 755 | . 760 | . 755 | . 740 | . 725 | . 655 | . 660 | . 705 | . 680 | 690 | 717 |
| 1894 | . 688 | . 660 | . 670 | . 670 | . 655 | . 655 | . 670 | . 650 | . 680 | . 685 | . 705 | . 705 | . 674 |
| 1895 | . 740 | . 735 | . 725 | . 730 | . 720 | . 750 | . 730 | . 715 | 730 | 765 | . 815 | 755 | 742 |
| 1896 | . 750 | . 710 | . 740 | . 750 | . 820 | . 880 | . 835 | . 830 | . 800 | . 825 | . 828 | . 832 | . 800 |
| 1897 | . 820 | . 820 | . 830 | . 825 | . 855 | . 840 | . 840 | . 855 | . 885 | . 870 | . 870 | . 835 | . 845 |
| 1898 | . 815 | . 862 | . 930 | . 930 | . 922 | . 930 | . 980 | 1. 012 | 1. 000 | . 932 | . 920 | 910 | 927 |
| 1898 | . 942 | 1. 005 | 1.015 | 1.018 | 1. 015 | . 992 | . 972 | . 972 | . 965 | . 982 | . 990 | 1.075 | 995 |
| 1900 | 1. 062 | 1. 068 | 1. 045 | 1. 075 | 1. 065 | . 880 | . 925 | . 915 | . 960 | . 985 | . 925 | 875 | 982 |
| 19 | . 875 | . 850 | . 845 | . 840 | . 890 | . 870 | . 855 | . 835 | . 880 | . 850 | . 800 | 805 | 850 |
| 1902 | . 805 | . 760 | . 725 | . 715 | . 715 | . 708 | . 705 | . 678 | . 730 | . 728 | . 732 | 728 | 727 |
| 1903 | . 865 | . 835 | . 895 | . 875 | . 895 | . 860 | . 885 | . 905 | . 965 | 1. 015 | . 995 | . 915 | 905 |
| 1904 | . 915 | . 985 | 1. 025 | 1. 090 | 1. 085 | 1. 095 | 1. 085 | 1. 155 | 1. 135 | 1. 095 | 1. 125 | 1. 265 | 1. 088 |
| 1905 | 1. 125 | 1. 215 | 1. 255 | 1. 280 | 1. 285 | 1. 325 | 1. 275 | 1. 245 | 1. 265 | 1. 255 | 1. 180 | 1. 205 | 1. 242 |
| 1906 | 1. 255 | 1. 235 | 1. 235 | 1. 245 | 1. 235 | 1. 220 | 1. 190 | 1. 180 | 1. 190 | 1. 190 | 1. 195 | 1. 189 | 1. 213 |
| 1907 | 1. 180 | 1.185 | 1. 185 | 1. 150 | 1. 140 | 1.090 | 1. 045 | 1. 065 | 1. 030 | . 995 | . 915 | . 780 | 1. 063 |
| 1908 | . 765 | . 712 | . 695 | . 752 | . 805 | . 875 | . 885 | . 855 | . 905 | . 965 | 1. 050 | 1. 185 | . 871 |
| 1909 | 1. 155 | 1. 155 | 1. 215 | 1. 185 | 1. 232 | 1. 335 | 1.430 | 1.845 | 1.710 | 1. 985 | 1.810 | 1.715 | 1. 481 |
| 910 | 1. 695 | 1. 790 | 1. 995 | 2. 600 | 2. 600 | 2. 295 | 2. 250 | 2. 070 | 1. 800 | 1. 370 | 1. 190 | 1. 235 | 1.908 |
| 1911 | 1. 150 | 1.180 | 1. 580 | 1. 360 | 1. 130 | . 940 | . 925 | 1. 040 | 1. 080 | 1. 050 | . 940 | . 950 | 1. 110 |
| 1912 | . 975 | 1. 060 | 1. 085 | 1. 145 | 1. 100 | 1. 045 | 1.010 | 1. 045 | 1. 135 | 1. 065 | . 975 | . 980 | 1. 052 |
| 1913 | 1. 005 | . 975 | . 915 | . 835 | . 780 | . 835 | . 815 | . 730 | . 760 | . 715 | . 675 | . 645 | . 807 |
| Av. 1909-1913 | 1. 196 | 1. 232 | 1. 358 | 1.425 | 1.368 | 1. 290 | 1. 286 | 1. 346 | 1. 297 | 1. 237 | 1. 118 | 1. 105 | 1. 272 |
| 1 | . 605 | . 655 | . 695 | . 695 | . 725 | . 610 | . 575 | . 580 | . 600 | 525 | 49 | . 630 | 616 |
| 1915 | . 710 | . 550 | . 535 | . 535 | . 545 | . 545 | . 535 | . 522 | . 500 | . 508 | . 548 | . 655 | . 557 |
| 1916 | . 885 | . 685 | . 705 | . 695 | . 660 | . 590 | . 590 | . 585 | . 582 | . 665 | . 670 | . 720 | . 669 |
| 1917 | . 700 | . 680 | . 750 | . 740 | . 725 | . 725 | . 705 | . 613 | . 595 | . 568 | . 505 | . 468 | . 648 |
| 1918. | . 501 | . 479 | . 483 | . 516 | . 566 | . 590 | . 590 | . 590 | . 590 | . 572 | . 570 | . 548 | 550 |
| 1919 | . 525 | . 491 | . 482 | . 478 | . 474 | . 474 | . 475 | . 475 | . 480 | . 483 | . 483 | . 479 | . 483 |
| 1920 | . 463 | . 432 | . 412 | . 411 | . 404 | . 385 | . 353 | . 303 | . 253 | . 217 | . 192 | . 180 | . 334 |
| Av. 1914-1920 | . 627 | . 567 | . 580 | . 581 | . 588 | . 560 | 546 | 524 | 514 | 505 | 495 | 526 | 551 |
| 1921 | . 173 | . 188 | . 180 | . 178 | . 179 | . 164 | . 164 | 165 | . 174 | 210 | 215 | 211 | 182 |
| 1922 | . 193 | . 163 | . 161 | . 171 | . 176 | . 169 | . 172 | . 176 | . 171 | . 196 | . 219 | . 223 | . 182 |
| 1923 | . 272 | . 307 | . 290 | . 274 | . 249 | . 250 | . 239 | . 238 | . 246 | . 215 | . 204 | . 203 | . 249 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.
Table 647.-Turpentine (spirits): Average wholesale price per gallon (in barrels), New York, 1890-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | $\begin{aligned} & \text { Aver- } \\ & \text { age. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1890 | \$0. 449 | \$0. 435 | \$0. 425 | \$0. 400 | \$0.382 | \$0.378 | \$0. 405 | \$0. 415 | \$0. 405 | \$0. 410 | \$0.400 | \$0.392 | \$0. 408 |
| 1891 | . 405 | . 408 | . 403 | . 405 | . 390 | . 382 | . 372 | . 361 | . 370 | . 368 | . 355 | . 335 | . 380 |
| 1892 | . 340 | . 345 | . 420 | . 370 | . 340 | . 290 | . 295 | . 285 | . 278 | . 285 | . 310 | . 315 | 323 |
| 1893 | . 305 | . 332 | . 345 | . 325 | . 310 | . 288 | . 290 | . 262 | . 275 | . 280 | . 295 | . 295 | . 300 |
| 1894 | . 292 | . 309 | . 312 | . 288 | . 296 | . 305 | . 295 | . 289 | . 285 | . 285 | . 285 | . 278 | . 293 |
| 1895 | . 271 | . 290 | . 335 | . 335 | . 305 | . 295 | . 290 | . 270 | . 275 | . 282 | . 281 | . 278 | . 292 |
| 1896 | . 305 | . 300 | . 292 | . 285 | . 289 | . 260 | . 252 | . 240 | . 240 | . 280 | . 280 | . 268 | . 274 |
| 1897 | . 266 | . 275 | . 298 | . 292 | . 305 | . 288 | . 265 | . 282 | . 298 | . 325 | . 310 | . 325 | . 292 |
| 1898 | . 332 | . 340 | . 356 | . 325 | . 339 | . 282 | . 262 | . 265 | . 295 | . 308 | . 370 | . 390 | . 322 |
| 1899 | . 452 | . 455 | . 465 | . 425 | . 445 | . 405 | . 445 | . 385 | . 475 | . 520 | . 510 | . 515 | . 458 |
| 1900 | . 525 | . 545 | . 550 | . 560 | . 505 | . 495 | . 465 | . 445 | . 365 | . 405 | . 440 | . 425 | . 477 |
| 1901 | . 380 | . 405 | . 410 | . 365 | . 345 | . 355 | . 370 | . 355 | . 365 | . 365 | 385 | . 375 | . 373 |
| 1902 | . 390 | . 442 | . 440 | . 485 | . 455 | . 480 | . 475 | . 460 | . 475 | . 505 | . 545 | . 535 | . 474 |
| 1903 | . 555 | . 655 | . 658 | . 672 | . 480 | . 490 | . 495 | . 525 | . 550 | . 585 | .600 | . 593 | . 572 |
| 1904 | . 598 | . 645 | . 625 | . 590 | . 580 | . 574 | . 565 | . 568 | . 560 | . 560 | . 545 | . 500 | . 576 |
| 1905 | . 530 | . 560 | . 539 | . 610 | . 605 | . 778 | . 600 | . 608 | . 645 | . 692 | . 715 | . 650 | . 628 |
| 1906 | . 685 | . 682 | . 719 | . 708 | . 675 | . 610 | . 606 | . 600 | . 640 | . 652 | . 701 | . 700 | . 665 |
| 1907 | . 710 | . 740 | . 755 | . 730 | . 675 | . 640 | . 610 | . 590 | . 582 | . 550 | . 540 | . 490 | . 634 |
| 1908 | . 435 | . 555 | . 535 | . 565 | . 475 | . 435 | . 420 | . 410 | . 390 | . 390 | . 400 | . 430 | . 453 |

Table 647.-Tur pentine (spirits): Average wholesale price per gallon (in barrels), New York, 1890-1923—Continued.

| ! Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver age. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909 | \$0. 415 | \$0.450 | \$0. 425 | \$0. 405 | \$0. 402 | \$0.425 | \$0. 462 | \$0. 518 | \$0. 595 | \$0.620 | \$0.602 | \$0. 570 | \$0. 491 |
| 1910 | . 592 | . 632 | . 630 | . 630 | . 625 | . 592 | . 672 | . 715 | . 745 | . 765 | . 810 | . 785 | . 683 |
| 1911 | . 808 | . 872 | . 912 | 1. 070 | . 772 | . 568 | . 560 | . 525 | . 548 | . 535 | . 492 | . 484 | . 679 |
| 1912 | . 540 | . 495 | . 500 | . 505 | . 530 | . 480 | . 479 | . 462 | . 425 | . 428 | . 420 | . 380 | . 470 |
| 1913 | . 425 | . 452 | . 455 | . 458 | . 408 | . 405 | . 398 | . 382 | . 422 | . 415 | . 452 | . 462 | . 428 |
| Av. 1909-1913 | . 556 | . 580 | . 584 | . 614 | . 547 | . 494 | . 514 | . 520 | . 547 | . 553 | . 555 | . 536 | 550 |
| 1914 | . 458 | . 510 | . 480 | . 488 | . 460 | . 472 | . 498 | . 480 | . 422 | . 478 | . 458 | . 477 | . 473 |
| 1915 | . 452 | . 445 | . 450 | . 472 | . 488 | . 435 | . 430 | . 420 | . 398 | . 415 | . 538 | . 570 | . 459 |
| 1916 | . 572 | . 578 | . 530 | . 552 | . 410 | . 435 | . 415 | . 468 | . 465 | . 462 | . 480 | . 525 | . 491 |
| 1917 | . 550 | . 540 | . 513 | . 488 | . 520 | . 448 | . 420 | . 428 | . 423 | . 485 | . 535 | . 505 | . 488 |
| 1918 | . 490 | . 474 | . 439 | . 426 | . 507 | . 636 | . 700 | . 622 | . 661 | . 658 | . 798 | . 716 | . 594 |
| 1919 | . 755 | . 709 | . 720 | . 773 | . 831 | 1. 095 | 1. 176 | 1. 724 | 1. 683 | 1. 600 | 1. 689 | 1. 656 | 1. 201 |
| 1920. | 1.885 | 1. 985 | 2. 238 | 2. 575 | 2. 475 | 1. 868 | 1. 599 | 1. 624 | 1. 473 | 1. 230 | 1.098 | . 790 | 1. 737 |
| Av. 1914-1920 | . 737 | . 749 | . 767 | . 825 | . 813 | . 770 | . 748 | . 824 | . 789 | . 761 | . 799 | . 748 | . 778 |
| 1921 | . 724 | . 609 | . 584 | . 591 | . 717 | . 604 | . 613 | . 633 | . 718 | 755 | . 810 | 814 | . 681 |
| 1922 | . 909 | . 903 | . 869 | . 866 | . 944 | 1.110 | 1. 207 | 1. 194 | 1. 298 | 1. 530 | 1. 578 | 1.403 | 1,151 |
| 192 | 1. 522 | 1.493 | 1. 548 | 1. 524 | 1.167 | 1.046 | . 943 | . 951 | . 971 | 1.007 | . 954 | . 938 | 1. 172 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.
Table 648.-Rosin, common to good, strained: Average wholesale price per barrel, New York, 1890-1923.

| 'Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Scpt. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1890 | \$1. 250 | \$1. 200 | \$1. 200 | 1. 225 | \$1.450 | . 4 | 1. 488 | \$1. 450 | \$1.450 | \$1. 450 | \$1. 488 | \$1.512 | \$1. 384 |
| 189 | 1.438 | 1. 450 | 1. 500 | 1.612 | 1. 700 | 1. 600 | 1.412 | 1. 400 | 1.400 | 1. 400 | 1.375 | 1. 400 | 1. 474 |
| 1892 | 1. 425 | 1. 400 | 1. 350 | 1. 388 | 1. 475 | 1. 325 | 1. 250 | 1. 275 | 1. 262 | 1. 250 | 1.350 | 1. 350 | 1. 342 |
| 1893 | 1. 325 | 1.425 | 1. 475 | 1. 375 | 1. 300 | 1. 275 | 1. 225 | 1.013 | 1. 000 | 1. 175 | 1. 213 | 1. 338 | 1. 262 |
| 1894 | 1. 275 | 1. 088 | 1.088 | 1. 175 | 1. 200 | 1. 350 | 1. 388 | 1. 238 | 1. 162 | 1. 238 | 1. 438 | 1. 375 | 1. 251 |
| 189 | 1. 413 | 1.400 | 1. 450 | 1. 600 | 1. 525 | 1.650 | 1. 600 | 1. 575 | 1. 550 | 1. 500 | 1. 700 | 1. 775 | 1. 562 |
| 189 | 1. 700 | 1.625 | 1.675 | 1. 762 | 2. 025 | 1. 800 | 1. 688 | 1. 600 | 1. 600 | 1. 700 | 1. 925 | 1.850 | 1. 746 |
| 1897 | 1. 750 | 1. 700 | 1. 700 | 1.650 | 1.650 | 1. 750 | 1.750 | 1. 550 | 1. 500 | 1.450 | 1. 450 | 1. 450 | 1.612 |
| 1898 | 1. 450 | 1. 450 | 1. 450 | 1. 450 | 1. 450 | 1.450 | 1. 450 | 1. 350 | 1. 300 | 1. 300 | 1.500 | 1. 450 | 1. 421 |
| 1899 | 1.400 | 1.350 | 1. 312 | 1. 312 | 1. 462 | 1. 400 | 1. 300 | 1. 300 | 1. 300 | 1. 262 | 1.325 | 1.425 | 1. 346 |
| 1900 | 1. 638 | 1.638 | 1. 750 | 1. 700 | 1. 600 | 1. 588 | 1,562 | 1. 550 | 1. 525 | 1. 475 | 1. 500 | 1. 700 | 1. 602 |
| 19 | 1. 750 | 1. 650 | 1. 625 | 1.500 | 1. 600 | 1.550 | 1. 438 | 1. 400 | 1. 400 | 1. 425 | 1. 450 | 1. 575 | 1. 530 |
| 1902 | 1. 550 | 1. 550 | 1. 550 | 1. 662 | 1. 638 | 1. 588 | 1.575 | 1. 575 | 1. 550 | 1. 550 | 1. 788 | 1. 775 | 1. 613 |
| 1903 | 1. 925 | 2. 100 | 2. 275 | 2. 300 | 2. 125 | 2.075 | 2. 062 | 1. 975 | 2. 100 | 2. 300 | 2. 775 | 2. 575 | 2. 216 |
| 1004 | 2. 575 | 2. 975 | 2. 700 | 2. 800 | 2. 850 | 3.050 | 3. 000 | 2.650 | 2. 700 | 2.800 | 2.950 | 2.950 | 2. 833 |
| 19 | 2. 825 | 2. 875 | 2. 900 | 3. 000 | 3. 250 | 4. 100 | 3. 600 | 3. 600 | 3. 700 | 3.850 | 4.125 | 3. 250 | 3.423 |
| 19 | 3. 650 | 3. 925 | 4.175 | 4. 000 | 4. 050 | 4. 000 | 3.950 | 3. 975 | 4. 125 | 4.000 | 4. 150 | 4.175 | 4. 015 |
| 19 | 4. 250 | 4.450 | 4. 425 | 4. 550 | 4.800 | 4.800 | 4. 425 | 4. 500 | 4. 350 | 4. 225 | 4. 200 | 3.550 | 4. 377 |
| 180 | 3. 200 | 4.000 | 3. 750 | 3. 900 | 3.600 | 2.950 | 3. 150 | 3.000 | 2. 800 | 2. 880 | 2. 900 | 3.250 | 3. 282 |
| 1909 | 3.275 | 3.325 | 3. 175 | 3. 275 | 3.300 | 3. 250 | 3. 000 | 3. 250 | 3. 500 | 4. 250 | 4. 225 | 4.175 | 3. 500 |
| 1910 | 4.200 | 4. 400 | 4. 550 | 4. 650 | 4. 500 | 4. 500 | 5. 300 | 6. 050 | 6. 100 | 6. 400 | 6. 100 | 6. 050 | 5. 233 |
| 1911 | 6. 200 | 6. 750 | 7. 450 | 8. 500 | 7. 750 | 6.750 | 6. 250 | 5. 400 | 6. 250 | 6. 400 | 6. 600 | 6. 300 | 6. 717 |
| 1912 | 7.150 | 6. 650 | 6. 700 | 6. 900 | 6. 500 | 6.550 | 6. 450 | 6.475 | 6.850 | 6. 600 | 6. 500 | 6. 375 | 6. 642 |
| 1913 | 5.950 | 5. 750 | 6.500 | 5. 500 | 4.750 | 4.800 | 4. 000 | 4. 250 | 4. 200 | 4. 000 | 4.000 | 4. 100 | 4.817 |
| Av. 1909-1913 | 5.355 | 5. 375 | 5.675 | 5. 765 | 5. 360 | 5. 170 | 5. 000 | 5. 085 | 5.380 | 5.530 | 5. 485 | 5. 400 | 5. 382 |
| 19 | 4. 000 | 4. 400 | 4. 250 | 4. 150 | 4. 100 | 4.050 | 4. 200 | 3.950 | 3. 750 | 3. 850 | 3.750 | 3.750 | 4.017 |
| 1915 | 3. 600 | 3. 500 | 3.400 | 3. 400 | 3.650 | 3. 200 | 3. 450 | 3. 250 | 3. 250 | 3. 700 | 4.800 | 6. 000 | 3. 767 |
| 1916 | 5. 950 | 5. 750 | 5. 400 | 5. 200 | 4.300 | 5. 100 | 5. 500 | 6.650 | 6. 150 | 6. 250 | 6. 550 | 6. 800 | 5. 800 |
| 1917 | 6. 600 | 6.550 | 6. 275 | 6. 000 | 6.300 | 6. 300 | 6. 000 | 5.850 | 6. 000 | 6.800 | 6. 850 | 7. 175 | 6. 392 |
| 1918 | 7.120 | 6.969 | 6. 588 | 6. 070 | 7.725 | 9.981 | 11. 000 | 11. 525 | 13.644 | 15. 155 | 15. 956 | 14.940 | 10. 556 |
| 1919 | 14, 250 | 13, 463 | 12, 325 | 12. 185 | 12. 050 | 14. 275 | 16. 450 | 17. 850 | 17.330 | 17. 125 | 17.475 | 17.070 | 15. 154 |
| 1920 | 18.588 | 18. 125 | 18.080 | 18.500 | 19.750 | 16. 700 | 12.413 | 13.900 | 13.713 | 12.825 | 11.830 | 9.063 | 15. 291 |
| Av. 1914-1920 | 8. 587 | 8. 394 | 8. 045 | 7.929 | 8. 268 | 8.515 | 8.430 | 8.996 | 9. 120 | 9.386 | 9. 602 | 9. 257 | 8.711 |
| 1021 | 8. 813 | 7. 500 | 5. 850 | 4. 950 | 5. 260 | 5. 050 | 5. 050 | 4.970 | 5.425 | 5. 600 | 5. 680 | 5. 325 | 5. 789 |
| 1922 | 5. 353 | 5. 325 | 5. 188 | 5. 213 | 5. 300 | 5. 350 | 5. 538 | 5. 900 | 6. 356 | 6.865 | 6. 581 | 6. 219 | 5. 773 |
| 1923 | 6. 115 | 5. 969 | 6. 150 | 6. 225 | 6.070 | 5.825 | 5.820 | 5. 750 | 5.850 | 5.840 | 5. 775 | 5.669 | 5.922 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

Table 649.-Pulp wood: Prices per cord f. o. b. mill, in the United States, by species, 1899-1922.

| Calendar Year. | Average. | Spruce. |  | $\begin{aligned} & \text { Hem- } \\ & \text { lock. } \end{aligned}$ | Balsam fir. | Yellow pine. | Poplar. |  | Tam- | Gum. | Jack pine. | $\left\|\begin{array}{c} \text { Cot- } \\ \text { ton- } \\ \text { wood. } \end{array}\right\|$ | Pine. | Slabs and other mill waste |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Do- } \\ & \text { mes- } \end{aligned}$ $\begin{aligned} & \text { mes- } \\ & \text { tic. } \end{aligned}$ | $\begin{aligned} & \text { Im- } \\ & \text { pert- } \\ & \text { ed. } \end{aligned}$ |  |  |  | Do-mestic. | Im-ported. |  |  |  |  |  |  |
| 1890 | \$3. 55 | \$4. 82 | \$6. 51 |  |  |  | \$4.66 | \$4. 52 |  |  |  |  |  |  |
| 1904 | 6. 82 | 6.89 | 8.49 |  |  |  | 7.07 | 7.13 |  |  |  |  |  |  |
| 1907 | 8. 17 | 8.55 | 9. 60 | \$5. 68 | \$7. 59 | ${ }^{(1)}$ | 7.85 | 8. 44 |  |  | (1) |  | \$6. 45 |  |
| 3903 | 8.38 | 8.76 | 10.60 | 6. 02 | 7. 23 | (1) | 8.01 | 8.04 |  |  | $\left.{ }^{1}\right)$ |  | 6.08 |  |
| 1909 | 8.62 | 9.32 | 11. 34 | 6.30 | 8. 28 | (1) | 7.96 | 7.94 |  |  | ${ }^{(1)}$ |  | 6. 25 | \$4. 66 |
| 1914 | 8.81 | 9.45 | 11. 73 | 6. 93 |  |  | 8. 26 | 9.46 |  |  |  |  |  | 4. 83 |
| 1916 | 8.76 | 9.35 | 11. 47 | 6. 60 | 9.79 | \$5. 17 | 8.76 | 9.70 | \$5. 50 | \$9. 70 | \$7. 52 | \$5.09 |  | 4. 63 |
| 1917 | 11. 10 | 11. 98 | 16. 52 | 7.96 | 12. 16 | 5. 26 | 9.69 | 11. 03 | 6.35 | 11. 44 | 10. 45 | 8. 94 |  | 6. 14 |
| 1918 | 13. 93 | 15.38 | 19. 25 | 9.50 | 15. 42 | 7. 50 | 13. 67 | 12.87 | 9.03 | 15.85 | 13.35 | 7.24 |  | 7.55 |
| 1919 | 15.95 | 17. 20 | 20.85 | 11. 02 | 15.65 | 11.71 | 17.84 | 18. 02 | 9.78 | 18. 20 | 9.88 | 8.42 |  | 9. 66 |
| 1920 | 19.03 | 19.97 | 26.78 | 14.80 | 19. 20 | 12.15 | 17. 74 | 18.96 | 12. 75 | 20. 39 | 11.03 | 11.33 |  | 12.13 |
| 1921 | 20.10 | 21.68 | 27.98 | 16.04 | 18.96 | 12.10 | 19.97 | 22.17 | 13. 27 | 21. 55 | 14. 47 | 11.08 |  | 9. 07 |
| 1922 | 16.20 | 18.11 | 21.87 | 11.64 | 14. 52 | 9.51 | 14.95 | 17.99 | 11.58 | 15.32 | 12.38 |  |  | 10. 43 |

Forest Service. From reports of mills to Forest Service and Bureau of the Census.
${ }^{1}$ Included in pine.
Table 650.—Wood subjected to preservative treatment, 1909-1922.

| Calen- <br> dar <br> year. | Crossties. | Piles. | Poles. | Wood <br> blocks. | Cross <br> arms. | Construc- <br> tion <br> timbers. | Miscel- <br> laneous <br> lumber. | Total <br> material <br> treated. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

CREOSOTE.

|  | Cu | Cubic feet. | Cubic feet. | Cubic feet. | $C$ | Cubic feet. | ubic feet. | Cubicfeet. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909. | 29, 830, 080 | 4, 421, 726 | 659, 664 | 2,994, 290 | 41, 764 | 4,902, 311 | 417, 787 | 43, 267, 622 |
| 1910 | 44, 525, 229 | 5,219, 254 | 255, 597 | 4, 692, 453 | 88, 069 | 7, 801, 272 | 2, 687, 713 | 65, 269, 587 |
| 1911 | 49, 532, 163 | 4, 937, 363 | 106, 213 | 10, 145, 724 | 71, 961 | 7,417, 105 | 2, 499, 995 | 74, 710, 524 |
| 1912 | 57, 461, 515 | 7, 624, 939 | 1,169, 981 | 7,091, 658 | 1,643, 128 | 6, 892, 493 | 2,841, 195 | 84, 724, 909 |
| 1913. | 75, 998, 307 | 7, 630, 328 | 2, 367, 769 | 6,810, 308 | 1,813, 010 | 10, 308,883 | 1,853, 993 | 106,782, 598 |
| 1914 | 67, 774, 329 | 7, 804, 657 | 1,188, 511 | 3,127, 506 | 395, 403 | 8, 389, 158 | 1, 348, 566 | 90, 028, 130 |
| 1915 | 51, 231, 207 | 6, 288, 238 | 2, 336, 318 | 6,064, 758 | 87, 373 | 9, 264, 164 | 881, 028 | 76, 153, 086 |
| 1916 | 62, 576, 403 | 8, 524, 680 | 6, 303, 954 | 7, 205, 953 | 178, 210 | 9, 521, 609 | 691, 870 | 95, 002, 679 |
| 1917 | 48, 685, 554 | 8, 493, 715 | 5, 930, 559 | 4, 610, 427 | 239, 764 | 7,830, 673 | 706, 084 | 76, 496, 776 |
| 1918. | 34, 638, 147 | 7, 620, 974 | 4, 540, 620 | 4, 825, 766 | 210,903 | 7,606, 153 | 707, 294 | 60, 149, 857 |
| 1919. | 44, 938, 215 | 9, 151, 972 | 6, 649, 491 | 3, 372, 828 | 75, 310 | 9, 220, 880 | 553, 750 | 73, 962, 446 |
| 1920 | 40, 114, 551 | 8, 013, 192 | 10, 309, 746 | 6,741, 410 | 318,707 | 9, 054, 413 | 1, 139, 307 | 75, 691, 326 |
| 1921 | 66, 139, 398 | 5, 528, 275 | 10,906, 157 | 6, 202, 904 | 108, 715 | 9, 052, 679 | 663, 183 | 98, 601, 311 |
| 1922 | 60, 625, 086 | 7, 494, 649 | 16, 482, 963 | 3,947, 551 | 374, 829 | 10,632,378 | 1, 029, 509 | 100, 586, 965 |

ZINC CHLORIDE.

| 1909 | 24, 153, 162 | (1) | (1) | (1) | (1) | 320, 891 | 2,333 | 24, 476, 386 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 27, 587,583 | (1) | (1) | (1) | (1) | 541,514 | 71,060 | 28, 200, 157 |
| 1911 | 28, 337, 883 | (1) | (1) | (1) | (1) | 1,043, 851 | 119, 931 | 29, 501, 665 |
| 1912 | 28, 532, 874 | (1) | 18, 246 | (1) | (1) | 259, 972 | 20,092 | 28,831, 184 |
| 1913. | 36, 051,816 | (1) | 47,996 | (1) | (1) | 585, 756 | 7,670 | 36, 693, 238 |
| 1914 | 50, 020, 755 | (1) | ${ }^{(2)}$ | (1) | ${ }^{(1)}$ | 1,317,925 | 4,355 | 51, 343, 036 |
| 1915 | 53,457, 852 | 4,726 |  | (1) | (1) | 2, 406, 150 | 275, 279 | $56,144,007$ |
| 1916 | 43, 859, 028 | 859 |  | (1) | (1) | 1, 526, 881 | 346, 047 | 45, 732, 979 |
| 1917 | 44, 529, 954 | 7,093 | 45,788 | 10,421 | (1) | 2,127,872 | 5,070 | 46,726, 198 |
| 1918 | 51, 166, 146 | 57, 845 |  | 13, 939 | (1) | 2, 337, 169 | 30,790 | 53, 605, 889 |
| 1919 | 58,912, 323 | 2,919 |  | ${ }^{(1)}$ | (1) | 2,164,007 | 63, 987 | 61, 143, 236 |
| 1920 | 87, 398, 160 | (1) | (1) | (1) | (1) | 1,823, 437 | 94, 151 | 89, 315, 748 |
| 1921 | 90, 797, 841 |  | (1) | (1) | (1) | 2, 738, 292 | ${ }^{67,835}$ | 93, 604, ${ }_{5}$ |
| 1922 | 52, 254, 303 | 2, 029 | (1) | ${ }^{(1)}$ | (1) | 1,296,980 | 19,564 | 53, 572, 876 |

${ }^{1}$ None reported.

1092 Yearbook of the Department of Agriculture, 1923.
Table 650.-Wood subjected to preservative treatment, 1909-1922—Continued.
ZINC-CREOSOTE.

| $\begin{aligned} & \text { Calen- } \\ & \text { dar } \\ & \text { year. } \end{aligned}$ | Crossties. | Piles. | Poles. | Wood blocks. | Cross arms | Construction timber. | Miscellaneous lumber. | Total material treated. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909 | 8,095, 794 | (1) | (1) | (1) | (1) | 62,918 | 43, 699 | 8, 202, 411 |
| 1910. | 6,354, 219 | 38, 392 | (1) | ${ }^{(1)}$ | (1) | 181,143 | 30, 646 | 6,604, 400 |
| 1911 | 7,312, 374 | ${ }^{(2)}$ | (1) | (1) | (1) | ${ }^{2}$ ) | ${ }^{2}$ ) | 7, 312, 374 |
| 1912 | 8, 214, 303 | 97, 874 | (1) | (1) | (1) | 560, 613 | 99, 367 | 8,972, 157 |
| 1913.--- | 6,938, 838 | 327, 594 | (1) | (1) | (1) | 758,989 | 53, 628 | 8,079, 049 |
| 1914 | 5, 868, 834 | ${ }^{(1)}$ | (1) | (1) | (1) | 140,718 | $\left.{ }^{2}\right)$ | 6, 009, 552 |
| 1915 | 6, 548, 136 | 2,320 | 110, 220 | (1) | (1) | 40,396 | 4,822 | 6, 705, 814 |
| 1916 | 5, 935, 242 | 837 | 53, 933 | (1) | (1) | 359, 428 | (1) | 6, 349, 440 |
| 1917 | 6,482, 046 | ${ }^{(1)}$ | (1) | (1) | (1) | 1, 102, 635 | 847 | 7,585, 528 |
| 1918 | 6,023, 334 | 187,438 | 12, 300 | 76,393 | 209,927 | 164, 813 | 125, 327 | 6, 779, 532 |
| 1919 | 8,850, 222 | 14,059 | ${ }^{(1)}$ | ${ }^{(1)}$ | ${ }^{1}$ ) | 562, 403 | 58,399 | 9, 485, 083 |
| 1920 | 7,414, 866 | 79,354 | (1) | ${ }^{1}$ ) | ${ }^{1}$ | 484, 123 | 5,231 | 7,983, 574 |
| 1921 | 9, 183, 702 | 61, 386 | ${ }^{1}$ | $\left.{ }^{1}\right)$ | (1) | 48, 237 | 2,499 | 9, 295, 824 |
| 1922.--- | 11, 045, y13 | 111 | ( ${ }^{1}$ | $\left.{ }^{1}\right)$ | (1) | 684, 242 | 14,176 | 11, 744, 442 |

MISCELLANEOUS.


ALL PRESERVATIVES.

| 1909. | 62,079,036 | 4, 421,726 | 659, 664 | 2,994, 290 | 41,764 | 5,286, 120 | 463, 819 | 75, 946, 419 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 78, 467, 031 | 5, 257, 646 | 255, 597 | 4,692,453 | 88,069 | 8, 523, 929 | 2, 789, 419 | 100, 074, 144 |
| 1911. | 85, 182, 420 | 4,937, 363 | 106, 213 | 10, 145, 724 | 71,961 | 8, 460, 956 | 2, 619,926 | 111, 524, 563 |
| 1912 | 97, 183, 009 | 7,737,035 | 1,188, 579 | 7,397, 095 | 1, 643, 128 | 7, 793, 524 | 2,988, 686 | 125, 931, 056 |
| 1913. | 120, 781, 248 | 7,957,922 | 2,500, 420 | 6,856, 293 | 1,824, 719 | 11, 653, 628 | 2,039, 658 | 153, 613, 888 |
| 1914 | 131,540,961 | 8,061,902 | 1,482, 407 | 6,869, 370 | 417,914 | 9,847,801 | 1,362,284 | 159, 582, 639 |
| 1915. | 111,256,755 | 6,295, 284 | 2, 512, 780 | 7,707, 971 | 90, 627 | 11,834,087 | 1, 161, 459 | 140, 858, 963 |
| 1916 | 112, 408, 104 | 8, 582, 834 | 6, 747,082 | 9,944, 684 | 180, 844 | 11, 574, 101 | 1, 085, 333 | 150, 522, 982 |
| 1917 | 100, 378, 410 | 8, 586, 012 | 6,725, 503 | 9,085, 230 | 256, 038 | 11, 405, 076 | 812,317 | 137, 338, 586 |
| 1918. | 91, 827, 627 | 8, 309, 372 | 4,615, 770 | 6, 297, 294 | 423, 371 | 10, 215, 593 | 923, 863 | 122, 612, 890 |
| 1919. | 112, 703, 781 | 9, 168, 950 | 6, 661, 266 | 4, 713, 678 | 75, 310 | 12, 061, 873 | 676, 136 | 146, 060, 994 |
| 1920. | 134, 962, 596 | 8, 092, 546 | 10, 309, 746 | 6,741, 410 | 318, 707 | 11, 645, 811 | 1, 238, 689 | 173, 309, 505 |
| 1921 | 166, 150, 545 | 5,591, 999 | 10,959, 256 | 6, 202,904 | 108, 715 | 11, 876, 708 | 753, 101 | 201, 643, 228 |
| 1922 | 123, 940, 422 | 7, 496, 789 | 17, 008, 640 | 3, 947,551 | 374,829 | 12, 713, 080 | 1,130,036 | 166, 620,347 |

## Forest Service.

Converting factors: To obtain the number of crossties, divide figures shown by 3. To obtain the number of linear feet of piling, divide the figures shown by 0.6763 . To obtain the number of poles, divide the figures shown by 17.6. To obtain the number of square yards of wood blocks, divide the figures shown by 2.825. To obtain the number of board feet of construction timbers, multiply the figures shown by 12. To obtain the number of crossarms, divide the figures shown by 0.6198 . To obtain the number of board feet of miscellaneous lumber, multiply the figures shown by 12.
${ }^{1}$ None reported.
2 Figures if used would reveal identity of reporting firms

Table 651.-Wood preservatives consumed by treating plants, 1909-1922.

| $\begin{gathered} \text { Cal- } \\ \text { en- } \\ \text { dar } \\ \text { year. } \end{gathered}$ | $\begin{gathered} \text { Num- } \\ \text { ber } \\ \text { of } \\ \text { plants. } \end{gathered}$ | Creosote. |  |  |  |  |  | $\begin{aligned} & \text { Paving } \\ & \text { oil. } \end{aligned}$ | Zinc chloride. | Other preservatives. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Distillate coal-tar creosote | Creosote coal-tar solution. | Refined watergas tar. | $\begin{aligned} & \text { Water- } \\ & \text { gas tar } \\ & \text { solution. } \end{aligned}$ | $\underset{\text { ported. }}{\text { Im- }}$ | Total. |  |  |  |
|  |  | Gallons. | Gallons. | Gallons. | Gallons. | Gallons. | Gallons. | Gallons. | Pounds. | Gallons. |
| 1909-- | 64 | ${ }^{(1)}$ | ${ }^{(1)}$ | ${ }^{(1)}$ | (1) | 37, 569, 041 | 51, 426, 212 | ${ }^{(1)}$ | 16, 215, 107 | ${ }^{(1)}$ |
| 1910-- | 71. | (1) | (1) | ${ }^{(1)}$ | (1) | 45, 081, 916 | 63, 266, 271 |  | 16, 802, 532 | 2, 333, 707 |
| 1911. | 80 | (1) | (1) | ${ }^{(1)}$ | ${ }^{(1)}$ | 51, 516, 706 | $73,027,335$ | ${ }^{(1)}$ | 16, 359, 797 | 1, 000, 000 |
| 1912-- | 84 | (1) | (1) | ${ }^{(1)}$ | (1) | 52, 531, 295 | 83, 666,490 | ${ }^{(1)}$ | 20, 751, 711 | 3, 072, 462 |
| 1913-- | 93 | (1) | (1) | (1) | (1) | 66, 673, 192 | 108, 373,359 | (1) | 26, 466, 803 | 3, 885, 738 |
| 1914-- | 94 | (1) | (1) | (1) | (1) | 51, 307, 736 | 79, 334, 606 | 9, 429,444 | 27, 212, 259 | $2,486,637$ |
| 1915 | 102 | (i) | (1) | (1) | (1) | 37, 501, 007 | 80, 859,442 | 3, 205, 563 | 33, 269, 604 | 1, 693, 544 |
| 1916 | 117 | (1) | (1) | (1) | (1) | 43, 649, 931 | 90, 404, 749 | 5, 675, 095 | 26, 746, 577 | 582, 754 |
| 1917-- | 115 | (1) | (1) | (1) | (1) | 18, 259, 141 | 75, 541, 737 | 7, 579, 819 | 26, 444, 689 | 137, 361 |
| 1918.- | 107 | $\left.{ }^{1}\right)$ | $\left.{ }^{1}\right)$ | ${ }^{(1)}$ | ${ }^{(1)}$ | 2, 165, 736 | 52, 776, 386 | 4, 057, 862 | 31, 101, 111 | 28, 013 |
| 1919.- | 108 | 24, 286, 851 | 31, 292, 661 | 1, 148, 034 | 2, 334, 727 | 6, 493, 974 | 65, 556, 247 | 2, 412, 592 | 43, 483, 134 | 102,011 |
| 1920.- |  | 25, 483, 230 | 27, 921, 614 | 1, 377, 702 | 4, 399, 282 | 9, 575, 680 | 68, 757,508 | 1, 848, 911 | 49, 717, 929 | 1, 772, 084 |
| 1921. | 122 | 19, 460, 500 | 23, 283, 046 | 3, 135, 610 | 2, 391, 816 | 28, 242, 307 | 76, 513, 279 | 1, 060, 753 | 51, 375, 360 | 1, 810, 294 |
| 1922--1 | 128 | 25, 644, 272 | 21, 558, 130 | 1, 481, 573 | 2, 175, 176 | 35, 462, 238 | 86, 321, 389 | 1, 414, 682 | 29, 868, 639 | $2,176,843$ |

Forest Service.
1 Statistics not available.

## IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS.

Table 652.-Agricultural imports of the United States, 1921-1923.

| Article imported. | Year ending June 30. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. |  |  | Value. |  |  |
|  | 1920-21 | 1921-22 | 1922-231 | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ |
| halimls and animal products. |  |  |  |  |  |  |
| Live animals: <br> Cattle <br> No | sands. 330 | sands. 152 | sands. 264 | sands. \$23, 63 | sands. $\$ 3,055$ | sands. \$6, 630 |
|  | 4 | 3 | 3 | 1,205 | ${ }_{5} 53$ | ${ }_{846}$ |
| Sheep----------------------No-- | 161 | 96 | 83 | 1, 542 | 515 | 542 |
| Swine--------------------No-- | 1 |  |  | 28 |  |  |
| Birds (live)---------------No-- |  |  | 2353 |  |  | ${ }^{2} 317$ |
| Poultry (live)--------------1bs.- |  |  | 2932 |  |  | ${ }^{2} 225$ |
| All other (live)---.-.------------- |  |  |  | 1,376 | 1,748 | 1,058 |
| Total live animals. |  |  |  | 27, 785 | 5,850 | 9,628 |
| Beeswax and other animal wax- lbs-- | 2,215 14,180 | 3,101 10,529 | 4,095 26,094 | 694 570 | 581 707 | 818 |
| Dairy products: |  |  |  |  |  |  |
| Butter and substitutes ------1bs-- | 34, 344 | 9,551 | 15, 772 | 15,913 | 3,257 | 5,821 |
| Cheese and substitutes.......lbs.Milk and cream- | 16, 585 | 34, 271 | 54, 555 | 5,691 | 10,816 | 17,313 |
| Fresh, natural state, sweet or sour $\qquad$ -gals | 4,391 | 4,536 | 5,148 | 2,843 | 3, 132 | 4, 148 |
| Condensed, evaporated, | 19,273 | 2,037 | 7,276 | 2,909 | 317 | 934 |
| Total dairy products.---- |  |  |  | 27,356 | 17,522 | 28,216 |
| Eggs: |  |  |  |  |  |  |
| Eggs of poultry in shell | 3,316 | 1,224 | 535 | 1,056 | 328 | 159 |
| Eggs and egg yolks, preserved, (dried or frozen) $\qquad$ lbs, |  |  | 14, 821 |  |  |  |
| Egg albumen-.-------------------lbs-- | 7,889 | 7, 388 | 14,213 | 2,381 | 1,980 | 1,369 |
| Total eggs |  |  | ----- | 9,614 | 4,723 | 4,356 |
| Feathers and downs (crude): Ostrich | 128 | 125 | 179 |  | 964 | 1,140 |
| Other -------------------------------------- | 2, 859 | 3,614 | 4,821 | 1,088 | 1,155 | 2,075 |
| Total |  |  |  | 2,281 | 2,119 | 3,215 |
| Fibers, animal: Silk- |  |  |  |  |  |  |
| Cocoon----------------lbs-- | 26 | 161 | 380 | 39 | 120 | 383 |
| Raw or reeled from the co- <br>  | 29,463 | 48,179 | 52, 684 | 181, 883 | 300, 446 | 05, 796 |
|  | 5,290 | 9,097 | ${ }^{3} 1,272$ | 8,398 | 6,717 | ${ }^{\text {a }} 747$ |
| Reelers and mill waste |  |  | ${ }^{2} 231$ |  |  | ${ }^{2} 170$ |
| All other waste.-.---libs.- |  |  | 28,620 |  |  | 2 6,471 |
| Total silk |  |  |  | 190,320 | 307, 283 | 413, 567 |
| Wool and hair- |  |  |  |  |  |  |
|  | 50, 378 | 148, 787 | 171,879 | 7,638 | 19,979 | 34, 946 |
| Clothing----------------1bs-- | 251,249 | 32, 821 | 43, 703 | 65,567 | 6,939 | 13, 555 |
| Combing--......-------lbs-- | 12,997 | 69,233 | 298, 496 | 3, 569 | 17,585 | 108, 117 |
| Hair of the angora, goat, alpaca and other like animals. |  |  |  |  |  |  |
| Angora (mohair) ---lbs-- | 3,612 | 4,246 | $\begin{aligned} & \begin{array}{l} 3,851 \\ 27,220 \end{array} \end{aligned}$ | 1,128 | 1,146 | $\begin{aligned} & \left.\begin{array}{r} 2 \\ 2 \\ 2 \\ 2,065 \\ \hline \end{array}\right) \end{aligned}$ |
| Cashmere (alpaca, etc.) |  |  | 2 1,322 |  |  | 2551 |
| Total hair of angora, etc $\qquad$ |  |  |  | 1,128 | 1,146 | 4,477 |
| Wooled sheep and lamb skins, dry and greén .-.-.-.-.-lbs_- |  |  | ${ }^{2} 24,708$ |  |  | ${ }^{2} 5,096$ |
| Total wool ----------lbs-- |  |  |  | 77, 902 | 45,649 | 167, 191 |
| ${ }^{1}$ Preliminary. ${ }^{2}$ B | Beginning Sept. 22, 1922. |  | ${ }^{3}$ July 1-Sept. 21, 1922. |  |  |  |

Table 652.-Agricultural imports of the United Siates, 1921-1923-Continued.

| Article imported. | Year ending June 30. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. |  |  | Value. |  |  |
|  | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | 1922-231 |
| ANIMALS AND ANIMAL PRODUCTS-COn. Jelatin $\qquad$ lbs | Thousands. 2, 397 | Thousands. 2, 527 | Thousands. 2, 839 | Thousands. \$1, 231 | Thousands. $\$ 998$ | Thousands. $\$ 90$ |
| Glue and glue size-----------------------1bs-- | 3,562 | 4,175 | 6,797 | - ${ }^{11} 263$ | ${ }_{574}$ | \$906 |
|  | 5, 436 | 2,557 | 693 | 550 | 119 | 6 |
| Ivory (unmanufactured) .-...-.-.-. lbs.- | 368 | 198 | 569 | 1,036 | 543 | 1,520 |
| Packing-house products: <br> Blood, dried. $\qquad$ lbs <br> Bones, hoofs and horns......lbs <br> Bristles- <br> Not sorted $\qquad$ lbs Sorted $\qquad$ lbs <br> Total bristles $\qquad$ |  |  |  |  |  |  |
|  | 7,413 161,834 | $\stackrel{(2)}{4}_{43,360}$ | ${ }_{101,}^{(2)} 269$ | 290 2,939 | ${ }^{(2)}{ }_{592}$ | $\stackrel{1}{2})_{1,485}$ |
|  |  |  |  |  |  |  |
|  | $\begin{array}{r} 86 \\ 4,158 \end{array}$ | $\begin{array}{r} 6 \\ 3,158 \end{array}$ | $\begin{array}{r} 61 \\ 5,623 \end{array}$ | $\begin{array}{r} 276 \\ 8,978 \end{array}$ | $\begin{array}{r} 11 \\ 4,305 \end{array}$ | 7, 772 |
|  |  |  |  | 9, 254 | 4,316 | 7,793 |
|  | 3,553 | 3, 945 | 7, 498 | 1,590 | 1,538 | 3,300 |
|  | 4,659 | 4,298. | 9,605 | ${ }^{1} 803$ | 419 | 1,195 |
|  |  |  |  | 2, 393 | 1,957 | 4,495 |
| Hide cuttings, raw, and other glue stock --................-lbs. Hides and skins (other than furs) - <br> Buffalo- | 36,108 | 25,322 | 29,758 | 2,270 | 1,150 | 1,167 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | 4,617 | 3,084 | $\begin{array}{r}\text { 2, } \\ \mathbf{3} 1,265 \\ \hline\end{array}$ | 1,398 | 528 | 337 4230 |
|  | 15 |  |  | 9 |  |  |
| Kip- Dry and dry salted (6 to 12 pounds) $\qquad$ lbs |  |  |  |  |  |  |
|  |  |  | ${ }^{3} 11,628$ |  |  | ${ }^{3} 2,120$ |
| $\begin{aligned} & \text { Wet salted ( } 12 \text { to } 25 \\ & \text { pounds) } \end{aligned}$ |  |  | ${ }^{3} 9,168$ |  |  | ${ }^{3} 1,908$ |
| Calf-pous)----------1bs-- |  |  |  |  |  |  |
| Dry and dry salted (less than 6 pounds) ${ }^{5}$-..lbs. | 11,810 | 16, 175 | ${ }^{5} 14,988$ | 4,548 | 3,213 | ${ }^{5} 4,002$ |
| Wet salted (less than 12 pounds) ${ }^{5}$........lbs. | 23,780 | 25, 383 | ${ }^{5} 30,736$ | 6,000 | 5,354 | ${ }^{5} 7,048$ |
| Total kip and calf. |  |  |  | 10,548 | 8,567 | 15,078 |
| Cattle |  |  |  |  |  |  |
| Dry and dry salted.-lbs-- Wet salted | $\begin{array}{r} 24,814 \\ 173,759 \end{array}$ | $\begin{array}{r} 18,439 \\ 186,498 \end{array}$ | $\begin{array}{r} 58,770 \\ 346,613 \end{array}$ | $\begin{array}{r} 7,092 \\ 32,775 \end{array}$ | 2,912 23,687 | $\begin{array}{r} 9,936 \\ 54,576 \end{array}$ |
| Total cattle hides....-- |  |  |  | 39, 867 | 26, 599 | 64,512 |
| Goat and kid- |  |  |  |  |  |  |
| Dry and dry salted__lbs_Green or pickled....-lbs. | 36,816 | 68, 228 | 70,763 | 28, 165 | 29,443 | 33, 223 |
|  | 4,912 | 15, 307 | 18,607 | 1,866 | 3,337 | 4,365 |
| Total goat and kid..--- |  |  |  | 30, 031 | 32, 780 | 37, 588 |
| Dry and dry salted._lbs_Wet salted | 1,142 | 1,295 | 11,940 | 256 | 139 | 1,452 |
|  | 5,461 | 3,430 | 10, 461 | 752 | 217. | ,944 |
| Total horse, etc...-.---- |  |  |  | 1,008 | 356 | 2,396 |
| Kangaroo and wallaby- -lbs_Sheep and lamb- <br> Dry <br> lbs | 878 | 724 | 1,152 | 854 | 492 | 1,084 |
|  | 22,401 | 12, 593 | 4 3,828 | 9,517 | 3,131 | 4853 |
|  | 35, 899 | 36, 245 | ${ }^{4} 16,557$ | 10,805 | 5,222 | ${ }^{4} 2,417$ |
| Slats, dry and pickled |  |  | ${ }^{6} 38,276$ |  |  |  |
| Fleshers, pickied...-lbs.- |  |  | ${ }^{6} \mathbf{6}$ 6, 927 |  |  | 6656 651 |
| Total sheep and lamb. |  |  |  | 20,322 | 8,353 | 12, 132 |
|  |  |  |  |  | 8,353 |  |
| All other hides and skins_lbs-- | 5, 889 | 5,504 | 7,859 | 1,962 | 1,224 | 1,939 |
| Total hides and skin |  |  |  | 105,999 | 78,899 | 135, 296 |

1 Preliminary
2 Included in ic All Other Fertilizers."
a Beginning Sept. 22, 1922 .

[^308]Table 652.-Agricultural imports of the United States, 1921-1923-Continued.


Table 652.-Agricultural imports of the United States, 1921-1923-Continued.


[^309][^310]Table 652.-Agricultural imports of the United States, 1921-1923-Continued.

| Article imported. | Year ending June 30. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. |  |  | Value. |  |  |
|  | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | 1922-231 |
| table products-continued. |  |  |  |  |  |  |
| $F$ orest products-Continued. ctums, resins, and balsams- |  |  |  |  |  |  |
| Varnish, gums, and resinsCopal, damar, and kauri $\qquad$ | Thonsands. 44, 618 | $\begin{aligned} & \text { Thou- } \\ & \text { sands. } \\ & 27,194 \end{aligned}$ | Thousands. 211, 590 | Thousands. \$6, 592 | Thou\$2, 96 | Thou2 \$1, 381 |
|  |  |  | 31,383 <br> 3 <br> 3 |  |  | 81,299 811295 |
| Sharlac--------------------1bs-- | 23,872 | 30, 768 | 32,806 | 16, 634 | 15,657 | 21,032 |
| Others------------------1bs-- |  |  | 31, 308 |  |  | 3, 264 |
| Tar, pitch, and turpentine |  |  |  |  |  | 3130 |
| $\begin{aligned} & \text { Camphor- } \\ & \text { Natural (crude) } \end{aligned}$ |  | 1,592 | 3,498 | 1,930 | 921 | 2,226 |
| Refined and synthetic | 2,093 813 | 1,592 1,652 | 3,498 3,541 | 1,930 995 | 1,144 | 2,534 |
| Total camphor--------- |  |  |  | 2,925 | 2,065 | 4,760 |
| Chicle------------------ ${ }^{\text {- }}$ - | 8,710 | 8, 283 | 908 | 5, 077 | 4,095 | 454 |
|  |  |  | 8,217 |  |  | (4) 4 , 109 |
| Total chicle |  |  |  | 5, 077 | 4,095 | 4,563 |
| Balsams, crude ----.-.--lbs.- | 4524,416 | $\begin{array}{r}363 \\ 8,934 \\ \hline\end{array}$ | 52111,00181,075 | 295 | 151 | 2391,3418538 |
| Arabic or senegal ---.-.--lbs.- |  |  |  | 415 | 734 |  |
| Tragacanth -----------libs-- |  |  |  |  |  |  |
| Gambier or terra japonica | 6,203 | 9,818 | 7,727895 | 432 | 391 | 450389 |
| Asafetida---------------------1bs |  |  |  |  |  |  |
| All other gums, resins, etc. <br>  | 10, 822 | 13,408 | 9, 617 | 2, 252 | 1,415 | 1,138 |
| Total gums, resins, and balsams |  |  |  | 34, 622 | 27.475 | 41,736 |
| India rubber, gutta-percha, etc.- |  |  |  |  |  |  |
| Jelutong or pontianack -ill | 65,774 | 568, 381 | 797, 655 | 114,640 1,076 | 86,751 | 169, 108 |
| Balata_-----------------lbs--- | 1,980 | 1, 867 | 1,757 | $\begin{aligned} & 1,043 \\ & 1,043 \\ & 1,023 \end{aligned}$ | 1,063 | 930 |
| Gutta-percha----------------1bs-- | 4,575 | 2,481 | 1,903 |  |  | 336 |
| Guayule gum---------------lbs-- | 995 |  |  |  |  |  |
| Total İndia rubber, etc----- |  |  |  | 117, 979 | 88,630 | 171, 126 |
| Ivory, vegetable (tagua nuts) | 31,090 | 28, 745 | 33, 572 | 1,377 | 770 | 923 |
| Wood- <br> Logs and round timbers (except cabinet wood) ..- M ft Timber other than sawed Mft. |  |  |  |  |  |  |
|  | 96 | 161 | 217 | 2,259 | 2, 709 | 3,897 |
|  |  |  |  | ${ }^{5} 351$ | 132 | 147 |
| Cabinet woods in the ogs- |  | 8 | 10 | 568 | 526 | 620 |
|  | 55 | 40 | 43 | 6,634 | 3,297 | 3,313 |
|  | 11 |  |  | 998 | 351 | 743 |
| Total cabinet woods .-- |  |  |  | 8,200 | 4,174 | 4,676 |
| Lumber- <br> Boards, planks, deals, and |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Softwoods.-.---M Mt --- | 920 | 1,124 | $\begin{array}{r} 2436 \\ 31,470 \end{array}$ | 39, 068 | 34, 530 | $\begin{array}{r}212,699 \\ 8 \\ 83 \\ \hline\end{array}$ |
|  |  |  | ${ }^{3} 52$ |  |  | 3 3,824 9,529 |
|  | $\begin{array}{r}\text { 1,831 } \\ \hline\end{array}$ | 1,182 2,190 | 1,653 2,695 | 3,459 7,456 | 6,595 7,906 | 9,529 10,952 |
| Shingles...-. -thousands_All other lumber |  |  | 2,695 | 3,079 |  |  |
| Total lumber |  |  |  | 53, 062 | 49, 031 | 79,543 |

[^311]Table 652.-Agricultural imports of the United States, 1921-1923—Continued.

| Article imported. | Year ending June 30. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. |  |  | Value. |  |  |
|  | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ |
| vegetable products-continued. |  |  |  |  |  |  |
| Forest products-Continued. W ood-Continued. <br> Brier root and ivy or laurel root. | Thousands. | Thousands. | Thousands. | Thousands. \$476 | Thousands. | Thousands. |
| - Rattan (unmanufactured) |  |  |  | 2,544 | \$758 | \$2, 076 |
| Osier or willow for basket making .-.....-.-.....-.-. |  |  | ${ }^{2} 1,813$ | 1,207 | 454 | 718 2129 |
| Boards, planks, deals, and other forms of sawed cabinet woods........ M ft - | 7 | 9 | 4 | 708 | 671 | 296 |
| Other unmanufactured or partly manufactured wood. |  |  |  | ${ }^{3} 1,479$ | 3, 563 | 2,663 |
| Total wood. |  |  |  | 70, 286 | 61, 492 | 94, 145 |
| Pulpwood- |  |  |  |  |  |  |
| Rough-.----------------cord.-- | $\begin{array}{r} 338 \\ 1,093 \end{array}$ | $\begin{aligned} & 178 \\ & 576 \end{aligned}$ | 304 773 | 4,298 16,155 | 2,015 | 2,784 7,555 |
| Rossed-----------------------00rd-- | 168 | 72 | 131 | 16,196 | 1,032 | 1,714 |
| Total pulpwood | -------- | -- |  | 23,649 | 9,309 | 12,053 |
| Woodpulp- |  |  |  |  |  |  |
| Mechanically ground. .tons.Chemical woodpulp- | 167 | 207 | 244 | 12, 147 | 5,485 | 7,954 |
| Sulphite, unbleached <br>  | 223 | 312 | 500 | 30,393 | 17,373 | 26,297 |
| Sulphite, bleached tons.- | 96 | 147 | 254 | 16, 942 | 12, 733 | 22, 000 |
| Total sulphite |  |  |  | 47, 335 | 30, 106 | 48, 297 |
| Soda pulp.-----.--tons.- |  |  | 1 |  |  | 67 |
| Sulphate, unbleached <br>  | 129 | 230 | 269 | 15,489 | 13, 665 | 16, 234 |
| Sulphate, bleached_tons-- | 9 | 6 | 26 | 1,220 | 422 | 1,638 |
| Total sulphate |  |  |  | 16, 709 | 14, 087 | 17,872 |
| Total woodpulp. |  |  |  | 76, 191 | 49, 678 | 74, 190 |
| Total forest products.-. | + |  |  | 343, 141 | 249, 587 | 412, 162 |
| Fruits: |  |  |  |  |  |  |
| Apples--------------------- bunch-- | 40, 808 | 46,120 | 2153 44,501 | 19,336 | 19,951 | 2 299 18,909 |
| Berries-----------------------------1bun-- | 40,808 | 46,120 | 1,248 | 19, | 19, 3 | 111 |
| Currants---------------------------1b--- | 50,178 | 49,467 | 18, 924 | 5, 352 | 3,710 | 1,632 |
| Dates .--------------------------1bs-- | 35, 267 | 46, 742 | 52, 037 | 2,034 | 2,417 | 2,686 |
| Figs----------------------------------1bs--- | 25,424 | 43, 139 | 36, 585 | 2,570 | 3,413 | 1,993 |
| Grapes ---------------------cu. ${ }^{\text {flt-- }}$ | 997 | 780 | 1,355 | 1,532 | 1,246 | 1,920 |
| Grape fruit.-.---------------libs |  |  |  | -685 | , 589 | 643 |
| Olives --------------------------------1alls-- | 4,054 | 10, 5 | 122, 21 | 3,023 | 3,125 | 4, 870 |
| Oranges and limes---------------1bs-- |  |  |  | 36 | 274 | 223 |
| Pineapples. Raisins and other dried grapes |  |  |  | 1,470 | 2, 187 | 2, 539 |
|  | 43,269 | 18,363 | 12, 335 | $\stackrel{6,778}{ }$ | 1,036 | 1,177 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Other------------------1bs-- |  |  | ${ }^{2} 8173$ |  |  | ${ }_{2}^{2} 11,026$ |
| All other fruits.-.------------libs.- |  |  |  | 3,225 | 4,848 | ${ }^{2} 3,325$ |
| Total fruits |  |  |  | 49, 933 | 47,362 | 44,650 |
| Glue, vegetable.-.---.-.-.-.-.-.-.-lbs.. |  |  | ${ }^{2} 22$ |  |  | ${ }^{2} 1$ |
| Moss, seaweed, etc. (crude)------1bs-- | 7,989 | 7,747 | 12, 537 | 506 | 458 | 571 |
| Hops ----------------------------1bs.-- | 4, 808 | 893 | 1,295 | 2,283 | 341 | 257 |

${ }^{1}$ Preliminary. $\quad{ }^{2}$ Beginning Sept. $22 . \quad{ }^{3}$ Unmanufactured only. ${ }^{4}$ July 1-Sept. 21, 1922.
$85813^{\circ}$ - хвк 1923-70

Table 652.-Agricultural imports of the United States, 1921-1923—Continued.


[^312]${ }^{2}$ Beginning Scpt. 22, 1922.
${ }^{3}$ July 1-Sept. 21, 1922.

Table 652.-Agricultural imports of the United States, 1921-1923-Continued.


[^313]Table 652.-Agricultural imports of the United States, 1921-1923-Continued.


[^314] Commerce of the United States, June, 1922, and 1923, Bureau of Foreign and Domestic Commerce.

[^315]
## EXPORTS.

Table 653.-Agricultural exports (domestic) of the United States, 1921-1923.

| Article exported. | Year ending June 30. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. |  |  | Value. |  |  |
|  | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ |
| nimals and animal products. |  |  |  |  |  |  |
| Animals, live: Cattle | Thousands. | Thousands. 2.90 | Thousands. | Thousands. | Thousands. | Thousands. |
| Bulis for breeding--.----No-- |  | ${ }_{3}{ }^{1}$ | 2 |  |  | \$274 |
| Cows for breeding--.---No. |  | 33 | 20 |  | ${ }^{3} 347$ | 881 |
| Other cattle------------No.- |  | ${ }^{3} 60$ | 40 |  | ${ }^{3} 4,977$ | 1,796 |
| Swine------------.-.-.-.-- ${ }^{\text {No.- }}$ | 103 | 98 | 76 | 2,210 | 1,242 | 990 |
| Horses | 13 | ${ }^{2} 12$ |  | 1,923 | ${ }^{2} 1,265$ |  |
| For breeding-----------No-- |  | ${ }^{3} 1$ | (4) |  | ${ }^{3} 132$ | 137 |
| Others---------------- No-- |  | ${ }^{3} 6$ | 8 |  | ${ }^{3} 471$ | 912 |
|  | 81 | 62 11 | 16 | 1, 533 | +294 | 165 |
| Poultry, live.--.-.--------No.- |  | ${ }^{8} 227$ | r 1318 | 1,063 | 1,010 3 154 | 1,325 |
| Other live animals .-----------1bs.- |  |  | 429 | 931 | 525 | 168 |
| Total live animals |  |  | .- | 17,711 | 14,951 | 6,919 |
| Beeswax------------------------1b- | 190. | 102 | 83 | 80 | 28 | 25 |
| Dairy products: |  |  |  |  |  |  |
|  | 7,829 | 7,512 | 9,410 | 3,594 | 2,870 | 3, 705 |
| Cheese | 10,826 | 7,471 | 8,446 | 2,890 | 1,711 | 2,170 |
| Mresh and sterilized_-- galls |  |  | 90 | 441 | 294 | 80 |
| Condensed (sweetened) -lbs-- | 147, 732 | 79, 525 | 48, 067 | 27, 162 | 11, 675 | 6,770 |
| Evaporated (unsweetened) |  |  |  |  |  |  |
| Powdered (dried) --------libs-- | 114,838 | 11,318 | 2,918 | 13, 770 | 1, 462 | 10, 504 |
| Other, including cream..lbs.. |  |  |  |  |  |  |
| Total dairy products |  |  |  | 47, 970 | 36, 375 | 23,327 |
|  |  |  |  |  |  |  |
| Eggs and yolks (frozen, dried, | 26,960 | 33, 762 | 34, 284 | 11, 251 | 10,016 | 9,311 |
| and canned) ---.........-libs. |  |  | 555 | 202 | 132 | 89 |
| Feathers (crude, not dressed)---1bs-- |  |  | 4,394 | 441 | 280 | 318 |
| Fibers, animal, wool and mohair (un- |  |  |  |  |  |  |
|  | 5,584 | 924 | 476 | 2, 259 | 200 | 123 |
| Gelatin, animal |  | ${ }^{3} 77$ | 301 |  | ${ }^{3} 62$ | 202 |
|  | 5,977 | 2, 101 | 2,905 | 1,148 | 349 | 431 |
|  | 1,112 | 2,407 | 2, 891 | 183 | 262 | 290 |
| Packing-house products: MeatBeef and veal- |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Beef, fresh | 21, 084 | 3, 866 | 3,716 | 3,705 | 519 | 559 |
| Veal, fresh-c.-------libs |  | 127 3,749 | 361 2,302 |  | ${ }_{971}^{23}$ | ${ }_{6}^{55}$ |
| Beef, canned and veal, cured or-- | 10,763 | 3,749 | 2, 302 | 2, 511 | 971 | 631 |
| pickled.---------- ${ }^{\text {l }}$ - | 23, 313 | 26,774 | 24, 185 | 2,998 | 2,398 | 2, 309 |
| Total beef and veal | 55, 160 | 34, 516 | 30, 564 | 9,214 | 3,911 | 3, 554 |
| Meat extracts and bullion cubes .----------------libs.- |  | ${ }^{3} 153$ |  |  |  |  |
| Other meat, canned-------1bs-- |  |  | 7, 534 | 5,811-1 | 3,914 | 2, 898 |
| Other meat (including edible offal) ......................lbs |  |  |  |  |  |  |
| Mutton and lamb--.-----lbs.- | 7,255 | 2,502 | 1, 869 | 1,291 | 425 | 331 |
| Pork- |  |  |  |  |  |  |
| Carcasses, fresh ${ }^{5}$---lbs- | 57,075 | 22, 826 | 9,461 | 11,135 | 3,315 | 1,338 |
| Loins and other fresh parts |  | ${ }^{3} 3,085$ | 34,040 |  | ${ }^{8} 547$ |  |
|  | 1,119 | 2, 263 | 2,761 | 450 | 669 | 952 |
| Cured- <br> Hams and shoulders |  |  |  |  |  |  |
| Hams and shoulders |  |  |  | 40, 088 |  |  |
| Bacon---------------lbs.- | 489, 298 | 350, 549 | 408, 282 | 103, 115 | 50,978 | 59,048 |
| Pickled.-.---------lbs-- | 33, 286 | 33, 510 | 40,934 | 5,381 | 3,941 | 4,953 |
| Total pork .--_lbs.- | 752, 790 | 683, 875 | 814, 665 | 160, 169 | 114, 667 | 126, 933 |

[^316]1104 Yearbook of the Department of Agriculture, 1923.
Table 653.-Agricultural exports (domestic) of the United States, 1921-1923Continued.


Tablé 653.-Agricultural exports (domestic) of the United States, 1921-1923Continued.


[^317]${ }^{3}$ July 1-Dec. 31, 1921
4 Less than 500.

6 Jan. 1-June 30.
${ }_{6}$ July 1-Dec. 31, 1922.

## 1106

 Yearbook of the Department of Agriculture, 1923.Table 653.-Agricultural exports (domestic) of the United States, 1921-1923Continued.

| Article exported. | Year ending June 30. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. |  |  | Value. |  |  |
|  | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ |
| vegetable products-continued. |  |  |  |  |  |  |
| Forest products-Continued. Wood-Continued. |  |  |  |  |  |  |
| Boards, deals and planks- |  |  |  |  |  |  |
| Hardwoods- | sands. | sands. | sands. | sands. | sands. | sands. |
| ${ }_{\text {Ash_--.-.-.-.M. }}^{\text {Chest }}$ - |  | 24 |  |  |  | $\begin{array}{r}2 \$ 680 \\ \hline 805\end{array}$ |
| Gum ----------M Ct | 25 | 37 | 54 | \$1,963 | 1,905 | 2,963 |
| Ifickory -...-.- M Mt - |  | ${ }^{2} 1$ | 3 |  | ${ }^{2} 82$ | 237 |
| Oak---------M Mt-- | 78 | 88 | 138 | 8, 454 | 5, 333 | 9,645 |
| Poplar | 10 | 14 | 19 | 1,221 | 1,388 | 1,849 |
| Walnut._-...-M ft-- |  |  | 6 |  | ${ }^{2} 279$ | 878 |
|  | 38 | 53 | 56 | 5,224 | 4, 280 | 5,062 |
| Total hardwoods..- |  |  |  | 16, 862 | 14, 140 | 22,119 |
| Total boards, deals and planks. |  |  |  | 70,498 | 52,674 | 68, 652 |
| Laths .-.-.---thousands.- |  | ${ }^{2} 6$ | 42 |  | ${ }^{2} 48$ | 297 |
| Shingles ----thousands -- | 26 | 26 | 26 | 158 | 131 | 154 |
| Shooks- <br> Box _....Ft. b. m. |  |  | ${ }^{3} 30,497$ | 3,855 | 1,954 | ${ }^{3} 1,017$ |
| Southern yellow pine ft. b. m |  |  |  |  |  |  |
| Other pine.-Ft. b. m- m. m- |  |  | ${ }_{2}^{2} 161,177$ |  |  | 2 21,031 |
| Cooperage.-.---sets-- | 1,051 | 3231 8343 83 |  | 4, 575 | 3 2 2174 21057 |  |
| Tight......-sets-- |  | 2343 2168 | $\begin{aligned} & 1,309 \\ & 290 \end{aligned}$ |  | $\begin{array}{r}21,057 \\ \begin{array}{r}295\end{array} \\ \hline\end{array}$ | 4,038 93 |
| Total shooks .-- |  |  |  | 8,430 | 3,880 | 6, 839 |
| Cooperage - <br> Staves. $\qquad$ no.- | 65, 710 | ${ }^{3} 12,165$ |  | 10,001 | ${ }^{3} 955$ |  |
| Tight.---------no-- |  | 27,105 | 21, 400 |  | ${ }^{2} 789$ | 3,038 |
| Slack ---------no.- |  | ${ }^{2} 15,892$ | 36, 075 |  | ${ }^{2} 289$ | 776 |
| Total staves. |  |  |  | 10, 001 | 2,033 | 3,814 |
| Heading----.-..----sets..- |  |  | -------- | 745 | 204 | 330 |
| Total staves and headings |  |  |  | 10, 746 | 2, 237 | 4, 194 |
| Pulp wood----------.cu, ft- |  | ${ }^{2} 1,791$ | 1,303 |  | ${ }^{2} 138$ | 92 |
| Railroad ties----------.-no.- | 5,040 |  |  | 7,099 | 31,394 ${ }_{2} 366$ |  |
| Hardwoods...-.----- |  | ${ }_{2}^{2} 250$ | 643 817 |  | 2366 2507 2 | 1,679 |
| Softwoods..---.-.-.-nno-- |  | ${ }^{2} 665$ | 1,817 | --- |  | 1,605 |
| Total ties | ------ | --.-- | --------- | 7,099 | 2,267 | 2,484 |
| Piling .-.-...----- linear feet.- |  |  |  |  | ${ }^{2} 128$ | 324 |
| Telegraph, trolley and electric light poles |  | 211 |  |  | 290 |  |
|  |  | ${ }^{11}$ | $\begin{array}{r} 30 \\ 9,512 \\ \hline \end{array}$ | 4, 659 | 1,247 | 406 |
| Total lumber-------------- | ----- | ---- | ------- | 101,590 | 62,840 | 83, 626 |
| Timber, hewn and sawed- |  |  |  |  |  |  |
| Hardwoods- |  |  |  |  |  |  |
| Oak -------------M ft.- |  | ${ }^{2} \frac{1}{5}$ | 3 |  | 245 | 166 |
| Other hardwoods_-. $\mathrm{M} \mathrm{ft}_{\text {-- }}$ | 6 | 5 | 2 | 445 | 289 | 110 |
| Softwoods- Southern yellow pine |  |  |  |  |  |  |
| Southern yellow pine | 96 | 118 | 172 | 4,003 | 3,406 | 6.794 |
| Douglas fir------M M ft-- |  | 297 | 179 |  | ${ }^{2} 2,090$ | ${ }^{4,514}$ |
| Cedar---------M Mf -- |  | ${ }^{2} 4$ | 19 |  | $\begin{array}{r}2184 \\ 1,023 \\ \hline\end{array}$ | 1,013 |
| Other softwoods.-.M $\mathrm{mt}_{\text {-- }}$ | 21 | 43 | 9 | 663 | 1,023 | 289 |
| Total timber, hewn and sawed |  |  |  | 5,111 | 7,037 | 12,886 |
| All other, including firewood |  |  | 2,568 | 342 | 279 | 211 |
| Total wood |  | ------- | -----... | 109, 233 | 73,815 | 100, 595 |
| ${ }^{1}$ Preliminary. | ${ }^{2} \mathrm{Jan} .1$ | une 30. |  | ${ }^{3}$ July 1- | c. 31. |  |

Table 653.-Agricultural exports (domestic) of the United States, 1921-1923Continued.


${ }^{3}$ July 1-Dec. 31.

Table 653.-Agricultural exports (domestic) of the United States, 1921-1923Continued.


[^318][^319]Table 653.-Agricultural exports (domestic) of the United States, 1921-1923Continued.


[^320]2 Jan. 1-June 30, 1922.
${ }^{8}$ July 1-Dec. 31, 1921.

1110 Yearbook of the Department of Agriculture, 1923.
Table 653.-Agricultural exports (domestic) of the United States, 1921-1923Continued.


Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, Bureau of Foreign and Domestic Commerce.

[^321]${ }^{2}$ July 1-Dec. 31.
${ }^{3}$ Jan. 1-June 30.

Table 654.-Value of principal groups of farm and forest products exported from and imported into the United States, year ending June 30, 1921-1923.


Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, Bureau of Foreign and Domestic Commerce.

[^322]1112 Yearbook of the Department of Agriculture, 1923.
Table 655.-Exports of selected domestic agricultural products, 1852-1923.

| Year ending June 30. | Cattle. | Cheese. | Packing-house products. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Beef, curedsalted or pickled. | Beef, fresh. | $\begin{gathered} \text { Beaf } \\ \text { oils- } \\ \text { oleo oil. } \end{gathered}$ | Beef tallow. | Beef and its prod-uctstotal, as far as ascer-tainable. ${ }^{1}$ | Pork, cured bacon. | Pork, curedhams and shoulders. | Pork, curedsalted or pickled. |
|  | Thou- | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| A verage: | sands. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. |
| 1852-1856. | 1 | 6, 200 | 25, 981 |  |  | 7,469 | 33, 449 | 30, 005 |  | 40,543 |
| 1857-1861- | 20 | 13, 906 | 26, 986 |  |  | 13, 215 | 40, 200 | 30, 583 |  | 34, 854 |
| 1882-1806. | 7 | 42, 683 | 27, 663 |  |  | 43, 203 | 70, 865 | 10,797 |  | 52,551 |
| 1867-1871. |  | 52, 881 | 26,955 |  |  | 27, 578 | 54, 532 | 45, 790 |  | 28,879 |
| 1872-1876 | 46 | 87, 174 | 35, 827 |  |  | 78, 994 | 114, 821 | 313, 402 |  | 60, 429 |
| 1877-1881. | 127 | 129, 670 | 40, 175 | 69, 601 |  | 96,823 | 218, 710 | 643, 634 |  | 85,968 |
| 1882-1886 | 132 | 108, 790 | 47, 401 | 97, 328 | 30, 276 | 48,745 | 225, 626 | 355,905 | 47, 635 | 72, 355 |
| 1887-1891. | 244 | 86, 355 | 65, 614 | 136,448 | 50, 482 | 91, 608 | 411, 798 | 419,935 | 60, 697 | 73,985 |
| 1892-1896 | 349 | 66, 906 | 64, 899 | 207, 373 | 102, 039 | 56, 977 | 507, 177 | 438, 848 | 96, 107 | 64, 827 |
| 1897-1901- | 415 | 46, 109 | 52, 242 | 305, 626 | 139, 373 | 86, 082 | 637, 268 | 536, 287 | 200, 853 | 112,788 |
| 1902-1906 | 508 | 19, 244 | 59, 208 | 272, 148 | 156, 925 | 59, 893 | 622, 843 | 292, 722 | 206, 891 | 116, 823 |
| 1907-1911. | 254 | 9, 152 | 46, 187 | 144, 800 | 170,530 | 66,356 | 448, 024 | 209, 005 | 189, 603 | 90,810 |
| 1912-1916 | 35 | 22, 224 | 31, 440 | 86, 135 | 99, 892 | 24, 476 | 281, 576 | 306, 012 | 203, 076 | 52,946 |
| 1900-1 | 459 | 39, 814 | 55, 313 | 351, 748 | 161, 651 | 77, 167 | 705, 105 | 456, 123 | 216, 572 | 138,644 |
| 1901-2 | 393 | 27, 203 | 48.633 | 301, 824 | 138, 546 | 34, 066 | 596, 255 | 383, 151 | 227, 653 | 115,896 |
| 1902-3 | 402 | 18, 987 | 52,801 | 254, 796 | 126, 010 | 27, 369 | 546, 055 | 207, 336 | 214, 183 | 95, 287 |
| 1903-4 | 593 | 23, 335 | 57, 585 | 299, 580 | 165, 184 | 76, 924 | 663, 147 | 249, 666 | 194, 949 | 112, 225 |
| 1904-5. | 568 | 10, 134 | 55,935 | 236, 487 | 145, 228 | 68, 537 | 575, 875 | 262, 247 | 203, 459 | 118,887 |
| 1905-6 | 584 | 16,562 | 81, 088 | 268, 054 | 209, 658 | 97, 567 | 732,885 | 361, 211 | 194, 211 | 141,821 |
| 1906-7-..----- | 423 | 17, 285 | 62, 645 | 281, 652 | 195, 337 | 127, 858 | 689, 752 | 250, 419 | 209, 481 | 166, 427 |
| 1807-8 | 349 | 8,439 | 46,958 | 201, 154 | 212, 541 | 91, 398 | 579,303 | 241, 190 | 221, 770 | 149, 606 |
| 1908-9 | 208 | 6; 823 | 44, 494 | 122, 953 | 179,985 | 53, 333 | 418, 844 | 244, 579 | 212, 170 | 52, 355 |
| 1909-10 | 139 | 2,847 | 36, 554 | 75,730 | 126, 092 | 29,380 | 286, 296 | 152, 163 | 146,885 | 40,032 |
| 1910-11. | 150 | 10,367 | 40, 284 | 42,511 | 138, 697 | 29, 813 | 265, 924 | 156, 675 | 157, 709 | 45, 729 |
| 1911-12 | 106 | 6,338 | 38, 088 | 15, 264 | 126, 467 | 39, 451 | 233, 925 | 208, 574 | 204, 044 | 56,321 |
| 1912-13. | 25 | 2,599 | 25, 857 | 7, 362 | 92, 850 | 30, 586 | 170, 208 | 290, 994 | 159, 545 | 53,749 |
| 1913-14 | 18 | 2,428 | 23, 266 | 6, 394 | 97, 017 | 15,813 | 151,212 | 193, 964 | 165, 882 | 45,543 |
| 1914-15. | 5 | 55, 363 | 31,875 | 170, 441 | 80,482 | 20,240 | 394, 981 | 346, 718 | 203, 701 | 45, 656 |
| 1915-16 | 21 | 44, 394 | 38, 115 | 231, 214 | 102, 646 | 16, 289 | 457, 556 | 579, 809 | 282, 209 | 63,461 |
| 1916-17 | 13 | 68, 050 | 58, 054 | 197, 177 | 67, 110 | 15, 209 | 423, 674 | 667, 152 | 266, 657 | 46,993 |
| 1917-18 | 18 | 44, 303 | 54,468 | 370, 033 | 56, 603 | 5, 015 | 600, 132 | 815, 294 | 419, 572 | 33, 222 |
| 1918-19 | 42 | 18, 792 | 45, 066 | 332, 205 | 59, 292 | 16, 172 | 591, 302 | 1,238,247 | 667, 240 | 31, 504 |
| 1919-20 | 83 | 19,378 | 32, 384 | 153, 561 | 74, 529 | 32,937 | 368, 002 | 803, 667 | 275, 456 | 41, 643 |
| 1920-21 | 146 | 10, 826 | 23, 313 | 21,084 | 106, 415 | 16, 844 | 203, 815 | 489, 298 | 172, 012 | 33, 286 |
| 1921-22 | 155 | 7,471 | 26, 774 | 3,993 | 117, 174 | 27, 658 | 222, 462 | 350, 549 | 271, 642 | 33, 510 |
| 1922-23 ${ }^{2}$ | 61 | 8,446 | 24, 185 | 4, 077 | 104, 956 | 25, 665 | 194, 962 | 408, 282 | 318, 187 | 40,934 |

[^323]Table 655.-Exports of selected domestic agricultural products, 1852-1923-Con.

| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 . \end{aligned}$ | Packing-house products. |  |  | Apples, fresh. | Cornand corn meal (in terms of grain). | Cotton. | Glucose and grape sugar. | $\begin{aligned} & \text { Corn- } \\ & \text { oil } \\ & \text { cake } \\ & \text { and } \\ & \text { oil- } \\ & \text { cake } \\ & \text { meal. } \end{aligned}$ | Cottonseed oilcake and oilcake |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{c\|c}  & \text { P } \\ \text { it } \\ \text { Pork- } & 1 \\ \text { lard. } & \text { t } \\ & \text { as } \end{array}$ | Pork and its prod-uetstotal, as far as ascertainable. ${ }^{1}$ | $\begin{gathered} \text { Lard } \\ \text { com- } \\ \text { poands. } \end{gathered}$ |  |  |  |  |  |  |
| Average: 1852-1856 | 1,000pounds.33,35537,96889,13853,579194,198331,458 | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 103,903 \\ 103,494 \\ 252,486 \\ 128,249 \\ 568,029 \\ 1,075,793 \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\left\|\begin{array}{r} 1,000 \\ \text { barrels. } \\ 37 \\ 57 \\ 119 \end{array}\right\|$ | 1,000 |  | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
|  |  |  |  |  | bushels. <br> 7, 123 | pounds. | pounds. |  |  |
|  |  |  |  |  | 6,558 | 1, 125, 715 |  |  |  |
|  |  |  |  |  | 12,060 | 137, 582 |  |  |  |
|  |  |  |  |  | 9, 924 | 902, 410 |  |  |  |
|  |  |  |  | 133 | 38,561 | 1, 248,805 |  |  |  |
|  |  |  |  |  | 88, 190 | 1, 738, 892 |  |  |  |
| 1882-1886 | $\begin{aligned} & 263,425 \\ & 381,389 \end{aligned}$ | $\begin{array}{r} 739,456 \\ 936,248 \\ 1,02,184 \end{array}$ |  | 402 | 49, 992 | 1,968, 178 |  |  |  |
| 1887-1891 |  |  |  | 523 521 | 54,806 63,980 |  |  |  |  |
| 1892-1896 | 451,547 652,418 |  | 21,792 |  | 192, 531 | 3, 447,910 | 209, |  |  |
| 1902-1906 | $652,418$ | 1, 242, 137 | 52, 954 | 1,369 | 74, 615 | 3, 632,268 | 154, 867 | 21, |  |
| 1907-1911 | 519, <br> 4846 <br> 48765 | $1,028,997$ <br> $1,109,488$ | 75, 765 | 1,226 | 56, 568 | 4, 004,770 | 145, 065 | 61, 733 |  |
|  |  |  | 2,2 | 1,786 |  | 4, 469, 202 | 183, 141 | 54,361. | 1,151 |
| 1900 | $\begin{aligned} & 611,358 \\ & 556,840 \\ & 490,756 \\ & 561,303 \\ & 610,239 \end{aligned}$ | 1, 462,370 | 23, 360 | 884 | 181, 405 | 3,35 | 204, | 12, | 1,258,687 |
| 910 |  |  | 36, 202 | 460 | 28,029 | 3, 52 |  | 14,7 |  |
| 02 |  | $\begin{aligned} & 1,337,316 \\ & 1,042,120 \end{aligned}$ | 46, 130 | 1,656 | 76, 639 | 3,569, 142 | ${ }_{159}^{126} 240$ | 8,093 | $1,100,393$ 820,349 |
| 1803 |  | $\begin{aligned} & 1,042,120 \\ & 1,146,255 \\ & 1,230,032 \end{aligned}$ | 53, 604 | 2,018 | 58, 222 | $3,089,856$ $4,339,322$ | 175, 251 | 14, 15 |  |
|  |  |  | 1,215 |  |  | 4, |  |  |  |
|  | 741,517627,560603,414528,723362,928 | $\begin{aligned} & 1,464,960 \\ & 1,268,065 \\ & 1,237,211 \\ & 1,053,142 \\ & 707,110 \end{aligned}$ |  | 1,209 | 119,894 | 3,634 | ${ }^{189} 151$ | 48, 421 | 1,110 |
|  |  |  | 80 | 1,539 1,050 |  | 4, 51816 |  |  | , |
| $\begin{aligned} & 1907- \\ & 1908- \end{aligned}$ |  |  | 75, 183 75,183 | 1,050 896 | 55, 365 | 4, 447, 985 | 112, 225 | 53, 234 | 233, 750 |
| 1909-10 |  |  | 74, 557 | 922 | 38, 128 | 3, 206, 708 | 149, 820 | 49, 109 | 640, 089 |
| 1910 | 476,108  <br> 532,256  <br> 519,025  <br> 481,458  <br> 475,532 1 <br>  1 | $\begin{array}{r} 879,455 \\ 1,71,952 \\ 984,697 \\ 991,913 \\ 1,106,180 \end{array}$ | 73, | 1,721 | 65, 615 | 4, 033, | 181 | 83 | 804, 597 |
| 1911-12 |  |  | 62, 523 | 1,456 | 41, 797 | 5, 533, 125 | 171,156 | 72,495 | 1, 293, 690 |
| 12-1 |  |  | 67,457 | 2, 150 | 51,780 10726 | 4, 562,296 | 200, 149 |  | 1, 7289,974 |
| 13 |  |  |  | 2, $\mathbf{2} 507$ | 10,726 50,688 | 4, 760, 971 | 158, 463 |  | 479, 035 |
| 1914 |  |  |  |  |  |  |  |  |  |
| 1915-16 | 427, 011 444, 770 724, 771 | $1,462,697$$1,501,948$$1,692,124$$2,704,694$ | 62, 843 | 1,466 | 39,897 66,753 | 3, 084, <br> 3, 088 , | $\begin{aligned} & 186,408 \\ & 214,973 \end{aligned}$ | 15,758 |  |
| $1916$ |  |  | 56,359 31,278 | 1,740 | 66,753 49 49 | 3, $2,320,512$ | $\begin{array}{r}1814,973 \\ 978 \\ \hline 188\end{array}$ | $\begin{array}{r}15,758 \\ 458 \\ \hline\end{array}$ | 44, 68 |
| 18 |  |  | 128, 157 | 1,576 | 23,019 | 2, 762, 9 | 136, 230 | 562 | 311, 62 |
| 19-20 | $\begin{aligned} & 587,225 \\ & 746,157 \\ & 812,379 \\ & 952,642 \end{aligned}$ | $\begin{aligned} & 1,762,611 \\ & 1,522,162 \\ & 1,516,320 \\ & 1,794,538 \\ & \hline \end{aligned}$ | 4 | 1,05 | 16, 729 | 3, 543 | 245, 264 | 511 | 101 |
|  |  |  | 42, 156 |  | 70, |  | 141, |  |  |
| 1921-22 |  |  | 30, 328 | 1,094 | 179, 490 | 3, 358, 8 | 273, |  |  |
| 1922 |  |  | 11, 140 | 1,756 | 96,599 |  |  |  |  |
| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 . \end{aligned}$ |  | Tobacco. | Hops. |  | Rice and rice bran, meal, and polish. | Sugar, raw and refined. | Wheat | Wheat flowr. | Wheat and wheat flour (in terms of grain). |
| $\begin{aligned} & \text { Average: } \\ & 1852 .-1856 \\ & \hline 1050 \end{aligned}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |  | 1,000 | $\begin{gathered} \text { 1,000 } \\ \text { gallons. } \end{gathered}$ | $1,000$ | $1,000$ | $1,000$ <br> bushels. | $1,000$ | $\begin{aligned} & 1,000 \\ & \text { bushels. } \end{aligned}$ |
|  |  | s. pounds. <br> 140, 184 | pounds. |  | pounds. 65, 732 | pounds. 7,730 | 4,715 | - ${ }_{\text {barrels. }}$ | 19,173 |
|  |  |  | $\begin{aligned} & \mathbf{2}, 216 \\ & 4,716 \\ & 4,76 \end{aligned}$ |  |  | 6,015$\mathbf{3}, 008$ | $\begin{aligned} & 4,710 \\ & 12,378 \\ & 22,530 \end{aligned}$ | $3,318$ | : 28,97040,184 |
| $\begin{aligned} & 1857-1861 \\ & 1862-1866 \end{aligned}$ |  | $\begin{aligned} & 140,184 \\ & 167,711 \end{aligned}$ |  |  | $\begin{array}{r} 0,0,010,72 \\ 65,258 \\ 2,258 \end{array}$ |  |  |  |  |
| 1867-1871 |  | 194, 754 | $\begin{aligned} & 4,719 \\ & 6,487 \end{aligned}$ |  | 2, 258 | 3, 4,008 | $\begin{aligned} & 22,530 \\ & 22,107 \end{aligned}$ | $\begin{aligned} & 3,531 \\ & 2,585 \end{aligned}$ | 40,184 35,032 |
| 1872-187 |  | 241, 848 | $\begin{array}{r} \tilde{3}, 446 \\ 10,446 \end{array}$ | 547 4 4 | 391 <br> 602 | $\begin{aligned} & 20,142 \\ & 41,718 \end{aligned}$ | 48, 958 | 3, 416 | 66,037133,263 |
| 1877-188 |  | 266, 315 |  | 4,498 |  |  | 107, 781 | 5, 376 |  |
| 1882-1886 |  | 237, 942 | 9, 584 | 3,468 | ${ }_{5}^{561}$ | 107, 130 | 82,884 649 | $\begin{array}{r}8,620 \\ 11 \\ \hline 18\end{array}$ | 115,529 |
| 1887-189 |  | 258, 248 | 7,184 | $\begin{array}{r}7,121 \\ 15 \\ \hline\end{array}$ | $\begin{array}{r}3,210 \\ 10 \\ \hline\end{array}$ | 75, 1384 | 64,739 $\mathbf{9 9 , 0 1 4}$ | 11, 287 | 170,624 |
| 1892-1896 |  | 281, 746 | ${ }^{15,147}$ | 15,783 42,863 | 10, 278 | 11, 214 | 120, 247 | 17, 151 | 197, 427 |
| 1897-1001 |  | 1-325,539 <br> 334,396 | $\begin{aligned} & 11,476 \\ & 14,774 \end{aligned}$ | 42, 860 38,606 | 45,978 | 14,807 | 70,527 | 15, 444 | 140, 02 |
| 1907-1911 | 48,551 472039 |  |  | $38,784$ | $\begin{gathered} 30, y \\ 27,195 \\ 60,043 \\ \hline \end{gathered}$ | $\begin{array}{r} 61,430 \\ 470,729 \\ \hline \end{array}$ | 62,855129,415 | $\begin{aligned} & 11,841 \\ & 13,185 \\ & \hline \end{aligned}$ | 1188, 74 |
| 1912 | 72, 599 | 408, 006 | 18,533 |  |  |  |  |  | 188, 74 |
| 1600 | $\begin{aligned} & 10,022 \\ & 23,359 \end{aligned}$ | 315, 788 | 14,964 | 49,357 | 25, 528 | 8,875 | 132,061 | 18,651 | 215,990 |
| 1901-2 |  | 301, 607 | 10,715 | -35, 343 | 18,750 | $\begin{array}{r} 7,572 \\ 10,520 \end{array}$ | 154, 818.181 | 17, 17.716 | 202,90 |
| 902-3 | 26,38573,146 | $\begin{array}{l\|l} 5 & 368,184 \\ 6 & 311,972 \end{array}$ | 7,795 |  |  |  |  |  |  |
| 1903-4 |  |  | $\begin{aligned} & 10,986 \\ & 14,859 \end{aligned}$ | 29, 533 | 29, 122 | 15,419 18,348 | 44,230 4,394 | 16,899 8,826 | 120, 113 |
|  | 54,994 | $\begin{array}{l\|l\|} \hline 64 & 311,972 \\ \hline 4 & 334,302 \end{array}$ |  |  | 38, 142 | $\begin{aligned} & 22,176 \\ & 21,2 \\ & 2188 \end{aligned}$ | 34,973 | 13, 919 | 97,600 |
| 1905-6 | 24,87044,49028,148 | -312, 227 | 13,027 16,810 | $\begin{aligned} & 43,794 \\ & 41,880 \end{aligned}$ |  |  |  |  |  |
| 906 |  |  |  |  |  | 25, 511 | 100, 371 | 13, 927 | 163, 04 |
| 907 | 22,22,6289,015 | $\begin{aligned} & 380,813 \\ & 287,901 \\ & 357,196 \end{aligned}$ | 22,82010,44710,589 |  | 20,17420,51126,779 | 79,946125,507 | $\begin{aligned} & 66,923 \\ & 46,680 \end{aligned}$ | $\begin{array}{r} 10,521 \\ 9,011 \end{array}$ | $\begin{array}{r} 114,268 \\ 87,364 \end{array}$ |
| $1909-10$ |  |  |  |  |  |  |  |  |  |

[^324]2 Prediminary.

## 1114 Yearbook of the Department of Agriculture, 1923.

Table 655.-Exports of selected domestic agricultural products, 1852-1923-Con.

| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 \text {. } \end{aligned}$ | Prunes. | Tobacco. | Hops. | Oil, vegeta-ble-cottonseed oil. | Rice and rice meal, and polish. | Sugar, raw and refined. | Wheat. | Wheat flour. | Wheat and wheat flour (in terms of grain). |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,010 | 1,000 | 1, |
|  | pounds. | pounds. | pounds. | gallons. | pounds. | pounds. | bushels. | barrels. | bushels. |
| 1910-11 | 51, 031 | 355, 327 | 13, 105 | 30, 069 |  |  |  |  | 69, 689 |
| 1911-12 | 74, 328 | 379, 845 | 12, 191 |  | 39,447 <br> 38,908 | 79, <br> 4394 <br> 985 | 30,160 91,603 | 11, 11.395 | 79,689 142,880 |
| 1912-13 | 117, 951 | 4189, 797 | $\xrightarrow{17,591}$ | 42, ${ }^{45} \mathbf{7 3 8}$ | 38,908 22,414 | 50, 896 | 92, 394 | 11, 821 | 145, 590 |
| 1913-14 | 69, 4314 43 | 449, 450 | 24, 263 16,210 | 25, 42,448 | 22,414 77,480 | 549, 007 | 259,643 | 16, 183 | 332, 465 |
| 1914 | 43, 479 | 346 | 16, 210 |  |  |  |  |  |  |
| 1915 | 57,423 | 443, 293 | 22, 410 | 35, 535 | 121,967 | 1, 630, 151 | 173, 274 | 15, 521 | 243, 117 |
| 1916-17 | 59, 645 | 411, 599 | 4,825 | 21, 188 | 181, 372 | 1, 248, 908 | 149, 831 | ${ }_{21,943}$ | 203, 574 |
| 1917-18 | 32,927 | 289, 171 | 3,495 | 13, 437 | 196, 363 | 576, 483 | 34, 119 | 21, 880 | 132,579 |
| 1918- | 59,072 | 629, 288 | 7,467 | 23, 828 | 193, 128 | 1, 115, 865 | 178, 583 | 24, 182 | 287, 402 |
| 1919-20 | 114, 066 | 648, 038 | 30, 780 | 21, 253 | 483, 385 | 1, 444, 031 | 122, 431 | 21,652 | 219, 865 |
| 1920-21 | 57,461 | 506, 526 | 22, 206 | 37, 769 | 440, 855 | 582, 698 | 293, 268 | 16, 180 | 366, 077 |
| 1921-22 | 109, 398 | 463, 389 | 19,522 | 12, 215 | 741, 509 | 2, 002,039 | 208, 321 | 15,797 | 279, 407 |
| 1922-231 | 79, 229 | 454, 410 | 13, 497 | 8, 573 | 370,670 | 749,885 | 154,951 | 14,883 | 221,923 |

Division of Statistical and Historical Research.
Compiled from Foreign Commerce and Navigation of the United States, 1852-1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922 and 1923, Bureau of Foreign and Domestic Commerce.
Where figures are lacking, either there were no exports or they were not separately classified for pubiication. "Beef salted or pickled," and "Pork, salted or pickled," barrels, 1851-1865, were reduced to pounds at the rate of 200 pounds per barrel, and tierces, $1855-1865$, at the rate of 300 pounds per tierce; cottonseed oil, 1910, pounds reduced to gallons at the rate of 7.5 pounds per gallon. It is assumed that 1 barrel of corn meal is the product of 4 bushels of corn, and 1 barrel of wheat flour the product of 5 bushels of wheat prior to 1880 and $4 \frac{1}{2}$ bushels of wheat in 1880 and subsequently.
${ }^{1}$ Preliminary.
Table 656.-Imports of selected agricultural products, 1852-1923.

| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 \text {. } \end{aligned}$ | Cheese. | Silk. | Wool. | Al- | $\begin{gathered} \text { Argols } \\ \text { or } \\ \text { wine } \\ \text { lees. } \end{gathered}$ | Cocoa and chocolate, total. | Coffee. | Corn | $\left\lvert\, \begin{gathered} \text { Oats, } \\ \text { includ- } \\ \text { ing } \\ \text { oat- } \\ \text { meal. } \end{gathered}\right.$ | Wheat. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1,003 |  |  | 1,000 | 1,0 | pounds. | $1,000$ | $\begin{gathered} 1.000 \\ \text { hutshole } \end{gathered}$ |  |
| rage: | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. <br> 196, 583 | bushels. | bushels. | bushels. $2,12 ?$ |
| 1855-1856 | 1, 054 |  |  | $\begin{aligned} & 3,461 \\ & 3,251 \end{aligned}$ |  | $\begin{aligned} & 2,487 \\ & 3,064 \end{aligned}$ | 1916, 235 |  |  | 2, 617 |
| $\begin{aligned} & 1857-1861- \\ & 1862-18660 \end{aligned}$ |  |  |  | 2, 482 | 1,355 | 2,453 | 124, 552 |  |  |  |
| 1867-1871 |  | 682 |  |  | 2, 361 | 3, 503 | 248, 726 | 75 |  | 96 |
| 1872-1876 |  | ,095 |  |  | 4,951 | 4,857 | 307, 007 | 57 |  |  |
| 1877-188 |  | 1, 922 | 62,744 |  | 12, 403 | 6, 315 | 384, 282 | 42 | ${ }^{1} 126$ | 871 |
| 1882-1886 |  | 4,673 | 83, 2 |  | 17, 552 | 11,568 | 529, 579 | 24 |  | 507 |
| 1887-1891 | 8 , | 6,564 | 117, 764 | 5,861 | 21, 434 | 18, 322 | 509, 368 | 15 | 18 | 9 |
| 1892-1896 | 9, 650 | 8,383 | 162, 640 | 7,488 | 26, 470 | 25, 475 | 597, | 8 | $\begin{array}{r}105 \\ 54 \\ \hline\end{array}$ | 1,629 |
| 1897-1901. | 12, 589 | 10, 962 | 163, 979 | 7,361 | 24, 380 | 38,209 70 | 816, 570 | 20 | ${ }_{94}^{54}$ | 1, 274 |
| 1902-1906. | 22,166 | 17, 188 | 193, 656 | 10, 921 | 27,647 | 70,901 |  | 92 | 11,662 | ${ }_{286}$ |
| 1907-1911. | 37,663 47,988 | 22, 143 | 199, 563 | 15, 297 | 29, ${ }^{29}$, 256 | $\begin{aligned} & 113,673 \\ & 182,395 \end{aligned}$ | $\begin{array}{r}\text { 934, } \\ 1,013,931 \\ \hline\end{array}$ | 5,686 | 11,602 <br> 15,383 | 2,321 |
| 1912-1916 | 47,988 | 33, 242 | 295, 851 | $\frac{17,130}{5,140}$ | $\frac{29,256}{28,599}$ |  |  | 5 | 32 | 00 |
| 1900-1. | 15,329 17,068 | $\begin{aligned} & 10,406 \\ & 14.235 \end{aligned}$ | 103, 584 | 5,140 9,869 | 28, 599 | 47,620 52,879 | 1, 8 091, 004 | 18 | 39 | 119 |
|  | 17,068 | 15, 271 | 177, 138 | 8, 142 | 29, 967 | 65, 047 | 915, 086 | 41 | 150 | 1, 077 |
| 1903 | 22, 707 | 16, 723 | 173, 743 | 9, 839 | 24, 572 | 75, 071 | 995, 043 | 17 | 84 |  |
| 190 | 23, 096 | 22, 357 | 249, 136 | 11,745 | 26, 282 | 77, 383 | 1,047, 793 | 15 | 56 | 3,103 |
| 1905 | 27, 287 | 17,352 | 201, | 15, 009 | 28, 141 | 84 | 851, 669 | 10 | 40 | 58 |
| 190 | 33, 849 | 18, 744 | 203, 848 | 14, 234 | 30, 541 | 97, 060 | 98 | 11 |  | 75 |
| 1907 | 32, 531 | 16, 682 | 125, 981 | 17, 145 | 26, 739 |  |  | 258 | 6,692 | 41 |
| 1908 | 35, 548 | 25, 188 | 266, 409 | 11, 029 | 32, 116 | ${ }_{111} 132,671$ | $1,049,869$ 871,470 | 118 | 1 1 | 164 |
| 1909 | 40, 818 | 23, 457 | 263, 928 | 18, 556 | 28, 183 | 111, 071 |  |  |  |  |
| 1010-11 | 45, 569 | 26, 666 | 137, 648 | 15, 523 | 29, 175 | 140, 971 | 875, 367 | $\begin{aligned} & 52 \\ & 53 \end{aligned}$ | $\text { 2. } 622$ |  |
| 1911-12 | 46, 542 | 26, 585 | 193, 401 | 17, 231 | 23,661 29,479 | 148, 7810 | 883, 8131 | 903 | 1724 | 798 |
| 1912-13 | 49,388 | 32, 102 |  | 19, 038 | 29, 793 | 179, 364 | 1, 001,528 | 12, 367 | 122, 274 | 1,979 |
| 1913-14 | $\begin{aligned} & 63,784, \\ & 50,139 \end{aligned}$ | 31, 053 | 247,649 | 17, 111 | 28,625 | 194, 734 | 1, 118, 691 | 9, 898 | ${ }^{1} 631$ | 426 |
| 1914 |  |  |  |  | 34, 721 |  |  | 5, 208 | 1665 | 5,703 |
| $1915-$ | 30, 088 | $\begin{aligned} & 41,925 \\ & 40,351 \end{aligned}$ | 534, 828 <br> 372, 372 | 16, 23,424 | 23, 926 | 340, 483 | 1, 319, 871 | 2, 267 | 1762 | 24, 139 |
| 1916-17 | $\begin{array}{r}14,482 \\ 98 \\ \hline 8\end{array}$ | $\begin{aligned} & 40,351 \\ & 43.681 \end{aligned}$ | $\begin{aligned} & 372,372 \\ & 379,130 \end{aligned}$ | 23, 2840 | 30, 267 | 399, 312 | $1,143,891$ | 3, 196 | 12,591 | 28, 177 |
| 1917-18 | 9, 839 2,442 | 43,681 50,069 | 422, 415 | 30, 328 | 32, 228 | 313, 195 | 1, 046, 029 | 3, 311 | 551 | 11, 121 |
|  |  |  |  |  | 23, 638 | 421, 880 | 1, 414, 228 | 10,229 | 6, 044 | 4,780 |
| 1919-20 | 17, 185 | 34,778 | 318, 236 | 20, 497 | 26, 486 | 328, 447 | 1, 348, 926 | , 743 | 3,796 | 51, 004 |
| 20-21 | 34, 271 | 57, 437 | 255, 087 | 31, 343 | 18, 749 | 318, 969 | 1, 238, 012 | 125 | 1,733 | 14, 468 |
| 21 | 54, 555 | 63, 188 | 550, 180 | 27,692 | 21, 950 | 383, 929 | 1,305, 188 | 138 | 293 | 18,013 |

[^325]Table 656.—Imports of selected agricultural products, 1852-1923—Continued.

${ }^{1}$ Less than 500 barrels. ${ }^{2}$ Preliminary.

## 1116 Yearbook of the Department of Agriculture, 1923.

Table 656.—Imports of selected agricultural products, 1852-1923-Continued.


[^326]Table 656.-Imports of selected agricultural products, 1852-1923-Continued.

| Year ending June 30. | Hides and skins, other than furs. |  |  | Macaroni,vermi-celli,and allsimilarprepara-tions. | Lemons. | Oranges. | Walnuts. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cattle. | Goat. | Other than cattle and goat. |  |  |  |  |
| Average: 1897-1901 | 1,000 pounds. | 1,000 pounds. 68,053 | $\begin{gathered} 1,000 \\ \text { pounds. } \\ 91,173 \end{gathered}$ | 1,000 pounds. | 1,000 pounds. | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ | $\begin{gathered} 1,000 \\ \text { pounds. } \end{gathered}$ |
| 1902-1906 | 126, 995 | 93, 675 | 115, 952 |  | 153, 161 | 41, 105 |  |
| 1907-1911 | 178, 682 | 94, 330 | 143, 351 | 99, 724 | 153, 343 | 12, 090 | 30,981 |
| 1912-1916 | 313, 508 | 88,711 | 188, 388 | 83, 838 | 1148,528 | ${ }^{1} 9,941$ | 34, 275 |
| 1900-1 | 129, 175 | 73, 746 | 77, 990 |  | 148, 515 | 50, 333 |  |
| 1901-2 | 148, 628 | 88, 039 | 89,458 |  | 164, 075 | 52, 742 |  |
| 1902-3 | 131, 644 | 85, 114 | 102, 340 | 28,788 | 152, 004 | 56, 872 | 12, 363 |
| 1903-4 | 85, 370 | 86, 339 | 103, 025 | 40,224 | 171, 923 | 35, 893 | 23, 671 |
| 1904-5 | 113, 177 | 97, 804 | 123, 894 | 53, 441 | 139, 084 | 28, 881 | 21, 684 |
| 1905-6 | 156, 155 | 111, 097 | 158, 045 | 77,926 | 138, 717. | 31, 134 | 24, 917 |
| 1906-7 | 134, 671 | 101, 202 | 135, 111 | 87, 721 | 157, 860 | 21, 267 | 32,598 |
| 1907-8 | 98, 353 | 63, 641 | 120,771 | 97,234 | 178, 490 | 18, 397 | 28, 887 |
| 1908-9 | 192, 252 | 104, 048 | 148, 254 | 85, 114 | 135, 184 | 8,436 | 26, 158 |
| 1909-10 | 318, 004 | 115, 845 | 174, 771 | 113, 773 | 160, 215 | 4,676 | 33,641 |
| 1910-11 | 150, 128 | 86,914 | 137, 850 | 114,779 | 134, 969 | 7,672 | 33, 619 |
| 1911-12 | 251, 013 | 95, 341 | 191, 415 | 108, 231 | 145, 639 | 7,629 | 37,214 |
| 1912-13 | 268, 042 | 96, 250 | 207, 904 | 106, 501 | 151, 416 | 12, 253 | 26, 662 |
| 1913-14 | 279, 963 | 84, 759 | 196, 348 | 126, 129 |  |  | 37, 196 |
| 1914-15 | 344, 341 | 66,547 | 137, 439 | 56, 542 | -- |  | 33,446 |
| 1915-16 | 434, 178 | 100, 657 | 208, 835 | 21,790 |  |  | 36, 859 |
| 1916-17 | 386, 600 | 105, 640 | 207,967 | 3,473 |  |  | 38, 725 |
| 1917-18 | 267, 500 | 66, 933 | 98, 084 | 670 |  |  | 23, 289 |
| 1918-19 | 253, 877 | 89, 005 | 105, 260 | 592 | ${ }^{(2)}$ | $\left.{ }^{2}\right)$ | 10,937 |
| 1919-20. | 439, 461 | 126, 996 | 232, 113 | 800 | ${ }^{(2)}$ | ${ }^{(2)}$ | 44,783 |
| 1920-21 | 198, 573 | 41, 728 | 111, 891 | 1,297 | (2) | (2) | 23, 166 |
| 1921-22 | 204, 936 | 83, 535 | 104, 433 | 1,992 | 101, 592 | ${ }^{2}$ ) | 60, 233 |
| 1922-23 ${ }^{3}$ | 405, 383 | 89, 370 | 163, 425 | 3,254 | 122, 821 | (2) | 37, 520 |

[^327]Table 657.—Exports and imports of selected forest products, 1852-1923.

| Year ending June 30. | Domestic exports. |  |  |  |  | Imports. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lumber. |  | Rosin. | Spirits of turpentine. | Timber, hewn and sawed. | Camphor, crude. | Rubber gums, total. | Lumber. |  | Shellac. | Wood pulp. |
|  | Boards, deals, and planks. ${ }^{1}$ | Staves. |  |  |  |  |  | Boards, deals, planks, and other sawed. | Shingles. |  |  |
|  | 1,060 | Thou- | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| A verage: | $M$ fect. | sands. | barrels. | gallons. | M feet. | pounds. | pounds. | M feet | 'M. | pounds. | tons. |
| 1852-1856. | 129 |  | 552 | 1,369 |  | 214 |  |  |  |  |  |
| 1857-1861. | 205 |  | 664 | 2, 735 |  | 361 |  |  |  |  |  |
| -1862-1866. | 138 |  | . 69 | 102 |  | 387 |  |  |  | 634 |  |
| 1867-1871 | 139 |  | 492 | 2,693 |  |  | 2 7, 390 |  |  |  |  |
| 1872-1876 | 222 |  | 846 |  | 210 |  | 12, 631 | 565 | 88 |  |  |
| 1877-1881. | 303 |  |  | 7, 139 | 220 | 1,516 | 15, 611 | 418 | 55 |  |  |
| 1882-1886 | 434 |  | 1,290 | 9, 302 | 164 | 1,959 | 24, 481 | 578 | 88 |  |  |
| 1887-1891 | 532 |  | 1, 534 | 10,794 | 296 | 2, 274 | 33, 227 | 647 | 184 | 5, 086 | 37 |
| 1892-1896 | 616 |  | 2, 006 | 14, 259 | 336 | 1,492 | 39, 672 | 661 |  | 5, 848 | 43 |
| 1897-1901 | 957 |  | 2, 478 | 18, 349 | 491 | 1,858 | 52, 975 | 566 |  | 8, 839 | $\begin{array}{r}47 \\ \hline 131\end{array}$ |
| 1902-1906. | 1,213 | 51, 234 | 2, 453 | 16, 927 | 556 | 2,139 | 75, 909 | 727 | 772 | 11, 614 | 131 |
| 1907-1911. | 1,649 | 56, 182 | 2, 356 | 16, 659 | 521 | 2,939 | 121, 504 | 900 1.016 | 867 1,045 | 19,046 21,470 | 319 517 |
| 1912-1916. | 1,914 | 65, 431 | 2, 128 | 15, 674 | 353 | 3,529 | 201, 759 | 1,016 | 1,045 | 21, 470 | 517 |
| 1900-1. | 1, 102 | 47, 363 | 2, 821 | 20, 241 | 590 | 2,176 | 64, 927 | 491 | 556 | 9, 609 | 47 |
| 1901-2 | 1,943 | 46, 999 | 2, 536 | 19, 178 | 477 | 1, 831 | 67, 790 | 666 | 708 | 9, 065 | 67 |
| 1902-3 | 1,066 | 55, 879 | 2, 396 | 16,379 | 570 | 2,472 | 69,312 | 721 | 724 | 11, 591 | 117 |
| 1003-4 | 1,427 | 47, 420 | 2, 585 | 17, 203 | 604 | 2, 820 | 74, 328 | 589 | 770 | 10,933 | 145 |
| 1904-5 | 1,283 | 48, 286 | 2, 310 | 15, 895 | 533 | 1,904 | 87, 004 | 711 | 759 | 10, 701 | 168 |
| 1805-6. | 1,344 | 57, 586 | 2, 439 | 15, 981 | 595 | 1,669 | 81, 109 | 950 | 901 | 15,780 | 157 |
| 1906-7 | 1, 624 | 51, 120 | 2, 561 | 15, 855 | 640 | 3,138 | 106, 748 | 934 | 881 | 17, 786 | 213 |
| 1907-8 | 1,548 | 61, 697 | 2, 713 | 19, 533 | 522 | 2, 814 | 85, 810 | 791 | $\begin{array}{r}988 \\ 1 \\ \hline\end{array}$ | 13, 362 | 238 |
| 1908-9 | 1,358 | 52, 583 | 2, 170 | 17, 502 | 419 | 1,990 | 114, 599 | 846 | 1, 058 | 19, 185 | 274 |
| 1909-10 | 1,684 | 49, 784. | 2, 144 | 15, 588 | 491 | 3,007. | 154, 621 | 1, 054 | 763 | 29,402 | 378 |
| 1910-11 | 2, 032 | 65, 726 | 2,190 | 14, 818 | 532 | 3, 726 | 145, 744 | 872 | 643 | 15, 495 | 492 |
| 1911-12 | 2, 307 | 64, 163 | 2, 474 | 19,599 | 438 | 2,155 | 175, 966 | 905 | 515 | 18, 746 | 478 |
| 1912-13 | 2,550 | 89, 006 | 2, 806 | 21, 094 | 512 | 3,709 | 170, 747 | 1,091 | 560 | 21, 912 | 503 |
| 1913-14 | 2, 405 | 77, 151 | 2, 418 | 18, 901 | 441 | 3,477 | 161, 777 | 929 | 895 1,487 | 16,720 | 508 588 |
| 1914-15 | 1,129 | 39, 297 | 1, 372 | 9,464 | 174 | 3,729 | 196, 122 | 939 | 1, 487 | 24, 153 | 588 |
| 1915-16 | 1,177 | 57, 538 | 1, 571 | 9,310 | 201 | 4,574 | 304, 183 | 1, 218 | 1,769 | 25, 818 | 507 |
| 1916-17 | 1, 042 | 61, 469 | 1,639 | 8, 842 | 184 | 6, 885 | 364, 914 | 1, 175 | 1, 924 | 32, 540 | 699 |
| 1917-18 | 1,068 | 63, 207 | 1, 071 | 5, 095 | 106 | 3, 638 | 414, 984 | 1, 283 | 1,878 | 22, 913 | 504 475 |
| 1918-19 | 1,073 | 62, 753 | 882 | 8,065 | 92 | 2,623 | 422, 215 | 977 | 1,757 | 14, 269 | 475 |
| 1919-20 | 1,518 | 80,791 | 1, 322 | 7,461 | 234 | 4, 026. | 660,610 | 1,492 | 2, 152 | 34, 151 | 727 |
| 1920-21 | 1,269 | 65, 710 | 1,877 | 9, 742 | 123 | 2, 093 | 371, 300 | 920 | 1, 831 | 23, 872 | 624 |
| 1921-22 | 1,543 | 35, 162 | 786 | 10, 786 | 268 | 1, 592 | 578, 512 | 1, 124 | 2, 190 | 30,768 | 902 1.294 |
| 1922-23 ${ }^{3}$ | 1,554 | 57, 475 | 1,040 | 9, 012 | 383 | 3,498 | 810, 028 | 1,958 | 2,695 | 32, 806 | 1,294 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1852-1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922, and 1923, Bureau of Foreign and Domestic Commerce. Where figures are lacking, either there were no exports or imports, or they were not separately classified for publication.
${ }^{1}$ Including "Joists and scantling" prior to 1884.
${ }_{3}^{2}$ Includes "Gutta-percha" only for 1867.
${ }^{3}$ Preliminary.
Table 658.-Trade of the continental United States with Hawaii and Porto Rico in selected domestic farm products, years ending June 30, 1921-1923.

SHIPMENTS FROM THE UNITED STATES.

| Article. | Hawaii. |  |  | Porto Rico. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ |
| Coffec..-----------.---lbs.- | 73, 628 | 62, 508 | 92, 047 |  |  | 10,490 |
| Molasses and sirups.--galls.- | 40, 230 | 37, 789 | 42, 551 |  |  | 15, 638 |
| Oranges.-----------boxes.- | 66,331 $5,571,587$ | 51, 865 | 68,818 10, 543,961 |  |  |  |
| Sugar | 5, 571, 587 | 10, 109, 508 | 10,543, 961 | 6, 281, 322 | 7, 385, 819 | 6, 947, 804 |
| Tobacco, unmanufactured |  | - | 22,753 | 5, 234, 968 | 703, 759 | 3, 054, 489 |

Table 658.-Trade of the continental United States with Hawaii and Porto Rico in selected doméstic farm products, years ending June 30, 1921-1923-Con.

SHIPMENTS TO THE UNITED STATES.

| Article. | Hawaii. |  |  | Porto Rico. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ |
| Coffee_-------------lbs -- | 3, 181, 831 | 3, 713, 321 | 2, 281, 499 | 211, 966 | 65, 622 | 70, 91.5 |
| Grapefruit.-.-.-...-boxes.- |  |  |  | 667, 637 | 360, 530 | 460, 961 |
| Molasses and sirups_galls -- | 10, 963, 327 | 3,686, 131 | 5,861, 878 | 23, 499, 459 | 11, 363, 143 | 13, 208, 55\% |
| Oranges |  |  |  | 162, 395 | 388, 182 | 732, 972 |
| Pineapples | ${ }^{(2)}$ | ${ }_{(2)}$ | 8,770 | ${ }_{(2)}^{2}$ | ${ }^{(2)}$ | ${ }^{(2)}$ |
| Pineapples, canned..-lbs.- | ( ${ }^{2}$ ) | (2) | 257, 864, 572 | (2) | ${ }^{(2)}$ | (2) |
| Sugar, raw -.-.-.-.-.-do-- | 977, 738, 902 | 1, 191, 624, 620 | 1, 195, 078, 906 | 818, 043, 880 | 939, 013, 990 | 710, 381, 154 |
| Tobacco, unmanufactured $\qquad$ | 2, 672 | 3, 719 | 27, 930 | 14, 564, 394 | 22, 369, 984 | 19, 573, 535 |

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, Bureau of Foreign and Domestic Commerce.

## ${ }^{1}$ Preliminary.

${ }^{2}$ Given in value only.
Table 659.-Destination of principal farm products exported from the United States, year ending June 30, 1921-1923.

| Article and country to which consigned. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | $\begin{gathered} 1922- \\ \hline 1 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ANIMALS AND ANIMAL PRODUCTS. |  |  |  |  |  |  |
| Cattle: | Number. | Number. | Number. | P.ct. | P.ct. | P.ct. |
| Belgium | 5, 685 | 4,930 | 1,443 | 3.9 | 3.2 | 2.3 |
| Cánada | 7,749 | 3, 831 | 1, 601 | 5. 3 | 2.5 | 2. 6 |
| Cuba | 20,653 | 5, 799 | 2,529 | 14.2 | 3.7 | 4.1 |
| Germany | 1, 485 |  |  | 1. 0 |  |  |
| Mexico- | 83, 524 | 106, 131 | 49, 223 | 57.3 | 68.3 | 80.1 |
| United Kingdom | 24,935 | 34, 158 | 6,417 | 17. 1 | 22.0 | 10.4 |
| Other countries. | 1,642 | 432 | 273 | 1.2 | . 3 | . 5 |
| Total | 145, 673 | 155, 281 | 61, 486 | 100.0 | 100.0 | 100.0 |
| Herses: |  |  |  |  |  |  |
| Belgium | 67 | 107 | 4 | 0.5 | 0.6 | 0.1 |
| Canada | 4,223 | 2,915 | 2, 496 | 33. 4 | 16.4 | 28.9 |
| Cuba | 1,512 | 782 | 491 | 12. 0 | 4.4 | 5.7 |
| Germany | 547 | 221 | 10 | 4. 3 | 1. 2 | . 1 |
| Mexico. | 5, 073 | 11, 747 | 3, 802 | 40.1 | 65.9 | 44.0 |
| Spain |  | 1,206 | 1, 214 |  | 6.8 | 14.0 |
| United Kingdom | 216 | 320 | 158 | 1. 7 | 1.8 | 1. 8 |
| Other countries. | 1,000 | 529 | 466 | 8.0 | 2.9 | 5.4 |
| Total | 12, 638 | 17, 827 | 8,641 | 100.0 | 100.0 | 100.0 |
| Butter: | Pounds. | Pounds. | Pounds. | P.ct. | $P . c t$. | $P . c t$. |
| Canada | 1,992, 126 | 874, 712 | 76,314 | 25.4 | 11.6 | 0.8 |
| Cuba | 738, 522 | 780, 011 | 767, 108 | 9.4 | 10.4 | 8.2 |
| Haiti. | 408, 133 | 456, 037 | 615, 399 | 5. 2 | 6. 1 | 6.5 |
| Mexico | 1, 107, 362 | 866, 259 | 904, 158 | 14. 1 | 11.5 | 9.6 |
| Other South America | 458, 282 | 429, 292 | 359, 809 | 5.9 | 5.7 | 3.8 |
| Other West Indies. | 1, 343, 738 | 1,637, 662 | 1,433, 345 | 17. 2 | 21.8 | 15.2 |
| Panama. | 591, 286 | 698, 162 | 657, 793 | 7.6 | 9.3 | 7.0 |
| Peru. | 280, 925 | 266, 233 | 234, 975 | 3.6 | 3. 5 | 2.5 |
| Philippine Islands | 216, 686 | 276, 549 | 354, 889 | 2. 8 | 3. 7 | 3.8 |
| United Kingdom. | 63, 943 | 572, 227 | 3, 408, 128 | . 8 | 7.6 | 36.2 |
| Other countries.- | 628, 252 | 654, 853 | 597, 919 | 8.0 | 8.8 | 6. 4 |
| Total | 7, 829, 255 | 7,511, 997 | 9, 409, 837 | 100.0 | 100.0 | 100.0 |
| Beef, canned: $\quad 331,355$ |  |  |  |  |  |  |
| Canada - | 331, 355 | 173, 600 | 93,900 | 3.1 | 4.6 | 4.1 |
| Cuba | 276, 745 | 28, 882 | 89, 266 | 2.6 | . 8 | 3. 9 |
| Dutch East Indies | 295, 262 | 51, 185 | 116, 252 | 2. 7 | 1.4 | 5. 1 |
| French Guiana. | 37, 578 | 6,249 | 10, 944 | . 3 | . 2 | . 5 |
| Japan. | 14, 891 | 102, 059 | 58, 885 | . 1 | 2. 7 | 2.6 |
| Mexico. | 335, 987 | 84, 085 | 81, 189 | 3.1 | 2.2 | 3.5 |
| Newfoundland and Labrador | 18, 248 | 46, 975 | 64, 663 | .2 | 1. 3 | 2.8 |
| Philippine Islands. | 112, 747 | 94, 610 | 298, 116 | 1.0 | 2.5 | 13.0 |
| Poland and Danzig | $5,249,862$ |  |  | 48. 3 |  |  |
| United Kingdom. | 1, 996, 391 | 2, 463, 365 | 727, 841 | 18.5 | 65.7 | 31.6 |
| Other countries. | 2, 093, 920 | 697, 476 | 760, 443 | 19.6 | 18.6 | 32.9 |
| Total | 10,762,986 | 3,748, 486 | 2,301,499 | 100.0 | 100.0 | 100.0 |

${ }^{1}$ Preliminary.

Table 659.-Destination of principal farm products exported from the United States, year ending June SO, 1921-1923-Continued.

| Article and country to which consigned. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{231}^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| con. |  |  |  |  |  |  |
| Beef, pickled and other cured: | Pounds. 702,370 | Pounds. | Pounds. 363, 751 | P.ct. | P.ct. | P.ct. |
| Canada | 1,731, 856 | 1, 079, 987 | 1, 460, 891 | 7.4 | 4.0 | 6.0 |
| Denmark | 105, 540 | 308, 725 | 196, 700 | . 5 | 1.2 | . 8 |
| Dutch Guia | 1,143, 080 | 1,390, 643 | 1, 137, 500 | 4.9 | 5.2 | 4.7 |
| Germany | 1,165, 517 | 954, 126 | 462, 936 | 5.0 | 3. 6 | 1.9 |
| Jamaica | 502, 253 | 786, 574 | 974, 320 | 2.2 | 2.9 | 4.0 |
| Netherlands | 1,024, 116 | 178, 266 | 190, 989 | 4.4 | . 7 | 8 |
| Newfoundland a | 5, 515, 689 | 6, 942, 314 | 6, 627, 439 | 23.7 | 25. 9 | 27.4 |
| Norway- | 1, 244, 532 | 3, 481, 835 | 1,785, 320 | 5.3 | 13. 0 | 7.4 |
| Panama | 178, 117 | 272, 320 | 259, 924 | . 8 | 1.0 | 1.1 |
| Trinidad and T | 1,588, 872 | 1,397, 875 | 1, 166, 670 | 6.8 | 5. 2 | 4.8 |
| United Kingdom | 4, 114, 802 | 3, 513, 473 | 3, 084,799 | 17.7 | 13.1 | 12.8 |
| West Indies | 4, 173, 809 | 4, 936, 414 | 5, 454, 592 | 17.9 | 18. 4 | 22.6 |
| Other countr | 122, 303 | 838, 188 | 1, 019,432 | . 4 | 3.2 | 4.2 |
| Total | 23, 312, 856 | 26, 774, 124 | 24, 185, 263 | 100.0 | 100. 0 | 100.0 |
| Oleo oil: |  |  |  |  |  |  |
| Belgium | 1,369, 502 | 1, 472, 357 | 1, 665, 677 | 1.3 | 1. 3 | 1.6 |
| Denmark | 2, 900, 462 | 2, 493, 656 | 2, 581, 795 | 2.7 | 2.1 | 2. 5 |
| France | 1, 898, 154 | 3, 892, 117 | 245, 712 | 1.9 | 3. 3 | . 2 |
| Germany | 15, 983, 006 | 14, 878, 393 | 13, 987, 054 | 15. 0 | 127 | 13.3 |
| Greece | 2, 601, 039 | 1, 877, 494 | 1,190, 630 | 2.4 | 1.6 39 | 1.1 |
| Netherlan | $36,106,662$ $1,662,215$ | 46, $1,1689,9296$ | $47,052,838$ $1,522,240$ | 33.9 <br> 1.6 | 1.8 1.8 1.0 | 14.8 |
| Norway | 13, 868, 406 | 15, 956, 477 | 12, 133, 362 | 13.0 | 13. 6 | 11.6 |
| Sweden | 3, 945, 113 | 2, 676, 865 | 2, 383, 367 | 3. 7 | 2.3 | 2.3 |
| Turkey in Europ | 7, 640, 323 | 11, 148, 201 | 4, 123, 958 | 7.2 | 9.5 | 3.9 |
| United Kingdom | 14, 273, 236 | 11, 081,989 | 14, 967, 025 | 13.4 | 9.5 | 14.3 |
| Other countries | 4, 166, 682 | 3, 898, 686 | 3, 102, 720 | 3.9 | 3.3 | 2.9 |
| Tota | 106, 414, 800 | 117, 174, 260 | 104, 956, 378 | 100. 0 | 100.0 | 100.0 |
| Lard compounds, containing animal fats: |  |  |  |  |  |  |
| Cuba | 7,040, 959 | 3, 965, 013 | 1, 413, 857 | 16.7 | 13.1 | 12.7 |
| Canada | 1, 138, 542 | 416, 069 | 64, 281 | 2.7 | 1.4 | - 6 |
| Dutch We | 216,971 | - 253, 407 | 271, 488 | 9.5 | $1{ }^{10} 8$ | 2.4 |
| German | 4, 064,951 | 3, 046,988 |  |  |  |  |
| Haiti | 2, 173, 187,815 | 1, 238,990 | 1, ${ }^{1554,905}$ | ${ }^{5} \mathrm{~S} .4$ | 6.2 <br> .8 | 1.4 |
| Mexico | 8, 617, 672 . | 7,277, 069 | 2, 692, 365 | 20.4 | 24.0 | 24.2 |
| Norway | 1, 944, 955 | 1, 397, 358 | 735, 077 | 4.6 | 4.6 | 6.6 |
| Panama | 568, 896 | 582, 151 | 357, 509 | 1.3 | 1.9 | 3.2 |
| Trinidad and Tob | 2, 552, 258 | 1,571, 869 | 400, 339 | 6.1 | 5. 2 | 3.6 |
| United Kingdom | 6, 437, 413 | 4, 029, 319 | 1, 555, 543 | 15.3 | 13.3 | 14.0 |
| Other countries | 7, 212, 076 | 5, 672, 846 | 2, 045, 044 | 17.2 | 18.7 | 18.3 |
| Total | 42, 155, 971 | 30, 328, 176 | 11, 139, 730 | 100.0 | 100.0 | 100.0 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Canada - | 12, 718, 278 | 11, 021,627 | 9, 925, 008 | 2.6 | 3. 1 | 2.4 |
| Cuba. | 25, 302, 394 | 23, 461, 552 | 24, 829, 609 | 5.2 | 6.7 | 6. 1 |
| Denmar | 4, 901, 247 | 3, 623, 419 | 2, 456, 058 | 1. 0 | 1.0 | 6 |
| France | 5, 369, 021 | 9, 363, 454 | 7, 758, 436 | 1. 1 | 2.7 | 1.9 |
| German | 81, 394, 461 | 53, 252, 825 | 74, 389, 003 | 16. 6 | 15. 2 | 18.2 |
| Italy | 14, 991, 337 | 2, 481, 361 | 9,259, 356 | 3. 1 | . 7 | 2.3 |
| Mexico | 501, 994 | 416, 135 | 395, 045 | 1 | . 1 | 1 |
| Netherl | 43, 420, 507 | 20, 847, 482 | 30, 971, 830 | 8. 9 | 5. 9 | 7.6 |
| Norway | 6, 681, 108 | 9, 146, 692 | 12, 268, 761 | 1. 4 | 2.6 | 3. 0 |
| Sweden | 7, 026, 778 | 6, 749, 329 | 9, 768, 261 | 1.4 | 1.9 | 2.4 |
| United Kingdo | 244, 716, 102 | 184, 703, 155 | 188, 274, 240 | 50.0 | 52.7 | 46. 3 |
| Other countries | 12, 826, 665 | 8, 738,774 | 14, 771, 022 | 2.6 | 2.6 | 3.6 |
| Total | 489, 298, 109 | 350, 548, 952 | 408, 282, 065 | 100. 0 | 100.0 | 100.0 |
| Hams and shoulders, cured: Belginm |  |  |  |  |  |  |
| Belgium | 6, 891, 317 | 9, 690, 036 | 13, 978,797 | 4.0 | 3. 6 | 4.4 |
| Canada | 8,440,532 | 10, 663, 674 | 19, 535, 776 | 4.9 | 3. 9 | 6.1 |
| Cuba-- ${ }^{\text {D }}$ - | 12, 488, 850 | 9, 070, 883 | 12, 784, 118 | 7.3 | 3.3 | 4.0 |
| Dominican Repub | 414,948 | 321, 305 | 325, 649 | .2 | $\cdot 1$ | $\cdot 1$ |
| France- | 1,472, 925 | 894, 348 | 2,142, 135 | $\cdot 9$ | $\cdot 3$ | . 7 |
|  | 1, 054, 760 | 889, 958 | 1, 027, 949 | ${ }^{6}$ | $\cdot 3$ | . 3 |
|  | 651, 647 | 482, 578 | 648, 577 | 4 | 2 | 2 |
| Panama | 431, $134,038,489$ | $\begin{array}{r}\text { 233, } \\ \text { 466, } \\ \hline 1293\end{array}$ | 259, 430,417 | 77.9 | 88.0 | 81.7 |
| Other countries | 6, 123, 968 | 5, 589, 592 | 8,682, 282 | 3.5 | 2.1 | 2.3 |
| Total | 172,011, 676 | 271, 641, 786 | 319, 186, 689 | 100.0 | 100.0 | 100.0 |

${ }^{1}$ Preliminary.

Table 659.-Destination of principal farm products exported from the United States, year ending June S0, 1921-1923-Continued.

| Article and country to which consigned. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | $\underset{231}{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ANIMALS AND ANIMAL PRODUCTS-con. |  |  |  |  |  |  |
| Lard: | Pounds. | Pounds. | Pounds. | P.ct. | P.ct. | P.ct. |
| Belgium | 57, 962, 854 | 43, 591, 420 | 50, 472, 076 | 7.8 | 5. 4 | 5. 3 |
| Canada | 12, 225, 546 | 8, 852, 480 | 14, 218, 375 | 1. 6 | 1.0 | 1. 5 |
| Cuba | 59, 938, 840 | 73, 926, 475 | 87, 897, 540 | 8.0 | 9.0 | 9.2 |
| Denmark | 9, 527, 408 | 6, 922, 941 | 5, 699,646 | 1.3 | . 9 | 6 |
| Dominican Republic | 2, 682,955 | 3, 050, 146 | 4, 200, 001 | 4 | 4 | 4 |
| Ecuador | 3, 127, 715 | 3, 501, 343 | 4,515, 308 | 4 | 4 | 5 |
| France | 16, 467, 713 | 37, 069, 312 | 37, 801, 672 | 2.2 | 4. 6 | 4. 0 |
| Germany | 231, 527, 922 | 260, 716, 401 | 328, 111, 752 | 31. 0 | 32. 1 | 34.4 |
| Haiti. | 1, 473, 590 | 1,431, 574 | 1, 763, 529 | . 1 | . 2 | 2 |
| Italy | 14, 171, 983 | 9, 051, 392 | 29, 570, 822 | 1. 9 | 1. 1 | 3. 1 |
| Mexico | 27, 303, 989 | 44, 435, 678 | 44, 951, 072 | 3.7 | 5. 5 | 4.7 |
| Netherla | 113, 867, 554 | 42, 830, 544 | 47, 802, 425 | 15. 3 | 5. 3 | 5.0 |
| Peru | 1, 912, 499 | 5, 118, 918 | 7, 799, 400 | . 3 | .6 | 8 |
| Poland and Danzig | 6, 025, 749 | 2, 716, 022 | 6, 708, 091 | . 8 | 3 | 7 |
| Sweden | 4, 309, 678 | 5, 389, 566 | 5, 941, 585 | ${ }^{6}$ | 7 | 6 |
| Switzerland | 3, 603, 960 | 3, 830, 264 | 2, 789, 067 | 5 | 5 | 3 |
| United Kingdom | 169, 463, 848 | 244, 465, 234 | 241, 144, 099 | 22.7 | 30.1 | 25. 3 |
| Venezuela | 1, 565, 053 | 659, 156 | 2, 192, 440 | $\stackrel{2}{2}$ | . 1 | . 2 |
| Other count | 8, 998, 390 | 14, 820, 530 | 29, 062, 805 | 1.2 | 1.8 | 3. 2 |
| Total | 746, 157, 246 | 812, 379, 396 | 952, 641, 705 | 100.0 | 100.0 | 100.0 |
|   <br> Lard, neutral: 359,361 |  |  |  |  |  |  |
| Belgium- | 355, 361 | 641,869 1 | 971, 168 | 1. 6 | 3. 3 | 3. 7 |
| Germany | 1,152, 972 | 2, $1,18,949$ | 2, $1,59,671$ | 5.1 | 13.4. | 7.8 |
| Netherlands | 6, 730, 821 | 5, 910, 743 | 8,778, 345 | 29.9 | 30.2 | 33. 1 |
| Newfoundland and Labrador | 466, 021 | 664, 227 | 784, 755 | 2.1 | 3.4 | 3.0 |
| Norway | 2, 522, 315 | 4, 444, 394 | 4,314, 719 | 11.2 | 22.7 | 16. 3 |
| Sweden | 837, 549 | 1,219, 533 | 1, 439, 750 | 3. 7 | 6. 2 | 5. 4 |
| United Kingd | 8, 639, 136 | 2, 019, 690 | 5, 476, 907 | 38. 3 | 10. 3 | 20.7 |
| Other countries. | 981, 488 | 815, 032 | 1,455, 788 | 4.3 | 4.2 | 5.4 |
| Total | 22, 544, 303 | 19, 572, 940 | 26, 494, 079 | 100.0 | 100.0 | 100.0 |
| Pork, pickled: |  |  |  |  |  |  |
| British Guiana | 748, 625 | 696, 250 | 972, 334 | 2.1 | 2.1 | 2. 4 |
| British West Indies | 2, 142, 641 | 2,711, 473 | 3, 377, 783 | 6.4 | 8. 1 | 8.3 |
| Canada | 13, 643, 887 | 10, 856, 771 | 13, 348, 745 | 41.0 | 32.4 | 32.6 |
| Cuba | 2, 458, 216 | 1, 319, 231 | 1, 379, 111 | 7.4 | 3. 9 | 3.4 |
| Germany | 888, 988 | 1,746, 028 | 3, 523, 805 | 2.7 | 5. 2 | 8. 6 |
| Haiti | 928, 952 | 1, 222, 747 | 1, 269, 842 | 2.8 | 3. 6 | 3. 1 |
| Newfoundland and Labrador | 4, 147, 071 | 4, 756, 298 | 5, 265, 840 | 12.5 | 14. 2 | 12.9 |
| Norway | 335, 540 | 1, 257, 909 |  | 1. 0 |  | 3. 8 |
| United Kingdom | 2, 907, 794 | 4, 913, 655 | 5, 852, 630 | 8. 7 | 14.7 | 14.3 |
| Other countries | 4, 386, 628 | 3, 401, 655 | 4, 047, 281 | 13.2 | 10.1 | 9.8 |
| Total | 33, 286, 062 | 33, 510, 146 | 40, 933, 756 | 100.0 | 100.0 | 100.0 |
| Cotton: Vegetable products. |  |  |  |  |  |  |
| Austria | 2, 930, 913 | 2,003, 919 | 1, 478, 876 | 0.1 | 0.1 | 0.1 |
| Belgium | 83, 008, 919 | 93, 136, 041 | 92, 884, 508 | 3.0 | 2.8 | 3.5 |
| Canada | 84, 583, 073 | 100, 583, 080 | 108, 525, 863 | 3.0 | 3.0 | 4. 1 |
| China | 23, 606, 195 | 67, 196, 247 | 11, 556, 176 | . 8 | 2.0 | 4 |
| Czechosloval | 486, 404 | 397, 059 | 495, 567 |  |  |  |
| France. | 295, 314, 944 | 410, 024, 663 | 352, 099, 567 | 10.5 | 12.2 | 13.4 |
| Germany | 576, 212, 124 | 808, 336,738 | 472, 823, 551 | 20.5 | 24.1 | 18.0 |
| Italy | 279, 007, 548 | 244, 295, 065 | 286, 034, 186 | 9.9 9 | 7. 0 | 10.9 |
| Japan | 277, 445, 883 | 447, 683, 525 | 339, 579, 297 | 9.9 | 13. 3 | 12. 9 |
| Mexico | 35, 301, 222 | 3, 097, 263 | 7, 745, 906 | 1. 3 | .1 | . 3 |
| Netherlan | 49, 377, 121 | 48, 101, 703 | 37, 809, 219 | 1.8 | 1.4 | 1.4 |
| Norway | 2,339, 944 | 3, 261, 395 | 2, 099, 248 | ${ }^{1}$ | 1 | 1 |
| Poland and Danzig | 7,383, 142 | 9, 081, 134 | 11, 111, 022 | 3 | ${ }_{3}$ | 4 |
| Portugal | 9, 632, 512 | 10, 277, 523 | 14, 106, 863 | . 3 | . 3 | 5 |
| Spain | 130, 494, 795 | 170, 775, 695 | 125, 121, 820 | 4.6 | 5.1 | 4.8 |
| Sweden | 28, 072, 334 | 26, 827, 106 | 30, 295, 627 | 1.0 | . 8 | 1. 2 |
| Switzerland | 18, 562, 009 | 2, 476, 800 | 1,569, 927 |  |  | . ${ }^{1} 7$ |
| United Kingdom | 891, 492, 053 | 903, 371, 622 | $\begin{array}{r}701,503,949 \\ \mathbf{2 9} \\ 890 \\ \hline 8075\end{array}$ | 31.7 | 26.9 4 | 26.7 1.2 |
| Other countries. | 16, 137, 575 | 17, 952, 170 | 29, 890, 975 | . 5 | 4 | 1.2 |
| Total | 2, 811, 388, 710 | 3, 358, 878,748 | 2, 626, 732, 147 | 100.0 | 100.0 | 100.0 |

[^328]Table 659.-Destination of principal farm products exported from the United States, year ending June 30, 1921-1923-Continued.

| Article and country to which consigned. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{231}^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vegetable products-continued |  |  |  |  |  |  |
| Fruits: <br> Apples, fresh- | Boxes. ${ }^{2}$ |  |  | P.ct. | P.ct. | P.ct. |
| Apranentina |  | $4,200$ | 60,777 |  | 0.3 | 1.7 |
| Canada |  | 59, 543 | 347, 919 |  | 4.3 | 10.0 |
| Cuba |  | 10,365 | 49, 973 |  | 9 | 0 |
| Mexico |  | 20,014 | 128, 537 |  | 4.1 | 3.4 |
| Norway-.- |  | 57, ${ }^{587}$ | 121, 553 |  | 4.4 | 2.4 |
| United Kingdom. |  | 939, 675 | 2, 503, 633 |  | 67. 4 | 71.7 |
| Other countries.. |  | 291, 619 | 205, 028 |  | 20.9 | 6.2 |
| Total |  | 1, 394, 934 | 3, 491, 244 |  | 100.0 | 100.0 |
|  | Barrels. | arrels. | arrels. | P.ct. | P.ct. | P.ct. |
| Argentina | 14,907 | 7,857 | 13, 083 | 0.6 | 1.2 | 2.2 |
| Canada.. | 327, 561 | 44, 824 | 47, 005 | 12.3 | 7.1 3.3 | 7.9 3.4 |
| Cuba- | 40,233 46,500 | 20,523 20,983 | 20,156 4,414 | 1.7 | 3. 3 | $\begin{array}{r} \\ \hline .4 \\ \hline\end{array}$ |
| Norway | 74, 960 | 27, 839 | 13,261 | 2.8 | 4.4 | 2.2 |
| Philippine Islands | 11, 005 | 8,334 | - 480.437 | 74 7 | $\begin{array}{r}1.3 \\ 72.8 \\ \hline\end{array}$ |  |
| United Kingdom | 2, 061, 622 | 458,227 40,594 | 480,437 14,217 | 77.4 3.3 | 72.8 6.6 | 81.5 |
| Other countries. | 88, 313 | 40, 594 |  |  |  |  |
| Total | 2, 665, 101 | 629, 181 | 592, 581 | 100.0 | 100.0 | 100.0 |
| Apricots, dried | Pounds. | Pounds. | Pounds. | P.ct. | P.ct. | P. ct. |
| Belgium | 369, 757 | 718, 651 | 394, 945 | 4.4 | 4. 3 | 3.2 |
| Canada | 792, 308 | $\begin{array}{r}\text { 659,949 } \\ 1,237 \\ \hline 817\end{array}$ | $\begin{array}{r}\text { 1, } \\ 1,243,494 \\ \hline\end{array}$ | 5.3 | 7.4 | 11.1 |
| Denmar | 406,964 | - $1,858,817$ | 3, 306, 111 | 4.9 | 23.1 | 29.5 |
| France. | 1,093, 764 | 2, 477, 502 | 323, 556 | 13.1 | 14.8 | 2. 9 |
| Japan | 166, 430 | 220, 170 | 405, 846 | 2.0 | 1.3 | 3. 6 |
| Netherland | 833, 112 | 1,642,587 | 897, 500 | 10.0 | 9.8 | 8.0 |
| New Zealand | 98, 390 | 284, 150 | 226, 795 | 1.2 | 1.7 | 2.0 |
| Norway | 408, 661 | 808, 752 | 1,085, ${ }^{\text {d }}$ | 5. 9 | 5.3 | 7.2 |
| Sweden | 493,427 $2.877,419$ | 3, 885,399 | 1,246, 608 | 34.5 | 21.4 | 11.1 |
| Oniter countries | 2, 352,609 | - 362,670 | 1,459, 556 | 4.3 | 2.2 | 4.2 |
| Total | 8, 332, 404 | 16, 735, 609 | 11, 193, 183 | 100.0 | 100.0 | 100.0 |
|  |  | Boxes. | Boxes. | P.ct. | $P$ P. ct. | P.ct. |
| Canada | 1,820, 800 | 1, 531, 364 | 1,674, 105 | 91.0 | ${ }^{93.4}$ |  |
| United Kingdom | 26,594 153,347 | 17,515 91,959 | -27,572 | 1.3 | 1.0 | 5.4 |
| Other countries. | 153, 347 | 91,959 | 97,535 |  |  | 6.4 |
| Total | 2, 000, 741 | 1,640, 838 | 1,799, 212 | 100.0 | 100.0 | 100.0 |
| unes- | Pounds. | Pounds. | Pounds. |  | P.ct. | P. ct. |
| Belgium | 1,602,992 | 3, 945, 320 | 2,515, 887 | 2.8 | 3.6 |  |
| Canada | 11,296,548 | $14,253,357$ $4,133,187$ | $\begin{array}{r}13,951,017 \\ 2,003 \\ \hline\end{array}$ | 19.7 2.5 | 13.8 3.8 | 2.5 |
| Denmar | 1,740, 212 | - ${ }^{4,13,063,197}$ | 26,586, 389 | 3.0 | 22.9 | 33.6 |
| Germany | 16,734, 550 | 16, 669, 695 | 263, 056 | 29.1 | 15.2 | 3 |
| Mexico. | 914, 628 | 700, 885 | 1, 279,352 | 1.6 | ${ }^{6}$ | 1.3 |
| Netherlands | 2, 489, 749 | 4, 441, 902 | $1,771,449$ | 4.3 | 1.1 | 1.9 |
| New Zealand | 445, 700 | 1, ${ }_{563}$ | 1,520, ${ }^{742} \mathbf{4 3 1}$ | . 2 | 1.15 | $\begin{array}{r}1.9 \\ \hline 8\end{array}$ |
| Norway- | 3, $\begin{array}{r}123,927 \\ \hline\end{array}$ | 5, ${ }^{5699}, 787$ | 4, 764, 125 | 5. 3. | 5.0 | 6.1 |
| Sweden United Kingdom | -3, ${ }^{3}, 504,011$ | 29,561, 264 | 18,905, 239 | 27.0 | 27.0 | 23.9 |
| Other countries. | 2, 127, 515 | 3, 371, 248 | 5, 076, 736 | 3.7 | 3.2 | 6.5 |
| Tota | 57, 460, 784 | 109, 398, 133 | 79, 228, 753 | 100.0 | 100.0 | 100.0 |
| uits, canned- |  | Dollars. | Dollars. | P.ct. | P.ct. | P.ct. |
| Belgium. | 131, 517 | D 149, 831 | 162, 098 | 1.0 | 0.9 |  |
| Canada | 1,983, 524 | 679, 743 | 1, 136, 4781 | ${ }_{19}^{15.1}$ | ${ }^{4} \mathbf{4}$ | ${ }_{21} 1$ |
| Cuba- | 2, 497, 175 | 38,601 229,578 | - 3700,049 | 2.0 | 1.4 | 1.3 |
| Dutch East Indies | 256, 775 | 435,083 | 711, 183 | . 6 | 2.7 | 3.2 |
| France ${ }^{\text {Netherlands }}$ | 195, 893 | 107, 889 | 220, 449 | 1.5 | . 7 | 1.0 |
| Netherlay | 89, 206 | 64, 991 | 1i4, 438 | . 7 | ${ }^{4}$ | 6 |
| Philippine Islands. | 5223, 997 | - $\begin{array}{r}46,471 \\ 13,6881 \\ \hline 171\end{array}$ |  | 1.7 45.2 | 83.6 | 77.7 |
| United Kingdom. | 5, 938,918 $1,734,151$ | $13,688,171$ 933,081 | $17,469,329$ $1,761,487$ | 1.7 15.2 13.2 | 8.7 5.7 | 7.8 |
| Total | 13, 128, 053 | 16, 373, 219 | 22, 479, 307 | 100.0 | 100.0 | 100.0 |

[^329]2 Included in apples, fresh in barrels previous to January, 1922.

Table 659.-Destination of principal farm products exported from the United States, year ending June 30, 1921-1923—Continued.


[^330]Table 659.-Destination of principal farm products exported from the United States, year ending June 30, 1921-1923-Continued.

| Article and country to which consigned. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | $\stackrel{1922}{23^{1}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VEGETABLE PRODUCTS-continued. |  |  |  |  |  |  |
| Grain and grain products-Continued. Wheat flour-Continued. | Barrels. | Barrels. | Barrels. | P.ct. | P. ct. | P.ct. |
| Panama. | 116, 281 | 95, 120 | 88, 240 | 0.7 | 0.6 | 0.6 |
| Philippine Islands | 197, 704 | 333, 046 | 469, 838 | 1.2 | 2.1 | 3. 2 |
| Poland and Danzig | 1, 034, 632 | 146, 744 | 158, 785 | 6. 4 | . 9 | 1.1 |
| Russia in Europe. | 91, 510 | 154, 472 | 313, 800 | . 6 | 1. 0 | 2. 1 |
| Sweden. | 223, 482 | 137, 734 | 105, 507 | 1. 4 | . 9 | . 7 |
| Turkey in Europe | 579, 761 | 1,381, 963 | 472, 378 | 3.6 | 8. 7 | 3. 2 |
| United Kingdom. | 3, 090, 158 | 3, 190, 762 | 1,913, 833 | 19.1 | 20.2 | 12.9 |
| Venezuela--- | 148, 855 | 77, 308 | 83, 061 | . 9 | . 5 | . 6 |
| Other countries | 1,566, 511 | 1, 095, 503 | 1, 483, 357 | 9.9 | 6.9 | 9.9 |
| Total | 16, 179, 956 | 15, 796, 824 | 14, 882, 714 | 100.0 | 100.0 | 100.0 |
| Hops: | Pounds. | Pounds. | Pounds. | $P . c t .$ | P.ct. | $P . c t$ |
|  | 982, 200 | 488, 666 | 382, 633 |  | 2.5 | 2.8 |
| Canada | 2,680, 251 | 2, 762, 124 | 3, 031,538 | 12.1 | 14.1 | 22.5 |
| United Kingdom | 17, 465, 538 | 13, 845, 499 | 2, 351, 919 | 78.7 | 70.9 | 17.4 |
| Other countries | 1, 076, 128 | 1, 132, 559 | 878, 517 | 4.8 | 5.9 | 6.5 |
| Total | 22, 206, 028 | 19, 521, 647 | 13, 497, 183 | 100.0 | 100.0 | 100.0 |
| Oil cake and oil-cake meal: |  |  |  |  |  |  |
| Denmark | 274, 809, 012 | 264, 890, 758 | 195, 357, 016 | 76.3 | 63.8 | 57.0 |
| Germany | 35, 805, 649 | 117, 369, 484 | 132, 347, 954 | 9.9 | 28.3 | 38.6 |
| Sweden | 28, 880, 847 | 20, 929, 920 | 4, 264,960 | 8. 0 | 5.0 | 1. 2 |
| United Kingdom | 12, 695, 593 | 10,955, 664 | 7, 775, 307 | 3.5 | 2.6 | 2. 3 |
| Other countries. | 7, 795, 755 | 1, 110, 853 | 2,798, 957 | 2. 3 | . 3 | 9 |
| Total | 359, 986, 856 | 415, 256, 679 | 342, 544, 194 | 100.0 | 100.0 | 100.0 |
| Cottonseed meal- |  |  |  |  |  |  |
| Belgium | 1,568, 000 | 4, 812, 760 | 3, 603, 903 | 1. 7 | 4. 1 | 3. 2 |
| Canada | 12, 182, 904 | 4, 146, 348 | 2, 627, 740 | 12.9 | 3.5 | 2. 4 |
| Germany | 3, 894, 472 | 6, 953, 787 | 3, 566, 500 | 4.1 | 5. 9 | 3. 2 |
| Netherlands |  | 1,927, 000 | 3,284, 869 |  | 1. 6 | 2. 9 |
| Norway | 22, 942, 354 | 13, 710, 014 | 11, 201, 439 | 24.2 | 11. 7 | 10.0 |
| United Kingdom | 44, 164, 851 | 75, 395, 136 | 83, 015, 447 | 46. 6 | 64.2 | 74.2 |
| Other countries. | 9, 961, 384 | 10,518, 912 | 4, 505, 912 | 10.5 | 9.0 | 4.1 |
| Total | 94, 713, 965 | 117, 463, 957 | 111, 805, 810 | 100.0 | 100.0 | 100.0 |
| Linseed or flaxseed cake- |  |  |  |  |  |  |
| Belgium | 43, 385, 083 | 152, 114, 660 | 91, 655, 770 | 11.6 | 32.4 | 17.1 |
| Germany | 43, 346, 153 | 6,435, 135 | 16, 215, 405 | 11. 6 | 1. 4 | 3. 0 |
| Netherlands | 221, 094, 838 | 276, 237, 018 | 351, 445, 009 | 59.3 | 58.8 | 65.5 |
| United Kingdom | 57, 656, 302 | 27, 731, 137 | 69, 518, 709 | 15. 5 | 5.9 | 13.0 |
| Other countries | 7,596, 675 | 6, 879, 426 | 7, 720, 345 | 2.0 | 1.5 | 1. 4 |
| Total | 373, 079, 051 | 469, 397, 376 | 536, 555, 238 | 100.0 | 100.0 | 100.0 |
| Oils, vegetable: |  |  |  |  |  |  |
| Cottonseed- |  |  |  |  |  |  |
| Argentina | 1, 966,787 | 3, 384, 751 | 3, 840, 798 | 0. 7 | 3. 7 | 6.0 |
| Canada. | 38, 577, 655 | 38, 492, 691 | 26, 558, 615 | 13.6 | 42. 0 | 41.3 |
| Chile | 819, 798 | 1, 372, 553 | 4,174, 818 | . 3 | 1. 5 | 6.5 |
| Cuba | 4,457, 145 | 2, 914, 611 | 3, 442, 620 | 1. 6 | 3. 2 | 5. 4 |
| Denmark | 9, 413, 933 | 7, 867, 074 | 1,705, 794 | 3. 3 | 8.6 | 2. 7 |
| Dominican Republic | 1, 111, 594 | , 723, 408 | 1, 045, 782 | . 4 | . 8 | 1. 6 |
| Germany -------- | 8, 562, 774 | 1, 099, 753 | 361, 201 | 3. 0 | 1. 2 | - 5 |
| Greece. | 1, 426, 227 | 867, 962 | 302, 320 | . 5 | . 9 | . 5 |
| French Guiana | 493, 990 | 525, 554 | 493, 331 | . 2 | . 6 | . 8 |
| French West Indies | 1,684, 282 | 2, 623, 449 | 231, 380 | . 6 | 2. 9 | . 4 |
| Italy | 28, 179, 075 | 882, 514 | 206,099 | 9. 9 | 1.0 | . 3 |
| Mexico | 6, 678, 387 | 3, 298, 694 | 6,711, 448 | 2. 4 | 3. 6 | 10.4 |
| Netherlands | 119, 737, 778 | $4,265,064$ | 1, 312, 695 | 42. 3 | 4. 7 | 2. 0 |
| Norway. | 10, 358, 888 | 9, 436, 843 | $5,155,490$ | 3. 7 | 10.3 | 8.0 |
| Panama | 1, 203, 888 | 831, 898 | 515, 414 | . 4 | . 9 | . 8 |
| United Kingdom | 24, 482, 324 | 2, 526, 698 | 342, 188 | 8.6 | 2. 8 | . 5 |
| Uruguay | 1, 495, 100 | 2, 933, 942 | 1,997, 893 | . 5 | 3. 2 | 3. 1 |
|  | 22, 618, 400 | $7,567,176$ | 5, 903, 295 | 8. 0 | 8.1 | 9.1 |
|  | 283, 268, 025 | 91, 614, 635 | 64, 301, 231 | 100.0 | 100.0 | 160.0 |

[^331]Table 659.-Destination of principal farm products exported from the United States, year ending June 30, 1921-1923-Continued.

| Article and country to which consigned. | 1920-21 | 1921-22 | 1922-23 ${ }^{\text { }}$ | 1920-21 | 1921-22 | $\underset{23^{1}}{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vegetable products-continued. |  |  |  |  |  |  |
| Tobacco, leaf: | Pounds. | Pounds. | Pounds. | P.ct. | P.ct. | P. ct. |
| Argentina | 3, 628, 318 | 1, 065, 975 | 2, 486, 390 | 0.7 | 0. 2 | 0.6 |
| Australia | 24, 545, 292 | 15, 241, 757 | 18, 030, 795 | 4.9 | 3.4 | 4.0 |
| Belgium | 25, 172, 310 | 21, 610, 307 | 22, 966, 563 | 5. 1 | 4.8 | 5.2 |
| British West | 6, 872, 086 | 7, 143, 013 | 10, 330, 701 | 1.4 | 1.6 | 2.3 |
| Canada | 16, 327, 521 | 13, 117, 029 | 14, 131, 230 | 3.3 | 2.9 | 3.2 |
| China | 20, 916, 701 | 22, 945, 067 | 39, 792, 536 | 4.2 | 5.1 | 8. 9 |
| Denmar | 5, 388, 533 | 3, 829, 171 | 5, 037, 335 | 1.1 | . 8 | 1. 1 |
| France. | 60, 724, 974 | 43, 166, 050 | 37, 638, 320 | 12. 2 | 9.6 | 8.5 |
| French Africa | 3, 314, 366 | 2, 853, 526 | 5, 292, 900 | . 7 | 6 | 1.2 |
| Germany | 18, 823, 658 | 29, 988, 577 | 30, 680, 022 | 3.8 | 6. 6 | 6.9 |
| Haiti | 1,165, 710 | 1,409, 940 | 1,430, 497 | . 2 | . 3 | . 3 |
| Hongkong | 2, 921, 921 | 648, 145 | 1, 394, 714 | 6 | .1 | 3 |
| Italy.- | 46, 858, 059 | 46, 971, 663 | 42, 400, 610 | 9.4 | 10.4 | 9.5 |
| Japan | 2, 226, 923 | 2, 339, 513 | 2, 471, 857 | 4 | . 5 | ${ }^{6}$ |
| Mexico | 1, 771, 042 | 2, 542, 100 | 435, 837 | 4 | 6 | 1 |
| Netherla | 24, 155, 164 | 19, 870, 686 | 16, 901, 535 | 4.9 | 4.4 | 3.8 |
| Norway | 3, 267, 365 | 3, 622, 038 | 3,425, 895 | . 7 | . 8 | 8 |
| Portugal | 3, 790, 615 | 5, 814, 821 | 5, 714, 648 | 8 | 1. 3 | 1. 3 |
| Spain- | 1, 394, 709 | 12, 534, 194 | 12, 794, 761 | . 3 | 2.8 | 2. 9 |
| Sweden- | $\stackrel{6,230,431}{266,975}$ | 4, 231, 477 | 5, 919, 714 | 1.3 | 9 6 | 1. 3 |
| Other countries. | 9, 843,550 | 9,440, 332 | 11, 152, 623 | 1.8 | 2. 1 | 2.4 |
| Total | 496, 878, 830 | 451, 888, 436 | 445, 186, 472 | 100.0 | 100.0 | 100.0 |
| Naval stores: Rosin- | arrels. | rrels. | Barrels. |  |  |  |
| Argentina | 114, 088 | 89,643 | 86, 328 | 13.0 | 11.4 | 8.3 |
| Australia. | 30, 631 | 14, 857 | 10, 830 | 3.5 | 1.9 | 1.0 |
| Belgium | 27, 766 | 21,969 | 22, 660 | 3.2 | 2.8 | 2.2 |
| Brazil. | 106, 300 | 88, 842 | 103, 318 | 12.1 | 11.3 | 9. 9 |
| Canada | 79, 784 | 49, 802 | 58, 698 | 9.1 | 6. 3 | 5.6 |
| Cuba | 21,755 | 13, 719 | 16, 022 | 2.5 | 1. 7 | 1. 5 |
| Dutch East Indies | 19,927 | 31,961 | 46, 215 | 2.3 | 4. 1 | 4. 4 |
| Germany | 70, 744 | 115, 247 | 162, 485 | 8.1 | 14.7 | 15.6 |
| Italy. | 17, 156 | 17,711 | 34, 827 | 2.0 | 2. 3 | 3. 3 |
| Japan | 19, 050 | 44, 146 | 86,739 | 2. 2 | 5. 6 | 8.3 |
| Netherlan | 11, 334 | 12, 833 | 16,917 | 1.3 | 1.6 | 1. 6 |
| Sweden | 18,772 | 16,943 | 27, 148 | 2.1 | 2.2 | 2. 6 |
| United Kingdom | 276, 927 | 205, 681 | 277, 269 | 31.6 | 26.2 | 26.7 |
| Uruguay | 14, 043 | 9,962 | 14, 765 | 1. 6 | 1. 3 | 1. 4 |
| Other countries | 48, 632 | 52,797 | 75, 585 | 5.4 | 6.6 | 7.6 |
| Total | 877, 109 | 786, 113 | 1,039,806 | 100.0 | 100.0 | 100. 0 |
| Turpentine, spirits of- | Gallons. | Gallons. | Gallons. | P. ct. | P. ct. | P. ct. |
| Argentina. | 500, 467 | 455, 009 | 397, 356 | 5.1 | 4. 2 | 4. 4 |
| Australia. | 519,437 | 596, 074 | 481, 344 | 5. 3 | 5.5 | 5. 3 |
| Belgium | 505, 233 | 772, 324 | 291, 953 | 5. 2 | 7.2 | 3.2 |
| Brazil | 282, 603 | 217, 634 | 130, 229 | 2.9 | 2. 0 | 1.4 |
| British South A | 94, 743 | 71,987 | 75,452 | 1.0 | 7 | . 8 |
| Canada. | 940, 531 | 973, 587 | 884, 849 | 9. 6 | 9.0 | 9.8 |
| Germany | 522, 142 | 835, 407 | 491, 331 | 5. 4 | 7.7 | 5. 5 |
| Netherlands | 621, 265 | 899, 236 | 706,906 | 6. 4 | 8.3 | 7.8 |
| United Kingdom | 5, 207, 872 | 5,491, 387 | 5, 012, 968 | 53.5 | 50.9 | 55. 6 |
| Other countries. | 547, 418 | 473, 635 | 539, 916 | 5.6 | 4.5 | 6.2 |
| Total | 9, 741, 711 | 10, 786, 280 | 9, 012, 304 | 100.0 | 100.0 | 100.0 |
| $\underset{\text { Fir }}{\text { Lumber }}$ | $M$ feet. | $M$ feet. | $M$ feet. | $P$.ct. | P.ct. | P.ct. |
| Australia | 49. 202 | 60,905 | 77, 819 | 13.0 | 9.0 | 16.6 |
| British South Africa | 4, 239 | 3,798 | 15,725 | 1.1 | 6 | 3.4 |
| Canada | 10, 297 | 2, 564 | 11,185 | 2.7 | 4 | 2.4 |
| Chile | 13, 113 | 5,477 | 14, 420 | 3. 5 | . 8 | 3.1 |
| China | 88,706 | 118, 061 | 68, 121 | 23.4 | 17.4 | 14.5 |
| Cuba | 4,615 | 3,443 | 8, 509 | 1.2 | . 5 | 1.8 |
| Japan | 68,988 | 397, 484 | 185, 259 | 18.2 | 58.6 | 39.6 |
| Mexico | 6,527 | 8, 141 | 12,494 | 1.7 | 1.2 | 2.7 |
| Peru | 57, 638 | 44, 024 | 34, 479 | 15.2 | 6.5 | 7.4 |
| United Kingdom | 28, 856 | 9, 813 | 15, 144 | 7. 6 | 1.4 | 3.2 |
| Other countries | 46, 888 | 24, 683 | 25, 133 | 12.4 | 3.6 | 5.3 |
| Total.. | 379, 069 | 678, 393 | 468, 288 | 100.0 | 100.0 | 100.0 |

## ${ }^{1}$ Preliminary.

Table 659.-Destination of principal farm products exported from the United States, year ending June S0, 1921-1923-Continued.

| Article and country to which consigned. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{231}^{1922}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FOREST PRODUCTS-continued. |  |  |  |  |  |  |
| $\begin{aligned} & \text { Lumber-Continued. } \\ & \text { Oak-- } \end{aligned}$ | M feet. | M feet. | $M$ feet. | P.ct. | P.ct. | P.ct. |
| Argentina. | 5, 347 | 6, 932 | 9, 155 | 6. 9 | 7.9 | 6.6 |
| Belgium ${ }^{\text {British }}$ South - Africe | 3,195 | 8,174 | 10, 101 | 4. 1 | 9.3 | 7.3 |
| British South Africa | 832 | 567 | 1,309 | 1.1 | 6 |  |
| Canada--- | 33, 600 | 23,991 | 37,879 | 43.2 | 27.4 | 27.4 |
| Netherlands | 2, 327 | 784 | 1,393 | 3.0 | . 9 | 1.0 |
| Spain United Kingdom | 1,881 | 553 | 1,787 | 2.4 | . 6 | 1.3 |
| United Kingdom | 25, 484 | 42, 184 | 67,544 | 32.8 | 48.2 | 48.9 |
| Uruguay---.--- | 721 | 1,268 | 2, 042 | . 9 | 1.4 | 1.5 |
| Other countries | 4,391 | 3, 074 | 6,908 | 5.6 | 3.7 | 5.1 |
| Total | 77, 778 | 87, 527 | 138, 118 | 100.0 | 100.0 | 100.0 |
| Pine, y yellow, long leaf- |  |  |  |  |  |  |
| Argentina | 69, 857 | 120, 174 | 178,200 | 13.6 | 26.2 | 30.3 |
| Canada | 14, ${ }_{28,82}$ | 27,405 15,420 | 14, 217 | 2.7 | 6. 0 | 2.4 |
| Cuba | 158, 563 | 61, 001 | 125, 354 | 5.7 30.9 | 13.4 | 21.3 |
| Dominican Republic | 12, 377 | 5,384 | 5, 519 | 2.4 | 1.2 | . 9 |
| France | 1,390 | 7,003 | 6, 265 | 3 | 1.5 | 1.1 |
| Italy - | 1,625 | 8,400 | 10,638 | 3 | 1.8 | 1.8 |
| Mexico | 113, 757 | 60, 262 | 54, 495 | 22.2 | 13.2 | 9.3 |
| Netherlands | 1,186 | 7,542 | 5,817 | . 2 | 1.6 | 1.0 |
| Other West Indics | 31, 264 | 26,695 | 37, 574 | 6. 1 | 5. 8 | 6.4 |
| Panama | 6, 852 | 4, 626 | 4,202 | 1.3 | 1.0 | . 7 |
| Spain--- | 11, 176 | 20,317 | 21, 846 | 2.2 | 4.4 | 3. 7 |
| United Kingdom | 35, 870 | 39, 827 | 41, 261 | 7.0 | 8.7 | 7.0 |
| Uruguay --.-.- | 9,271 | 12, 206 | 15, 203 | 1.8 | 2.7 | 2.6 |
| Other countries | 16, 555 | 41,761 | 34, 021 | 3.4 | 9.2 | 5.9 |
| Total | 512, 649 | 458, 023 | 587, 522 | 100.0 | 100.0 | 100.0 |
| Railroad ties: | Number. | Number. | Number. | P.ct. |  | P.ct. |
| Canada-. | 1, 519,996 | 843,770 6,115 | 614,412 | 30.2 | 43.8 | 25.0 |
| Chosen |  | 6,115 | 23, 935 | 2.6 | . 3 | 1.5 |
| Cuba | 66, 193 | 2,012 | 39, 841 | 1.3 | 1 | 1.6 |
| Guatemala | 78, 141 | 65, 325 | 153, 811 | 1.6 | 3.4 | 6.3 |
| Honduras. | 259, 972 | 218, 506 | 481, 947 | 5.2 | 11.3 | 19.6 |
| Japan-- | , 165 | 68, 423 | 233, 382 |  | 3.5 | 9.5 |
| Mexico | 362, 340 | 397, 552 | 282, 933 | 7.2 | 20.6 | 11.5 |
| Palestine and Syria | 5,775 | 12, 109 | 117, 963 | . 1 | . 6 | 4.8 |
| Peru | 184, 408 | 45, 509 | 103, 400 | 3.7 | 2.4 | 4.2 |
| United Kingdom. | 1, ${ }_{832} 98,114$ | 73,606 195,599 | 33,181 338,722 | 31.7 | 3.8 10.2 | 1.3 |
|  | 832, 963 | 195, 599 | 338, 722 | 16.4 | 10.2 | 13.7 |
| Total. | 5, 039, 838 | 1,928, 526 | 2, 459, 543 | 100.0 | 100.0 | 100.0 |

Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, and official records of the Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Preliminary.
Table 660.-Origin of principal farm products imported into the United States, year ending June 30, 1921-1923.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{23}^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| animals and animal products. Cattle: | Number. |  | Number. |  |  |  |
| Canada | 307, 202 | 128,803 | 230, 227 | 93.1 | 85.0 | 87.2 |
| Mexico | 20, 184 | 22, 076 | 20, 301 | 6.1 | 14.6 | 7.7 |
| United Kingdom | 1,650 | 246 | 737 | . 5 | . 2 |  |
| Other countries. | 938 | 408 | 12,622 | . 3 | . 2 | 4. |
| Total | 329, 974 | 151, 533 | 263, 887 | 100.0 | 100.0 | 100.0 |
| Horses: |  |  |  |  |  |  |
| Canada | 3,633 | 2, 566 | 2, 165 | 89. 8 | 81.8 | 76.9 |
| Mexico | 210 | 188 | 310 | 2.4 5.2 2. | 6. 0 | 11.0 |
| Other countries. | 103 | 89 | 138 | 2.6 | 2.9 | 4.9 |
| Total | -4,044 | 3, 136 | 2, 816 | 100.0 | 100.0 | 100.0 |

[^332]Table 660.-Origin of principal farm products imported into the United States, year ending June 30, 1921-1923-Continued.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{231}^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| animals and animal products-con. |  |  |  |  |  |  |
| Butter, including substitutes: <br> Argentina | Pounds. <br> 3, 420, 925 | Pounds. $403,538$ | ounds. <br> 793, 479 | $\begin{aligned} & P . c t . \\ & 10.0 \end{aligned}$ | P.ct. | P.ct. ${ }_{\text {5 }}$ |
| Australia | 5, 605 | 2, 055, 537 | 130, 036 |  | 21.5 | . 8 |
| Canada | 4,969,770 | 3, 101, 084 | 2,999, 355 | 14.5 | 32.5 | 19.0 |
| Denmark | 22, 822, 785 | 2, 888, 338 | 7, 371, 147 | 66. 5 | 30.2 | 46.7 |
| Netherlands | 1, 451, 046 | 91, 117 | 109, 861 | 4. 2 | 1.0 | .$^{.7}$ |
| New Zealand | 1, 327, 239 | 845, 065 | 3, 8887,174 | 3.9 | 8.8 | 24.6 |
| United Kingd | 3,441 342,842 | $\begin{aligned} & 70,991 \\ & 95,622 \end{aligned}$ | $\begin{aligned} & 369,106 \\ & 112,127 \end{aligned}$ | . 9 | $\begin{array}{r}1.1 \\ \hline\end{array}$ | 2.3 .9 |
| Total | 34, 343, 653 | 9, 551, 292 | 15, 772, 285 | 100.0 | 100.0 | 100.0 |
| Cheese, including substitutes: |  |  |  |  |  |  |
| Argentina | 9, 827, 075 | 5, 626, 213 | 4, 000, 545 | 59.3 | 16.4 | 7.3 |
| Canada | 311,226 | 4, 823, 777 | 5, 858,305 | 1.9 | 14.1 | 10.7 |
| France. | 2, 417, 036 | 2, 260, 502 | 4, 537, 008 | 14.6 | 6. 6 | 8.3 |
| Greece | 84,716 | 808, 433 | 922, 287 | . 5 | 2.4 | 1.7 |
| Italy | 1,185, 912 | 12, 085, 693 | 20, 571, 704 | 7.2 | 35.3 | 37.7 |
| Netherland | 981, 074 | 1, 614, 852 | 2, 147, 774 | 5.9 | 4.7 | 3.9 |
| Norway | 89, 895 | 236, 290 | 468, 419 | 8 | ${ }^{-7}$ | . 9 |
| Spain | 125, 366 | 531, 020 | 14, 12,391 | .8 6.4 | 1. 15 |  |
| Switzerland | 1, 068, 100 | 5, 450, 139 | 14, 7635,121 | 6.4 | 15.9 |  |
| United Kingd | 37,870 456,408 | $\begin{array}{r}261,051 \\ 572,634 \\ \hline\end{array}$ | 531,157 <br> 740,559 | .2 2.7 | $\begin{array}{r}.8 \\ 1.6 \\ \hline\end{array}$ | 1.0 <br> 1.4 |
| Total | 16, 584, 678 | 34, 270, 604 | 54, 555, 270 | 100.0 | 100.0 | 100.0 |
| Fibers, animal: Silk, raw- |  |  |  |  |  |  |
|  | 6, 205, 278 | 7,328, 677 | 10, 584, 948 | 21.1 | 15.2 | 20.1 |
| France | 446, 733 | 259, 414 | 408, 684 | 1. 5 | 5 | . 8 |
| Italy | 1,772, 532 | 1, 613, 784 | 1,818, 206 | 6. 0 | 3. 3 | 3. 1 |
| Japan | $\begin{array}{r}20,815,912 \\ 222 \\ \hline 290\end{array}$ | 38, 5980,110 | $\begin{array}{r} 37,989,046 \\ 1,882,720 \end{array}$ | 70.7 .7 | 80.1 .9 | 72.1 3.5 |
| Total | 29, 462, 745 | 48, 178, 964 | 52,683, 604 | 100.0 | 100.0 | 100.0 |
| Wool, unmanufactured-Carpet, wool- |  |  |  |  |  |  |
| Argentina---.... | 5, 883, 343 | 12,354, 133 | $8,695,254$ 3 | 11.9 | 8. 3 | 5.1 |
| ${ }_{\text {British }}$ Brinth A-- | 1,537, 866 | 3, 020, 1093 | 3, 2220,748 | 3. 1 | $\underline{ }$ | . 1 |
| Chile. | 384, 907 | 25, 275 | 86, 119 | 8 |  |  |
| China | 15, 270, 730 | 66, 679,144 | 65, 139, 698 | 30. 9 | 44.8 | 38.2 |
| Denmar | 394, 625 | 1, 022, 300 | 1, 212, 014 | $\cdot 8$ | .7 | ${ }^{.6}$ |
| France | 357, 009 | 3, 641, 970 | 6, 156, 173 | $\cdot 7$ | 2.4 | 3. 6 |
| Germany | 329, 637 | 2, 060, 172 | 4, 205, 049 | .7 | 1.4 | 2.5 |
| Greece | 22, 703 | 4.60,501 | 6, 175, 1734 | . 1 |  | 3. 5 |
| Italy | 56, 170 | 4, 141, ${ }_{2} \mathbf{6 2 1}$ | 6, 2 2 8 8020,141 | . 1 | 2.8 .1 | 1.7 |
| Persia. | 511, 350 | 211, 998 | 996, 353 | 1.0 | .1 | - 6 |
| Spain. | 311, 483 | 381,049 | 681, 433 | . 6 | . 3 | $\stackrel{4}{4}$ |
| Turkey in Asia | - $\begin{array}{r}364,737 \\ \hline 199\end{array}$ | 278,960 $50,241,626$ | $2,456,828$ 60 | $\begin{array}{r}38.7 \\ \hline\end{array}$ | 33.8 | 35.7 |
| United Kingdom | $19,179,545$ $\mathbf{2 , 5 3 6}, 672$ | 50, 2481,626 | $\begin{array}{r}60,859, \\ 2669 \\ \hline 1\end{array}$ | $\begin{array}{r}38.8 \\ 5.1 \\ \hline\end{array}$ | 33.8 .4 | 1.2 .2 |
| Other countrie | 2, 152, 590 | 3,757, 671 | 6, 800, 545 | 4.5 | 2. 6 | 4.1 |
| Total | 49, 447, 990 | 148,786, 906 | 170,368. 386 | 100.0 | 100.0 | 100.0 |
| Clothing, woolArgentina | 92, 700, 500 | 6,002,098 | 9, 762, 858 | 36.9 | 18.3 | 22.3 |
| Australia | 39, 032, 638 | 8, 610,375 | 5, 195, 722 | 15.5 | 26.2 | 11.9 |
| British Sou | 18, 187, 739 | 1,842, 901 | 1, 225, 269 | 7.2 | 5. 6 | 2.8 |
| Canada | 8, 656, 806 | 726, 928 | 3, 465, 426 | 3.4 | 2.2 | 7.9 |
| Chile | 13,727, 089 | 1, 116, 755 | 1, ${ }_{334}$, 4200 | 5.5 <br> 3.4 |  | 2.4 |
| China | 8, 614, 884 | 2,780, 246 | 3665, 235 | 3.4 2.7 | 8.5 | 1.8 |
| New | 6, 253,070 | 31,599 | 268, 938 | 1 | , | 6 |
| United Kingdo | 28, 478, 904 | 2, 801, 571 | 15, 407, 663 | 11.3 | 8.5 | 35.3 |
| Uruguay | 31, 581, 289 | 8, 376, 306 | 4, 365, 494 | 12.6 1.4 | 25.5 1.5 | 10.0 4.5 |
| Other countrie | 3, 172, 183 | 458, 115 | 1,976,011 | 1.4 | 1.5 | 4.5 |
| Total | 251, 249, 273 | 32, 820, 886 | 43, 703, 289 | 100.0 | 100.0 | 100.0 |
| Combing woolArgentina | 6, 146, 724 | 14, 023, 407 | 77, 256, 141 | 47.3 | 20.3 | ${ }^{25.9}$ |
| Australia |  | 20, 477, 363 | 69, 406, 989 |  | 29.6 | 23.3 |
| British South Af | 674,477 | 4, 499, 919 | 16, 187, 811 | 5.2 | 6.5 | 5.4 |
| Canada | 313, 165 | 540, 807 | 5, 952, 834 | 2.4 | $1{ }^{18} 8$ | 4.0 |
| New Zealand | 962, 268 | 8, 208, 468 | - ${ }_{58,667,619}$ | +7.4 | 71.9 | 4.6 19.7 |
| United Kingdom. | 3, 162, 810 | $4,880,008$ $14,596,556$ | - $48,6040,631$ | 24.3 4.9 | 21.1 | 14.1 |
| Other countries | 630, $1,106,512$ | 14, $2,006,432$ | 15, 327, 931 | 8.5 | 2.8 | 5.0 |
| Total. | 12,996,910 | 69, 232,960 | 298, 496, 152 | 100.0 | 100.0 | 100.0 |

${ }^{1}$ Preliminary.

Table 660.-Origin of principal farm products innported into the United States, year ending June 30, 1921-1929-Continued.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{23^{1}}^{1022-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| animals and animal products- |  |  |  |  |  |  |
| Fibers, animal-Continued. |  |  |  |  |  |  |
| Hair of the Angora goat, alpaca, etc. | Pounds. | Pounds. | Pounds. | P.ct. | P.ct. | P.ct. |
| British South Africa-.---.--. | 486, 601 | 1, 003, 713 | 3, 469, 041 | 13. 5 | 23.6 | 30.4 |
| Chile | 40,616 | rer 25,743 | 274, 764 | 1.1 3.6 | 7.7 | 2.4 |
| Germany | 5, 379 | 7, 436 | 12, 354 | 1.1 <br> 1 | . 2 | . 1 |
| Peru-... | 381, 870 | 389, 601 | 309, 003 | 10. 6 | 9.2 | 2. 7 |
| Turkey in Asia | 91,855 |  | 28, 613 | 2.5 |  | . 3 |
| Turkey in Europe | 473, 981 | 530, 368 | 2, 601, 398 | 13. 1 | 12. 5 | 22.8 |
| United Kingdom. | 1, 888, 597 | $\begin{array}{r} 1,949,548 \\ 11,351 \end{array}$ | $\begin{array}{r} 4,674,695 \\ 24,156 \end{array}$ | 52.3 3.2 | $\begin{array}{r} 45.9 \\ .3 \end{array}$ | 41.0 .3 |
|  |  |  |  |  |  |  |
| Total | 3, 611, 585 | 4, 246, 484 | 11, 394, 024 | 100.0 | 100.0 | 100.0 |
| Hides and skins other than fars: |  |  |  |  |  |  |
| Calfskins, dry- | 1,165, 273 | 8,768,928 | 4,474, 240 | 9. 9 | 54. 2 | 29.9 |
| Argentina | 1, 233,952 | 8, 324, 786 | - 419 | 2. 0 | 2.0 | 1.5 |
| British Ind | 1,673,090 | 136, 923 | 38, 365 | 14.2 | . 8 | . 3 |
| Canada | 1, 259, 029 | 985, 266 | 1, 224,488 | 10.7 | 6.1 | 8.2 |
| China | 342, 707 | 70, 259 | 159, 923 | 2. 9 | .4 | 1.1 |
| Denmark | 779,100 | 186, 148 | 302, 684 | 6. 6 | 1.2 | 2. 0 |
| Dutch East Indies | 674, 351 | 200, 394 | 42, 8888 | 5. 7 | 1.2 | ${ }_{3.8}$ |
| France. | 11,000 $1,394,547$ | 229, 5987 | 546, $1,519,034$ | 1.8 | 1.4 4.0 | 3.6 10.1 |
| Germany | 54, 151 | 94, 936 | 587, 669 | . 5 | . 6 | 3.9 |
| Italy --- | 16, 524 | 112, 618 | 90, 331 | . 1 | . 7 | . 6 |
| Latvia |  | 166, 120 | 534, 818 |  | 1.0 | 3. 6 |
| Netherlan | 898, 165 | ${ }_{5236} 7381$ | 1, 070,450 | 7.6 | 4. 0 | 7. 1 |
| Norway | 932, 308 | ${ }^{523,791}$ | 797, 118 | 7.9 .2 | 3.2 1.6 | 5. 3 |
| Poland.- | 27,799 83,095 | 256, 631 | 162,886 269,914 | . 7 | 1.6 | 1.1 |
| Sweden.- | 1, 052,894 | 665, 899 | 961, 618 | 8. 9 | 4.1 | 6. 4 |
| Switzerland | 79, 169 | 203, 789 | 87, 171 | . 7 | 1. 3 | . 6 |
| United Kingdom | 742, 600 | 652, 285 | 1, 225, 966 | 6.3 | 4. 0 | 8. 2 |
| Uruguay |  | 949, 615 | 106, 712 |  | 5. 9 | 3.7 |
| Other countries | 389, 798 | 345, 877 | 566, 321 | 3.2 |  | 3.7 |
| Total | 11, 809, 552 | 16, 174, 682 | ${ }^{2} 14,988,085$ | 100.0 | 100.0 | 100.0 |
| Caliskins, wet- |  |  |  |  |  |  |
| Argentina Australia | $\begin{aligned} & 190,886 \\ & 202,388 \end{aligned}$ | $\begin{aligned} & 978,216 \\ & 352,817 \end{aligned}$ | 1, 144, 697 | 0.8 .9 | 3. 1.4 | 3.7 .5 |
| Belgium | 625, 239 | 1,094, 940 | 1, 084, 686 | 2. 6 | 4. 3 | 3. 5 |
| Canada | 3, 575, 472 | $4,311,897$ | 5, 068, 156 | 15.0 | 17.0 | 16.5 |
| Denmark | 2, 743, 662 | 1, 545, 066 | 2, 103, 810 | 11.5 | 6. 1 | 6. 8 |
| Finland | 9,281 | 269,759 | 623,330 8833,727 | 35.0 | 1. 28.5 | 2.0 |
| France | 8, 324, 360 | 1, 1855,736 | 1,243, 504 |  | 4.7 | 4.0 |
| Netherlands | 2, 412,052 | 1,933, 826 | 1, 560,670 | 10.1 | 7.6 | 5.1 |
| New Zealand | 619, 111 | 1, 212, 217 | 126, 460 | 2.6 | 4. 8 | 4 |
| Norway | 510,310 | 343, 102 | 461, 508 | 2. 1 | 1. 4 | 1.5 |
| Poland | 227, 329 | 486, 273 | 448, 907 | 1. 0 | 1. 9 | 1.5 |
| Sweden | 1,949, 134 | 1,567, 035 | 3, 065,676 | 8.2 | 6. 2 | 10.0 |
| Switzerland | 420, 219 | 1,257, 438 | 1, 085, 592 | 1.8 | 5. 0 | 3. 5 |
| United Kingdom | 1,618, 803 | 596, 897 | 2, 805, 954 | 6.8 | 2.4 | 9.1 |
| Uruguay. | 51, 447 | 90,518 914,329 | 9,308 921,469 | .2 14 | ${ }_{3}{ }^{4}$ |  |
| Other countries. | 300, 372 | 914, 329 | 921, 469 | 1.4 | 3. 3 | 3.2 |
| Total | 23, 780, 065 | 25,383, 380 | ${ }^{2} 30,735,598$ | 100.0 | 100.0 | 100.0 |
| Cattle hides, dry- |  |  |  |  |  |  |
| Argentina.- | 3, 646, 902 | 4, 321, 139 | $17,719,184$ 126,878 | 14.7 1.3 |  | 30.1 |
| Australia <br> Brazil | 331,780 $1,011,449$ | 77,156 94,878 | 1, 126, 878 | 1. 3.1 | . 4 | .2 2.9 |
| British Indi | 1, 318, 051 | 182, 043 | 1, 221, 562 | 5. 3 | 1. 0 | 2.1 |
| Caneda. | 321, 590 | 1,724,734 | 4, 186, 832 | 1.3 | 9. 4 | 7.1 |
| China | 2, 880, 150 | 1,649, 188 | 6, 905, 068 | 11.6 | 8. 9 | 11. 7 |
| Colombia | 5, 475, 283 | 5, 283, 096 | 7, 865, 138 | 22.1 | 28.7 | 13.4 |
| Cuba--- | 47, 712 | 42,700 | 692,290 $2,582,016$ | 4.2 | 8. 9 | 1.2 4.4 |
| Dutch East Indies | 1, 924,802 | 1, 644, 993 | 2, 382,016 | 2.5 | 8.9 .8 | $\begin{array}{r}4.4 \\ \hline 6\end{array}$ |
| Ecuador | 619,306 576,172 | 149, 652 | 349, 2, 441, 2009 | 2.5 2.3 | 8 | - 4.6 |
| Guatemala | 526, 740 | 51, 466 | 18,962 | 21 | . 3 |  |
| Honduras | 161, 248 | 209, 593 | 112, 121 | - 6 | 1. 1 | ${ }_{6}$ |
| Itaty --. | 306, 319 | 10, 402 | 366, 540 | 1. 2.3 | 2. 1 | 7 |
| Mexico..... | 559, 77 | 389, 328 | 425, 597 | 2.3 |  |  |

${ }^{2}$ Includes kip skins until Sept. 21, 1922.

Table 660.-Origin of principal farm products imported into the United States, year ending June 30, 1921-1923-Continued.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{23^{1}}^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| animals and animal products-con. |  |  |  |  |  |  |
| Hides and skins other than furs-Con. Cattle hides, dry-Continued. | Pounds. | Pounds. | Pounds. | P.ct. | P.ct. | P.ct. |
| New Zealand.-.-...-------- | 342, 142 | 3, 133 | 198, 229 | 1.4 |  | 0.3 |
| Nicaragua | 556, 612 | 736, 175 | 634, 478 | 2.2 | 4.0 | 1.1 |
| Peru. | 793, 742 | 91, 245 | 442, 858 | 3.2 | . 5 |  |
| Switzerland-... | 56,944 286,235 | 660, 643 | $\begin{array}{r}151,535 \\ 3,279,153 \\ \hline\end{array}$ | .2 1.2 | 3.6 |  |
| Uruguay ----- | 132, 796 | 660, 1,576 | 3, 1 , 097,292 | 1.2 .5 | 3.6 | 5. 1.9 |
| Venezuela | 1,697, 326 | 823, 105 | 2, 383, 540 | 6.8 | 4.5 | 4. |
| Other countries | 2, 141, 050 | 145, 141 | 3, 860,936 | 8.8 | . 8 | 6. 5 |
| Total | 24, 814, 129 | 18, 438, 517 | 58, 770, 243 | 100.0 | 100.0 | 100.0 |
| Cattle hides, wet- |  |  |  |  |  |  |
| Argentina | 79, 323, 914 | 86, 679, 343 | 186, 696, 992 | 45. 7 | 46.5 | 3. 9 |
| Australia | 2, 751, 338 | 2, 415, 991 | 5, 082, 759 | 1.6 | 1. 3 | 1.5 |
| Brazil | 20, 525, 396 | 15, 687, 498 | 24, 403, 024 | 11.8 | 8.4 | 7.0 |
| Canada | 20, 106, 771 | 34, 190, 737 | 30, 489, 525 | 11.6 | 18.3 | 8.8 |
| Cuba | 6, 192, 800 | 15, 206, 397 | 12, 418, 583 | 3. 6 | 8.2 | 3.6 |
| France | 4, 623, 854 | 1, 222, 972 | 12, 840, 361 | 2.7 | . 7 | 3.7 |
| Italy | 1, 358, 034 | 1, 641, 136 | 5, 667, 392 | . 8 | . 9 | 1.6 |
| Uruguay | 27, 426, 164 | 17, 941, 386 | 34, 551, 249 | 15.8 | 9.6 | 10.0 |
| Venezuela | 186,419 $11,264,519$ | 816,269 $10,692,188$ | 375,171 $34,087,902$ | 6. ${ }^{1}$ | 5.4 | 9. ${ }^{8}$ |
| Total | 173, 759, 209 | 186, 497, 917 | 346, 612, 958 | 100.0 | 100.0 | 100.0 |
| Goat and kid skins, dry- |  |  |  |  |  |  |
| Aden---------------- | 1,763, 535 | 3,112,822 | 4, 549,505 | 4.8 | 4.6 | 6.4 |
| Algeria, Tunis, | 449, 600 | 851, 855 | 1, 137, 958 | 1. 2 | 1. 2 | 1.6 |
| Argentina | 1, 416, 807 | 6, 372, 141 | 4, 843, 644 | 3.8 | 9.3 | 6.8 |
| Brazil. | 3, 606, 437 | 4, 684, 504 | 4, 569, 259 | 9.8 | 6. 9 | 6.5 |
| British India | 10, 411, 506 | 19, 904, 553 | 19, 799, 086 | 28.3 | 29.2 | 28.0 |
| British East Africa | 655, 430 | 1, 047, 094 | 349, 862 | 1.8 | 1. 5 | 5 |
| British. South Africa | 503, 062 | 933, 335 | 1,359, 964 | 1.4 | 1.4 | 1.9 |
| British West Africa | 699, 732 | 764, 944 | 1, 147, 479 | 1. 9 | 1.1 | 1.6 |
| China <br> France | 8, 095, 152 | 15, 035,533 | 12, 148, 704 | 22.0 | 22.0 | 17.2 |
| Greece | 273, 189 | 477, 339 | - $1,305,982$ | $\cdot 9$ | $\cdot 6$ | 1.9 |
| Java and Mad | 27, | 405, 311 | 1,077, 399 | . 7 | 6 | 1.5 |
| Mexico | 704, 509 | 2, 086, 054 | 2,783, 963 | 1. 9 | 3. 1 | 1. 9 |
| Morocco | 221, 799 | 351, 542 | 401, 520 | . 6 | . 5 | . 6 |
| Netherlands | 263, 769 | 363, 132 | 593, 985 | . 7 | . 5 | . 8 |
| Other Dutch East Indies | 709, 526 | 421, 396 | 170, 799 | 1. 9 | 6 | 2 |
| Peru. | 626, 630 | 979, 674 | 853, 525 | 1. 7 | 1.4 | 1. 2 |
| Spain | 1,004, 374 | 2,605, 221 | 3, 451, 732 | 2.7 | 3.8 | 4.9 |
| United Kingdo | 1,237, 600 | 1, 396, 013 | 1,925, 208 | 3. 4 | 2.0 | 2.7 |
| Venezuela | 1, 349, 632 | 1, 772, 041 | 1, 801, 211 | 3. 7 | 2.6 | 2.5 |
| Other coun | 2, 488, 144 | 4, 247, 537 | 6, 110, 546 | 6. 8 | 6.4 | 8.8 |
| Total | 36, 816, 402 | 68, 227, 549 | 70, 763, 139 | 100.0 | 100.0 | 100.0 |
| Goat skins, wet- |  |  |  |  |  |  |
| Argent | 352 | 77,377 | 158, 018 |  | 0.5 | 0.8 |
| British India | 4, 684, 672 | 14, 692,364 | 16, 824,162 | 95.4 | 96.0 | 90.4 |
| British South A |  | 38,677 | 147, 200 |  | 3 | . 8 |
| China | 59,654 |  | 15,733 | 1.2 |  | . 1 |
| Spain |  |  | 97, 928 |  |  |  |
| Other count | 167, 086 | 498, 674 | 1, 354, 177 | 3.4 | 3.2 | 7.3 |
| Total | 4, 911, 764 | 15, 307, 092 | 18, 607, 046 | 100.0 | 100.0 | 100.0 |
| Sheep and lamb skins, dry and wet- |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Argentina | 8, 316, 958 | 12, 964, 069 | 16, 229, 412 | 14.3 | 26.5 | 18.8 |
| Australia | 3, 757, 256 | 712, 350 | 4, 838, 716 | 6.4 | 1.5 | 5.6 |
| Brazil. | 1,755, 837 | 1,846, 780 | 1, 855, 404 | 3. 0 | 3.8 | 2.1 |
| British India | 1,983, 802 | 1, 367, 388 | 187, 800 | 3. 4 | 2.8 | . 2 |
| British Sou | 3, 292, 713 | 1, 490, 700 | 2, 499, 658 | 5.6 | 3.1 | 2.9 |
| Canada | 3, 525, 789 | 2, 189, 962 | 3, 660, 849 | 6. 0 | 4.5 | 4.2 |
| Chile-- | 2, 439, 595 | 138, 343 | 1, 509, 370 | 4.2 | . 3 | 1.7 |
| China | 469, 577 | 31, 063 | 683, 003 | . 8 | . 1 | . 8 |
| France | 729, 458 | 346, 835 | 1,066, 581 | 1.3 | .7 | 1.2 |
| Greece | 311, 740 | 120, 079 | 560,652 | 5 | 2 | 6 |
| New Zealan | 16, 055,011 | 13, 351, 877 | 13, 666, 790 | 27.5 | 27.3 | 15.8 |
| Spain----- | 951,768 | 1,507, 417 | 3, 978, 638 | 1.6 | 3.1 | 4.6 |
| United Kingdom | 8, 783, 816 | 9, 953, 330 | 27, 358, 807 | 15.1 | 20.4 | 31.7 |
| Uruguay ---.-- | $\begin{array}{r}326,695 \\ 4,820 \\ \hline\end{array}$ | -712, 923 | 3, 321, 104 | . 6 | 1.5 | 3. 8 |
| Other countries | 4, 820, 990 | 1,699, 176 | 3, 846, 793 | 8.4 | 3.4 | 4.7 |
| Total | 58, 299, 376 | 48, 838, 392 | 86, 399, 136 | 100.0 | 100.0 | 100.0 |

${ }^{1}$ Preliminary.

Table 660.—Origin of principal farm products imported,into the United States, year ending June 30, 1921-1923-Continued.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{231}^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vegetable products. |  |  |  |  |  |  |
| Cocoa or cacao beans: | Pounds. | Pounds. | Pounds. | P.ct. | P.ct. | P.ct. |
| Brazil.-...------ | 74, 708, 628 | 18, 975, 068 | 59, 978, 071 | 22.8 | 6.0 | 15.7 |
| British West Africa | 51, 034, 029 | 97, 125, 629 | 122, 276, 584 | 15.6 | 30. 6 | 32.1 |
| British West Indies | 51, 042, 195 | 36, 052, 288 | 39, 938, 150 | 15. 6 | 11.4 | 10.5 |
| Dominican Republic | 41, 757, 753 | 50, 562, 225 | 42, 457, 894 | 12.8 | 15.9 | 11.1 |
| Ecuador | 54, 674,651 | 37, 438, 630 | 40, 886, 824 | 16.7 | 11.8 | 10.7 |
| Haiti | 1, 104, 499 | 3, 638, 744 | 5, 026, 713 | . 3 | 1.1 | 1.3 |
| Portugal | 4, 393, 911 | 4, 392, 107 | 2, 398, 716 | 1.3 | 1.4 | 6 |
| United Kingdom | 13, 637,481 | 21,177, 841 | 16, 030, 541 | 4. 2 | 6.7 | 4. 2 |
| Venezeula | 18, 602, 117 | 20, 002, 934 | 21, 990, 119 | 5.7 | 6.3 | 5.8 |
| Other countries | 16, 168, 086 | 20, 931, 283 | 30, 019, 663 | 5.0 | 6. 6 | 7.9 |
| Total | 327, 123, 350 | 317, 124, 373 | 381, 508, 058 | 100.0 | 100.0 | 100.0 |
| Coffee: |  |  |  |  |  |  |
| Aden | 2, 623, 528 | 1, 604, 622 | 2, 436, 100 | 2 | 0.1 | 0.2 |
| Brazil | 857, 454, 209 | 756, 581, 844 | 840, 338,490 | 63. 6 | 61.1 | 64.4 |
| Central Americ | 150, 337, 222 | 99, 134, 597 | 125, 398, 369 | 11.1 |  | 9.6 |
| Dutch East Indis | 18, 507, 273 | 234, ${ }^{2331,697}$ | -20,987, 513 | 1.4 | 1.8 | 14.9 1.6 |
| Mexico | 23, 413,471 | 38,444, 169 | 39, 490, 998 | 1.7 | 3.1 | 3.0 |
| Venezuela | 51, 974, 340 | 65, 267, 153 | 58, 500, 417 | 3.9 | 5.3 | 4.5 |
| West Indies | 18, 875, 161 | 6, 626, 607 | 10,500, 978 | 1.4 | . 5 | 8 |
| Other countrie | 13, 349, 622 | 12, 599, 772 | 13, 936, 254 | 1.0 | 1.1 | 1.0 |
| Total | 1,348, 926, 338 | 1, 238, 012, 078 | 1,305, 187, 684 | 100.0 | 100.0 | 100.0 |
| Fibers, vegetable: |  |  |  |  |  |  |
| Cotton, rawBritish India | 5, 196, 254 | 5, 166, 749 | 8, 894, 607 |  | 2.9 | 3.8 |
| China-...... | 11, 532, 162 | 7,656, 667 | 24, 792, 329 | 9.2 | 4.3 | 10.5 |
| Egypt | 43, 578, 199 | 110, 921, 695 | 157, 990, 018 | 34.6 | ${ }^{61.9}$ | 66.9 |
| Mexico | 44, 077, 364 | 26, 818, 225 | 15, 868, 478 | 35.0 | 15.0 | 6.7 |
| Peru. | 11, 338, 923 | 17, 433, 458 | 10, 335, 486 | 9.0 | 9. 7 | 4.4 |
| United Kingdo | 6,547, 884 | 5, 599, 225 | 5, 274, 508 | 5.2 | 3.1 | 2.2 |
| Other countries | 3, 667, 968 | 5, 569, 036 | 12, 936, 993 | 2.9 | 3.1 | 5.5 |
| Total | 125, 938, 754 | 179, 165, 055 | 236, 092, 419 | 100. 0 | 100.0 | 100.0 |
| Flax- | Long tons. | Long tons. | Long tons. | $P . c t$. | $P . c t$. | P.ct. |
| Belgium. |  |  |  | 4. 39 | 11.8 | 9.3 2.3 |
| Canada | 2,163 | 710 8 | 2, 076 | 39.9 | 14.1 .2 | 25.3 |
| Denmark | 2 |  | 150 |  |  | 1.8 |
| France | 24 | 4 | 3 | . 4 | . 1 |  |
| Germany | 10 | 85 | 471 | . 2 | 1.7 | 5.7 |
| Italy. | 327 | 60 | 451 | 6. 0 | 1.2 | 5.5 |
| Japan. | 399 | 670 | 126 | 7.4 | 13.3 | 1.5 |
| Latvia --..- |  | ${ }_{706}^{1}$ | ${ }_{282}$ |  | 14.1 | 5.9 3.4 |
| Phulippine Islands | 533 |  |  | 9.8 |  | 3.4 |
| Poland.-........ |  | 9 | 344 |  | . 2 | 4.2 |
| Russia in Asia | 191 |  |  | 3.5 |  |  |
| United Kingdom- | 490 | 2, 171 | 2, 661 | 9.0 | 43.2 | 32. 4 |
| Russia, European. | 412 |  |  | 7.6 |  |  |
| Other countries. | 30 | 4 | 321 | . 6 | . 1 | 4.1 |
| Total. | 5,427 | 5, 021 | 8,207 | 100.0 | 100.0 | 100.0 |
| Manila fiber- |  |  |  |  |  |  |
| Philippine Islands. | 51,008 | 43, 463 | 95,747 | 98.7 | 99.4 | 99.1 |
| Other countries. | 676 | 260 | 851 | 1.3 | . 6 | 9 |
| Total | 51, 684 | 43, 723 | 96, 598 | 100.0 | 100. 0 | 100.0 |
| Sisal grass- |  |  |  |  |  |  |
| Belgium. |  | 748 | 864 |  | 1.0 | 0.9 |
| British East Africa | 3, 193 | 1,316 | 3, 104 | 2.0 | 1.8 | 3. 2 |
| Java and Madura |  | 1,383 | -5,935 |  | 81.9 | ${ }^{6} \mathbf{6 . 1}$ |
| Mexico | 142, 592 | 64,000 | 77,383 | 89.9 | 88.4 | 79.3 |
| Other Dutch East Indies. | 8,093 | 1,702 | 2,997 1,185 | 1. 1 | 2.4 | 1. 21 |
| United Kingdom.-.-.------- | 2, 2828 | 770 2,440 | 1,185 | 1.4 1.6 | 1.1 <br> 3.4 | 1.2 |
| Total | 158, 590 | 72, 359 | 97, 682 | 100.0 | 100.0 | 100.0 |

[^333]Table 660.-Origin of principal farm products imported into the United States, year ending June 30, 1921-1923-Continued.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | ${ }_{231}^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vegetable products-continued. |  |  |  |  |  |  |
| Bananas: | Bunches. | Bunches. | Bunches. | P.ct. | P.ct. | P.ct. |
| Central America | 27, 072, 105 | 29, 952, 565 | 29, 073, 239 | 66. 3 | 64.9 | 65.3 |
| Colombia | 3, 435, 340 | 2, 587,000 | 2, 266, 653 | 8.4 | 5.6 | 5.1 |
| Jamaica | 1, $7,102,835$ | 10,440, 110 | 1,916, 981,633 | 4.6 17.4 | 22. 6 | 4.3 22 2 |
| Mexico |  | 1, 104, 374 | 1, 189, 090 |  | 2.4 | 22.7 |
| Other countries | 1,326, 103 | 154, 631 | 173, 978 | 3.3 | .4 | 4 |
| Total. | 40, 807, 674 | 46, 119, 632 | 44, 501, 196 | 100.0 | 100.0 | 100.0 |
| Grains: |  |  |  |  |  |  |
| Rice, uncleaned (including pad-dy)- | Pounds. | Pounds. | Pounds. | P. ct. | P.ct. | P. ct. |
| French Indo-China |  |  | 1, 282, 000 |  |  | 1.0 |
| Hongkong. <br> Japan | $\begin{array}{r} 298,971 \\ 32,835,831 \end{array}$ | $\begin{array}{r} 168,969 \\ 5,408,071 \end{array}$ | 317, 2, 552,505 | $\begin{array}{r} 0.9 \\ 98.7 \end{array}$ | 2.8 88.3 | 2.7 21.8 |
| Mexico. |  | 530, 183 | 7, 137,461 |  | 8.7 | 61.1 |
| Other countries | 133, 120 | 15, 056 | 388, 691 | . 4 | . 2 | 3.3 |
| Total | 33, 267, 922 | 6, 122, 279 | 11, 678, 218 | 100.0 | 100.0 | 100.0 |
| Rice, cleaned- |  |  |  |  |  |  |
| Germany. | 2, 376,440 | 5,315, 385 | 1, 5899,180 | 3.8 | 8.0 | 2.8 |
| French Indo-Ci | 3, 469,571 | 89,000 | 27,773, 526 | 5. ${ }^{-6}$ | . 1 | 48.8 |
| Hongkong | 52, 510,686 | 53, 150, 615 | 21, 054, 035 | 84.5 | 79.7 | 37.0 |
| Mexico. | 809, 311 | 2, 079, 614 |  | 1.3 | 3. 1 |  |
| United States | 1, 122, 128 | 3, 228,478 | 518, 672 | 1.8 | 4.8 | . 9 |
| Other countries | 1, 820, 896 | 1, 529, 336 | 3, 414, 267 | 3.0 | 2.3 | 5.9 |
| Total | 62, 109, 032 | 66, 707, 458 | 56, 946, 692 | 100.0 | 100.0 | 100.0 |
| Rice flour or meal- |  |  |  |  |  |  |
| China | 100, 990 | 67 | 2,100 | 7.0 | 0.1 | 0.2 |
| Dutch East Indies |  | 114, 258 | 6,394 |  | 14. 5 | 7 |
| French Indo-China |  | 26,590 | 200, 000 |  | 3.4 | 22.0 |
| Germany - | 4,993 | 46, 203 | 156, 750 | 3 | 5. 8 | 17.2 |
| Hongkong | 955, 185 | 239, 970 | 172, 992 | 66. 9 | 30.4 | 19.0 |
| Japan-... | 364,006 2 | 362, 047 | 342,963 28 | 25.5 | 45.8 | 37. 6 |
| Total | 1,427,658 | 790, 354 | 910, 981 | 100. 0 | 100. 0 | 100.0 |
| WheatCanada | Bushels. 50, 694, 096 | Bushels. 14, 465, 502 | Bushels. 18, 012, 467 | $\begin{gathered} \overline{P_{\dot{C}} \boldsymbol{c t .}} . \\ 99.4 \end{gathered}$ | $\begin{aligned} & \hline \text { P. ct. } \\ & 100.0 \end{aligned}$ | $\begin{aligned} & P \cdot c t . \\ & 100.0 \end{aligned}$ |
| Other countries | -5, 309,928 |  |  | . 6 |  |  |
| Total | 51, 004, 024 | 14, 465, 509 | 18,012, 540 | 100.0 | 100. 0 | 100.0 |
| Wheat flourCanada. | $\underset{\substack{\text { Barrels. } \\ 1,419,662}}{ }$ | $\begin{array}{\|c} \hline \hline \text { Barrels. } \\ 618,953 \\ 105 \end{array}$ | Barrels. | $\begin{aligned} & \hline \hline P_{9 . c t . c t .}^{\prime} \end{aligned}$ | $\begin{aligned} & \overline{P \cdot c t . c t .} \\ & 100.0 \end{aligned}$ | $\begin{array}{r} P . c t . \\ 09.8 \end{array}$ |
| Other countries | 1, 1,222 | 152 | 762 | .1 |  | . 2 |
| Total | 1,420, 884 | 6i9,105 | 429, 421 | 100.0 | 100, 0 | 100.0 |
| Nuts: |  |  |  |  |  |  |
| France....-. | 150, 236 | P622, 092 | 539, 693 | 6. 6.9 | 11. 4 | P. 8.7 |
| Italy | 214, 344 | 372, 328 | 277, 172 | 9.9 | 6.9 | 4.5 |
| Spain. | 1, 429, 164 | 1,692, 595 | 4, 672, 896 | 65.9 | 31.1 | 75.3 |
| Turkey in Europ | 305, 000 | 2, 686, 684 | 654, 527 | 14. 1 | 48.5 | 10.5 |
| Other countries. | 71, 181 | 110, 719 | 64, 285 | 3.2 | 2.1 | 1.0 |
| Total | 2, 169,825 | 5, 434, 418 | 6, 208, 573 | 100.0 | 100.0 | 100.0 |
| Filberts, not shelled- |  |  |  |  |  |  |
| France.-.-.-.-.---. | 164,817 $10,556,550$ | 114,595 $13,255,626$ | 87,455 $13,911,108$ | 1.4 89 8 | 0.8 93.8 | 0.6 96.8 |
| Italy- | 10, 824, 504 | 13, 228, 261 | -244, 377 | 7.0 | 1.6 | 1.7 |
| Turkey in Europ | 26, 140 | 479, 841 | 58,264 | .2 | 3.4 | 4 |
| Other countries | 219, 478 | 54, 711 | 65, 071 | 1.9 | .4 | 5 |
| Total | 11, 791, 489 | 14, 133,034 | 14, 366, 275 | 100.0 | 100.0 | 100.0 |
| Peanuts, shelled- |  |  |  | 12.2 |  | 66.8 |
| Chosen.- | 5,190, 220 | 99,000 | 28,350, 72 | 12.2 | 6.8 1.3 | 60.8 |
| Japan. | 35, 895,990 | 6, 658, 036 | 12, 102, 549 | 84:2 | 89.6 | 28.5 |
| Other countries | 1,541, 824 | 164,406 | 1,985, 449 | 3.6 | 2.3 | 4.7 |
| Total. | 42, 628, 034 | 7,427, 127 | 42, 438, 725 | 100.0 | 100.0 | 100.0 |

${ }^{1}$ Preliminary.

Table 660.-Origin of principal farm products imported into the United States, year ending June 30, 1921-1923-Continued.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-231 | 1920-21 | 1921-22 | ${ }^{1922-}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vegetable products-continued. |  |  |  |  |  |  |
| Nuts-Continued. Peanuts, not shelled- | Prounds. | Pounds. | ounds. | P.ct. | P.ct. | P.ct. |
| Canada (via) | 246, 601 |  | 20,000 | 4.6 |  | 0.5 |
| China | 1,642,077 | 1, 435, 320 | 2,462,095 | 30.6 | 42.5 | 63.7 |
| Hongriong | 609, 678 | 55, 234 | 47, 607 | 11.4 | 1.6 | 1.2 |
| Japan. | 2, 434, 963 | 1,833, 183 | 999, 204 | 45. 4 | 54.3 | 25.9 |
| Spain. | 109,375 | 22, 000 | 303, 598 | 2.0 | . 7 | 7.9 |
| Other countries | 318, 502 | 30, 357 | 29, 640 | 6.0 | . 9 | 8 |
| Total | 5, 361, 196 | 3,376,094 | 3,862,139 | 100.0 | 100.0 | 100.0 |
| W alnuts, sholled- |  |  |  |  |  | 4 |
| China. | 747, 079 | 2,443, 837 | 1, 776,430 | 7.0 | 14.4 | 9.5 |
| France | 9,081, 602 | 12, 612, 527 | 13, 846, 640 | 85.3 | 74. 1. | 78.6 |
| Italy | 7,050 | 212, 863 | 286, 385 | . 1 | 1.3 | 1.6 |
| Spain. | 256, 092 | 411, 871 | 585, 329 | 2.4 | 2.4 | 3.3 |
| Turkey in Europe Other countries. | 24,865 412,734 | 492, 941 | 213,696 742,732 | .2 4.0 | 2.9.9 | 1.2 4.4 |
| Total | 10,641, 154 | 17,028, 927 | 17,606, 092 | 100.0 | 100.0 | 100.0 |
| Walnuts, not shelled- |  | 272,908 | 199, 738 |  |  | . 0 |
| Chile... | 391, 603 | 4,397, 718 | 574, 467 | 3. 1 | 10.2 | 2.9 |
| Chima. | 1, 226, 258 | $9,364,788$ | 1,591, 683 | 9.8 | 21.7 | 8.0 |
| France | 3, 142, 661 | 7, 780, 067 | $8,487,674$ | 25.1 | 18:0 | 42.6 |
| Italy | 6, 164, 762 | 12,996, 126 | 8, 497, 492 | 49.2. | 30.1 | 42.7 |
| Japan | 597, 050 | 2,337, 671 | 100,700 | 4.8 | 5. 4 | . 5 |
| Rumania |  | 4, 025, 4888 | 73, 218 |  | 9.3 | . 4 |
| Turkey in Europe | 642, 441 | 893,847 $1,137,765$ | 18,673 369,774 | 5.1 | 2.1 2.6 | 1.8 |
| Total | 12, 525, 128 | 43, 206, 378 | 19, 813,419 | 100.0 | 100.0 | 100.0 |
| Oils, vegetable: |  |  |  |  |  |  |
| British India | 213,329 | 1,442,671 | 1,492,431 | 0. 1 | 0.6 | 0.7 |
| Dutch East Indies | 50, 977, 660 |  |  | 29. 3 |  |  |
| French Oceania | 1,364, 732 | 1,119,833 |  | 6.8 |  |  |
| Philippine Islands | $115,563,356$ $5,769,881$ | $226,651,680$ $1,021,943$ | 210, 968, 211. | 66.5 3.3 |  |  |
|  |  | 230, 236, 127 |  | 100.0 | 100.0 | 109.0 |
| Olive, edible - | allons | Galons | Gallons. |  | P.ct. |  |
| France. | 532, 135 | 858, 209 | 1,079, 165 | 12.0 | 10.8 | 10.8 |
| Greece in Asia. |  | 188, 465 | 4,469 |  | 2.4 |  |
| Greece in Europ | 678, 510 | 803, 557 | 471,709 | 15.3 | 10.1 | 4.7 |
| Italy | 1,756, 761 | 1, 913, 226 | $5,858,119$ 2 2 | 39.5 <br> 29.4 <br> 1 | 24.1 27.3 | 58.8 24.4 |
| Spain --- | 1, ${ }_{901,777}$ | 2,173, ${ }_{8}^{1,746}$ |  | 2.0 |  |  |
| Turkey in Europ | 23,279 | 368 | 76,370 | . 1 |  | 8 |
| Other countries. | 75, 963 | 2,008,415 | 40, 852 | 1.7 | 25.3 | 5 |
| Total. | 4, 444,417 | 7,949, 722 | 9, 959, 123 | 100.0 | 100.0 | 100.0 |
| Soy bean oil- | Pounds. |  | Pounds. | P. ${ }_{\text {fit }}$ | $P_{4}^{\text {c }}$ ct. ${ }^{\text {ct. }}$ | P.ct. ${ }_{\text {c }}$ |
| China | $\begin{array}{r}3,418,933 \\ 13,495,908 \\ \hline\end{array}$ | 3,904, 328 1, 133 | 2, 105, 590 | 27.9 |  | 5.4 10.8 |
| Japan-...- K (eased territory | 31, 1885,306 | 2,888,600 | 31, 621, 507 | 64.6 | 34.3 | 81.8 |
| Philippine Islands |  | 1,027,058 511,440 |  |  | 12.4 6.2 |  |
| Other countries | 530, 408 | 511, 440 | 717,674 | 1.1 | 6.2 | 2.0 |
| Total | 49, 330, 645 | 8; 282, 559 | 38, 635, 381 | 100.0 | 100. 0 | 100.0 |
| Opium (morphia 9 per cent and more): France |  | 1,654 |  |  |  |  |
| Greece in Asia |  | 21, 831 |  |  | 15.1 |  |
| Greece in Europe | 11, 173 | 62, 579 | 39,386 | 14.4 | 43.4 | 34.4 |
| Turkey, Asiatic | 28,300 | 1, 6893 |  | 34.0 47.9 | 1.2 |  |
| Turkey, European | 37,060 | 56, 837. | 18,551 | 47.9 | 37.3 | 16.2 |
| Other countrios.- | 2,905 | 2; 684 | 3,280 | 3.7 | 1.9 | 2.8 |
| Total | 77,444 | 144, 278 | ${ }^{3} 114,599$ | 100.0 | 100.0 | 100.0 |

${ }^{1}$ Preliminary.
${ }^{2}$ Jan. 1-June 30, 1921,
${ }^{3}$ Beginning Sept. 22.

Table 660.-Origin of principal farm products imported into the United States, year ending June 30, 1921-1923-Continued.

| Article and country of origin. | 1920-21 | 1921-22 | 1922-23 ${ }^{1}$ | 1920-21 | 1921-22 | $\begin{gathered} 1922- \\ 23{ }^{1} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vegetable products-continued. |  |  |  |  |  |  |
| Spices: |  |  |  |  |  | P.ct. |
| Pepper, ungroundBritish India | Pounds. $3,759,280$ | Pounds. $4,625,092$ | Pounds. <br> 6,900, 406 | P. 17.1 | P.ct. | $20.6$ |
| Ceylon |  | 14, 975 | 284, 132 |  |  | 8 |
| Java and Madura | 8,299, 073 | 25, 136, 204 | 18, 170, 245 | 37.8 | 68.0 | 54.2 |
| Netherlands | 2, 718, 786 | 529, 274 | 285, 144 | 12. 4 | 1.4 | . 8 |
| Other Dutch East Indies |  | 175, 284 | 424, 315 |  | . 5 | 1. 3 |
| Straits Settlements. | 2, 402, 783 | 3, 794, 021 | 5, 130, 284 | 11.0 | 10.3 | 15.3 |
| United Kingdom | 3, 684, 531 | 628, 230 | 473, 376 | 16. 8 | 1. 7 | 1.4 |
| Other countries. | 1,065, 267 | 2, 045, 014 | 1,879,856 | 4.9 | 5.6 | 5.6 |
| Total | 21, 929, 720 | 36, 948, 094 | 33, 547, 758 | 100.0 | 100.0 | 100.0 |
| ds: |  |  |  |  |  |  |
| Flaxseed | Bushels. | Bushels. | Bushels. | P. ct. | P. ct. | P. ct. |
| Argentina | 13, 145, 310 | 10, 408, 928 | 22, 330, 931 |  | 76.4 | 89.3 |
| Canada. | 2, 635,025 | 3,012, 515 | 2, 191, 103 | 16. 3 | 22.1 | 8.8 |
| Other countries | 390, 080 | 198, 589 | 483, 902 | 2.4 | 1. 4 | 1.9 |
| Total | 16, 170, 415 | 13, 632, 073 | 25, 005, 936 | 100.0 | 100.0 | 100.0 |
| Grass seed, clover, red- | 253,738 |  | 131, 284 | 1.7 | 5. 0. | 21.5 |
| Chi |  |  |  |  | 5. 5 |  |
| Czechoslovakia |  | 393, 680 | 10,910 |  | 4. 2 | 1.8 |
| France | 13, 282, 305 | 2, 461, 023 | 245, 766 | 91.5 | 26.5 | 40.4 |
| German | 406, 020 | 3, 345, 976 | 52, 848 | 2.8 | 36. 0 | 8.7 |
| Italy | 261, 081 | 1, 531, 695 |  | 1. 8 | 16. 5 |  |
| Poland |  | 425, 947 | 132, 000 |  | 4.6 | 21.7 |
| United Kingdom | 157, 908 | 36, 300 | 35, 858 | 1.1 | ${ }^{-4}$ | 5.9 |
| Other countries. | 153, 816 | 120, 760 |  | 1. 1 | 1.3 |  |
| Total | 14, 514, 868 | 9, 289, 653 | 608, 666 | 100.0 | 100.0 | 100.0 |
| All other, including alsike, crimson |  |  |  |  |  |  |
| and all otherCanada | 9, 656, 014 | 10, 279, 434 | 10, 482, 073 | 54.4 | 61.7 | 78.9 |
| Chile. | 53, 200 | 363,.590 |  | . 3 | 2.2 |  |
| Czechoslov | 156, 365 | 179, 441 | 56,401 | . 9 | 1. 1 | .$^{.4}$ |
| France. | 5, 495, 924 | 1, 661, 501 | 1, 569, 395 | 31.0 | 10. 0 | 11.8 |
| Germany | 1, 841, 222 | 3, 335, 442 | 303, 289 | 10.4 | 20.0 | 2.3 |
|  |  | 457, 672 |  |  | 2.7 |  |
| Poland - - - |  | 6,633 96,450 | 64,953 475,639 | 1.0 | 6 | 3. 6 |
| Onited Kingd | $\begin{aligned} & 179,832 \\ & 357,281 \end{aligned}$ | 282, 940 | 341, 708 | 2.0 | 1.7 | 2.5 |
| Total | 17, 739, 838 | 16, 663, 103 | 13, 293, 458 | 100.0 | 100.0 | 100.0 |
| Cuba | 4, 925, 630, 505 | 7, 720, 255, 237 | 7, 730, 592, 152 | 70.5 | 91.2 | 91.8 |
| Dominican Republic | 210, 659, 825 | 93, 067, 270 | 3, 479, 673 | 3. 0 | 1.1 |  |
| Dutch East Indies | 577, 847, 164 | 6,914 |  | 8.3 | - |  |
| Hongkong -....------------------------- | 41, 877, 044 | 571, 774 | 2,742, 723 | - 6 |  | 4 |
| Mexico.-- | 23, 581, 238 | 42,711,737 | 29,953, 811 | ${ }^{\cdot} 3$ | . 5 | 1 |
| Other South America | 206, 053, 035 | 7, 537, 218 | $4,354,242$ <br> 8,791 <br> 16 | 3. 0 | . 1 | -1 |
| Peru-.-.-- Islands | $159,125,034$ $337,143,949$ | 538, 177, 460 | $8,791,816$ $553,232,644$ | 2. 3 |  | 6. 6 |
| Philippine Islands | $337,143,949$ $422,938,419$ | 538, 17, 792, | $553,232,644$ $20,559,354$ | 4. 8. | 6.4 .2 | 6.6 .2 |
| Tot | 6, 984, 195, 961 | 8, 464, 328, 540 | 8, 422, 488, 139 | 100.0 | 100.0 | 100.0 |
|  |  |  |  |  |  |  |
| Tea: British East Indi | 19, 955, 562 | 21, 394, 828 | 19, 842, 170 | 27.6 | 24.8 | 20.5 |
| Canada | 1, 493, 041 | 677, 483 | -791, 745 | 2.1 | . 8 | . 8 |
| China. | 9, 091, 375 | 16, 211, 659 | 13, 507, 750 | 12.6 | 18.8 | 14.0 |
| Dutch East Indies | 5, 378, 432 | 6, 674, 097 | 8, 666, 908 | 7.4 | 7.7 | 9.0 |
| Japan --- | 25, 021, 992 | 26, 639, 127 | 35, 974, 918 | 34. 7 | 30. 9 | 37.2 |
| United Kingdom | 9, 053, 415 | 11, 293, 042 | 15, 545, 681 | 12. 5 | 13. 1 | 16.1 |
| Other countries------------------------------ | 2, 202, 236 | 3, 251, 713 | 2, 339, 436 | 3.1 | 3.9 | 2.4 |
| Total | 72, 196, 053 | 86, 141, 949 | 96, 668, 608 | 100.0 | 100.0 | 100.0 |

[^334]Table 660.-Origin of principal farm products imported into the United States, year ending June 30, 1921-1923-Continued.


Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1922 and 1923, and official records of the Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Preliminary.

Table 661.-Foreign trade of the United States in agricultural products, 1852-1923.

| Year ending June 30. | Agricultural exports. ${ }^{1}$ |  |  | Agricultural imports. 1 |  | Excess of agricultural exports $(+)$ or of imports (-). | Forest products. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Domestic. |  | Foreign. | Total. | Per-centage of all imports. |  | Exports. |  | $\begin{gathered} \text { Im- } \\ \text { ports. } \end{gathered}$ | Excess of exports (+) or of imports (-). |
|  | Total. | Per-centage of all exports. |  |  |  |  | Domestic. | Foreign. |  |  |
| Average: | Thousands. | Per <br> cent. | Thousands. | Thousands. | Per cent. | Thou- | Thou- | Thou- | Thou- | Thousands. |
| 1852-1856. | \$164, 895 | 80.9 | \$8, 060 | \$77, 847 | 29.1 | +\$95, 108 | \$6, 819 | \$694 | \$3, 256 | +\$4,257 |
| 1857-1861. | 215, 709 | 81.1 | 10, 174 | 121, 018 | 38. 2 | +104, 865 | 9,995 | 962 | 6,942 | +4,015 |
| 1862-1866 | 148, 866 | 75.7 | 9, 288 | 122, 222 | 43.0 | +35,932 | 7,366 | 798 | 8, 511 | -347 |
| 1867-1871. | 250, 713 | 76. 9 | 8, 538 | 179, 774 | 42.3 | +79,477 | 11, 775 | 691 | 14, 813 | -2,347 |
| 1872-1876. | 396, 666 | 78.5 | 8,853 | 263, 156 | 46.5 | +142, 364 | 17,907 | 960 | 19, 728 | -862 |
| 1877-1881 | 591, 351 | 80.4 | 8,632 | 266, 384 | 50. 4 | +333, 599 | 17, 579 | 553 | 22, 006 | $-3,784$ |
| 1882-1886 | 557, 473 | 76. 3 | 9,340 | 311, 708 | 46.8 | +255, 106 | 24, 705 | 1,417 | 34, 253 | $-8,131$ |
| 1887-1891. | 573, 287 | 74. 7 | 6, 982 | 366, 950 | 43.3 | +213, 319 | 26, 061 | 1,443 | 39, 647 | -12, 144 |
| 1892-1896. | 638, 748 | 73.0 | 8,446 | 398, 332 | 51.6 | +248, 863 | 29, 276 | 1,707 | 45, 091 | $-14,107$ |
| 1897-1901. | 827, 566 | 65.9 | 10,962 | 376, 550 | 50.2 | +461, 978 | 45, 961 | 3,283 | 52,327 | $-3,083$ |
| 1902-1906 | 879, 541 | 59.5 | 11, 922 | 487, 881 | 46.3 | +403, 583 | 63, 585 | 3, 850 | 79, 885 | $-12,451$ |
| 1907-1911 | 975, 399 | 53.9 | 12, 126 | 634, 571 | 45. 2 | +352, 954 | 88, 764 | 6, 488 | 137, 051 | -41,799 |
| 1912-1916 | 1, 256, 452 | 45.1 | 24, 275 | 924, 699 | 50.1 | +356,028 | 92, 129 | 5,563 | 185, 398 | -87, 706 |
| 1900-1 | 951, 628 | 65.2 | 11, 293 | 391, 931 | 47.6 | $+570,990$ | 55, 369 | 3, 599 | 57, 144 | +1,825 |
| 1901-2 | 857, 114 | 63.2 | 10, 308 | 413, 745 | 45.8 | +453, 677 | 48, 929 | 3, 609 | 59,187 | $-6,649$ |
| 1902-3 | 878, 481 | 63.1 | 13, 505 | 456, 199 | 44.5 | +435, 787 | 58, 734 | 2, 865 | 71, 478 | -9, 879 |
| 1903-4 | 859, 160 | 59.5 | 12, 625 | 461, 435 | 46.6 | +410, 350 | 70, 086 | 4, 177 | 79, 619 | $-5,356$ |
| 1904-5. | 826, 905 | 55.4 | 12, 317 | 553, 851 | 49.6 | +285, 370 | 63, 199 | 3,790 | 92, 681 | -25, 691 |
| 1905-6. | 976, 047 | 56.7 | 10, 856 | 554, 175 | 45. 2 | +432,728 | 76, 975 | 4,809 | 96, 462 | -14, 678 |
| 1906-7 | 1, 054, 405 | 56. 9 | 11, 614 | 626, 837 | 43.7 | +439,182 | 92, 949 | 5,500 | 122, 421 | -23, 972 |
| 1907-8 | 1, 017, 396 | 55.5 | 10, 299 | 539, 690 | 45. 2 | +488, 005 | 90, 362 | 4,570 | 97, 733 | -2, 801 |
| 1908-9 | 903, 238 | 55.1 | 9,585 | 638, 613 | 48.7 | +274, 210 | 72, 442 | 4,983 | 123, 920 | -46, 495 |
| 1909-10. | 871, 158 | 50.9 | 14, 470 | 687, 509 | 44.2 | +198, 119 | 85, 030 | 9, 802 | 178, 872 | -84,040 |
| 1910-11 | 1, 030, 794 | 51.2 | 14, 665 | 680, 205 | 44.5 | +365, 254 | 103, 039 | 7, 587 | 162, 312 | -51, 686 |
| 1911-12 | 1, 050, 627 | 48.4 | 12, 108 | 783, 457 | 47.4 | +279, 277 | 108, 122 | 6, 413 | 172, 523 | -57, 988 |
| 1912-13 | 1, 123, 652 | 46.3 | 15, 029 | 815, 301 | 45.0 | +323, 381 | 124, 836 | 7, 432 | 180, 502 | $-48,235$ |
| 1913-14 | 1, 113, 974 | 47.8 | 17,729 | 924, 247 | 48.8 | +207, 456 | 106, 979 | 4,518 | 155, 261 | $-43,765$ |
| 1914-15 | 1, 475, 938 | 54.3 | 34, 420 | 910, 786 | 54.4 | +599, 571 | 52, 554 | 5, 089 | 165, 849 | -108, 207 |
| 1915-16 | 1,518, 071 | 35.5 | 42, 088 | 1, 189, 705 | 54.1 | +370, 454 | 68, 155 | 4,364 | 252, 851 | -180, 331 |
| 1916-17 | 1, 968, 253 | 31.6 | 37, 640 | 1, 404, 972 | 52.8 | +600, 921 | 68, 919 | 11, 172 | 322, 699 | $-242,609$ |
| 1917-18 | 2, 280, 466 | 39.1 | 39, 553 | 1, 618, 874 | 55.0 | +701, 144 | 87, 181 | 6, 066 | 335, 033 | -241, 787 |
| 1918-19 | 3, 579, 918 | 50.6 | 103, 530 | $1,768,191$ | 57.1 | +1, 915, 257 | 113, 275 | 6, 004 | 293, 781 | $-174,501$ |
| 1919-20 | 3, 861, 511 | 48.6 | 122, 598 | 3, 129, 659 | 59.7 | +854, 450 | 190, 049 | 11, 026 | 508, 410 | -307, 334 |
| 1920-21 | 2, 607, 641 | 40.8 | 87, 019 | 1,941, 837 | 53.1 | +752, 823 | 141, 876 | 7, 805 | 343, 141 | $-193,460$ |
| 1921-22 | 1, 915, 371 | 51.8 | 40,590 | 1, 279, 072 | 49.0 | +676,889 | 93, 586 | 5,275 | 249, 587 | $-150,726$ |
| 1922-23 ${ }^{2}$ | 1, 798, 771 | 46.3 | 43, 249 | 1, 893, 968 | 50.1 | -51,948 | 128, 242 | 7,149 | 412, 162 | -276, 771 |

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1852-1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922, and 1923, Bureau of Foreign and Domestic Commerce. All values are gold.
${ }_{2}^{1}$ Not including forest products.
${ }^{2}$ Preliminary.

Table 662.-Imports of fruit stocks, rose stocks, bulbs, and tree seeds permitted unlimited entry, by countries of origin, years ending June 30, 1921-1923. ${ }^{1}$

| Countries. | 1920-21 |  |  |  | 1921-22 |  |  |  | 1922-23 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fruit stocks. | Rose stocks. | Bulbs. | Tree seeds. | Fruit stocks. | Rose stocks. | Bulbs. | Tree seeds. | Fruit stocks. | Rose stocks. | Bulbs. | Tree seeds. |
| Argentina | Number. | Number. | Number. | Pounds. | Number. | Number. | Number. | Pounds. | Number. | Number. | Number. | Pounds. 220 |
| Australia |  |  |  | $189,925$ |  |  |  | $57,925$ |  |  |  | 29,117 |
| Austria Azores. | 1,018 |  | 30,000 | $2,499$ |  |  | 19,000 | $4,923$ |  |  | 27, 950 | 4,481 |
| Belgium-- |  |  |  |  |  | 2,050 |  |  |  |  | 27,950 | - |
| Brazuda |  |  | 102, 986 |  |  |  | 179,286 |  |  |  | 311, 995 | 460 |
| Brazil- ${ }^{\text {British }}$ Guiana |  |  |  | 2,438 100 |  |  |  | 1,276 |  |  |  | 1,477 |
| Canada-.... |  |  |  | 35 |  |  |  | 120 |  |  |  | 928 |
| Canary Islands |  |  | 6,172 |  |  |  |  |  |  |  |  |  |
| Chile |  |  |  | - |  |  |  | 75 |  |  |  |  |
| China- |  |  | 4, 343, 136 | 150 |  |  | 1,003,035 | 744 | 2,000 |  | 1, 279, 224 | $\begin{array}{r} 85 \\ 3,350 \end{array}$ |
| Costa Rica | 200 |  |  |  |  |  |  |  | 100 |  |  |  |
| Czechosiovakia | 203 |  |  | 1,000 | 174, 600 |  |  | 105 |  |  |  | 984 |
| Denmark |  |  |  |  |  |  |  |  |  |  |  | 80 |
| England. | 18,995, 100 | 1, 181, 100 | 1,082, 601 | 15, 000 | 18, 079.162 | 1,871, 600 | --339, 024 | --380 | ------180 | 2,035, 800 | ---749, 464 | 25 |
| France | 18, 995, 767 | 2, 176, 282 | $45,039,413$ $16,660,025$ | 32,532 3,814 | 18, 079, 001 | 2, 432, 040 | $42,311,108$ $12,628,750$ | 44,491 3,284 | $\begin{aligned} & 17,538,115 \\ & 150.100 \end{aligned}$ | 2, 451, 700 | $40,624,911$ | 30,627 1,992 |
| Holland.-- | 2, 276, 951 | 2, 264, 010 | 115, 077, 763 | 3,387 | 1, 149, 675 | 2, 325,933 | 132, 386, 594 | - 80 | ?, 913,749 | 2, 886, 909 | 149, 475,921 | 2 |
| India. |  |  |  | 1,178 |  |  |  |  |  |  |  | - |
| Ireland |  | 269, 800 | 1,000 |  |  | 100,000 |  |  |  | 161,000 |  |  |
| Japan- | 138,309 3,000 |  | 6, 284,786 | 10,607 | 906, 350 |  | 7, 233,865 | 11,759 | 468, 700 |  | $1,753,389$ $8,203,162$ | 17, 142 |
| Luxemburg | 1,500 |  |  |  |  | 500 |  |  |  |  |  |  |
| Norway |  |  |  |  | 50 |  |  |  |  |  |  | --- |
| Poland |  |  |  |  |  |  |  | 983 |  |  |  | 693 |
| Scotland |  | 43, 000 |  |  |  | 40, 000 |  |  |  | 40, 000 |  | --- |
| Spain-- |  |  |  |  |  |  |  |  | 2,640 |  |  | - |
| Sweden----- |  |  |  |  |  |  |  | 25 1 |  |  | 9,275 | 69 |
| West Indies. |  |  |  |  |  |  |  | 1,100 |  |  |  | 260 |

Federal Horticultural Board.
${ }^{1}$ This does not include the comparatively small quantities of bulbs and other plants imported under special permits.

## MISCELLANEOUS AGRICULTURAL STATISTICS.

## CROP SUMMARY.

Table 663.-Acreage, production, and farm value, 1921-1923.

| Crop. |  | Acreage. | Production. |  |  | Farm value, Dec. 1. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Per acre. | Total | Unit. | $\xrightarrow{\text { Per }}$ | Total. |
| Corn. |  | 103,740,000 |  |  |  | Dolls. | Doilars. |
|  | -1921 | 103, 740, 000 | 29.6 | 3, 068, 569, 000 | Bushel | 0.423 | 1, 297, 213,000 |
|  | 1922 | 102, 846, 000 | 28.3 | 2, 906, 020,000 |  | . 758 | 1, 910, 775, 000 |
|  | 1923 | 104, 158, 000 | 29.3 | 3, 054, 395, 000 | ---do | . 727 | 2, 222, 013,000 |
| Winter wheat. | -1921 | 43, 414,000 | 13. 8 | 600, 316, 000 | --do | . 951 | 571, 044, 000 |
|  | 1922 | 42, 358, 000 | 13.8 | 586, 878, 000 | --do | 1. 047 | 614, 399, 000 |
|  | 1923 | 39, 522,000 | 14.5 | 572, 340, 000 | --.do | . 950 | 543, 825, 000 |
| Spring wheat | -1921 | 20, 282,000 | 10.6 | 214, 589, 000 | ---do | . 856 | 183, 790, 000 |
|  | 1922 | 19, 959, 000 | 14.1 | 280, 720, 000 | ---do | . 923 | 259, 013, 000 |
|  | 1923 | 18, 786, 000 | 11. 4 | 213, 401, 000 | --do | . 851 | 181, 676, 000 |
| All wheat | -1921 | 63, 696, 000 | 12.8 | 814, 905, 000 | ---do-- | . 926 | 754, 834, 000 |
|  | 1922 | 62, 317, 000 | 13.9 | 867, 598, 000 | --do- | 1. 007 | 873, 412,000 |
|  | 1923 | 58, 308, 000 | 13. 5 | 785, 741, 000 | --do | . 923 | 725, 501, 000 |
| Oats | -1921 | 45, 495, 000 | 23.7 | 1,078, 341, 000 | -do | . 302 | 325, 954, 000 |
|  | 1922 | 40, 790, 000 | 29.8 | 1, 215, 803, 000 | $\therefore$ do | . 394 | 478, 948, 000 |
|  | 1923 | 40, 833, 000 | 31.8 | 1, 299, 823,000 | --do | . 415 | 539, 253, 000 |
| Barley | -1921 | 7, 414, 000 | 20.9 | 154,946,000 | ---do | . 419 | $64,934,000$ 95,550 0 |
|  | 1922 | 7, 317,000 | 24.9 | $182,068,000$ $198,185,000$ | ---do | . 525 | $95,560,000$ $106,955,000$ |
|  | 1923 -1921 | $7,905,000$ $4,528,000$ | 25.1 13.6 | $\begin{array}{r}198,185, \\ 61,675,000 \\ \hline\end{array}$ | ---do- | . 540 | $106,955,000$ $43,014,000$ |
|  | 1922 | 6, 672, 000 | 15.5 | 103, 362, 000 | ---do | . 685 | 70, 841,000 |
|  | 1923 | 5, 157, 000 | 12.2 | 63, 023,000 | --do | . 647 | 40, 804, 000 |
| Buckwheat | -1921 | 680, 000 | 20.9 | 14, 207, 000 | ---do | . 812 | 11,540, 000 |
|  | 1922 | 764,000 | 19.1 | 14, 564, 000 | .-do | . 885 | 12, 889, 000 |
|  | 1923 | 737,000 | 18.9 | 13, 920,000 | ---do | . 933 | 12,984, 000 |
| Flaxseed | -1921 | 1,108,000 | 7.2 | 8, 229,000 | ---do | 1.451 | 11,648,000 |
|  | 1922 | 1,113, 000 | 9.3 | 10,375, 000 | ---do | 2. 115 | 21, 941,000 |
|  | 1923 | 2, 061,000 | 8.5 | $17,429,000$ $37,612,000$ | --do | 2. 108 | $36,733,000$ $35,802,000$ |
| Rice | -1921 | $\begin{array}{r} 921,000 \\ 1,055,000 \end{array}$ | 40.8 39.2 31 | $37,612,000$ $41,405,000$ | ---do- | . 952 | $35,802,000$ $38,562,000$ |
|  | 1923 | 1,892, 000 | 37.3 | 33, 256, 000 | --.do | 1. 103 | 36, 686,000 |
| Potatoes, | - 1921 | 3, 941, 000 | 91.8 | 361, 559,000 | ---do | 1. 101 | 398, 362, 000 |
|  | 1922 | 4, 307, 000 | 105. 3 | $453,396,000$ | --do | . 581 | 263, 355, 000 |
|  | 1923 | $3,816,000$ $1,066,000$ | 108.1 92.5 | $412,392,000$ $98,654,000$ | ---do |  | $339,322,000$ $86,894,000$ |
| Sweet potatoes | $\begin{array}{r} 1921 \\ -1922 \end{array}$ | $1,066,000$ $1,117,000$ | 92.5 97.9 | $98,654,000$ $109,394,000$ | ---do- | . 881 | $86,894,000$ $84,295,000$ |
|  | 1923 | . 993,000 | 97.9 | 97, 177, 000 | ---do | . 979 | 95, 091,000 |
| Hay, tame. | -1921 | 58,769,000 | 1.40 | 82, 379, 000 | Tons. | 12. 11 | 997, 527, 000 |
|  | 1922 | 61, 159, 000 | 1. 57 | 95, 882, 000 | ---do- | 12. 56 | 1,204, 101, 000 |
|  | 1923 | $60,162,000$ | 1.48 | 89, 098, 000 | --do | 14.07 | 1, 253, 364, 000 |
| H | -1921 | 15, 632, 000 | . 98 | 15, 391, 000 | ---do | ${ }^{6.63}$ | 101, 991, 000 |
|  | 1922 | 15, 871,000 | 1.02 | 16, 131, 000 | ---do | 7. 14 | 115, 176, 000 |
|  | 1923 | 15, 722,000 | 1.11 | 17, 528, 000 | ---do | 7.85 | 137, 603, 000 |
| All Hay | -1921 | 74, 401,000 | 1.31 | 97, 770,000 | ---do | 11.25 | 1,099,518,000 |
|  | 1922 | 77,030,000 | 1.45 |  |  |  |  |
| Tobacco | 1923 .1921 | $75,884,000$ $1,427,000$ | $750^{1.41}$ | $106,626,000$ $1,069,693,000$ | Pounds. | 13.05 .199 | $1,390,967,000$ $.212,728,000$ |
|  | 1922 | 1, 995,000 | 736 | 1,246, 837,000 | ---do- | .232 | 289, 248, 000 |
|  | 1923 | 1, 820, 000 | 810 | 1, 474, 786, 000 | --do | 203 | 298, 936, 000 |
| Cotton | . 1921 | 30,509, 000 | 1124.5 | $27,953,641$ | Bales | ${ }^{3} .162$ | 643, 933, 000 |
|  | 1922 | 33, 036, 000 | ${ }^{1} 141.5$ | ${ }^{2} 9,761,817$ | ---do | ${ }^{3} \cdot 238$ | 1, 161, 846,000 |
|  | 1923 | 37, 420, 000 | ${ }^{1} 128.8$ | 10, 081,000 | Todo | ${ }^{8} \cdot 315$ | 1, 563,347,000 |
| Cottonseed. | . 1921 |  |  | ${ }^{2} 3,531,000$ | Tons | 29.15 | 102, 929,000 |
|  | 1922 |  |  | ${ }^{2} 4,336,000$ | ---do | 40.18 | 174, 220,000 |
|  | 1923 |  |  | 4, 476, 000 | --do- | 45. 92 | 205, 538, 000 |
| Cloverseed. | . 1921 | 889,000 | 1.7 | 1,538, 000 | Bushel | 10. 75 | 16, 529,000 |
|  | 1922 | 1, 156, 000 | 1.6 | 1,887,000 | --do | 10.05 | 18,971,000 |
|  | 1923 | 800,000 | 1.5 | 1, 233, 000 | ---do | 12. 19 | 15, 027, 000 |
| ${ }^{1}$ Pounds per acre. |  |  | ${ }^{2}$ Census. |  | ${ }^{3}$ Per pound. |  |  |

Table 663.-Acreage, production, and farm value, 1921-1923-Continued.


Division of Crop and Livestock Estimates.
${ }^{4}$ Including bects grown in Canada for United States factories.
5 Trees tapped.
${ }^{6}$ Per tree.
7 Price March 15.
${ }^{8}$ Principal producing States.

- Commercial crop.
${ }^{10}$ Price for season.
${ }^{11}$ Largely minimum contract price.

Table 664.-Crop acreages, aggregates, by States, 1921-1923.

| State. | Acreage of 19 crops. |  |  | Per cent of total acreage in specified crops. ${ }^{1}$ | Total acreage of all crops (theoretical). |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1921 | 1922 | 1923 |  | 1921 | 1922 | 1923 |
|  | 1,000 | 1,000 | 1,000 |  | 1,000 | 1,000 | 1,000 |
|  | acres. | acres. | acres. | Per cent. | acres. | acres. | acres. |
| Maine | 1,571 | 1,537 | 1,546 |  | 1,636 | 1,601 | 1,610 |
| New Hampshire | 520 | 523 | 512 | 94 | 553 | 556 | , 545 |
| Vermont | 1,122 | 1,139 | 1, 144 | 93 | 1,206 | 1,225 | 1,230 |
| Massachusetts | 564 | 567 | 566 | 86 | 656 | 659 | 658 |
| Rhode Island. | 64 | 63 | 61 | 84 | 76 | 75 | 73 |
| Connecticut | 475 | 476 | 474 | 88 | 540 | 541 | 539 |
| New York | 8, 073 | 8,128 | 8,081 | 91 | 8,871 | 8,932 | 8,880 |
| New Jersey | 904 | 902 | 896 | 86 | 1,051 | 1,049 | 1,042 |
| Pennsylvani | 7,973 | 7,781 | 7,689 | 97 | 8, 220 | 8,022 | 7, 927 |
| Delaware. | 408 | 419 | 412 | 89 | 458 | 471 | 463 |
| Maryland | 1,803 | 1,805 | 1,760 | 91 | 1,981 | 1,984 | 1,934 |
| Virginia | 4,467 | 4,578 | 4,517 | 93 | 4,803 | 4,923 | 4,857 |
| West Virginia | 1,888 | 1,927 | 1,884 | 95 | 1,987 | 2,028 | 1, 983 |
| North Carolina | 6, 240 | 6,799 | 6,852 | 94 | 6,638 | 7,233 | 7, 289 |
| South Carolina | 5,692 | 5,278 | 5,399 | 92 | 6,187 | 5,737 | 5,868 |
| Georgia | 10,499 | 9,580 | 9,316 | 94 | 11, 169 | 10, 191 | 9,911 |
| Florida | 1,147 | 1,198 | 1,269 | 89 | 1,289 | 1,346 | 1,425 |
| Ohio -- | 11,350 | 11,557 | 11,192 | 97 | 11, 701 | 11,914 | 11,538 |
| Indiana | 11, 491 | 11,473 | 11, 487 | 96 | 11, 970 | 11,951 | 11,966 |
| Illinois. | 20, 256 | 20, 171 | 20, 288 | 97 | 20,882 | 20,795 | 20,915 |
| Michigan | 8,604 | 9, 030 | 8,899 | 93 | 9,252 | 9,710 | 9,569 |
| Wisconsin | 9, 644 | 9,679 | 9,637 | 90 | 10, 716 | 10,754 | 10,708 |
| Minnesot | 16, 665 | 16, 963 | 17,073 | 96 | 17,359 | 17,670 | 17,784 |
| Iowa. | 21, 058 | 21, 069 | 21,072 | 97 | 21, 709 | 21, 721 | 21, 724 |
| Missouri | 15, 034 | 14, 568 | 14,798 | 96 | 15, 661 | 15, 175 | 15,415 |
| North Dakota | 18,537 | 19, 184 | 18,867 | 96 | 19, 309 | 19, 983 | 19,653 |
| South Dakota | 15, 516 | 15, 596 | 15, 440 | 98 | 15, 833 | 15, 914 | 15,755 |
| Nebraska. | 18, 263 | 18, 234 | 18,367 | 97 | 18, 828 | 18,798 | 18,935 |
| Kansas | 21, 076 | 21, 154 | 20,539 | 93 | 22, 662 | 22,746 | 22,085 |
| Kentucky | 5,706 | 5,868 | 5,773 | 95 | 6,006 | 6,177 | 6, 077 |
| Tennessee | 6,458 | 6,657 | 6, 508 | 91 | 7,097 | 7,315 | 7,152 |
| Alabama. | 7,964 | 7,885 | 7,842 | 93 | 8,563 | 8,478 | 8, 432 |
| Mississippi | 6, 564 | 6, 642 | 6, 395 | 96 | 6,838 | 6,919 | 6,661 |
| Louisiana. | 3,856 | 3,820 | 3,889 | 91 | 4,237 | 4, 198 | 4,274 |
| Texas | 24, 324 | 23, 778 | 25,689 | 92 | 26, 439 | 25, 846 | 27, 923 |
| Oklahoma | 13, 849 | 14, 268 | 14,562 | 93 | 14, 891 | 15,342 | 15,658 |
| Arkansas. | 6, 392 | 6, 364 | 6, 301 | 93 | 6,873 | 6, 843 | 6,775 |
| Montana | 5,567 | 6, 672 | 6, 744 | 87 | 6, 399 | 7,669 | 7,752 |
| Wyoming | 1,442 | 1,552 | 1,636 | 90 | 1,602 | 1,724 | 1,818 |
| Colorado. | 5,332 | 5,270 | 5,612 | 85 | 6,273 | 6,200 | 6,602 |
| New Mexico | 1, 089 | 839 | 926 | 78 | 1,396 | 1,076 | 1,187 |
| Arizona | 430 | 454 | 492 | 85 | 506 | 534 | 579 |
| Utah | 1,018 | 1,078 | 1,073 | 88 | 1,157 | 1,225 | 1,219 |
| Nevada | 391 | 395 | 388 | 98 | 399 | 403 | 396 |
| Idaho. | 2, 691 | 2,703 | 2, 706 | 91 | 2, 957 | 2,970 | 2,974 |
| W ashington | 4, 026 | 3, 929 | 3, 948 | 86 | 4,681 | 4, 569 | 4, 591 |
| Oregon | 2,812 | 2,800 | 2,840 | 80 | 3,515 | 3, 500 | 3, 550 |
| California ${ }^{2}$ | 5,078 | 5,264 | 5,195 | 75 | 6,771 | 7,019 | 6,927 |
| United States | 345, 893 | 347, 616 | 348, 556 | 93.8 | 369, 803 | 371, 711 | 372,829 |

Division of Crop and Livestock Estimates. Estimated total acreage of 19 crops-corn, wheat, oats, barley, rye, buckwheat, potatoes, sweet potatoes, tobacco, flax, rice, all hay, cotton, peanuts, kafirs, beans, broom corn, hops, and cranberries.
${ }^{1}$ Based on census proportions in 1919.
${ }^{2}$ Includes cotton acreage in Lower California (85,000 acres in 1921, 135,000 acres in 1922, and 148,000 acres in 1923).

## 1140 Yearbook of the Department of Agriculture, 1923.

Table 665.-Seed used per acre, approximate averages for the United States.

| Crop. | Average of reports. | Estimated range of bulk of plantings. | Crop. | A verage of reports. | Estimated range of bulk of plantings. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Alfalfa: |  |  | Field peas: |  |  |
| Broadcast_pounds.- | 18.3 | 15 to 20. | Small-----bushels -- | 0.93 | 0.75 to 1.25 . |
| Drilled..----do---- | 14.8 | 12 to 18. | Large-------do---- | 1. 17 | 1 to 1.5 . |
| Barley------bushels-- | 1.84 | 1.5 to 2. | Flaxseed------pounds.- | 29. 2 | 25 to 30. |
| Beans, field: Small do-.......... |  |  | Oats - ------bushels | 2.37 | 2 to 2.5 . |
| Large---------do-- | 1. 29 | 1 to 1.5. | Orchard gras | 12.6 | 10 to 15. |
| Beets, common (not |  |  | Peanuts...-.-.-bushels-- | 1. 02 | 1 to 1.1. |
| sugar)..-.--- - pounds-- | 6.3 | 5.5 to 7.5. | Potatoes-.---...- do.. | 8.6 | 7 to 12. |
| Blue grass...... bushels.. | 1.07 | 0.75 to 1.25. | Rice.-- ---------- do | 1.98 | 1.5 to 2.5 . |
| Broom corn.--pounds-- | 6.0 | 3 to 7. | Rye: |  |  |
| Buckwheat--- bushels-- | . 98 | 0.75 to 1.25. | For grain...- do. | 1.44 | 1.25 to 1.75 . |
| Cabbage plants number. | 5,658. 0 | 5,000 to 7,000. | For forage.--- do.. | 1.82 | 1.5 to 2. |
| Clover: |  |  | Drilled_--.-- do.- | . 79 | 0.50 to 1. |
| Alsike-.---pounds.- | 8.7 | 8 to 12. | Broadcast.---do. | 1. 37 | 1 to 1.50. |
| Japan------do-.-- | 9.9 | 9 to 15. | Sugar beets_-_pounds-- | 13.1* | 12 to 18. |
| Mammoth-.- do-.-- | 10.4 | 8 to 12. | Sweet potato plants |  |  |
| Red, alone | $\begin{array}{r}10.7 \\ \hline 9.8\end{array}$ | 88 to 12. |  | $\begin{array}{r} 6,605.0 \\ 9.4 \end{array}$ | $\begin{aligned} & 6,000 \text { to } 7,000 . \\ & 8 \text { to } 12 . \end{aligned}$ |
| Crimson.-.--do----- | 12. 1 | 10 to 15. | Tobaccoplants |  |  |
| Corn: |  |  |  |  |  |
| $\begin{aligned} & \text { For grain }- \text { - do- } \\ & \text { Fodder, for silage } \end{aligned}$ | 9.5 | 6 to 12. | Wheat..........bushels.. | 1.38 | 1.25 to 1.75. |
| - --.-.-.-pounds..- | 26.0 | 15 to 35. |  |  |  |
| Cotton--------bushels-- | . 96 | 0.9 to 1.1. |  |  |  |
| Cowpeas: <br> For forage _ do |  |  |  |  |  |
| For forage---do-.-- | 1.31 | 1 to 1.5. |  |  |  |
| --------bushels.- | . 63 | 0.40 to 0.65. |  |  |  |
| For seed.----do-- | . 70 | 0.50 to 0.75. |  |  |  |

Division of Crop and Livestock Estimates. As reported by crop reporters in 1913.
Table 666.-Crops: Index numbers, condition of growing crops, 1910-1923.

| Year. | June 1. | July 1. | Aug. 1. | Sept.1. | Oct. 1. | Nov.1. | Year. | June 1. | July 1. | Aug. 1. | Sept.1. | Oct. 1. | Nov.1. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 |  |  | 93.5 | 97.2 | 99.6 | - 99.3 | 1917.- | 94.2 | 97.8 | 99.8 | 102. 5 | 102.4 | 102.0 |
| 1911 | 97.2 | 89.3 | 85.4 | 84.8 | 86.7 | 90.6 | 1918.- | 102. 9 | 101. 6 | 98.9 | 94.1 | 96.6 | 97.6 |
| 1912 | 99.1 | 98.8 | 100.3 | 104. 1 | 110.0 | 107.7 | 1919-- | 104. 7 | 102.3 | 97.8 | 98.8 | 98.7 | 99.8 |
| 1913. | 98.9 | 98.2 | 95.5 | 89.9 | 90.3 | 93.3 | 1920.- | 94.8 | 99.7 | 105. 4 | 107.0 | 106. 9 | 106.9 |
| 1914 | 102. 2 | 101.5 | 98.0 | 97.9 | 99.4 | 102. 3 | 1921-- | 93.2 | 96.4 | 93.0 | 92.9 | 91.1 | 91.7 |
| 1915 | 102. 3 | 102. 3 | 103.9 | 105. 5 | 106. 9 | 108. 0 | 1922.- | 99.2 | 97.9 | 101. 2 | 98.8 | 98.7 | 96.7 |
| 1916 | 97.7 | 101.6 | 97.4 | 94.6 | 94.5 | 95.1 | 1923.- | 95.3 | 96.4 | 97.4 | 98.3 | 98.4 | 96.1 |

Division of Crop and Livestock Estimates. Index numbers of individual crops relative to a 10-year moving average of condition, weighted by States according to crop values in 1919.

Table 667.-Crops: Index numbers of all crop yields, 1911-1923.

| State and division. | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | -1919 | 1920 | 1921 | 1922 | 1923 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maine | 98.2 | 102.0 | 101. 6 | 118.4 | 86.8 | 116. 2 | 99.7 | 99.6 | 105. 9 | 89.6 | 95.4 | 84, 0 | 120.8 |
| New Hampshire | 93.2 | 119.0 | 89.2 | 113.8 | 84.5 | 121.8 | 110.3 | 105. 7 | 104. 7 | 104.2 | 93.8 | 104.5 | 107.8 |
| Vermont | 100.0 | 118.0 | 97.7 | 102.7 | 97.6 | 118.8 | 110.3 | 97.0 | 104. 1 | 104.0 | 87.0 | 98.4 | 107. 4 |
| Massachusetts | 90.1 | 107. 0 | 95. 9 | 116. 3 | 96. 5 | 109. 9 | 105. 0 | 97. 7 | 102.6 | 107.1 | 92.6 | 92.9 | 108.5 |
| Rhode Island | 93.7 | 98.0 | 101. 4 | 113.4 | 92.3 | 92.4 | 114.3 | 103.4 | 100. 6 | 97.9 | 95. | 88.5 | 114.6 |
| Connecticut | 94.0 | 103. 0 | 95.9 | 111.7 | 101. 7 | 110.5 | 107.3 | 97.8 | 100.0 | 103.6 | 102. | 91.8 | 107. 1 |
| New York | 90.2 | 105. 0 | 90.8 | 110.7 | 100. 4 | 107.7 | 107. 8 | 102.4 | 106. 9 | 110.5 | 83.9 | 108. 7 | 103. 7 |
| New Jersey | 89.2 | 106.0 | 101. 2 | 104.9 | 107.1 | 107.2 | 102.5 | 100.0 | 96. 7 | 120:8 | 91.7 | 117.5 | 88.2 |
| Pennsylvan | 90.6 | 110.0 | 98.0 | 105. 5 | 100.8 | 106.0 | 100.8 | 101. 6 | 104.9 | 109.3 | 94.0 | 104.8 | 92.3 |
| N. $\Lambda$ tlantic | 91.6 | 106. 8 | 95.5 | 109.3 | 98.9 | 108.9 | 104. 6 | 101.2 | 104.8 | 107.9 | 90.3 | 104.1 | 100.3 |
| Delawar | 95.5 | 112.0 | 97.1 | 109.3 | 99. 1 | 100.6 | 104. 1 | 91.1 | 90. | 111.2 | 87.8 | 107.4 | 104. 5 |
| Maryland | 89.5 | 108. 0 | 93.3 | 112.9 | 99.6 | 106. 4 | 106. 0 | 99.9 | 98.2 | 112.0 | 90.2 | 104. 6 | 102.3 |
| Virginia. | 90.6 | 101.0 | 106. 6 | 89.9 | 114.5 | 112.7 | 108. 2 | 105. 1 | 101.8 | 109. 2 | 85.6 | 105. 4 | 104. 1 |
| West Virginia | 77.8 | 123.0 | 93. 3 | 94.7 | 113.0 | 110.4 | 103. 1 | 99.1 | 102.4 | 109.1 | 91.0 | 101. 4 | 103.9 |
| North Carolina | 100. 4 | 102.0 | 103. 5 | 108.1 | 103.3 | 95.0 | 97.3 | 105. 9 | 92.3 | 106. 6 | 85.0 | 93.4 | 107.9 |
| South Carolina | 103. 4 | 102. 0 | 105.9 | 103. 7 | 92.3 | 83.3 | 102.0 | 98.3 | 94.3 | 99.1 | 74.0 | 68. | 89. 9 |
| Georgia | 107.9 | 98.0 | 103.9 | 111. 2 | 92.0 | 91.5 | 97.2 | 96.8 | 85.1 | 87.9 | 73.3 | 66.8 | 59.7 |
| Florida | 101.8 | 106 | 111.1 | 112.0 | 100.5 | 95.4 | 94.5 | 98.8 | 92.3 | 96.5 | 90.5 | 110. 2 | 100.6 |
| S. Atlanti | 99.6 | 103.6 | 103.5 | 105.1 | 99.6 | 102.9 | 100. 7 | 100.3 | 93.1 | 100.4 | 80.8 | 84.4 | 90.6 |

Table 667.-Crops: Index numbers of all crop yields, 1911-1923-Continued.

| State and division. | 1911 | 1912 | 1013 | 1914 | 1915 | 1916 | 1917 | 1918 | 1019 | 1920 | 1921 | 1922 | 1923 |
| ---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Division of Crop and Livestock Estimates. Index numbers of individual crops relative to a 10 -year moving average yield, weighted by States, aecording to crop values in 1919.

Table 668.-Crops: Average weight in pounds per measured bushel of wheat, oats, and barley, United States, 1902-1923.

| Calendar year. | Weight per measured bushol. ${ }^{1}$ |  |  | Calendar year. | Weight per measured bushelv |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wheat. | Oats. | Barley. |  | Wheat. | Oats. | Barley. |
|  | Pounds. | Pounds. | Pounds. |  | Pounds. | Pounds. | Pounds. |
| 1902 | 57.3 | 31. 0 |  | 1913 | 58.7 | 32.1 | 46. 5 |
| 1903 | 57.4 | 29:7. |  | 1914 | 58.0 | 31.5 | 48.2 |
| 1904 | 55.5 | 31. 5 |  | 1915 | 57.9 | 33.0 | 47.4 |
| 1905 | 57. 5; | 32.7 |  | 1818. | 57.1 | 31.2 | 45.2 |
| 1596 | 58.3 | 320 |  |  |  |  |  |
| 1907 | 58:2: | 29,4. |  | ${ }_{1918} 19$. | 58.5 58.8 | 33.4 | 46.6 46.9 |
| 1908. | 58.3: | 29:8. |  | 1919 | 56.3 | 31.1 | 45.2 |
| 1909 | 57.9 | 32.7. |  | 1920 | 57.4 | 33.1 | 46.0 |
| 1910 | 58: 5 | 32:7 | 46:9 | 1921 | 56.6 | 28.3 | 44.4 |
| 1911 | 57.8. | 31. 1 : | 46.0 |  |  |  |  |
| 1812 | 58.3 | 33.0 | 46.8 | 1922. | 57.7 57.4 | 32.0 - | 46.2 45.3 |

Division of Crop and Livestock Estimates. As reported by crop reporters on Nov. 1.
${ }^{1}$ Standard weights: Wheat, $60 \mathrm{lbs} . ;$ oats, $32:$ lbs;; barley, 48 lbs.

Table 669.-Crops: Value per acre of 10 crops combined, 1866-1923.

| Calendar year. | Value per acre. | Calendar year. | Value per acre. | Calendar year. | Value per acre. | Calendar year. | Value per acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1866 | \$14.17 | 1881 | \$13. 10 | 1896 | \$7.94 | 1911 | \$15.36 |
| 1867 | 15. 09 | 1882 | 12.93 | 1897 | 9.07 | 1912 | 16.09 |
| 1868 | 14. 17 | 1883 | 10.93 | 1898 | 9.00 | 1913 | 16. 49 |
| 1869 | 14.67 | 1884 | 9.95 | 1899 | 9.13 | 1914 | 16. 44 |
| 1870. | 15. 40 | 1885 | 9.72 | 1900 | 10.31 | 1915 | 17.18 |
| 1871 | 15.74 | 1886 | 9.41 | 1901 | 11.43 | 1916 | 22. 58 |
| 1872 | 14.86 | 1887 | 10. 14 | 1902 | 12. 07 | 1917 | 33. 27 |
| 1873 | 14. 19 | 1888 | 10.30 | 1903 | 12. 62 | 1918 | 33. 73 |
| 1874 | 13. 25 | 1889 | 8.99 | 1904 | 13. 26 | 1919 | 35. 74 |
| 1875 | 12.20 | 1890 | 11.03 | 1905 | 13. 28 | 1920 | 23.26 |
| 1876 | 10.80 | 1891 | 11.76 | 1906 | 13. 46 | 1921 | 14.45 |
| 1877 | 12.00 | 1892 | 10.10 | 1907 | 14. 74 | 1922 | 19.23 |
| 1878 | 10.37 | 1893 | 9.50 | 1908 | 15.32 | 1923 | 21.55 |
| 1879 | 13.26 | 1894 | 9.06 | 1909. | 16.00 |  |  |
| 1880 | 13.01 | 1895 | 8.12 | 1910 | 15.53 |  |  |

Division of Crop and Livestock Estimates. Corn, wheat, oats, barley, rye, buckwheat, potatoes, all hay, tobacco, and cotton, which comprise nearly 90 per cent of the area in all field crops, the average value of which elosely approximates the value per acre of the aggregate of all crops.

Table 670.-Crops: Value of 22 crops and of all crops, with rank.

| State. | Value all crops, 1919 census. ${ }^{1}$ | Ratio value 22 crops to all crops in census 1919. | Value 22 crops. |  |  | Value all crops. |  |  | $\underset{1923}{\text { Rank }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} 1919 \\ \text { census. } \end{gathered}$ | 1922 | 1923 | 1917-1921 <br> average. | 1922 | 1923 | $\begin{gathered} 22 \\ \text { crops. } \end{gathered}$ | All |
|  | 1,000 dols. | Per ct. | 1,000 dols. | 1,000 dols. | 1,000 dels. | 1,000 dols. | 1,000 dols. | 1,000 dols. |  |  |
| Me | - 100, 152 | 92 | 91,982 | 36, 475 | 50, 146 | 68, 218 | 39, 647 | 54, 507 | 35 | 38 |
| N. H | 23, 510 | 79 | 18, 479 | 15, 504 | 15, 751 | 23, 175 | 19, 625 | 19,938 | 45 | 45 |
| V t | 48, 000 | 77 | 36, 835 | 32, 177 | 32, 660 | 47, 503 | 41,788 | 42,416 | 40 | 40 |
| Ma | 53, 701 | 68 | 36, 601 | 29, 534 | 37, 989 | 56, 059 | 43, 432 | 55, 866 | 39 | 37 |
| R.I. | 5,340 | 69 | 3,680 | 2,661 | 3, 099 | 5, 839 | 3,857 | 4,491 | 48 | 48 |
|  | 44, 473 | 81 | 306, 006 | 31, 816 | 40,496 | 49,949 | 39, 279 | 49,995 | 37 | 39 |
| N. Y | 417, 047 | 77 | 321, 598 | 213, 929 | 243, 332 | 393, 342 | 277, 830 | 316, 016 | 10 | 8 |
| N. J | 87, 484 | 70 | 61, 273 | 38, 939 | 39, 523 | 79, 800 | 55, 627 | 56, 461 | 38 | 36 |
| Pa | 409, 969 | 86 | 350, 991 | 210, 290 | 221, 965 | 362, 808 | 244, 523 | 258, 099 | 15 | 16 |
| Del | 23, 059 | 72 | 16, 516 | 11, 127 | 12, 297 | 22, 290 | 15, 454 | 17, 079 | 46 | 46 |
| Md | 110, 166 | 80 | 88, 066 | 50, 512 | 54, 048 | 96, 002 | 63, 140 | 67, 560 | 34 | 35 |
| Va | 292, 824 | 85 | 247, 463 | 146, 988 | 158, 170 | 246, 315 | 172, 927 | 186, 082 | 25 | 25 |
| W. Va | 96, 537 | 81 | 78, 143 | 53, 747 | 61, 984 | 100, 398 | 66, 354 | 76, 523 | 33 | 33 |
| N. C | 503, 229 | 87 | 438, 892 | 283, 297 | 361, 691 | 404, 926 | 325, 629 | 415, 737 | 4 | 5 |
| S. C. | 437, 122 | 82 | 360, 025 | 128, 149 | 214, 605 | 327, 851 | 156, 279 | 261, 713 | 16 | 14 |
|  | 540, 614 | 80 | 430, 270 | 167, 577 | 189, 112 | 440, 296 | 209, 471 | 236, 390 | 19 | 18 |
| Fla | 80, 257 | 62 | 49, 521 | 48, 189 | 43, 267 | 80, 044 | 77, 724 | 69, 785 | 36 | 34 |
| Ohio | 607, 038 | 87 | 526, 943 | 245, 078 | 283, 631 | 453, 534 | 281, 699 | 326, 013 | 6 | 6 |
| Ind | 497, 230 | 90 | 449, 079 | 203, 357 | 235, 278 | 394, 281 | 225, 952 | 261, 420 | 12 | 15 |
|  | 864, 738 | 92 | 797, 893 | 385, 337 | 422, 748 | 675, 957 | 418,845 | 459, 509 | 3 | 3 |
| Mich | 404, 015 | 82 | 329, 651 | 176, 217 | 198, 827 | 316, 498 | 214, 899 | 242, 472 | 18 | 17 |
| Wis. | 445, 348 | 81 | 360, 404 | 216, 096 | 222, 402 | 382, 716 | 266, 785 | 274, 570 | 14 | 12 |
| Minn | 506, 020 | 89 | 450, 327 | 252, 241 | 269, 217 | 424, 682 | 283, 417 | 302, 491 | 8 | 9 |
| Iowa | 890, 391 | 92 | 820, 126 | 423, 815 | 437, 846 | 640, 307 | 460, 668 | 475, 920 | 2 | 2 |
| Mo | 559, 048 | 89 | 496, 261 | 248, 377 | 285, 776 | 420, 456 | 279, 075 | 321, 097 | 5 | 7 |
| N. Dak | 301, 783 | 92 | 278, 315 | 214, 825 | 141, 316 | 270, 863 | 233, 505 | 153, 604 | 26 | 27 |
| S. Dak. | 311, 007 | 93 | 288, 376 | 188, 507 | 178, 993 | 296, 806 | 181, 190 | 192, 466 | 21 | 24 |
| Nebr | 519, 730 | 95 | 491, 338 | 243, 562 | 271, 532 | 390, 620 | 256, 381 | 285, 823 | 7 | 10 |
| Kans. | 538, 923 | 91 | 536, 408 | 262, 771 | 259, 330 | 443, 857 | 288, 759 | 284, 978 | 9 | 11 |
| K $\mathbf{y}$. | 347, 339 | 89 | 310, 224 | 195, 204 | 201, 220 | 312, 890 | 219, 330 | 226, 090 | 17 | 20 |
| Tenn | 318, 285 | 83 | 263, 797 | 179, 237 | 172, 527 | 258, 602 | 215, 948 | 207, 864 | 22 | 21 |
| Ala. | 304, 349 | 81 | 246, 271 | 184, 708 | 184, 232 | 258, 952 | 228, 035 | 227, 447 | 20 | 19 |
| Miss | 336, 207 | 83 | 278, 539 | 184, 213 | 160, 781 | 264, 230 | 221, 943 | 193, 712 | 24 | 23 |
| La. | 206, 182 | 71 | 147, 290 | 97, 161 | 114, 410 | 195, 256 | 136, 846 | 161, 141 | 28 | 26 |
| Tex | 1,071, 542 | 83 | 885, 955 | 579, 815 | 883, 763 | 798, 117 | 698, 572 | 1,064, 775 | 1 | 1 |
| Okla | 550, 085 | 87 | 479, 314 | 208, 348 | 230, 528 | 353, 692 | 239, 480 | 264, 975 | 13 | 13 |
| Ark | 340, 813 | 83 | 283, 175 | 189, 120 | 172, 420 | 274, 380 | 227, 855 | 207, 735 | 23 | 22 |
| Mont | 69, 975 | 86 | 60, 058 | 87, 227 | 88, 774 | 98, 378 | 101, 427 | 103, 226 | 30 | 30 |
| W yo | 30, 271 | 88 | 26, 528 | 21,631 | 26, 960 | 42, 095 | 24, 581 | 30, 636 | 42 | 43 |
| Colo | 181, 065 | 76 | 137, 660 | 79, 499 | 100, 429 | 154, 543 | 104, 604 | 132, 143 | 29 | 29 |

1 Does not include nursery or greenhouse products, or forest products of the farm.

Table 670.-Crops: Value of 22 crops and of all crops, with rank-Contd.

| State. | Value all crops, 1919 census. | $\begin{gathered} \text { Ratio } \\ \text { value } \\ 22 \text { crops } \\ \text { to all } \\ \text { crops in } \\ \text { census } \\ 1919 . \end{gathered}$ | Value 22 crops. |  |  | Value all crops. |  |  | $\underset{1923}{\text { Rank }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} 1919 \\ \text { census. } \end{gathered}$ | 1922 | 1923 | $\begin{gathered} \text { 1917-1921 } \\ \text { average. } \end{gathered}$ | 1922 | 1923 | $\begin{gathered} 22 \\ \text { crops. } \end{gathered}$ | All |
|  | 1,000 dols. | Per ct. | 1,000 dols. | 1,000 dols. | 1,000 dols. | 1,000 dols. | 1,000 dols. | 1,000 dols. |  |  |
| N. Mex | 40, 620 | 77 | 31, 093 | 14, 614 | 20, 097 | 40, 560 | 18, 979 | 26, 100 | 44 | 44 |
| Ariz | 42, 481 | 84 | 35, 478 | 23, 380 | 30, 525 | 35, 304 | 27, 833 | - 36,339 | 41 | 42 |
| Utah. | 58, 067 | 70 | 40, 901 | 23, 110 | 25, 744 | 48, 869 | 33, 014, | 36,777 | 43 | 41 |
| Nev -- | 13, 980 | 96 | 13, 439 | 10,211 | 8,953 | 14, 409 | 10, 636 | 9,326 | 47 | 47 |
| Idaho | 126, 495 | 88 | 111, 940 | 64, 543 | 71, 551 | 106, 209 | 73, 344 | 81, 308 | 31 | 32 |
| W ash | 227, 212 | 82 | 185, 667 | 105, 063 | 122, 886 | 188, 480 | 128, 126 | 149, 861 | 27 | 28 |
| Oreg | 131, 885 | 75 | 99, 095 | 65, 692 | 70, 880 | 118, 644 | 87, 589 | 94, 507 | 32 | 31 |
| Calif | 589, 757 | 54 | 315, 091 | 219, 821 | 241, 916 | 498, 917 | 404, 076 | 447, 993 | 11 | 4 |
| U. S | 14, 755, 365 | 84.3 | 12, 442, 977 | 7, 073, 691 | 7,915, 627 | 11, 972, 928 | 8,445, 979 | 9, 470, 976 |  |  |

Division of Crop and Livestock Estimates. Estimated total value of 22 crops-corn, wheat, oats, barley, rye, buckwheat, flaxseed, rice, potatoes, sweet potatoes, all hay, tobacco, lint cotton, beans, broom corn, grain sorghums, hops, oranges, cloverseed, peanuts, cranberries, and apples-in the United States, by States, in 1919 (census), 1922, and 1923; the value of all crops in 1919 (census); and the value of all crops in 1922 and 1923, based upon ratio of the 22 crops to all crops in census year. The slight differences in the total value of crops in the United States between Tables 670 and 672 are due to different methods of estimating. In Table 670, where each State is shown separately, a more detailed method is used than is practicable in Table 672.

Table 671.-Farm production: Estimated value, principal products and groups of products, calendar years, 1919-1923.


JBased on farm price Dec. 1, except cotton, 1919 to 1922; cotton weighted, year beginning Aug. 1.

## 1144 Yearbook of the Department of Agriculture, 1923.

Table 671.-Farm production: Estimated value, principal products and groups of products, calendar years 1919-1923-Continued.


Division of Crop and Livestock Estimates.
${ }^{1}$ Based on farm price Dec. 1, except cotton, 1919 to 1922; cotton weighted, year beginning Aug. 1.
${ }_{2}^{2}$ Includes milk equivalent of cream for household use.
${ }^{3}$ For cream powder and ice cream.
${ }^{1}$ Less than $\$ 500,000$.
Table 672.-Farm production: Value of farm products, based on prices at the farm, 1897-1923.

| Calendar year. | Crops. | Animal products. | Total (estimated) value, excluding crops fed to livestock. ${ }^{1}$ |
| :---: | :---: | :---: | :---: |
| 1897. | \$2,519, 000,000 | \$1, 442, 000, 000 | \$2,904, 000, 000 |
| 1898 | 2, 760, 000, 000 | $1,579,000,000$ | 3, 161, 000, 000 |
| 1889 (census) | 3, 020, 000, 000 | 1,718, 000, 000 | 3, 355, 000, 000 |
| 1900. | 3, 192, 000,000 | 1, 818, 000,000 | 3, 549, 000, 000 |
| 1901 | 3, 385, 000, 000 | 1, 917, 000, 000 | 3, 643, 000, 000 |
| 1902 | 3, 578, 000, 000 | 2, 016, 000, 000 | 3, 807, 000, 000 |
| 1903 | 3, 772, 000, 000 | 2, 116, 000, 000 | 4, 136,000, 000 |
| 1904 | 3, 982, 000,000 | 2, 140, 000, 000 | 4, 262, 000, 000 |
| 1905 | 4, 013, 000, 000 | 2, 261, 000, 000 | 4,387, 000,000 |
| 1906 | 4, 263, 000, 000 | 2, 501, 000, 000 | 4, 784, 000,000 |

${ }^{1}$ Estimates of the values of crops fed to livestock have been made by multiplying the value of the following crops by the percentages given: Barley, 75; corn, 85 ; grain sorghums, 90 ; oats, 80 ; rye, 20; wheat, 6 ; hay, 85 ; forage, 100; potatoes, 10 ; and sweet potatoes. 15.

Table 672.-Farm production: Value of farm products, based on prices at the farm, 1897-1923-Continued.

| Calendar year. |  |  |  |
| :--- | ---: | ---: | ---: |
|  | Crops. | Animal products. | Total (estimated) <br> value, excluding <br> crops fed to |
| livestock. |  |  |  |

Division of Crop and Livestock Estimates.
${ }^{1}$ Estimates of the values of crops fed to livestock have been made. by multiplying the value of the follow ing crops by the percentages given: Barley, 75; corn, 85: grain sorghums, 90 ; oats, 80 ; rye, 20 ; wheat, 6 ; hay, 85 ; forage, 100 ; pctatoes, 10 ; and sweet potatoes, 15 .

REFRIGERATION.
Table 673.-Total refrigerated space: Meat-packing establishments and cold siorages reporting to the Bureau of Agricultural Economics, October 1, 1923.

| State. | Concerns. | Cubic feet of space held at temperatures of- |  |  |  | Total space. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $10^{\circ} \mathrm{F}$. and below. | $\begin{gathered} 11^{\circ} \text { to } 29^{\circ} \mathrm{F} ., \\ \text { inclusive. } \end{gathered}$ | $30^{\circ}$ to $44^{\circ}$. | $45^{\circ} \mathrm{F}$. and above. |  |
| Alabama | 4 | 11, 094 | 100, 953 | 1, 214, 548 | 9,600 | 1, 336, 195 |
| Alaska | 5 | 66, 666 | 616,339 | 12, 360 | 2, 000 | 697, 365 |
| Arizona | 5 | 15, 360 | 27, 840 | 442, 096 |  | 485, 295 |
| Arkansas | 8 | 15, 000 | 733 | 589, 692 | 15, 521 | 620, 946 |
| California | 68 | 1, 056,867 | 1,893, 665 | 16, 717, 331 | 196, 774 | 19, 864, 637 |
| Colorado | 17 | 345, 175 | 984, 282 | 4, 940,345 | 588, 109 | 6, 857, 911 |
| Connecticut | 6 | 248, 468 | 61, 350 | 1, 338,440 | 131, 545 | 1,779, 803 |
| District of Co | 3 | 20, 000 | 258, 000 | 207, 397 | 1,280,000 | 1,765,397 |
| Florida | 6 | 20, 250 | 66, 650 | 416, 350 | 35, 400 | 538, 650 |
| Georgia | 18 | 20,532 | 147, 048 | 1,975, 347 | 11, 040 | 2, 153,967 |
| Idaho-- | 12 | 39, 051 | 267, 697 | 345, 924 | 25, 869 | 678, 541 |
| Illinois | 99 | 14, 042, 221 | 12, 695,390 | 97, 478, 037 | 8, 976,560 | 133, 192, 208 |
| Indiana | 47 | 361,457 | 1,286, 146 | 12, 343, 335 | 945, 664 | 14, 916, 602 |
| Iowa- | 42 | 1, 258, 563 | 2, 461, 519 | 16, 353, 517 | 2, 062, 291 | 22, 135, 890 |
| Kansas | 33 | 2, 155, 537 | 4, 794, 712 | 31, 129, 351 | 5, 368, 096 | 43, 447, 696 |
| Kentucky | 17 | 358, 021 | 286, 978 | 4, 019, 622 | 104, 050 | 4,768, 671 |
| Louisiana | 6 | 136, 000 | 77, 000 | 1, 752, 337 | 6,000 | 1, 971, 337 |
| Maine - | 8 | 255, 980 | 4,580 | 1,047, 887 | 1,800 | 1, 310, 247 |
| Maryland | 23 | 543, 271 | 288, 589 | 4, 758, 897 | 79, 235 | 5, 669, 992 |
| Massachusetts | 44 | 7, 119,030 | 1,705, 328 | 13, 860, 589 | 1,138,827 | 23, 823, 774 |
| Michigan | 30 | 1, 007, 985 | 786, 531 | 6, 237, 069 | 172, 032 | 8, 203, 617 |
| Minnesota | 26 | 1, 994, 746 | 2, 866, 540 | 12, 974, 996 | 1, 596, 836 | 19, 433, 118 |
| Missouri | 54 | 2, 594, 020 | 2, 248,567 | 31, 033, 122 | 890, 077 | 36, 765, 786 |
| Montana | 9 | 51, 758 | 50, 872 | 353, 904 | 3,080 | 459, 614 |
| Nebrask | 21 | 2, 677, 034 | 949, 344 | 17, 549, 442 | 1,407, 485 | 22, 583, 305 |
| New Hampsh | 4 | 31, 280 | 116, 646 | 153, 337 |  | 301, 263 |
| New Jersey | 34 | 2, 682, 063 | 1, 576, 176 | 7,410, 489 | 2, 330, 056 | 13, 998, 784 |
| New Y ork | 180 | $9,460,139$ | 5, 831, 366 | 49, 860, 648 | 2, 737, 147 | 67, 889,300 |
| North Carolina | 7 | 512 | 15, 360 | 393, 074 | 20, 000 | 428, 946 |
| North Dakota | 3 |  | 42, 288 | 187, 922 |  | 230, 210 |
| Ohio-- | 96 | 1, 883, 556 | 1,993,585 | 15, 785, 379 | 527, 323 | 20, 189, 843 |
| Oklanoma | 14 | 259, 990 | 867, 287 | 6, 966, 264 | 905, 170 | 8, 998, 711 |
| Oregon- | 30 | 270, 758 | 863, 945 | 2, 638, 826 | 99, 340 | 3, 872, 869 |
| Pennsylva | 113 | 2, 269, 220 | 2, 294, 396 | 18,710, 835 | 588, 970 | 23, 863,421 |
| Rhode Islan | 4 | 329, 788 | 500, 952 | 703, 564 |  | 1, 534, 304 |
| South Dakot | ${ }_{7}^{7}$ | 79, 512 | 246, 380 | 1, 507, 346 | 204, 000 | 2, 037, 238 |
| Tennessee | 17 | 433, 954 | 239, 440 | 3, 713, 436 |  | 4, 386, 830 |
| Texas | 49 | 580, 769 | 1,820,968 | 9, 710, 456 | 1,387, 604 | 13,499, 797 |
| Utah | 7 | 116, 200 | 125, 331 | 983, 455 | 118, 800 | 1, 343, 785 |
| Virginia | 30 | 165,880 | 726, 179 | 10, 125, 274 | 1,229, 815 | 12, 247, 148 |
| Washington- | 59 | 1,408, 016 | 4, 680, 299 | 10, 867, 649 | 618, 344 | 17, 574, 308 |
| West Virginia | 16 |  | 50, 752 | 3, 453, 008 | 94, 272 | 3, 598, 032 |
| Wisconsin | 62 | 712,980 | 768, 844 | 10, 625,681 | 1, 103, 580 | 13, 211,085 |
| W yoming All other state | 3 <br> 8 | 40, 924 | 384 91,049 | $\begin{array}{r} 50,979 \\ 522.519 \end{array}$ | $\begin{array}{r}24,750 \\ 7 \\ \hline 589\end{array}$ | 76, 113 |
| All other state |  |  |  | 522, 519 | 7,589 | 662, 081 |
| Total | 1,354 | 57, 139, 627 | 57, 758, 280 | 433,462, 076 | 37, 044, 651 | 585, 404, 634 |

Division of Statistical and Historical Research.

1146 Yearbook of the Department of Agriculture, 1923.
VALUE OF PLOW LANDS.
Table 674.-Plow lands: Value per acre, by States, 1916-1924.

| State. | Average of poor plow lands. |  |  |  | Average of good plow lands. |  |  |  | Average of all plow lands. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1916 | 1917 | 1918 | 1919 | 1916 | 1917 | 1918 | 1919 | 1916 | 1917 | 1918 | 1919 |
| Maine | \$21 | \$22 | \$24 | \$24 | \$45 | \$47 | \$48 | \$50 | \$32 | \$34 | \$35 | \$37 |
| New Hampshire | 24 | 24 | 21 | 23 | 50 | 50 | 52 | 54 | 37 | 37 | 39 | 39 |
| Vermont.- | 26 | 28 | 28 | 30 | 57 | 60 | 64 | 64 | 42 | 42 | 44 | 44 |
| Massachusetts | 34 | 36 | 41 | 41 | 91 | 93 | 92 | 92 | 62 | 64 | 68 | 68 |
| Rhode Island | 41 | 42 | 46 | 47 | 80 | 85 | 90 | 92 | 60 | 62 | 70 | 73 |
| Connecticut | 34 | 36 | 37 | 37 | 70 | 72 | 75 | 80 | 49 | 53 | 52 | 55 |
| New York | 34 | 34 | 33 | 38 | 68 | 74 | 75 | 80 | 53 | 55 | 58 | 60 |
| New Jersey | 43 | 46 | 58 | 50 | 89 | 92 | 108 | 103 | 65 | 69 | 78 | 76 |
| Pennsylvania | 32 | 36 | 37 | 38 | 66 | 73 | 79 | 79 | 50 | 57 | 58 | 60 |
| Delaware.- | 33 | 33 | 35 | 36 | 68 | 75 | 08 | 70 | 50 | 55 | 59 | 55 |
| Maryland. | 28 | 30 | 33 | 39 | 57 | 62 | 61 | 66 | 46 | 48 | 47 | 53 |
| Virginia. | 22 | 24 | 29 | 31 | 46 | 50 | 61 | 62 | 34 | 36 | 43 | 47 |
| West Virginia | 22 | 23 | 28 | 29 | 49 | 54 | 64 | 64 | 36 | 38 | 43 | 44 |
| North Carolina | 21 | 24 | 29 | 31 | 42 | 49 | 58 | 67 | 31 | 35 | 42 | 50 |
| South Carolina | 20 | 21 | 23 | 27 | 42 | 43 | 45 | 56 | 31 | 33 | 36 | 45 |
| Georgia | 16 | 18 | 20 | 24 | 32 | 36 | 40 | 49 | 24 | 28 | 28 | 38 |
| Florida | 19 | 20 | 21 | 21 | 35 | 37 | 42 | 48 | 26 | 28 | 32 | 33 |
| Ohio | 52 | 55 | 61 | 63 | 95 | 100 | 107 | 113 | 75 | 80 | 86 | 91 |
| Indiaua | 57 | 60 | 67 | 68 | 106 | 110 | 129 | 126 | 84 | 87 | 96 | 100 |
| Illinois. | 80 | 85 | 94 | 100 | 139 | 148 | 160 | 170 | 115 | 120 | 132 | 144 |
| Michigan | 32 | 35 | 38 | 40 | 64 | 72 | 75 | 76 | 51 | 55 | 60 | 61 |
| Wisconsin | 51 | 54 | 56 | 60 | 92 | 100 | 100 | 110 | 74 | 80 | 82 | 89 |
| Minnesota | 45 | 50 | 54 | 59 | 73 | 81 | 85 | 88 | 61 | 68 | 75 | 78 |
| Iowa. | 101 | 104 | 119 | 129 | 156 | 163 | 180 | 196 | 135 | 140 | 154 | 169 |
| Missouri | 42 | 42 | 47 | 51 | 74 | 76 | 83 | 91 | 59 | 60 | 66 | 72 |
| North Dakota | 22 | 24 | 26 | 28 | 36 | 39 | 41 | 43 | 30 | 33 | 35 | 37 |
| South Dakota. | 40 | 41 | 41 | 50 | 61 | 62 | 63 | 77 | 53 | 54 | 56 | 67 |
| Nebraska | 49 | 51 | 60 | 67 | 85 | 90 | 109 | 115 | 72 | 74 | 80 | 95 |
| Kansas | 36 | 37 | 42 | 44 | 62 | 69 | 74 | 77 | 51 | 53 | 58 | 61 |
| Kentucky | 22 | 27 | 31 | 37 | 47 | 56 | 65 | 80 | 35 | 41 | 50 | 61 |
| Tennessee | 22 | 26 | 30 | 31 | 53 | 60 | 67 | 75 | 37 | 41 | 48 | 53 |
| Alabama | 12 | 13 | 15 | 17 | 21 | 24 | 30 | 33 | 16 | 17 | 21 | 24 |
| Mississippi | 12 | 13 | 15 | 16 | 26 | 28 | 31 | 34 | 18 | 20 | 23 | 28 |
| Louisiana. | 15 | 17 | 26 | 25 | 31 | 36 | 45 | 44 | 24 | 25 | 33 | 33 |
| Texas. | 22 | 24 | 30 | 27 | 45 | 49 | 57 | 58 | 34 | 38 | 45 | 46 |
| Oklahoma | 17 | 19 | 23 | 24 | 36 | 42 | 48 | 51 | 27 | 30 | 35 | 38 |
| Arkansas. | 14 | 17 | 20 | 22 | 31 | 39 | 45 | 50 | 22 | 27 | 31 | 38 |
| Montana | 17 | 19 | 22 | 21 | 40 | 41 | 45 | 45 | 29 | 32 | 35 | 34. |
| W yoming | 18 | 20 | 25 | 26 | 34 | 41 | 49 | 53 | 27 | 30 | 41 | 43 |
| Colorado. | 27 | 32 | 35 | 36 | 68 | 75 | 74 | 80 | 50 | 55 | 55 | 60 |
| New Mexico | 20 | 24 | 25 | 30 | 42 | 48 | 60 | 60 | 31 | 36 | 42 | 45 |
| Arizona. | 50 | 55 | 52 | 60 | 100 | 108 | 116 | 125 | 80 | 85 | 98 | 100 |
| Utah. | 38 | 45 | 48 | 55 | 80 | 90 | 113 | 125 | 60 | 70 | 86 | 95 |
| Nevada | 32 | 38 | 42 | 50 | 80 | 80 | 110 | 110 | 60 | 60 | 80 | 85 |
| Idaho | 34 | 37 | 43 | 50 | 68 | 77 | 89 | 98 | 53 | 58 | 70 | 76 |
| W ashington. | 45 | 50 | 56 | 60 | 110 | 110 | 122 | 121 | 75 | 80 | 94 | 95 |
| Oregon.. | 36 | 44 | 53 | 53 | 80 | 93 | 111 | 108 | 60 | 70 | 84 | 81 |
| California | 50 | 55 | 66 | 69 | 135 | 150 | 168 | 165 | 95 | 110 | 120 | 121 |
| United Stat | 40 | 43 | 48 | 51 | 73 | 78 | 85 | 92 | 58 | 62 | 68 | 74 |

Table 674.-Plow lands: Value per acre, by States, 1916-1924-Continued.

| State. | Average of poor plow lands. |  |  |  |  | Average of good plow lands. |  |  |  |  | Average of all plow lands. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1920 | 1921 | 1922 | 1923 | 1924 | 1920 | 1921 | 1922 | 1923 | 1924 | 1920 | 1921 | 1922 | 1823 | 1924 |
| Maine | \$30 | \$25 | \$22 | \$22 | \$22 | \$56 | \$50 | \$47 | \$48 | \$50 | \$42 | \$36 | \$35 | \$36 | \$37 |
| New Hampshi | 24 | 24 | 25 | 24 | 23 | 64 | 63 | 64 | 58 | 59 | 42 | 41 | 41 | 40 | 48 |
| Vermont. | 30 | 29 | ${ }_{29}^{27}$ | 24 | 24 | ${ }^{69}$ | 67 | 63 | 58 | 55 | 48 | 47 | 45 | 40 | ${ }_{4}^{49}$ |
| Massachusetts | 40 | 40 | 39 | 39 | 39 | 103 | 98 | 105 | 106 | 108 | 72 | 69 | 69 | 70 | 68 |
| Rhode Island. | 50 | 50 | 50 | 51 | 52 | 105 | 105 | 105 | 106 | 110 | 85 | 85 | 86 | 87 | 88 |
| Connecticut | 35 | 34 | 32 | 32 | 33 | 100 | 90 | 90 | 88 | 88 | 60 | 58 | 58 | 57 | 58 |
| New York | 39 | 40 | 38 | 35 | 33 | 84 | 84 | 83 | 80 | 75 | 64 | 65 | 62 | 59 | 54 |
| New Jersey | 50 | 55 | 48 | 49 | 47 | 104 | 125 | 109 | 109 | 105 | 80 | 92 | 84 | 83 | 82 |
| Pennsylvania | 40 | 39 | 33 | 35 | 32 | 86 | 81 | 73 | 73 | 68 | 66 | 62 | 54 | 54 | 53 |
| Delaware. | 44 | 38 | 31 | 28 | 30 | 86 | 72 | 67 | 70 | 68 | 66 | 55 | 50 | 51 | 50 |
| Maryland | 46 | 31 | 31 | 32 | 33 | 82 | 70 | 67 | 67 | 70 | 60 | 51 | 49 | 50 | 52 |
| Virginia | 34 | 32 | 27 | 31 | 32 | 73 | 70 | 60 | 64 | 65 | 53 | 50 | 43 | 47 | 48 |
| West Virginia | 32 | 31 | 27 | 28 | 27 | 75 | 70 | 62 | 67 | 66 | 51 | 48 | 42 | 45 | 44 |
| North Carolina | 42 | 36 | 33 | 35 | 35 | 87 | 76 | 67 | 70 | 75 | 63 | 55 | 49 | 52 | 54 |
| South Carolina | 41 | 32 | 23 | 21 | 22 | 82 | 68 | 46 | 45 | 48 | 61 | 50 | 35 | 35 | 38 |
| Georgia | 30 | 23 | 18 | 17 | 16 | 63 | 50 | 38 | 36 | 34 | 46 | 36 | 28 | 26 | 24 |
| Florida | 23 | 25 | 21 | 20 | 20 | 53 | 55 | 56 | 43 | 46 | 36 | 40 | 37 | 31 | 33 |
| Ohio.- | 69 | 60 | 52 | 52 | 51 | 132 | 110 | 100 | 100 | 96 | 105 | 88 | 78 | 78 | $7{ }^{7}$ |
| Indiana | 80 | 71 | 56 | 54 | 51 | 150 | 137 | 108 | 105 | 101 | 119 | 109 | 85 | 82 | 78 |
| Illinois | 115 | 105 | 91 | 86 | 81 | 213 | 195 | 160 | 155 | 148 | 170 | 157 | 131 | 126 | 120 |
| Michigan | 41 | 41 | 39 | 36 | 35 | 80 | 83 | 77 | 74 | 73 | 64 | 65 | 60 | 57 | 58 |
| Wisconsin | 66 | 65 | 58 | 60 | 57 | 125 | 122 | 110 | 108 | 105 | 100 | 98 | 87 | 86 | 82 |
| Minnesota | 73 | 74 | 67 | 59 | 55 | 120 | 121 | 102 | 96 | 89 | 100 | 101 | 87 | 80 | 75 |
| Iowa.-- | 157 | 145 | 119 | 115 | 107 | 257 | 238 | 193 | 181 | 169 | 219 | 200 | 163 | 153 | 143 |
| Missouri | 60 | 58 | 44 | 45 | 44 | 110 | 106 | 84 | 85 | 83 | 87 | 83 | 65 | 66 | 65 |
| North Dakota | 31 | 30 | 25 | 24 | 22 | 49 | 49 | 44 | 40 | 37 | 43 | 42 | 37 | 33 | 31 |
| South Dak | 67 | 66 | 52 | 43 | 41 | 108 | 102 | 80 | 73 | 64 | 90 | 85 | 72 | 58 | 54 |
| Nebraska | 85 | 80 | 72 | 65 | 64 | 150 | 140 | 123 | 116 | 113 | 125 | 115 | 101 | 96 | 94 |
| Kansas | 50 | 50 | 43 | 41 | 38 | 90 | 90 | 77 | 74 | 69 | 70 | 70 | 60 | 58 | 54 |
| Kentucky | 42 | 33 | 28 | 27 | 26 | 95 | 75 | 67 | 66 | 63 | 70 | 53 | 47 | 46 | 43 |
| Tennessee | 40 | 35 | 28 | 30 | 30 | 90 | 81 | 68 | 70 | 70 | 60 | 55 | 47 | 50 | 50 |
| Alabama | 20 | 17 | 14 | 16 | 16 | 43 | 38 | 32 | 34 | 35 | 30 | 26 | 23 | 28 | 26 |
| Mississipp | 23 | 16 | 16 | 17 | 17 | 49 | 36 | 34 | 36 | 36 | 35 | 26 | 25 | 26 | 26 |
| Louisiana | 34 | 24 | 21 | 24 | 25 | 65 | 50 | 42 | 45 | 46 | 50 | 38 | 31 | 34 | 35 |
| Texas. | 36 | 33 | 29 | 28 | 29 | 72 | 70 | 60 | 57 | 59 | 56 | 52 | 47 | 44 | 45 |
| Oklahoma | 30 | 29 | 28 | 24 | 23 | 63 | 63 | 58 | 52 | 52 | 47 | 46 | 41 | 37 | 37 |
| Arkansas | 26 | 24 | 20 | 21 | 20 | 65 | 54 | 46 | 47 | 45 | 45 | 38 | 33 | 34 | 33 |
| Montana | 21 | 19 | 15 | 14 | 13 | 48. | 41 | 35 | 31 | 30 | 36 | 30 | 23 | 22 | 21 |
| W yoming | 34 | 25 | 23 | 21 | 20 | 70 | 60 | 54 | 48 | 40 | 53 | 44 | 37 | 35 | 32 |
| Colorado. | 40 | 35 | 35 | 30 | 29 | 88 | 86 | 84 | 75 | 72 | 66 | 67 | 61 | 56 | 52 |
| New Mex | 30 | 30 | 23 | 21 | 23 | 60 | 60 | 57 | 53 | 56 | 45 | 45 | 41 | 37 | 39 |
| Arizona | 90 | 75 | 70 | 70 | 75 | 180 | 140 | 130 | 132 | 140 | 130 | 120 | 115 | 116 | 120 |
| Utah | 60 | 50 | 42 | 42 | 40 | 135 | 140 | 125 | 122 | 119 | 103 | 100 | 90 | 83 | 86 |
| Nevada | 46 | 45 | 40 | 30 | 42 | 110 | 90 | 80 | 80 | 85 | 80 | 75 | 70 | 65 | 73 |
| Idaho | 60 | 58 | 50 | 46 | 42 | 135 | 128 | 110 | 93 | 88 | 105 | 99 | 85 | 76 | 68 |
| W ashingto | 68 | 63. | 52 | 50 | 49 | 150 | 140 | 120 | 110 | 108 | 115 | 105 | 90 | 88 | 86 |
| Oregon. | 60 | 60 | 55. | 52 | 50 | 130 | 135 | 110 | 108. | 104 | 100 | 103 | 90 | 84 | 82 |
| California | 70 | 75 | 69 | 53 | 51 | 175 | 200 | 193 | 166 | 166 | 130 | 135 | 128 | 113 | 112 |
| United Sta | 61 | 57 | 47 | 45 | 43 | 113 | 106 | 89 | 85 | 82 | 90 | 84 | 70 | 67 | 64 |

Division of Crop and Livestock Estimates. From reports of crop reporters on Mar. 1 on average values in their localities.

1148 Yearbook of the Department of Agriculture, 1923.

FARM LABOR.

Table 675.-Wages: Male farm labor, by classes, United States, 1866-1923.

| Year. | By the month. |  | $\begin{aligned} & \text { Day labor } \\ & \text { at } \\ & \text { harvest. } \end{aligned}$ |  | $\begin{gathered} \text { Day labor } \\ \text { not } \\ \text { harvest. } \end{gathered}$ |  | Year. | By the month |  | $\begin{aligned} & \text { Day labor } \\ & \text { at } \\ & \text { harvest. } \end{aligned}$ |  | $\begin{aligned} & \text { Day labor } \\ & \text { not } \\ & \text { harvest. } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & \text { B. } \\ & \text { \% } \\ & \text { B } \\ & \text { B } \end{aligned}$ |  |  |  |  |  |  |  |  |  | ? |
| 1866 | 10.08 | 15. 50 |  | \$1.34 | \$0.64 | \$0. 00 | 1909 | \$20. 01 |  |  |  | 1.03 | 1. 29 |
| 599 | 9. 97 | 15.50 | 1.06 | 1. 35 | . 63 | . 87 | 1910 | 19. 21 | 27. 50 | 1. 45 | 1.82 | 1. 06 | 1.38 |
| 1875 | 11. 16 | 17. 10 | 1. 18 | 1. 49 | 88 | . 94 | 1911 | 20. 18 | 23. 77 | 1.49 | 1.85 | 1.09 | 1.42 |
| 1879 | 10.86 | 16. 79 | 1.04 | 1.35 | . 61 | . 84 | 1912 | 20.81 | 29.58 | 1. 54 | 1.87 | 1.14 | 1. 47 |
| 1880 | 11.70 | 17. 53 | 1. 12 | 1. 44 | . 64 | . 89 | 1913 | 21.38 | 30.31 | 1. 57 | 1.94 | 1.16 | 1. 50 |
| 1881 | 12.32 | 18. 52 | 1.16 | 1.49 | . 67 | . 92 | A v. 1909-1913 | 20. 32 | 28.72 | 1. 50 | 1.88 | 1.10 | 1.41 |
| 1882 | 12.88 | 19.11 | 1. 20 |  |  | . 97 |  |  |  |  |  |  |  |
| 18888 | 13. 28 | 19. 67 | 1. 17 | 1. 19 | . 72 | . 98 | 1915 | 21.26 | ${ }_{30.15}^{298}$ | 1. 56 | 1.92 | 1. 13 | 1.47 |
| 1890 | 13.29 | 19.45 | 1.08 | 1. 38 | . 72 | . 97 | 1916 | 23.25 | 32.83 | 1. 69 | 2.07 | 1. 26 | 1. 62 |
|  |  |  |  |  |  |  | 1917 | 28. 87 | 40.43 | 2. 08. | 2.54 | 1.56 | 2.02 |
| 1892 | 13. 48 | 20.02 | 1.08 | 1.39 | . 75 | . 88 | 1918 | 34. 92 | 48.80 | 2. 05 | 3. 22 | 2.07 | 2. 63 |
| 1893 | 13. 85 | 19.97 | 1.07 | 1.30 | . 72 | . 82 | 1919 | 39.82 | 56,29 | 3. 15 | 3. 83 | 2.45 | 3. 12 |
| 1894. | 12. 70 | 18. 57 | . 97 | 1. 18 | . 65 | 84 | 1920 | 46. 89 | 64.95 | 3. 60 | 4.36 | 2.86 | 3. 59 |
| 1895 | 12. 75 | 18.74 |  | 1. 19 | . 71 | $\stackrel{85}{84}$ |  |  | 43. 33 |  | 2.84 | 1.78 | 27 |
| 1898. | 13.29 |  |  |  |  |  | Av. 1914-1820 | 30.87 | 43. 33 | 2.33 | 2.84 |  |  |
| 1899 | 13.90 | 19.97 |  |  | 75 | 99 | 1921 | 30. 14 | 43. 32 | 2. 24 | 2. 79 | 1. 68 | 2.48 |
| 1902 | 15.51 | 22.12 | 1. 230 | 1. 51 | . 83 | 1. 09 | 1822 | 29.17 | 41. 79 | 2.20 | 2. 72 | 1. 685 | ${ }_{2}^{2.15}$ |
| 1906. | 18.73 | 26. 19 | 1.45 | 1. 76 | 1.03 | 1. 32 | 1923 | 33.18 | 46.91 | 2.45 | 3.03 | 1.93 |  |

Division of Crop and Livestock Estimates. From reperts of crop reporters on December 1, for average wages for the year in their loculities.

Table 676.-Wages: Male farm labor, by classes and States, 1922 and 1923.

| State and division. | Per month. |  |  |  | Per day at harvest. |  |  |  | Per day other than harvest. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | With board. |  | Without baard. |  | With boerd. |  | Without board. |  | With board. |  | Without board. |  |
|  | 1922 | 1923 | 1922 | 1823 | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 |
| Maine | \$38.00 | \$41.00 | \$53. 50 | \$61.00 | \$2. 45 | \$2. 90 | \$3.07 | \$3. 50 | \$2.08 | \$2. 50 | \$2. 70 | \$3. 10 |
| New Hampsh | 38.60 | 46. 50 | 60.00 | 69.00 | 2.46 | 3. 00 | 3.20 | 3.90 | 2. 11 | 2. 70 | 2.84 | 3. 60 |
| Vermont...- | 35.00 | 40.60 | 52.00 | 60.30 | 2. 35 | 2. 90 | 3.00 | 3. 60 | 1.96 | 2. 55 | 2. 53 | 3. 20 |
| Massachusetts | 41.00 | 50.00 | 68.00 | 80. 00 | 2. 56 | 3. 20 | 3. 45 | 4. 15 | 2. 31 | 2.95 | 3. 18 | 3. 90 |
| Rhode Island | 40.60 | 50.00 | 65. 09 | 80. DD | 2.75 | 3. 00 | 3. 60 | 4.00 | 2. 37 | 2. 65 | 3. 20 | 3. 65 |
| Connecticut | 40.00 | 52.00 | 67. 00 | 75.60 | 2.50 | 3. 10 | 3. 40 | 4. 10 | 2. 05 | 2. 80 | 2. 95 | 3. 75 |
| New York. | 30.79 | 45. 50 | 56. 50 | 64.00 | 3. 00 | 3. 75 | 3. 65 | 4. 30 | 2. 46 | 3. 00 | 3. 15 | 3. 70 |
| New Jersey | 40.00 | 44. 50 | 62. 00 | 67. 00 | 3. 05 | 3. 40 | 3.80 | 4. 40 | 2. 25 | 2. 55 | 3. 00 2. 70 | 3.55 3.15 |
| Pennsylvan | 33.00 | 38. 00 | 50.90 | 55. 00 | 2. 50 | 2. 90 | 3.20 | 3. 60 | 2. 10 | 2. 48 | 2.70 | 3. 15 |
| N. Atlantic | 37.14 | 43.42 | 55.82 | 63.31 | 2.70 | 3. 21 | 3. 40 | 3.99 | 2. 24 | 2. 73 | 2.91 | 3. 48 |
| Delaware | 27. 10 | 32.80 | 49.60 | 71.60 | 2. 33 | 2.85 | 2.85 | :3.50 | 1.60 | 2.25 | 2.07 | 2. 75 |
| Marylan | 28. 50 | 32. 00 | 42. 00 | 48.00 | 2. 17 | 2. 70 | 2. 77 | 3. 30 | 1. 54 | 1. 95 | 2.11 | 2. 50 |
| Virginia | 24.80 | 28. 00 | 35. 50 | 40.00 | 1. 90 | 2.10 | 2.32 | 2.60 | 1. 31 | 1. 61 | 1. 76 | 2. 08 |
| West Virginia | 33. 20 | 35. 50 | 47. 90 | 50.50 | 2. 20 | 2. 48 | 2. 80 | 3.08 | 1.55 | 1. 90 | 2. 10 | 2. 50 |
| North Carolina | 24. 00 | 28.00 | 33. 00 | 39.09 | 1. 85 | 1.95 | 2.25 | 2.45 | 1.35 | 1. 1.12 | 1. 1.08 | 1. 95 1.42 1.4 |
| South Carolina | 16. 20 | 20. 00 | 23. 20 | 27. 50 | 1. 24 | 1. 35 | 1.56 | 1.75 | . 85 | 1. 12 | 1. 1.12 | 1. 1.32 1.30 |
| Georgia. | 15. 60 | 17. 30 | 23. 00 | 24. 50 | 1. 05 | 1.16 1.57 | 1.35 1.80 | 1.40 2.15 | $\begin{array}{r}.88 \\ 1.15 \\ \hline\end{array}$ | 1. 00 | 1.12 1.60 | 1.30 2. 00 |
| Florida. | 23. 40 | 26. 00 | 35.50 | 40.00 | 1.30 | 1.57 | 1.80 | 2.15 | 1.15 | 1. 44 | 1. 60 | 2. 00 |
| S. Atlantic. | 22. 12 | 24.93 | 31.72 | 35. 55 | 1. 61 | 1. 76 | 2.01 | 2.21 | 1.18 | 1. 41 | 1. 55 | 1.82 |
| Ohio | 32. 60 | 36. 80 | 46. 50 | 50.40 | 2.70 | 3.05 | 3. 28 | 3. 70 | 2. 00 | 2. 18 | 2.60 | 2. 92 |
| Indiana | 30. 20 | 35. 40 | 42. 70 | 48.60 | 2. 58 | 3. 10 | 3.15 | 3.75 | 1. 80 | 2. 25 | 2. 32 | 2.83 |
| Illinois | 33.90 | 40.20 | 45. 00 | 52. 50 | 2. 75 | 3. 38 | 3. 30 | 4. 00 | 1. 95 | 2. 40 | 2. 48 | 2. 96 |
| Michigan | 33. 60 | 40.00 | 47. 30 | 55. 00 | 2. 60 | 3. 19 | 3. 29 | 3. 88 | 2.10 | 2. 58 | 2. 70 | 3.23 3.15 |
| Wisconsin | 37.00 | 45. 00 | 54.00 | 63.00 | 2. 65 | 2. 96 | 3.32 | 3. 70 | 2. 20 | 2. 45 | 2. 90 | 3.15 |
| E. N. Centra | 33.35 | 39.41 | 46. 71 | 53. 59 | 2.67 | 3. 14 | 3.27 | 3.82 | 2. 00 | 2. 36 | 2.58 | 3.01 |

Tarle 676.-Wages: Male farm labor, by classes and States, 1922 and 1923-

| State and division. | Per month. |  |  |  | Per day at harvest. |  |  |  | Per day other than harvest. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | With board. |  | Without board. |  | W ith board. |  | Without board. |  | With board. |  | Without board. |  |
|  | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 | 1922 | 1923 | 1922 | 1922 | 1922 | 1923 |
| Minnesot | \$35. 00 | \$37. 00 | \$50.00 | \$55. 50 | \$2. 90 | \$3. 27 | \$3. 60 | \$4. 03 | \$2. 20 | \$2. 55 | \$2. 95 | \$3.29 |
| Iowa. | 36. 80 | 43. 30 | 49.70 | 56. 60 | 2. 70 | 3.16 | 3. 35 | 3. 80 | 2. 11 | 2. 52 | 2. 67 | 3.12 |
| Missouri | 28. 70 | 31. 00 | 39. 50 | 42.50 | 2. 25 | 2. 50 | 2. 73 | 3.05 | 1. 46 | 1. 62 | 1. 90 | 2. 10 |
| North Dakota | 38. 70 | 40. 30 | 55. 50 | 58.80 | 3. 90 | 3. 72 | 4. 85 | 4. 77 | 2. 50 | 2. 50 | 3. 40 | 3. 50 |
| South Dakota | 36. 40 | 43. 20 | 53. 00 | 61. 70 | 3. 05 | 3. 50 | 3. 75 | 4. 20 | 2. 25 | 2. 65 | 3. 10 | 3.45 |
| Nebraska | 34. 50 | 40.00 | 48. 50 | 54.00 | 3. 00 | 3. 30 | 3.65 | 4. 10 | 2. 15 | 2. 42 | 2. 85 | 3. 00 |
| Kansas | 32. 50 | 35. 90 | 46. 70 | 50.60 | 3. 50 | 3. 65 | 4. 10 | 4.30 | 2. 19 | 2. 32 | 2. 75 | 2. 90 |
| W. N. Central | 33.63 | 37.54 | 47.14 | 52.33 | 2.88 | 3. 17 | 3.51 | 3.86 | 2. 01 | 2. 27 | 2. 63 | 2.91 |
| Kentucky | 25.90 | 28. 10 | 36. 30 | 38. 60 | 1.95 | 2.16 | 2. 46 | 2. 67 | 1.23 | 1.51 | 1.63 | 1.97 |
| Tennessee | 22. 30 | 24. 60 | 30.75 | 35.00 | 1. 58 | 1.75 | 1. 90 | 2. 20 | 1. 07 | 1. 28 | 1. 40 | 1.64 1.50 |
| Alabama | 17. 60 | 19. 90 | 25. 80 | 28. 20 | 1.18 | 1. 26 | 1. 48 | 1. 58 | 1.00 | 1. 20 | 1.30 | 1.50 1.68 |
| Mississipp | 18. 20 | 20. 00 | 25. 90 | 29.40 | 1. 14 | 1. 20 | 1. 50 | 1. 57 | 1. 10 | 1. 29 | 1.45 | 1. 68 |
| Louisiana | 22. 40 | 21. 00 | 32. 60 | 33. 00 | 1. 30 | 1.45 | 1. 60 | 1. 85 | 1. 26 | 1. 45 | 1. 60 | 1. 75 |
| Texas | 24. 20 | 28. 30 | 35.40 | 39. 70 | 1. 72 | 1. 90 | 2. 10 | 2. 40 | 1. 30 | 1.45 | 1. 66 | 1. 88 |
| Oklahoma | 26. 00 | 27.40 | 37.00 | 38. 30 | 2. 35 | 2. 50 | 2. 75 | 2. 90 | 1. 52 | 1. 60 | 1. 96 | 2. 00 |
| Arkansas | 21.35 | 23.00 | 31.60 | 33.90 | 1.56 | 1. 64 | 2. 00 | 2. 06 | 1.15 | 1. 30 | 1. 52 | 1. 66 |
| S. Central. | 22.33 | 24. 13 | 32.09 | 34.55 | 1. 61 | 1.71 | 1. 98 | 2. 14 | 1.20 | 1. 38 | 1. 56 | 1. 76 |
| Montana | 42. 20 | 48.00 | 63.00 | 65. 50 | 3.60 | 3.60 | 4. 40 | 4. 52 | 2. 40 | 2. 70 | 3. 20 | 3.55 |
| W yorning | 39. 50 | 44. 50 | 60.00 | 62. 50 | 2. 40 | 2. 90 | 3. 25 | 3. 78 | 1.95 | 2. 50 | 2. 75 | 3. 40 |
| Colorado. | 35. 00 | 40. 00 | 54. 00 | 58. 30 | 2. 52 | 2. 80 | 3. 27 | 3. 50 | 1.90 | 2. 20 | 2. 60 | 2. 90 |
| New Mexico | 31.00 | 32. 50 | 46. 00 | 48. 00 | 1. 60 | 2. 10 | 2. 10 | 2. 30 | 1. 30 | I. 58 | 1. 80 | 2. 10 |
| Arizona | 40. 00 | 54. 00 | 58. 00 | 66. 00 | 2. 40 | 2. 35 | 3. 00 | 2. 65 | 1. 75 | 2. 10 | 2. 50 | 2. 70 |
| Utah. | 47. 00 | 54. 00 | 64. 00 | 73. 70 | 2. 40 | 2. 70 | 2. 95 | 3. 31 | 2. 16 | 2. 47 | 2. 81 | 3. 05 |
| Nevada | 48. 00 | 58. 00 | 65.00 | 86. 00 | 3. 00 | 2. 90 | 3. 85 | 3. 80 | 2. 40 | 2. 45 | 3. 40 | 3. 58 |
| Idaho. | 46. 00 | 53.00 | 66. 00 | 72. 70 | 2. 75 | 3. 57 | 3. 40 | 4. 25 | 2. 22 | 2. 85 | 3. 00 | 3. 45 |
| W ashington | 45.00 | 54. 30 | 65. 00 | 77. 00 | 3. 25 | 3. 90 | 3. 90 | 4. 50 | 2. 38 | 2. 95 | 3. 15 | 3. 75 |
| Oregon--- | 43. 50 | 52. 50 | 63. 00 | 70. 00 | 2. 85 | 3. 30 | 3. 50 | 4.15 | 2. 25 | 2. 80 | 2. 95 | 3. 48 |
| California | 55. 00 | 56. 00 | 79.00 | 82. 00 | 3. 20 | 3. 25 | 3. 90 | 4. 10 | 2. 53 | 2. 80 | 3. 40 | 3. 70 |
| Western | 45.57 | 51.25 | 66. 03 | 72. 79 | 2. 89 | 3. 22 | 3.56 | 3. 95 | 2. 23 | 2. 64 | 3. 00 | 3.42 |
| United States | 29.17 | 33.18 | 41.79 | 46.91 | 2. 20 | 2.45 | 2. 72 | 3.03 | 1. 65 | 1. 93 | 2.15 | 2.47 |

Division of Crop and Livestock Estimates. From reports by crop reporters on December 1 for average wages for the year in their localities.

Table 677.-Farm wages: Prevailing rates, 1922-1924.

| Basis of rate, year, and month. | United States. | North Atlantic States. | East North Central States. | West <br> North Central States. | South Atlantic States. | South <br> Central States. | Western States. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Per month, with board: |  |  |  |  |  |  |  |
| Oct. 1, 1922........- | 28.97 | 37.05 | 33.92 | 34. 41 | 21.37 | 21.46 | 45.38 |
| Jan. 1, 1923 | 27.81 | 36. 54 | 32. 34 | 30. 69 | 21.06 | 21. 46 | 42.78 |
| Apr 1, 1923 | 30.98 | 41.02 | 37.14 | 35. 22 | 23. 04 | 22. 49 | 45. 55 |
| July 1, 1923 | 34. 38 | 47. 66 | 41. 23 | 39. 43 | 25.01 | 24.47 | 53.35 |
| Oct. 1, 1923 | 34.86 | 47. 54 | 41. 00 | 39. 51 | 25.32 | 24.92 | 55.42 |
| Jan. 1, 1924 | 31.71 | 42. 34 | 37.30 | 33. 71 | 24. 69 | 23.55 | 48. 54 |
|  |  |  |  |  |  |  |  |
| Jan. 1, 1923. | 41.58 40.30 | 54.65 54.39 | 45.84 | 44. 33 | 30.71 | 31. 03 | 62. 71 |
| Apr. 1, 1923 | 44.47 | 60.41 | 51.81 | 50. 12 | 33. 69 | 32.92 | 66.82 |
| July 1, 1923 | 48. 14 | 67.03 | 56. 30 | 55.31 | 35. 10 | 35.01 | 74.00 |
| Oct. 1, 1923 | 48. 70 | 66.96 | 56.12 | 53.54 | 35. 61 | 35.95 | 77.19 |
| tan. 1, 1924 | 45. 81 | 63.38 | 52.07 | 48. 01 | 35. 32 | 34. 44 | 70. 63 |
|  |  |  |  |  |  |  |  |
| Oct. 1, 1922. | 1.57 1.47 | 2.15 2.13 | 1.95 1.81 | 1.94 1.67 | 1.09 1.06 | 1.07 1.05 | 2. 23 |
| Apr. 1, 1923 | 1.57 | 2.27 | 1.91 | 1.83 | 1.14 | 1. 10 | 2. 19 |
| July 1, 1923 | 1.84 | 2. 72 | 2.30 | 2.14 | 1.32 | 1. 26 | 2. 60 |
| Oct. 1, 1923 | 2.04 | 2. 97 | 2. 61 | 2.49 | 1.39 | 1.36 | 2. 91 |
| Jan. 1, 1924 | 1. 81 | 2. 60 | 2. 33 | 2. 08 | 1. 28 | 1.24 | 2. 52 |
|  |  |  |  |  |  |  |  |
| Jan. 1, 1923 | 1.98 | 2. 82 | 2. 43 | 2. 29 | 1.40 | 1.43 | 2. 81 |
| Apr. 1, 1923 | 2.11 | 3.04 | 2.55 | 2. 47 | 1. 53 | 1.48 | 2. 93 |
| July 1, 1923 | 2.45 | 3.58 | 3.01 | 2. 90 | 1.75 | 1.68 | 3. 47 |
| Oct. 1, 1923 | 2. 61 | 3.81 | 3.33 | 3. 20 | 1.76 | 1. 77 | 3. 67 |
| Jan. 1, 1924 | 2. 41 | 3.48 | 3.08 | 2. 73 | 1. 74. | 1.65 | 3.36 |

Table 678.-Farm labor: Supply and demand, 1918-1923.

| Division. | Farm labor supply, per cent of normal. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| North Atlantic. | 62.5 | 82.8 | 62.3 | 92.1 | 99.2 | 73.3 |
| South Atlantic. | 73.4 | 81.9 | 72.5 | 94.3 | 97.3 | 83.0 |
| East North Central | 74.7 | 86.6 | 68.4 | 95.1 | 101.4 | 76.5 |
| West North Central | 74.1 | 85.6 | 77.8 | 96.6 | 101. 1 | 89.1 |
| South Central | 74.0 | 83.2 | 72.8 | 94.3 | 97.1 | 86.7 |
| Far Western. | 76.8 | 90.0 | 8.21 | 102. 3 | 107.0 | 91.3 |
| United States_ | 72.9 | 84.4 | 72.4 | 95.2 | 99.5 | 83.6 |


| Division. | Farm labor demand, per cent of normal. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| North Atlantic. | 98.5 | 101.9 | 107.8 | 92.7 | 94.8 | 95.2 |
| South Atlantic. | 104. 2 | 103.9 | 107. 4 | 86.6 | 88.4 | 94.2 |
| East North Central | 99.4 | 101. 2 | 106. 6 | 91. 2 | 91.0 | 95.4 |
| West North Central | 99.8 | 100.9 | 103.4 | 89.1 | 89.3 | 95.5 |
| South Central. | 102. 9 | 101. 3 | 104.2 | 83.0 | 86.6 | 93.9 |
| Far Western | 99.3 | 102.4 | 101.5 | 89.0 | 89.9 | 94.0 |
| United States | 101.4 | 101.8 | 105.3 | 87.5 | 89.3 | 94.6 |


| Division. | Supply as a percentage of demand. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| North Atlantic. | 63.4 | 81.9 | 57.8 | 99.4 | 104. 6 | 77.0 |
| South Atlantic. | 70.4 | 78.8 | 67.5 | 108. 9 | 110.1 | 88.1 |
| East North Central | 75.2 | 85.6 | 64.2 | 104. 3 | 111.4 | 80.2 |
| West North Central | 74.2 | 84.8 | 75.2 | 108.4 | 113.2 | 93.3 |
| South Central.- | 71.9 | 82.1 | 69.9 | 113.6 | 112.1 | 92.3 |
| Far Western. | 77. 3 | 87.9 | 80.9 | 114.9 | 119.0 | 97.1 |
| United States | 71.9 | 82.9 | 68.8 | 108.8 | 111.4 | 88.4 |

Division of Crop and Livestock Estimates. Based upon reports of crop reporters on April 1.

## PRICES OF ARTICLES BOUGHT BY FARMERS.

Table 679.—Prices of articles bought by farmers, 1909-1922.

| Article. | 1909 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$0. 89 | \$0.96 | \$1. 04 | \$1. 12 | \$1. 40 | \$1. 79 | \$2. 06 | \$2. 25 | \$2. 00 | \$1. 96 |
| Barb wire-..-.----100 pounds-- | 2. 98 | 3. 08 | 3. 50 | 4. 25 | 5. 00 | 5. 69 | 5. 73 | 6. 10 | 5. 20 | 4.73 |
| Barrels.---------------- each -- |  | . 25 | . 30 | . 33 | . 37 | . 45 | . 50 | 76 60 | 51 50 | ${ }_{61} 58$ |
| Bone meal-.---------------- |  | 31.90 | 35.00 | 38.90 | 48.00 | 55. 10 | 60.00 | 65.00 | 54.00 | 53. 17 |
| Brooms.-----------------each | 34 | 38 | 43 | 53 | 76 | 98 | 1.00 | 98 | . 78 | 78 |
| Buggies.----------------- ${ }^{\text {do }}$ | 64. 90 | 70. 10 | 75. 00 | 80. 00 | 80.00 | 107. 00 | 123. 00 | 131.00 | 108. 00 | 102.85 |
| Buggy whips....-------- ${ }^{\text {Calico }}$ do | . 404 | . 4263 | . 45 | ${ }_{.084}^{50}$ | . 127 | $\stackrel{.67}{.207}$ | . 73 | . 85 | . 70 | . 68 |
| Churns-----------------------each | 2. 19 | 2. 30 | 2. 42 | 2.70 | 3. 50 | 2. 62 | 290 | 3. 25 | 3.00 | 3. 35 |
| Coal | 5.50 | 5.80 | 6. 00 | 6. 80 | 7. 50 | 8.11 | 9. 50 | 13.30 | 11. 50 | 11. 28 |
|  | . 157 | . 139 | . 141 | . 143 | . 159 | . 184 | . 22 | . 25 | . 19 | . 18 |
|  | . 211 | . 245 | . 248 | . 258 | . 265 | . 31 | . 46 | .41 | . 32 | 33 |
| Corn knives.------------each -- |  |  | 32 | 36 | 43 | 52 | . 58 | 65 | . 50 | 88.88 |
| Cream separators-------do.- | 63. 10 | 59.30 | 63.00 | 68.80 | 77.00 | 87.00 | 95.00 | 102. 00 | 90.00 | 88.88 |
| Dinner plates..-------12 dozen-- | . 55 | . 57 | . 60 | . 67 | 88 | 1. 18 | 1. 40 | 1. 58 | 1.31 | 1. 31 |
| Dish pans-.------------each -- | . 32 | . 34 | . 37 | 45 | . 60 | . 74 | . 83 | . 95 | . 75 | 1.76 |
| Dung forks...---------- do | 70 | 76 | 82 |  | 1.03 | 1. 23 |  |  |  |  |
| Fertilizer, commercial.-.ton | 22. 15 | 23.20 | 25. 780 | 27.00 9.75 | 31. 90 12.05 | 38. 80 | 42.00 | 12. 90 | 35. 8.80 8.8 | 30.08 8.07 |

Table 679.-Prices of articles bought by farmers, 1909-1922—Continued.

| Article. | 1909 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fruit jars...----------- dozen-- | \$0.73 | \$0. 74 | \$0. 77 | \$0.80 | \$0. 92 | \$1.06 | \$1. 15 | \$1. 25 | \$1. 16 | \$1.15 |
| Gasoline --------------gallon | 202 | . 179 | 204 | 23 | 261 | 278 | 29 | 33 | 265 | 24 |
| Gloves, cotton-----------p |  |  |  |  |  | 238 | . 28 | 27 | 19 | 9 |
| Gloves, leath |  |  | 85 | 95 |  | 1.51 | 1.78 | 1.85 | 1. 30 | 1. 25 |
| Halters----------------eac | 85 | 95 | 1. 06 | 1.20 | 1.36 | 1.62 | 1.85 | 1.98 | 1. 55 | 1.48 |
| Harness, single.----------- do | 13. 50 | 15.25 | 16. 00 | 17. 00 | 19.00 | 24. 10 | 29.00 | 32.00 | 25. 00 | 28. 67 |
| Harrows |  |  | 12. 60 | 14. 60 | 19.30 |  |  | 30.00 | 25. 50 | 24.90 |
| Hatchets | 59 | 62 | . 65 | . 70 | . 80 | 1. 09 | 1. 29 | 1. 50 | 1.29 | 1.16 |
| Hats, felt | 1.94 | 2. 03 | 2. 13 | 2. 25 | 2. 65 | 3.35 | 4. 30 | 5.00 | 3. 50 | 3. 46 |
| Hoes-.-.-.-.-.-.-.-.-.-.-. ${ }^{\text {do }}$ | 41 | . 45 | 49 | 53 | . 61 | . 75 | . 83 | . 93 | 80 | 85 |
| Horse blankets.---.--.-.-d | 2. 25 | 2. 40 | 2. 60 | 2.90 | 3. 50 | 4. 33 | 5. 00 | 5. 35 | 4.15 | 4.05 |
| Jumpers | 77 | . 83 | . 93 | 1.10 | 1.52 | 2. 20 | 2. 50 | 2. 50 | 1. 55 | 1. 67 |
| Kitchen | . 72 | . 80 | . 86 | . 92 | 1.12 | 1.42 | 1.70 | 2. 10 | 1. 65 | 1. 79 |
| Lamps | . 50 | . 52 | . 60 | . 64 | 72 | . 86 | . 98 | 1. 10 | 95 | 99 |
| Lanterns.------.--------do | . 77 | . 80 | . 82 | . 85 | 1. 00 | 1. 20 | 1. 32 | 1. 45 | 1. 30 | 1.35 |
| Lard------------------poun | . 132 | . 141 | . 154 | . 199 | . 286 | 323 | 34 | 265 | 16 | 17 |
| me------------------ barr | 1. 29 | 1.36 | 1.41 | 1.50 | 1.78 | 2. 30 | 2. 65 | 3. 10 | 2. 65 | 2. 97 |
| Linseed oil | . 79 | 82 | 94 | 1. 10 | 1.48 | 2.08 | 2. 50 | 2. 21 | 1. 22 | 1.37 |
| Lumber, 1-inch. ...--. 100 fee | 1.95 | 2.10 | 2. 20 | 2. 35 | 2.85 | 3. 50 | 4.75 | 5.15 | 3.55 | 3.89 |
| Manure spreaders .--.-.--each | 111.60 | 106. 70 | 112. 70 | 123.00 | 145. 00 | 169.40 | 80.00 | 194.00 | 167.00 | 152.71 |
| Men's suits ------------ do | 13. 15 | 14. 00 | 15. 15 | 16. 50 | 20. 00 | 27. 60 | 38.10 | 41.00 | 30.30 | 28. 07 |
| Milk cans, 10-gallon.-..- do | 2. 40 | 2.45 | 2. 70 | 3.10 | 4. 30 | 5. 50 | 6. 00 | 6. 20 | 5.30 | 4.98 |
| Milk pails..-----.-- .-.-d | 43 | 45 | 48 | 53 | 67 | 79 | 90 | 1.00 | 80 | 73 |
| Mowers-.-----------.----do | 44. 30 | 46. 50 | 49.50 | 53:00 | 63.00 | 79. 20 | 84.00 | 88.00 | 78.00 | 77. 24 |
| Muslin.------------.--. yard.- | 09 | 093 | 18 | 116 | 18 | 272 | . 31 | . 30 | . 18 | 18 |
| Nails--1.-.-------100 pounds.- | 3.34 | 3.40 | 3. 82 | 4.25 | 5. 25 | 5. 97 | 6. 50 | 7.30 | 5. 75 | 5. 45 |
| Overalls-----------...--- pair | . 82 | . 89 | . 98 | 1.14 | 1.54 | 2. 26 | 2.60 | 2. 60 | 1.58 | 1. 61 |
| Padlocks-.--------------each | . 27 | . 275 | . 28 | . 31 | . 37 | . 44 | . 50 | 60 | 50 | 48 |
| Paint brushes....---.---.-do | . 49 | . 54 | . 60 | . 70 | . 84 | . 97 | 1.15 | 1.35 | 1.15 | 1. 25 |
| Paint, mixed.-.-----.-. gallon.- | 1.62 | 1. 74 | 1.98 | 2. 20 | 2. 80 | 3.40 | 4.05 | 4.30 | 3.35 | 3. 33 |
| Paris green----------- pound | . 29 | . 30 | . 36 | . 43 | . 55 | 62 | 62 | 64 | 52 | 49 |
| Picks | . 71 | . 72 | . 75 | . 81 | . 99 | 1. 22 | 1. 40 | 1. 50 | 1.22 | 1.21 |
| Pincers----------------do | . 49 | . 51 | - 55 | . 62 | . 76 | 87 | 95 | 1. 10 | 90 | 98 |
| Pitchforks .-.--------.--- ${ }^{\text {do }}$ | . 62 | . 66 | . 72 | . 80 | . 94 | 1.14 | 1.30 | 1. 45 | 1.22 | 1. 23 |
| Plows, turning--------. do - | 11. 50 | 12. 10 | 13. 00 | 14. 25 | 18.00 | 20. 00 | 21.00 | 23. 00 | 20.00 | 22.35 |
| Portland cement. . 100 pounds | . 70 | . 69 | . 76 | . 85 | 95 | 96 | 1.05 | 1.30 | 1. 02 | 1. 08 |
| Raincoats..--------.-.--each | 4. 25 | 4.40 | 4.80 | 5. 50 | 6. 40 | 7.73 | 9.20 | 10. 50 | 7.50 | 6. 86 |
| Rope, hemp---------- pound.- | . 135 | . 149 | 171 | . 21 | . 287 | 349 | . 36 | . 355 | 26 | 26 |
|  | 3. 55 | 3.75 | 3. 90 | 4.25 | 4.50 | 5.00 | 5. 10 | 5.30 | 4.55 | 4.46 |
| Sacks, grain----.-----..--each | 15 | 163 | 181 | 20 | 30 | 43 | . 45 | . 42 | . 26 | . 27 |
| Saddles-..-.-.-.-.-.-.-.-do | 17.45 | 20.35 | 22. 50 | 25. 00 | 30. 50 | 35. 80 | 42. 40 | 45. 00 | 35. 00 | 34. 94 |
| Salt, for stock . .-...-....-barrel.- | 1.50 | 1.65 |  | 1.75 | 2.18 | 2.71 | 3.00 | 3. 50 | 3.20 | 3.24 |
| : Saws, buck---------.---each.- | . 89 | . 92 | . 98 | 1.05 | 1.18 | 1.54 | 1. 75 | 1.90 | 1.50 | 1. 56 |
| Screw hooks.----------.--box | . 36 | . 37 | . 41 | . 50 | . 66 |  | . 75 | . 91 | . 71 | . 60 |
| Scythes----------.-..---each | 1.02 | 1.06 | 1. 12 | 1. 20 | 1.30 | 1.60 | 1.82 | 2.10 | 1.85 | 2.04 |
| Sheeting----------------yard | 17 | . 18 | . 202 | 23 | 32 | . 48 | 58 | . 57 | . 40 | . 41 |
| Shingles_.----------------M.- | 3.50 | 3.70 | 3.95 | 4.20 | 4.70 | 5. 65 | 7.90 | 8.10 | 5.80 | 6.12 |
| Shirts, flannel-------.-.--each | 1. 34 | 1.41 | 1. 55 | 1.75 | 2. 25 | 3. 13 | 3. 85 | 3.90 | 2.85 | 2. 94 |
| Shoes-.--------------.---- pair | 2. 00 | 2.30 | 2. 45 | 2.80 | 3. 35 | 3.81 | 4.75 | 5.00 | 3.65 | 3. 40 |
| Shotguns---------------each | 12.45 | 12.85 | 14.15 | 16. 50 | 18. 50 | 23.70 | 28.00 | 33.00 | 29.00 | 25. 13 |
| Shovels -------------.-. do | . 74 | . 78 | . 85 | . 95 | 1. 15 | 1. 42 | 1.62 | 1.85 | 1. 55 | 1.45 |
| Staples-----------100 pounds | 3. 69 | 3.75 | 4.15 | 4.60 | 5. 70 | 6.41 | 6.80 | 7.60 | 6. 20 | 5.86 |
| Starch | 07 | . 07 | . 071 | . 075 | . 095 | . 105 | . 118 | . 125 | . 103 | . 11 |
| Steel wire--------100 pounds.- | 3.43 | 3.55 | 4. 10 | 4.60 | 5.60 | 6. 45 | 6.90 | 7.30 | 6.00 | 5. 95 |
| Stoves-.-.-.-............-each_ | 22. 50 | 24. 00 | 26. 00 | 29. 00 | 37.00 | 44. 00 | 50.00 | 61.00 | 52.00 | 55.47 |
| Sugar--.-----------.-. pound.- | . 058 | . 069 | . 074 | . 082 | . 097 | . 115 | . 15 | . 17 | . 073 | . 09 |
| Sulphur---------------do- | . 075 | ${ }^{-08}$ | 085 | . 095 | ${ }_{5} .10$ | . 116 | . 119 | . 12 | . 105 | 13 |
| Tedders--.------------e-each | 39.00 | 39. 50 | 41. 00 | 44. 00 | 52.00 | 69. 40 | 74.00 | 78.50 | 69.00 | 70.33 |
| Tin pails---------------do-- | . 25 | . 27 | . 29 | 32 | 41 | . 53 | . 59 | . 66 | . 50 | . 44 |
| Tobacco, plug...-.-.-.-.pound. | . 45 | .45 | 455 | . 47 | 56 | . 75 | 93 | . 94 | . 85 | . 82 |
| Twine, binder----------do- | . 103 | 112 | 121 | 15 | 22 | . 265 | . 258 | . 20 | 16 | 13 |
| Wagons, double...-.....-.each | 66. 00 | 73. 25 | 78.00 | 84.00 | 97.00 | 120.00 | 138.00 | 155. 00 | 134. 00 | 126. 39 |
| Wagons, single--------- do | 45. 50 | 48.00 | 51.00 | 55. 50 | 69.00 | 75.00 | 83. 00 | 95. 00 | 79. 00 | 81.23 |
| Walking cultivators-..---do. |  |  | 17.00 | 19.00 |  | 32. 90 | 35. 20 | 40.00 | 34. 00 | 30.05 |
| Wheelbarrows .-.-.---.--do | 2. 80 | 297 | 3.20 | 3.60 | 4.00 | 4. 75 | 5. 50 | 6. 50 | 5. 50 | 5.77 |
| Wire fence-----------.---rod.- | . 311 | . 317 | . 36 | . 42 | . 49 | . 57 | 59 | 64 | 53 | . 52 |
| Wooden buckets.-.---.--each.- | . 31 | . 35 | . 38 | . 45 | 62 | 85 | 98 | 1.05 | 90 | 1.04 |
| Wooden wash tubs-.-...-do...- | . 77 | . 83 | . 87 | . 95 | 1. 20 | 1.56 | 1. 75 | 1.90 | 1. 50 | 1.62 |

Division of Crop and Livestock Estimates. As reported by dealers for the year about Dec. 15.

Table 680.-Prices of articles bought by farmers, 1923 and Jan. 15, 1924.

| Article. | Unit. | United States. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1923 |  |  |  | 1924 |
|  |  | Jan. 15. | Apr. 15. | July 15. | Oct. 15. | Jan. 15. |
| Food: |  |  |  |  |  |  |
| Bacon, smoked. | Pound. | \$0. 279 | \$0. 270 | \$0. 272 | \$0. 272 | \$0. 259 |
| Beans, dry, edible | - do-. | 104 | 111 | . 109 | . 099 | 096 |
| Coffee |  | 317 | . 326 | . 332 | . 328 | 337 |
| Flour, wheat, 24 po | Sack. | 1. 10 | 1. 10 | 1.05 | . 99 | 1. 00 |
| Lard. | Pound.- | . 173 | . 173 | . 172 | . 179 | . 179 |
| Rice | - do--- | . 09. | . 09 | . 088 | . 09 | . 092 |
| Sugar -........- | -do | . 088 | . 11 | . 112 | . 11 | . 107 |
| Salmon, canned.- | ${ }_{34}^{16-02}$ | ${ }_{189}^{223}$ | . 225 | . 24 | . 233 | . 238 |
| Clothing: |  |  |  |  |  |  |
| Boets, knee, rubber | Pair | 4. 28 | 4. 33 | 4. 28 | 4.35 | 4.32 |
| Gingham, apron, dome | Yard | . 189 | . 203 | . 201 | 205 | . 209 |
| Overalls. | Pair | 1. 62 | 1.73 | 1. 77 | 1. 81 | 1. 87 |
| Sheeting, 80 inches wide | Yard. | . 573 | . 609 | . 619 | . 619 | . 63 |
| Shoes, work | Pair- | 3. 48 | 3. 50 | 3. 43 | 3. 63 | 3. 64 |
| Socks, work, eot | -do | . 17 | . 174 | $\cdot 173$ | . 182 | 193 |
| Suits, wool-serge, ready-med | Su | 25. 83 | 25.95 | 26.12 | 26.95 | 27.35 |
| Household aricles: |  |  |  |  |  |  |
| Brooms, for sweeping | Each. | . 74 | . 82 | . 87 | . 90 | . 87 |
| Dinner plates, plain. | $\frac{1}{2}$ doz | 1. 19 | 1. 19 | 1.16 | 1. 17 | 1.21 |
| Fruit jars, Mason, 1-qu | 1 doz | 1.11 | 1. 10 | 1.08 | 1.04 | 1.08 |
| Frying pan, cast iron, 10- | Each | . 67 | . 70 | . 65 | . 66 | . 79 |
| Kitchen ehair, plain. | -do | 1. 59 | 1. 59 | 1. 67 | 1.60 | 1.71 |
| Oif lamp, glass body | do | ${ }_{2} .82$ | ${ }^{8} 84$ | \%. 80 | . 83 | . 85 |
| Ruys, 9 by 12, tapestry | do | 23. 06 | 25. 85 | 25. 31 | 25. 68 | 25.50 |
| Rugs, 9 by 12, brussels | do | 36. 48 | 38. 56 | 38.66 | 36. 94 | 39. 54 |
| Washtubs, heavy galvan |  | 1.26 | 1.25 | 1. 24 | 1. 24 | 1.32 |
|  |  |  |  |  |  |  |
| Bricks, common Boards, rough, 1 -ineh, feet b. | 1,000- | 20.18 35.53 | 20.36 37.69 | 20.43 37.44 | 20.79 37.39 | 21.76 36.49 |
| Flooring, clear, 1 -inch tongue and groove feot b $m$ | 1,000 | 64.70 | 67.32 | 68. 33 | 64.19 | 64. 91 |
| 2 -inch framing lumber, feet b. m...- | 1,000- | 37.37 | 39.73 | 40.17 | 38. 71 | 37.51 |
| House paint, ready-mixed | Gall | 3. 16 | 3. 29 | 3. 34 | 3.32 | 3.37 |
| Lime, common, lump.. | 109 lbs | 1. 71 | 1. 79 | 1.75 | 1.76 | 1.86 |
| Portland cemrent | 96 lbs | 1.05 | 1.00 | 1.06 | 1.02 | 1. 02 |
| Roofing, composition, 3-ply --..-. | 108 sq.ft | 3.03 | 3.01 | 3.02 | 3.00 | 2.97 |
| Roofing, steel, galvanized, $2 \frac{1}{2}$-inch corrugated, 29 gauge. | 100 sq. f | 5.88 | 5.90 | 6.01 | 5.99 | 5.93 |
|  | Ton | 16. 16 | 15. 76 | 15. 71 | 16. 11 | 16.29 |
| Coal, soft (bituminous) | do. | 10.70 | 10.30 | 9.69 | 9.51 | 9.59 |
| Gasoline. | Gall | . 283 | . 259 | . 247 | . 20 | . 199 |
| Kerosene. | --do | . 177 | . 181 | . 181 | . 169 | 174 |
| Machinery and equipment: |  |  |  |  |  |  |
| Barbod wire, galvanized ----------- | 100 lbs | 4.87 | 5. 05 | 5. 26 | 5. 19 | 5. 19 |
| Binder twine. | Poun | 132 | . 137 | . 134 | .135 | 136 |
| Centrifugal hand cream separator, 250-quart capacity | Each. | 79.10 | 80.61 | 81.91 | 84.06 |  |
|  | --do. | 4:85 | 4.82 | 4. 96 | 4.85 | 5. 00 |
| Engines, gasoline, 3 horsepower | --do | 97.44 | 100.48 | 103. 45 | 103.00 | 103. 99 |
| Grain binders, 7-foot | do | 201. 61 | 206.95 | 217.97 | 217. 19 | 22281 |
| Harrows, disk, 7-foot, singl | - -do | 53. 36 | 54.51 | 55.25 | 53.00 | 57.74 |
| Hay rakes, 2-horse, sulky |  | 40. 67 | 39.88 | 43.75 | 43. 34 | 44. 91 |
| Horse collars, leather | do | 5.06 | 5. 24 | 5. 37 | 5. 26 | 5.40 |
| Mower, 5 -foot | do | 74.39 | 76.92 | 81.39 | 81.00 | 81.22 |
| Nails, 8 d wire | Pound | . 058 | . 06 | . 062 | . 061 | . 062 |
| Oil, machine, lubricatin | Gall | 69 | . 67 | . 69 | 70 | . 71 |
| Pitchforks, 3 tines | Each | 1. 14 | 1. 18 | 1. 21 | 1. 21 | 1.83 |
| Plow, 2-horse, walking...-----.--- | - do- | 18. 24 | 18. 83 | 18. 94 | 18.83 | 19.92 |
| Plow, riding, horse-drawn, 2 bottoms |  | 85.10 | 89. 54 | 91. 79 | 89. 47 | 95.00 |
| Poudtry netting, 5 by 150 feet | Bale.- | 6. 51 | 6. 29 | 6. 41 | 6.42 | 6.41 |
| Rope, manila-...-.-.-.-.-. | Pourd | . 256 | ${ }_{189} .275$ | ${ }_{134.273}$ | ${ }_{134.098}$ | 135. 273 |
| Fertilizer: |  |  |  |  |  |  |
| Acid phosphate, 16 per cen | Ton | 20. 10 | 21.12 | 21.31 | 20.95 | 21. 09 |
| Kainit. | do | 18. 70 | 18. 35 | 17.87 | 16. 26 | 17.08 |
| Limestone, groun |  | 4. 77 | 5. 38 | 5. 62 | 4. 50 | 5.88 |
| Muriate of potash | do | 48.03 | 48. 66 | 49.41 | 50.95 | 52. 71 |
| Nitrate of soda. | 100 lbs | 2.62 | 3. 53 | 3. 76 | 4.09 | 3. 58 |
| Feeds: 175 |  |  |  |  |  |  |
| Bran....- | do | 1.75 | 1.95 | 1.85 | 1.84 | 1.83 |
| Corn meal | do | 2.27 | 2. 29 | 2. 58 | 2. 60 | 2. 44 |
| Cottonseed me | do | 2.81 | 2.79 | 2.79 | 2. 72 | 2: 81 2.93 |
| Linseed meal | -do- | 3. 10 | 2. 2. 17 | 2.92 2.12 | 2.988 | 2. 93 |
| Mieck sailt, forstock |  | 1. 34 | 1. 29 | 1.35 | 1. 27 | 1. 27 |

Division of Crop and Livestock Estimates. Averages of local prices reported quarterly.

FEED.
Table 681.-Oil cake and oil-cake meal: International trade, calendar years, 19091922.

| Country. | Average, 1909-1913. |  | 1929 |  | 1921 |  | $\begin{gathered} 1922, \\ \text { pretiminary. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Imports. | Exports. | Imports. | Exparts. | Imports. | Exports. | Imports. | Exports. |
| PRINCIPAL.EKPORTING COUNTRIES. | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |  |  |
|  | nounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. | pounds. |
| Argentina. |  | 42,587 |  | 81, 389 |  | 75, 719 |  | 62, 525 |
| Australia. | 148 | 1,347 | 563 | 12,905 | 33 | 15,343 |  |  |
| Austria |  |  | 6, 528 | 4, 281 | 1,924 | 2,871 |  |  |
| Austria-Hungary | 53, 673 | 124, 873 |  |  |  |  |  |  |
| Brazil |  | 16,574 |  | 55, 996 |  | 52, 710 |  |  |
| British India | 1,262 | 268, 648 | 4,331 | 258, 686 | 3,299 | 208, 181 | 2, 189 | 312.062 |
| Canada | 7,752 | 51, 370 | 14,060 | 19, 260 | 15,200 | 35, 785 | 3,873 | 45, 727 |
| China------ | ${ }^{2} 174$ | 147, 468 |  | 195,959 |  | 217, 258 |  | 144, 285 |
| Dutch East Indies. | 2,509 | 13, 242 | 365 | 163, 542 | 241 | 35, 144 |  | 3 35, 545 |
| Egypt |  | 161, 624 | 60 | 181, 782 |  | 205, 894 |  |  |
| France | 288, 968 | 476, 863 | 16,057 | 97, 001 | 47,189 | 202. 643 | 82, 372 | 213, 200 |
| German | 11, 686, 416 | 525, 108 | 111, 101. | 7,390 | ${ }^{+47,216}$ | ${ }^{4} 274,299$ | 209, 655 | 371, 291 |
| Italy | 10,550 | 55, 115 | 69 | 78, 100 | 1,614 | 139,016 | 3, 919 | 158, 688 |
| Mexico |  | 33, 784 |  |  |  |  |  |  |
| Peru. |  | 10,930 |  | 22, 800 |  | 27,355 |  | 37,097 |
| Russia |  | 1, 453, 413 |  |  |  |  |  |  |
| Spain |  | 2, 164 |  | 2, 610 |  | 7,267 | 87 | $20,445$ |
| United States |  | 1, 704, 124 | 228,853 | 589, 562 | 88,406 | 1,206, 484 | 108.712 | $926,30 i$ |
| PRINCIPAL IMPORTING COUNTRIES. |  |  |  |  |  |  |  |  |
| Belgium | 543, 648 | 155, 373 | 51,927 | 70,602 | 266, 368 | 51,143 | 264, 303 | 52,931 |
| Ceylon | - 40,494 | ${ }^{5}$ 28,509 |  |  | 21, 314 | 13, 427 | 41, 292 | 12, 935 |
| Demmark | 1, 002, 329 | 15,777 | 569, 272 | 23 | 816, 000 | 12,401 | 918, 004 |  |
| Finland | 25, 333 | 2,125 | 22, 031 |  | 18, 175 |  | 15,707 |  |
| Japan. | 189, 868 |  | 307, 347 | 5,683 | 267, 444 | 1,334 |  |  |
| Netherland | 707, 116 | 219,819 | 197, 312 | 203, 258 | 512, 464 | 69, 624 | 414, 635 | 116, 65 |
| Norway. | 55, 112 | 2,889 | 29, 987 |  | 68, 365 | 15 | 43, 469 |  |
| Sweden | 346, 755 | 1,535 | 137, 265 | 7,989 | 169, 242 | 22, 870 | 141, 454 |  |
| Switzerland | 69,352 | 1,413 | 53, 923 | 2,382 | 90, 234 | 2, 407 | 91, 677 | 1,586 |
| United Kingdom. | 790, 805 | 161, 798 | 460, 766 | 48,711 | 712, 333 | 76, 368 | 708, 660 | 85,001 |
| Other countries | 30, 172 | 41,595 | 36,756 | 32, 262 | 13, 607 | 10,554 | 647 | 1,713 |
| Total | 5, 852, 496 | j, 710,047 | 2, 248,573 | 2,142.373 | 3, 160, 668 | 2, 966, 112 | 3, 050, 655 | 2, 597,991 |

Division of Statistical and Historical Research. Official sources.
The class called here "oil cake and oil-cake meal" includes the edible cake and meal remaining after making oil from such products as cottonseed, flaxseed, peanuts, corn, etc.
${ }^{1}$ Four-year average.
${ }^{2}$ Three-year average.

- Java and Madura only.

4 Eight months, May-December.
${ }^{5}$ One year only.
Table 682.-Bran: Average price per ton at Minneapolis, 1916-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May | June. | Juty. | Aug. | Sept. | Oet. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1916 | \$18. 78 | \$20. 10 | \$18. 54 | \$18. 63 | \$19.05 | \$18.32 | \$17. 69 | 20.03 | \$21. 71 | \$24. 50 | \$27. 08 | \$25.93 | 20. 86 |
| 1917 | 28.75 | 32. 55 | 34.20 | 38. 54 | 33. 77 | 26. 97 | 32.15 | 31. 83 | 30. 28 | 30. 55 | 33. 46 | 38. 02 | 32. 59 |
| 1918 | 32. 50 | 32. 50 | 32. 85 | 33. 04 | 31. 27 | 30. 74 | 26. 00 | 29.31 | 29.06 | 28. 45 | 27. 80 | 33.49 | 30. 58 |
| 1919 | 47.26 | 42.83 | 38.09 | 39.78 | 37. 38 | 34. 20 | 37.41 | 40.38 | 37. 49 | 36. 82 | 3\%. 94 | 41. 50 | 39. 26 |
| 1920 | 41.98 | 42. 68 | 46.69 | 50. 26 | 53. 25 | 50.78 | 47.83 | 41. 88 | 38. 42 | 30.63 | 31. 85 | 28. 23 | 42. 04 |
| 1921 | 25.93 | 21. 44 | 21. 64 | 16. 41 | 15.97 | 14. 80 | 14. 06 | 13.93 | 12. 97 | 12. 15 | 14. 79 | 20.63 | 17.06 |
| 1922 | 20.98 | 24. 75 | 23. 85 | 22. 29 | 20.91 | 15. 35 | 15.31 | 14.06 | 16. 88 | 21. 81 | 22. 65 | 24. 14 | 20.25 |
| 1923 | 26. 20 |  | 28.44 | 27.38 | 27.10 | 20.94 | 19.75 | 22. 65 | 27.62 | 2S. 10 | 25.59 |  |  |

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.

Table 683.-Middlings:` Average price per ton at Minneapolis, 1916-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1916 | \$19. 41 | \$21. 61 | \$20. 22 | \$19.50 | \$20. 06 | \$20. 10 | \$19.88 | \$21. 48 | \$22. 50 | \$27. 19 | \$30.81 | \$27. | \$22.53 |
| 1917 | 28.83 | 32. 55 | 34. 20 | 39. 56 | 36. 15 | 33. 27 | 41.90 | 41.78 | 35. 09 | 36. 25 | 37. 40 | 39.05 | 36.34 |
| 1918 | 34. 50 | 34. 50 | 34. 85 | 35. 04 | 33. 27 | 32. 69 | 27. 61 | 31. 00 | 30. 90 | 30. 77 | 30.09 | 36. 27 | 32. 62 |
| 1919 | 48.84 | 44.14 | 38. 56 | 40. 74 | 44. 81 | 42. 90 | 47. 22 | 53. 08 | 51. 46 | 44. 44 | 41. 22 | 43.13 | 45. 04 |
| 1920 | 43.97 | 47. 28 | 51. 57 | 54. 88 | 57. 77 | 56. 06 | 54. 22 | 52. 56 | 45. 65 | 30. 62 | 28.86 | 23. 94 | 45. 62 |
| 1921 | 23.47 | 20.91 | 20.86 | 15. 38 | 15. 29 | 14. 83 | 14. 07 | 14. 64 | 13. 97 | 13. 16 | 15. 35 | 20.73 | 16. 89 |
| 1922 | 20. 51 | 24. 76 | 25. 54 | 23. 21 | 21. 20 | 17.13 | 17. 30 | 16. 24 | 18. 07 | 23. 06 | 23. 23 | 23.71 | 21.16 |
| 1923 | 25.90 |  | 28.31 | 27.22 | 28. 70 | 25. 25 | 24.78 | 25. 48 | 28.16 | 28.10 | 25. 09 |  |  |

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.
Table 684.-Linseed Oil Meal: Average price per ton at New York, 1910-1923.

| Year beginuing Sept. 1. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Aver age. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$37. 46 | \$36. 90 | \$35. 50 | \$35. 50 | \$35. 50 | \$35. 50 | 35. 50 | \$34. 12 | \$33. 75 | \$33. 50 | \$34. 33 | \$35. 71 | \$35. 27 |
| 1911 | 40.00 | 40.75 | 40.12 | 39.00 | 39.65 | 40.17 | 39. 75 | 38. 80 | 38. 10 | 37.30 | 36.57 | 35. 50 | 38.81 |
| 1912-13 | 35.38 | 35. 30 | 34. 38 | 32. 75 | 32. 34 | 31.90 | 29. 20 | 27. 86 | 28.12 | 28. 25 | 29.40 | 30.12 | 31.25 |
| 1913-1 | 32. 50 | 32. 00 | 31.40 | 31. 25 | 31. 25 | 31.35 | 31. 25 | 31.50 | 31.50 | 32. 27 | 32.80 | 34. 60 | 31.97 |
| 1914 | 33.62 | 32.83 | 32. 75 | 35. 10 | 38. 75 | 41.00 | 37. 13 | 35. 50 | 32.50 | 32.50 | 35. 31 | 37.71 | 35. 39 |
| 1915-16 | 39.70 | 38. 75 | 38. 50 | 40.50 | 40.60 | 39. 50 | 36. 63 | 32. 86 | 31.50 | 32.12 | 33. 00 | 37.00 | 36. 72 |
| 1916-17 | 39.50 | 42. 28 | 45. 45 | 47.50 | 48. 50 | 48. 56 | 48. 33 | 47. 00 | 49. 44 | 49. 25 | 51.08 | 53.50 | 47. 53 |
| 1917-18 | 53.00 | 54. 00 | 54. 42 | 57. 00 | 58. 15 | 58.50 | 58. 50 | 57. 00 | 52. 50 | 50. 00 | 52.80 | 54. 00 | 54. 99 |
| 1918-19 | 55. 00 | 56.00 | 55. 75 | 56. 50 | 62.15 | 63.35 | 65.50 | 65. 50 | 70. 50 | 75. 50 | 82. 30 | 90.25 | 66.52 |
| 1919-20 | 81. 58 | 73.80 | 78. 75 | 80.75 | 81. 50 | 71.75 | 70. 40 | 62.50 | 60.00 | 60.00 | 60.00 | 60.00 | 70. 09 |
| 1920-21 | 60.00 | 60.00 | 56.80 | 52. 00 | 48. 38 | 43.12 | 43. 75 | 46.00 | 36. 25 | 37.00 | 41.60 | 46.88 | 47. 65 |
| Av. 1914-1920 | 51.77 | 51.09 | 51.77 | 52.76 | 54. 00 | 52. 25 | 51.46 | 49.48 | 47.53 | 48. 05 | 50.87 | 54.19 | 51.27 |
| 1921-22 | 46. 30 | 40.00 | 40.75 | 48.0 | 51.00 | 51.62 | 55.00 | 49. 50 | 47.62 | 49. 20 | 46. 88 | 45. 50 | 47.61 |
| 1922-23 | 43.50 | 43. 50 | ${ }^{(1)}$ | (1) | 53. 50 | 54.12 | 46.30 | 43.25 | 42. 50 | 38.00 | 38.00 | 38.00 |  |
| 1923-24 | 45.00 | 45.62 | 43.88 | 45.00 |  |  |  |  |  |  |  |  |  |

Division of Statistical and Mistorical Research. From Annual Statistical Review of New York Produce Exchange and the Oil, Paint, and Drug Reporter.
${ }^{1}$ Nominal.
Table 685.-Coltonseed meal, 86 per cent protein: Price per ton, Memphis, 19101323.

| Year beginning Aug. 1. | Aug. | Sept. | Oct. | Nov. | I)ec. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$26.00 | \$25. 75 | $\$ 25.38$ | \$24. 38 | \$24. 38 | \$23.88 | \$23. 25 | \$23. 25 | \$23.88 | \$23. 88 | \$24.50 | \$25. 63 | \$24.51 |
| 1911-12 | 26.50 | 25.75 | 24.63 | 24.63 | 24.63 | 24. 38 | 25.13 | 26.00 | 27. 25 | 28. 00 | 27.25 | 26.75 | 25.91 |
| 1912-13 | 26.75 | 25.63 | 24. 38 | 24.63 | 25. 50 | 25. 75 | 25.13 | 25.13 | 26.75 | 28. 00 | 28.75 | 30.63 | 26.42 |
| 1913-14 | 31.75 | 27.00 | 27.13 | 27.38 | 27. 25 | 26. 75 | 23.13 | 26. 75 | 27.63 | 27.75 | 27. 50 | 27. 75 | 27.56 |
| 1914-15 | 28. 00 | 23.75 | 22. 75 | 22. 38 | 23. 50 | 24. 75 | 27. 25 | 26.88 | 26.50 | 26.00 | 25. 25 | 25. 13 | 25. 18 |
| 1915-16 | 25. 63 | 27.13 | 30. 50 | 32.00 | 34.00 | 32. 25 | 29.00 | 28.38 | 28.88 | 27. 75 | 27.25 | 27.25 | 29.17 |
| 1916-17 | 28.25 | 30. 75 | 35. 25 | 39. 25 | 39.00 | 37. 50 | 36.25 | 36. 25 | 38. 50 | 39.50 | 42. 25 | 44. 50 | 37.27 |
| 1917-18 | 45.50 | 43. 00 | 45. 50 | 49.75 | 46. 50 | 46. 50 | 46. 50 | 46.50 | 46. 50 | 46.50 | 46. 50 | 46. 50 | 46. 31 |
| 1918-19 | 46. 50 | 46. 50 | 46. 50 | 54. 09 | 54.00 | 54. 10 | 54. 00 | 54.00 | 54. 00 | 54.00 | 59.13 | 69.75 | 53.87 |
| 1919-20 | 76. 25 | 63.00 | 66.50 | 70.25 | 69.25 | 71.00 | 65. 00 | 65. 75 | 64.81 | 65. 13 | 63.63 | 59.40 | 66.66 |
| 1920-21 | 55.00 | 51.25 | 39.50 | 34.13 | 28.00 | 28.33 | 26.50 | 25.17 | 23.50 | 28.92 | 29.75 | 34.00 | 33. 67 |
| Av. 1914-1920 | 43. 59 | 40.77 | 40.93 | 43. 11 | 42.04 | 42. 05 | 40.64 | 40.42 | 40.38 | 41.11 | 41.97 | 43.79 | 41.73 |
| 1921-22 | 36. 44 | 36.00 | 34. 50 | 33. 44 | 34. 20 | 34.75 | 36.12 | 41.12 | 43.00 | 43.75 | 42. 50 | 39.80 | 37.97 |
| 1922-23 | 34.00 | 32. 60 | 37. 60 | 42. 80 | 42. 10 | 41.90 | 41.25 | 39.60 | 39.10 | 38. 25 | 36.00 | 35.40 |  |
| 1923-24 | 39.00 | 40. 20 | 40.75 | 42. 70 | 40.60 |  |  |  |  |  |  |  |  |

Division of Statistical and Historical Research. Figures prior to 1919 from Cotton Oil Press.

Table 686.-Cottonseed meal, 36 per cent protein, bagged: Average price per ton at 14 markets, 1923.

| Market. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Aver- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlanta | \$42.75 | \$42. 50 | \$42.00 | \$40.75 | 38. 75 | 36.60 | \$36.40 | \$36.80 | \$39.75 | 40.50 | \$42. 20 | \$42. 50 | 40.1 |
| Baltimo |  |  | 47. 50 | 47. 25 | 45. 50 | 42. 90 | 42. 20 | 43. 25 | 46. 20 | 44. 60 | 49.70 | 48. 70 |  |
| Boston | 51.60 | 50.60 | 49.40 | 46.60 | 45. 30 | 42.75 | 43. 25 | 44.75 | 48. 50 | 48.70 | 49.40 | 48.60 | 47.45 |
| Buffalo |  | 47.50 | 46. 00 | 45.50 | 44.80 | 42. 60 | 42.90 | 44. 50 | 46. 40 | 46. 75 | 49. 25 | 47. 70 |  |
| Chicago | 47.25 | 46. 40 | 44.80 | 44.25 | 44. 10 | 40.75 | 41.00 | 43.60 | 45.90 | 45.50 | 47.60 | 46. 10 | 44. 77 |
| Cincinnati | 46.40 | 46. 30 | 44.20 | 43.40 | 43. 10 | 41. 10 | 41.00 | 42.10 | 44.40 | 45. 25 | 47.30 | 45. 25 | 44.15 |
| Jacksonvill | 45. 50 | 45.00 | 43.80 | 40.80 | 38. 00 | 37. 50 | 36. 60 | 39.00 | 41.50 |  |  |  |  |
| Memphis | 41.90 | 41. 25 | 39. 60 |  |  |  | 35. 40 | 39.00 | 40. 20 | 40.75 | 42.70 | 40.60 | 3956 |
| New Orleans | 47.00 |  | 46. 20 | 44.75 | 44.50 | 42.70 | 40. 80 | 43. 40 | 44.00 |  |  |  |  |
| New York.- | 50.70 | 50.40 | 48.70 | 46.60 | 47.10 | 43.60 | 43.70 | 46.10 | 47.80 |  |  |  |  |
| Philadelphia | 50.20 | 49.70 | 48.20 | 47.00 | 46. 70 | 43. 50 | 43.90 | 45.75 | 47. 30 | 48. 25 | 50.90 | 49.25 | 47. 55 |
| Pittsburgh | 48. 25 | 46.90 | 46.70 | 44.90 | 45. 60 | 44. 25 | 41.75 | 43. 10 | 45.40 | 46. 50 | 49.60 | 46.90 | 45.82 |
| Richmond | 49. 50 | 46. 25 | 46. 90 | 46.30 | 45. 25 | 42. 90 | 42. 30 | 44.00 | 45.00 |  |  |  |  |
| Savannah. | 45. 75 | 45.50 | 44.40 | 41.50 | 40.90 | 38.10 | 37.75 | 38.40 | 40.90 |  | 42.90 | 42.10 | 41.63 |

Division of Statistical and Historical Research. Compiled from weekly reports of the Hay, Feed, and Seed Division.

Table 687.-Linseed meal, bagged: Average price per ton at 12 markets, 1923.

| Market. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boston | \$57. 40 | \$56.30 | \$48. 40 | \$45. 60 | \$45. 00 | 44. 60 | 44. 70 | \$48. 00 | \$40. 30 | \$50.90 | \$48. 40 | \$49.20 | \$48. 98 |
| Buffalo |  | 50.00 | 43.75 | 41. 20 | 39.60 | 39. 50 | 40.40 | 45. 50 | 45. 50 | 46.00 | 43. 80 | 44.50 |  |
| Chicago | 54.10 | 52. 90 | 45.80 | 43. 30 | 40.90 | 38. 75 | 41. 90 | 46.75 | 50. 25 | 51.25 | 48. 50 | 47.00 | 46. 78 |
| Cincinna | 56.60 | 56.60 | 50.50 | 45.10 | 44.40 | 40.30 | 41. 75 | 47.40 | 50.40 | 51.00 | 49.60 | 47.90 | 48. 46 |
| Jacksonville | 61.00 | 60.00 | 59.20 | 50. 25 | 50. 00 | 48.00 | 52.00 | 50.00 | 52. 00 |  |  |  |  |
| Kansas City | 57.50 | 55.90 | 48.90 | 46. 60 | 45. 60 | 43.00 | 44. 10 | 49.90 | 53.30 | 52.40 | 50. 60 | 49.30 | 49. 76 |
| Minneapolis | 53.10 | 51. 25 | 45.00 | 42. 10 | 40. 40 | 37. 70 | 39.75 | 45. 40 | 47. 50 | 48.40 | 46. 25 | 46.00 | 45. 24 |
| New York | 56. 60 | 55.00 | 50.00 | 46. 40 | 45.00 | 44.20 | 44.10 | 47.80 | 48.70- |  |  |  |  |
| Omaha | 57.00 | 56. 00 | 49. 30 | 46. 40 | 44.00 | 42. 00 | 44. 90 | 49. 80 | 53.30 | 52.40 | 50.90 | 50.25 | 49. 69 |
| Philadelphi | 57.00 | 54.90 | 48. 40 | 44.90 | 44. 00 | 43.50 | 43. 70 | 47.90 | 48.90 | 48. 80 | 47.60 | 48.00 | 48. 13 |
| Pittsburgh | 58.00 | 56.40 | 51.10 | 47. 25 | 43. 40 | 41. 25 | 44.30 | 45. 70 | 51. 25 | 52.00 | 51. 30 | 47. 50 | 49.12 |
| San Francisc | 51.75 | 51.25 | 51.70 | 53.00 | 52. 00 | 50.20 | 50.00 | 50.75 | 49.25 | 47.50 | 48.00 | 48.50 | 50.32 |

Division of Statistical and Historical Research. Compiled from weekly reports of the Hay, Feed, and Seed Division.

Table 688.—Bran: Price per ton paid by farmers, United States, 1910-1923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$26. 20 | \$27.00 | \$27.03 | \$26. 58 | \$26. 10 | \$25. 37 | \$25. 22 | \$25. 19 | \$24.95 | \$24. 56 | \$24. 45 | \$24. 68 |
| 1911 | 24.92 | 25.27 | 24.94 | 25.48 | 25.93 | 25.87 | 25.80 | 25.92 | 26.09 | 26. 52 | 26. 72 | 26.99 |
| 1912 | 27. 39 | 28. 62 | 29.16 | 29.73 | 30.18 | 29.35 | 28.41 | 27. 41 | 26.82 | 26. 58 | 25.66 | 25. 16 |
| 1913 | 25. 24 | 25.32 | 24.96 | 24. 69 | 24. 59 | 24.67 | 24. 65 | 25.10 | 26.59 | 26. 53 | 26. 47 | 26. 43 |
| 1914 | 26.53 | 26.91 | 27.58 | 28.50 | 28.08 | 27.75 | 26.36 | 27.24 | 27.86 | 26.71 | 26.40 | 26.72 |
| 1915 | 27.91 | 28.96 | 28.23 | 28. 28 | 28.41 | 27.68 | 27. 47 | 27. 22 | 26.47 | 25.81 | 25.42 | 25. 53 |
| 1916 | 25. 93 | 26. 23 | 26. 05 | 25.97 | 25.97 | 26. 13 | 25.81 | 26. 53 | 27. 50 | 28. 48 | 31.54 | 32. 49 |
| 1917 | 32.76 | 34.87 | 38.33 | 42.07 | 44. 19 | 40.83 | 40.40 | 43.16 | 39.46 | 39. 23 | 39.42 | 42. 53 |
| 1918 | 41.32 | 42. 07 | 42.62 | 42. 82 | 42.41 | 42.30 | 40.69 | 39.63 | 39. 54 | 39. 38 | 39.22 | 38. 95 |
| 1919. | 49.78 | 49.95 | 47.93 | 48.24 | 48.66 | 47.54 | 47. 14 | 49.28 | 49.58 | 47. 70 | 48.32 | 48. 79 |
| 1920 | 50.23 | 51.13 | 51.95 | 55. 26 | 58.69 | 59.53 | 59.91 | 56. 62 | 55. 05 | 48. 43 | 44. 69 | 41. 61 |
| 1921 | 39.74 | 36. 77 | 35.18 | 32.15 | 29.71 | 29.35 | 26.83 | 26. 25 | 25.31 | 24. 22 | 23.60 | 26. 10 |
| 1922 | 28. 08 | 29.90 | 32. 09 | 31.94 | 31. 81 | 30. 22 | 28.29 | 27. 24 | 26. 24 | 28. 25 | 30. 78 | 31. 58 |
| 1923 | 32.53 | 33.58 | 35. 48 | 35.86 | 36. 44 | 35.32 | 33.27 | 31.31 | 32. 60 | 34. 84 | 35.19 | 34. 67 |

Division of Crop and Livestock Estimates. As reported monthly by country dealers.

Thblin 689.-Cottonseed meal: Price per ton paid by farmers, United States, 19101923.

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | \$32. 33 | \$33.77 | \$33.17 | \$32.70 | \$32. 69 | \$32. 18 | \$32:38 | \$32. 64 | \$32. 36 | \$31. 84 | \$31.37 | \$31. 58 |
| 1911 | 31. 83 | 31.42 | 31. 32 | 31. 69. | 31. 68 | 30. 82 | 31. 17 | 30.92 | 31. 01 | 30. 73 | 30.12 | 30. 59 |
| 1912 | 30.42 | 30.87 | 31. 22. | 31.80 | 32.28 | 31.84 | 31.82 | 31. 53 | 30.60 | 30. 28 | 29. 37 | 30. 16 |
| 1913 | 30.97 | 31.16 | 31. 08 | 30.89 | 31:23 | 31. 53. | 31.56 | 31.78 | 32. 32 | 31. 94 | 31. 97 | 32.36 |
| 1914 | 32.49 | 32. 59 | 32.65 | 32. 75 | 32.98 | 32. 68 . | 32. 62 | 32.34 | 30.73 | 29.44 | 28. 36 | 29. 01 |
| 1915 | 29.53 | 30.88 | 31. 32 | 31. 43 | 31.54 | 31. 39 | 31. 36 | 31. 07 | 30.79 | 33. 77 | 34. 96 | 36. 45 |
| 1916 | 37.03 | 37. 08 | 36.46 | 36.02 | 35. 72 | 35. 60 | 34.93 | 35:05 | 36. 17 | 37. 80 | 41. 52 | 42.96 |
| 1917 | 42. 95 | 43.33 | 43.67 | 44. 73 | 45. 62 | 45. 17 | 46. 45 | 49. 25 | 50. 00 | 50. 98 | 53.52 | 55. 52 |
| 1918 | 55.93 | 56. 25 | 56.59 | 56. 41 | 56. 21 | 56. 18 | 55. 69 | 55. 60 | 57. 40 | 59. 22 | 59.33 | 60. 5 |
| 1 | 62.81 | 62.61 | 62.88 | 83. 29 | 63.40 | 63.06 | 64.77 | 71.7 | 74.08 | 72. 88 | 76. 16 | 78.57 |
| 1920 | 79.39 | 79.79 | 79. 70 | 78.87 | 78. 74 | 78. 52 | 77. 63 | 73.84 | 68.22 | 61: 81 | 50: 96 | 47. 17 |
| 1921 | 42.92 | 41. 93 | 40. 17 | 37.41 | 36.75 | 37. 84 | 38. 24 | 40. 74 | 41.97 | 43. 54 | 43.67 | 23 |
| 1922 | 45. 08 | 45. 26 | 47. 90 | 49. 44 | 50.47 | 50. 42 | 51.06 | 48.87 | 45. 48 | 46.10 | 50.54 | 52.70 |
| 1 | 52. 79 | 53.91 | 53.37 | 52. 79 | 52.35 | 51.89 | 50.36 | 49.64 | 49.47 | 51.08 | 51. 49 | 51.75 |

Division of Crop and Livestoek Estimates. As reported monthly by country dealers.

## FARM EQUIPMENT.

Table 690.-Farm equipment manufactured and sold in the United States, 1920-1922.-


1 The sales statistics for 1921 relate exclusively to complete machines and were compiled almost wholly from returns made by 427 establishments classified in the "agricultural implements" industry. No sales data were collected for that year from establishments manufacturing gas tractors, horse-drawn vehicles, barn equipment, and miscellaneous farm equipment.
${ }_{2}$ Figures for 1921 relate to barn equipment only. No daia fer 1920.

Table 690.-Farm equipment manufactured and sold in the United States, 1920-1922-Continued.

| Calendar year. | Manufactured. |  | Sold in the United States. |  | Sold for export. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number. | Value. | Number. | Value. | Number. | Value. |
| Miscellaneous: |  | \$93, 544, 000 |  | \$82, 429, 000 |  | \$7, 495, 000 |
| 1921 |  | 175, 738, 000 |  | \$82, (1) |  | (1) |
| 1922 |  | 79, 224, 000 |  | 83, 886, 000 |  | 5, 494, 000 |
| Grand total: |  | 536, 945, 000 |  | 471, 442, 000 |  | 66, 626, 000 |
| 1921 |  | 328, 041,000 |  | (1) |  | ${ }^{(1)}$ |
| 1922 |  | 209, 640, 000 |  | 222, 908, 000 |  | 21, 663,000 |

Division of Statistical and Historical Research. Figures for 1920, Bureau of Public Roads. Figures for 1921 and 1922, Bureau of the Census.
${ }^{1}$ The sales statistics for 1921 relate exclusively to complete machines and were compiled almost wholly from returns made by 427 establishments classified in the "agricultural implements" industry. No sales data were collected for that year from establishments manufacturing gas tractors, horse-drawn vehicles, barn equipment, and miscellaneous farm equipment.

MORTGAGE DEBT.
Table 691.-Mortgage debt on owner-operated farms, 1910 and 1920.

| State. | $\begin{gathered} \text { Number farms } \\ \text { operated by } \\ \text { owners (per cent } \\ \text { of all farms). } \end{gathered}$ |  | A verage size of owner-operated farm. |  | Per cent of owner-operated farms mortgaged. |  | Average debt per farm. |  | Average debt per acre. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1910 | 1920 | 1910 | 1920 | 1910 | 1920 | 1910 | 1920 | 1910 | 1920 |
|  | Per cent. | Per cent. | Acres. | Acres. | Per cent. | $\begin{gathered} \text { Per } \\ \text { cent. } \end{gathered}$ |  |  |  |  |
| Maine | 94.1 | 94.2 | 104.8 | 111.7 | 26.5 | 28. 7 | \$845 | \$1, 506 | \$8.06 | \$13. 48 |
| New Ham | 90.5 | 90. 6 | 116.9 | 123.4 | 25.5 | 29.0 | 842 | 1, 378 | 7. 20 | 11.17 |
| Vermont | 85.8 | 86.4 | 136. 0 | 140.2 | 46. 8 | 48. 7 | 1,025 | 2, 049 | 7.54 | 14. 61 |
| Massachusetts | 86. 9 | 87.8 | 73.1 | 72.0 | 40.6 | 45. 0 | 1, 361 | 2,007 | 18. 62 | 27. 88 |
| Rhode Island | 77.2 | 79.5 | 77.9 | 76.7 | 28.9 | 29. 2 | 1,355 | 1,746 | 17.39 | 22.76 |
| Connecticut | 86.6 | 86.8 | 78.8 | 78.4 | 42.9 | 45.4 | 1,309 | 2,195 | 16. 61 | 28. 00 |
| New York | 77.3 | 78.5 | 94.9 | 99. 4 | 43. 4 | 43. 9 | 1,556 | 2, 436 | 16. 40 | 24. 51 |
| New Jersey | 72.1 | 73.7 | 64.8 | 65,1 | 48.9 | 46.1 | 1, 826 | 2,703 | 28. 18 | 41. 52 |
| Pennsylvan | 74.9 | 75.9 | 78.5 | 81.5 | 30.9 | 31.6 | 1, 368 | 1,976 2,344 | 17.43 19.66 | 24. 25 31.21 |
| Delaware | 57.0 | 59.3 | 77.2 | 75. 1 | 36.6 | 33.6 | 1,518 | 2, 344 | 19. 66 | 31. 21 |
| Maryland | 68.5 | 68.5 | 86.7 | 83. 9 | 36. 2 | 34.6 | 1,457 | 2,641 | 16.81 | 31. 48 19.54 |
| Virginia | 72.6 | 73. 2 | 110.1 | 100.9 | 15. 8 | 17.8 | 887 | 1,972 | 8. 06 | 19.54 |
| West Virginia | 78. 6 | 82. 6 | 107.7 | 108. 4 | 12.5 | 14. 2 | 710 517 | 1,241 | 6.59 4.80 | 11.45 |
| North Carolina | 57.3 | 56.1 | 107.7 | 88. 8 | 18.3 | 16.2 | 517 903 | 1,587 | 4. 80 7.22 | 17.87 20.68 |
| South Carolina | 36.5 | 35.1 | 125. 1 | 99.2 | 23.3 | 21.1 | 903 | 2, 051 | 7. 22 | 20.68 |
| Georgia | 33.9 | 32.9 | 150.6 | 125.3 | 18.5 | 22. 7 | 794 | 1,811 | 5. 27 | 14. 45 |
| Florida | 70.8 | 71.3 | 121.1 | 105. 5 | 14. 6 | 21.1 | 1 | 1, 767 | 5. 17. 86 1. | 16.75 |
| Ohio | 70.6 | 69.3 | 83.5 | 84.3 | 28. 6 | 28.5 | 1,491 | 2, 812 | 17. 86 | 33. 36 27.76 |
| Indiana | 68.9 | 66.9 | 93.9 | 93. 8 | 38. 3 | 37. 5 | 1,433 3,135 | 2, <br> 5 <br> 5 <br> , | 15. 26 25. 57 | 27. <br> 43. <br> 1 |
| Illinois | 57.6 | 55.9 | 122.6 | 122.7 | 38.4 | 38.5 | 3,135 | 5, 379 | 25. 57 | 43. 84 |
| Michigan | 83.3 | 81.1 | 87.7 | 91.2 | 48. 0 | 49. 4 | 1,107 | 2, 147 | 12. 62 | 23. 54 |
| Wisconsin | 85.3 | 84.3 | 115.0 | 111.8 | 51.1 | 59.1 | 2, 116 | 4, 072 | 18. 40 | 36. 42 |
| Minneso | 78.2 | 74. 4 | 169.3 | 158. 3 | 46.0 | 52.4 | 1,864 | 4, 419 9,358 | 11.01 | 27. 62 |
| Iowa. | 61.3 | 57.1 | 152. 0 | 148. 1 | 51.2 46.0 | 54. 2 46.2 | 4,048 1,758 | 9,358 3,147 | 26. 63 13.42 | 23.59 |
| Missouri | 69.4 | 70. 4 | 131.0 | 133.4 | 46. 0 | 46.2 | 1, 758 | 3, 147 |  | 23. 10.15 |
| North Dakota | 85.0 | 73. 3 | 373. 1 | 471. 7 | 50. 2 | 71.1 | 2,493 2,897 | 4,786 6,402 | 6. 888 | 10.15 |
| South Dakota | 74.7 | 64. 1 | 333.1 | 505. 5 | 37. 4 | 57.0 50.5 | 2,897 3,154 | 6,402 7,025 | 8. 70 9.27 | 12.66 18.53 |
| Nebraska | 61. 1 | 56. 0 | 340.4 259.6 | 379.2 282.0 | 38.9 44.3 | 50.5 45.4 | 3,154 2,326 | 7,025 4,083 | 9. 27 8.96 | 18.03 |
| Kansas.-- | 62.5 65.7 | 58. 7 | 259.6 102.5 | 282.0 93.6 | 44.3 19.4 | 45.4 22.6 | 2,326 906 | 1, 1,889 | 8. 84 | 20.18 |
| Kentucky | 65.7 | 68.3 58.6 | 102. 5 | 93.6 93.0 | 16.4 | 21. 8 |  | 1,812 | 7.14 | 19. 48 |
| Tennessee | 58.6 | 58.6 41.8 | 101.8 127.8 | 93.0 113.2 | 16. 7 | 21. 8 | 727 538 |  | 4.21 | 10.39 |
| Alabama | 39.5 | 41.8 8 | 127.8 127.3 | 113.2 124.1 | 26.4 32.3 | 26. 3 | 538 | 1,176 | 4. 60 | 11. 08 |
| Mississippi | 33.6 | 33.6 | 127. 3 | 124.1 109.3 | 32. 18.6 | 26.3 20.6 | 586 1,190 | 1,375 1,989 | 4. 60 9.32 | 18. 20 |
| Louisiana | 44.0 | 42.3 46.1 | 127.7 353.3 | 109.3 339.2 | 18. 6 | 20. 8 | 1, 1,584 | 2,984 | 4.48 | 8.80 |
| Texas | 46.9 | 46.1 48.6 | 353.3 187.3 | 339.2 | 42. 2 | 34. 50 | 1,114 | 2,157 | 5.95 | 10.88 |
| Oklahoma | 44.9 49.7 | 48. 6 48.4 | 187.3 116.2 | 198. 2 | 21.0 | 50. <br> 3 <br> 0.2 | 1, 540 | 1,306 | 4. 65 | 12. 46 |
| Montan | 89.1 | 87.2 | 455. 4 | 575. 9 | 20.6 | 59.5 | 2, 692 | 3, 669 | 5.91 | 6. 37 |
| W yoming | 89.0 | 85.1 | 526. 9 | 698.3 | 19.7 | 41. 1 | 2, 749 | 3,887 | 5. 22 | 5. 57 |
| Colorado | 80.1 | 75.6 | 274.0 | 411.2 | 26.0 | 46.7 | 2,508 | 3, 980 | 9.15 | 9. 68 |
| New Mexi | 93.6 | 86.3 | 212.5 | 693.2 | 5. 3 | 24.3 | 1, 854 | 2, 581 | 8. 72 | 3. 72 |
| Arizona | 88.9 | 78.9 | 106. 7 | 485.4 | 12. 7 | 43.0 | 2,772 | 5,441 | 25. 98 | 11. 21 |
| Utah | 91.2 | 88.0 | 146. 1 | 179.9 | 22.7 | 43.9 | 1,294 | 3, 009 | 8.86 | 16. 73 |
| Nevada | 80.9 | 85.3 | 474. 7 | 525.9 | 16.6 | 32.8 | 4,738 | 8,499 | 9.98 | 16. 16 |
| Idaho. | 88.2 | 82.3 | 163.7 | 196. 2 | 33. 2 | 57.9 | 1,917 | 4, 076 | 11.71 | 20. 77 |
| W ashing | 84.5 | 79.5 | 191. 9 | 175. 7 | 33. 7 | 45. 5 | 2, 017 | 3, 134 | 10. 51 | 17. 84 |
| Oregon. | 83.1 | 79.4 | 239. 1 | 251. 3 | 33. 4 | 44.8 | 2, 060 | 3, 622 | 8. 62 | 14. 41 |
| California | 75.5 | 74.4 | 227.0 | 196. 3 | 40.1 | 50.4 | 2,802 | 6,001 | 12.34 | 30.57 |
| United | 62.1 | 60.9 | 151. 6 | 162. 2 | 33.2 | 37.2 | 1,715 | 3,356 | 9.99 | 17.50 |

[^335]1158 Yearbook of the Department of Agriculture， 1923.

BANKRUPTCY AMONG FARMERS．
Table 692．－Bankruptcy among farmers：Cases concluded in fiscal years ending June 30，1910－1923．

| State． | 1909－10 |  |  | 1910－11 |  |  | 1911－12 |  |  | 1912－13 |  |  | 1913－14 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total． | Farmers |  | Total． | Farmers． |  | Total． | Farmers． |  | Total． | Farmers． |  | Total． | Farmers． |  |
|  |  |  |  |  | 安 |  |  | 灾 |  |  | $\begin{aligned} & \dot{4} \\ & \text { 曾 } \\ & \text { 号 } \end{aligned}$ |  |  | 宮 |  |
| Maine | 697 |  | 12.2 | 496 |  | 13． 3 | 584 |  |  | 568 |  | 10.4 | 597 |  |  |
| New Hampshire－ | 114 |  | 6． 1 | 59. |  | 1．7 | ${ }^{83}$ | 11 |  | 107 |  |  |  | 4 |  |
| Yermont－－．．－－－ | 112 | 19 | 17． 0 | 125 | 10 |  | 113 | 11 |  | 108 |  |  | 1．112 | 8 |  |
| Massachusetts | 977 76 |  | 4．${ }^{7}$ | 950 84 |  |  | $\stackrel{914}{95}$ | 1 |  | 144 |  |  | 90 |  |  |
| Connecticut | 74 |  | 2.7 | 192 | 2 | 1.0 | 221 | 4 | 1.8 | 210 | 3 | 1.4 | 138 |  |  |
| New York | 1，838 |  | 2． 0 | 2，110 | 37 | 1.8 | 2， 272 | 33 |  | 2， 402 | 41 |  | 2，078 | 33 |  |
| New Jersey | 87 | 1.1 | 1.2 | 112 | 1. | ． 9 | 439 | 4 |  | 288 | 4 |  | 266 | 4 |  |
| Pennsylvania | 966 | 14 | 1． 5 | 799 | 10 | 1．3 | ${ }_{6}^{617}$ | 21 |  | 990 | 21 |  | 762 | $\stackrel{26}{26}$ |  |
| Ohio． | 886 | 32 | 3． 6 | 742 | 27 | 3.6 | 835 | 24 |  | 849 | 28 |  | 808 | 27 |  |
| Indiana＿ | 316 | 18 | 5． 7 | 245 |  | 10.6 | 230 | 13 |  | 309 | 23 |  | 302 | 19 | 3 |
| Illinois． | 1，315 | 43 | 3． 3 | 1， 105 | 27 |  | 1，328 | 34 |  | 1，052 | 20 |  | 1，651 | 35 |  |
| Michigan | 301 |  | ． 7 | 301 |  | 1.3 | 298 | 3 | 1.0 | 347 | 53 | 15.3 | 153 |  |  |
| Wisconsin | 229 |  | 1.3 | 251 | 5 | 2.0 | 213 |  |  | 292 |  |  | 310 |  |  |
| Minnesota | 572 | 60 | 10.5 | 333 |  |  | 422 |  |  | 411 |  |  |  |  |  |
| Iowa | 272 |  | 31.3 | 285 |  | 19.7 | 276 |  | 29．7 | 358 |  | 16．8 | 345 | 69 |  |
| Missouri | 494 |  | 3.2 | 506 | 10 | 2.0 | 346 |  |  | 518 | 15 |  | 523 | 105 |  |
| North Dakota | 130 |  | 51.5 | 119 |  | 34． 5 | 125 |  | ${ }^{43.2}$ | 165 | ${ }_{25}$ |  | 115 |  |  |
| South Dakota | 82 |  | 36． 6 | 36 |  |  | ${ }_{111}^{94}$ |  | 20． 5 | ${ }_{145}$ |  |  | 114 |  | 10.5 |
| Nebraska－ | 104 |  | 14.4 | 95 |  |  | 111 |  |  |  |  |  |  |  |  |
| Kansas | 148 | 14 | 9.5 | 145 | 7 | 4.8 | 173 | 11 |  | 196 | 19 |  | 259 | 21 |  |
| Delaware | －${ }^{7}$ |  |  | 9 |  |  | 16 |  |  | 109 |  | $\begin{array}{r}14.3 \\ 3.7 \\ \hline\end{array}$ | 33 139 | ${ }_{7}^{7}$ |  |
| Maryland． | 151 |  | 3.3 | ${ }_{60} 8$ | 6 | 7.4 | 117 |  |  | 109 56 |  |  | 43 |  |  |
| Dist．Columbia－－－ | 52 300 |  | 2.0 | －60 | 14 | 3.9 | 431 |  | 1.6 | 514 | －－－17 | 3 | 468 | 12 | 2.6 |
| Virginia－－－－－－－－－ | 300 |  |  |  |  |  |  |  |  |  |  |  | 521 |  |  |
| West Virginia | 187 | 10 | 5． 4 | 277 | 13 | 4． 7 | 306 | 10 |  | 292 |  | 3.1 1.9 | 108 |  |  |
| North Carolina－－－ | 71 98 |  | 1． 4 | ${ }_{67}^{99}$ |  | 1.5 | 85 | 2 | 2． 4 | 107 | 1 |  | 108 | 3 | 2.8 |
| Georgia | 410 | 39 | 9.5 | 487 | 40 | 8． 2 | 505 | 48 | 9.5 | 557 | 51 | 2 | 670 | 73 |  |
| Florida－－－ | 133 | 1 | ． 8 | 89 | 1 | 1.1 | 102 |  |  | 200 |  |  | 153 |  |  |
|  | 298 |  | 6.4 | 204 |  | 12.3 | 285 |  | 13.0 | 369 | 34 | 9． 2 | 466 | 29 | 6． 2 |
| Tennessee | 604 | 8 | 1.3 | 517 | 20 | 3.9 | 694 | 19 | 2.7 | 660 | 14 | 2.1 | 530 | 19 |  |
| Alabama． | 257 | 10 | 3．9 | 395 | 18 | 4． 6 | 519 | 32 | 6． 2 | 792 | 1 |  | 1，227 | 52 | 4.2 |
| Mississippi． | 183 |  | ． 6 | 100 |  | 2． 0 | 101 |  | 3．0 | 201 |  |  | 163 |  | 3.7 |
| Arkansas ．．－ | 159 | 12 | 7． 6 | 183 | 10 | 5.5 | 140 |  | 11.4 | 148 |  |  | 163 |  |  |
| Louisiana | 187 |  | 8． 6 | 212 | 21 | 9.9 | 201 | 13 |  | 179 | 15 |  | 201 | 13 | 6.5 |
| Oklahoma | 159 | 14 | 8.8 | 177 | 16 | 9． 0 | 300 | 11 | 3．7 | 294 | 2 | 9.9 | 319 | 18 | 5． 6 |
| Texas | 287 | 24 | 8.4 | 304 | 25 | 8． 2 | 251 | 22 | 8．8 | 579 | 37 | 6.4 | 508 | 44 |  |
| Montana | 98 |  | 9.2 | 87 |  | 10.3 | 129 |  | 15．5 | 144 |  | 26.4 | 170 |  | 32． 4 |
| Idaho． | 37 |  |  |  |  |  | 35 |  |  |  |  |  |  |  |  |
| W yoming |  |  |  | 18 |  |  | 21 |  |  | 22 |  |  | 28 |  |  |
| Colorado | 204 | 17 | 8.3 | 192 | 19 | 9.9 | 234 | 24 | 10.3 | 322 | 17 | 5.3 | 249 | 31 |  |
| New Mexico．－ | 31 |  | 3.2 | 25 |  | 4.0 | 11 |  |  | 18 |  |  | 7 |  | 14.3 |
| Arizona－－ | ${ }_{88}^{17}$ |  |  | 116 |  | 4.3 | 126 |  |  | 142 |  | 1.4 | 177 | 3 | 1.7 |
| Utah．－－－ | 88 |  | 3.4 | 16 |  |  |  |  |  |  |  |  |  |  |  |
| Nevada | 11 |  |  |  |  |  | 19 |  |  | $\stackrel{24}{ }$ | 2 |  |  | 36 | 8 |
| W ashington | 169 |  |  | 227 |  |  | 227 |  |  | ${ }_{216}$ | 18 | 8.3 | 468 | 32 | 6．9 |
| Oregon－－ <br> California | 106 | 69 | $\begin{array}{r} 8.5 \\ 10.0 \end{array}$ | 176 | 19 | 5.9 <br> 3.5 | 628 | 22 | 3．5 | 738 | 31 | 4.2 | 782 | 47 | 0 |
| United States． | 14， 795 | 849 | 5． 7 | 14， 150 | 679 |  | 15，589 | 837 |  | 17，588 |  |  | 18，741 | 1，045 | 5.6 |

Table 692．－Bankruptcy among farmers：Cases concluded in fiscal years ending $J$ une 30，1910－1923－Continued．

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{3}{*}{State．} \& \multicolumn{3}{|c|}{1914－15．} \& \multicolumn{3}{|c|}{1915－16} \& \multicolumn{3}{|c|}{1916－17} \& \multicolumn{3}{|c|}{1917－18} \& \multicolumn{3}{|c|}{1918－19} \\
\hline \& \multirow[b]{2}{*}{Total．} \& \multicolumn{2}{|l|}{Farmers．} \& \multirow[b]{2}{*}{Total．} \& \multicolumn{2}{|l|}{Farmers．} \& \multirow[b]{2}{*}{Total．} \& \multicolumn{2}{|l|}{Farmers．} \& \multirow[b]{2}{*}{Total．} \& \multicolumn{2}{|l|}{Farmers．} \& \multirow[b]{2}{*}{Total．} \& \multicolumn{2}{|l|}{Farmers．} \\
\hline \& \& 呙 \&  \& \& \[
\begin{aligned}
\& \text { 过 } \\
\& \text { 若 } \\
\& \text { 亿 }
\end{aligned}
\] \&  \& \& \[
\begin{aligned}
\& \dot{\oplus} \\
\& \text { 㽞 } \\
\& \frac{\square}{4}
\end{aligned}
\] \&  \& \& 先 \&  \& \& 吕 \& W \\
\hline Maine \& 779 \& 88 \& 11.3 \& 589 \& \& 19．5 \& 775 \& 100 \& 12．9 \& 735 \& 85 \& 11.6 \& 523 \& \& 14.7 \\
\hline New Hampshire． \& 109 \& 6 \& 5． 5 \& 62 \& \& 1． 6 \& 87 \& \& 2． 3 \& 67 \& \& 4.5 \& 51 \& \& 9． 8 \\
\hline Vermont－－－－－－－－ \& 96 \& 7 \& 7． 3 \& 118 \& \& \& 125 \& 19 \& 15． 2 \& 86 \& 6 \& 7.0 \& 67 \& \& ． 4 \\
\hline Massachusetts． \& 1，067 \& 8 \& \& 1，491 \& \& \& 1，682 \& 12 \& ． 7 \& 1， 645 \& 21 \& 1.3 \& 1，565 \& \& ． 6 \\
\hline \multicolumn{16}{|l|}{} \\
\hline onnecticu \& 224 \& 3 \& 1． 3 \& 271 \& 8 \& 3.0 \& 391 \& 19 \& 4.9 \& 278 \& \& 3.2 \& 247 \& 5 \& 2.0 \\
\hline Connecticu \& \& 57 \& 2． 4 \& 2， 776 \& 46 \& \& 3， 108 \& 75 \& 2.4 \& 2，992 \& 59 \& 2.0 \& 2， 644 \& 57 \& 2.2 \\
\hline New York \& 2， 3974 \& 1 \& 2． 4 \& 2， 558 \& 7 \& 1． 3 \& 3， 625 \& 8 \& 1． 3 \& 2， 302 \& 5 \& 1.7 \& － 388 \& 6 \& 1． 6 \\
\hline New Jersey \& 1，\({ }^{344}\) \& 32 \& 3． 2 \& 1，002 \& 35 \& 3． 5 \& 1，021 \& 47. \& 4． 6 \& 807 \& 33 \& 4． 1 \& 700 \& 26 \& 3． 7 \\
\hline \multirow[t]{2}{*}{Ohio－－－－－－．－－－－－－－－} \& \(\begin{array}{r}1,008 \\ \hline 866\end{array}\) \& 24 \& 2． 8 \& 1，945 \& 44 \& \& －924 \& 28 \& 3.0 \& 969 \& 43 \& 4.4 \& 687 \& 15 \& 2.2 \\
\hline \& \& \& \& \& \& \& \& \& \& 225 \& \& 6． 7 \& 157 \& \& \\
\hline Indiana \& 253 \& 16 \& 6．3 \& －355 \& 22 \& \& 322
1,709 \& 26 \& 8． 1 \& 1， 225 \& 15 \& 6． 2 \& 1，513 \& 145 \& \\
\hline Illinois \& 1， 398 \& 44 \& 3． 2 \& 1,603
419 \& 57
9 \& \& 1,709
-538 \& 12 \& 2． 2 \& \begin{tabular}{|r}
1,445 \\
49.7
\end{tabular} \& 12 \& 2． 4 \& 1，592 \& 10 \& 1.7 \\
\hline Michigan \& 520 \& \& \& 419
416 \& 14 \& \& 439 \& 7 \& 1． 6 \& 390 \& 10 \& 2． 6 \& 397 \& 11 \& 2.8 \\
\hline Wisconsin \& 314
435 \& 6
16 \& 1．9 \& 416 \& 19 \& \& 644 \& 59 \& 9.2 \& 668 \& 49 \& 7.3 \& 583 \& 16 \& 2.7 \\
\hline Minnesota．．．．．．．－－ \& 435 \& 16 \& 3.7
28 \& 516

378 \& 19 \& \& 644
360 \& 59

72 \& 20．0 \& | 668 |
| :--- |
| 68 | \& 78 \& 21.5 \& 261 \& \& 15.3 <br>

\hline Iowa＿ \& 295 \& \& 22．4 \& 378 \& \& \& 360
598 \& \& 20．7 \& 363
681 \& 24 \& 3． 5 \& 594 \& 31 \& 15． 2 <br>
\hline Missouri \& 551 \& 10 \& 1．88 \& 604
175 \& \& \& 148 \& \& 40． 5 \& 165 \& 61 \& 37．0 \& 102 \& 37 \& 36.3 <br>
\hline North Dakota \& 190 \& \& \& $\begin{array}{r}175 \\ 90 \\ \hline 1\end{array}$ \& \& \& 181 \& \& 27． 6 \& 37 \& 17 \& 46．0 \& 23 \& \& 26.1 <br>
\hline South Dakota．－－－ \& 142 \& 33
18 \& 23.2
9.8 \& 90 \& $\stackrel{16}{23}$ \& 13.5 \& 216 \& 20 \& 9.3 \& 204 \& 12 \& 5．9 \& 154 \& 8 \& 5.2 <br>
\hline Nebraska．－－－－－－－－－ \& 18 \& 18 \& 9.8 \& 171 \& 23 \& \& 216 \& \& \& \& 26 \& \& \& 18 \& <br>
\hline Kansas \& 307 \& 36 \& 11．7 \& 249 \& \& \& 244 \& \& 14.8 \& 16 \& 26 \& \& \& \& <br>
\hline Delaware \& 18 \& \& \& 12 \& 10 \& 6.9 \& 141 \& 13 \& 9.2 \& 177 \& 19 \& 10.7 \& 109 \& 6 \& 5.5 <br>
\hline Maryland．－ \& 141 \& 6 \& 4.3 \& 146 \& 10 \& 6.9 \& 141 \& 13 \& 9.2 \& 60 \& \& \& 13 \& \& <br>
\hline \multirow[t]{2}{*}{Virginia－－－－－－－－－－} \& 39
555 \& 21 \& 3.8 \& 696 \& 25 \& 3． 6 \& 708 \& 41 \& 5.8 \& 561 \& 37 \& 6． 6 \& 419 \& 38 \& 9.1 <br>
\hline \& 555 \& 21 \& 3.8 \& 696 \& 25 \& 3． 6 \& 293 \& \& \& \& 14 \& \& 205 \& 16 \& <br>
\hline West Virginia \& 485 \& 16 \& 3.3 \& 302 \& 14 \& 4． 6 \& 293 \& 20 \& 6． 8 \& 302 \& 8 \& 5． 6 \& 72 \& 3 \& 4.2 <br>
\hline North Carolina． \& 118 \& 3 \& 2.5 \& 168 \& 1 \& 2．${ }^{-6}$ \& 1179 \& 7 \& 5． 4 \& ＋81 \& 2 \& 2． 5 \& 60 \& 2 \& 3.3 <br>
\hline South Carolina \& ＋156 \& \& \& 1， 1864 \& 310 \& 6． 7 \& 1，667 \& \& 19.1 \& 1， 456 \& 322 \& 22.1 \& 852 \& 216 \& 25.4 <br>
\hline Georgia \& 1，481 \& 126 \& 8． 5 \& 1， 862 \& 310 \& 6． 1.6 \& 1,667
202 \& 5 \& 2.5 \& 173 \& 8 \& 4． 6 \& 110 \& 10 \& 9.1 <br>
\hline Florida．－．－－－－－－－－－－ \& 220 \& 5 \& 2.3 \& 253 \& \& \& \& \& \& \& \& \& \& \& <br>
\hline \multirow[t]{2}{*}{} \& 5 \& 19 \& 3.3 \& 509 \& 30 \& 5． 9 \& 470 \& 19 \& 4． 0 \& 476 \& 29 \& 6.1 \& 273 \& \& 11.7 <br>
\hline \& 1，165 \& 36 \& 3.1 \& 948 \& 45 \& 4． 8 \& 1，059 \& 65 \& 6.1 \& 890 \& 44 \& 4． 9 \& 507 \& 22 \& 4． 3 <br>
\hline Tennessee \& 1， 1,081 \& 72 \& 6． 7 \& 861 \& 85 \& 9.9 \& 806 \& \& 10.9 \& 1，544 \& 93 \& 6． 0 \& 1， 341 \& 68 \& 5.1 <br>
\hline Alabama - －－－－－－－ \& 1,081
92 \& \& \& 101 \& 4 \& 4.0 \& 368 \& 12 \& 3.3 \& 490 \& 13 \& 2． 7 \& 130 \& \& 3.1 <br>
\hline \multirow[t]{2}{*}{Mississippi Arkansas} \& － 92 \& \& \& 301 \& 20 \& 6． 6 \& 319 \& \& 11.3 \& 169 \& 32 \& 18.9 \& 185 \& 20 \& 10.8 <br>
\hline \& 186 \& \& \& 301 \& 20 \& \& \& \& \& \& \& \& \& \& 13.5 <br>
\hline Louisiana \& 213 \& \& 10.8 \& 277 \& 25 \& 9． 0 \& 242 \& \& 12．0 \& 173 \& 28 \& 11． 2 \& 156 \& \& <br>
\hline \multirow[t]{2}{*}{Oklahoma－－－－－－－－} \& 228 \& \& 7.5 \& 448 \& 36 \& 8． 0 \& 452 \& 39 \& $\begin{array}{r}8.6 \\ 14 \\ \hline\end{array}$ \& 273 \& 31
95 \& 11． 4 \& 539 \& \& 20． 4 <br>
\hline \& 421 \& \& 11.9 \& 876
270 \& \& 11.1 \& 760 \& \& 14.0 \& 198 \& 38 \& 19.2 \& 204 \& \& 25.5 <br>
\hline \multirow[t]{2}{*}{Idaho－－－－－－－－－－－－－－－－} \& 200 \& \& 35． 5 \& 870
80 \& \& \& 121 \& 27 \& 22． 3 \& 70 \& 15 \& 21． 4 \& 98 \& \& 20.4 <br>
\hline \& 67 \& \& \& 80 \& \& \& 121 \& \& 2． 0 \& \& \& \& 25 \& \& <br>

\hline W yoming ．．－．－－．－ \& 40 \& \& 20.0 \& 22 \& \& 13． 6 \& 43 \& \& 7．0 \& 257 \& $$
21
$$ \& 8． 2 \& 174 \& 19 \& 10.9 <br>

\hline W yoming－－－－－－－－－－－－
Colorado \& 297 \& 47 \& 15.8 \& 326 \& \& \& 363
25 \& $\stackrel{4}{2}$ \& 8． 8 \& 26 \& \& 15． 4 \& 22 \& \& 4.5 <br>
\hline \multirow[t]{2}{*}{New Mexico．．．－－－－－－
Arizona} \& 34 \& \& \& 37
25 \& 3 \& 8.1 \& 22 \& 2 \& 9．1 \& 38 \& \& 2． 6 \& 23 \& \& <br>

\hline \& | 19 |
| :---: |
| 16 | \& \& 10．5 \& 288 \& 14 \& 4.9 \& 242 \& 20 \& 8． 3 \& 297 \& 22 \& 7.4 \& 302 \& \& 3.0 <br>

\hline Utah．－－－－－－－－－－－－ \& 167 \& \& \& \& \& \& \& \& \& \& \& \& \& \& <br>
\hline Nevada－－－－－－－－－ \& \& \& \& \& \& \& 15 \& \& 8． 3 \& 9
498 \& 50 \& 11．1 \& 341 \& \& 9．7 <br>
\hline Washington．－－－－－ \& 350 \& 27 \& 7.7 \& 461 \& 38 \& 8． 4.3 \& 413 \& 40 \& 8． 7 \& 573 \& 32 \& 5． 6 \& 381 \& 28 \& 7. <br>

\hline \multirow[t]{2}{*}{| Oregon |
| :--- |
| California |} \& 439

907 \& 31 \& \& 422
989 \& 18 \& 4．
6.0 \& 1，210 \& 74 \& 6．1 \& 975 \& 55 \& 5．6 \& 991 \& 49 \& 4.9 <br>
\hline \& 907 \& 42 \& 4.6 \& 989 \& 59 \& 6.0 \& \& \& \& \& \& \& \& \& <br>
\hline United States． \& 21， 233 \& 1，246 \& 5．9 \& 23， 931 \& 1，658 \& \& 25， 265 \& 1，906 \& \& 23， 462 \& 1，632 \& 7.0 \& 19， 301 \& 1，207 \& 6．3 <br>
\hline
\end{tabular}

Table 692-Bankruptcy among farmers: Cases concluded in fiscal years ending June 30, 1910-1923-Continued.

| State. | 1919-20 |  |  | 1920-21 |  |  | 1921-22 |  |  | 1922-23 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total. | Farmers. |  | Total. | Farmers. |  | ${ }^{\text {Trotal. }}$ | Farmers. |  | Total. | Farmers. |  |
|  |  | Number. | Per cent of all cases. |  | Num- | Per cent of all cases. |  | Number. | Per cent of all cases. |  | $\begin{aligned} & \text { Num- } \\ & \text { ber. } \end{aligned}$ | Per cent of all cases. |
| Maine | 454 | 50 | 11.0 | 420 | 62 | 14. 8 | 431 | 51 | 11.8 | 658 | 94 | 14.3 |
| New Hampshire | 51 | 4 | 7.8 | 53 | 3 | 5. 7 | 123 | 7 | 5. 7 | 76 | 12 | 15.8 |
| Vermont.-- | 133 | 10 | 7.5 | 85 | 14 | 16.5 | 166 | 21 | 12. 7 | 100 | 20 | 20.0 |
| Massachusetts | 1,034 | 6 | . 6 | 728 | 9 | 1. 2 | 901 | 10 | 1.1 | 1,592 | 5 | . 3 |
| Rhode Island...--- | 38 |  |  | 50 | 1 | 2. 0 | 72 | 1 | 1.4 | 166 |  |  |
| Connecticut | 190 | 2 | 1.1 | 138 | 2 | 1. 5 | 201 | 2 | 1. 0 | 399 | 15 | 3. 8 |
| New York | 2, 241 | 49 | 2. 2 | 2, 039 | 61 | 3. 0 | 2, 076 | 38 | 1.8 | 3, 128 | 96 | 3.1 |
| New Jersey | 336 | 2 | . 6 | 297 | 5 | 1. 7 | 277 | 4 | 1. 4 | 502 | 4 | . 8 |
| Pennsylvania | 534 | 16 | 3. 0 | 421 | 25 | 5. 9 | 571 | 35 | 6. 1 | 1,165 | 48 | 4.1 |
| Ohio-------- | 599 | 18 | 3.0 | 460 | 23 | 5. 0 | 680 | 64 | 9.4 | 1,279 | 156 | 12. 2 |
| Indiana | 138 | 12 | 8. 7 | 124 | 16 | 12. 9 | 245 | 59 | 24.1 | 333 | 84 | 25.2 |
| Illinois | 1,089 | 29 | 2. 7 | 697 | 11 | 1. 6 | 1,012 | 81 | 8. 0 | 1,714 | 192 | 11.2 |
| Michigan | 338 | 4 | 1. 2 | 220 | 1 | . 5 | 434 | 11 | 2. 5 | 909 | 27 | 3.0 |
| Wisconsin | 314 | 20 | 6. 4 | 232 | 11 | 4. 7 | 364 | 32 | 8. 8 | 696 | 110 | 15. 8 |
| Minnesota.-------- | 532 | 42 | 7.9 | 480 | 57 | 11.9 | 651 | 189 | 29.0 | 1,023 | 291 | 28.5 |
| Iowa_ | 194 | 36 | 18.6 | 275 | 75 | 27.3 | 704 | 368 | 52.3 | 93.5 | 489 | 52.3 |
| Missouri | 514 | 25 | 4. 9 | 301 | 22 | 7. 3 | 403 | 61 | 15.1 | 560 | 105 | 18.8 |
| North Dakota.-.--- | 130 | 50 | 38.5 | 146 | 93 | 63.7 | 302 | 237 | 78.5 | 749 | 515 | 82.1 |
| South Dakota.----- | 131 | 18 | 13.7 | 76 | 24 | 31.6 | 73 | 38 | 52.1 | 232 | 148 | 63.8 |
| Nebraska --.-- | 118 | 11 | 9.3 | 86 | 8 | 9.3 | 184 | 60 | 32.6 | 259 | 132 | 51.0 |
| Kansas. | 158 | 31 | 19.6 | 211 | 45 | 21. 3 | 328 | 113 | 34.5 | 588 | 225 | 38.3 |
| Delaware | 6 | 1 | 16. 7 | 20 |  |  | 35 | 3 | 8.6 | 29 | 2 | 6.9 |
| Maryland ----------- | 79 | 3 | 3.8 | 84 | 5 | 6. 0 | 159 | 17 | 10.7 | 170 | 37 | 21.8 |
| Dist. Columbia.-.- | 32 |  |  | 35 |  |  | 35 |  |  | 59 |  |  |
| Virginia. | 291 | 17 | 5.8 | 516 | 24 | 4.7 | 726 | 40 | 5.5 | 1,320 | 87 | 6.6 |
| West Virginia.-..-- | 183 | 5 | 2. 7 | 220 | 10 | 4. 6 | 268 | 12 | 4. 5 | 328 | 7 | 21 |
| Norttr Carolina_--- | 42 | 3 | 7.1 | 63 | 2 | 3. 2 | 154 | 13 | 8.4 | 215 | 16 | 7.4 |
| South Carolina | 45 | 1 | 2. 2 | 58 | 4 | 6. 9 | 115 | 1 | . 9 | 246 | 24 | 9.8 |
| Georgia----------- | 909 | 129 | 14. 2 | 1,063 | 241 | 22.7 | 2, 344 | 588 | 25.1 | 2,918 | $7 \% 2$ | 26. 5 |
| Florida------------ | 86 | 10 | 11.6 | 111 | 11 | 9.9 | 145 | 4 | 2.8 | 348 | 14 | 4.0 |
| Kentucky ---------- | 241 | 24 | 10.0 | 188 | 21 | 11. 2 | 222 | 43 | 19.4 | 587 | 88 | 15.0 |
| Tennessee. | 560 | 32 | 5. 7 | 724 | 24 | 3. 3 | 1,133 | 46 | 4.1 | 1,600 | 118 | 7.4 |
| Alabama | 735 | 49 | 6. 7 | 1,419 | 43 | 3. 0 | 2, 461 | 100 | 4.1 | 1,977 | 181 | 9.2 |
| Mississippi-.------- | 57 | 3 | 5. 3 | 239 | 12 | 5. 0 | 265 | 12 | 4. 5 | 462 | 33 | 7. 1 |
| Arkansas----------- | 439 | 8 | 1. 8 | 163 | 17 | 10.4 | 266 | 72 | 27.1 | 454 | 76 | 16.7 |
| Louisiana | 139 | 17 | 12. 2 | 114 | 12 | 10. 5 | 219 | 32 | 14.6 | 423 | 129 | 30.5 |
| Oklahoma | 139 | 13 | 9. 4 | 128 | 13 | 10.2 | 240 | 38 | 15.8 | 551 | 81 | 14.7 |
| Texas.-. | 236 | 57 | 24. 2 | 383 | 82 | 21.4 | 628 | 122 | 19.4 | 1,208 | 253 | 20.9 |
| Montana | 178 | 63 | 35. 4 | 226 | 82 | 36. 3 | 363 | 215 | 59.2 | 611 | 366 | 59.9 |
| Idaho. | 86 | 12 | 14.0 | 80 | 19 | 23.8 | 169 | 79 | 46.8 | 292 | 160 | 54.8 |
| W yoming | 21 | 3 | 14.3 | 24 | 8 | 33.3 | 42 | 12 | 28.6 | 56 | 14 | 25.0 |
| Colorado- | 141 | 18 | 12.8 | 212 | 48 | 22.6 | 249 | 77 | 30.9 | 366 | 118 | 32. 2 |
| New Mexico | 18 | 3 | 16.7 | 20 | 2 | 10.0 | 37 | 3 | 8. 1 | 17 | 3 | 17.7 |
| Arizona. | 12 |  |  | 21 | 1 | 4. 8 | 40 | 9 | 22.5 | 105 | 37 | 35. 2 |
| Utah.- | 185 | 5 | 2. 7 | 151 | 17 | 11.3 | 177 | 22 | 12. 4 | 235 | 32 | 13.6 |
| Nevada | 1. |  |  | 11 |  |  | 21 | 2 | 9. 5 | 2 |  |  |
| W ashington. | 300 | 20 | 6. 7 | 261 | 29 | 11.1 | 377 | 49 | 13.0 | 727 | 131 | 18.0 |
| Oregon. | 207 | 7 | 3.4 | 407 | 11 | 2. 7 | 370 | 33 | 8.9 | 717 | 110 | 15.3 |
| California. | 949 | 59 | 6. 2 | 682 | 57 | 8.4 | 1,004 | 110 | 11.0 | 1,150 | 183 | 15.9 |
| United States_ | 15, 583 | 997 | 6. 4 | 15,162 | 1, 363 | 9.0 | 22, 462 | 3,236 | 14.4 | 34, 236 | 5,940 | 17.4 |

Division of Agricultural Finance. Compiled from annual reports of the Attorney General.

## FARMERS' INCOMES.

$\mathrm{T}_{\mathrm{Able}}$ 693.-Farmers' incomes: Returns from farming, 1922.

| Item. | United States. | $\begin{gathered} \text { North } \\ \text { Atlantic. } \end{gathered}$ | South Atlantic | East North Central. | West North Central. | South Central. | Western. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of reports | 6, 094 | 648 | 803 | 1,274 | 1,395 | 1,282 | 692 |
| Size of farm-.-------------------acres Value of farm real estate | (313,586 | - ${ }^{148} 818$ | 206 $\$ 9,565$ | 145 $\$ 13,986$ | $\begin{array}{r}339 \\ \$ 19,940 \\ \hline\end{array}$ | \$ ${ }_{\text {\$9,027 }} \mathbf{2 1 2}$ | 498 $\$ 17,672$ |
| Value of farm personalty (Jan. 1,1922 ) | 2, 844 | 3,043 | 1,857 | 2,563 | 3,661 | 2,153 | 3,955 |
| Receipts: |  |  |  |  | 684 | 888 | 1,286 |
| Crop sales ... | 860 | 352 | 347 | 754 | 1,148 | 410 | 617 |
| Sales of livestock -.....-. | - 454 | 1,193 | 245 | 621 | 1, 379 | 167 | 382 |
| Misceilaneous sales------ | 42 | ${ }^{1} 92$ | 54 | 39 | 24 | 32 | 37 |
| Total | 1,972 | 2, 618 | 1,532 | 1,920 | 2, 235 | 1,497 | 2,322 |
| Cash outlay: | 331 | 524 | 309 | 245 | 280 | 284 | 522 |
| Livestock bought | 204 | 153 | 161 | 228 | 321 | 138 | 138 |
| Feed bought.. | 175 | 467 | 86 | 176 | 178 | 90 | 159 |
| Fertilizer... | 57 | 151 | 178 | 41 | ${ }^{6}$ | 32 | ${ }_{5}^{9}$ |
| Seed | 43 | 59 | 38 | 40 | 39 | 38 | 54 |
| Taxes | 174 | 146 | 91 | 210 | $\stackrel{211}{215}$ | 111 | 277 |
| Tools and machinery | 123 | 143 215 | 82 85 | 122 | 152 198 | 81 92 | 177 |
| Miscellaneous purchases | 150 |  |  |  |  |  | 181 |
| Total | 1,257 | 1,858 | 1,030 | 1,211 | 1,385 | 866 | 1,510 |
| Receipts less expenses | 715 | 760 98 | 502 121 | 709 219 | 850 385 | 631 104 | 812 174 |
| Increase in inventory | 202 | 98 | 121 | 219 |  | 104 |  |
| Net result | 917 | 858 | 623 | 928 | 1,235 | 735 | 986 |
| Noncash, estimated items, reported for approximately two-thirds the number of farms. |  |  |  |  |  |  |  |
| Value of food and fuel produced and used on the farm. | 294 | 273 | 362 | 276 | 287 | 301 | ${ }_{919}^{269}$ |
| Value of family labor, including owner- | 716 | 850 | 504 | 759 | 854 | 477 | 919 |
| Change in value of real estate during 1922 (-shows decrease) | -52 | -16 | 78 | -105 | -27 | 9 | -303 |

Division of Farm Management. Computed from reports of 6,094 individual farms operated by their owners.

Table 694.-Farmers' incomes: Returns to labor and to capital, 1922.

| Item. | United States. | North Atlantic. | South Atlantic. | East North Central. | West North Central. | South Central. | Western. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Net results, as given...--. | \$917 | \$858 | \$623 | \$928 | \$1, 235 | \$735 | \$986 |
| Add food and fuel ${ }^{1}$-- | 294 | 273 | 362 | 276 | 287 | 301 | 269 |
| Total farm returns_ | 1, 211 | 1,131 | 985 | 1,204 | 1,522 | 1,036 | 1,255 |
| Less unpaid labor ${ }^{2}$ | \$716 | \$850 | \$504 | \$759 | \$854 | \$477 | \$919 |
| Return to capital.- | 495 | 281 | 481 | 445 | 668 | 559 | 336 |
| Return to capital, per cent ${ }^{3}$---------- | 3.0 | 2.4 | 4.2 | 2.7 | 2. 8 | 5.0 | 1.6 |
| Interest assuming rate of 6 per cent ${ }^{4}$--- | \$986 | \$707 | \$685 | \$993 | \$1,416 | \$671 | \$1, 298 |
| Return to all unpaid labor----------- | 225 | 424 | 300 | 211 | 106 | 365 | --43 |
| Return to operator (prorated) ${ }^{5}$ | 158 | 334 | 226 | 156 | 70 | 295 | -37 |
| Return to operator (family labor at hired labor rates) ${ }^{6}$ | 9 | 244 | 176 | 13 | -182 | 273 | -170 |

Division of Farm Management. Computed from reports of 6,094 owner-operators and other information. In computing this table certain arbitrary assumptions are explicitly or implicitly made.
${ }^{1}$ A verage of estimates of 4,748 farmers.
2 A verage as estimated by 5,248 farmers.
${ }^{8}$ Based on reported value of farm property January 1, 1922.
4 Many men recall paying much more than 6 per cent.
${ }^{5}$ Assumes that all unpaid family labor shared the reduced amount according to the amount of its claim established. (1) For the operator as 12 times the monthly wages without board and (2) for the rest of the family, the difference between operator's labor so figured and the reported value of unpaid labor.
${ }^{6}$ The assumption is that the operator bears all the burden of failure to earn common hired labor wages, and attributes such wages to his family before computing his remainder or wages.

Table 695.-Farmers' incomes: Summary of the business of 14 farms operated by the same men for 11 consecutive years, Palmer Township, Washington Co., Ohio, 1912-1922.

${ }^{1}$ A productive animal unit in this area equals 1 horse, 1 cow, 5 hogs, 10 sheep, or 100 chickens.

Table 695.-Farmers' incomes: Summary of the business of 14 farms operated by the same men for 11 consecutive years, Palmer Township, Washington Co., Ohio, 1912-1922-Continued.


Division of Farm Management.

## FOREIGN EXCHANGE.

Table 696.-Foreign exchange: Average rates at New York, 1912-1923.
argentine pesos, Paper. ${ }^{1}$

| Calendar year. | Jan. | Feb. | Mar. | Apr | May. | Jun | Jul | Aug. | Sep | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | C |  | Ce | C | Cen | Cen | Cen | Cent | Cen | en | Cents. | Cents. |
| 1- | 42.460 | 42. 500 | 42. 604 | 42.655 | 42.526 | 42.510 | 42. 510 | 42. 510 | 42. 510 | 42.510 | 42. 478 |  |
|  | 42.510 | 42.878 | 42. 720 | 42. 535 | 42.470 | 42. 395 | 42. 260 | 42.110 | 42. 110 | 42. 110 | 42. 110 | 42. 110 |
| 19 | 42.158 | 42.522 | 42. 540 | 42. 365 | 42. 230 | 42. 230 | 42. 246 | 243. 465 | 44. 683 | 43. 042 | 43. 428 | 43.720 |
| 19 | 43.348 | 43.332 | 42.925 | 42. 580 | 42. 005 | 42.018 | 42. 236 | 41. 385 | 41 | 42.080 | 42. 212 |  |
| 1916 | 42. 652 | 42.858 | 43.158 | 43. 058 | 42. 525 | 42.182 | 41. 592 | 41. 402 | 42. 126 | 42. 900 | 43. 240 | 43. 824 |
| 19 | 44. 170 | 43. 960 | 43. 402 | 42. 642 | 43. 262 | 43. 918 | 43. 525 | 43. 104 | 42. 900 | 43.768 | 45. 600 | 46. 680 |
| 19 | 44. 820 | 43. 895 | 44. 062 | 44. 472 | 45. 192 | 44.820 | 44. 388 | 44. 413 | 44. 632 | 44. 712 | 44. 828 |  |
| 191 | 44.804 | 44.748 | 44. 328 | 44.045 | 44. 100 | 43. 220 | 42. 5 | 42.138 | 42.315 | 42. 324 | 42. 945 | 43. 110 |
| 1920 | 43. 076 | 43. 108 | 43.320 | 42. 957 | 42. 485 | 42.058 | 40. 496 | 37. 657 | 36. 808 | 35. 807 | 33. 650 | 34. 368 |
| 1921 | 34. 792 | 35. 078 | 34. 122 | 32. 476 | 31. 585 | 30. 782 | 28. 952 | 29. 284 | 30. 637 | 32. 154 | 32. 329 | 32. 914 |
| 1922 | 33. 963 | 36. 334 | 36. 423 | 35, 529 | 36. 260 | 36. 016 | 36. 013 | 36. 117 | 35. 677 | 35.822 | 36. 180 | 37.650 31.826 |
| 1923 | 37. 284 | 37. 055 | 37. 024 | 36. 585 | 35. 939 | 35. 485 | 34. 205 | 32.762 | 32. 935 | 32.410 | 31.304 | 31.826 |

EGYPTIAN TALARI. ${ }^{3}$

|  | 100.345 | 00. 388 | 100.310 | 99. 980 | 100. 00 | 99. 992 | 99. |  |  |  | 9. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 100. 144 | 99.928 | 99.845 | 99. 832 | 99. 862 | 99.690 | 99. 662 | 99.95 | 10. 120 | 100. 244 |  |  |
| 1914 | 99.965 | 99.855 | 99. 685 | 99.828 | 99.912 | 99. 912 | 00. 158 | 03. 630 | 103. 29 | 02. 552 |  | 36 |
|  | 99. 582 | 99.138 | 98. 708 | 98.372 | 98.320 | 97. 955 | 97. 738 | 96. 335 | 96. 23 | 96. 144 | 95. 805 | 96. 840 |
| 1916 | 97. 505 | 97.652 | 97.740 | 97. 770 | 97.648 | 97. 575 | 97. 592 | 97.590 | 97.6 | 97. 698 | 97.698 | 97. 644 |
| 1917 | 97. 605 | 97. 538 | 97. 576 | 97. 670 | 97. 578 | 97. 526 | 97. 608 | 97. 680 | 97.6 | 97. 572 | 97. 576 | 98. 080 |
| 1918 | 97. 585 | 97.580 | 97. 552 | 97. 598 | 97. 600 | 97. 570 | 97.560 | 97. 618 | 97.6 | 97. 675 | 97. 712 | 97.710 |
| 1919 | 97. 726 | 97. 702 | 96. 480 | 95. 525 | 95. 808 | 94. 588 | 91. 395 | 88.036 |  | 85. 560 |  | 42 |
| 1920 | 75. 864 | 68.660 | 74. 123 | 80. 088 | 78. 934 | 79. 642 | 78. 362 | 73. 498 | 72.510 | 70. 876 | 70.565 | 72. 482 |
| 1921 | 76. 915 | 79. 482 | 80.405 | 80.780 | 82. 390 | 78. 298 | 75.126 | 75.128 | 76. 810 | 79. 538 | 81. 428 | 84. 630 |
| 19 | 86.725 | 89. 163 | 87.592 | 89. 970 | 91. 120 | 91. 377 | 91.118 | 91.955 | 90.828 | . 275 | 91. 558 | 93. 842 |
| 1923 | 95.070 | 96. 730 | 96.850 | 95. 528 | 95.382 | 94.880 |  |  |  |  |  |  |

[^336]
## 1164 Yearbook of the Department of Agriculture, 1923.

Table 696.-Foreign exchange: Average rates at New York, 1912-1923-Contd.
INDIAN RUPEE. 4

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| 1919 | 35. 650 | 35. 650 | 35. 875 | 35. 650 | 42.500 | 42. 500 | 43. 000 | 43. 500 | 45. 000 | 43. 000 | 43. 375 | 45. 000 |
| 1920 | 44. 125 | 45. 500 | 47. 250 | 46. 500 | 43. 500 | 40. 875 | 37. 875 | 35. 750 | 33. 788 | 30.625 | 29.375 | 27. 250 |
| 1921 | 28. 574 | 28. 938 | 26. 906 | 26. 100 | 26.344 | 25. 422 | 23. 059 | 24. 224 | 26. 390 | 27. 419 | 26. 874 | 27. 449 |
| 1922 | 27. 810 | 28.143 | 27. 822 | 27. 810 | 28.751 | 28.911 | 28. 891 | 29. 014 | 28. 741 | 28. 842 | 29.511 | 30. 649 |
| 1923 | 31. 726 | 31.850 | 31. 566 | 31.346 | 31. 081 | 30.992 | 30. 859 | 30. 461 | 30. 602 | 31. 063 | 30. 860 | 31. 005 |

## POUND STERLING. ${ }^{5}$

| 1912 | \$4. 8699 | \$4. 8728 | \$4. 8721 | \$4. 8710 | \$4. 8720 | \$4. 8756 | \$4. 8752 | \$4. 8725 | , | \$4. 8574 | \$4. 8506 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 4.8688 | 4. 8746 | 4. 8729 | 4.8688 | 4. 8651 | 4.8670 | 4.8678 | 4. 8640 | 4.8568 | 4.8580 | 4. 8526 | 4. 8535 |
| 1914 | 4. 8623 | 4. 8570 | 4.8628 | 4. 8698 | 4. 8831 | 4. 8849 | 4. 8878 | 5. 0000 | 4. 9812 | 4. 9530 | 4. 9031 | 4.8715 |
| 1915 | 4. 8422 | 4. 8206 | 4. 8018 | 4. 7945 | 4. 7925 | 4. 7755 | 4. 7648 | 4. 7062 | 4.6912 | 4. 6858 | 4. 6706 | 4. 7208 |
| 1916 | 4. 7506 | 4.7591 | 4. 7641 | 4. 7648 | 4. 7581 | 4. 7579 | 4. 7577 | 4. 7575 | 4. 7574 | 4. 7567 | 4. 7567 | 4. 7479 |
| 19 | 4. 7567 | 4. 7550 | 4. 7544 | 4. 7567 | 4. 7555 | 4. 7544 | 4. 7553 | 4. 7545 | 4. 7548 | 4. 7522 | 4.7520 | 4. 7517 |
| 1918 | 4. 7525 | 4. 7525 | 4. 7525 | 4. 7550 | 4. 7550 | 4. 7538 | 4. 7525 | 4. 7562 | 4. 7550 | 4. 7550 | 4. 7575 | 4. 7575 |
| 19 | 4. 7575 | 4.7575 | 4. 7000 | 4. 6512 | 4.6562 | 4.6125 | 4. 4275 | 4. 2725 | 4. 1800 | 4. 1712 | 4. 0812 | 3. 7688 |
| 1920 | 3. 6700 | 3. 3762 | 3. 7712 | 3. 9130 | 3. 8500 | 3. 9475 | 3.8525 | 3. 6200 | 3. 5125 | 3. 4730 | 3. 4250 | 3. 4912 |
| 1921 | 3. 7562 | 3. 8712 | 3. 9150 | 3. 9300 | 3. 9775 | 3. 7725 | 3. 6321 | 3. 6536 | 3. 7240 | 3. 8729 | 3. 9702 | 4. 1561 |
| 1922 | 4. 2248 | 4. 3620 | 4.3757 | 4.4134 | 4. 4461 | 4. 4519 | 4. 4464 | 4. 4647 | 4. 4307 | 4. 4385 | 4. 4799 | 4. 6098 |
| 192 | 4.6546 | 4. 6908 | 4.6957 | 4. 6555 | 4. 6257 | 4. 6147 | 4.5834 | 4. 5603 | 4. 5422 | 4. 5237 | 4.3822 | 4. 3602 |

## Division of Statistical and Historical Research.

${ }^{4}$ Federal Reserve Bulletins. January-September, 1919 highest rate for month. October 1919-December 1920, average of high and low quotations for month. January, 1921-June, 1921, average of weekly high and low quotations for month. July, 1921 to date, average rate of exchange.
${ }_{5}$ International Yearbook of Agricultural Statistics, 1921, pages 504 and 498. Federal Reserve Bulletins, July 1921 to date. Sight drafts 1912-1920; cables 1921 to date.

Table 697.-Farmers' organizations handling grain, 1923.

| State. | Total Number re-porting. | Membership. |  | Volume of business. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\left\|\begin{array}{c} \text { Num- } \\ \text { ber } \\ \text { re- } \\ \text { port- } \\ \text { ing. } \end{array}\right\|$ | Members. | $\begin{array}{\|c} \text { Num- } \\ \text { ber } \\ \text { re- } \\ \text { port- } \\ \text { ing. } \end{array}$ | Amount. ${ }^{1}$ | Grain handled, thousands of bushels. |  |  |  |  |  |
|  |  |  |  |  |  | $\left\|\begin{array}{c} \text { Num- } \\ \text { ber } \\ \text { re- } \\ \text { port- } \\ \text { ing. } \end{array}\right\|$ | Wheat | Rye. | Oats. | Other grains. | Total. |
| Illinois | 392 | 328 | 39, 318 | 269 | \$52, 445, 000 | 276 | 11, 075 | 547 | 19, 373 | 34, 003 | 64, 998 |
| Nebraska | 335 | 247 | 30, 177 | 185 | 33, 341, 000 | 181 | 10,802 | 253 | 2, 169 | 12, 625 | 25, 849 |
| Iowa | 325 | 232 | 31, 295 | 181 | 39, 459, 000 | 189 | 1,462 | 195 | 18, 404 | 24, 300 | 44,361 |
| South Dakot | 323 | 251 | 25,901 | 211 | 35, 246, 000 | 224 | 24, 252 | 5, 958 | 1,237 | 4,872 | 36,319 |
| Kansas | 289 | 217 | 29,911 | 160 | 32, 160, 000 | 173 | 21, 233 | 58 | 1, 659 | 2,698 | 24, 648 |
| Minnesota | 249 | 204 | 31, 803 | 176 | 25, 405, 000 | 177 | 5, 095 | 3, 498 | 9, 916 | 8, 611 | 27, 120 |
| North Dakot | 205 | 148 | 19, 274 | 112 | 16, 743, 000 | 122 | 6,674 | 1, 167 | 4,092 | 6,359 | 18, 292 |
| Ohio_ | 192 | 155 | 24, 136 | 127 | 20, 403, 000 | 127 | 3, 979 | 66 | 2, 409 | 3,115 | 9, 569 |
| Missouri | 150 | 119 | 18, 144 | 90 | 22, 648, 000 | 89 | 11, 149 | 103 | 2, 526 | 2, 842 | 14,620 |
| Indiana | 118 | 91 | 12, 887 | 73 | 9, 717, 000 | 73 | 1,562 | 253 | 3, 018 | 3, 123 | 7,956 |
| Oklahoma | 86 | 67 | 17, 227 | 54 | 10, 814, 000 | 58 | 7,593 | 4 | 206 | 1, 235 | 9,038 |
| Michigan | 78 | 67 | 14,716 | 48 | 8, 805, 000 | 48 | 1,314 | 295 | 605 | 1, 403 | 2, 617 |
| Montana | 62 | 49 | 5,185 | 41 | 6, 226, 000 | 39 | 10,810 | 152 | 154 | 397 | 11,513 |
| W isconsin | 49 | 43 | 7,335 | 26 | 2, 218, 000 | 21 | -36 | 211 | 343 | 259 | -849 |
| Colorado. | 43 | 43 | 6,303 | 19 | 4, 720, 000 | 17 | 1,726 | 73 | 57 | 623 | 2, 479 |
| Washington | 40 | 34 | 5,355 | 28 | 7,920,000 | 28 | 7,181 | 46 | 146 | 33 | 7,406 |
| Texas------- | 18 | 12 | 4,069 | 8 | 2,458, 000 | 7 | 1,001 | ------ | 16 | 191 | 1,208 |
| Idaho. | 15 | 7 | -977 | 7 | 1, 056, 000 | 5 | , 914 |  | 33 | 850 | 1,797 |
| California | 13 | 11 | 2,523 | 8 | 4, 725, 000 | 9 | 2,130 |  | 66 | 2, 083 | 4,279 |
| Oregon_ | 9 | 8 | 3,628 | 7 | 10, 473, 000 | 7 | 3, 771 |  | 12 | 48 | 3,831 |
| W yoming | 9 | 4 | 328 | 2 | 164, 000 | 1 | 47 | 24 | 1 | 1 | 73 |
| New Mexico | 5 | 3 | 148 | 1 | 6,000 |  |  |  |  |  |  |
| All others | 24 | 18 | 2,920 | 15 | 2,047,000 | -11 | 258 | ---5 | 78 | 226 | 567 |
| United Stat | 3, 029 | 2, 358 | 333,560 | 1,848 | 349, 199, 000 | 1,882 | 134,064 | 12,908 | 63,520 | 108,897 | 319,389 |

[^337]${ }^{1}$ Including sales of supplies to members.

Table 698.-Average weight per carload of freight originating on Class I railroads in the United States, 1920-1923.

| Commodity. | Calendar years. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1920 | 1921 | 1922 | 1923 |
|  | Short tons. | Short tons. | Short tons. | Short tons. |
| Wheat | 40.21 | 39. 89 | 40. 17 | 40.35 |
| Corn | 36.45 | 38.07 | 38.38 | 37.87 |
| Oats | 31. 20 | 30.55 | 30.07 | 31. 03 |
| Flour and meal | 30. 27 | 25. 63 | 24. 94 | 25. 01 |
| Hay, straw and alfalfa. | 12. 38 | 12.46 | 12. 35 | 12. 33 |
| Tobacco | 12. 14 | 10.92 | 11. 09 | 10.84 |
| Cotton | 12. 17 | 11.57 | 11. 50 | 11. 29 |
| Citrus fruits | 16. 68 | 16. 22 | 15.40 | 15. 04 |
| Potatoes. | 18. 77 | 18. 24 | 18. 20 | 17.87 |
| Horses and mules | 11.47 | 11.39 | 11.30 | 11.26 |
| Cattle and calves. | 11.59 | 11.62 | 11. 56 | 11. 53 |
| Sheep and goats.- | 9.93 | 9.75 | 9. 79 | 9.73 |
| Hogs.---------- | 9.61 | 9.51 | 9. 61 | 9. 55 |
| Poultry. | 11.51 | 10.95 | 11.02 | 11. 18 |
| Eggs .-.- | 11.58 | 11.18 | 11.19 | 11.27 |
| Butter and cheese. | 12. 90 | 12. 18 | 12.37 | 12. 65 |
| Wool----------- | 12. 48 | 12. 20 | 11. 63 | 12. 36 |
| Sugar, sirup, glucose and molasses | 28.98 | 27.68 | 27.54 23.09 | 27.53 22.92 |
| Canned goods. | 24. 78 | 23. 13. | 23.09 | 22.92 |
| Anthracite coal | 48. 28 | 47.53 | 47. 85 | 48. 46 |
| Bituminous coal | 49. 27 | 50.45 | 50. 80 | 51. 29 |
|  | 13. 20 | 11.82 | 11. 72 26.31 | 11.55 26.77 |
| Lumber, timber, box shooks, staves and headings | 27.04 | 26.03 | 26.31 | 26.77 |

Division of Statistical and Historical Research. Compiled from reports of the Interstate Commerce Commission.
Table 699.-Freight tonnage originating on railways in the United States, 19171923.

| Commodity. | Calendar years. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
| FARM PRODUCTS. | $\left\{\left.\begin{array}{c} 1,000 \text { short } \\ \text { tons. } \\ 17,906 \\ \cdot \end{array} \right\rvert\,\right.$ | $\begin{gathered} 1,000 \text { short } \\ \text { tons. } \\ 19,263 \end{gathered}$ | 1,000 short $\begin{gathered}\text { tons. } \\ \text { 19,395 }\end{gathered}$ | $\left\|\begin{array}{c} 1,000 \text { short } \\ \text { tons. } \\ 936 \\ 9,809 \\ 1,344 \\ 5,421 \end{array}\right\|$ | 1,000 shorttons.4288,5221,1755,504 | $\begin{gathered} 1,000 \text { short } \\ \text { tons. } \\ 491 \\ 9,571 \\ 1,159 \\ 5,795 \end{gathered}$ | $\begin{array}{r} 1,000 \text { short } \\ \text { tons. } \\ 603 \\ 9,403 \\ 1,159 \\ 6,947 \end{array}$ |
| Animals and animal products: |  |  |  |  |  |  |  |
| Animals, live- |  |  |  |  |  |  |  |
| Horses and mules ${ }^{1}$ |  |  |  |  |  |  |  |
| Cattle and calves ${ }^{1}$ |  |  |  |  |  |  |  |
| Sheep and goats ${ }^{1}$ |  |  |  |  |  |  |  |
| Packing-house productsFresh meats | 2,966 | 3,714 | 3,398 | 2,770 | 2,577 | 2,614 | 3,022 |
| Hides and leather | 1,357 | 1,303 | 1,371 | 1,051 | 972 | 1,082 | 1,084 |
| Other packing-house products | 2, 567 | 3,510 | 3,736 | 2, 206 | 2, 094 | 2,049 | 2, 395 |
| Total packing-house products. $\qquad$ | 6,890 | 8, 527 | 8,505 | 6,027 | 5,643 | 5,745 | 6, 502 |
| Eggs ${ }^{1}$ |  |  |  | 536 | 551 | 565 | 595 |
| Butter and cheese ${ }^{1}$ |  |  |  | 425 | 434 |  | 571 |
| Poultry ${ }^{2}$ | 1,022 | 1,155 | 1,322 | 264 | 276 400 | 292 360 | 357 |
| Wool.- | 599 | 494 6.399 | 547 5 5 | 293 1,540 | 400 1,329 | 360 1,750 | 1,811 |
| Other animals and products | 5,541 | 6,339 | 5,724 | 1,540 | 1,329 | 1,750 | 1,811 |
| Total arimal products. | 31, 858 | 35,778 | 35,493 | 26, 595 | 24, 263 | 26, 235 | 28,237 |
| Vegetable products: |  | 3,552 | 3,803 |  |  | 3,068 |  |
| Fruits and vegetables ${ }^{3}$ | 17,679 | 18,737 | 19,726 | 10, 045 | 9, 255 | 9,684 | 10,378 |
| Potatoes-.----------- |  |  |  | 4,118 | 4, 639 | 4,829 | 4, 697 |

${ }^{1}$ Not separately stated prior to 1920.
${ }^{2}$ Including game and fish prior to 1920
${ }^{3}$ Including "citrus fruits," "other fresh fruits," "other fresh vegetables" and "dried fruits and vegetables."

Table. 699.-Freight tonnage originating on railways in the United States, 1917-1923-Continued.


Division of Statistical and Historical Research. Compiled from reports of the Interstate Commerce Commission. Class I Roads having annual operating revenues in excess of $\$ 1,000,000$.
${ }^{1}$ Not separately stated prior to 1920.
"Reported as "Hay" prior to 1920.
t Including "cottonseed," "vegetable oils" and "other products of agriculture."
${ }^{6}$ Excluding "sugar," "vegetable oils" and "canned goods."
Table 700.-Freight rates, ocean, wheat per bushel to the United Kingdom and the Continent from the United States, Canada, Argentina, India, and Australia for 1913, 1922, and 1923.

| Month. | United States. |  |  |  |  |  |  |  |  |  | Canada. |  | Argentina. |  |  | India. |  |  | Australia. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | North Atlantic ports. |  |  | New York. ${ }^{2}$ |  |  | NewOrleans. |  | North Pacific ports. |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1913 | $1922$ |  | 1913 | 1922 | 1923 | 1922 | 1923 4 | 1922 | 1923 | 1922 | 1923 | 1913 | 1922 | 1923 | 1913 | 1922 | 1923 | 1913 | 1922 | 1923 |
|  |  | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |  |
| Jan. | 10 | 11 | 9 | 9 | 9 | 6 | 12 | 9 | 20 | 22 | 11 | 10 | 14 | 19 | 15 | 12 | 13 | 16 | 24 | 28 | ${ }^{27}$ |
| Feb. | 10 | 12 | 7 | 6 | 10 | 5 | 13 | 9 | 20 | 21 | 13 | 9 | 16 | 18 | 12 | 12 | 13 | 15 | 22 | 30 | 24 |
| Mar | 1 | 12 | 7 | 6 | 10 | 5 | 13 | 9 | ${ }_{26}^{26}$ | 22 | 11 |  | 14 | 15 | 13 | 12 | 14 | 17 | 22 | 29 | 23 |
| Apr. | 8 | 10 | 9 | 6 | 5 | 6 | 11 | 9 | 26 | 23 | 10 | 10 | 12 | 15 | 17 | 11 | 12 | 18 | 20 | 29 | 24 |
| May | 8 | 10 | 8 | 7 | 5 | 5 | 11 | 9 | 22 | 23 | 10 | 9 | 11 | 16 | 19 | 11 | 11 | 18 | 20 | 27 | 22 |
| June | 7 | 8 | 7 | 5 | 5 | 3 | 11 | 9 | 22 | 23 | 9 | 9 | 8 | 14 | 14 | 11 | 10 | 16 | 20 | 25 | 20 |
| July | 8 | 8 | 8 | 5 | 6 | 4 | 9 | 8 | 22 | 22 | 8 | 8 | 9 | 12 | 12 | 12 | 10 | 16 | 20 | 22 | 20 |
| Aug.- | 9 | 7 | 7 | 5 | 5 | 4 | 9 | 8 | 21 | 22 | 7 | 7 | 10 | 13 | 12 | 12 | 11 | 18 | 19 | 21 | 20 |
| Sept. | 8 | 7 |  | 4 | 4 | 5 | 8 | 8 | 20 | 21 | 8 | 8 | 8 | 12 | 12 | 11 | 12 | 14 | 19 | 21 | 21 |
| Oct. | 7 | 8 | 8 | 5 | 5 | 6 | 8 | 8 | 21 | 22 | 8 | 9 | 6 | 14 | 10 | 10 | 14 | 15 | 21 | 25 | 22 |
| Nov. | 7 | 7 | 9 | 5 | 8 | 8 | 11 | 8 | 22 | 22 | 11 | 10 | 6 | 15 | 11 | 11 | 16 | 15 | 21 | 28 | 23 |
| Dec. | 6 | 10 | 9 |  | 8 | 8 | 49 | 8 | 23 | 22 | 11 | 9 | 6 | 16 | 12 | 10 | 17 | 15 | 20 | 28 | 23 |
| Average | 8 | 9 | 8 | 6 | 7 | 5 | 10 | 9 | 22 | 22 | 10 | 9 | 10 | 15 | 13 | 11 | 13 | 16 | 21 | 26 | 22 |

Division of Statistical and Historical Research. Compiled from Reports of the International Institute of Agriculture, except as otherwise indicated. The above rates were originally quoted in shillings; conversions made on the basis of the average monthly rate of exchange, except in 1913, when exchange was at par.
${ }^{1}$ Average of principal North Atlantic ports, including New York.
${ }^{2}$ New York to Liverpool.
${ }^{1}$ A verage of principal North Pacific ports.
${ }^{4}$ From U. S. Shipping Board.

Table 701.-Freight rates on wheat, in effect September, 1923.

| From- | To- | Rate per 100 pounds. | From- | To- | $\begin{array}{\|c} \text { Rate } \\ \text { per } 100 \\ \text { pounds. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Withrow, Wash | Wenatchee, Wash..- | Cents. 16. 0 | Beloit, Kans | Kansas City, Mo.. | Cents. |
| Do... | Tacoma, Wash..-.-. | 25.0 | Brewster, Kans. | K...do... | 18.0 20.5 |
|  | Spokane, Wash....-- | 28.0 | Abilene, Kans. | do | 17.5 |
| Harrington, Was |  | 7.0 | Great Bend, Kans. |  | 19.5 |
| ${ }^{\text {Do }}$ | Seattle, Wash.-...-- | 24.0 | McPherson, Kans | do | 19.0 |
| Colfax, | ---do------------ | 24.0 | Hutchinson, Kans.- | Minneapolis, Minn- | 36.5 |
|  | Portland, Oreg....-- | 24.0 |  | Kansas City, Mo.-- | 19.0 |
| Pomeroy, Wash | do | 23.0 18.5 | $\begin{aligned} & \text { Do } \\ & \text { Do } \end{aligned}$ | New Orleans, La | 46.5 |
| Pendieton, Oreg. | do | 18.5 17.0 | Bucklin, | Galveston, Tex ${ }^{\text {Minneapolis, }} \mathrm{M}$ | 49.0 37.5 |
| Kingdon, Cal | San Francisco, Calif- | 10.0 | Do. | Kansas City, Mo_ | 20.0 |
| Moscow, Idaho | Seattle, Wash | 24.0 | Harper, Kans | Ka | 19.0 |
| Caldwell, Idaho | do | 34.0 | Galena, Kans | do | 13.5 |
| Twin Falls, Idaho - | Portland, Oreg | 44.0 | Enid, Okla |  | 23.5 |
| Idaho Falls, Idalio. | do | 44.0 | Do | New Orleans, La | 43.5 |
| Bozeman, Mont | Seattle, Wash | 38.5 | D | Galveston, Tex | 43.0 |
| Do- | Portland, Oreg.-.... | 38.5 | Do----- | Fort Worth, Tex | 34.0 |
| Scobey, Mo | Duluth, Minn. | 37.5 | Cordell, Okla | Oklahoma City, | 19.0 |
| Do. | Minneapolis, Minn- | 37.5 |  |  |  |
| Wheelock, N. D | Duluth, Minn - .-.- | 27.0 | Amarillo, Tex | Fort Worth, Tex- | 28.0 |
| Do <br> Wales, N Dak | Minneapolis, MinnDuluth, Minn |  | Do. | Galveston, Tex....-- | 28.0 14.0 |
| Wales, N. Dak | Duluth, Minn -...... <br> Minneapolis, Minn. | 19.5 19.5 | Osakis, Minn | Duluth, Minn $-{ }^{\text {Minneapolis, }}$ Min- | 14.0 12.5 |
| Leeds, N. Dak | Duluth, Minn | 20.5 | Winterset, Iowa-.-- | Chicago, Ill --....... | 20.5 |
| Do | Minneapolis, Minn- | 20.5 |  | St. Louis, Mo | 29.5 |
| Adams, N. D | Duluth; Minn --..-- | 19.5 | Marshall, Mo | do | 17.5 |
| Do | Minneapolis, Minn- | 19.5 | Golden City, |  | 20.5 |
| Leal, N. | Duluth, Minn--...- | 20.0 | Do | Springfield, | 10.5 |
| Do | Minneapolis, Minn- | 20.0 | La Prairie, | St. Louis, Mo | 11.5 |
| Makoti, N. Dak | Duluth, Minn---.-- | 25.5 | Lincoln, Ill | Chicago, 1 | 12.5 |
| Do----- | Minneapolis, Minn- | 25.5 28.0 | Jorseyville, Do |  | 14.5 |
| Dickinson, N. Dak | Duluth, Minn-....- | 28.0 | $\begin{aligned} & \text { Do } \\ & \text { Do } \end{aligned}$ | Peoria, Ill | 11.5 |
|  | Minneapolis, Minn. | 28.0 21.0 | Do <br> Belleville | St. Louis, M | . 5 |
| Groton, S. Dak. <br> Wessington, S.Dak |  | $\stackrel{21.5}{21.0}$ | Carmi, Ill | Chicago, I | 5 |
|  | Sioux City, Iow | 20.5 | Do. | St. Louis | 14.5 |
|  | Milwaukee, W is | 33.5 | Schooleraft, Mich..- | Chicago, Ill | 15.5 |
| Chappell, Nebr | Omaha, Nebr | 24.5 | Shelbyville, Ind. | Indianapolis, Ind | 9.0 |
| Do. | Kansas City, M | 31.0 | Do | Chicago, Ill | 17.5 |
| Exeter, Nebr | Omaha, Nebr | 16.5 | Fostoria, Ohi | New York, N. ${ }^{\text {Y }}$ | 28.5 |
| Do | Kansas City, Mo--- | 19.0 | Do | Baltimore, Md | 25. 5 |
| Beaver City, Nebr-- | Omaha, Nebr | 21.0 | Orrville, Ohio | New York, N. Y...- | 28.5 |
| Do. | Kansas City, Mo.-- | 21.0 | Lancaster, Pa | Philadelphia, Pa---- | 11.5 |
| Beatrice, Nebr | St. Louis, Mo - ${ }^{\text {a }}$ - | 28.0 | Do |  | 15.5 |
| Do-...-- | Kansas City, Mo.-- | 17.9 19.5 | Do | New York, N. Y.--- | 19.0 24.0 |
| Phillipsburg, Kans. Marysville, Kans |  | 19.5 | Hagerstown |  | 24.0 20.5 |
|  |  |  | Staunton | .-.do.. | 22.5 |

Division of Statistical and Historical Research. Supplied by Bureau of Railway Economics.
Table 702.-Domestic freight rates on oats effective January 1, 1924.

| From- | To- | Rate per 100 pounds | From- | To- | Rate per 100 pounds. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Cents. |  |  | Cents |
| Towanda, | Chicago, | 11.5 | Jefferson, Iowa | Chicago, | 19.0 |
| Grand Ridge, | -do- | 11.5 8.0 | Chickasha, Okla...- Do | Kansas City, Mo.-- | 28.0 35.0 |
| Rochelle, 11. | do | 10.0 | Greenville, Ohio...- | Chicago, Ill | 15. |
| Paris, III | do | 15. 0 | Gibson City, Ill...- | -do | 12. |
| Isabel, Ill | -do | 13. 0 | Otterbein, Ind |  | 13. |
| Rochelle, 1 | St. Louis, M | 12.5 |  | Cincinnati, Oh | 15.5 |
| Paris, Ill |  | 11.5 | Whobarton, Iowa---- | Chicago, | 20.5 |
| Oswego, Kans | Fort Worth, | 37.5 | Algona, Iowa- | do | 20. |
| Topeka, Kans | -..do.--- | 41.5 | Lansing, Mich | do | 17. |
| Oswego, Kans. | Houston, Te | 43.0 | Morris, Mich |  | 23. |
| Topeka, Kans | -do | 46.5 | Cedar Bluffs, Nebr- | Duluth, | 25. |
| Rolfe, Iowa-- | Chicago, | 20.5 | Wales, N. Dak..... |  |  |
| Garrison, Iowa - | ----do | 17.5 | Flandreau, S.- Dak.-- | Chicago, Ill. | 17.5 |
| Hawarden, Iowa | do | 24.0 | Colman, S. Dak- | - | ${ }_{16} 6$. |
| Blanden, Iowa | do | 20.5 | La Crasse, W is..... | ---.do.-- | 16. |
| Alton, Iowa.- | -..-do. | 22.0 |  |  |  |

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.

1168 Tearbook of the Department of Agriculture, 1923.
Table 703.-Domestic freight rates on corn effective January 1, 1924.

| From- | To- | Rate per 100 pounds | From- | To- | Rate per 109 pounds. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 11.5 |  |  | Cents. |
| Barnes, Ill | .do | 11.5 | Oswego, Kans. | Housto |  |
| Grand Ridge, Il | do | 8.0 | Craig, Mo. | St. Joseph, Mo | 88 |
| Eairbury, 1 ll | do | 11.5 | Rolfe, Iowa | Chicag | 20.5 |
| Odell, H | de | 10.0 | Garrison, Iowa | .-...do | 17.5 |
| Princeville, | do | 11.5 | Belle Plain, Iowa.-- | do | 17.5 |
| Rochelle, Ill | do | 10. 0 | Hawarden, Iowa..-- | do | 24.0 |
| Easton, in | do. | 12.5 | Blanden, lowa--- | do | 20.5 |
| Paris, Ill | do. | 15.0 | Panama, Iowa | do. | 20.5 |
| Isabel, Il | do | 13.0 | Elk Horn, lowa | do | 20.5 |
| Rochelle, | St. Louis, M | 12.5 | Chatsworth, Iowa | do | 24.0 |
| Easton, 11 |  | 11. 3 | Alton, Iowa | do | 22.0 |
| Paris, 11. | do | 12. 5 | Jefferson, Lowa | do | 19.0 |
| Isabel, 11. | do | 11.5 | Beaver City, Nebr - | Omaha, Nebr | 19.0 |
| Remington, Ind | Chicago, Ill | 13.0 | North Bend, Nebr | .-do | 10.0 |
| Fort Wayne, Ind. | do. | 14.5 | Chickasha, Okla...- | Kansas City, Mo | 28.0 |
| Lafayette, Ind | do......- | 14.5 |  | Galveston, Tex--- | 35.19 |
| Remington, Ind | Indianapolis, | 13.0 | Lancaster, Pa- | Philadelphia, Pa. | 11.5 |
| Fort Wayne, In | --..-do | 13. 0 | Lancaster, Pa | Paltimore, Md | 15.5 |
| Lafayctie, Ind |  | 11.5 | Franklin, Tenn-...- | Chattanooga, Tenn | 27.9 |
| Remington, Ind | Cincinnati, | 17.5 | Union City, Tenn. <br> Freaman S Dak |  |  |
| Fort Wayne, Ind Lafayette, Ind. | -----do- | 15.5 14.0 | Freeman, S. Dak Tripp, S. Dak | Chicago, | 27.5 28.5 |
| Topeka, Kans. | Fort Worth, $T$ | 41.5 | Greenville, Ohio. | do. | 15. $\overline{5}$ |
| Oswego, Kans.. | do | 37.5 |  |  |  |

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.
Table 704.-Freight rates: Wool in grease, per 100 pounds, 1913 and 1923.

| Shipping point. | Destination. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Boston. |  | Chicago. |  | Philadelphia. |  |
|  | 1913 | 1923 | 1913 | 1923 | 1913 | 1923 |
|  | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. |
| Phoenix, Ariz |  | 261. 3 | 153 | 229.5 |  |  |
| Tucson, Ariz. | 175 | 263 | ${ }^{1} 175$ | ${ }^{1} 236.5$ | 171 | 254 |
| Prescott, Ariz | 164 | 244. 5 | 142 | ${ }_{213} 21$ | 158 | 264.5 |
| Flagstaf, Ariz- | 158 169 | 235.5 252.5 | 136 147 | 229 | 152 | ${ }_{246}^{229}$ |
| Albuquerque, N. Mex | 134 | 199.5 | 112 | 170 | 128 | 19:3 |
| Gallup, N. Mex | 144 | 214.5 | 122 | 183 | 138 | 208.5 |
| Salt Lake City, Utah | 1.57 | 236 | 139 | 194.5 | 151 | 229 |
| Las Cruces, N. Mex. | 149 | 222.5 | 127 | 193 | 143 | 216 |
| Denver, Colo-.... | 132 | 185 | 97 | 1129.5 | 126 | 178 |
| Las Vegas, Nev. | 125 | 190 | 103 | 156.5 | 119 | 183.5 |
| Cheyenne, W yo | 132 | 185 | 97 | 1129.5 | 126 | 178 |
| Billings, Mont | 132 | 203 | 107.5 | 161.5 | 125 | 195 |

[^338]Table 705.-Freight rates per 100 pounds on specified agricultural products, 1913 and 1923.
oranges


| Phoenix and Mesa, Ariz.- | 125 | 175 | 100 | 146 | 115 | 173 | 110 | 165 | 125 | 175 | 95 | 139 | 110 | 165 | 125 | 175 | 100 | 146 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Heber, Calif .-...........- | 125 | 175 | 100 | 146 | 115 | 173 | 110 | 165 | 125 | 175 | 95 | 139 | 110 | 165 | 125 | 175 | 100 | 146 |
| Webb, Ala | 48.1 | 68 | 45 | 63.5 | 43.5 | 66.5 | 30 | 42.5 | 42.1 | 63 | 48 | 69.5 | 44 | 62.5 | 58.1 | 87 | 36.5 | 54.5 |
| Thomasville, Ga.-.........-- | 45.5 | 68.5 | 44 | 63.5 | 42.5 | 65 | 29 | 41 | 39.5 | 59.5 | 47 | 68 | 43 | 62.5 | 55.5 | 83.5 | 35.5 | 53.5 |
| Ocala, Fla...................... | 47.8 | 72 | 49.8 | 63.5 | 48.3 | 74 | 34.8 | 49.5 | 41.8 | 63 | 52.8 | 76.5 | 48.8 | 62.5 | 57.8 | 87 | 41. 3 | 62. 5 |
|  | 34.5 | 52 | 50.5 | 60 | 38.5 | 57.5 | 35. 5 | 50 | 28.5 | 43 | 53.5 | 77 | 49.5 | 59 | 44.5 | 66.5 | 42 | 63 |

Table 705.-Freight rates per 100 pounds on specified agricultural products, 1913 and 1923-Continued.
CANTALOUPES.


Tablit 705:-Freight rates per 100 pounds on specified agricultural products, 1913 and 1923-Continued.
COTTONSEED OLI.


[^339]Table 706.-Freight rates per 100 pounds on ordinary livestock in effect January 1, 1924.

CATTLE.

| From- | To- | Rate. | From- | To- | Rate. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Cents. |  |  | Cents. |
| Battle Creek, lowa- | Chicago, Ill | 36.0 | Rifle, Colo | Kansas City, Mo_ | 50.0 |
| Hawarden, Iowa | ----do | 38.0 | Falls City, Nebr | do | 14. 5 |
| Lanark, Ill..... | do | 16.0 | Las Vegas, N. Mex | -do | 66.0 |
| Sidell, 11 | do | 24.0 | Alliance, Nebr-.--- | do | 41.5 |
| Browntown, Wis.-- | do | 19.0 | Valentine, Nebr...- | Omaha, Nebr | 28.5 |
| Monroe, Wis | do | 19.0 35.0 | Harlan, Iowa-...-- |  | 19.5 11.5 |
| Walnut Grove, | do | 41.0 | Bellefourche, S. Dak | do | 47.0 |
| Minn. |  |  | Beresford, S. Dak - | do | 27.0 |
| Divide, Mont | do | 86.5 | Mexico, Mo.......- | East St. Louis, Mo. | 18.5 |
| Miles City, Mont | do | 59.0 | Braymer, Mo-.....- | do. | 36.0 |
| Carrollton, Mo |  | 35.0 | Tarkio, Mo |  | 29.5 |
| Mexico, Mo- |  | 29.5 36.0 | Carrollton, Glinut --..- | Sioux City, Iowa |  |
| Braymer, Mo | Kansas City, | 36.0 19.0 | Walnut Grove, Minn. | Sioux City, Iowa | 29.0 |
| Lebanon, Kan | --.-do - .--- | 23.0 | Battle Creek, Iowa | -do | 14.0 |
| Alma, Kans | do | 17.0 | Hawarden, Iowa- - | -do | 12.0 |
| Mexico, Mo | do | 26.0 | Bloomfield, Nebr |  | 19.0 |
| Carrollton, Mo. | do | 20.5 | Kasson, Minn | St. Paul, Minn | 22.5 |
| Braymer, Mo- | do | 14.0 51.0 | Walnut Grove, | d | 23.0 |
| San Angelo, Tex <br> Hereford Tex |  | 51.0 47.0 | Forbes, N. Dak | -do | 36.5 |
| Fort Codins, Colo- | do | 46.5 | Pueblo, Colo | Denver, Colo | 15. 5 |
| Puedblo, Colo... |  | 46.5 | Fort Collins, Colo.- | do- | 15.5 |
|  |  |  | Las Vegas, N. Mex. | do | 46.0 |

## SWINE.

| From- | To- | Rate. |  | From- | To- | Rate. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Singledeck cars. | Doubledeck cars. |  |  | Single deck cars. | Doubledeck cars. |
|  |  | Cents. | Cents. |  |  | Cents. | Cents. |
| Washington, Iowa.- | Chicago, Ill - | 35.0 | 35.0 | Red Cloud, Nebr | Kansas City, | 28.0 | 28.0 |
| Holstein, Iowa....- | ---do..---- | 35.0 | 35.0 | Amarillo, Tex --...- | Mo. |  |  |
| Fairfield, Iowa | do | 35.0 | 35.0 | Madison, Nebr--- | --do- | 56.0 | 56.0 |
| Remsen, Iowa | do...--- | 35.0 | 35.0 | Clarkson, Nebr-.--- | Omaha, Nebr | 25.0 |  |
| Waukon, Iowa |  | 35.0 20 | ${ }_{20} 35.0$ | Holstein, Lowa-...- |  | 17.0. | 17.0 |
| Lenarkeur Center, |  | 20.5 36.5 | 30.5 36.5 | Schleswig, Lowa...- | -----dd | 17.0 | 17.0 |
| Minn. |  |  |  | Yankton, S. Dak | do | 17.0 | 17.0 |
| Mabel, Minn | do | 36.5 | 36. 5 | Kimball, S. Dak | do | 45. 0 | 45.0 |
| Browntown, Wis. | do | 29.5 | 29.5 | Wessington, S. Dak | ---do----- | 45.0 | 45.0 |
| Lancaster, Wis --- | do | 29.5 | 29.5 |  | Sioux City, | 36.0 | 36.0 |
| Crawfordsville, Ind- | do | 27.5 | 24.0 | Kimball, S. Dak...- |  |  |  |
| Wessington, S. Dak | do | 46.0 | 40.0 | Remsen, Iowa | do | 36. 0 | 36.0 |
| Beresford, S. Dak - | do- | 46.0 | 40.0 | Hartley, Iowa-....- | -do | 22.5 | 22.5 |
| Wyaconda, Mo.-..- | E. St. Louis, | 46.0 | 41.0 | Laurens, Iowa.....- | -d | 22.5 22.5 | 22.5 22.5 |
|  |  | 46.0 | 41.0 | Wakefield, Nebr | do | 17.0 | 17.0 |
| Jerseyvilhe, Ill | ----do----7--- | 22.0 | 22.0 | Porter, Mian | d | 17.0 | 17.0 |
| Rushville, Ill | -do | 22.0 | 22.0 | Rushville, Ind | --do. | 33.5 |  |
| Washington, Iowa- |  | 26.0 | 26: 0 |  | Indianapolis, | 18.5 | 16.0 |
| Fairfield, Iowa... | do | 26.0 | 26.0 | Crawfordaville, Ind- | Ind. |  |  |
| Hardin, Mo.......- | Kansas City, | 14.5 | 12.0 | Charleston, $\mathrm{ml}^{\text {M }}$ | do | 18.5 25.5 | 16.0 22.0 |
| Richmond, Mo | Mo. | 14.5 | 12.0 | Mechaniesville, Iowa. | Boston, Mass | 25.5 83.5 | 22.0 77.0 |
| Belleville, Kans. | d | 12.5 | 12.5. | Lesueur Center, |  |  |  |
| Wellsville, Kans. | do | 12.5 | 12.5 | Minn. | St Paul, | 17.5 | 17.5 |
| Wisea, Iowa | d | 28.0 | 28.0 | Mabel, Minn ${ }_{\text {Mutehinson, }}$ | Minn. |  | 17.3 |
| Oseeola, Iowa- | do | 28.0 | 288.0: | Wessington, Minn - |  | 17.5 | 17.5 |
| Walnut, Iowa |  | 28.0 28.0 | 28.9 | Messlugton, Minn - | -do-------- | 38.5 | 33.5 |

[^340]
## 1174 Yearbook of the Department of Agriculture, 1923.

Table 706.-Freight rates per 100 pounds on ordinary livestock in effect January 1, 1924-Continued.

SHEEP.

| From- | To- | Rate. |  | From- | To- | Rate. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Singledeck cars. | Doubledeck cars. |  |  | Single deck cars. | Doubledeck cars. |
|  |  | Cents. | Cents. |  |  | Cents. <br> 70.5 | Cents. 99.5 |
| Ellis, ml. | Chicago, Ill - | 19.0 | 19.0 | Lamar, Colo | Omaha,Nebr | 70.5 75.0 | 75. 5 |
| Montgomery, Ill | do | 16.0 <br> 93.0 <br> 1 | 16.0 93.0 | Caldwell, Idaho--- | do | 89.0 | 89.0 86.5 |
| Caldwell, Idaho..-- |  | 110.0 | 110.0 | Mountain Home, |  | 86.5 | 86.5 |
| Mountain Home, | do.....- | 107. 0 | 107.0 | Idaho. |  |  |  |
| Idaho. |  |  |  | Greenfield, Iowa | -_do | 29.5 | 18.5 |
| Mitchell, Nebr - | do | 69. 0 | 57.0 | Corning, Iowa | do | 24.5 | 16.0 |
| Humboldt, Nebr- | do | 46.5 | 42.0 | Heber, Utah-- | do | 71.5 68.5 | 71.5 |
| Fort Collins, Colo-- | do | 95.5 36.5 | 63.0 34.0 | Colton, Utah | do | 68. 5 | 68.5 |
| Harsell, Iowa |  | 37.0 | 37.0 | Billings, Mont....- | do | 54.5 | 54.5 |
| Miles City, Mont | do.-.---- | 66.0 | 66. 0 | Fort Collins, Colo-- | Kansas City | 66.5 | 50.0 |
| Pillings, Mont- |  | 79.0 | 79.0 |  | Mo. |  |  |
| Columbus, W is |  | ${ }_{22}^{23.0}$ | 23.0 |  |  | 17.5 | 30.5 |
| Evansville, Wis | do...---- | 22.0 123.0 | 22.0 | Larned, Kans--.-- |  | 47.5 41.0 | 30.5 27.5 |
| Heppner, Oreg |  | 123.0 | 123.0 | Heber, Utah...---- |  | 71.5 | 71.5 |
| Oaker, Oreg- |  | 93. 0 | 93.0 | Colton, Utah |  | 68. 5 | 68.5 |
| Ellensburg, Wash- | do | 123.0 | 123.0 | San Angelo, Tex |  | 66.5 | 65. 0 |
| Humboldt, Nebr.- | Omaha, Nebr | 22.5 | 14.5 | Fort Collins, Colo- | Denver, Colo | 18.5 | 15. 5 |
| Mitchell, Nebr- | ----do------ | 50.0 | 43.0 | Las Animas, Colo. | ---do------ | 40.0 | 25.0 |
| Fort Collins, Colo-. | do | 66. | 50.0 |  |  |  |  |

Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission.
Table 707.-Freight and express rates, per 100 pounds, on purebred livestock, in e.ffect April 1, 1923.

BEEF CATTLE.

| From- | To- | Freight. ${ }^{1}$ |  | Express in crates. ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Loose. | In crates. |  |
|  |  | Dol lars. | Dollars. | Dollars. |
| Denver, Colo | Reno, Nev---.-- | 2.95 3.015 |  | 8. 24 |
| Do........ | Miles City, Mont | 3. 36 |  | 6. 9.49 |
| $\begin{aligned} & \text { Do- } \\ & \text { Do_ } \end{aligned}$ | Laramie, Wyo-..-- | 1.05 |  | 2. 49 |
| Do- | Chehalis, Wash | 4. 065 |  | 9. 90 |
| Do- | Rogue River, Oreg | 2. 165 |  | 10.32 |
| Springfield, | Salt Lake City, Utah | 2. 161 | 1. 065 | 5. 27 |
| Do..... | Memphis, Tenn | 1. 10 | 3. 30 | 1. ${ }^{\text {2. }} 54$ |
| Do. | Sheridan, Mo- | 1. 06 | 1. 59 | 2. 91 |
| Indianapolis, | Cedar Rapids, Lowa | .79 1.06 | 1. 185 | 1. 94 |
| Indianapolis, | Lexington, Ky | 1. 29 | 3.87-- | 1. 36 |
| Do. | Springfield, 111 | . 725 | 2.175 | 1. 59 |
| Do. | Kansas City, M | 1. 214 |  | 3.11 3.67 |
| Iowa City | Kansas City, M | $\stackrel{1}{215}$ |  | 3. 267 |
| Do.- | Chicago, Ill- | - 790 |  | 1. 94 |
| Do- | Denver, Colo-.-..- | 1. 375 |  |  |
| Do- | Little Rock, Ark.--- | 2. 03 |  | 4. 02 |
| Kansas City, | Jackson, Miss.-.--- | 2. 235 |  | 4. 50 |
|  | Oklahoma City, Okla | 1.445 |  | 3. 25 |
| Do- | Denver, N . Mex | 2. 36 |  | 4. 57 |
| Do. | Indianaplois, Ind | 1. 69 |  | 3. 11 |
| Do-.-.---- | Cambridge, Nebr | 1.40 |  | 3. 25 |
| Cambridge, Nebr | Kansas City, Mo | 1. 2.450 |  | 3. 25 |
| Do. | Indianapolis, | 1. 295 |  | 2. 63 |
| Do- | Colorado Springs, Col | 1. 61 |  | 2. 91 |
| Do- | Helena, Mont | 1.15 |  | 7. 13 |
| Mansfield, Ohio | Reading, Pa--. | 1. 20 | 3. 60 | 2. 70 |
| Amarillo, Tex | Tucumcari, N. Mex | 1. 385 |  | 2. 08 |
| Do.-- | Roswell, N. Mex | 1. 615 |  | 2.36 |
| Do | Phoenix, Ariz | 3. 450 |  | 6.38 |

Table 707.-Freight and express rates, per 100 pounds, on purebred livestock, in effect A pril 1, 19æ3—Continued.

DAIRY CATTLE.

| From- | To- | Freight. ${ }^{1}$ |  | Express in crates. ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Loose. | In crates. |  |
| Westerville, Ohi | , | Dollars. | Dollars. | Dollars. |
| Do...- | Lee's Summit, Mo. | 1.78 | 5.34 | 1. 3.94 |
| Do- | Augusta, Ky-...- | . 615 | 1. 845 | 1. 94 |
| Do | Osawatomie, Kans | 2. 04 | 6. 12 | 3. 94 |
| Columbus, Ohio | Morristown, N. J | 1. 095 | 3. 285 | 2. 84 |
| Do-.-.-- | Toronto, Canada | . 975 | 2. 925 | 3. 60 |
| Do- | Vancouver, B. C | 5. 40 | 16. 20 | 14. 35 |
| Fon du Lac, Wis | Mason City, Iowa | . 915 | 2. 745 | 2. 28 |
| Do--- | Fargo, N. Dak | 1. 78 | 5. 34 | 4. 02 |
| Do-- | Valley City, N. Dak | 2. 2135 | 6. 305 | 4. 02 4.78 |
| Do- | Pocatello, Idaho..- | 3. 98 | 11. 94 | 9. 90 |
| Do. | Shoshone, Idaho | 4. 03 | 12. 09 | 10. 46 |
| Do. | Los Angeles, Calif | 5.10 | 15. 30 | 12,61 |
| Waterloo, Iowa | Nashville, Tenn | 1. 915 | 3. 895 | 3. 39 |
| Do. | Louisville, Ky -- | 1. 035 | 3. 105 | 3. 25 |
| Mason City, Iowa | Nashville, Tenn | 1. 915 | 3. 985 | 3. 88 |
| Do | Louisville, Ky.- | 1. 48 | 4. 44 | 3.47 |
| Utica, N. Y | Lexington, Ky | 1. 135 | 3. 405 | 3. 19 |
| Do. | Roanoke, Va- | 1. 29 | 3. 87 | 3. 25 |
| Do-- | Nashville, Tenn | 1. 835 | 4. 105 | 3.94 |
| Cooperstown, | Lexington, Ky - | 1. 135 | 3. 405 | 3. 33 |
| Do.- | Roanoke, Va-- | 1. 29 | 3. 87 | 3. 11 |
| Do.. | Nashville, Tenn | 1. 835 | 4. 105 | 4. 08 |

SHEEP.

| Cooperstown, N. Y . | Woodstock, Vt | 1.045 | 3.135 | 1. 80 |
| :---: | :---: | :---: | :---: | :---: |
| Do.-.......- | Harrsiburg, Pa | . 665 | 1.995 | 1. 94 |
| Springfield, Ohio | Detroit, Mich | . 725 | 2.175 | 1. 94 |
| Do. | Wheeling, V. Wa | . 76 | 2. 28 | 1.80 |
| Do. | Lexington, Ky | 1.00 | 3. 00 | 1. 66 |
| Do. | Nashville, Tenn | 1. 425 | 2.435 | 2.42 |
| Do. | San Angelo, Tex | 3. 145 | 9. 44 | 7.07 |
| Do | Salt Lake City, Utah | 4. 62 | 13. 865 | 9. 70 |
| Pewaukee, Wis | Kirksville, Mo. | 1.02 | 3.06 | 2. 49 |
| Do.-.----- | Ottumwa, Iowa | . 93 | 2.79 | 2. 49 |
| Salt Lake City, Ut | Walla Walla, Wash | 2. 275 | 6. 825 | 5. 54 |
| Do-- | Pendleton, Oreg | 2. 275 | 6. 825 | 5. 33 |
| Do. | Woodland, Calif | 2. 405 | 7.215 | 5. 88 |
| Do- | Flagstaff, Ariz.- | 4.33 | 12. 99 | 6. 85 |
| Do. | Boise, Idaho-- | 1. 66 | 4. 98 | 4.44 |
| Do. | Billings, Mont | 2.885 | 8.655 | 5. 95 |
| Do | Laramie, Wyo | 2. 165 | 6. 495 | 4. 44 |
| Do. | Denver, Colo | 2. 165 | 6. 495 | 5. 27 |
| Do | Albuquerque, N. Mex | 4. 035 | 12.105 | 5. 96 |
| Laramie, ${ }^{\text {D }}$ yo | San Angelo, Tex-..-- | 4. 955 3. 45 2. | 14.865 10.35 | 9. ${ }^{\text {9. }} \mathbf{}$ 61 |
| Do....-- | Salt Lake City, Utah | 2. 165 | 6. 495 | 4. 44 |

[^341]Thale 707.-Freight and express rates, per 100 pounds, on purebred livestock, in effect April 1,1923-Continued.

SWINE.


## Division of Statistical and Historical Research. Supplied by lnterstate Commerce Commission.

${ }^{1}$ These freight rates are on less than cariot shipments and apply to livestock described as "Livestock, chiefly valuable for breeding, racing, show purposes, and other special uses," subject to basie valuation as follows:

$$
\begin{aligned}
& \text { Each cow. }
\end{aligned}
$$

If values stated in Livestock contract exceed above basic values, an addition of 2 per cent should be made to the freight rate for each 50 per cent or fraction thereof in excess of the basic value.

These freight rates are further subject to the following minima :
Pounds.
One cow, calf over 6 months old, ox, steer, bull, each 3, 000
Each additional animal of above kind (except bull over 1 year old) 1, 500
Each additional bull over 1 year old. 2, 000
One cow with calf not orer 6 months old 3, 500
Each additional cow with calf over 6 months old 2, 500
Calves 6 months old or under, sheep, or hogs, minimum for each shipment
3, 000
${ }^{\text {t }}$ Express rates on beef and dairy cattle and calves, crated, each weighing not over 750 pounds gross; each weighing over 750 pounds gross, or when two or more are shipped in one crate and gross exceeds 750 pounds, subject to an additional charge of 50 per cent of the rate. When declared or released value exceeds $\$ 75$ each on cows, calves 6 months old or over, oxen, steers; $\$ 25$ each on calves under 6 months; $\$ 25$ each on hogs; $\$ 25$ each on sheep; charges should be made as follows: Between points where rate is not over $\$ 2,1$ per cent of excess value; where rate is not over $\$ 3,1 \frac{3}{2}$ per cent of excess value; where rate is not over $\$ 5,2$ per cent of excess value; where rate exceeds $\$ 5,2 \frac{1}{2}$ per cent of ex cess value.

Table 708.—Index numbers showing changes in freight rates of 50 representative agricultural products, by months, 1900-1923.
[Average for year $1913=100$.]

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P. |  |  | $P$ | $P$ | $P$. | $P$ | $P$ |  |  |  |  |  |
| 1900 | 105. 7 | 105.7 | 103.8 | 103.4 | 103. 7 | 103. 6 | 103. 7 | 103. 5 | 103. 4 | 103. 5 | 103. 9 | 103. 9 | 104 |
| 1901 | 103.8 | 104.4 | 104.4 | 104.4 | 104. 3 | 103. 5 | 103.1 | 103.1 | 103.1 | 103. 4 | 103. 9 | 103. 9 | 103. |
| 1902 | 103.9 | 103.9 | 103.9 | 103.9 | 103.7 | 103. 6 | 103. 3 | 103.1 | 102.8 | 102. 7 | 102.7 | 103. 6 | 103. |
| 1903 | 103. 9 | 103. 6 | 103.5 | 103.5 | 103.1 | 102.9 | 103. 0 | 102.9 | 102.8 | 102.6 | 102.9 | 103.7 | 103. |
| 1904 | 103.5 | 102.7 | 102.1 | 102.0 | 90.8 | 101.9 | 102.3 | 102.3 | 102.3 | 102.3 | 102.3 | 105.2 | 101. |
| 905 | 101.4 | 101.8 | 101.7 | 101.9 | 101.5 | 101.0 | 100.8 | 100.7 | 100.8 | 100.8 | 100.8 | 100.8 | 101. |
| 1906 | 101.0 | 101.0 | 101.0 | 101.0 | 101.0 | 101.0 | 100.8 | 100.3 | 100.1 | 100.1 | 100.1 | 100.2 | 100. |
| 1907 | 100.2 | 98.3 | 100.2 | 100.4 | 100.3 | 100.3 | 100.4 | 100.2 | 99.9 | 99.7 | 99.7 | 99.7 | 99. |
| 1908 | 99.7 | 99.7 | 99.7 | 99.7 | 99.9 | 100.1 | 100.1 | 100.5 | 100. 5 | 100.6 | 100.4 | 100.4 | 100. |
| 1909 | 100.0 | 100.0 | 99.9 | 99.9 | 99.9 | 99.9 | 99.9 | 100.0 | 100.1 | 100.1 | 99.9 | 99.9 | 100. |
| 1910 | 99.9 | 100.3 | 100.3 | 100.3 | 100.3 | 100.5 | 100.5 | 100.5 | 100.5 | 100.5 | 100.5 | 100.4 | 100. |
| 1911 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.5 | 100. |
| 1912 | 100.5 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.5 | 100.5 | 100.5 | 100. |
| 1913 | 100.5 | 100.5 | 100.5 | 100.5 | 100.5 | 100.5 | 100.2 | 99.5 | 99.3 | 99.3 | 99.3 | 99.3 | 100.0 |
| 1914 | 99.3 | 99.4 | 99.4 | 99.4 | 99.4 | 99.4 | 99.4 | 99.4 | 99.4 | 99.4 | 99.5 | 99.6 | 90, |
| 1915 | 99.7 | 100.0 | 100.2 | 100.2 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.5 | 100.4 | 100.4 | 100. |
| 1 | 100.6 | 100.6 | 100.6 | 100.6 | 100.6 | 100.6 | 100.6 | 100.6 | 100.7 | 100.7 | 100.7 | 100.7 | 100.6 |
| 1917 | 100.7 | 100. 7 | -100. 8 | 100.8 | 100.8 | 100.8 | 100.8 | 101. 6 | 101.9 | 102.2 | 102.4 | 102.4 | 101.3 |
| 1918 | 102.4 | 102.4 | 102.4 | 103.2 | 103.3 | 108.8 | 130.7 | 130.7 | 130.7 | 130.5 | 130.3 | 130.3 | 117.1 |
| 1919 | 130.3 | 130.3 | 130.4 | 130.5 | 130.5 | 130.8 | 130.8 | 130.5 | 130.7 | 131.4 | 131.4 | 131.6 | 130.8 |
| 1920 | 131.8 | 131.8 | 132.1 | 132.1 | 132.1 | 131.9 | 131.7 | 140.2 | 176.1 | 176.1 | 176.1 | 176.3 | 147.4 |
| 1921 | 176. 8 | 176.8 | 177.3 | 177.8 | 177.8 | 177.8 | 177.7 | 177.4 | 177.2 | 176.1 | 175.8 | 175.8 | 177.0 |
| 1922 | 161. 5 | 161.4 | 161.4 | 161.7 | 161.5 | 158.2 | 158.0 | 158.0 | 158.3 | 158.2 | 158.2 | 158.2 | 159.2 |
| 23 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.2 | 158.6 |

Division of Statistical and Historical Research.
The commodities and rates on which this index is based will be found in the Yearbook, 1922, pp. 1013-18. Except for the following corrections of rates in effect Jan. 1, 1923, no changes in the rates used in the index took place during 1923:

Rate on potatoes from Greeley, Colo., to Chicago should be
Rate on potatoes from Idaho Falls, Idaho, to St. Louis should be
Rate on eggs from Petaluma, Calif., to Chicago should be ${ }^{260}$
Rate on corn from Sperry, Iowa, to Los Angeles City should be-

Rate on cattle from Amarillo, Tex., to Kansas City, Mo., should be-
Rate on cattle from Garretson, S. Dak., to Sioux City, Iowa, should be. 20

## FERTILIZER MATERIALS AND FERTILIZER.

Table 709.-Pyrites: Production, price and value, 1904-1922.
PRODUCTION.

| State. | Calendar years. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 |
|  | Long tons. | Long tons. | Long tons. | Long tons. | Long tons. | Long tons. | Long tons. |
| Alabama | \} 18, 369 | 19, 928 | 26, 173 | 28,281 | 23, 915 | 15,848 |  |
| California | 26, 902 | 61,748 | 52,926 | 51, 950 | 30,545 | 51, 266 | 23,700 |
| Ilinois-- |  |  |  |  | 4,905 | 8,332 | 10,502 |
| Indiana--..-- | -4,465 | 3,107 $.24,155$ | 2, 579 | 4, 929 | 4,005 | 8,332 |  |
| New York. | 5,285 | 11, 935 | 46, 218 | 30,671- | \} 40,362 | 47,987 | 38, 978 |
| Ohio--- | $\begin{array}{r}4,837 \\ \hline\end{array}$ | 8, 944 | 4,732 14 | 6, 816 | 6,531 | -9,461 | - 3,766 |
| Virginia- | 120,671 | 123, 183 | 128, 794 | 124, 740 | 116, 340 | 114, 176 | 148,653 |
| W isconsin |  |  |  |  |  |  | 12,555 |
| Total | 207, 081 | 253, 000 | 261, 422 | 247, 387 | 222, 598 | 247, 070 | 238, 154 |

1178 Yearbook of the Department of Agriculture, , ${ }^{7} 923$.
Table 709.-Pyrites: Production, price and value, 1904-1922-Continued.
PRODUCTION-Continued.

| State | Calondar years. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 |
|  | Long tons. | Long tons. | Long tons. | Long tons. | Long tons. | Long tons. |
| Georgia |  |  | 11, 110 |  |  |  |
| Chlifornia | 48, 415 | 61,812 | 70,536 | 71, 272 | 132, 270 | 145, 762 |
| Illinois | 17,441 | 27,008 | 11,246 | 22, 538 | 14, 849 | 20, 482 |
| Indiana |  | 1,462 | 1,242 | 1,710 | ${ }^{10} 972$ | 772 |
| Ohio- | 6,471 | 14,487 | 13, 622 | 7,279 | 10, 857 | 13,551 |
| Virginia | 150, 800 | 162, 478 | 148, 259 | 141, 276 | 145, 050 | 148, 502 |
| Wisconsin | 12, 893 | 17, 898 | 25, 328 | 14, 188 | 13,985 |  |
| Other States | 65,438 | 65, 783 | 59,995 | 78,399 | 76, 141 | 94,487 |
| Total | 301, 458 | 350, 928 | 341,338 | 336, 662 | 394, 124 | 423, 556 |
| State. | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Colorado | Long tons. $20,000$ | Long tons. 18, 817 | Long tons. $17,474$ | Long tons. 25, 523 | Long tons. $7,290$ | Long tons. |
| Georgia | 23, 242 | 31, 315 | 34,412 |  |  |  |
| California | 115, 817 | 111, 861 | 128, 803 | 128, 114 | 98, 252 | --------- |
| Illinois | 24,596 | 24, 369 | 13, 353 |  |  |  |
| New York |  | 63, 982 | 60, 544 | 30,753 |  |  |
| Missouri |  | 7,674 |  |  |  |  |
| Ohio. | 13,218 | 9,845 | 4, 609 |  |  |  |
| Virginia. | 170, 382 | 143, 427 | 119, 164 | 100, 545 |  |  |
| Wisconsin |  |  | 26, 053 |  |  |  |
| Other States | 115, 407 | 53, 204 | 16,235 | 25,842 | 51, 576 |  |
| Total | 482, 662 | 464, 494 | 420, 647 | 310, 777 | 157, 118 | 169, 043 |

AVERAGE PRICE PER TON.

| State. | Calendar years. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 |
|  | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. | Dolls. |
| Alabama | 4.14 | 3.61 | 3.01 | 3.02 | 2.91 | 4.88 |  |  |  | $\left\{\begin{array}{l}-9 \\ \hline-9\end{array}\right.$ |  |  | ----- |
| California | 4.94 | 4.01 | 4.48 | 3.36 | 4.31 | 4.96 | 4.65 | 3. 78 | 3.26 | 4.96 3.10 | 3.30 | 3.75 | 3.88 |
| Illinois. |  |  |  |  | 2. 89 | 2.77 | 3. 21 | \{2.70 | 2. 33 | 2.84 | 2. 62 | 1.51 | 2. 51 |
| Indiana. | 3. 64 | - 3.70 | 2.78 | 2.98 | \} 2.89 | 2.77 | 3.21 |  | 3.89 | 2.51 | 3. 09 | 3. 17 | 3.17 |
| Massachusetts | 4.34 | 4.50 |  |  | Y4. 61 |  |  |  |  |  |  |  |  |
| New York | 3.35 | 3.34 | 3.52 | 4.14 | \}4. 61 | 4.61 | 4.80 |  |  |  |  |  |  |
| Ohio---- | 3. 29 | 3. 66 | 3. 05 | 3. 05 | 3. 05 | 3. 07 | 3.41 | 2.78 | 3. 03 | 2. 57 | 2.71 | 2. 52 | 2. 67 |
| Virginia | 3. 65 | 3.46 | 3.35 | 2.99 | 3. 74 | 3. 71 | 3.80 | 3. 70 | 3.82 | 3. 96 | 3. 94 | 5. 03 | 6.23 |
| Wisconsin |  |  |  |  |  |  | 3. 94 | 3. 88 | 3. 94 | 3. 74 | 5. 53 | 3. 10 |  |
| Other States |  |  |  |  |  |  |  | 4.71 | 4.99 | 4.34 | 4. 20 | 4.63 | 4.07 |
| Average | 3.93 | 3.71 | 3.56 | 3.21 | 3.85 | 4. 16 | 4. 03 | 3.86 | 3.80 | 3. 77 | 3.81 | 4.25 | 4.64 |
| State. |  |  |  | 1917 |  | 1918 |  | 1919 | 1920 |  | 1921 | 1922 |  |
| Colorado |  |  |  | Dolls. <br> 5.38 <br> 6.69 <br> 2.88 <br> 3.66 |  | Dolls. 6.15 |  | Dolls. <br> 4.88 | Dolls. 4.84 |  | Dolls. $\text { 2. } 53$ | Dolls. |  |
| Georgia |  |  |  |  |  | 8. 58 |  | 10.16 |  |  |  |  |  |
| California. |  |  |  |  |  | 4.48 |  | 4.12 |  | 4. 05 | 4.76 |  |  |
| New York |  |  |  |  |  | 3.52 |  | 3. 73 |  | 8. 51 |  |  |  |
| Missouri |  |  |  |  |  | $9.02$ |  |  |  |  |  |  |  |
| Ohio |  |  |  |  | 2. 24 | 4.08 |  | 3.66 |  |  |  |  |  |
| Virginia |  |  |  |  | 8.09 | 5.86 |  | 7.48 |  | 6. 07 |  |  |  |
| Other States.-. <br> Average. |  |  |  |  |  |  |  | . 74 |  |  |  |  |  |
|  |  |  |  |  | 4.32 | 5.62 |  | 9.24 |  | 3. 19 | 4.36 |  |  |
|  |  |  |  |  | 5.37 | 5.69 |  | 6.08 |  | 5. 14 | 4.53 |  | 3.97 |

Table 709.—Pyrites: Production, price an:l value, 1904-1922—Continued.
value.


Division of Statistical and Historical Research. Compiled from reports of Geological Survey.
Table 710.-Phosphate rock: Production by States, based on the quantity marketed, 1891-1922.

| State and item. |  |  | Calendar years. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1891 |  |  | 1892 |  |  |
|  | Quantity. | Value. | Value per ton. | Quantity. | Value. | Value per ton. |
| Florida: Hard rock | Long tons. | Dollars. | Dollars. | Long tons. 155, 908 | Dollars. 859, 276 | Dollars. 5. 51 |
| Soft rock | 57, $98 \mathbf{8}$ |  |  | 15,710 | 82, 418 | 5. 4 83 |
| Land pebble. |  |  |  | 21,905 | 111, 271 | 5.08 |
| River pebble. | 54, 500 |  |  | 102, 820 | 415,453 | 4.04 |
| Total | 112, 482 | 703, 013 | 6.25 | 287, 343 | 1,418.418 | 4.94 |
| South Carolina: |  |  |  |  |  |  |
| Land rock | 344, 978 | 2, 187, 160 | 6.34 | 243, 653 | 1,236, 447 | 5.07 |
| River rock | 130, 528 | 760, 978 | 5.83 | 150, 575 | 641, 262 | 4. 26 |
| Total | 475, 506 | 2, 948, 138 | 6. 20 | 394, 228 | 1, 877, 709 | 4.76 |
| Grand total. | 587, 988 | 3, 651, 151 | 6.21 | 681, 571 | 3, 296, 127 | 4.84 |

1180 Yearbook of the Department of Agriculture, 1923.
Table 710.-Phosphate rock: Production by States, based on the quantity marketed, 1891-1922-Continued.

| State and item. | $C$ alendar years. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1893 |  |  | 1894 |  |  |
|  | Quantity. | Value. | Value per ton. | Quantity. | Value. | Value per ton. |
| Florida: <br> Hard rock <br> Soft rock <br> Land pebble $\qquad$ <br> River pebble. $\qquad$ <br> Total $\qquad$ <br> South Carolina: <br> Land rock $\qquad$ <br> River rock. $\qquad$ <br> Total $\qquad$ <br> Tennessee $\qquad$ <br> Grand total | Long tons. 215, 685 | Dollars. <br> 1, 117, 732 | Dollars. 5. 18 | Long tons. 326, 461 | Dollars. 979, 383 | Dollars. $3.00$ |
|  | 13, 675 | - 64, 626 | 4. 73 |  |  |  |
|  | 86, 624 | 359, 127 | 4.15 | 98, 885 | 296, 655 | 3.00 |
|  | 122, 820 | 437, 571 | 3.56 | 102, 307 | 390, 775 | 3.82 |
|  | 438, 804 | 1,979, 056 | 4.51 | 527, 653 | 1, 666, 813 | 3.16 |
|  | 308, 435 | 1, 408, 785 | 4. 57 | 307, 305 | 1, 252, 768 | 4.08 |
|  | 194, 129 | 1, 748, 229 | 3.85 | 142, 803 | 492, 808 | 345 |
|  | 502, 564 | 2, 157, 014 | 4. 29 | 450, 108 | 1,745,576 | 3.83 |
|  | ----------- | --------- | --------- | 19,188 | 67,158 | 350 |
|  | 941, 368 | 4, 136,070 | 4.39 | 996, 949 | 3, 479, 547 | 3.49 |
|  | 1895 |  |  | 1896 |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Soft rock | 6,916 | 32, 000 | 4. 63 | 400 97 | 2, 300 | 5.75 |
| Land pebble. | 181, 011 | 593, 716 | 3. 28 | 97,936 100,052 | 176,972 300,556 | 1.81 3.00 |
| River pebble | 73, 036 | 185, 090 | 2.53 | 100, 052 | 300, 556 | 3.00 |
| Total | 568, 061 | 2, 112, 902 | 3. 72 | 495, 199 | 1,547, 353 | 3.12 |
| South Carolina: |  |  |  |  |  |  |
| River rock | 161,415 | 512, 245 | 3.32 3.17 | 135, 351 | 389, 192 | 2.88 |
| Total | 431, 975 | 1, 411, 032 | 3. 27 | 402, 423 | 1, 181, 649 | 2.94 |
| T'ennessee <br> North Carolina | 38, 515 | 82, 160 | 2.13 | 26,157 7,000 | 57,370 <br> 17,000 | 2.19 <br> 2.43 |
| Grand total. | 1, 038, 551 | 3,606, 094 | 3.47 | 930,779 | 2, 803, 372 | 3.01 |
|  | 1897 |  |  | 1898 |  |  |
| Florida: |  |  |  |  |  |  |
| Hard rock | 360, 147 | 1, 063, 713 | 2. 95 | 366, 810 | 1,396, 108 | 3.81 |
| Soft rock | 2, 300 | 4, 600 | 2. 00 |  |  |  |
| Land pebble | 92, 132 | 180, 794 | 1. 96 | 155, 084 | 293,688 158,000 | 1.89 2.00 |
|  |  |  |  |  |  |  |
| Total | 552, 342 | 1, 493, 515 | 2. 70 | 600, 894 | 1,847, 796 | 3.08 |
| South Carolina: |  |  |  |  |  |  |
| River rock. | 267,380 90 | 238, 522 | 2. 2.82 | 101, 274 | 251, 047 | 2. 48 |
| Total <br> Tennessee <br> Grand total | 358, 280 | 986, 572 | 2.75 | 399, 884 | 1, 107, 272 | 2. 77 |
|  | 128, 723 | 193, 115 | 1.50 | 308, 107 | 498, 392 | 1.62 |
| Grand total | 1, 039, 345 | 2,673,202 | 2.57 | 1,308, 885 | 3, 453, 460 | 2. 64 |
|  | 1899 |  |  | 1900 |  |  |
| Florida: |  |  |  |  |  |  |
| Hard rock |  | $\begin{array}{r} 2,119,130 \\ 515,458 \\ 169,473 \end{array}$ | $\begin{aligned} & \text { 4. } 60 \\ & \text { 2. } 91 \\ & 1.91 \end{aligned}$ | $\begin{array}{r} 424,977 \\ 221,403 \\ 59,863 \end{array}$ | $\begin{array}{r} 2,229,373 \\ 612,703 \\ 141,236 \end{array}$ | 5. 252.772. 36 |
| Land pebble. | 177, 170 |  |  |  |  |  |
| River pebble. | 88, 953 |  |  |  |  |  |
| Total | 726, 420 | 2, 804, 061 | 3.86 | 706, 243 | 2,983, 312 | 4. 22 |
| South Carolina: |  |  |  |  |  |  |
| Land rock. | $\begin{aligned} & 223,949 \\ & 132,701 \end{aligned}$ | $\begin{aligned} & 738,969 \\ & 339,130 \end{aligned}$ | 3.30 2.56 | $\begin{array}{r} 266,186 \\ 62,987 \end{array}$ | $\begin{aligned} & 877,405 \\ & 164,565 \end{aligned}$ | $\begin{aligned} & 3.30 \\ & 2.61 \end{aligned}$ |
| River rock |  |  | 2. 56 |  |  |  |
| Tot | 356, 650 | 1,078, 099 | 3.02 | 329, 173 | 1,041, 970 | 3.17 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Grand total. | 1, 515, 702 | 5, 084, 076 | 3.35 | 1, 491, 216 | 5, 359, 248 | 3.59 |

Table 710.-Phosphate rock: Production by States, based on the quartity marketed, 1891-1983-Continued.


## 1182 Yearbook of the Department of Agriculture, 1923.

Table 710.-Phosphate rock: Production by States, based on the quantity marketed, 1891-1922-Continued.

| State and item. | Calendar years. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1907 |  |  | 1908 |  |  |
|  | Quantity. | Value. | Value per ton. | Quantity. | Value. | Value per ton. |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Total | 1, 357, 365 | 6, 577, 757 | 4.85 | 1, 692, 102 | 8, 484, 539 | 5.01 |
| South Carolina: |  |  |  |  |  |  |
| Land rock | 228, 354 | 883, 965 | 3.87 | 192, 263 | 854, 837 | 4.45 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Blue rock. | 38, 993 | 142, 382 | 3. 65 | 79, 717 | -299, 941 | 3. 78 |
| White rock | 5,025 | 24, 550 | 4.89 | 1, 600 | 4,755 | 2.97 |
|  |  |  |  |  |  |  |
| Other States <br> Grand total | 12, 145 | 47,098 | 3.88 | 13, 110 | 47, 483 | 3. 62 |
|  | 2, 265, 343 | 10, 653, 558 | 4. 70 | 2, 386, 138 | 11, 399, 124 | 4. 78 |
|  | 1909 |  |  | 1910. |  |  |
| Florida: |  |  |  |  |  |  |
| Hard rock.- | 513, 585 |  | 7.84 | 438,347 | 3, 051, 827 | 6. 96 |
| Land pebble | 1,266, 117 | 4,514, 968 | 3.56 | 1,629, 160 | 5, 595, 947 | 3. 43 |
| Total | 1,779, 702 | 8,541, 301 | 4. 79 | 2,067,507 | 8, 647, 774 | 4.18 |
| South Carolina: 201,254 888,611 4,41 179,659 733,057 4.08 |  |  |  |  |  |  |
| River rock | 201, 6,700 | 888,611 21,975 | 4.41 | $\underset{(1)}{179,659}$ | (1) ${ }^{733,057}$ | 4.08 |
| Total | 207, 954 | 910,586 | 4.37 | 179, 659 | 733, 057 | 4.08 |
| Tennessee: |  |  |  |  |  |  |
| Brown rock | 266, 298 | 1, 011, 028 | 3. 79 | 329, 382 | 1, 262, 279 | 3. 83 |
| Blue rock | 66, 705 | 275, 165 | 4.12 | 68,806 | 241, 071 | 3. 50 |
| Total | 333, 003 | 1,286, 193 | 3.86 | 398, 188 | 1, 503, 350 | 3.78 |
| Other States............. | 9,493 | 34, 040 | 3.58 | 9,634 | 32,819 | 3.41 |
|  | 2,330, 152 | 10,772, 120 | 4.62 | 2, 654, 988 | 10, 917, 000 | 4.11 |
|  | 1911 |  |  | 1912 |  |  |
| Florida: |  |  |  |  |  |  |
| Mard rock | 443, 511 | 2, 761, 449 | 6. 23 | 493, 481 | 3, 293, 168 | 6. 67 |
| Land pebble. | ${ }^{2} 1,992,737$ | 6,712, 189 | 3.37 | ${ }^{2} 1,913,418$ | 6, 168, 129 | 3. 22 |
| Total | 2, 436, 248 | 9, 473, 638 | 3.89 | 2, 406, 899 | 9, 461, 297 | 3.93 |
| South Carolina:       <br> Land rock...................- 169,156 673,156 3.98 131,490 524,760 3.99 |  |  |  |  |  |  |
| Tennessee: |  |  |  |  |  |  |
| Brown rock | 365, 068 | 1,450, 063 | 3.97 | 359, 692 | 1, 420, 726 | 3. 95 |
| Blue rock | 72, 302 | 263, 954 | 3.65 | 63, 639 | 219, 750 | 3. 45 |
| Total | 437, 370 | 1, 714, 017 | 3.92 | 423, 331 | 1,640, 476 | 3.88 |
|  | 10,505 | 39,882 | 3.80 | 11,612 | 49, 241 | 4. 24 |
| Grand total | 3, 053, 279 | 11,900,693 | 3.90 | 2, 973, 332 | 11, 675, 774 | 3.93 |

${ }^{2}$ Includes small amount of river pebble.

Table 710.-Phosphate rock: Production by States, based on the quantity marketed, 1891-1922-Continued.

| State and item. | Calendar years. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1913 |  |  | 1914 |  |  |
|  | Quantity. | Value. | Value per ton. | Quantity. | Value. | Value per ton. |
| Florida: <br> Hard rock Land pebble <br> Total-.-. <br> South Carolina: Land rock | $\begin{gathered} \text { Long tons. } \\ 489,794 \\ { }^{2} 2,055,482 \end{gathered}$ | Dollars. <br> 2, 987, 274 <br> $6,575,810$ | $\begin{array}{r} \text { Dollars. } \\ 6.10 \\ 3.20 \end{array}$ | $\begin{gathered} \text { Long tons. } \\ 309,689 \\ 21,829,202 \end{gathered}$ | Dollars. <br> 1,912, 197 <br> 5, 442, 547 | Dollars. <br> 6. 17 <br> 2. 98 |
|  | 2, 545, 276 | 9, 563, 084 | 3.76 | 2, 138, 891 | 7, 354, 744 | 3.44 |
|  | 109, 333 | 440, 588 | 4.03 | 106, 919 | 415, 039 | 3.83 |
| Tennessee: Brown rock Blue rock- | 451, 559 | 1, 774, 392 | 3.93 | 483, 203 | 1, 822, 770 | 3.77 |
| Total | 451, 559 | 1,774, 392 | 3. 93 | 483, 203 | 1,822, 770 | 3.77 |
| Other States $\qquad$ <br> Grand total $\qquad$ | 5, 053 | 18, 167 | 3.60 | 5, 030 | 15, 488 | 3.08 |
|  | 3,111, 221 | 11, 796, 231 | - 3.79 | 2, 734, 043 | 9, 608, 041 | 3.51 |
|  | 1915 |  |  | 1916 |  |  |
| Florida: <br> Hard rock Land pebble Total | $\begin{array}{r} 50,130 \\ 21,308,481 \end{array}$ | $\begin{array}{r} 265,738 \\ 3,496,501 \end{array}$ | $\begin{aligned} & \text { 5. } 30 \\ & \text { 2. } 67 \end{aligned}$ | $\begin{array}{r} 47,087 \\ 21,468,758 \end{array}$ | $\begin{array}{r} 295,755 \\ 3,874,410 \end{array}$ | $\begin{aligned} & \text { 6. } 23 \\ & \text { 2. } 64 \end{aligned}$ |
|  | 1,358,611 | 3, 762, 239 | 2.77 | 1,515,845 | 4, 170, 165 | 2. 75 |
| South Carolina: Land rock. |  | 310, 850 | 3.72 | 53,047 | 211, 125 | 3.98 |
| Tennessee: <br> Brown rock Blue rock White rock | 389, 759 | 1,327, 747 | 3.41 | $\begin{array}{r} 364,108 \\ 47,1 \end{array}$ | $\begin{array}{r} 1,357,888 \\ 152,465 \end{array}$ | $\begin{aligned} & 3.73 \\ & 3.20 \end{aligned}$ |
| Total $\qquad$ <br> Other States $\qquad$ <br> Grand total $\qquad$ | 389, 759 | 1,327, 747 | 3.41 | 411, 790 | 1, 510, 353 | 3. 67 |
|  | 3,837 | 12, 613 | 3.29 | 1,703 | 5,350 | 3.14 |
|  | 1,835, 667 | 5, 413, 449 | 2.95 | 1,982, 385 | 5, 896, 993 | 2.97 |
|  | 1917 |  |  | 1918 |  |  |
| Florida: <br> Hard rock <br> Soft rock <br> Land pebble <br> Total | $\}_{1} \begin{array}{r} 18,608 \\ 12,003,991 \end{array}$ | $\begin{array}{r} 159,366 \\ 5,305,127 \end{array}$ | $\begin{aligned} & 8.56 \\ & 2.65 \end{aligned}$ | $\left\{\begin{array}{r} 62,052 \\ 8,331 \\ 21,996,847 \end{array}\right.$ | $\begin{array}{r} 377,075 \\ 14,103 \\ 5,565,928 \end{array}$ | $\begin{array}{r} 6.08 \\ 17.66 \\ 2.79 \end{array}$ |
|  | 2, 022, 599 | 5,464, 493 | 2. 70 | 2,067, 230 | 6,090, 106 | 2.95 |
| South Carolina: Land rock. | 33,485 | 138, 482 | 4. 14 | 37,040 | 164, 650 | 4.45 |
| Tennessee: Brown rock. Blue rock. | $\begin{array}{r} 447,203 \\ 65,904 \end{array}$ | $\begin{array}{r} 1,820,533 \\ 205,820 \end{array}$ | $\begin{aligned} & \text { 4. } 29 \\ & 3.12 \end{aligned}$ | 374, 535 | 1,917, 546 | 5. 12 |
| Total | 513, 107 | 2, 126, 353 | 4.14 | 374, 535 | 1,917,546 | 5.12 |
| Grand total. | 15, 096 | 41, 756 | 2.77 | 11,955 | 42, 161 | 3.53 |
|  | 2, 584, 287 | 7, 771, 084 | 3.01 | 2, 490, 760 | 8, 214, 463 | 3.30 |

${ }^{2}$ Includes small amount of river pebble.

1184 Yearbook of the Department of Agriculture, 1923.
Table 710.-Phos phate rack: Production by States, based on the quantity marketsd, 189:1-1928-COntinued.


Division of Statistical and Historical Research. Compiled from reports of Geological Survey.
Table 711.-Lime and peat, for fertilizer: Production and value, United States, 1908-1922.

| Calendar year. | Quantity. |  |  | Value |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hydrated lime. | Limestone pulverized | Peat. | $\begin{aligned} & \text { Hydrated } \\ & \text { lime. } \end{aligned}$ | Limestone pulverized. | Peat. |
| 1908 | Short.tons. | Short tons. | Short tons. | Dollars. | Dollars. | Dollars. <br> 121, 210 |
| 1909 |  |  | 26, 768 |  |  | 118, 891 |
| 1910 |  |  | 37, 024 |  |  | 140, 209 |
| 1911. |  | 174, 290 | 51,733 |  | 311, 702 | 257, 2022 |
| 1912 |  | 408, 627 | -28,460 |  | 493, 718 | 169, 600 |
| 1914 | 126, 136 | 615, 197 | 37,729 | 548, 692 | 688, 961 | 249, 899 |
| 1915 |  | 810, 399 | 38,304 |  | 893, 530 | 258, 417 |
| 1916 | 184, 944 | 1,066, 376 | 48, 106 | 869,654 | 1,146, 582 | 336, 074 |
| 1917 | 177,815 | 1, 040, 248 | 92,263 79 |  |  |  |
| 1918 | 181, 890 | 1,091, 918 | 79, 573 | 1, 452, 436 | 1,626, 292 | 775, 313 |
| 1919 | 198, 165 | 1,392, 914 | 54,690 | 1,784, 110 | 2, 409, 460 | 557, 240 |
| 1920 | 148, 981 | 1, 364, 260 | 63,272 29,460 | 1, 525, 950 | $2,724,209$ $.2,355,389$ | 773,635 |
| 1921 | 142,582 150,423 | $1,311,520$ $1,195,000$ | -29, 5174 | 1, $1,254,894$ | 2, 150, 435 | 369,165 |
| 1922 |  |  |  |  |  |  |

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

Table 712.-Lime, for agricultural purposes: Production and value, 1915-1922.
PRODUCTION.

| State. | Calendar years. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1915 | 1916 | 1917 | 1918 | 1919 | 1929 | 1921 | 1922 |
|  | Short tons. | Short tons. | Short tons. | Shortions. | Short tons. | Short tons. | Short tons. | Shoritons. |
| Alabama_ | 379 | 592 | 1,791 | 1,947 |  |  |  |  |
| California | 6,219 | 5, 386 | 6,196 | 850 |  |  | 559 | 2,756 |
| Connecticut | 1,066 |  |  |  |  |  |  |  |
| Indiana ---- | 6, 207 | 3, 401 | 2, 297 | 1,303 | 5,868 | 3,475 | 1,182 | 5,017 |
| Kentucky .-. | 188 | 241 |  |  |  |  |  |  |
| Maine |  | 9,553 | 10, 243 | 8,017 | 8, 763 | 7,810 | 8,207 | 8,912 |
| Maryland | 113,176 | 109, 468 | 85, 633 | 68, 807 | 76, 770 | 64, 193 | 50, 543 | 44, 053 |
| Massachusetts | 4, 257 | 4,500 | 5,073 | 3, 089 | 4,673 | 4,552 | 2,902 | 4,628 |
| Missouri | 676 |  | 4,317 | 193 | 1,123 | 1,891 |  | 1,081 |
| New Jersey | 8,909 | 6,517 | 5, 002 | 2, 208 | 4, 154 | 2,997 |  | 2,078 |
| New York | 26, 824 | 12, 649 | 9,588 | 5,931 | 6, 206 | 3, 323 | 3, 917 | 2,751 |
| Ohio | 54, 118 | 49, 527 | 29,997 | 40, 001 | 27, 696 | 11, 195 | 16,969 | 25, 332 |
| Pennsylvania | 345, 960 | 318, 722 | 246, 608 | 200, 073 | 232, 831 | 202, 830 | 152, 667 | 137, 460 |
| Tennessee. | 3,520 | 2,080 | 1,904 | 3, 311 | 730 2,072 | 377 752 | 614 1,278 | 1,392 |
| Vermont |  | 1,276 | 502 | 2, 201 | 2,072 | 752 | 1,278 | 1,111 |
| Virginia | 45, 149 | 38,751 | 44,335 | 34, 444 | 35,712 | 26, 974 | 21,793 | 16, 420 |
| West Virginia | 32, 558 | 41,507 | 21,999 | 16, 053 | 25, 253 | 17,449 | 17, 746 | 15, 287 |
| W isconsin | 378 |  | ,954 | , 241 | 433 | ${ }_{2} 356$ | 5, 145 | +657 |
| Other States | 22,954 | 8,291 | 10,931 | 1,555 | 4,698 | 2, 280 | 5,768 | 3,192 |
| Total | 672, 538 | 612, 461 | 487, 370 | 390, 224 | 436, 982 | 350, 454 | 284, 290 | 272, 127 |
| Hawaii |  |  |  |  |  | 475 922 | 75 357 |  |
| Porto Rico | 722 | 1,066 | 927 | 823 | 1,650 | 922 | 357 | 599 |
| Total | 673, 260 | 613,527 | 488, 297 | 391, 047 | 438, 632 | 351, 851 | 284, 722 | 272, 726 |

VALUE.

| Alabama | Dollars. $1,308$ | Dollars. $2,246$ | $\begin{array}{r} \text { Dollars. } \\ 9,816 \end{array}$ | Bollars. 17, 436 | Dollars. | Dollars. | Dollars. | Dollars. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| California | 28,606 | 31, 974 | 32, 447 | 8,304 |  |  | 4,988 | 35, 774 |
| Connecticut | 4,667 20,065 | 14,598 | 12, 143 | 6,122 | 49, 461 | 33, 210 | 11,328 | 39, 741 |
| Kentucky- | 525 | 790 |  |  |  |  |  |  |
| Maine |  | 39,729 | 35, 216 | 46, 168 | 59, 558 | 39,157 | 51,978 | 48, 283 |
| Maryland | 356, 768 | 407, 930 | 463, 081 | 534, 852 | 655, 704 | 614, 097 | 441, 085 | 351, 482 |
| Massachuse | 11, 325 | 12, 226 | 18, 185 | 35, 450 | 25, 532 | 26,096 | 15, 082 | 19,163 |
| Missouri | 2,467 |  | 26, 844 | 1,706 | 8,540 | 20,770 |  | 11, 736 |
| New Jersey | 27, 610 | 22, 202 | 18, 978 | 12, 268 | 21,997 | 23, 920 |  | 18,382 |
| New York | 81, 468 | 44, 891 | 40, 540 | 27,868 | 34,574 | 23, 912 | 30, 334 | 22, 613 |
| Ohio | 203, 221 | 224, 120 | 161, 205 | 275, 561 | 212, 156 | 99, 219 | 125, 844 | 177,571 |
| Pennsylva | 995, 703 | 1,036, 222 | 1, 218, 316 | 1,343, 636 | 1,706, 027 | 1,792, 948 | 1, 183, 361 | 1,021,092 |
| Tennessee | 9,150 | 4,410 | 9, 835 | 15, 333 | 6, 020 | 2, 465 | ${ }^{5}, 217$ | 11,752 |
| Vermon |  | 3, 864 | 1,380 | 8,288 | 15, 474 | 5,157 | 7,687 | 6, 262 |
| Virginia | 170, 557 | 147, 843 | 235, 568 | 232, 204 | 290, 032 | 208, 190 | 161,653 | 109, 968 |
| West Virgin | 111, 921 | 160, 959 | 106, 892 | 116, 554 | 191, 125 | 160, 091 | 130, 982 | 101,075 4,523 |
| Wisconsin | 606 135,031 |  | 5,024 74,938 |  | 4,754 49,495 | 1,824 25,944 | 666 54,154 | 4,523 21,814 |
| Other State | 135, 031 | 65, 8 | 74,938 | 10, 267 |  |  |  |  |
| Tot | 2, 160, 998 | 2, 219, 888 | 2, 470,408 | 2, 692, 519 | 3, 330, 449 | 3, 077, 000 | 2, 230, 359 | 2, 001, 231 |
| Porto Ric | 2,876 | 4, 513 | 5, 323 | 6, 329 | -14, 590 | 11, 392 | 5,651 | 3, 851. |
| Tota | 2, 163, 874 | 2, 224, 401 | 2, 475, 731 | 2, 698, 848 | 3, 345, 039 | 3, 096, 705 | 2, 237, 510 | 2, 005, 082 |

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

1186 Yearbook of the Department of Agriculture, 1923.
Table 713.-Phosphate rock, pyrites, and marl: Production and value for fertilizer, United States, 1880-1922.

| Calendar year. | Quantity. |  |  | - Value. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Phosphate rock. | Pyrites. | Marl. | Phosphate rock. | Pyrites. | Marl. |
| 1880 | Long tons. 211, 377 | Long tons. 2, 000 | Long tons. <br> 1,000,000 | Dollars. <br> 1,123, 823 | Dollars. $5,000$ | Dollars. 500, 000 |
| 1881 | 266, 734 | 10,000 | 1,000,000 | 1,980, 259 | 60,000 | 500, 000 |
| 1882 | 332, 077 | 12,000 | 1, 080,000 | 1,992, 462 | 72, 000 | 540,000 |
| 1883 | 378, 380 | 25, 000 | 972, 000 | 2, 270, 280 | 137, 500 | 486,000 |
| 1884 | 431, 779 | 35, 000 | 875, 000 | 2, 374, 784 | 175, 000 | 437, 500 |
| 1885 | 437, 856 | 49,000 | 875, 000 | 2, 846, 064 | 220,500 | 437, 500 |
| 1886 | 430, 549 | 55, 000 | 800, 000 | 1, 872, 936 | 220, 000 | 400,000 |
| 1887 | 480, 558 | 52, 000 | 600, 000 | 1, 836, 818 | 210, 000 | 300,000 |
| 1888 | 448, 567 | 54, 331 | 300, 000 | 2, 018, 552 | 167, 658 | 150, 000 |
| 1889 | 550, 245 | 93,705 | 139, 522 | 2, 937, 776 | 202, 119 | 63, 956 |
| 1890 | 510, 499 | 99, 854 | 153, 620 | 3, 213,795 | 273, 745 | 69, 880 |
| 1891 | 587, 988 | 106, 536 | 135, 000 | 3, 651, 151 | 338, 880 | ${ }^{67,500}$ |
| 1892 | 681, 571 | 109,788 | 125, 000 | 3, 296, 227 | 305, 191 | 65, 000 |
| 1893 | 941, 368 | 75, 777 | 75, 000 | 4, 136, 070 | 256, 552 | 40,000 |
| 1894 | 996, 949 | 105, 940 | 75, 000 | 3,479,547 | 363, 134 | 40, 000 |
| 1895 | 1, 038, 551 | 99, 549 | 60, 000 | 3, 606, 094 | 322, 845 | 30, 000 |
| 1896 | 930, 779 | 115, 483 | 60, 000 | 2, 803, 372 | 320, 163 | 30,000 |
| 1897 | 1, 339,345 | 143, 201 | 60, 000 | 2, 673, 202 | 391, 541 | 30, 000 |
| 1898 | r, 308,885 | 193, 364 | 60,000 | 3, 453,460 | 593, 801 | 30, 000 |
| 1899 | 1,515, 702 | 174, 734 | 60, 000 | 5, 084, 076 | 543, 249 | 30, 000 |
| 1900 | 1,491, 216 | 204, 615 | 60,000 | 5, 359, 248 | 749, 991 | 30,000 |
| 1901 | 1, 483, 723 | 1241,691 | 99, 880 | 5, 316, 403 | 1, 257, 879 | 124,880 |
| 1902 | 1,490, 314 | ${ }^{1} 207,874$ | 12, 439 | 4, 693, 444 | 947, 089 | 12,741 |
| 1903 | 1,581,576 | ${ }^{1} 233,127$ | 34, 211 | 5,319, 294 | 1, 109, 818 | 22,521 |
| 1904 | 1, 874,428 | 207, 081 | 18, 989 | 6, 580, 875 | 814, 808 | 13, 145 |
| 1905 | 1,947, 190 | 253, 000 | 38, 026 | 6, 763, 403 | 938, 492 | 16, 494 |
| 1906 | 2, 080, 957 | 261, 422 | 19, 104 | 8,579, 437 | 931, 305 | 7,341 |
| 1907 | 2,265, 343 | 247, 387 | 14, 091 | 10, 653,558 | 794, 949 | 8, 429 |
| 1908 | 2, 386, 138 | 222, 598 | 8,469 | 11, 399, 124 | 857, 113 | 4,330 |
| 1909 | 2, 330, 152 | 247, 070 | 21, 814 | 10, 772, 120 | 1,028, 157 | 45, 053 |
| 1910 | 2, 654,988 | 241, 612 |  | 10, 917, 000 | 977, 978 |  |
| 1911 | 3, 053,279 | 301, 458 |  | 11,900, 693 | 1,164,871 |  |
| 1912 | 2, 973,332 | 350, 928 |  | 11, 675, 774 | 1,334, 259 |  |
| 1913 | 3,111, 221 | 341, 338 |  | 11, 796, 231 | 1, 286, 084 |  |
| 1914 | 2, 734, 043 | 336, 662 |  | 9, 608, 041 | 1, 283, 346 |  |
| 1915. | 1,835, 667 | 394, 124 |  | 5, 413, 449 | 1, 674, 933 |  |
| 1916 | 1,982, 385 | 439, 132 | 58, 088 | 5, 896, 993 | 2, 038, 002 | 144, 768 |
| 1917. | 2, 584, 287 | 482, 662 | 73, 900 | 7,771, 084 | 2, 593, 035 | 165, 223 |
| 1918 | 2, 490, 760 | 464, 494 | 98, 694 | 8, 214, 463 | 2, 644, 515 | 261, 082 |
| 1919 | 2, 271, 983 | 420, 647 | 91, 437 | 11, 591, 268 | 2, 558, 172 | 327, 294 |
| 1920 | 4, 103, 982 | 310, 777 | 97, 487 | 25, 079, 572 | 1, 596, 961 | 322, 339 |
| 1921 | 2, 064, 025 | 157, 118 | 59,730 | 12, 270, 070 | 711, 432 | 195,743 203,192 |
| 1922 | 2, 417, 883 | 169, 043 | 67, 777 | 10, 482, 846 | 671, 241 | 203, 190 |

Division of Statistical and Historical Research. Compiled from report of Geological Survey.
${ }^{1}$ Includes production of natural sulphur.
Table 714.-Fish scrap (acidulated): Production in Atlantic and Gulf coast districts, 1912-1922.

| Calendar year. | The North. | North Carolina. | Florida. | Texas. | Georgia. | Total, five districts. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Short tons. | Short tons. | Short tons. | Short tons. | Short tons. | Short tons. |
| 1912-- |  | 2,039 |  |  |  | 12, 338 |
| 1914 | 12,162 | 3,089 | 1,190 | 1,544 |  | 17,985 |
| 1915 | 5, 268 | 3,045 | 788 | 1,273 |  | 10, 374 |
| 1916. | 5,215 | 5,110 | 2, 400 | 1,800 |  | 14, 525 |
| 1917. | 5,637 | 7,478 | 2, 336 | 865 | 1,345 | 17,661 |
| 1918. | 19, 412 | 6,524 | 2,700 | 2,646 | 1,905 | 33, 187 |
| 1919 | 30, 086 | 6,784 | 5, 030 | 4,420 | 750 | 47, 070 |
| 1920 | 33, 900 | 3,900 | 3,800 | 3, 000 | 5,000 | 49, 600 |
| 1921 |  | 16,800 | 1,200 |  | 1,890 | 157,890 4,240 |
| 1922 |  | 2, 120 | 2, 120 |  |  | 4,240 |

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.
${ }^{1}$ Includes 37,558 tons produced in Chesapeake district.

Table 715.-Fish scrap (dried): Productionin Atlantic coast districts, 1912-1922.

| Calendar year. | Ohesapeake. | The North. | North Carolina. | Florida. | Total, four districts. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Short tons. | Short tons. | Short tons. | Short tons. | Short tons. |
| 1912 | 51,000 | 6, 655 | 7. 250 |  | ${ }^{165,660}$ |
| 1913 | 29,358 | 2,744 | 2,175 | 245 | 34, 522 |
| 1914 | 21, 936 | 1,604 | , 665 |  | 24, 205 |
| 1915 | 19,301 | 824 | 1,289 |  | 21, 414 |
| 1916 | 21,258 |  |  | 1,200 | 22,458 |
| 1917. | 14,584 | 292 | 5,187 | 762 | 20, 825 |
| 1918 | 12, 221 |  | 3,460 | 366 | 16,047 |
| 1919 | 12,340 |  | 2,763 |  | 15, 103 |
| 1920 | 18,750 |  | 1,240 |  | 19,990 |
| 1921 | 2, 200 | 22, 898 | 2,112 |  | 27,210 |
| 1922 |  |  | 1,757 | 1,320 | 3,077 |

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.
${ }^{1}$ Includes 595 tons produced in Texas district.
Table 716.-Fertilizer materials: Imports into the United States, 1912-1923.

| Year ending June 30. | Bone dust and bone ash. |  | Kainit. |  | Manure salts. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| 1911-12 | Tons. 33, 864 | Dollars. 830, 616 | Tons. 485, 132 | Dollars. 2, 399, 761 | Tons. 192, 738 | Dollars. 1, 814, 071 |
| 1912-13- | 33,337 | 801, 713 | 466, 795 | 2, 154, 977 | 171, 802 | 1, 794, 058 |
| 1913-14. | 41,450 | 1, 034, 636 | 541, 846 | 2, 579, 619 | 261, 342 | 2, 767, 241 |
| 1914-15 | 23,428 | 584, 748 | 79, 004 | 444, 760 | 66, 062 | 760,699 |
| 1915-16 | 20,466 | 524, 153 | 64 | 1,795 | 2, 271 | 41, 825 |
| 1916-17- | 14, 305 | 385, 541 |  |  | 324 | 7,794 |
| 1917-18. | 8, 511 | 286, 764 |  |  | 190 | 8,872 |
| 1918-19. | 4,138 | 117, 690 |  |  |  |  |
| 1920-21. | 27,413 | 1,317, 876 | 204, 834 | $4,882,974$ | 123, 273 | $4,164,817$ |
| 1921-22 | 18, 234 | 495,445 | 83,571 | 585, 338 | 81,442 | 957,443 |
| 1922-23. | 52, 338 | 1, 357, 742 | 168, 514 | 1, 048, 054 | ${ }^{1} 244,760$ | ${ }^{1} 2,389,098$ |
| Year ending June 30. | Ammonia sulphate. |  | Potash. |  |  |  |
|  |  |  | Muriate. |  | Sulphate. |  |
|  | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| 1911-12. | Tons: 65, 908 ces | Dollars. <br> 4, 143, 417 | Tons. <br> 215 | Dollars. | Tons. <br> 44, 476 | Dollars. |
| 1912-13- | 54, 089 | 3,655, 413 | 201, 220 | 6, 782, 056 | 42,745 | 1,753,485 |
| 1913-14. | 74, 444 | 4, 888, 563 | 237, 886 | 7, 915, 523 | 45, 139 | 1,897, 740 |
| 1914-15. | 57, 048 | 3, 208, 152 | 102, 732 | 3, 666, 118 | 21, 852 | 1,071, 761 |
| 1915-16. | 19,610 | 1, 371, 0.07 | 2, 130 | 461, 431 | 2, 423 | 197,808 |
| 1916-17. | 8, 176 | 647, 271 | 606 | 174, 806 | 661 | 20,538 |
| 1917-18. | 3, 983 | 467, 999 | 723 | 195, 154 | 135 | 19,837 |
| 1918-19. | 1,964 | 278, 469 | 1,677 | 201, 307 | 737 | 23, 304 |
| 1919-20 | 2,587 | 343, 107 | 110,324 | 11, 038, 173 | 6,356 | 1, 073, 322 |
| 1920-21 | 2,537 | 226, 300 | 49,911 | 5, 290, 196 | 12,081 | 1,659,998 |
| 1921-22 | 6, 356 | 314, 286 | 131, 423 | 5,549,580 | 45,280 | 2, 085, 348 |
| 1922-23 | 1,785 | 116, 686 | 150, 461 | 4, 759, 134 | 51,776 | 2, 109,966 |

[^342]Tabee 717.-Guane: Importa inte the United States, 1900-1923.

| Year ending June 30. | Quantity. | Value. | Fear ending June 30. | Quantity. | Value. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tons. | Dollars. |  | Tons. | Dollars. |
| 1899-1909 | 4,756 | 58,966 | 1911-12 | 34, 706 | 684, 658 |
| 1900-1. | 4,590 | 36, 617 | 1912-13 | 19,075 | 340, 915 |
| 1901-2 | 8,790 | 144, 599 | 1913-14- | 21, 887 | 755, 833 |
| 1902-3 | 16,237 | 201, 416 | 1914-15. | 20, 945 | 534, 381 |
| 1903-4. | 23, 872 | 319, 793 | 1915-16. | 15, 837 | 425, 377 |
| 1904-5. | 33, 490 | 516, 851 | 1916-17. | 3,563 | 73, 398 |
| 1905-6 | 18, 147 | 208, 560 | 1917-18 | 10,096 | 287, 446 |
| 1906-7. | 22, 681 | 342, 295 | 1918-19. | 8,218 | 293, 425 |
| 1907-8 | 27, 665 | 352, 350 | 1919-20 | 18,796 | 1, 550,098 |
| 1908-9. | 36,999 | 580, 334 | 1920-21 | 37, 570 | 3, 158, 064 |
| 1900-10. | 52,330 | 845, 765 | 1921-22 | 1,305 | 48,875 |
| 1910-11 | 29, 516 | 593, 306 | 1922-23 | (1) |  |

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.
${ }^{1}$ Inoluded in all other fertilizers.
Table 718.-Ferilizer materials producbd and consumed, 1902-1922.

| Calendar year. |  | Production. ${ }^{1}$ |  | Consumption. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Sulphate of ammonia. ${ }^{2}$ | Potash, crude. ${ }^{3}$ | Sulphate of ammonia. ${ }^{2}$ | Cottonseed meal used for fertilizer. |
|  |  | Short tons. | Short tons. | Shart tons. | Short tons. |
| 1903 |  |  |  |  | 385, 000 |
| 1904 |  |  |  |  | 453, 000 |
| 1905 |  | 65, 296 |  |  | 424,000 |
| 1906. |  | 75, 000 | ------------ |  | 595, 000 |
| 1907. |  | 99, 309 |  |  | 347, 000 |
| 1908 |  | 83, 400 |  |  | 497, 000 |
| 1909 |  | 106, 500 |  | 149, 414 | 442,000 |
| 1910. |  | 118, 000 |  | 208, 342 | 597, 090 |
| 1911 |  | 127, 000 |  | 224, 633 | 717,000 |
| 1912 |  | 165, 000 |  | 224, 542 | 666, 000 |
| 1913 |  | 195, 000 |  | 260, 775 | 740,000 |
| 1914 |  | 183, 000 |  | 258, 010 | 881, 000 |
| 1915 |  | 250, 049 | 4,374 | 2488,374 |  |
| 1916 |  | 288, 265 | 35,739 | 337, 962 |  |
| 1917 |  | 325, 670 | 126, 961 | 375, 588 |  |
| 1918. |  | 379, 278 | 207, 686 | 484, 875 |  |
| 1919 |  | 403, 223 | 116, 634 | 251, 994 |  |
| 1920 |  | 499, 463 | 166, 834 | 251, 994 |  |
| 1921 |  | 358, 500 | 25,485 | ${ }_{5}^{210,000}$ |  |
| 1922 |  | 522, 000 | 25, 176 | ${ }^{5} 285,000$ |  |

Division of Statistical and Historical Research.

[^343]Tibile 719.-Sulphuric acid: Production, consumption, imports, and exports for the United States, 1904-1922.

| Calendar year. | Production. ${ }^{1}$ | $\begin{gathered} \text { Consump- } \\ \text { tion. }{ }^{1} \end{gathered}$ | Year beginning July 1. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Imports for consumption. ${ }^{2}$ |  | Exports, domestic. ${ }^{2}$ |  |
|  |  |  | Quantity. | Value. | Quantity. | Value. |
| 1904. | Short tons. 717, 406 | $\begin{array}{r} \text { Short tons. } \\ 692,904 \end{array}$ | Short tons.145138631919 | Dollars.$\begin{array}{r} 4,151 \\ 3,765 \\ 1,861 \\ 1,987 \\ 660 \end{array}$ | Dollars. | Dollars. |
| 1905 |  |  |  |  |  |  |
| 1906 |  |  |  |  |  |  |
| 1907 |  |  |  |  |  |  |
| 1903 |  |  |  |  | 3,365 | 80, 327 |
| 1909. | 995, 384 | 841, 935 | 1819 | 1,063 | 2,5412,889 | 61,89960,537 |
| 1910-- |  |  |  | 536639 |  |  |
| 1911. |  |  | 24 |  | 3,501 | 71,87789,783 |
| 1912 |  |  | 3,362 | 2,291 40,559 | 6,066 |  |
| 1913 |  |  |  | 40,559 |  | 125, 892 |
| 1914 | 1, 405, 768 | 1,276, 715 | $3,691$$3,143$ | 44,60861,352 | 23,38641,010 | 516,436$1,990,532$ |
| 1915. |  |  |  |  |  |  |
| 1916- |  |  |  | 6,617 | 29, 302 | 1,961,888 |
| 1917 |  |  | 14,135,670 | 100, 489 | 33,827 23,707 |  |
| 1918.- |  |  |  |  | 23, 707 | 805, 430 |
| 1919 | 1, 877, 394 | 1,568,577 | 4,6115,183 | 79,20493,937 | 16,1679,300 | $\begin{aligned} & 778,287 \\ & 446,380 \end{aligned}$ |
| 1920 |  |  |  |  |  |  |
| 1921 | $\begin{aligned} & 1,319,582 \\ & 1,423,917 \end{aligned}$ | $\begin{array}{r} 1,143,850 \\ 1,589,809 \end{array}$ | $\begin{aligned} & 2,458 \\ & 9,072 \end{aligned}$ | $\begin{array}{r} 54,717 \\ 156,440 \end{array}$ | $\begin{aligned} & 6,990 \\ & 3,626 \end{aligned}$ | 156, 204 |
| 1922 |  |  |  |  |  |  |

Division of Statistical and Historical Research.
${ }^{1}$ Bureau of the Census.
${ }^{2}$ Bureau of Forcign and Domestic Commerce.
Table 720.-Fertilizer materials: Average wholesale prices, 1913-1923.
AMMONIATES.

| Calendar year. | Ammonia sulphate, domestic, spot, per 100 pounds. | Blood, dried, 12 per cent ammonia, f.o.b., per short ton. ${ }^{1}$ |  | Fish scrap, dried. 11 per cent ammonia, 14 per cent bone phosphate, f.o.b. fish factory, per short ton. ${ }^{1}$ | Fish, wet, acidulated, 6 per cent ammonia, 3 per cent phosphoric acid, f.o.b. fish factory, per short ton. | Soda, nitrate, spot, 95 per cent per 100 pounds. | Cottonseed, <br> 7 per cent ammonia meal, <br> f. o. b. mill, per short ton. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | New York. | Chicago. |  |  |  |  |
|  | Dollars. | Dollars. <br> 34. 56 | Dollars. <br> 32. 76 | Dollars. <br> 29. 12 | Dollars. <br> 16. 11 | Dollars. 2.46 2 | Dollars. |
| 1914 | 2. 73 | 38. 52 | 37.08 | 38. 14 |  | 2. 10 |  |
| 1915 | 3. 34 | 34. 08 | 31. 68 | 36.82 |  | 2. 43 |  |
| 1916 | 3. 82 | 38. 76 | 36.84 | 42.21 | 25.26 | 3.21 |  |
| 1917. | 5. 99 | 67.20 | 63.96 | 60.14 | 33. 70 | 4. 13 |  |
| 1918 | 5. 70 | 83. 40 | Nominal. | 81.23 | 43. 12 | 4. 74 |  |
| 1919 | 4. 58 | 74.76 | Nominal. | 73. 12 | 36. 00 | 3. 53 |  |
| 1920 | 5. 01 | 90.84 | Nominal. | 74. 77 | 36. 12 | 3. 52 | 41.00 |
| 1921. | 2. 42 | 39.84 | Nominal. | 36.16 | 17.10 | 2. 59 | 32.67 |
| 1922 | 3. 01 | 49. 68 | 50.64 | 40. 12 | 19. 26 | 2. 54 | 39. 50 |
| 1923 | 3. 18 | 50.28 | 50.64 | 45.18 | 22.74 | 2. 51 | 39.67 |

[^344]1190 Yearbook of the Department of Agriculture, 1923.
Table 721.-Fertilizer materials: Average wholesale prices per long ton, 1919-1922. PHOSPHATES.

|  | Calendar year. | Tennessee phosphate rock, f. o. b. Mount Pleasant. |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Domestic, 78 to 80 per cent. | 75 per cent guaranteed. | 68 to 72 per cent. |
| 1913. |  | Dollars. | Dollars. 4.8 | Dollars. |
| 1914 |  | 5.25 | 4. 88 | 4.38 |
| 1915 |  | 5. 25 | 4. 88 | 4.38 |
| 1916. |  | 5. 25 | 4.88 | 4. 38 |
| 1917. |  | 5. 48 | 4.99 | 4.65 |
| 1918. |  | 6. 56 | 6.71 | 6. 81 |
| 1919 |  | 10. 50 | 9. 52 | ${ }^{17 .} 49$ |
| $1920 \pm$ |  | 13. 42 | 10.82 |  |
| 1921. |  | 15. 25 | 8.90 |  |
| 1922. |  | Nominal. | Nominal. |  |

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter.
${ }^{1}$ Three months.
Table 722.-Fertilizer materials: Average wholesale prices per long ton, 1913-1923. PHOSPHATES.

| Calendar year. | South Caro lina phosphate rock kiln dried. f. o. b. Ash ley River. | Florida land pebble phosphate rock, 68 per cent f.o.b. Port Tampa. | Florida high grade phosphate hard rock. |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | 77 per cent f. o. b. Florida ports. | $\begin{aligned} & \text { 75 per cent } \\ & \text { Tampa. } \end{aligned}$ |
| 1913. | Dollars. | Dollars. ${ }^{\text {3. }} 49$ | Dollars. | Dollars. |
| 1914 | 3. 62 | 3.12 | 6.00 |  |
| 1915 | 3.62 | 3. 01 | 5. 60 |  |
| 1916 | 3.62 | 2.84 | 5.12 |  |
| 1917 | 3.89 | 2.63 | 5.42 |  |
| 1918.. | Nominal. | 4.22 | 7. 25 |  |
| 1919 | Nominal. | 5.00 | 9. 39 | 7.75 |
| 1920 |  | 8.48 | 13.02 | 10.35 |
| 1921. |  | 5.90 | 12.02 | 8.74 |
| 1922 |  | 3.11 | 8.58 | 6. 23 |
| 1923 |  | 3.05 | 7.60 | 5.17 |

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter.
Table 723.-Fertilizers: Tags sold by the Georgia Department of Agriculture, 19011921.

| Season. | Fertilizers. | Cottonseed meal. | Season. | Fertilizers. | Cottonseed meal. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Short tons. | Short tons. |  | Short tons. | Short tons. |
| 1900-1901. | 482, 571 | 58, 076 | 1911-12. | 1, 103, 864 | 121, 236 |
| 1801-2 | 443, 997 | 74, 130 | 1912-13. | 1, 120, 693 | 122, 975 |
| 1902-3 | 555, 414 | 84, 468 | 1913-14. | 1, 292, 568 | 185, 846 |
| 1003-4 | 618, 730 | 96, 818 | 1915 | 738, 962 | 134, 017 |
| 1904-5 | 622, 414 | 90,328 | 1916 | 741, 097 | 110,512 |
| 1905-6 | 743, 424 | 87, 253 | 1917 | 874, 610 | 63, 655 |
| 1906-7 | 728, 361 | 87, 703 | 1918. | 923, 020 | 55, 155 |
| 1907-8 | 766, 166 | 85, 298 | 1919 | 990, 919 | 72, 922 |
| 1908-9 | 807, 832 | 103, 532 | 1920 | 1, 003, 553 | 35, 495 |
| 1909-10 | 1, 030, 699 | 103, 302 | 1921 | 527, 507 | 29,066 |
| 1910-11 | 1, 202, 722 | 129, 748 | Season 1921 to Oct. | 516, 223 | 7,805 |

[^345]Table 724.-Fertilizers: Expenditures for, by States.

| State. | Calendar year. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1879 | 1889 | 1899 | 1909 | 1919 |
|  | Dollars. | Dollars. | Dollars. | Dollars. | Dollars. |
| Maine | 212, 135 | 456, 515 | 819,680 | 4, 069,479 | 7,759, 067 |
| New Hampshire | 165, 393 | 246, 293 | 367,980 | 512, 580 | 526, 180 |
| Vermont...-- | 127, 870 | 217, 397 | $\begin{array}{r}447,065 \\ 1 \\ \hline\end{array}$ | $\begin{array}{r}570,752 \\ \hline 1065\end{array}$ | 857, 273 |
| Massachusetts | 653,422 140,318 | 896,560 172,900 | $1,320,600$ 264,140 | $1,965,682$ 335,103 | $3,906,733$ 379,786 |
| Connecticut | 497, 448 | 609, 649 | 1,078,240 | 1,954,163 | 4, 893, 658 |
| New York | 2, 715, 477 | 3, 627,726 | 4, 493, 050 | 7,142, 265 | 15, 067, 371 |
| New Jersey | 1,601, 699 | 1, 837, 719 | 2, 165, 320 | 4, 277,604 | 10, 742, 682 |
| Pennsylvania | 3, 525, 336 | 3, 384, 310 | 4,685,920 | 6,801, 605 | 15, 628,341 |
| Delaware | 467, 228 | 460, 465 | 539, 040 | 864, 577 | 1,222,329 |
| Maryland | 2, 838,465 | 2, 419, 826 | 2, 618,890 | 3, 387, 634 | 7,610,478 |
| District of Columbia | 22, 352 | 16,651 | 22, 600 | 16,975 | 23, 267 |
| Virginia. | 2, 137, 283 | 2, 320, 260 | 3, 681, 790 | 6, 932, 455 | 17, 277, 705 |
| West Virginia | 176, 300 | 210, 767 | 405, 270 | 528, 937 | 1,709,546 |
| North Carolina | 2, 111, 767 | 2, 882, 238 | 4, 479, 030 | 12, 262, 533 | 48, 796, 694 |
| South Carolina | 2, 659, 969 | 3, 867,418 | 4, 494, 410 | 15, 162, 017 | 52, 546, 795 |
| Georgia | 4, 346, 920 | 5, 724, 187 | 5, 738, 520 | 16, 860, 149 | 46, 196, 434 |
| Florida | 72, 642 | 857, 327 | 753, 120 | 3, 609, 853 | 10, 316, 929 |
| Ohio-. | 550, 029 | 1, 602, 869 | 2, 695, 470 | 4, 180, 485 | 13, 206, 018 |
| Indiana | 340, 582 | 777, 727 | 1,553, 710 | 2,189, 695 | 8, 734, 698 |
| Illinois. | 174, 277 | 124, 977 | 830, 660 | 615,594 | 2,996,403 |
| Michigan | 300, 995 | 173, 017 | 492, 360 | 945, 354 | 4,872,543 |
| Wisconsin | 178, 892 | 105, 192 | 294, 320 | 127, 753 | 779, 750 |
| Minnesota | 93, 250 | 61, 578 | 251, 120 | 74, 653 | 432,680 |
| Iowa. | 98, 567 | 86, 843 | 337, 190 | 109, 570 | 596, 537 |
| Missouri | 109, 724 | 65, 705 | 370, 630 | 671, 073 | 3,941,488 |
| North Dakota |  | 8,923 | 13, 855 | 10,003 | 119,782 |
| South Dakota |  | 15, 675 | 12, 940 | 11, 294 | 34,466 |
| Nebraska | 20, 794 | 19,269 | 153, 080 | 31, 021 | 64,752 |
| Kansas. | 61,713 | 25,740 | 268, 360 | 75, 602 | 979, 037 |
| Kentucky | 145, 674 | 317, 231 | 908, 250 | 1,350, 720 | 3,597,449 |
| Tennessee | 157, 442 | 361,097 | 898, 070 | 1,216, 296 | 3, 525, 133 |
| Alabama | 1, 200, 956 | 2, 421, 648 | 2, 599, 290 | 7, 630,952 | 14, 066,108 |
| Mississippi | 123, 253 | 789, 268 | 932,098 | 2, 703, 271 | 4, 288, 165 |
| Louisiana | 278, 305 | 906, 348 | 1,076, 890 | 2, 004, 919 | 3,840,469 |
| Oklahoma |  | 3,817 |  | 29,092 | 452, 492 |
| Texas..- | 74,797 | 58,665 | 124, 716 | 595, 363 | 1,831, 207 |
| Arkansas | 56,314 | 93, 939 | 172, 510 | 596, 553 | 2, 572, 678 |
| Montana. |  | 4,757 | 3,940 | 12, 323 | 126, 232 |
| Idaho. |  | 2, 127 | 17, 150 | 20,737 | 106, 121 |
| W yoming |  | 1,548 | 12,700 | 5,302 | 8,489 |
| Colorado. | 5, 195 | 25, 074 | 23, 225 | 61,113 | 294, 448 |
| New Mexico | 10,733 | 9, 217 | 2, 880 | 25, 371 | 113,483 |
| Arizona |  | 10 | 2,921 | 6,080 | 40, 892 |
| Utah. | 11,394 | 23,211 | 14,300 | 20,037 | 108,956 |
| Nevada | 2, 526 | 2,019 |  | 8,379 | 9,897 |
| W ashington |  | 11,633 | 29,165 | 87,023 | 525, 637 |
| Oregon- | 10, 519 | 13,370 | 27,395 | 68, 597 | 489, 524 |
| Californi | 108, 732 | 148, 886 | 937, 050 | 2, 143, 993 | 8,182,998 |
| United States | 28, 586, 397 | 38, 469, 598 | 154,783, 757 | 14,882,541 | 326, 399, 800 |

Division of Statistical and Historical Research. Compiled from reports of Bureau of the Census.
${ }^{1}$ Includes Hawaii and Alaska. : Hawaii, 1899, \$1,352,847.

Table 725.-Fertilizer, commercial: Sold in cotton States, based on sale of fertilizer tags, 1914-1923.

| State. | Calendar year. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1914 | 1915 | 1916 | 1917 | 1918 |
|  | Short tons | Short tons | Short tons | Short tons | Short tons |
| Virginia - | 437, 808 | 406, 077 | 366, 970 | 495,961 | 429,999 |
| North Carolina. | 984, 865 | 768, 449 | 740, 394 | 918, 215 | 1,055, 924 |
| South Carclina | 1, 106, 640 | 610, 148 | 670, 610 | 864, 861 | 1,064, 886 |
| Georgia. | 1 1, 478, 414 | 1805,304 | 851, 609 | 938, 265 | 978,175 |
| Florida. | 240, 813 | 189, 594 | 203, 283 | 214, 088 | 204, 712 |
| Alabama | ${ }^{2} 597,200$ | ${ }^{2} 301,467$ | ${ }^{2} 212,250$ | ${ }^{2} 210,170$ | ${ }^{2} 306,880$ |
| Mississippi | 181, 875 | 141, 700 | 111, 200 | 92, 037 | 114, 312 |
| Louisiana. | 90, 588 | 73, 420 | 75, 151 | 98, 265 | 118,430 |
| Texas | 77, 400 | 17, 500 | 21, 500 | 42, 000 | 58, 000 |
| Arkansas | 114, 700 | 68, 700 | 65, 600 | 90, 292 | 88,500 |
| Tennessee | 92, 000 | 78, 072 | 67, 930 | 87, 528 | 113, 370 |
| Missouri | 60,000 | 57, 000 | 41,000 | 65,000 | 85, 000 |
| Total | 5, 462, 303 | 3, 517, 431 | 3, 427, 497 | 4,116,682 | 4, 618, 188 |
| State. | 1919 | 1920 | 1921 | 1922 | 1923 |
| Virginia | 421, 436 | 465, 227 | 369, 490 | 449, 942 | 302,911 |
| North Carolina | 1, 109, 070 | 1, 222, 103 | 831, 684 | 1,035, 430 | 1,190, 583 |
| South Carolina | 1,033, 887 | 1, 253, 890 | 615, 488 | 504, 000 | 678, 612 |
| Georgia- | 1, 063, 841 | 1, 039, 048 | 556, 573 | 535, 084 | 677, 624 |
| Florida. | 250, 613 | 272, 316 | 289, 857 | 329, 668 | 387, 838 |
| Alabama | ${ }^{2} 298,007$ | 391, 170 | 179,547 | 298, 147 | 434,377 |
| Mississippi | 126, 377 | 166, 903 | 94, 572 | 169,937 | 250,501 |
| Louisiana. | 97, 724 | 95, 863 | 38, 760 | 66, 470 | 107, 368 |
| Texas. | 46, 000 | 56, 700 | 19, 204 | 33, 420 | 75,599 |
| Arkansas | 53, 373 | 69, 036 | 14,550 | 40, 325 | 74,599 |
| Tennessee | 108,430 | 112, 102 | 84, 044 | 96,992 | 112,656 |
| Missouri | 70,000 | 77, 888 | 8, 022 | 7,900 | 16,090 |
| Total | 4,678, 758 | 5,222, 246 | 3, 101, 791 | 3, 567, 315 | 4, 308, 668 |

Division of Statistical and Historical Research. Compiled from Division of Crop and Livestock Estimates.
1 To Sept. 15.
${ }^{2}$ Cottonseed meal not included.

## WHOLESALE PRICES OF FARM PRODUCTS.

Table 726.—Index numbers of wholesale prices of farm products, United States, 1913-1923.
[Year $1913=100$.]

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept, | Oct. | Nov. | Dec. | Average. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913. | 98 | 98 | 98 | 99 | 97 | 98 | 99 | 100 | 103 | 103 | 103 | 103 | 100 |
| 1914 | 103 | 103 | 102 | 102 | 101 | 101 | 103 | 106 | 106 | 101 | 102 | 101 | 103 |
| 1915 | 104 | 105 | 104 | 104 | 105 | 101 | 104 | 103 | 101 | 106 | 104 | 105 | 104 |
| 1916 | 110 | 110 | 111 | 113 | 115 | 114 | 117 | 125 | 131 | 136 | 147 | 146 | 123 |
| 1917 | 152 | 157 | 166 | 184 | 196 | 195 | 196 | 202 | 202 | 207 | 212 | 207 | 190 |
| 1918 | 211 | 211 | 211 | 213 | 209 | 210 | 217 | 227 | 234 | 225 | 225 | 227 | 218 |
| 1919 | 224 | 216 | 224 | 230 | 234 | 226 | 241 | 242 | 225 | 227 | 237 | 242 | 231 |
| 1920 | 247 | 237 | 237 | 243 | 241 | 237 | 233 | 218 | 210 | 187 | 173 | 152 | 218 |
| 1921 | 143 | 133 | 127 | 117 | 118 | 114 | 119 | 123 | 124 | 124 | 121 | 120 | 124 |
| 1922 | 122 | 131 | 130 | 129 | 132 | 131 | 135 | 131 | 133 | 138 | 143 | 145 | 133 |
| 1923 | 143 | 142 | 143 | 141 | 139 | 138 | 135 | 139 | 144 | 144 | 145 | 145 | 141 |

[^346]Table 727.-Index numbers of wholesale prices, by groups of commodities, United States, 1913-1923.
[Year 1913=100.]

| Calendar year. | Farm products. | Foods. | Cloths and clothing. | Fuel and lighting. | Metals <br> and <br> metal <br> prod- <br> ucts. | $\begin{aligned} & \text { Build- } \\ & \text { ing } \\ & \text { mate- } \\ & \text { rials. } \end{aligned}$ | Chem- <br> icals <br> and <br> drugs. | House fur-nishing goods. | Mis-cellaneous. | $\begin{aligned} & \text { All } \\ & \text { com- } \\ & \text { modi- } \\ & \text { ties. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1914 | 103 | 102 | 98 | 93 | 85 | 92 | 101 | 100 | 95 | 98 |
| 1915 | 104 | 105 | 98 | 88 | 99 | 94 | 134 | 100 | 95 | 101 |
| 1916 | 123 | 121 | 127 | 126 | 162 | 120 | 181 | 106 | 121 | 127 |
| 1917 | 190 | 167 | 175 | 169 | 231 | 157 | 202 | 125 | 148 | 177 |
| 1918. | 218 | 188 | 228 | 170 | 187 | 172 | 215 | 153 | 156 | 194 |
| 1919. | 231 | 207 | 253 | 181 | 162 | 201 | 169 | 184 | 175 | 206 |
| 1920 | 218 | 220 | 295 | 241 | 192 | 264 | 200 | 254 | 196 | 226 |
| 1921 | 124 | 144 | 180 | 199 | 129 | 165 | 136 | 195 | 128 | 147 |
| 1922 | 133 | 138 | 181 | 218 | 122 | 168 | 124 | 176 | 117 | 149 |
| 1923 | 141 | 144 | 200 | 185 | 144 | 189 | 131 | 183 | 123 | 154 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.
Table 728.-Index numbers of wholesale prices of all commodities, United States, 1913-1923.
[Year 1913=100.]

| Calendar Year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | A verage. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 100 | 100 | 100 | 100 | 99 | 99 | 100 | 100 | 102 | 101 | 100 | 99 | 100 |
| 1914 | 98 | 99 | 98 | 98 | 97 | 97 | 97 | 101 | 102 | 97 | 97 | 97 | 98 |
| 1915 | 98 | 99 | 99 | 99 | 100 | 99 | 100 | 100 | 100 | 102 | 104 | 108 | 101 |
| 1916 | 113 | 115 | 119 | 121 | 122 | 123 | 123 | 126 | 130 | 136 | 145 | 149 | 127 |
| 1917 | 153 | 157 | 162 | 173 | 183 | 185 | 188 | 189 | 187 | 183 | 183 | 182 | 177 |
| 1918 | 184 | 186 | 187 | 190 | 190 | 191 | 196 | 200 | 204 | 202 | 203 | 202 | 194 |
| 1919 | 199 | 193 | 196 | 199 | 202 | 203 | 212 | 216 | 210 | 211 | 217 | 223 | 206 |
| 1920 | 233 | 232 | 234 | 245 | 247 | 243 | 241 | 231 | 226 | 211 | 196 | 179 | 226 |
| 1921 | 170 | 160 | 155 | 148 | 145 | 142 | 141 | 142 | 141 | 142 | 141 | 140 | 147 |
| 1922 | 138 | 141 | 142 | 143 | 148 | 150 | 155 | 155 | 153 | 154 | 156 | 156 | 149 |
| 1923 | 156 | 157 | 159 | 159 | 156 | 153 | 151 | 150 | 154 | 153 | 152 | 151 | 154 |

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports

## CROP AND MEAT-ANIMAL PRICES.

$\mathrm{T}_{\mathrm{Able}}$ 729.-Index numbers of crop and meat-animal prices, monthly and average, 1908-1923.

CROPS. ${ }^{1}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1908. | 120.1 | 122. 2 | 124. 3 | 125. 7 | 127.5 | 136.6 | 135.3 | 135. 5 | 130.8 | 127.2 | 119.6 | 117.4 |
| 1909 | 117.8 | 120.4 | 126.3 | 130.6 | 139.6 | 146.5 | 149.5 | 142. 3 | 132.9 | 130.5 | 129.3 | 127. 7 |
| 1910 | 134. 1 | 138.5 | 139.9 | 138. 8 | 133.5 | 133.5 | 133. 1 | 137.1 | 137.0 | 129.8 | 122. 2 | 118. 4 |
| 1911 | 118.6 | 119.8 | 117.9 | 118. 0 | 122. 2 | 127.7 | 136. 3 | 148. 2 | 141.6 | 138.0 | 135.6 | 133. 1 |
| 1912 | 133.9 | 140. 2 | 144. 7 | 153. 4 | 166. 3 | 168.3 | 160.1 | 148. 0 | 137.6 | 128.6 | 118. 3 | 110. 3 |
| 1913 | 110.9 | 112.6 | 113.3 | 113.6 | 116. 2 | 121.2 | 122.9 | 125.4 | 136. 3 | 139.1 | 133.9 | 132.7 |
| Av. 1909-1913 | 123.1 | 126.3 | 128.4 | 130.9 | 135.6 | 139.4 | 140.4 | 140.2 | 137.1 | 133.2 | 127.9 | 124. 4 |
| 1914 | 132.5 | 132.1 | 133.8 | 134. 2 | 135.9 | 138.8 | 137.7 | 137.6 | 141.3 | 136.4 | 127.4 | 122.8 |
| 1915 | 126. 7 | 140.5 | 144.0 | 144. 5 | 150.0 | 147.3 | 139. 1 | 133.9 | 132.5 | 128.2 | 124. 4 | 120.4 |
| 1916 | 129.0 | 139.9 | 138.6 | 140. 2 | 143.3 | 145. 8 | 144, 8 | 147. 7 | 161.5 | 163. 6 | 178. 8 | 187.9 |
| 1917 | 183.6 | 195.6 | 206. 5 | 225. 2 | 280.6 | 291. 3 | 289.9 | 307.8 | 279.6 | 277.0 | 261. 3 | 252.3 |
| 1918 | 264. 1 | 271.6 | 288. 8 | 288.6 | 281.8 | 271.9 | 272.9 | 280.6 | 293. 3 | 289.3 | 269.5 | 265.2 |
| 1919 | 272.4 | 259.9 | 257.1 | 271.2 | 293.7 | 307.2 | 310.2 | 329.0 | 317.7 | 290.0 | 279.4 | 282.4 |
| 1920 | 296.7 | 311.0 | 314.3 | 334.1 | 362.1 | 380.4 | 374.0 | 329.8 | 294.7 | 248. 7 | 201.1 | 165.5 |
| Av. 1914-1920. | 200.7 | 207.2 | 211.9 | 218.7 | 235.3 | 240.4 | 238.4 | 238.8 | 231.5 | 219.0 | 206.0 | 199.5 |
| 1921 | 158.5 | 151.4 | 147.5 | 139.3 | 128.7 | 134.6 | 130.6 | 133.8 | 134. 5 | 137.3 | 121.4 | 120.6 |
| 1922 | 120. 5 | 123. 6 | 138.1 | 140.6 | 144.5 | 148.4 | 146. 1 | 145.6 | 133. 2 | 135.5 | 142. 3 | 150. 0 |
| 1923 | 154.7 | 158.2 | 163.9 | 169.1 | 175.0 | 173.6 | 170.5 | 168.1 | 168.8 | 172. 5 | 172.5 | 169.3 |

[^347]Table 729.-Index numbers of crop and meat-animal prices, monthly and average, 1908-1923-Continued.

MEAT ANIMALS. ${ }^{2}$

| Calendar year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 6. $67{ }^{\circ}$ | 6.71 | 7. 39 | 7. 74 | 7. 37 | 7. 29 | 6. 98 | 6.67 | 6.92 | 6. 80 | 6. 47 | 6.21 |
| 1911 | 6. 40 | 6. 19 | 6. 09 | 5. 80 | 5. 54 | 5.45 | 5. 52 | 5. 87 | 5. 87 | 5. 58 | 5. 44 | 5.37 |
| 1912 | 5. 44 | 5. 54 | 5. 69 | 6. 30 | 6. 39 | 6.27 | 6. 23 | 6. 56 | 6. 74 | 6.86 | 6. 45 | 6.42 |
| 1913 | 6.40 | 6. 70 | 7.08 | 7.35 | 7.08 | 7.19 | 7. 25 | 7. 20 | 7.15 | 7.14 | 6.94 | 6.85 |
| Av. 1910-1913. | 6. 23 | 6.28 | 6.56 | 6.80 | 6.60 | 6. 55 | 6.50 | 6.58 | 6.67 | 6.60 | 6.32 | 6. 21 |
| 1914 | 7.05 | 7.27 | 7.37 | 7.40 | 7.29 | 7.22 | 7.41 | 7.63 | 7.58 | 7.14 | 6.80 | 6.61 |
| 1915 | 6.57 | 6. 46 | 6.46 | 6. 59 | 6. 80 | 6.85 | 6.83 | 6.74 | 6. 77 | 6.96 | 6.45 | 6. 25 |
| 1916 | 6. 46 | 6.94 | 7. 53 | 7.85 | 7. 98 | 8.00 | 8.04 | 8.05 | 8.38 | 8.04 | 8. 09 | 8.15 |
| 1917 | 8. 53 | 9. 42 | 10.70 | 11. 71 | 11.84 | 11. 72 | 11. 47 | 11.84 | 12. 79 | 13. 04 | 12. 47 | 12. 74 |
| 1918 | 12.59 | 12. 65 | 13.06 | 13. 55 | 13. 83 | 13.62 | 13. 68 | 14. 21 | 14. 50 | 13. 79 | 13.37 | 13. 40 |
| 1919 | 13.46 | 13. 51 | 14. 06 | 15. 01 | 15. 34 | 14.98 | 15.61 | 15. 56 | 13. 44 | 12. 22 | 11.88 | 11. 54 |
| 1920 | 12. 14 | 12.43 | 12. 52 | 12. 72 | 12.41 | 12.31 | 12. 40 | 12.12 | 12.22 | 11.67 | 10.34 | 8. 48 |
| Av. 1914-1920. | 9.54 | 9.81 | 10.24 | 10.69 | 10.78 | 10.67 | 10.78 | 10.88 | 10.81 | 10.41 | 9.91 | 9.60 |
| 1921 | 8.42 | 8.24 | 8.67 | 7.89 | 7.66 | 7.31 | 7. 65 | 7.94 | 7.11 | 6.88 | 6. 47 | 6.37 |
| 1922 | 6. 67 | 7.56 | 8.19 | 8. 10 | 8. 29 | 8.37 | 8. 34 | 7.87 | 7.69 | 7.75 | 7. 36 | 7.28 |
| 1923 | 7. 48 | 7.51 | 7. 48 | 7.52 | 7. 38 | 7.01 | 7.16 | 7.14 | 7.68 | 7. 27 | 6. 80 |  |

Division of Crop and Livestock Estimates. The trend of prices to farmers for important crops is indicated in the following figures; the base 100 is the average price December 1 in the 43 years 1866-1908 of wheat, corn, oats, barley, rye, buckwheat, potatoes, hay, flax, and cotton.

Based on prices 15 th of month.

## PRICES, COST OF LIVING, AND WAGES.

Table 730.-Index numbers of prices, cost of living, and wages, 1913-1924.
$(1913=100)$

| Calendar year. | Farm prices. ${ }^{1}$ | $\begin{aligned} & \text { Whole- } \\ & \text { sale } \\ & \text { prices } \\ & \text { all } \\ & \text { commod- } \\ & \text { ities. }^{2} \end{aligned}$ | Retail prices, 22 articles of food. 2 | Cost of living (32 cities). ${ }^{3}$ | Farm <br> labor. ${ }^{1}$ | Union wages per hour May $15 .{ }^{2}$ | Earnings New York State factory workers. June $1914=$ $100 .{ }^{4}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 100 | 100 | 100 | 100 | 100 | 100 |  |
| 1914 | 100 | 98 | 102 | ${ }^{5} 103$ | 99 | 102 | ${ }^{6} 100$ |
| 1915. | 100 | 101 | 101 | 5105 | 99 | 103 | 101 |
| 1916. | 120 | 127 | 114 | ${ }^{5} 118$ | 108 | 107 | 114 |
| 1917. | 177 | 177 | 146 | ${ }^{5} 142$ | 133 | 114 | 129 |
| 1918. | 199 | 194 | 168 | ${ }^{5} 174$ | 161 | 133 | 160 |
| 1919 | 210 | 206 | 186 | ${ }^{5} 199$ | 186 | 155 | 185 |
| 1920 | 196 | 226 | 203 | ${ }^{5} 200$ | 214 | 199 | 222 |
| 1921 | 120 | 147 | 153 | ${ }^{5} 174$ | 143 | 205 | 203 |
| 1922 | 123 | 149. | 142 | ${ }^{5} 170$ | 138 | 193 | 197 |
| 1923. | 134 | 154 | 146 | ${ }^{5} 173$ | 155 | 211 | 214 |
| 1922. |  |  |  |  |  |  | 03 |
| March. | 124 | 142 | 139 | 167 |  |  | 193 |
| June. | 126 | 150 | 141 | 167 |  |  | 198 |
| September. | 116 | 153 | 140 | 176 | - |  | 208 |
| December.. | 131 | 156 | 147 | 170 | ------ | --------- | 208 |
| 1923. |  |  |  |  |  |  |  |
| January. |  | 156 | 144 | 169 | 133 |  | 212 |
| March..- | 137 | 159 159 | 142 | 169 | 140 |  |  |
| April |  | 159 153 | 143 | 170 | 140 |  | 210 |
| June... | 130 | 153 | 147 | 170 | 159 |  |  |
| July |  | 154 | 149 | 172 | 159 |  | 216 |
| September | 129 | 154 | 149 | 172 | 154 |  | 21 |
| October. |  | 153 | 150 |  | 154 |  |  |
| December.----.......... | 138 | 151 | 150 | 173 |  |  | 220 |

[^348]FEDERAL-AID HIGHWAYS.
Table 731.-Federal-aid highways completed and under construction.

| State. | Highways completed and final payment made, year ending June 30, 1923. |  |  | Projects under construction June 30, 1923.1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total cost. | Federal aid. | Miles. | Estimated cost. | Federal aid allotted. | Miles. | Federal aid paid. |
| Alabama | \$671, 989. 33 | \$323, 665. 26 | 48.3 | \$9, 637, 983.55 | \$4, 818, 991. 66 | 621.2 | \$1, 609, 407. 30 ¢ |
| Arizon | 3, 001, 356. 84 | 1, 461, 900. 62 | 196.7 | 2, 462, 987.30 | 1, 450, 169. 26 | 221.9 | 17 |
| Arkans | 3, 485, 213.85 | 1, 593, 669. 12 | 287.2 | 5, 957, 667. 24 | $2,391,544.73$ | 400.4 | $1,200,311.39$ |
| Califor | $5,398,358.83$ | 2, 115, 030. 44 | 179.6 | 11, 553, 746. 98 | 6,211, 381. 11 | 506. 2 | 3, 304, 460.54 |
| Colorado | 3, $000,990.82$ | 1, 504, 905. 48 | 205.8 | 3, 611, 943.47 | 1, 938, 815. 44 | 165.0 | 864, 425.75 |
| Connectic | 2, 221, 161. 60 | 862, 238.07 | 47.6 | 1, 119, 033.84 | 482, 031.50 | 24.9 | 175, 251. 55 |
| Delaware | 580, 848.76 | 227, 500.00 | 17. 1 | 668, 715.88 | $332,847.50$ 3 | 23.1 9 | $161,234.23$ |
| Florida |  |  |  | $6,852,022.09$ $7,478,068.80$ | $3,389,983.22$ $3,697.204 .31$ | 210.9 690.1 | $1,986,864.09$ <br> $1,745,014.75$ |
| Georgia | 1, 497, 036. 74 | 727, 424. 90 | 194.7 | $7,478,068.80$ $1.790,030.72$ | 3, 697. 204.31 | 690.1 | $1,745,014.75$ $484,625.95$ |
| Idaho. | 481, 703.80 | 243, 711.13 | 21.2 | 1,790, 030. 72 | 987, 178.91 | 125.2 | 484, 625.95 |
| Illinois | 1, 786, 917. 22 | 745, 389.16 | 40. 5 | $5,083,205.90$ | 2, 539, 138.88 | 178.1 | 443, 419.09 |
| Indian | 2, 023, 652. 38 | 991, 382, 65 | 65.4 | $9,537,990.97$ | 4, 604, 459. 53 | 272.8 | $989,145.39$ |
| Iowa | 6,840, 865.05 | 2, 544, 257. 86 | 570.5 | 10, 781, 078.08 | $5,132,734.89$ | 1, 012. 1 | 2, 222, 250. 43 |
| Kansa | 6, 450, 356. 54 | 2, 356, 157. 47 | 209.5 | 21, 627, 525.07 | 6, 233, 042.55 | 573.8 | 2, 884, 722. 80 |
| Kentac | 3, 763, 182.92 | 1,564, 990. 44 | 154. 7 | 7, 297, 078. 77 | $3,544,141.20$ | 297.8 | 1, 623, 453.00 |
| Louisia | 3, 953, 469. 21 | 1, 770, 940. 44 | 307.3 | 4, 087, 051.95 | $1,856,034.20$ | 270.0 | 601, 261.84 |
| Maine | 2, 843, 728.92 | 1,385, 682.38 | 94.5 | 2, 600, 214. 58 | 1, 210, 306. 43 | 75.3 | 584, 702. 21 |
| Marylan | $504,449.37$ | 252, 224.67 | 18.0 | 2, 066, 898. 17 | 937, 896. 50 | 75.4 | 413, 771.21 |
| Massachu | 2, 481, 481.14 | 1,043, 242.93 | 50. 3 | $4,529,564.91$ | 1, 665, 967. 52 | 89.8 | $\begin{array}{r}641,923.43 \\ \hline\end{array}$ |
| Michigan | 5, 999, 824. 20 | 2, 663, 624.18 | 201.4 | 10,009, 739. 26 | 4, $322,779.22$ | 371.0 | 1,594, 633.60 |
| Minnesot | 9, 346, 816.31 | 3, 942, 445. 27 | 752.5 | $7,205,828.87$ | 3, 124, 098. 36 | 638.6 | 1, 552, 076. 25 |
| Mississip | 1, 670, 058.49 | $839,830.40$ | 161.9 | 6, 8:99, 526. 97 | 3, 423, 192.39 | 405.8 | 1, 584, 834. 48 |
| Missour | 2, 216, 361. 53 | 988, 203. 42 | 175.5 | 17, 418, 531. 58 | 8, 326, 760.68 | 881.1 | $2,471,759.21$ |
| Montan | 2, 636, 795. 53 | 1, 304, 347. 20 | 247.0 | $1,285,659.82$ | $673,165.60$ 4 $442,530.94$ | 126.6 $1,506.3$ | $\begin{array}{r} 319,034.49 \\ 3,001,169.30 \end{array}$ |
| Nebrask | 1, $967,515.32$ | 950, 152.14 | 307.5 | 8,819, 992.42 | 4, 342, 530.94 | 1,506.3 | 3, 001, 169.30 |
| Nevad | 1, 105, 451.57 | 684, 451. 05 | 88.0 | 2, 771, 308.14 | 2, 300, 452. 11 | 250.9 | 803, 759. 89 |
| New liamps | 454, 298.59 | 222, 486.50 | 22.3 | 737, 820.18 | $355,504.43$ | 28. 9 | 196, 594. 02 |
| New jersey | 2, 350, 340.65 | 814, 254. 74 | 41. 4 | 2, 306, 035. 27 | 727, 200. 00 | 36.3 | 457, 860. 45 |
| New Mexic | 2, 922, 301. 96 | 1,543, 214. 20 | 432.4 | 3, 358, 414.00 | 2, 006, 229.83 | 541.2 | 836, 540.73 |
| New York. | 6, 102, 604. 56 | 2, 672, 443.79 | 179.8 | $23,778,809.63$ | 9, 495, 436.00 | 597.0 | 2, 912, 775. 58 |
| North Carolina | 6, 038, 489. 94 | 2, 719, 747.81 | 424.1 | 7, 313, 680.90 | 2, 582, 737.95 | 245.3 | 849, 983. 97 |
| North Dako | 3, 778, 519. 60 | 1, 852, 719.87 | 480.8 | 4, 200, 474.39 | 2, 092, 645.08 | 848.7 | 1, 095, 836. 29 |
| Ohio | 5, 994, 517. 58 | 2, 311, 245.21 | 181. 7 | 12, 961, 337. 16 | $5,003,885.02$ | 347.5 | $2,337,532.35$ |
| Oklahom | 7, 397, 461. 54 | 3, 299, 821. 31 | 285.3 | 5, 431, 676. 52 | 2, 462, 291.78 | 244. 4 | 1, 219, 039.80 |
| Oregon. | 1,355, 077.27 | $749,779.32$ | 84.4 | $3,224,330.66$ | 1, 785, 606. 03 | 187.1 | 453, 481. 38 |
| Pennsylvani | 11, 707, 303. 31 | 4, 242, 891.56 | 212.7 | 10, 761, 379. 52 | 3, 751, 305. 00 | 193.5 | 2, $295,816.80$ |
| Rhode Island | 199, 620.46 | 97, 554. 56 | 6. 6 | 712, 437. 22 | 308, 245.34 | 16. 0 |  |
| South Carolina | 2, 224, 081.09 | 1, 032, 741.79 | 267.1 | $5,515,316.53$ | 2, 307, 641. 72 | 512.9 | 1, 156, 772. 53 |
| South Dakota | $3,336,500.40$ | 1, $620,388.49$ | 379.7 | 5, 947, 235.04 | 3, 034, 795. 29 | 704.6 | 1, 421, 947.52 |
| Tennessee. | 1,969, 338.65 | 948, 864. 74 | 71.5 | $13,838,513.83$ | $6,893,877.82$ | 467.0 | 3, 340, 728, 55 |
| Texas | 17, 587, 951. 21 | 6,359, 362. 61 | 1, 153.7 | 23, 409, 117. 28 | 8, 531, 877.45 | 1,581.9 | 4, 386, 567. 45 |
| Utah | 1, 626, 103. 26 | $929,937.78$ | 95.2 | 3, 752, 495. 25 | $2,241,180.92$ | 273.0 | I, $228,765.01$ |
| Vermon | $830,212.33$ | $405,469.93$ | 31. 2 | 1, 068, 146. 61 | $534,073.27$ | 39. 0 | 198, 925.94 |
| Virginia | 4, 130, 598. 17 | 1,940, 269.08 | 228.1 | 8, 272, 256.14 | 4, 044, 175.46 | 325.7 | 1, 294, 483.80 |
| Weshingto | 2, 331, 237.15 | 1, 035, 846. 59 | 66.1 | 1, 830, 166. 24 | $873,450.00$ | 57.2 | 211, 564.65 |
| West Virginia | 1, 412, 851.18 | 608, 768. 63 | 71.8 | 5, 221, 761.81 | $2,276,610.53$ | 179. 4 | 1, $262,478.39$ |
| Wisconsin | 4, 981, 951. 39 | $2,128,524.04$ | 397.0 | 3, 332, 673.79 | 1, 435, 069. 13 | 278. 7 | $489,613.67$ $829,455.14$ |
| Wyoming | 2, 141, 261.41 | 1,066, 683.44 | 218.2 | 3, 717, 105.10 | 2, 136, 471.51 | 290.5 | 829, 455. 14 |
| United States.- | 166, 802, 207.97 | 71,681,382.67 | 9,973.9 | 323, 994, 579.34 | 145, 517, 158. 20 | 18, 011.1 | 62, 533, 931.33 |

## Bureau of Public Roads.

${ }^{1}$ Includes $3,239.4$ miles of practically completed projects.

$$
85813^{\circ}-Y B K 1923-76
$$

Table 732.—Highways: Federal aid projects completed, by types, 1918-1923.

| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 \text {. } \end{aligned}$ | Graded and drained. |  |  | Sand-clay. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total cost. | Federal aid. | Miles. | Total cost. | Federal aid. | Miles. |
|  |  |  |  |  |  |  |
|  | $\$ 11,808.24$$681,851.41$$2,308,794.90$$17,134,140.97$$14,569,579.11$ | $\$ 4,738.04$$298,906.04$$1,021,277.45$$7,055,698.94$$6,316,326.91$ | 10.0 | \$126, 885.24 | \$63, 321.17 | 46.8 |
|  |  |  | 203.0 | 384, 811.91 | 181, 107.89 | 90.0 |
|  |  |  | 349.9 | 2, 401, 029.18 | 1, 075, 989.00 | 384.2 |
|  |  |  | 1,635.5 | 9, 208, 839.93 | 4, 233, 269.25 | 1,111.8 |
|  |  |  | 1,966. 0 | 8, 120, 872.33 | 3, 896, 299.34 | 1,016.7 |
|  | 34, 706, 174. 63 | 14, 696, 947. 38 | 4, 164.4 | 20, 242, 438. 59 | 9, 449, 986. 65 | 2,619.4 |
| Year ending June 30. | Gravel. |  |  | Water-bound macadam. |  |  |
|  | Total cost. | Fcderal aid. | Miles. | Total cost. | Federal aid. | Miles. |
|  |  |  |  |  | * |  |
|  | $\begin{array}{r} \$ 233,623.22 \\ 1,795,314.88 \\ 9,839,752.94 \\ 35,333,778.98 \\ 46,479,134.23 \end{array}$ | $\$ 103,891.64$$778,582.85$$4,268,22554$$15,854,797.05$$20,867,363.64$ | 55.2 |  |  |  |
|  |  |  | 247.8 | \$139, 131. 96 | \$69, 241.84 | 11.7 |
|  |  |  | 1,201. 4 | 560, 6331.81 | 254, 980.59 | 40.5 |
|  |  |  | 3,445. 3 | 4, 279, 366.52 | 1,837, 921.56 | 286.8 |
|  |  |  | 4, 404. 0 | 5, 987, 050.01 | 2, 578, 843.54 | 287.5 |
|  | 93, 684, 604. 25 | 41, 872, 860.72 | 9, 442.7 | 10, 966, 180. 30 | 4, 740, 987. 53 | 626.5 |
| Year ending June 30. | Bituminous macadam. |  |  | Bituminous conerete. |  |  |
|  | Total cost. | Federal aid. | Miles. | Total cost. | Federal aid. | Miles. |
|  |  |  |  | \$136, 715. 94 | \$59, 571. 76 | 6.8 |
|  | \$41, 237. 10 | \$11, 620.00 | 1.2 | 347, 484. 00 | 162, 622.93 | 19.5 |
|  | 205, 783. 73 | 100, 882.07 | 11.0 | 460, 080. 99 | 195, 509. 11 | 19.7 |
|  | $3,428,606.06$ | 1,576, 184. 47 | 148. 9 | 4, 580, 101. 11 | 2,005, 818.94 | 159.1 |
|  | 8, 854, 811. 29 | 3, 822, 667.03 | 294.5 | 13, 533, 187.30 | 5, 221, 434.96 | 392.8 |
|  | 14, 640, 388.38 | 6,355, 525.91 | 458.1 | 4, 829, 129.82 | 2, 071, 446. 10 | 131.0 |
| Totals...-. | 27, 170, 826. 56 | 11, 866, 879. 48 | 923.6 | 23, 886, 699. 16 | 9, 716, 403.80 | 728.9 |
| Year ending June 30. | Portland cement concrete |  |  | Brick. |  |  |
|  | Total cost. | Federal aid. | Miles. | Total cost. | Federal aid. | Miles. |
|  | $\begin{array}{r} \$ 121,015.43 \\ 599,328.74 \\ 2,729,185.04 \\ 16,490,885.57 \\ 84,78,, 065.57 \\ 63,858,248.33 \end{array}$ | $\begin{array}{r} \$ 52,685.22 \\ 217,917.11 \\ 1,189,723.28 \\ 7,374,016.37 \\ 3,844,590.98 \\ 26,021,235.74 \end{array}$ | 5.725.2 | \$702-9-9-9 | \$194-7-9-1 |  |
|  |  |  |  |  |  | 18.8 |
|  |  |  | 110.3 | 839, 373. 33 | 261, 104. 00 | 21.8 |
|  |  |  | 494.6 | 1,520, 655.96 | 391, 123. 05 | 26.8 |
|  |  |  | 2,126. 9 | 9, 680, 179.46 | 3, 100, 843.36 | 205.6 |
|  |  |  | 1,621. 4 | 2, 998, 868.14 | 1,063, 446.49 | 69.0 |
| Totals | 168, 586, 728.38 | 70, 700, 168. 70 | 4,384. 0 | 15, 741, 578. 93 | 5, 010, 878. 18 | 342.0 |
| $\begin{aligned} & \text { Year ending } \\ & \text { June } 30 . \end{aligned}$ | Bridges. |  |  | All types. |  |  |
|  | Total cost. | Federal aid. | Miles. | Total cost. | Federal aid. | Miles. |
| 1917-18- |  |  | 0.2 | $\$ 257,731.37$$2,124,873.48$ | \$112, 256. 98 | 12.5 |
|  | \$59, 004. 90 | 84, 733. 45 |  |  |  | 176.8 |
| 1919-20 | 169, 467.28 |  | 0.9 | 7, 405, 000.53 | $3,159,790.53$ | 716.1$2,898.5$ |
| 1920-21 | 1,018,723. 83 | $\begin{array}{r}494,474.58 \\ 2,844,952.47 \\ \hline\end{array}$ | 4.220.0 | $42,149,181.36$$188,965,646.43$ |  |  |
| 1921-22 |  |  |  |  | $\begin{aligned} & 18,462,089.99 \\ & 79,816,175.60 \end{aligned}$ | 9,519.3 |
| 1922-23. | 5, 318, 937. 62 | 2, 510, 895. 00 | 10.3 | 166, 802, 207. 97 | 71, $681,382.67$ | 9,973.9 |
| To | 12, 719, 410. 34 | 5,945, 055. 50 | 35.6 | 407, 704, 641.14 | 174, 000, 167.94 | 23,297. 2 |

## Bureau of Public Roads.

Table 733.-Wages per hour paid common labor for road work, 1915-1923. ${ }^{1}$

| Calendar year. | United States average. | New England. | Middle Atlantic. | South Atlantic. | East South Central: | West South Central. | East North Central. | West North Central. | Mountain. | Pacific. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. | Cents. ${ }^{\text {c }}$ | Cents. 26 | Cents. |
| 1916 | 23 | 25 | 24 | 16 | 13 | 17 | 24 | 28 | 29 | 28 |
| 1917 | 28 | 31 | 30 | 21 | 17 | 21 | 29 | 34 | 36 | 35 |
| 1918 | 36 | 39 | 38 | 27 | 23 | 28 | 39 | 45 | 44 |  |
| 1919 | 41 | 41 | 41 | 32 | 28 | 36 | 43 | 53 | 47 |  |
| 1920 | 49 | 49 | 50 | 37 | 32 | 40 | 53 | 62 | 55 |  |
| 1921 | 36 | 38 | 35 | 26 | 25 |  | 35 | 45 | 46 37 | 48 |
| 1922 2- | 32 35 | 39 49 | 36 43 | $\stackrel{21}{22}$ | 20 21 | $\stackrel{24}{24}$ | 31 35 | 31 32 | 37 40 |  |
| - |  |  |  |  |  |  |  |  |  |  |

Bureau of Public Roads.
${ }^{1}$ Average of monthly reports.
${ }^{2}$ For the first six months of 1923.
Table 734.-Highway maintenance: Expenditures reported by States on Federalaid highways, calendar year 1922.

| State. | General maintenance. |  |  | Betterment. |  |  | Reconstruction. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of projects. | Miles. | Total expenditure. |  | Miles. | Total expenditure. | Num ber of projects | Miles. | Total expenditure. |
| Alabama | 49 | 332.2 | \$41, 184. 89 | 5 | 36.9 | \$29, 189. 86 |  |  |  |
| Arizona | 33 | 368.3 | 98, 909.76 |  |  |  |  |  |  |
| Arkansas | 56 | 595.8 | 76, 974. $45^{\circ}$ |  |  |  |  |  |  |
| California | 44 | 394.9 | 222, 771. 60 | 16 | 143.9 | 154, 541. 09 | 9 | 70.8 | \$25, 062.27 |
| Colorado. | 93 | 393.6 | 81, 219.31 |  |  |  |  |  |  |
| Connecticut | 5 | 36. 4 | 12, 801. 65 |  |  |  |  |  |  |
| Delaware | 7 | 42.3 | 10, 451. 78 |  |  |  |  |  |  |
| Florida | 10 | 48.7 | 15, 746.64 |  |  |  |  |  |  |
| Georgia |  |  |  | 13 | 219.4 |  | 2 | 58.0 |  |
| Illinois ${ }^{1}$ | 38 | 413.7 | 87,699.81 | 13 | 219.4 | 60,678. 68 | 2 | 58.0 | 12, 24.30 |
| Indiana. | 22 | 142.6 | 16, 236. 72 |  |  |  |  |  |  |
| Iowa. | 84 | 1, 080. 6 | 343, 815.58 | 9 | 137.7 | 151, 227.41 |  |  |  |
| Kansas | 44 | 283. 3 | 44, 796. 05 | 4 | 29.2 | 15, 691.85 |  |  |  |
| Kentucky | 29 | 231.0 | 67, 198. 52 | 7 | 48.2 | 21, 997. 63 |  |  |  |
| Louisana. | 44 | 544.8 | 246, 918. 00 | 3 | 38.1 | 14, 069.09 |  |  |  |
| Maine | 25 44 | 106.9 <br> 167.4 | $\begin{array}{r}41,083.44 \\ \mathbf{7 6}, 484 \\ \hline\end{array}$ | 1 | 3.9 | 7, 317. 43. |  |  |  |
| Maryland | 44 | 167.4 <br> 153.3 | 76, 484.97 $59,414.83$ | 2 | 4.6 | 9, 799. 39 |  |  |  |
| Michigan | 47 | 375. 5 | 87, 376.44 |  |  |  |  |  |  |
| Minnesota | 158 | 1,664.3 | 367, 688. 00 | 112 | 1,297. 5 | 742, 902.00 | 39 | 574.4 | 132, 582.00 |
| Mississippi | 53 | 529.3 | 54, 338. 19 |  |  |  |  |  |  |
| Missouri. | 17 | 110.9 583.2 | $12,397.75$ $66,229.37$ | $\begin{aligned} & 1 \\ & 5 \end{aligned}$ | $\begin{array}{r} 1.7 \\ 42.6 \end{array}$ | $\begin{array}{r} 1,200.00 \\ 28,447.22 \end{array}$ |  |  | 13, 018.09 |
| Nevada. | 20 | 168. 1 | 37, 034.54 | 2 | 7.6 | 17, 800, 41 |  |  |  |
| New Hampsh | 116 | 123.9 | 82, 941.41 |  |  |  |  |  |  |
| New Jersey -- | 21 | 80.1 | 41, 999.17 |  |  |  |  |  |  |
| New Mexico | 46 | 617.9 | 99, 960.85 | 11 | 112.8 | 49, 893.38 |  |  |  |
| New York. | 41 | 154.0 | 18,776. 82 | 3 | 7.7 | 597.19 1 |  |  |  |
| North Carolina | 98 | 820.8 | 222, 026. 48 | 18 | 188.7 | 1, 889, 192. 66 | 1 | 8.9 | 5,632.00 |
| North Dakota | 50 | 542.2 | 35, 884.57 |  |  |  |  |  |  |
| Ohio. | 128 | 580.8 | 222, 74.47 .84 |  |  |  |  |  |  |
| Oklahoma | 46 40 | 279.2 448 | $74,473.55$ $137,743.98$ | 19 | 242.0 | $\begin{array}{r} 752.84 \\ 666,702.91 \end{array}$ |  |  |  |
| Pennsylvania ${ }^{1}$ |  |  |  |  |  |  |  |  |  |
| Rhode Island. | 5 | 15.8 | 2,044 73 |  |  |  |  |  |  |
| South Carolina ${ }^{1}$ |  |  |  |  |  |  |  |  |  |
| South Dakota | 36 | 439.2 246.3 | 58, 791.01 <br> 41, 138. 25 | $\begin{aligned} & 2 \\ & 2 \end{aligned}$ | 42.6 | $\begin{array}{r} 5,741.42 \\ 38,926.43 \end{array}$ |  |  |  |
| Tennessee.-- | 21 | 246.3 |  | 2 |  | 38, 926.4 |  |  |  |
| Utah | 18 | 290.4 | 25, 542.48 |  |  |  |  |  |  |
| Vermont. | 20 | 49.0 | 13, 310. 69 |  |  |  |  |  |  |
| Virginia. | 79 | 382.5 | 136, 144. 59 |  |  |  |  |  |  |
| W ashington- | 84 | 402.7 | 163, 761. 01 | 9 | 35. 2 | ${ }_{202}^{691,558 .} 91$ |  |  |  |
| West Virginia | 77 239 | $\begin{array}{r}233.0 \\ 1,014 \\ \hline\end{array}$ | 152, 489. 21 | 28 | 112.7 13 | 202, 935. 28.21 |  | 78.1 | $5,800.00$ $31,262.64$ |
| Wisconsin | 239 60 | $\begin{array}{r} 1,014.3 \\ 568.9 \end{array}$ | $\begin{array}{r} 185,005.74 \\ 99,962.58 \end{array}$ | 32 | 133.6 | 334, 284.21 | 13 | 76.1 | 81, 262.64 |
| Total | 2,279 | 16,200.7 | 4, 017, 437.70 | 306 | 2, 918.4 | 5, 147, 629.15 | 67 | 829.0 | 226, 451. 13 |
| Expenditures per mile. |  |  | 248.00 |  |  | 1,764.00 |  |  | 273.00 |

Bureau of Public Roads.
${ }^{1}$ Not reported.

## HUNTERS' LICENSES.

Table 735.-Hunters' licenses issued by States in 1922, for season 1922-23.

|  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |

Bureau of Biological Survey.
${ }^{1}$ Money returns do not include amounts received from licenses to fish only.
${ }^{2}$ No resident licenses.
${ }^{3}$ Combination hunting and fishing licenses.
${ }_{5} 4$ Figures not available.
${ }^{5}$ Net.
${ }^{6}$ Licenses good as long as holder remains a resident; 136,414 issued previous to Jan. 1, 1923.

## METEOROLOGICAL STATISTICS.

Table 736.-Temperature: Monthly normal ${ }^{1}$ and mean temperature, at selected points in the United States, 1912-1923.

| Station. | Nor- <br> mal <br> for <br> Jan. | January monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | - | - | - | - | - | - | - |  |  | - |  | $\bigcirc$ | - |
| Amarillo | 33.9 | 31.2 | 35.0 | 454 | 34.0 | 35.2 | 36.6 | 30.7 | 28.7 | 35.2 | 41.0 | 34.0 | 46.2 |
| Atlanta, Ga | 42.6 | 37.6 | 49.5 | 45.0 | 41.9 | 48.8 | 47.9 | 34.8 | 43.8 | 42.7 | 45.9 | 43.0 | 48.2 |
| Birmingham, Ala | 45.3 | 39.8 | 52.0 | 47.4 | 42.8 | 51. 2 | 49.4 | 36.6 | 43.9 | 46.2 | 49.3 | 45.9 | 51.8 |
| Bismarck, N. Dak | 7.8 | $-.9$ | 5.6 | 17.9 | 9.2 | $-5.0$ | 6.3 | 1.4 | 24.4 | 7.4 | 18.8 | 8.4 | 12.3 |
| Boise, Idaho | 29.8 | 28.8 | 28.0 | 37.8 | 27.6 | 27.4 | 23.2 | 34.4 | 32.8 | 30.1 | 34.8 | 20.6 | - 35.5 |
| Boston, M | 27.9 | 21.4 | 39.2 | 28.7 | 33.0 | 33.0 | 30.2 | 21.0 | 33.2 | 21.0 | 32.1 | 27.2 | 27.0 |
| Browns | 59.4 | 57.4 | 58.6 | 62. 6 | 58.8 | 67.2 | 62.6 | 58.0 | 56.0 | 58.2 | 65.8 | 57.8 | 67.6 |
| Buffalo, | 24.6 | 15. 6 | 33.8 | 27.9 | 25.3 | 32.0 | 24.4 | 14.1 | 31.0 | 15.6 | 29.1 | 23.2 | 25.4 |
| Canton, | 16.3 | 4.8 | 26.8 | 13.0 | 19.4 | 25.0 | 14.4 | 7.5 | 22.0 | 4.1 | 20.9 | 12.8 | 10.8 |
| Charleston, | 49.9 | 45.8 | 58.3 | 50.0 | 49.7 | 55.9 | 54.6 | 42.4 | 51.1 | 51.0 | 51.8 | 47.4 | 53.7 |
| Charlotte, | 41.2 | 34.7 | 48.8 | 43.8 | 41.6 | 47.6 | 46.1 | 32.4 | 45.0 | 39.8 | 42.2 | 40.2 | 44.6 |
| Cheyenne | 25.5 | 27.7 | 24.4 | 31. 4 | 25.8 | 17. 6 | 21.8 | 19.8 | 31.8 | 33.5 | 28.2 | 21.0 | 32.2 |
| Chicago, Ill | 25. 1 | 11.9 | 29.3 | 32.4 | 24.1 | 28.8 | 24.2 | 13.3 | 31.0 | 18.8 | 32. 4 | 24.8 | 30.8 |
| Cincinnati, | 30.3 | 22.0 | 40.6 | 37.8 | 31.4 | 37.6 | 32.4 | 16.3 | 35.2 | 25.4 | 35.9 | 29.2 | 36.5 |
| Cleveland, Ohio | 26. 5 | 15.8 | 35.3 | 32.0 | 26.0 | 34.8 | 27.3 | 15.0 | 32.6 | 19. 0 | 32.0 | 25.6 | 30.2 |
| Concordia, Kans | 24.4 | 16. 0 | 27.0 | 36. 2 | 26. 5 | 21.5 | 28.8 | 15.3 | 33.6 | 30.2 | 36.2 | 27.0 | 37.2 |
| Des Moines, Iow | 20.1 | 6.2 | 23.5 | 29.6 | 20.8 | 20.8 | 20.0 | 11.8 | 29.8 | 18.4 | 30.4 | 22.6 | 29.3 |
| Devils Lake, N. Dak. | . 3 | -8.3 | -1.4 | 9.6 | 2.6 | -8. 2 | -3.0 | -4.6 | 14.4 | -2.3 | 10.5 | 4.1 | 6.0 |
| Dodge City, Kans.-- | 29.0 | 18.0 | 29.4 | 39.4 | 30.6 | 23.8 | 31.3 | 21.1 | 31.0 | 32.8 | 36.4 | 28.6 | 39.0 |
| Dubuque, Iowa | 19.1 | 3.8 | 22.7 | 28.2 | 17.2 | 21.6 | 16. 6 | 8.2 | 25.9 | 13.4 | 28.5 | 19.7 | 25.8 |
| Duluth, Minn | 7.9 | $-7.2$ | 6.3 | 15.4 | 9.2 | 5.1 | 3.1 | 0.8 | 17.8 | 3.0 | 16.6 | 8. 6 | 13.0 |
| El Paso, Tex | 44.1 | 45.7 | 40.3 | 48.4 | 41.2 | 50.4 | 44.8 | 41.5 | 40.7 | 44.5 | 48.6 | 43.5 | 49.1 |
| Eureka, Calif | 46.9 | 49.6 | 42.7 | 49.6 | 48. 8 | 43.0 | 42.6 | 48.4 | 49.0 | 47.9 | 45.6 | 43.2 | 46.9 |
| Evansville, Ind | 32.3 | 23.8 | 39.4 | 39.6 | 31.5 | 38.6 | 36.3 | 19.4 | 38.5 | 30.4 | 39.4 | 32.3 | 40.8 |
| Fort Worth, Te | 44. 3 | 40.6 | 46. 1 | 53.0 | 45.4 | 46. 2 | 48.6 | 36. 8 | 45. 8 | 43.0 | 51.4 | 43.0 | 55.5 |
| Fresno, Calif -- | 45.4 | 48.5 | 44.5 | 50.0 | 47.4 | 45.6 | 42.8 | 46. 4 | 48. 2 | 48.2 | 46.4 | 41.7 | 46. 2 |
| Galveston, Tex | 53.8 | 49.2 | 54.6 | 57.0 | 51. 2 | 58. 4 | 56.6 | 47.8 | 50.6 | 54.0 | 58.2 | 52.0 | 62.0 |
| Grand Rapids, M | 23.8 | 11.8 | 28.2 | 29.0 | 23. 3 | 28.7 | 22.8 | 12.5 | 30.0 | 16.0 | 30.5 | 23.6 | 26.2 |
| Greenville, Me | 12.8 | 4.1 | 20.4 | 9.7 | 16.4 | 15.1 | 12.4 | 6.4 | 15.6 | 4.6 | 15. 2 | 11. 0 | 8.7 |
| Mavre, Mont | 12. 9 | 10.1 | 6.9 | 18.8 | 11.4 | -13.3 | 11.2 | 10.8 | 34.1 | 13.0 | 26. 0 | 13.8 | 19.4 |
| Indianapolis, | 28. 4 | 17. 2 | 35.1 | 34.6 | 26.8 | 33.8 | 30. 6 | 14.6 | 34.0 | 22. 2 | 34.3 | 26.7 | 34.6 |
| Iola, Kans... | 27.6 | 20. 6 | 30.6 | 37.2 | 30.4 | 28.5 | 33.7 | 17.6 | 33.6 | 30.5 | 38. 4 | 30.0 | 40.6 |
| Jacksonville, | 55.4 | 52.6 | 63.6 | 55.2 |  | 62.4 | 61.2 | 50.0 | 55.3 | 57.3 | 58.0 | 53.4 | 59.2 |
| Kalispell, Mo | 19.6 | 20.0 | 18.2 | 29.2 | 20.2 | 4.4 | 20.1 | 21.8 | 26.8 | 24.2 | 26.1 | 16.9 | 27.4 |
| Little Rock, A | 41.4 | 35.2 | 45.1 | 47.0 | 40.2 | 45. 2 | 45.0 | 28.6 | 43.2 | 40.8 | 47.2 | 39.8 | 49.7 |
| Los Angeles, C | 54.6 | 59.0 | 52.1 | 56.8 | 55. 9 | 50. 8 | 51.2 | 55. 7 | 60.2 | 56.6 | 54.1 | 53.4 | 58.1 |
| Lynchburg, Va | 37.5 | 29.0 | 45.2 | 42.0 | 38. 4 | 43.2 | 39. 4 | 27.0 | 41.0 | 34.4 | 39.0 | 35.1 | 39.8 |
| Madison, Wis | 16. 7 | 1.2 | 19.4 | 25.9 | 15.4 | 20.2 | 13. 8 | 5. 6 | 24.1 | 10.0 | 25.4 | 17.0 | 22.0 |
| Marquette, M | 15.9 | 1.3 | 17.7 | 21.8 | 16.3 | 17.4 | 12.6 | 8.8 | 24.6 | 9. 2 | 23.4 | 17.2 | 19.2 |
| Memphis, Ten | 40.9 | 34. 6 | 46.0 | 46.1 | 39.4 | 46. 2 | 44.7 | 27.6 | 43.0 | 39.3 | 47.2 | 40.0 | 49.2 |
| Miami, Fla | 67.3 | 68.0 | 72.4 | 64.4 | 67.0 | 72.0 | 69.8 | 62.8 | 65.1 | 68.6 | 67.8 | 67.6 | $68.8$ |
| Mobile, Ala | 52.2 | 47.8 | 57.4 | 53. 6 | 49.6 | 57.2 | 57.2 | 45.7 | 49.6 | 53. 6 | 56.0 | 53.0 | 58. 4 |
| Modena, Utah | 27.5 | 28. 7 | 23.9 | 32. 2 | 24.2 | 24.4 | 13.6 | 28. 2 | 25.6 | 28.7. | 28.7 | 16.6 | 33.5 |
| Nashville, Tenn | 38. 6 | 32.3 | 45.4 | 42. 6 | 36. 2 | 44.6 | 41.8 | 26. 4 | 40.1 | 38.6 | 43.2 | 38.9 | 45.0 |
| New Orleans, 1 | 54.2 | 50.2 | 59.9 | 56.6 | 51.8 | 61.3 | 59.8 | 48. 1 | 51. 2 | 56.0 | 59.2 | 56. 0 | 61.0 |
| Norfolk, Va- | 40.6 | 33.5 | 51.2 | 44.1 | 42.2 | 47.0 | 42.8 | 31.6 | 43.8 | 37.4 | 43.6 | 39.2 | 43.9 |
| North Platte, Nebr | 22.9 | 13. 9 | 23.7 | 34.0 | 20.1 | 15.0 | 22.8 | 14.8 | 28.6 | 28.9 | 30.1 | 21.6 | 32.9 47.8 |
| Oklahoma City, Okla | 34. 7 | 30. 2 | 37. 0 | 45.4 | 37.1 | 33.4 | 39.0 | 25. 0 | 38. 4 | 35. 2 | 43. 0 | 35. 2 | 47.8 |
| Omaha, Nebr $-\cdots--$ | 21.9 | 10. 4 | 23.8 | 30.6 | 21.6 | 17.2 | 22.6 | 12.7 | 31. 9 | 23. 2 | 32.0 | 23.6 | 32.5 |
| Parkersburg, W. Va- | 31.3 | 22. 4 | 42.2 | 37.6 | 31.9 | 38.8 | 33. 2 | 20.3 | 35. 6 | 28. 4 | 37.4 | 31.8 | 37.0 31.8 |
| Peoria, Ill | 23.1 | 11.0 | 27.8 | 32. 2 | 21.0 | 27.2 | 24.4 | 10.4 | 29.2 | 18.6 | 32. 2 | 23.8 <br> 48 <br> 18 | 31.8 55.4 |
| Phoenix, Ariz | 50.0 | 53.0 | 47.2 | 54. 8 | 50.0 | 50.8 | 49.0 | 49.6 | 50. 8 | 53.3 | 52.0 | 48.6 | 55. 4 |
| Pierre, S. Da | 16.0 | 7.0 | 18.6 | 25.5 | 15.6 | 2.4 | 14.8 | 8. 0 | 29.7 | 19.0 | 27.9 | 13.6 | 24.9 33.4 |
| Pittsburgh, P | 30.7 | 20.4 | 40.2 | 34.4 | 30.6 | 37.5 | 31.6 | 18.6 | 34.4 | 24.4 | 34.6 | 28.8 | 33.4 |
| Portland, Oreg | 39.4 | 41.4 | 38. 2 | 45.8 | 39.2 | 29.6 | 39.6 | 45. 4 | 42.2 | 39.4 | 41.6 | 35. 2 | 42.8 |
| Pueblo, Colo | 29.1 | 26. 1 | 29.0 | 38. 6 | 29.6 | 27.1 | 30.1 | 22.8 | 30.8 | 35.0 | 35.4 | 26. 1 | 39. 0 |
| Roseburg, Ore | 41. 2 | 45.4 | 38.4 | 45.4 | 40.3 | 35.8 | 38.0 | 45.8 | 41.3 | 41.2 | 42.0 | 37.2 | 42.6 |
| Sacramento, | 45.8 | 47.4 | 44.2 | 48.8 | 46.3 | 43. 6 | 42.4 | 47.5 | 46.2 | 46.8 | 46. 2 | 40.6 | 43.8 |
| St. Louis, M | 30. 8 | 20.4 | 34.8 | 39.7 | 29.6 | 34. 1 | 34.8 | 18.8 | 37.8 | 28.4 | 39.2 | 30.2 | 39.5 |
| St. Paul, Minn | 12.6 | $-2.0$ | 13.8 | 21.2 | 12.4 | 10. 4 | 6.8 | 3.7 | 21.8 | 7.0 | 21.4 | 12.8 | 17.6 |
| Salt Lake City, Utah. | 29.2 | 34. 4 | 26. 9 | 315.2 56 | 28.2 50.6 | 29.4 | 21. 2 | 30.4 47 |  | 30.8 <br> 49 | 35.7 <br> 58 | 22.2 49.4 | 36.0 62.0 |
| San Antonio, Tex | 51.1 | 48.8 57.0 | 52.4 50.6 | 56.4 | 50.6 55.2 | 56.2 | 55.2 51.6 | 47. 54. d | 49. 5 56 | 49.4 54.6 | 58.4 53.6 | 49.4 52.5 | 62.0 56.3 |
| San Diego, Calif | 54.3 49.9 | 57.0 51.8 | 50.6 47.4 | 56.3 51.5 | 55.2 | 52.5 47.0 | 51.6 47.6 | 54.4 | 56.6 | 54.6 52.2 | 53.6 49.5 | 52.5 46.8 | 56.3 48.1 |
| Santa Fe, N. Mex.-- | 28.8 | 28.9 | 24.8 | 33. 5 | 24.4 | 30. 6 | 28. 0 | 26. 2 | 24.4 | 33. 9 | 32.4 | 28. 0 | 34.9 |
| Scranton, Pa | 27.2 | 19.4 | 37.2 | 28.2 | 30.2 | 33.6 | 28.4 | 17. 4 | 31.7 | 18.7 | 29.4 | 24.1 | 26.8 |
| Seattle, Was | 39.3 | 42. 6 | 36. 6 | 43.2 | 40.6 | 31.0 | 38. 0 | 43. 7 | 41.4 | 40.2 | 40.4 | 35.5 | 40.4 |
| Sheridan, W y | 18.9 | 17.0 | 14. 4 | 29.2 | 17.8 | 1.8 | 18. 2 | 15.6 | 27.9 | 22.8 | 27.6 | 11.6 | 28.4 |
| Shreveport, L | 46.2 | 42.2 23.7 | 50. 5 | 52. 6 | 45. 2 32 22 | 51.6 33.8 | 50.5 36.0 | 38.2 18.4 | 46.0 | 46.2 31.4 | 53.4 39.8 | 44.6 31.8 | 55.9 42.7 |
| Springfield, Mo | 31.3 | 23.7 | 34.2 | 39. 5 | 32.2 | 33. 8 | 36. 0 | 18.4 | 36.6 | 31.4 53.9 | 39.8 <br> 55 | 31.8 51.6 | 42.7 56.8 |
| Thomasville, | 51.0 | 48.4 | 59.4 | 52.2 | 51.0 | 60.1 | 58. 2 | 46. 0 | 51. 4 | 53.9 | 55.6 | 51.6 | 56.8 |
| Trenton, N.J.-...- | 30.5 | 24.6 | 40.8 | 32. 2 | 34.0 30.8 | 35. 5 | 32.4 34.0 | 20.4 39.8 | 34.8 36.8 | 23.2 31.6 | 33.4 37.8 | 28.4 | 31.0 40.8 |
| Walla Walla, Wash.- | 33.2 33.4 | 31.2 25.0 | 32.0 43.6 | 45.6 38.6 | 30.8 35.6 | 18.6 39.8 | 34.0 35.0 | 39.8 23.7 | 36.8 | 31.6 28.7 | 37.8 36.6 | 23.0 | 40.8 36.8 |
| Washington, D. C---- | 33.4 28.6 | 25.0 32.0 | 43.6 25.2 | 38.6 34.6 | 35.6 29.3 | 39.8 22.1 | 35.0 11.8 | 23.7 31.8 | 38.1 29.2 | 28.7 31.5 | 36.6 32.6 | 32.0 | 36.8 30.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table 736.-Temperature: hforthly narmat ${ }^{1{ }^{1}}$ and mean temperature, at selecied points in the United States, 1912-1923-Continued.

| Station. | Nor- <br> mal <br> for <br> Feb. | February monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1020 | 1921 | 1922 | 1923 |
|  | - |  | - |  |  |  |  |  |  |  |  |  | - |
| $\Lambda$ marillo | 37.2 | 35. 6 | 31.6 | 38.2 | 41.4 | 43. 5 | 40.6: | 44.0 | 37.9 | 40.5 | 41.6 | 40.8 | 36.3 |
| Atlanta, Ga | 45.3. | 40.0 | 45.4 | 43.1 | 45.8 | 44.1 | 44. 4 | 50.8 | 44.4 | 41.8 | 48.1 | 50.1 | 43.7 |
| Birmingham, Ala | 48.33 | 42:2 | 46.0 | 44. 4 | 47.8 | 45. 6 | 47.8 | 52. 6 | 4fi. 0 | 44.5 | 50.0 | 52. 8 | 45.8 |
| Bismarck, N. Nak | 10.3 | 14. 2 | 13.0 | 5:3 | 20: 6 | 11.8 | 1. 8 | 14. 2 | 10.0 | 17. 2 | 22.8 | 2. 2 | 7. 4 |
| Itoise, Idaho. | 34.8 | 36.7 | 31.3 | 36, 0 | 40. 8 | 38: 6 | 30.5 | 3f. 0 | 35.8 | 35.4 | 35. 3 | 31. 9 | 30.7 |
| Boston, Ma | 28.8 | 27.7 | 27.7 | 24.3 | 33.2 | 25.5 | 25: 8 | 25. 9 | 32.6 | 27.6 | 32.6 | 32.0 | 23.4 |
| Brownsville | 62.9 | 5933 | 59.6 | 62.8 | 64.3 | 64. 8 | 66.3 | 65.2 | 62: 6 | 65. 4 | 63.8 | 6 ¢8. 7 | 82.5 |
| Buftalo, | 24.3 | 19.6 | 22:2 | 16.9 | 29.6 | 18. 9 | 18. 0 | 23. 1 | 28.8 | 19.9 | 29.4 | 27.1 | 20.7 |
| Canton, N | 18.0 | 12.3 | 13. 1 | 8. 3 | 20.8 | 11. 6 | 9.5 | 15.6 | 21.8 | 15. 4 | 20.9 | 20.1 | 9.2 |
| Charleston, | 52. 4 | 46.2 | 54.0 | 48.6 | 51.5 | 52. 0 | 50.8 | 55.2 | 51: 6 | 48: 2 | 53.6 | 56.4 | 50.3 |
| Charlotte, | 43.9 | 38.8 | 44.4 | 39.6 | 45. 7 | 43. 6 | 42. 9 | 48:6 | 42.8 | $3{ }^{3} \mathrm{P} .8$ | 45.5 | 48.4 | 42.2 |
| Cheyenme, | 27.3 | 25.2 | 18.6 | 25, 6 | 31.2 | 31.8 | 27.2 | 29:4 | 25.6 | 26. 8 | 30.2 | 23.9 | 23.9 |
| Chigage, Ill | 27.4 | 21.8 | 24. 8 | 20.2 | 34, 5 | 25.0 | 198.8 | 27.2 | 305 | 25.8 | 33.4 | 29.4 | 22.3 |
| Cincinnati, | 32.8 | 26. 7 | 32.0 | 27.4 | 40.1 | 29.6 | 29.0 | 34.5 | 34.4 | 30.6 | 37.0 | 36.0 | 28.3 |
| Cleveland, Obio | 27. 4 | 21.1 | 24,4 | 19.8 | 32. 8 | 23:0 | 21. 3 | 28. 2 | 31.3 | 24, 5 | 32.1 | 31.7 | 23.8 |
| Coneordia, Kans | 28.8 | 29. 2 | 25. 4 | 26. 6 | 35.1 | 28.2 | 28. 6 | 32, 6 | 30.9 | 33.9 | 39.6 | 31.0 | 3010 |
| Des Moines, Iowa | 25.7 | 19.6 | 22.4 | 19.7 | 31. 8 | 21.3 | 19.2 | 26. 4 | 26. 5 | 25.3 | 33.2 | 26.4 | 22.4 |
| Towils Lake, N: Dak. | 4.5 | 8. 2 | 4.1 | -3: 6 | 15. 4 | 3.2 | $-3.8$ | 8.6 | 3. 6 | 8. 0 | 15. 4 | -. 4 | 2.0 |
| Wodge City, Kans - | 33. 2 | 32. 0 | 24.8 | 30.0 | 39.0 | 34: 9 | 32. 1 | 37. 5 | 31.9 | 35.1 | 38.7 | 34.0 | 32.0 |
| Dubuque, low | 22.2 | 17. 1 | 20.4 | 15. 8 | 30: 2 | 20.1 | 14.2 | 29.0 | 25.7 | 21. 1 | 29.8 | 23.8 | 18.3 |
| Duluth, Minn | 11.4 | 8.8 | 5.6 | 2. 7 | 20. 6 | 7.0 | 1. 8 | 10.8 | 13.8 | 12. 4 | 19.0 | 7.6 | 5.4 |
| El Paso, Tex | 48.9 | 46. 4 | 45.7 | 49.0 | 47.8 | 53.4 | 48.8 | 51: 8 | 46.0 | 53.4 | 49.4 | 50.5 | 46.4 |
| Euteka Calif | 46.8 | 48.9 | 44.0 | 47.9 | 48. 4 | 50.4 | 44: 2 | 47.0 | 47.0 | 46.0 | 47.8 | 45.0 | 45.7 |
| Evansville. | 35.8 | 29.2 | 33. 0 | 27.9 | 41. 2 | 34.3 | 325 | 37. 3 | 37.7 | 35. 0 | 40. 0 | 38.9 | 32.6 |
| Fort Worth T | 48.1 | 45.6 | 43.8 | 44.3 | 52.2 | 48. 8 | 498 | 520 | 47.3 | 50.4 | 52.0 | 52.5 | 46. 4 |
| Fresno, Calif | 49:2 | 53.0 | 59.6 | 52. 2 | 52. 2 | 54.g | 51: 4 | 51 | 49,5 | 52.2 | 51.5 | 49. | 50.2 |
| Gaiveston, Tex | 50.3 | 52. 0 | 55.0 | -52:8 | 56.9 | 58.3 | 57.2 | 57.0 | 554 | 58.8 | 58.0 | 59.9 | 56:3 |
| Grand Rapids, | 25.5 | 18.2 | 21. 0 | 15.8 | 31.1 | 21. 1 | 17. 4 | $22: 1$ | 28.5 | 21: 2 | 30.0 | 27.5 | 179, |
| Greenville, | 12.4 | 14.0 | 10.4 | 5. 9 | 20.4 | 11.9 | 9.1 | 10.2 | 182 | 15. 0 | 14.3 | 14.8 | 7.3 |
| Havre, Mon | 13. 6 | 22. 8 | 13.7 | 7.6 | 16.6 | 14.2 | 6.8 | 17.8 | 14:9 | 21.3 | 28.8 |  | 13.6 |
| Indianapolis, | 31.1 | 22.8 | 27.4 | 21.8 | 37.0 | 28: 0 | 25.1 | 31. | 33.2 | 29.2 | 36.2 | 33.4 | 26.0 |
| lola, Kans.- | 32.2 | 30.2 | 27.8 | 30.0 | 39.0 | 32.2 | 31.8 | 34. | 35.1 | 36. 8 | 41.8 | 38: 4 | 32. 2 |
| Jucksoaville, F | 58.0 | 52. 5 | 58. 4 | 55.3 |  | 57. 2 | 56.8 | 028 | 57. 6 | 53. 9 | 59.6 | 62.0 | 58.0 |
| Kalispell, Mon | 23: 8 | 28. 0 | 17.0 | 22.3 | 28.4 | 24.4 | 220 | 21.7 | 23. 0 | 25. 9 | 30.2 | 15.4 | 17.0 |
| Littre Rock, A | 44.9 | 38.9 | 42.4 | 41.8 | 48. 4 | 44.0 | 44:8 | 48.0 | 45.0 | 46.2 | 49.0 | 48. 2 | 42.4 |
| Los Angeles, | 55.5 | 59.8 | 53.8 | 59.4 | 54.7 | 58. 7 | 55.3 | 560 | 53. 6 | 57. 6 | 57.4 | 54.0 | 50.6 |
| Lynehbury, Va | 40.3 | 34.4 | 40.2 | 35.2 | 42.2 | 38.8 | 36.9 | 41.2 | 35. 8 | 35.4 | 41.4 | 42.0 | 37.8 |
| Madison, ${ }^{\text {W }}$ is | 19.1 | 14.6 | 15.6 | 12.1 | 27.7 | 17.1 | 11. 1 | 19.5 | 23.7 | 18.4 | 26.4 | 20.3 | 15.0 |
| Marquetie, M | 15.9 | 11. 6 | 11. 1 | 11. 6 | 25.4 | 13. 9 | 6.4 | 12. 8 | 23.3 | 15. 6 | 23.5 | 17.0 | 12.4 |
| Mapaphis, | 44.3 | 37.1 | 42.0 | 40.2 | 46. 0 | 42. 5 | 43.2 | 46.8 | 44.6 | 43: 6 | 47.6 | 47.2 | 41.0 |
| Miami, Fle | 68.8 | 62.8 | 70.8 | 67.4 | 65. 6 | 65.7 | 64.8 | 70.4 | 66.6 | 64. 2 | 68.8 | 70.3 | 60.8 |
| Mobile, Ala | 55.2 | 49.2 | 54.0 | 52. 0 | 53.3 | 53. 0 | 54. 4 | 59.4 | 53. 6 | 53.2 | 56.0 | 59.4: | 53.6 |
| Modena; Uta | 31.6 | 33: 4 | 27.6 | 32. 6 | 31.8 | 36.1 | 26. 2 | 31.8 | 20.4 | $3 \pm .8$ | 34.6 | 29.0 | 22.0 |
| Nashville, Ton | 41.6 | 35.6 | 39.6 | 38.0 | 44. 0 | 39.1 | 39.8 | 44. 7 | 41.2 | 39.4 | 45.1 | 45. 0 | 38.5 |
| New Orleans, | 57.3 | 51.5 | 54. 6 | 53.2 | 56. 2 | 58. 6 | 58.8 | 63. 0 | 56.6 | 56.9 | 60.2 | - 02.7 | 57.0 |
| Norfolk, Via | 42.7 | 38.0 | 43.0 | 38. 6 | 45.4 | 41. 1 | 38.8 | 43. 7 | 42. 6 | 38.0 | 45.0 | 44:8 | 39.2 |
| North Platte, Ne | 26. 6 | 28, 6 | 20.0 | 23.3 | 29.7 | 28. 8 | 28.8 | 20.1 | 23. 6 | 29.6 | 34: 3 | 24:3 | 26.2 |
| Oklahorna City, Okla | 38.5 | 37. 4 | 32.4 | 36.7 | 43.8 | 39.3 | 39.1 | 43.1 | 40. 2 | 42.2 | 44, 2 | 42.8. | 38.0 |
| Omaha, Nebr | 25.5 | 23. 2 | 23.6 | 21.4 | 31.9 | 23. 0 | 21. 6 | 27.5 | 27.8 | 28.9 | 35.8 | 24. 8 | 25.6 |
| Parkersburg, W. Va_ | 33.9 | 26.6 | 32. 2 | 27.6 | 39.7 | 30.0 | 30.8 | 3. 8 | 35.8 | 32.1 | 38.2 | 38: 4 | 31.2 |
| Peoria, Hl | 25.9 | 20.8 | 24. 4 | 19.3 | 35.4 | 24. 4 | 20.8 | 27.9 | 30.8 | 27. 6 | 34.4 | 29:9 | 23.2 |
| Phoenix, Ariz | 54.4 | 56.2 | 53.1 | 55.1 | 53.8 | 59. 6 | 53. 8 | 55.2 | 51.2 | 57.6 | 57.6 | 54. 4 | $55.3{ }^{1}$ |
| Pierte, S: Fak | 18.6 | 21.5 | 18.6 | 10.4 | 23. 4 | 19.2 | 10.4 | 20.2 | 14. 0 | 20.1 | 32.3 | 9.6 | 18: 7 |
| Pittiburghr, ${ }^{\text {P }}$ | 32.3 | 24.7 | 28.8 | 24.3 | 36. 8 | 26.8 | 27. 0 | 32.7 | 38.5 | 28.2 | 35.6 | 35. 2 | 27. 4 |
| Portland, Ore | 42.1 | 45.3 | 39.7 | 43.4 | 45.4 | 42.2 | 4 4 : 5 | 41. 0 | 42.6 | 42.2 | 45.2 | 39.9: | 37. ${ }^{2}$ |
| Pueblo, Colo. | 31.8 | 32.3 | 24.6 | 32.0 | 30. 5 | 36.0 | 35.4 | 37.4 | 30.9 | 3出 8 | 38.2 | 33. 2 | 29.6 |
| Roseburs, Or | 43.4 | 46.9 | 40.4 | 44:5 | 45. 0 | 48.8 | 41:2 | 43.4 | 43: 2 | 41.2 | 46.4 | 41.2 | 45: 8 |
| Sacramemto, C | 50.1 | 53.1 | 50.0 | 51. 1 | 51.0 | 53.8 | 50.0 | 493 | 48.4 | 50.4 | 50.9 | 47.1 | 50.2 |
| St. Louis, Mo. | 34.5 | 28.0 | 31.9 | 27.4 | 40.5 | 32.8 | 30.4 | 35. 6 | 36.7 | 34.8 | 42. 1 | 36.4 | 30.4 |
| St. Paul, Minn | 15.8 | 14.6 | 12.9 | 8.0 | 25.5 | 11.5 | 6. 2 | 17:4 | 17.0 | 15.5 | 23.8 | 11. 0 | 9.8 |
| 3att Lake Gity, Utah. | 33.8 | 37.0 | 31.8 | 34.5 | 38.2 | 36.0 | 28. 6 | 1. 7 | 34.2 | 37. 4 | 36.8 | 29.8 | 26. 6 |
| San Antonio, Fex | 54.4 | 51.4 | 52.0 | 53.2 | 58.4 | 58.6 | 57.6 | 56.6 | 53: 0 | 57.7 | 58.4 | 58.2 | 52.0 |
| San Diego, Calif | 55.1 | 50.2 | 53.4 | 57.4 | 55.4 | 56.4 | 547 | 5.1 | 53: 6 | 56.8 | 55.2 | 53.7 | 55.2 |
| Sant Franeliscos Calif. | 52.2 | 54.6 | 52.4 | 54.0 | 52.8 | 55.8 | 52. 0 | 51.8 | 51. 6 | 52.8 | 529 | 50.2 | 52.2 |
| Santa Fe, N. Mex. | 33.1 | 30.3 | 29.2 | 32.6 | 32.4 | 3¢9 9 | 328 | 35.8 | 27. 2 | 37.5 | 34. 8 | 32.2 | 32. 2 |
| Scranton, Pa | 25.5 | 24.6 | 26.4 | 19.8 | 33. 2 | 235.6 | 24.1 | 29, 8 | 32. 3 | 24.8 | 3.6 | 31.5 | 23. 0 |
| Seatila, Was | 40.5 | 43.9 | 40.0 | 42.3 | 44. 5 | 41.9 | 383 | 49.0 | 40.8 | $4{ }^{46} 3$ | 428: | 39.4 | 37.3: |
| Sheridan, | 22. 4 | 22.5 | 12.0 | 20.6 | 22\% 5 | 22.0 | 20.5 | 23. 1 | 24.6 | 27.0 | 31.9 | -11. ${ }^{\text {f }}$ | 18.8: |
| Ghreveport, E | 59.0 | 45.3 | 47.4 | 48. 4 | 51. 4 | 56.6 | 51. 6 | 55. 1 | 49.6 | 51.8 | 53.6 | 54.0 | 48. 5 |
| Springfield, Mo | 33.6 | 29.4 | 31.0 | 31.2 | 39.8 | 34.0 | $33^{3} 0$ | 77. 6 | 35.8 | 38.9 | 42.4 | 38.2 | 32: 0 |
| thomasville, ( $\ddagger$ | 55.0 | 48. 4 | 54.0 | 51. 4 | 52.8 | 54.4 | $5{ }^{5}$ | 60.5 | 58: 8 | 宥 6 | 56.4 | 61.2 | 55.6 |
| Trenton, $\mathbf{N}$ | 30.7 |  | 32.6 | 25.6 | 36.0 | 27.8 | 2205 | 30. 0 | 34.4 | 283 | 34. 2 | 34. 2 | 26.4 |
| Walla Walla, Was | 36. 4 | 41. 0 | 29.8 | 36.3 | 42. 0 | 32. 6 | 36.9 | 38. 7 | 38.0 | 37. 1. | 40. 7 | 33. $4^{\prime \prime}$ | 29.8 |
| Washington, D. C... | 35.3 | 31.0 | 36. 6 | 30.1 | 38.8 | 34. 2 | 32.8 | 38.8 | 37.2 | 32.7 | 39.0 | 38. | 32.6 |
| Winnomucea, NeV --- | 33. 5 | 36.0 | 31.6 | 36. 4 | 37.6 | 37. 4 | 28.9 | 32. 1 | 33. 4 | 34.5 | $38^{4} 8$ | 2\%. $9^{\circ}$ | 27.7 |

[^349]Table 736.-Temperature: Monthly normal and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | Nor- <br> mal <br> for <br> Mar. | March monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 14.5 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 923 |
|  | - | - | - |  | - |  | - | - | - | - | - | - | - |
| Amarillo | 45.0 | 39.3 | 43.3 | 47.3 | 37. 2 | 53.7 | 46.2 | 52.3 | 46.4 | 47.2 | 52.0 | 45.3 | 42.8 |
| Atlanta, | 52.0 | 49.9 | 53.0 | 48.6 | 43.6 | 50.7 | 52.6 | 59.2 | 54.0 | 49.6 | 61.1 | 53.6 | 52.1 |
| Birmingham, | 55.2 | 51.5 | 54.6 | 50.1 | 45.4 | 52.8 | 56.2 | 61.8 | 55.5 | 52.1 | 64.0 | 55.4 | 54.0 |
| Bismarck, N. Dal | 24.2 | 16.0 | 20.8 | 27.6 | 24.0 | 24.7 | 24.3 | 36.5 | 19.1 | 26.0 | 27.8 | 27.3 | 21.4 |
| Boise, Idaho-- | 42.7 | 40.2 | 38. 9 | 46.0 | 47.2 | 46.0 | 33. 2 | 45.5 | 42.8 | 40.8 | 45.2 | 38.8 | 40.6 |
| Boston, Mass | 35.6 | 36.0 | 42. 4 | 36.7 | 35.8 | 30.6 | 37.2 | 36. 7 | 40.8 | 39.2 | 48.2 | 39.8 | 33.9 |
| Brownsville, 7 | 68.3 | 65.3 | 65.2 | 63.4 | 59.0 | 71.4 | 69.5 | 71.2 | 69.2 | 66.4 | 74.3 | 68.7 | 65.0 |
| Buifalo, N. | 31. 1 | 27.4 | 34.8 | 30.1 | 27.8 | 27.1 | 33. 2 | 34.7 | 35.5 | 36.0 | 41.6 | 35.2 | 29.2 |
| Canton, | 27.7 | 20.3 | 31.8 | 26.0 | 25.2 | 19.0 | 28.4 | 28. 4 | 29.8 | 30.7 | 37.3 | 32.0 | 20.6 |
| Charleston, | 57.4 | 56.1 | 60.0 | 51.2 | 49.6 | 55.2 | 59.4 | 62.0 | 59.5 | 54.6 | 65.1 | 59. 0 | 59.6 |
| Charlotte, N | 50. 4 | 49.2 | 53.6 | 46.2 | 43.1 | 49.8 | 50.3 | 55.8 | 52.0 | 49.8 | 59.6 | 53. 2 | 52.6 |
| Cheyenne, | 33.1 | 23. 2 | 30.8 | 34. 0 | 27.6 | 38.6 | 25.6 | 40.8 | 33. 7 | 31.5 | 37.6 | 33.8 | 28.2 |
| Chicago, II | 36.3 | 28.8 | 35. 2 | 35. 7 | 34.8 | 34. 6 | 38.8 | 42.2 | 38.5 | 40. 2 | 45.8 | 39.4 | 33.0 |
| Cincinnati, | 40.9 | 37.8 | 44.8 | 40.6 | 37.5 | 38.9 | 43.0 | 47.6 | 43. 7 | 44.0 | 52.4 | 44.8 | 40.4 |
| Cleveland, Ohio | 34.6 | 29.0 | 38. 0 | 34.0 | 30.4 | 30. 1 | 37.3 | 40. 2 | 37.1 | 40.0 | 45.6 | 38.8 | 34.8 |
| Concordia, Kan | 40.7 | 30. 2 | 38. 6 | 41.3 | 30.6 | 44.5 | 41.6 | 48.4 | 42.0 | 44.8 | 47.6 | 41.8 | 37.9 |
| Des Moines, Io | 35.9 | 26.2 | 34.4 | 37.2 | 31.2 | 37.6 | 37.5 | 45.0 | 39.0 | 39.8 | 44.2 | 40.6 | 31.5 |
| Devils Lake, N. Dak. | 18. 5 | 14.2 | 13. 2 | 23. 0 | 23. 8 | 17.0 | 21.8 | 34.2 | 14.4 | 19.1 | 21.0 | 25.6 | 12.4 |
| Dodge City, Kans.-- | 42.8 | 30.5 | 40.0 | 43.7 | 32.6 | 48. 1 | 41.8 | 49.4 | 43. 8 | 45.0 | 49.1 | 41.0 | 40.0 |
| Dubuque, Iowa | 34.0 | 25. 2 | 32.8 | 34. 6 | 32.0 | 33.6 | 34.8 | 41.6 | 36.6 | 37. 2 | 41.2 | 37. 4 | 27.6 |
| Duluth, Minn | 23.7 | 18.6 | 17.0 | 23.2 | 25.0 | 18.9 | 23.2 | 31.4 | 23.9 | 25.3 | 24.6 | 26.2 | 13.5 |
| El Paso, Tex | 55.9 | 54. 0 | 52.0 | 53.1 | 49.3 | 60.4 | 53.3 | 59.2 | 54.6 | 53.6 | 59.3 | 53.6 | 51.2 |
| Eureka, Calif | 48.0 | 46.3 | 45. 6 | 49.3 | 52.1 | 48.6 | 43.8 | 48. 5 | 47.6 | 47.0 | 49.8 | 47. 1 | 47.4 |
| Eransville, In | 44. 6 | 39.7 | 44.4 | 42. 0 | 39.0 | 43.6 | 47.2 | 52.2 | 47.7 | 46.6 | 55.6 | 48.6 | 43.0 |
| Fort Worth, | 56.6 | 43.8 | 53.2 | 55.5 | 46.8 | 62.4 | 58.3 | 52.2 | 56.1 | 56.4 | 63. | 56.4 | 53.6 |
| Fresno, Calif | 54.9 | 53. 2 | 54.8 | 58.9 | 58. 4 | 57.4 | 51.3 | 56.4 | 52.7 | 52.7 | 56.8 | 52.6 | $56.8$ |
| Galveston, Te | 62.4 | 57.6 | 59.4 | 57.2 | 53.8 | 65.8 | 63.3 | 66.6 | 60.7 | 60.0 | 68.0 | 61. 6 | $59.6$ |
| Grand Rapids, Mich. | 33.0 | 25.0 | 32.8 | 32.0 | 31.4 | 28.8 | 35. 0 | 38. 4 | 35.4 | 35.1 | 41.0 | 36. 7 | 28. 7 |
| Greenville, Me...-.- | 23.5 | 20.9 | 28.0 | 25.2 | 23.2 | 18.8 | 25.0 | 23. 3 | 28.7 | 27.5 | 32. 2 | 28.5 | 17.6 |
| Havre, Mont | 27.1 | 17.1 | 21. 6 | 33. 8 | 24. 9 | 34.0 | 22. 0 | 35.6 | 17.4 | 27.6 | 28.6 | 26. 8 | 30.6 |
| Indianapolis, | 40.0 | 32.8 | 39.4 | 37.7 | 35.5 | 37.9 | 41.6 | 47.4 | 42.6 | 42.3 | 49.9 | 43.6 | 38.2 |
| Iola, Kans | 42.4 | 34.3 | 39.8 | 45.4 | 34. 6 | 47.1 | 45.8 | 51.0 | 47.8 | 46.4 | 52.1 | 45.6 | 41.7 |
| Jacksonvil | 62.6 | 62.6 | 64.8 | 57.7 | 55.8 | 59.5 | 65.6 | 67.6 | 63.8 | 59.5 | 70.0 | 64.8 | 61.6 |
| Kalispel1, Mont | 33. 0 | 28. 0 | 26. 6 | 35.4 | 37.1 | 35.4 | 26.2 | 36.1 | 32.8 | 31. 2 | 33.3 | 29.9 | 32.6 |
| Little Rock, Arl | 53.0 | 46. 6 | 51.4 | 51.0 | 43.2 | 54.8 | 54.0 | 58.8 | 53.8 | 53. 0 | 61.3 | 52.4 | 49.6 |
| Los Angeles, Cal | 57.5 | 54.2 | 57.8 | 63.0 | 61.4 | 62.0 | 56.7 | 59.1 | 55.6 | 56. 8 | 59.4 | 55.6 | 61.0 |
| Lynchburg, | 47.3 | 45. 0 | 50.2 | 42.6 | 41.2 | 44.6 | 46.6 | 52.3 | 49. 4 | 47.4 | 57.1 | 48.8 | 47.9 |
| Madison, W | 30.6 | 23.4 | 29.6 | 30.4 | 29.6 | 28.6 | 31.8 | 37.9 | 33.2 | 34.0 | 37.4 | 34.1 | 24.7 |
| Marquette, M | 23.7 | 19.7 | 21.9 | 25.0 | 26.5 | 19.6 | 25. 3 | 31.7 | 28.6 | 28.0 | 28.4 | 29.8 | 17.8 |
| Memphis, Te | 52. 3 | 46. 1 | 51.0 | 49.3 | 42. 7 | 52. 0 | 53.5 | 58.1 | 53.6 | 51.8 | 61. 4 | 52.9 | 49.8 |
| Miarni, Fla | 72.0 | 75.3 | 75.4 | 65.4 | 63. 0 | 65. 8 | 72.4 | 72.4 | 71.7 | 67.6 | 73. 8 | 72. 8 | 73.8 <br> 58 |
| Mobile, Al | 60.0 | 59.4 | 60.2 | 55.1 | 52.4 | 59.9 | 63.4 | 65.9 | 61.6 | 57.8 | 66.8 | 60.2 | 58.8 |
| Modena, Utah | 39.2 | 35.5 | 35. 2 | 41.8 | 39.8 | 42.6 | 31.0 | 40.5 | 36. 8 | 35.3 | 42.0 | 36. 4 | 34.8 |
| Nashville, Tent | 49.2 | 45.1 | 48.8 | 46. 0 | 41.3 | 47.2 | 49.9 | 56.3 | 50. 4 | 48.5 | 59.0 | 51.3 | 47.6 |
| New Orleans, | 62.8 | 60.9 | 61.3 | 57.6 | 55.0 | 63.8 | 66.1 | 68.9 | 64.0 | 60.3 | 70.6 | 62.5 | 61.6 |
| Noriolk, Va- | 48. 2 | 47.2 | 54.7 | 42. 4 | 42.4 | 44.1 | 47. 2 | 52.6 | 50.4 | 50.0 | 58.1 | 51. 2 | 49.6 |
| North Platte, Nebr-- | 36.6 | 23. 2 | 32.8 | 38.3 | 26.8 | 43.0 | 33.0 | 45. 4 | 37.0 | 37.9 | 43. 4 | 38.8 | 34. 2 |
| OklahomaCity, Okla- | 49.2 | 40.9 | 44.2 | 50.0 | 38.4 | 54. 4 | 51.0 | 55.8 | 51.0 | 50.1 | 56. 3 | 49.0 | 46. 2 |
| Omaha, Nebr | 37.0 | 27.2 | 35.0 | 37.4 | 30.0 | 39.5 | 38. 5 | 47.1 | 40.5 | 41.6 | 45. 6 | 40. 6 | 32.7 |
| Parkersburg, W | 42.3 | 39.0 | 46. 0 | 38.9 | 35.4 | 39.4 | 42.2 | 47.8 | 44.6 | 45.2 | 53.3 | 46. 7 | 42.1 |
| Peoria, Ill | 37.0 | 28.4 | 35.4 | 36. 8 | 34.1 | 37. 4 | 40.0 | 45. 6 | 40. 8 | 41.5 | 47.3 | 41.2 | 34.2 |
| Phoenix, A | 60.5 | 58.6 | 56.7 | 63. 6 | 58.6 | 64.0 | 56.2 | 62. 4 | 57.5 | 58.4 | 64. 7 | 57.0 | 58. 9 |
| Pierre, S. Dak | 31.5 | 24.8 | 27.0 | 32.3 | 20.8 | 34.6 | 29. 6 | 42. 7 | 29. 4 | 32.0 | 38.0 | 33.8 | 29.4 |
| Pittsburgh, Pa | 39.6 | 35.2 | 43.4 | 36.8 | 33.2 | 34.1 | 40.6 | 44. 6 | 42.2 | 42. 6 | 50.7 | 43. 0 | 38. 6 |
| Portland, Ore | 46. 9 | 46. 4 | 44. 6 | 51.1 | 52. 6 | 47. 0 | 42. 6 | 46. 7 | 48.2 41.6 | 45. 8 | 48. 0 | 43.3 41.6 | 47.2 37.0 |
| Pueblo, Colo | 40.6 | 33.4 | 39.7 | 41.2 | 35.0 | 48. 5 | 37.6 | 46. 8 | 41.6 | 40.5 | 47. 0 | 41.6 45.2 | 37.0 47.2 |
| Roseburg, Or | 47.1 | 45.2 | 45. 6 | 51.8 | 51.5 | 48.4 | 42. 6 | 48.0 | 47.4 | 44.8 | 48. 4 | 45.2 | 47.2 |
| Sacramento, | 54.3 | 51.4 | 52. 6 | 58.1 | 57.4 | 50.6 | 50.8 | 53.6 | 51.2 | 51.0 | 55.0 | 50.8 | 56.4 |
| St. Louis, Mo | 43.8 | 35. 6 | 42. 1 | 43.5 | 38.5 | 45.0 | 46. 6 | 52. 6 | 47.1 | 46. 6 | 54. 0 | 46. 2 | 41.4 |
| St. Panl, Minn | 29.1 | 24.6 | 26. 0 | 30, 8 | 28. 0 | 26. 2 | 27.3 | 38. 3 | 30.6 42.6 | 30.6 39.2 | 33. 7 | 32. 3 | 21.0 37.0 |
| Salt Lake City, Uta | 41.7 | 40. 0 | 38. 2 | 45. 0 | 45. 1 | 46. 3 | 33. 0 | 45. 4 | 42. 6 | 39. 2 | 46.2 67.0 | 36.8 61.6 | 37.0 58.6 |
| San Antonio, Tex | 62.1 | 56.7 | 59.4 | 58.8 | 53.2 | 68. 6 | 63.6 | 66.6 | 61. 0 | 60. 4 | 67.0 | 61. 6 | 58.6 |
| San Diego, Calif | 56.7 | 55.2 | 55.1 | 61.4 | 59.4 | 59.2 | 54.6 | 58. 5 | 55.0 | 55. 6 | 57.5 | 54. 6 | 58.4 |
| San Francisco, Cali | 54.2 | 52.4 | 52. 6 | 58.4 | 57.9 | 56.6 | 51.7 | 54.9 | 52. 6 | 52. 6 | 54. 6 | 52.4 | 56.8 |
| Santa $\mathrm{Fe}, \mathrm{N} . \mathrm{Mex}$ | 39.7 | 37. 6 | 36. 0 | 39.4 | 35. 8 | 43. 6 | 35. 6 | 42.8 | 37.6 | 37.4 | 42. 6 | 36. 4 | 34.6 |
| Scranton, Pa | 36. 2 | 32.8 | 42.0 | 34.1 | 31. 6 | 28. 9 | 36.4 | 39.6 | 39.1 | 38. 2 | 45. 8 | 38.7 | 34.2 |
| Seattle, Wash | 44.2 | 44.3 | 41.9 | 47.6 | 50.0 | 44. 4 | 41.0 | 44. 0 | 44.7 | 44.4 | 44. 6 | 41.5 | 44.0 |
| Sheridan, Wy | 32. 7 | 17.6 | 25.0 | 34. 6 | 30. 2 | 38. 0 | 24.0 | 37.4 | 33. 0 | 30.4 | 35. 6 | 32. 2 | 28.9 |
| Shreveport, L | 58. 2 | 51.6 | 54.2 | 55.0 | 47.2 | 60. 6 | 58. 4 | 62. 5 | 58. 2 | 56.9 | 65.7 52.8 | 57.1 45.2 | 55.0 41.6 |
| Springfield, M | 43. 5 | 37.8 | 41.3 | 44. 0 | 35.1 | 47. 8 | 47.0 | 52.6 | 48. 4 | 56.4 57.4 | 52. 8 | 45. 2 | 41.6 61.0 |
| Thomasville, | 60. 2 | 59.4 | 61.4 | 55.8 | 52.2 | 58. 2 | 62.8 | 65.0 | 63.0 | 57.4 | 68. 2 | 62.0 | 61.0 |
| Trenton, N.J | 39.1 |  | 46.1 | 35.6 | 36.0 | 32. 2 | 39.2 | 41.8 | 43.0 | 40.4 | 50. 0 | 41.2 | 38.3 |
| Walla Walla, Wash-- | 44. 0 | 42. 4 | 42. 1 | 49.4 | 49.7 | 47. 7 | 39.8 | 49. 0 | 46. 8 | 45. 2 | 47. 2 | 43. 2 | 46. 6 |
| Washington, D.C--- | 42.6 40.0 | 40.9 37.4 | 49. 0 37.4 | 39.4 44.6 | 38.8 43.2 | 37.9 44.2 | 43.4 32.8 | 48.4 42.2 | 46.4 39.2 | 45. 5 | 55.5 43.8 | 45.4 33.9 | 45. 4 37.5 |
| Winnemucca, ${ }^{\text {Nev.- }}$ | 40.0 | 37.4 | 37.4 | 44.6 | 43.2 | 44. 2 | 32.8 | 42.2 | 39.2 | 38.5 | 43.8 | 33.9 | 37.5 |

Table 736.-Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | $\left\|\begin{array}{c} \text { Nor- } \\ \text { mal } \\ \text { for } \\ \text { April. } \end{array}\right\|$ | April monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | $1916$ | 1917 | 1918 | 191 | 1920 | 1921 | 1922 | 1923 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 54.6 | 54.6 | 50.2 | 56.0 | 57.0 | 52.9 | 54.8 | 53.2 | 54.5 | 51.0 | 55.0 | 54.8 | 56. |
| Atlanta | 61.0 | 61.9 | 59.4 | 61.8 | 64.4 | 68.0 | 63.7 | 57.9 | 61.7 | 58.6 | 61.0 | 62.8 | 0 |
| Birmingham, | 63.5 | 63.3 | 61.3 | 62.8 | 66. 0 | 61.2 | 64. 0 | 60.4 | 62.8 | 61.2 | 62.6 | 66.2 | 2. |
| Bismarck, N | 42.1 | 46. 6 | 48.1 | 43.1 | 51.5 | 41.0 | 38. 5 | 43.0 | 43.4 | 34.6 | 43.4 | 44.8 | 41. |
| Boise, Idah | 50.4 | 48.2 | 50.6 | 51. 2 | 55.3 | 51.4 | 46. 4 | 48.8 | 51.8 | 45.4 | 47.0 | 45.0 | 4, |
| Boston, Ma | 46.4 | 47.4 | 48.0 | 45.3 | 50.8 | 45. 6 | 44.0 | 47.8 | 46.8 | 45.0 | 51.8 | 48.7 | 48 |
| rownsv | 73.7 | 74.8 | 69.3 | 71.6 | 71. 4 | 72.5 | 74.4 | 76.2 | 74. 3 | 75. 8 | 74.4 | 78.4 | 75. |
| aff | 42.8 | 42.2 | 45. 0 | 40.2 | 46.8 | 42.8 | 40.4 | 42.4 | 42.5 | 39.8 | 51.3 | 44.8 | 40. |
| Canton, N . | 42.5 | 40.6 | 45. 4 | 39.5 | 50.0 | 43.8 | 40.5 | 42.3 | 39.3 | 40.2 | 48.5 | 43.6 | 39. |
| Charleston, | 64. 5 | 67.0 | 62.6 | 65.2 | 63.3 | 64.0 | 67.2 | 63.5 | 64.4 | 64.0 | 66.3 | 68.2 | 64. |
| Charlotte, | 59.8 | 61.4 | 59.2 | 60.6 | 61.8 | 59.0 | 62. 3 | 57.4 | 60.0 | 57.8 | ${ }^{61.6}$ | 61.0 | 59.0 |
| Cheyenne | 40.9 | 40. 2 | 43. 1 | 40. 2 | 46.0 | 40.2 | 36. 4 | 34.8 | 41.7 | 31.6 | 38.8 | 38. 2 | 39. |
| hicago, | 47.7 | 48.8 | 48.8 | 48.3 | 56.3 | 48.0 | 44.8 | 44.0 | 48.0 | 43.0 | 54.2 | 48.7 | 46 |
| incinnati, | 52.4 | 56.9 | 54.0 | 53.9 | 58.4 | 51.6 | 51.2 | 50.9 | 52.6 | 48.0 | 56.2 | 55.6 | 51.7 |
| leveland, Ohio | 46. 2 | 48.0 | 47.4 | 45. 4 | 51.8 | 45.9 | 45. 4 | 45.8 | 47.0 | 42.6 | 53.9 | 48.6 | 45.8 |
| Concordia, Kans | 53. 6 | 54.1 | 56.2 | 54.2 | 59.6 | 50.2 | 51.0 | 47.6 | 51.0 | 45.6 | 54.6 | 54.4 | 53. |
| Des Moines, Iowa | 50.1 | 51.4 | 52.0 | 50.4 | 59.4 | 48.6 | 46.8 | 46.8 | 49.3 | 43.9 | 52.8 | 50.8 | 50.2 |
| Devils Lake, N. D | 38.2 | 42.8 | 45.6 | 37.4 | 48.3 | 37.8 | 36.1 | 41.2 | 40.5 | 31.2 | 39.2 | 41.8 | 37.4 |
| Dodge City, Kans | 53.6 | 52.8 | 55. 8 | 54. 2 | 58.8 | 50.2 | 51.4 | 47.8 | 52.6 | 48.8 | 53.8 | 53.0 | 54.1 |
| ubuque, Io | 48.6 | 49.8 | 51.0 | 48.5 | 57.7 | 48. 2 | 46. 4 | 44. 2 | 49.0 | 42.8 | 52.2 | 48.8 | ${ }^{47.0}$ |
| Duluth, Min | 37.0 | 38.7 | 40.4 | 33.6 | 45. 4 | 38. 0 | 33. 2 | 36. 3 | 39.2 | 31. 6 | 40.8 | 37.2 | 7. 5 |
| Paso, Tex | 63. 8 | 59.1 | 60.6 | 64.0 | 62.7 | 62.7 | 62.3 | 62.0 | 65. 0 | 60.1 | 61.0 | 61.6 | 6 |
| Eurcka, Cali | 49.5 | 48.4 | 49.3 | 51.9 | 52.3 | 50.2 | 49.0 | 50.7 | 50.5 | 48.0 | 48.4 | 46.1 | 50.5 |
| Evansville, In | 56.4 | 58.2 | 55.7 | 55. 4 | 61.9 | 54.2 | 55.9 | 53.0 | 57.6 | 52.8 | 58.8 | 59.2 | 5.9 |
| Fort Worth, | 65: 3 | 64.5 | 64.8 | 63.2 | 66. 2 | 62.3 | 63.8 | 63.4 | 65. 0 | 63. 6 | 62.8 | 65.3 | 66.0 |
| Fresno, C | 61.2 | 56.8 | 60.7 | 60.8 | 60.0 | 62.4 | 59.3 | 61.8 | 62.4 | 59.4 | 59.2 | 57.4 | 59.3 |
| Galveston, Tex | 63.7 | 68.4 | 67.2 | 66.7 | 66.1 | 67.0 | 67.8 | 68.3 | 68.4 | 67.3 | 67.4 | 71.6 | 69.4 |
| Grand Rapids, | 46.2 | 46.8 | 48. 3 | 45.6 | 53.8 | 46.7 | 43. 1 | 44.0 | 45.6 | 41.1 | 52.6 | 48.0 | 45.0 |
| Greenville, | 36.4 | 35.0 | 39. ${ }^{6}$ | 31.5 | 40.8 | 29.2 | ${ }^{35.1}$ | 39.7 | 36.4 | 36. 0 | 43. 0 | 39.4 | 34. 9 |
| Havre, Mont | 43. 7 | 46.0 | 46. 1 | 44.9 | 53.6 | 43.8 | 39.4 | 42.8 | 47.2 | 36.0 | 43.1 | 42.7 | 43.2 |
| Indianapolis, | 52.1 | 53.9 | 52.0 | 51.9 | 58.0 | 50.5 | 49.2 | 48.9 | 52.2 | 46.8 | 55.8 | 54.2 | 49.9 |
| 1ola, Kans | 54.2 | 56.0 | 58.4 | 55.0 | 61. 0 | 52.6 | 53.8 | 51.7 | 55. 8 | 52.1 | 56.2 | 57.2 | 56.5 |
| Jacksonville, | 68.7 | 70.8 | 67.3 | 70.1 | 66.9 | 67.0 | 69.6 | 67.0 | 67.3 | 68.8 | 67.8 | 71.4 | 69.2 |
| Kalispell, Mont | 42.5 | 45.8 | 42.9 | 44.8 | 49.2 | 43.5 | 39.6 | 42.6 | 46.4 | 39.2 | 42.1 | 40.1 | 42.6 |
| Little Rock, A | 62.1 | 62.8 | 61.8 | 61.8 | 65.5 | 60.6 | 61.2 | 60.7 | 61.6 | 60.2 | 60.4 | 64.2 | 62.4 |
| Los Angeles, | 59.4 | 56.4 | 59.8 | 62.8 | 60.4 | ${ }^{62 .} 4$ | 57.9 | 61.7 | 60.9 | 58.8 | 59.0 | 57.6 ${ }^{6}$ | 58.4 |
| Lynchburg, V | 57. 3 | 59. 0 | 57.4 | 56.7 | 59.8 | 54.7 | 57.4 | 53.3 | 55. 6 | 54.3 | 59.1 | 57.8 | 55. 8 |
| Madison, Wis | 45.4 | 46.7 | 47.2 | 45. 1 | 54.0 | 45. 3 | 42.4 | -41. 6 | 45.8 | 40.4 | 50.6 | 45.8 | 44. 0 |
| Marquette, M | 37.5 | 38.0 | 41.2 | 35. 1 | 47.4 | 38.4 | 33.4 | 37.5 | 39.2 | 32.9 | 44.6 | 37.9 | 36. 6 |
| Memphis, Ten | 61.8 | ${ }^{62.6}$ | 61.2 | ${ }^{61.1}$ | 65. 9 | 60. 2 | ${ }^{61.7}$ | 60.0 | ${ }^{61 .} 7$ | 59.4 | ${ }^{61.0}$ | 64.0 | 61. 5 |
| Miami, Fla | 74.2 | 77.8 | 71.6 | 74.6 | 69.5 | 70.2 | 72.0 | 73. | 72.6 | 75.0 | 74.0 | 75.8 | 74.9 |
| Mobile, Ala | 66.2 | 67.9 | 65. 6 | 67.8 | 66.5 | 64.8 | 66. 6 | 64.8 | 65.6 | 66. 4 | 65.8 | 70.2 | 67.8 |
| Modena, Utah | 46. 9 | 41.0 | 45.3 | 46.8 | 48. 2 | 48.2 | 42.6 | 44.6 | 49.0 | 43.1 | 43.0 | 40.2 | 44. |
| Nashville, Tenn | 59.0 | 60.1 | 58.6 | 58.6 | 63.5 | 57.2 | 59.7 | 57.0 | 59.2 | 56.2 | 59.2 | 61.6 | 58.3 |
| New Orleans, | 68.8 | 70.4 | 67.5 | 68.9 | 68.8 | 67.8 | 68.2 | 67.8 | 68.1 | 69.1 | 68.2 | 73. 3 | 69.7 |
| Norfolk, Va | 56.8 | 61.0 | 58.6 | 55.8 | 60.2 | 56.4 | 57.6 | 56.4 | 56.9 | 57.3 | 61.2 | 59.7 | 57.2 |
| North Platte, | 48.6 | 48. 2 | 51. 0 | 50.0 | 55. 0 | 47.8 | 44.8 | 42.7 | 47.5 | 40. 5 | 48. 6 | 48.1 | 48. 1 |
| OklahomaCity, | 59.6 | 58.8 | 60.6 | 58.0 | 63.0 | 55. 4 | 57.6 | 56.0 | 58.8 | 56. 2 | 58. 7 | 60.0 | 59.3 |
| Omaha, Nebr | 51.2 | 52.8 | 53. 4 | 51.8 | 60.0 | 49.5 | 47.9 | 47.4 | 49.1 | 44.2 | 54.2 | 52.6 | 51.2 |
| Parkersburg, | 53.0 | 56.6 | 53.0 | 53.9 | 57.3 | 52.5 | 52.6 | 51.6 | 52.9 | 50.6 | 57. 6 | 56.2 | 52.6 |
| Peoria, Ill | 50.9 |  | 51.7 |  | 58.8 | 49.8 | 47.4 | 45.8 | 51.3 | 44.2 | 54.3 | 52.5 | 49.4 |
| Phoenix, Ariz | 66.6 | 63.1 | 67. 2 | 68.5 | 66.4 | 68.2 | 64. 2 | 67.5 | 69.2 | 64.6 | 66. 1 | 63.2 | 66. |
| Pierre, S. Dak | 46.8 | 50.8 | 50.8 | 47.4 | 54.8 | 44.6 | 42.5 | 45.2 | 46.2 | 38.1 | 48.1 | 49.2 | 47.0 |
| Pittsburgh, Pa | 51.2 | 52.6 | 51.6 | 49.4 | 55.5 | 49.2 | 49.6 | 49.3 | 51.0 | 47.0 | 56.9 | 52.6 | 49.8 |
| Portland, Oreg | 51.8 | 49.9 | 51.0 | 53.8 | 55. 6 | 53. 0 | 49.4 | 52.8 | 53.4 | 48.2 | 50.8 | 48.7 | 54.2 |
| Pueblo, Colo | 50.5 | 48.8 | 50.8 | 49.0 | 53.4 | 48.6 | 46.8 | 45.8 | 50.6 | 48.6 | 48.0 | 48.8 | 51.0 |
| Roseburg, Oreg | 51.0 | 49. 0 | 50.3 | 53.5 | 54.4 | 52.6 | 50.0 | 52.0 | 53.0 | 49. 2 | 50.8 | 48. | 52.8 |
| Sacramento, C | 58.1 | 54.3 | 58. 0 | 58.8 | 58.3 | 61.0 | 57.8 | 59.2 | 58.8 | 57.1 | 57.6 | 56.4 | 57.1 |
| St. Louis, Mo- | 55.8 | 57. 2 | 56.1 | 56.4 | 63.2 | 54.4 | 53.7 | 51.1 | 57.5 | 51.2 | 58.1 | 58.2 | 55.0 |
| St. Paul, Minn | 45.6 | 49.0 | 49.2 | 44.4 | 55.8 | 43.8 | 42.2 | 43.6 | 45.5 | 38.8 | 50.4 | 45.2 | 43.7 |
| Salt Lake City, Ut | 49.6 | 46.8 | 51.0 | 51.8 | 56.4 | 51.6 | 45. 6 | 47.6 | 52.1 | 44.0 | 47.0 | 44.4 | 47.1 |
| San Antonio, Tex | 69.0 | 68.6 | 66. 9 | 66.8 | 67.5 | 67.6 | 69.0 | 68.9 | 68.4 | 69.4 | 67.5 | 70.2 | 69. 2 |
| San Diego, Calif | 58.5 | 56. 1 | 58.0 | 61.4 | 59.7 | 60.2 | 57.0 | 60.4 | 59.2 | 57. 6 | 57.4 | 56 | 59.0 |
| San Francisco, Cal | 55.0 | 52.8 | 55.4 | 58.2 | 57.1 | 57.6 | 55. 1 | 57.2 | 56.0 | 54.9 | 55.0 | 53.5 | 56.1 |
| Santa Fe, N. Mex | 46.7 | 42.3 | 47.2 | 48.0 | 47.7 | 46.6 | 46.1 | 45.0 | 48.0 | 40.8 | 43.4 | 44.3 | 45. 6 |
| Scranton, P | 47.9 | 47.8 | 51.2 | 46.2 | 53.9 | 47.2 | 47.6 | 48.1 | 47.9 | 45. 4 | 55.6 | 48.6 | 48. 3 |
| Seattle, Was | 49. 4 | 48.0 | 49.0 | 51.4 | 52.6 | 49.0 | 46.8 | 50.0 | 49.6 | 45. 6 | 47.5 | 46.6 | 51.0 |
| Sheridan, W | 43.4 | 43.8 | 45. 6 | 43. 2 | 52.0 | 43.2 | 40.1 | 37.2 | 45. 2 | 36.4 | 43.0 | 40.3 | 40.2 |
| Shreveport, La | 65.8 | 66. 0 | 64. 2 | 64.7 | 67.3 | 63.5 | 63.8 | 63.8 | 65. 2 | 64.4 | 63. 1 | 67.8 | 66.0 |
| Springficld, Mo | 55.7 | 55.4 | 56.7 | 54.8 | 61.8 | 52.8 | 54.0 | 51.8 | 56. 4 | 51.6 | 55.6 | 57.6 | 55.2 |
| Thomasville, | 66.7 | 68.6 | 65. 1 | 68.6 | 66.4 | 65.9 | 68.1 | 64.5 | 66. 4 | 66.4 | 66.4 | 69.8 | 67.7 |
| Trenton, N.J | 49.8 | 52.2 | 52.6 | 48.5 | 54.9 | 48.8 | 49.1 | 50.1 | 49.9 | 47.8 | 50 | 51 | 50.2 |
| Walla Walla, Wash.- | 52.8 | 52.2 | 53.2 | 53. 4 | 56.9 | 53. 1 | 49.0 | 53.2 | 54.0 | 49. 0 | 50. 2 | 49.2 | 54.1 |
| Washington, D. C..- | 53.3 | 55.6 | 55.5 | 53.5 | 59.4 | 53.4 | 54.2 | 53.2 | 53.8 | 52.6 | 59.2 | 55.6 | 53. |
| Winnemucca, Nev.- | 46.7 | 44.0 | 46.6 | 48.6 | 50.4 | 49.0 | 44.4 | 45.5 | 48.8 | 43.6 | 45.1 | 41.4 | 45. 2 |

Table 736.-Temperature: Monthly normal ${ }^{1}$ and mean temperature, at selected points in the United States, 1912-1923-Continued.

| .... Station. | Nor- <br> mal <br> for <br> May. | May monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | - | - | - | - | - |  |  |  |  |  | 。 |  |  |
| Am | 64.3 | 66.6 | 68.2 | 63.2 | 61.5 | 67.0 | 58.2 | 67.5 | 61.8 | 64.1 | 65.4 | 65.0 | 63.8 |
| Atlanta, Ga | 69.9 | 70.2 | 70.8 | 71.2 | 71.5 | 72.6 | 64.0 | 72.2 | 67.7 | 67.1 | 68.4 | 69.0 | 65.8 |
| Birmingham, | 71.6 | 71.0 | 70.6 | 70.6 | 73.1 | 72.7 | 65.0 | 73.2 | 68.0 | 69.8 | 71.0 | 71.6 | 69.0 |
| Bismarck, N. | 54. 5 | 55.2 | 52.4 | 55.6 | 51.0 | 52.8 | 52.6 | 54.2 | 56.0 | 54.8 | 54.8 | 57.6 | 56.2 56.8 |
| Boise, Idaho | 57.1 | 56.4 | 59.0 | 61.2 | 55.0 | 52.5 | 55.0 | 54.8 | 59.3 | 55.0 | 57.2 | 56.4 | 56.8 |
| Boston, Mas | 57.1 | 58.6 | 55. 2 | 60.4 | 56.6 | 58.6 | 50.7 | 63. 3 | 59.1 | 54.6 | 53. 78 |  | 57.8 80.6 |
| Brownsville, | 78.6 | 80.1 | 74.7 | 78.7 | 78.8 | 80.3 | 77.6 | 79.4 | 80.2 | 80.8 | 78. 2 |  | 6 |
| Buffalo, N. | 54.6 | 55.8 | 53.7 | 54.2 | 51.1 | 52.8 | 47.4 | 58.0 | 54.0 | 53.2 | 56.8 |  |  |
| Canton, N | 56.2 | 54.8 | 52.8 | 57.2 | 50.7 | 53.9 | 46.8 | 58.2 | 54.8 | 55 | 57.6 | 58.5 | 51.1 |
| Charleston | 72.7 | 74.6 | 72.6 | 72.5 | 75.5 | 74.4 | 70.2 | 73. 2 | 74.2 | 68.8 | 70. 5 | 73.6 | 70.7 |
| Charlotte, | 68.9 | 69.5 | 69.9 | 70.6 | 69.3 | 72.6 | 63.6 | 72.3 | 69.0 | 65.6 | 66.0 | 69.4 | 2 |
| Cheyenne, W | 50.3 | 50.4 | 52.0 | 51.1 | 46.4 | 48.6 | 43.0 | 50.7 | 51.2 | 49.4 | 50.4 | 49.8 | 5, 3 |
| Chicago, Ill | 58.5 | 59.9 | 57.6 | 62.3 | 54.1 | 59.3 | 52.6 | 63.7 | 55. 2 | 55.4 | 61.7 | 63.8 | 54.4 |
| Cincinnati, | 63.1 | 66.2 | 65.8 | 66.8 | 60.2 | 64.5 | 56.6 | 68.8 | 60.1 | 60.8 | 64.6 | 8 | 61.2 |
| Cleveland, Ohio | 57.9 | 60.0 | 57. 8 | 60.0 | 54.2 | 58. 0 | 51.2 | 64.4 | 56.4 | 55.6 | 59.8 | 64.2 |  |
| Concordia, Kans | 63.7 | 66.6 | 65.8 | 64.4 | 60.0 | 63.2 | 57.6 | 67.8 | 61.1 | 61.4 | 65.8 | 64.2 | 60.2 60.7 |
| Des Moines, Iowa | 61.3 | 65.0 | 61.3 | 64. 0 | 57.3 | 61.7 50.3 | 51.0 | 48. | 55.7 | 61.2 54.4 | 64. 2 | 56.8 | 54.5 |
| Devils Lake, N.Dak. | 52.7 | 53. 0 | 50.2 67.3 | 54.8 | 50.7 59.4 | 50. 63 | 51.0 57.0 | 48.9 67.0 | 55. 61.2 | 61.6 | 64.8 | 63.6 | 60.8 |
| Dodge City, Kans.-- | 63.5 60.3 | 65.8 61.8 | 67.3 59.2 | 62.8 62.6 | 59.4 | 63.6 60.0 | 57.0 54.8 | 67.9 64.9 | 67.8 | 61.6 58.8 | 63. 6. | 64.8. | 60. 0 |
| Dubuque, Iowa | 60.3 47.3 | 61.8 46.8 | 59.2 46.2 | 62.8 53.2 | 44. 2 | 60.0 47.4 | 46. 0 | 46.9 | 50.5 | 51.0 | 50.5 | 51.4 | 48.9 |
| El Paso, T | 72.1 | 71.5 | 71.8 | 71.2 | 69.6 | 72.9 | 66.6 | 69.8 | 72.0 | 73.1 | 71.9 | 73.0 | 74.0 |
| Eureka, Cali | 52.1 | 52.1 | 52.4 | 53.0 | 53.6 | 50.4 | 50.0 | 50.6 | 52. 1 | 49.3 | 50.8 | 51.0 | 51.7 |
| Evansville; Ind | 67.1 | 68.0 | 67.6 | 67.9 | 65.2 | 68.6 | 60 | 71.9 |  |  | 1 | 70.4 | 64.8 |
| Fort Worth, Tex | 73.2 | 74.0 | 73.6 | 70.2 | 72.7 | 72.8 | 66.8 | 75. | 69.8 | 73.4 | 73.4 |  |  |
| Fresno, Calif | 68.4 | 67.5 | 68.4 | 68.8 | 63. 0 | 64.2 | 62.4 | 63. 8 | 69.8 | 76. |  | 77.3 | 0 |
| Galveston, Tex | 74.8 | 75.4 | 74.0 | 74.6 | 75.5 | 75.0 | 71.6 | 75. | 73.0 | 76. | 74.8 62.2 | 77.3 64.0 | 56.8 |
| Grand Rapids, Mich | 59.0 | 58.8 | 57.4 47.6 | 60.0 | 53.3 47.6 | 49. | 51. 7 | 54 | 51. 0 | 50.0 | 53.4 | 52.6 | 48.6 |
| Greenville, Me | 49.5 | 50.6 | 47.6 | 52.1 | 47.6 | 49.9 49.4 | 52.8 | 51. | 56. 7 | 53.7 | 53. 8 | 53.8 | 55.4 |
| Havre, Mont | 53.4 | 53. 2 | 51.6 | 54. 7 | 52.7 59 | 49.4 63.4 | 52.8 56.0 | 51.6 68.8 | 59.4 | 61.0 | 65.3 | 67.5 | 60.6 |
| Indianapolis, | 62.9 | 65. 0 | 63.7 | 65.6 65.6 | 59.7 62.4 | 63.4 66.0 | 56.8 58.8 | 68.8 68.8 | 59.4 63.3 | 61. 2 | 67.6 | 67.6 | 63.6 |
| Iola, Kans | 64. 5 | 68.2 77.6 | 67.0 74.3 | 65.6 74.8 | 62.4 77.8 | 66. 75. 6 | 58.8 73.1 | 68.8 74.2 | 63. 74 | 71.9- | 72.9 | 76.4 | 72.3 |
| Jacksonville, | 75.0 51.0 | 77.6 52.7 | 74.3 50.9 | 74.8 53.0 | 77.8 51.4 | 47.1 | 51.3 | 48.3 | 51.0 | 48.0 | 53.0 | 50.4 | 50.8 |
| Kalispell, Mon | 51.0 70.3 | 52.7 70.5 | 50.9 70.0 | 53. 0 70.6 | 51.4 70.4 | 72. 2 | 64. 0 | 74. 1 | 67.1 | 71. 0 | 70.9 | 71.5 | 67.4 |
| Los Angeles, Calif.-- | 62.2 | 62.9 | 60.9 | 60.3 | 61.5 | 61.3 | 58.7 | 61.2 | 61.6 | 62.1 | 58.8 | 62.6 | 64.6 |
| Lynchbur | 67.3 | 66.2 | 66.0 | 68.4 | 65.4 | 69.0 | 60.7 | 70.0 | 65. 0 | 61.8 | 63.2 | 67.2 | 63.8 |
| Madison, W | 57.6 | 58.4 | 56.6 | 60.3 | 51.8 | 57.3 | 52.0 | 61.0 | 55.2 | 56.6 | 60.4 | 63.6 | 57.0 |
| Marquette, | 49.0 | 49.4 | 47.6 | 54.4 | 45.6 | 48.7 | 44.8 | 50.8 | ©0. 2 | 50.4 | 51.6 | 54.9 | 4 |
| Memphis, Tenn | 70.6 | 70.1 | 70.0 | 70.6 | 71.2 | 73.0 | 64.2 | 74.6 | 67.0 | 70. 5 | 70.7 | 72.4 | 0 |
| Miami, Fla | 78.6 | 79.2 | 76. 0 | 77.6 | 78. 0 | 76.7 | 75.6 | 76.2 | 72 |  |  |  | 72.6 |
| Mobile, Ala | 73.9 | 75.0 | 73.7 | 74.8 | 76.2 | 76.4 | 69.9 | 74.6 | 72. | 75 |  |  | 72.6 |
| Modena, Ut | 54.5 | 51.4 | 54.4 | 56.6 | 50.8 | 51.7 | 48.0 | 51.0 | 58. | 54 |  |  |  |
| Nashville, Ten | 68.2 | 68.4 | 68.8 | 68. 2 | 70.1 | 77 |  |  |  |  | 74.3 | 75.7 | 65.6 74.3 |
| New Orleans, | 75.4 | 76. 0 | 74.8 | 75. 58 | 77.4 | 77.1 | 62.4 | 70.5 | 67.9 | 61.4 | 63.0 | 67.9 | 65.6 |
| Norfolk, Va | 66. 2 | 68.5 | 67.6 | 68.3 59.8 | 66.0 | 69.2 58.2 | 62.4 52.6 | 70.5 61.6 | 57. 58 | 57.8 57. | 61.0 | 59.5 | 57. 2 |
| North Platte, Nebr-- | 58.7 | 59.8 | 60. 0 | 59.8 65.8 | 55.2 | 58.2 | 52. 6 | 61.6 71.0 | 58. <br> 65 <br> 6.7 | 68.6 | 69.6 | 59.5 68.8 | 66.3 |
| OklahomaCity,Oklam | 68.1 | 70.5 | 69.4 | 65.8 64.4 | 58.9 | 63.0 | 62.4 57.6 | 67.8 | 61.6 | 61.7 | 65.9 | 64.6 | 60.9 |
| Omaha, Nebr | 62.4 | 66.2 | 62.9 | 64.4 | 58.9 61.6 | 63.0 65.9 | 57.6 | 69.0 | 63.0 | 61.4 | 64.2 | 66. 0 | 62.2 |
| Parkersburg, W. Va - | 63.3 | 65. 2 | 63.4 62.4 | 64.8 | 61.6 58.6 | 65.9 61.4 | 57.6 55.6 | 69.4 | 58.2 | 60.8 6. | 65.1 | 65. 6 | 61.0 |
| Peoria, Ill | 61.7 74.8 | 64.2 | 62.4 | 65.0 75.6 | 58.6 70.8 | 61.4 74 | 55. 69 | 72.2 | 76.9 | 75.9 | 73.6 | 76.4 | 77.6 |
| Phoenix, A | 74.8 58.0 | 73.8 59.4 | 73.8 56.1 | 75.6 59.0 | 70.8 53.6 | 44. 56 | 54.8 5. | 59.2 | 58.4 | 56.9 | 58.2 | 60.3 | 58.5 |
| Pierre, S | 58.0 62.4 | 59.4 63.8 | 56. 60.6 | 62.8 | 58.0 | 63.2 | 54.6 | 67.6 | 60.8 | 59.6 | 62.4 | 65.0 | 60.1 |
| Pittsbur | 68.4 56.9 | 63.8 59.2 | 57.6 | 61.1 | 57.7 | 54.8 | 54.6 | 55.6 | 57.2 | 55.1 | 57.1 | 58.0 | 57.6 |
| Pueblo, Colo | 59.5 | 59.6 | 62.4 | 60.4 | 55.6 | 59.0 | 53.2 | 61.2 | 59.7 | 59.2 | 62.2 | 59 |  |
| Roseburg, Ore | 56. 0 | 57.2 | 57.4 | 59. 7 | 56.4 | 54.2 | 54. | 54.8 61.8 |  | 65. 0 | 60.7 | 65.7 | 57.0 63.3 |
| Sacramento, Ca | 63.3 | 63.6 | 64.8 | 62.8 | 59.8 | 61.4 | 59.8 60.6 | 61.8 70.8 | 65. 2 | 64.8 | 60.5 | 69.4 | 64.1 |
| St. Louis, Mo- | 66.9 57 | 68.2 59.2 | 67.3 55.9 | 69.4 59.9 | 52.2 | 68.6 | 60.6 54.8 | 59.8 | 58. 0 | 59.0 | 59.8 | 62.5 | 58.6 |
| St. Paul, Minn | 57.9 57.4 | 59.2 55.8 | 55.9 60.8 | 59. 62.4 | 56.2 56.7 | 54. 8 | 54.8 63.7 | 56.4 | 62. 5 | 57.8 | 59.1 | 57.6 | 59.4 |
| Salt Lake City, | 57. 74 | 55.8 76.8 | 60.8 75.6 | 62.4 74.4 | 75. 6 | 76. 7 | 71.6 | 75.9 | 73.4 | 76.8 | 75. 4 | 77.0 | 77.2 |
| an Diego, Cal | 60.8 | 60.6 | 59.7 | 60.2 | 60.6 | 60.8 | 58.4 | 60.8 | 61.0 | 59.8 | 58.4 | 60.3 | 63.2 |
| San Francisco, Calif- | 56.8 | 57.2 | 56.6 | 56.2 | 57.6 | 55.8 | 54.0 | 54.6 | 57.2 |  |  |  | 57. 55 |
| Santa Fe, N. Mex... | 55.7 | 55.4 | 58.6 | 56.2 | 52.3 | 55.6 | 48.9 | 55.7 | 56. 0 | 56 | 56.0 60.1 | b5. 62.2 | 58.8 58.1 |
| Scranton, Pa- | 59.5 | 61.2 | 57.6 | 61.5 57.3 | 54.6 56.0 | 52. 0 | 52.4 | 64.6 52.4 | 60.0 53.6 | 51.6 | 53.6 | 54.5 | 54.1 |
| Seattle, W ash | 55.0 | 57.0 | 54.1 52.4 | 57.3 52.4 | 56.0 50.5 | 52. 0 49.0 | b2. 48 4 | 50.6 | 54.8 | 51.2 | 53.4 | 52.4 | 53.4 |
| Sheridan, Wyo......-- | 50.7 | 51.2 72.8 | 52.4 | 52.4 | 50.5 74.6 | 49. 0 73.8 | 67. 7 | 75. 2 | 70.1 | 75. 2 | 73.6 | 75.3 | 71.4 |
| Shreveport, | 73.2 | 72.8 67.0 | 72. 66.2 | 65. 6 | 63. 2 | 65.8 | 69.1 | 68. 6 | 62.0 | 65.0 | 65.4 | 66.4 | 62.4 |
| Springfield, | 64.6 74.0 | 67.0 76.2 | 66. 2 73.3 | 65. 75 | 77.8 | 76.4 | 70.3 | 74.3 | 72.7 | 72.8 | 72.2 | 75.3 | 72.2 |
| Thomasville, | 74.0 61.1 | 76. 64 | 60.8 | 64.1 | 58.4 | 62. 2 | 54.6 | 65.2 | 62.0 | 58.0 | 60.3 | 64.2 | 60.6 |
| W alla Walla, Wash. | 60.7 | 61.2 | 60.2 | 62.2 | 58.0 | 55.8 | 57.0 | 56.8 | 59.4 | 57.9 | 60.4 | 69. 0 | 60.0 63.4 |
| W ashington, D. C.-- | 63.7 | 65.1 | 64.4 | 67.0 | 62. 5 | 66.7 | 59.6 | 69.6 | 64.6 | 60.0 | 62.3 |  | 63.4 54.8 |
| Winnemucca, Nev.-- | 53.9 | 54. 2 | 67.0 | 69. 4 | 52.3 | 50.3 | 50.1 | 51.6 | 59. | 54.2 | 54 |  | 54. |

1204 Yearboek of the Department of Agrieulture, 1923.
Table 736.-Temperature: Monthly nofmal. 1 and mean temperatiore, at selected points in the United Stctes, 1912i-1923-Continued.

| Station. | Normal for Jane: | fune monthly mean temperature, |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1918 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Amarille | 72.0 | 70.4 | 70. 2 | 76.2 | 72. 4 | 74. 6 | 73. 6 | 77.3 | 68.9 | 72.4 | 70.2 | 73.4 | 72.4 |
| A lianta; | 78. 0 | 72. 8 | 75.8 | 80.8 | 75.3 | 75.2 | 75.0 | 76.8 | 76.8 | 76.4 | 78.8 | 76. 8 | 75.0 |
| Birmingham, | 78.2 | 73.8 | 77.4 | 81. 9 | 77.4 | 76.2 | 77.0 | 79.1 | 78.2 | 76.7 | 82.0 | 78.1 | 77.0 |
| Bismarck, N. Dak | 63.7 | 62.8 | 67.3 | 64. 0 | 58.2 | 59.2 | 61.9 | 65.8 | 69.0 | 64. 4 | 71.2 | 68.2 | 68.6 |
| Boise, Idako. | 65.3 | B6. 6 | B5. 0 | 63.0 | 61.8 | 61.8 | 62.6 | 73.2 | 66. 4 | 64.1 | 68. 2 | 70.3 | 62.6 |
| Boston, Ma | 68.5 | 68.0 | 67.5 | 67.3 | 63.9 | 62. 6 | 65.8 | 63.9 | 67. 2 | 65.8 | 68. 2 | 68. 6 | 69.3 |
| Brownsville | 82. 4 | 78.8 | 78.2 | 82.6 | 84. 4 | 84. 4 | 83.5 | 84.5 | 82. 6 | 81.5 | 82.6 | 82. 8 | 83.0 |
| Buftalo, | 64. 4 | 61.7 | 63.4 | 63.2 | 64. 0 | 61.4 | 60.2 | 61.8 | 72.4 | 64. 0 | 66. 6 | 65. 0 | 64.8 |
| Canton, N. | 65.8 | 59.1 | 62. 0 | 61.0 | 63.0 | 61.2 | 62.0 | 59.6 | 69.4 | 63.6 | 65.7 | 64. 6 | 63.8 |
| Charleston, | 78.9 | 77.6 | 76. 2 | 80.6 | 78. 0 | 78.0 | 77.6 | 78. 6 | 77.4 | 78.4 | 80.0 | 79.8 | 78. 6 |
| Charlotio, | 75.5 | 73.2 | 75.0 | 79.8 | 73.1 | 74. 1 | 75. 2 | 75.2 | 75.8: | 75.6 | 78.0 | 77.6 | 77.0 |
| Cheyenne, W | 60.4 | 58.5 | 60.8 | 61.4 | 54.6 | 58.4 | 58. 2 | 65.1 | 62. 6 | 59.4 | 61.6 | 63.8 | 59.4 |
| Chicago, | 68.2 | 66. 0 | 70.5 | 70. 2 | 63.8 | 63.5 | 63.8 | 66.9 | 72.6 | 69.1 | 73.8 | 70.8: | 70.8 |
| Cincinnati, | 71.2 | 70.7 | 74. 8 | 76. 2 | 69.3 | 87. 3 | 69.0 | 70.4 | 75.3 | 70.4 | 75.4 | 73.7 | 7.2. 9 |
| Clevelard, Ohio | 67.1 | 64.8 | 68.2 | 68.3 | 63.9 | 62.8 | 64.8 | 67.4 | 73. 4 | 67.4 | 69.8 | 68.6 | 70.8 |
| Concordia, Kans | 72.7 | 69.6 | 75.2 | 78. 6 | 68.3 | 69.2 | 72.6 | 78.9 | 72.8 | 73.3 | 75,8 | 76. 0 | 73. 0 |
| Des Moines, Iowa | 70.6 | 67.8 | 73.1 | 74.4 | 67.0 | 66.5 | 67.9 | 72.7 | 73.4 | 72.5 | 76.3 | 74.0 | 72:0 |
| Devils Lake, N. Dak. | 62.6 | 61.6 | 65.3 | 61.6 | 55.4 | 57.5 | 59.2 | 61.2 | 86. 1 | 62.4 | 66.9 | 63.8 | 67.0 |
| Dodger City, Kan | 72.5 | 68.1 | 72.5 | 77.3 | 68.8 | 70.6 | 73.4 | 77.9 | 70.7 | 72.6 | 72.8 | 74; 5 | 71.8 |
| Dubuque, Iowa | 69.4 | 66.8 | 71.4 | 69.8 | 64.7 | 84. 0 | 65.2 | 68.7 | 72.8 | 70.9 | 75.0 | 71.2 | 72. 7 |
| Duiuth, Minn. | 57.2 | 58.5 | 59.3 | 57.0 | 53.2 | 53.8 | 53.0 | 57.4 | 58.1 | 57.9 | 62.6 | 59.9 | 60. 8 |
| El Paso, Tex | 79.6 | 77.8 | 76.8 | 78.9 | 81.6 | 83.8 | 80.8 | 80.4 | 77.6 | 77.4 | 79.6 | 81.4 | 81.4 |
| Eureka, Cal | 54.6 | 54.8 | 55.3 | 52.8 | 54.0 | 52.8 | 52.6 | 54.3 | 53. 6 | 54.3 | 57.2 | 55.6 | 54.3 |
| Evansville, in | 75.3 | 71.1 | 78.1 | 80.0 | 73.2 | 71.9 | 73.4 | 75.9 | 78. 2 | 74. 2 | 80.0 | 77.8 | 75.4 |
| Fort Worth, Te | 80.1 | 77.0 | 79.4 | 83.0 | 80.3 | 80.2 | 80.6 | 84. 4 | 76. 7 | 78.3 | 78.8 | 80. 2 | 80.6 |
| Fresno, Calif | 75.8 | 75.2 | 72. 0 | 73.6 | 75.0 | 73.2 | 77.0 | 82. 5 | 75.6 | 74.9 | 76. 0 | 76. 5 | 69.4 |
| Galveston, Tex | 80.7 | 77.8 | 78.5 | 82.3 | 82.6 | 81.0 | 80.3 | 82.8 | 77.4 | 79.6 | 80.6 | 81. 2 | 81.4 |
| Grand Rapids, Mich- | 68.1 | 64.8 | 69.8 | 67.6 | 63.4 | 62.5 | 62.6 | 66.2 | 74.2 | 69.2 | 73: 4 | 69.6 | 71. 8 |
| Greenville, Me | 58.9 | 57.5 | 57.4 | 56.3 | 58.8 | 57.5 | 58.1 | 55.6 | 63. 8 | 59.8 | 60.0 | 61.1 | 60.4 |
| Huvre, Mont | 62.0 | 62.4 | 65.1 | 60.7 | 56.8 | 59.3 | 59.6 | 67.2 | 67. 6 | 61.8 | 67.8 | 65.6 | 63.8 |
| Indianapolis, | 71.6 | 68.9 | 74. 2 | 74.8 | 69.5 | 67.2 | 68.8 | 71.2 | 75.8 | 71.1 | 76.0 | 73: 8 | 72.8 |
| Iola, Kans | 73.4 | 69.6 | 75.0 | 79.6 | 71.1 | 71.4 | 73.2 | 79.2 | 74. 6 | 73.0 | 76.4 | 76.6 | 75.2 |
| Jacksonville, | 79.9 | 78. 2 | 78.3 | 82.8 | 79.8 | 79.4 | 79.2 | 79.8 | 77. 4 | 78.6 | 80.0 | 80.0 | 78.8 |
| Kalispell, Mont | 58.8 | 61.4 | 60.7 | 57.3 | 55.8 | 55.3 | 55.5 | 62.2 | 60.2 | 55.6 | 60.9 | 63.8 | 58.1 |
| Eittle Rock, A | 77.4 | 73.8 | 78.2 | 84.0 | 76. 2 | 76.6 | 76.2 | 80.5 | 77.2 | 75.4 | 79.0 | 79:4: | 77.5 |
| Tos A | 66.4 | 65.4 | 64.4 | 64.8 | 68.7 | 63.6 | 68.6 | 69.8 | 68. 7 | 65.8 | 65. 6 | 67.7 | 63.6 |
| E, ynchbarg, V | 74.6 | .71. 6 | 73.3 | 76. 6 | 71.6 | 71.0 | 72.8 | 71. 2 | 73.4 | 71.9 | 74.3 | 74.8 | 75.6 |
| Madison, W is | 67.2 | 64.8 | 69.0 | 66.6 | 62.0 | 61. 8 | 61.8 | 65.9 | 71.2 | 89.0 | 72.2 | 68.6 | 71.2 |
| Marquatte, M | 58.5 | 58.6 | 61.6 | 58.8 | 55.2 | 52.9 | 52.0 | 57.2 | 62.3 | 58.9 | 65. 2 | 60.0 | 60:2 |
| Memphis, | 77.6 | 73.7 | 78.0 | 84.2 | 76.6 | 75.9 | 76.1 | 80.4 | 78.8 | 76.5 | 80.6 | 79.8 | 77.0 |
| Miami, $\mathbf{F}$ | 80.4 | 80. 4. | 78.8 | 81.2 | 79.4 | 79.4 | 79.1 | 79.4 | 79.0 | 79.2 | 7.9 .7 | 79:5 | 79:8 |
| Mobile, Als | 79.6 | 77.0 | 78.6 | 83.7 | 81.6 | 79.6 | 78.9 | 82.0 | 80.0 | 79.8 | 81.2 | 80.8 | 78. 6 |
| Modena, Uta | 63.2 | 62.6 | 61.8 | 61. 6 | 60.8 | 83.0 | 62.8 | 70.4 | 64.3 | 62.0 | 64.8 | 65.7 | 59.1 |
| Nashville, Tenn | 75.6 | 72.2 | 77.3 | 81. 8 | 74.6 | 72.9 | 73.0 | 77. 0 | 78.2 | 73.8 | 80.0 | 77.0 | 74.9 |
| New Orleans, | 80.6 | 78.0 | 78.8 | 84.2 | 83.8 | 81.6 | 80.4 | 83.2 | 80.0 | 80.8 | 81.2 | 81.8 | 79.9 |
| Norfolls, Va | 74.4 | 73.0 | 73.2 | 75.0 | 71.3 | 72.1 | 74.2 | 72.6 | 73.4 | 74.3 | 74.8 | 75.9 | 77.2 |
| North Platt | 67.5 | 65.0 | 70.6 | 72.1 | 63. 8 | 64.6 | 67.0 | 73.8 | 69.3 | 68. 4 | 71.8 | 72.8 | 69.2 |
| Oklahoma City, Okla | 75.7 | 73.8 | 75.6 | 80.8 | 73.7 | 74. 6 | 76. 9 | 81.3 | 73.8: | 74.6 | 76.0 | 77.9 | 76.9 |
| Omaha, Nebr | 71.6 | 69.0 | 74.4 | 75. 2 | 67.6 | 68. 0 | 69.6 | 76.1 | 73.4 | 73.1 | 77.4 | 75. 6 | 72, 4 |
| Parkersburg, | 71.5 | 69.5 | 72.4 | 73.4 | 69.6 | 67.6 | 68.6 | 70.0 | 76.0 | 70.2 | 75.0 | 72.2 | 73.0 |
| Pooria, 111 | 70.9 | 68. 4 | 73.2 | 74.2 | 67.8 | 65.8 | 87. 7 | 71. 4 | 74.8 | 72.0 | 76.8 | 73: 2 | 73.0 |
| Phoenix, M | 84.4 | 86.0 | 81.9 | 84. 6 | 83.4 | 83.9 | 84.4 | 88.6 | 85.4 | 84.4 | 84.8 | 86.2 | 80.8 |
| Pierre, S. Da | 68.5 | 68. 4 | 73.4 | 68.8 | 63.1 | 68.5 | 65.3 | 71.7 | 71.0 | B6. 6 | 76.0 | 70.5 | 68, 7 |
| Pittsburgh, | 70.7 | 67.5 | 70.5 | 71.0 | 67.1 | 65.3 | 67.6 | 68.0 | 75.0 | 68.5 | 73.0 | 71.2 | 71.6 |
| Portland, Ore | 62.4 | 63.6 | 62.9 | 61. 4 | 62.6 | 62. 0 | 61.8 | 67.1 | 60.6 | 62.1 | 64. 4 | 65. 5 | 62, 5 |
| Pueblo, Codo | 69.0 | 65.0 | 68.8 | 70.6 | 66. 0 | 69.6 | 67.2 | 74.0 | 68.4 | 68.4. | 68.9 | 71.8 | 69.5 |
| Rosebufg, Or | 62.5 | 61.8 | 61.7 | 61.3 | 62.0 | 61. 4 | 62. 1 : | 67. 5 | 60.6 | 62.4 | 64.8 | 67.0 | 63.0 |
| Saeramento, C | 69.4 | 69.2 | 66.5 | 67.1 | 69.8 | 68.0 | 72.6 | 76.0 | 59.4 | 70.2 | 71.9 | 71. 0 | 65.9 |
| \$5. Trouis, Mo. | 74.8 | 70.3 | 78.4 | 81.1 | 72.0 | 71. 5 | 73.3 | 77.1 | 77.3 | 75. 2 | 78. ${ }^{\text {a }}$ | 78.2 | 75.2 |
| St. Paul, Minn | 67.1 | 64. 6 | 70.0 | 66.2 | 62.4 | 62.7 | 62.8 | 66. 3 | 70.0 | 68.0 | 73.5 | 68.3 | 70.0 |
| Salt Lake City, Utah- | 67.4 | 69. 0 | 67.5 | 64.9 | 64. 2 | 65.9 | 65.8 | 75.4 | 74. 0 | 68.0 | 71. 2 | 73.0 | 64.2 |
| San Antonio, Tex | 80.4 | 78. 4 | 79.2 | 82. 0 | 83.8 | 84.0 | 83. 0 | 88.6 | 77.5 | 78.4 | 81.0 | 79.4 | 83.2 |
| Sma Diego, Catif--- | 68.9 | 63.2 | 62. 8 | 68. 8 | 64.8 | 61.4 | 63.7 | 66.8 | 66.2 | 63.6 | 63.1 | 64.3 | 62.3 |
| Stas Frandisco, Calif | 58.5 | 00.4 | 58.2 | 56.6 | 58.9 | 57. 4 | 58.6 | 59.2 | 57.8 | 60. 2 | 61.4 | Of. 0 | 57. 2 |
| Santa Fe, N. Mex. | 64. 8. | 62.4 | ${ }^{62.8}$ | 67.9 | 64.0 | 66.2 | 66.0 | 68. 4 | 63.1 | 63.6 | 62.9 | 66. 4 | 65.2 |
| Scrantion, Pa | 66.7 | 65.2 | 67.5 | 66.8 | 65. 8 | 68.0 | 66.8 | 65.4 | 71.7 | 68.9 | 69.4 | 68. 7 | 70.2 |
| Seattle, Wash | 60.1 | 60.0 | 89. 5 | 58.9 | 50.8 | 58.8 | 57.2 | 61.6 | 57.5 | 58.6 | 59.8 | 64. 8 | 60.6 61.8 |
| 8heridsan,-W Y | 61.1 | 61.6 | 64.0 | 61.1 | 55.6 | 59.0 | 58. 0 | 67.0 | 68.0 | 60.8 | 66. 6 | 64. 8 | 61.8 |
| Shreveport, L | 79.6 | 76.2 | 79.0 | 83.9 | 80.7 | 79.4 | 80.2 | 83.6 | 77.8 | 78.5 | 80.4 | 89.8 | 79.7 |
| Springfield. Mo | 7.2 .3 | 68. 6 | 74.2 | 78.8 | 70.3 | 70.0 | 70.9 | 77.0 | 73.6 | 71.8 | 74.2 | 75.7 | 72.8 |
| Themesvine, | 79.5 | 77. 5 | 76.9 | 83.2 | 81.1 | 78. 6 | 79.4 | 80:3 | 78. 6 | 79.0 | 80.6 | 80.0 | 77.6 |
| Trentor, N. J | 69.5 | 70.2 | 70.6 | 69.4 | 67.8 | 65.8 | 70.5 | 67. 2 | 70.8 | 69.0 | 71. 1 | 71.8 | 73.5 |
| Walla Falla, W | 68.2 | 68.8 | 66.9 | 64. 9 | 66.1 | 64.4 | 64.8 | 73.1 | 66: 4 | 65.0 | 70: 4 | 73.9 | 65. 0 |
| Washington, D. C | 72.2 | 70.4 | 72.8 | 73.8 | 70.6 | 69.7 | 72.6 | 70.8 | 73:9 | 71.6 | 74.2 | 74.5 | 75.6 |
| Wianemueca, Nev . | 62.8 | 64.4 | 61.6 | 61.2 | 61.0 | 61.6 | 63.3 | 70.6 | 64.2 | 62: 1 | 65.2 | 67.4 | 5\}: 8 |

[^350]Tabee 736.-Temperature: Monthly narmal ${ }^{1}$ and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | $\begin{gathered} \text { Nor- } \\ \text { mal } \\ \text { mor } \\ \text { foly. } \end{gathered}$ | July monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1945 | 1916 | 1917 | 1918 | 1919 | 1020 | 1921 | 1922 | 1923 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Amarillo, | 78 | 79.2 | 78.7 | 77.8 | 74. | 79.0 | 79.4 | 78.3 | 78.2 | 78.1 | 74.8 | 78.8 | 1 |
| Atlanta; Ga |  | 77.2 | 80.6 | 79.1 <br> 80.8 | 78. | ${ }^{76.4}$ | 78. 7 | 77.6 | 79.0 | 78.8 | ${ }_{81.8} 7$ |  | . 5 |
| Bismarck, N. | 69.8 | 69. | 67. | 73.3 |  |  |  | 68.0 |  |  |  |  |  |
| Boise, Idaho | 72.9 | 68. 8 | 78. | ${ }_{68} 75$ | 70 |  | 73. | ${ }^{74.4}$ | 74.0 |  | 73. 2 |  |  |
| Bostan, Mass | 71.7 | 73. ${ }^{73}$ |  |  | 8.0 | 82.4 | 84. |  | 83.5 | 84.9 | 83.2 |  |  |
| Brownsville, ${ }^{\text {Buftalo, }}$ | 69.8 | ${ }_{70.1}^{82.3}$ | ${ }_{69} 81.4$ | 85.0 70.0 | 8\%. 8 | ${ }_{74.7}^{83.4}$ | 89.5 69.5 |  | ${ }_{70.4}$ | 84.9 |  | , |  |
| Canton, N. | 70.5 | 67.8 | 68. 2 | ${ }^{\text {¢6. }} 6$ | 6\%. | ${ }_{79}^{72.5}$ | 70.0 | ${ }_{7}^{69.1}$ | ${ }_{80}^{69.1}$ | 66. |  | 82.3 | 1 |
| Charleston | 81.4 | 6 | 82 | ${ }_{78,4}^{81.0}$ | 892. | 79. | ${ }_{77.4}^{80.8}$ | 79.4 | 88.6 |  | 79.5 | 78.8 | ${ }_{6}^{1}$ |
| Charyote, | 66.7 | 65.0 | 65. 2 | 66. 6 | ${ }_{62} 2.3$ | 69.1 | 67.4 | 65.7 | 69.8 | 65.8 | 9. 5 | 65.5 | 67.5 |
| icago, | 73.9 | 72.9 | 74.9 | 75.0 | 70.2 | 78.4 | 72. | 71.2 | 77 | ${ }_{71.5}$ | ${ }^{81.2}$ | 73.3 | 74.4 |
| Cincinnati, |  | 77 | 80.0 | 79.2 | 73. | 78 | 74.0 | 72.4 | 77. 0 | 728 |  | 75.4 |  |
| Cleveland, | 71.4 |  | ${ }^{71}$ | 81. ${ }^{71}$ | ${ }_{73.7}^{69.8}$ | ${ }^{75.6}$ | 81 | 78.2 | 73.2 <br> 81.6 | ${ }_{77.4}^{69.2}$ | 78.8 | ${ }_{75.4}^{71.6}$ | ${ }_{8}^{2}$ |
| Concord | 75.4 |  |  | 78. | 71.0 | 81.4 | 76.6 | 75.6 | 79:8 |  |  |  |  |
| Devils Lake, N. Da | 68.1 | 65.3 | 64. | 7 | 62.4 | 72.9 | 70.0 | 63.2 | 70.0 | 67.2 | 70.0 |  | 2 |
| Dodge City, Kan | 78 | 78.6 | 80 | 79 | 74 | 80 | 80.4 | ${ }_{72}^{78.5}$ | 6. 6 | 77.9 | 79.0 |  | 3 |
| Dubuque, Iov |  |  |  | 76.4 | ${ }_{59.8}^{69}$ |  |  | 72.3 |  | 6.8 |  |  |  |
| Dul Paso, Tex | 80. | ${ }_{81.0}$ | ${ }_{81.5}$ | 78.0 | 81.1 | 81.3 | 83.9 | 81.0 | 79.4 | 82.6 | 79.8 | 81.9 | 82.1 |
| areka, Calif | 55. | 55. | 57.2 | 54. 1 | ${ }^{50.8}$ |  |  |  | 54.2 |  |  |  |  |
| answille, Ind | 79 | 78 | 81.4 | 82. 2 | 77.0 | 82.0 |  | 76.6 |  | 828 |  |  | 80.2 85.2 |
| Fort Worth, | 83.7 <br> 82 | ${ }_{79} 8$ | 80.9 | 80.5 | 80.3 | ${ }_{79.5}$ | 86.0 | 79.9 | 82.9 | 79.4 | 83.9 | 83.8 | ${ }_{79} 8$ |
|  |  |  | 83 |  |  | 8 | 83.3 | 83.6 | 82.0 | 82.2 |  |  |  |
| Grand Rapids, |  |  |  | 73.8 | 69.4 | 78.8 | 71. ${ }^{\text {of }}$ | 71.6 |  | 68. 9 | 8 | 71.2 | 4 |
| Greenville, M | 65. | 65 | 64 | ${ }^{63}$ | ${ }_{6}^{63}$ | ${ }_{68}^{67}$ | ${ }_{73}^{66.4}$ | ${ }_{68.0}^{66 .}$ | 66.6 | ${ }_{72.4}^{\text {ea. }}$ | ${ }^{70.6}$ |  |  |
| Havre, Mon | ${ }_{75}^{68}$ | 74.4 | 77.9 | 78 | 73.0 | 80.6 | 74.0 | 73 | 78.6 | 73. | 81.1 | 74. 6 | 2 |
| Iola, Kans | 78.1 | 80.2 | 81.6 | 80.4 | 75.0 | 82.4 |  | 78.9 | 80.6 |  | 80.8 |  |  |
| Jacksonvill | 82.1 | 81.8 | ${ }_{61}^{82.3}$ | ${ }_{86}^{82.0}$ | 81.8 | ${ }^{80 .} 4$ | 0 | ${ }^{79.0}$ |  |  |  |  |  |
| Kalispell, Miont | 64.3 80.9 | 60.5 <br> 82.0 | ${ }_{81.6}^{61.8}$ | 82.7 | ${ }_{80}^{60}$ | ${ }_{83.6}^{62.7}$ | ${ }_{80} 87$. | 64.7 80.4 | 82.2 | 80.4 |  |  |  |
| Los Angeles, | 70.2 | ${ }^{68.8}$ | 70.5 | 66.8 | 70.0 | 68. 8 | 72.3 | 7. 89 |  |  |  |  |  |
| nehburg, |  | 77.2 | 78.6 | 76.0 | ${ }_{67}^{76.2}$ | 76.4 | 76.4 | 70.3 | 74.8 | 74.8 69.1 |  | 69.6 | 76. 7.2 |
| Mardison, | 64.9 | 65.4 | 63.1 | 66.4 | 60.2 | 70.4 | 64. 6 | 62.9 | 68.4 | 62.2 | . |  |  |
| Memphis, Te |  |  | 81.0 | 83.2 | 79.8 | 2 | 79.0 | 79.0 | 82. | 1 | ${ }^{1}$ | 30, |  |
| Miami, Fla- | 80.7 | ${ }_{81}^{82}$ | 81 |  | 82.9 | 80 | 81.4 | 81.0 | 81.6 | ${ }_{81.0}^{81.2}$ | 82.2 |  |  |
| Modena, Utah | 80. | 6 |  | 69 | 69.2 | 69.2 |  | 68.8 |  |  | 9 |  | 72.0 |
| Nashville, Ten | 79.1. | 77.8 | 81.5 | 81.4 | 78 |  | 2 |  |  |  |  |  |  |
| ew Orieans, |  | ${ }^{81}$ | 81.6 78.2 | 70 | ${ }_{7} 8$ | ${ }_{77.4}^{88.3}$ | ${ }_{77.2}$ | . 0 | 77.8 |  | ${ }_{79} 83.1$ | 78.0 |  |
| North Plate, Ne | 72.9 | 74.0 | 84 | 76.0 | 69.4 | 咗 |  | 74.7 | 77.2 | 74.8 | 8. | - | 75.9 |
| klaboma City, |  | 78. | ${ }^{81}$ | ${ }_{79}^{85}$ | 78.2 | a | ${ }_{79}^{82 .}$ | ${ }_{77}^{82} 8$ | 81.4 | ${ }_{4}$ |  |  |  |
| Omaha, Nebr |  | 78.7 | 77 | 76.0 ${ }^{7}$ | 73 |  | 74.4 | ${ }_{72.6}^{71.2}$ | 77.2 |  | ${ }^{6}$ |  |  |
| Peoria, |  | 74.8 |  |  | 71.9 | 81.0 | 75.0 | 72.8 |  | 6 |  | 74.7 | 77.6 |
| Phoenix, Ariz |  | ${ }^{80}$ | 74 | ${ }_{78} 88$ | ${ }_{67.5}$ | ${ }_{30.1}^{89.0}$ | 78.2 | 73.2 | 2.8 | ${ }_{73.1}{ }^{9.6}$ | 77.3 |  |  |
| Pitisbu |  | 73 | 73 | 74.0 | 72.0 | 76.6 | ${ }^{73.5}$ | 2.0 | 7. | 70.4 | 6 | 9 | 73.3 |
| ${ }_{\text {Prartan }}$ | 74 | 72.8 | ${ }_{74}^{67}$ |  | ${ }_{71}^{67}$ | 76 | 76.0 | 8 | 68.0 | ${ }_{74.4}^{68.0}$ | ${ }_{74.2}^{65}$ | 2 |  |
| Roseburg, | 67.4 | 8 |  |  | 7 | T | 71.2 | 1. | 8 |  | 9 |  |  |
| Sacramento, | 73.2 | 71.6 | 74.4 | 71.0 | 72 | 74.2 | 78.6 | 72.2 | 8 | 8 |  |  | ${ }^{73 .} 6$ |
| St. Louis, Mo | 78.6 | 78.8 |  |  | 76. ${ }_{6}$ | 84.2 78.2 |  | 78.4 | ${ }_{73.6}^{81.6}$ |  |  |  |  |
| ${ }_{\text {Salt }}$ Sake City, | 75.7 | 73.6 | ${ }^{69}$ | 75 | 75. 2 | 76: | 79. | 75. 6 | 80.3 | 6 | 7 | 76. 6 | 78.3 |
| San Anton | 87 | 85. 1 | 84 | 85. 6 | 84.8 | 82, 8 | 84.8 | 85.2 | ${ }_{60}^{80.7}$ | 8 | . 6 | 84. 7 |  |
| San Diego, Calif |  |  |  | 65.8 | ${ }_{60 .}^{67.5}$ | 60.0 |  |  | ${ }^{68.6}$ | 57.8 | ${ }_{59.8}^{68.4}$ | 60.2 |  |
| Santa Fe, N. Mer |  | 68 |  |  |  | 68.8 | ${ }_{71}{ }^{5}$ | 69.3 | ${ }^{67.8}$ | 68.7 | 67. 1 | 70.2 |  |
| Seranton, Pa | 72.1 63.5 |  |  |  |  |  |  |  | (2.4 |  |  |  |  |
| Sheridan, Wy | 67.3 | 65. 2 | 64.9 | , | 61. |  | 71.2 |  |  |  |  |  |  |
| reveport, |  |  | ${ }_{79}^{83.3}$ | ${ }_{78}^{85 .}$ | 74 | 80.6 |  |  |  |  |  |  |  |
| Thomasville, | 81.8 |  | 82.3 | 81.8 | 82. | 79. | 80.4 | 79. |  |  | 0 |  |  |
| enton, ${ }^{\text {d }}$. $J$ | 74.5 | ${ }_{72}{ }^{\text {7 }}$. 5 | ${ }_{73}^{75.6}$ | 72.0 | 73. | 74 | 77.1 | 73.21 |  |  |  |  |  |
| Walta Walla, W |  |  |  |  |  |  |  | 74 |  |  |  |  |  |
| innemucca, Nev -- | 70. | 69 |  | 72 | 69. | 69. | 75.9 | 70 | 74.0 | 6 | 0 | 4 | 72. |

Table 736.-Temperature: Monthly normal ${ }^{1}$ and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | $\begin{gathered} \text { Nor- } \\ \text { mal } \\ \text { for } \\ \text { Aug. } \end{gathered}$ | August monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  |  |  |  |  | - |  |  |  |  |  |  |  |  |
| Amarillo, T | 74.6 | 76.4 | 80.0 | 75. 6 | 71.4 | 76.6 | 74.0 | 78.0 | 77.6 | 71.6 | 76.4 | 81.6 | 77.2 |
| Atlanta, Ga | 77.0 | 76.9 | 78.6 | 76.8 | 77.2 | 78.0 | 75.4 | 78.8 | 76.4 | 75.1 | 76.7 | 75.8 | 77.4 |
| Birmingham, Ala | 79.8 | 78.0 | 80.2 | 78. 0 | 77.6 | 79.2 | 77.8 | 81.5 | 78.6 | 77.2 | 80.3 | 79.4 | 78. 4 |
| Bismarck, N. Dak | 67.3 | 66.2 | 71.2 | 64.5 | 65.2 | 67.4 | 66.6 | 68.8 | 70.6 | 7.04 | 70.2 | 72.6 | 65.4 |
| Boise, Idaho | 71.8 | 68. 1 | 73.2 | 72.8 | 78. 2 | 70.4 | 74.0 | 67.3 | 74.4 | 72.2 | 74.0 | 74.4 | 73.1 |
| Biston, Mas | 69. 9 | 69.0 | 70.8 | 70.4 | 69.1 | 71.8 | 72.8 | 70.4 | 68.8 | 72.0 | 69.8 | 70.4 | 69.4 |
| Brownsville, | 83.9 | 84.0 | 83.4 | 85. 1 | 86. 0 | 82.6 | 85.4 | 85.7 | 86. 2 | 86. 2 | 84.2 | 84.8 | 84.4 |
| Buffalo, | 68.6 | 64.8 | 68.6 | 68. 8 | 66. 2 | 71.6 | 68.2 | 70.6 | 66. 9 | 70.2 | 68.3 | 68.2 | 67.2 |
| Canton, N. Y | 67.8 | ${ }^{61.8}$ | 65.8 | ${ }^{65.6}$ | 64. 5 | 69.2 | 67.8 | 67.0 | 65.2 | 69.0 | 66.8 | 66. 2 | 64.5 |
| Oharleston, ${ }^{\text {d }}$ | 81.0 | 81. 2 | 80.1 | 81.3 | 32.0 | 81.8 | 80.2 | 82.2 | 81.0 | 80.2 | 80.8 | 78.1 | 81.8 |
| Charlotte, N | 77.1 | 76.4 | 77.2 | 77.7 | 76.0 | 77.6 | 76.8 | 78.8 | 77.0 | 74.9 | 76.1 | 74.9 | 78.4 |
| Cheyenne, W y | 65.6 | 65. 4 | 68.4 | 65.4 | 61.0 | 63.8 | 61.4 | 65.0 | 68. 0 | 62.8 | 65.6 | 69.0 | 63.7 |
| Chicago, Ill | 72.8 | 71.0 | 74. 3 | 74. 2 | 66.6 | 76.6 | 70.4 | 75.7 | 73. 4 | 71.0 | 72.8 | 73.2 | 70.8 |
| Cincinnati, Ohio | 73.6 | 73.8 | 78.1 | 76.7 | 68. 6 | 76. 3 | 73.2 | 78.6 | 73.2 | 71.2 | 72.8 | 73.7 | 74.0 |
| Cleveland, Ohio | 70.0 | 67.6 | 71.2 | 71.8 | 67.1 | 72.4 | 69.8 | 74. 5 | 69.8 | 69. 4 | 69.3 | 69.6 | 69.0 |
| Concordia, Kans | 76.5 | 77.2 | 85.0 | 79.3 | 70.1 | 78.7 | 72.8 | 82.5 | 77.0 | 72.4 | 78.9 | 80.6 | 76.2 |
| Des Moines, Iowa | 73. 1 | 72.7 | 78.7 | 75.9 | 67.3 | 75.8 | 70.9 | 78.7 | 73.4 | 71.4 | 73.2 | 74.8 | 71.4 |
| Devils Lake, N. Da | 65.1 | 61. 6 | 67. 6 | 63.2 | 64.6 | 65.6 | 64. 4 | 65. 2 | 67.0 | 68.4 | 65. 5 | 70.0 | 62.0 |
| Dodge City, Kans | 77.7 | 76. 5 | 82. 4 | 77.1 | 70.0 | 78.6 | 73: 6 | 80.6 | 79.4 | 72.4 | 77.8 | 80.0 | 77.9 |
| Dubuque, Iowa | 71.7 | 69.7 | 74. 2 | 72.8 | 65.6 | 75.0 | 68.6 | 74.6 | 70.8 | 69.6 | 71.6 | 72.5 | 69.6 |
| Duluth, Mini | 62. 6 | 57. 4 | 62.2 | 62.0 | 61.6 | 65. 1 | 59.8 | 64.6 | 65.0 | 63.6 | 63.6 | 64. 2 | 60.3 |
| El Paso, Tex | 78.6 | 77.8 | 78.6 | 78.5 | 77.7 | 77.8 | 79.2 | 77.4 | 81.0 | 77.0 | 80.4 | 82.6 | 78.8 |
| Eureka, Calif | 55.8 | 57.2 | 57.8 | 54.6 | 57.9 | 56. 0 | 54.0 | 56. 6 | 55.9 | 56.1 | 55.8 | 56.9 | 59.7 |
| Evansville, In | 77.0 | 75.3 | 80.8 | 78.0 | 71.4 | 79.0 | 76.6 | 82.4 | 77.2 | 75.6 | 77.0 | 77.8 | 78.4 |
| Fort Worth, T | 82.9 | 82.0 | 85.9 | 80.0 | 79.1 | 83.6 | 84.2 | 87.0 | 82.0 | 78.1 | 86.4 | 85. 2 | 85.2 |
| Fresno, Calif | 81.2 | 77.7 | 83.0 | 80.3 | 81.9 | 78.2 | 81.2 | 79.2 | 81.2 | 81.5 | 79.9 | 79.1 | 79.0 |
| Galveston, Tex | 83.0 | 83. 8 | 82. 9. | 82.2 | 81.3 | 83.0 | 83.5 | 82.7 | 83.4 | 82.4 | 83.6 | 83.1 | 82.4 |
| Grand Rapids, M | 70.0 | 66.9 | 72.5 | 71.0 | 65.2 | 72.8 | 68.6 | 74. 1 | 69.8 | 69.9 | 70.6 | 71.2 | 68.2 |
| Greenville, M | 62.5 | 58.5 | 62.2 | 61.9 | 61.4 | 65.2 | 64.7 | 62.6 | 60.8 | 66.6 | 61.0 | 63.2 | 59.2 |
| Havre, Mont | 65. 4 | 62. 6 | 66.9 | 64. 4 | 70.0 | 84.9 | 65. 5 | 66. 6 | 70.4 | 69.6 | 69.0 | 70.0 | 65.0 |
| Indianapolis, | 73.7 | 72.0 | 76.3 | 74.6 | 67.5 | 76.6 | 72.5 | 78.4 | 73.4 | 72.0 | 73.2 | 74.4 | 73.2 |
| Iola, Kans | 76. 3 | 79. 1 | 84.4 | 78. 4 | 70.0 | 80.9 | 74. 1 | 83.8 | 78. 4 | 74. 0 | 78. 4 | 79.4 | 80.8 |
| Jacksonville, | 81.7 | 81.8 | 80.8 | 82.0 | 82.8 | 81.6 | 81. 2 | 81.2 | 81.5 | 80.6 | 80.5 | 78.8 | 81.9 |
| Kalispell, Mont | 62.9 | 59.8 | 63.3 | 63.1 | 69.1 | 61.6 | 63.5 | 60.1 | 65.0 | 63.6 | 64.0 | 65.8 | 64.0 |
| Little Rock, 1 rk | 79.8 | 79.0 | 82.1 | 78. 2 | 75. 3 | 81.3 | 77.7 | 82.8 | 81.0 | 77.4 | 81.4 | 81.5 | 81.5 |
| Los Angcles, C | 71.1 | 69.2 | 71.9 | 68.2 | 72.6 | 68. 6 | 70.0 | 71.7 | 70.2 | 72.4 | 70.6 | 73.3 | 69.6 |
| Lynchburg, Va | 75.6 | 75.2 | 75.1 | 76. 3 | 74. 2 | 75. 3 | 75.4 | 77.6 | 73.9 | 73.7 | 74.5 | 72.8 | 74.8 |
| Madison, Wis | 69.8 | 67.3 | 70.6 | 70. 3 | 63.8 | 72. 8 | 67.0 | 72.6 | 69.0 | 68.8 | 70.0 | 71.2 | 67.9 |
| Marquette, Mic | 63.5 | 57.7 | 64.2 | 63. 0 | 60.4 | 66.7 | 60.4 | 63.6 | 65.2 | 62.8 | 64.2 | 64.8 | 60.8 |
| Memphis, Te | 79.4 | 78.6 | 81.0 | 78.7 | 75.9 | 80.8 | 77.8 | 82.6 | 80. 4 | 77.4 | 80.8 | 79.7 | 80.5 |
| Miami, Fla | 82.0 | 83.2 | 81.6 | 81.6 | 82.6 | 80.6 | 81.3 | 81.5 | 82.6 | 80.0 | 81.1 | 81.2 | 81.6 |
| Mobile, Ala | 80.5 | 81.0 | 82.4 | 80.6 | 81.4 | 82.0 | 81.0 | 81.2 | 81.9 | 80.2 | 82.5 | 81.1 | 80.6 |
| Modena, Utah | 68.6 | 66.8 | 68.8 | 69.8 | 69.7 | 65.8 | 69.4 | 66.5 | 71.3 | 69.0 | 68.4 | 69.6 | 67.2 |
| Nashville, Tenn | 77.8 | 76.7 | 80.6 | 77.6 | 74.1 | 78.4 | 75.6 | 81.2 | 77.6 | 75.0 | 78. 0 | 76.8 | 76.4 |
| New Orleans, 1 | 82.2 | 82.9 | 82.8 | 81.8 | 82.7 | 83.4 | 82.6 | 82.0 | 83.2 | 81.3 | 84.2 | 83.0 | 82.0 |
| Norfolk, Va- | 77.4 | 76.8 | 75.9 | 78.2 | 78.0 | 76.9 | 77.8 | 79.6 | 76.6 | 76.8 | 76.4 | 75.0 | 77.4 |
| North Platte, Nebr | 70.8 | 70.6 | 77.3 | 74.0 | 68.2 | 74.0 | 69.4 | 74.0 | 73.0 | 70.0 | 73.0 | 76.8 | 70.2 |
| Oklahoma City,Okla | 78.5 | 79.5 | 84.8 | 79.6 | 73.4 | 83.0 | 77.7 | 85.6 | 82.0 | 75.3 | 82.9 | 84.4 | 83.6 |
| Omaha, Nebr | 74.4 | 75.3 | 82.4 | 77.0 | 68.4 | 76.5 |  | 80.8 | 75.0 | 72.6 | 75.6 | 77.7 | 72.9 |
| Parkersburg, W. Va- | 73.3 | 72.2 | 75.6 | 74.9 | 69.8 | 75. 2 | 73.6 | 78.6 | 72.4 | 72.9 | 72.4 | 72.3 | 73.0 |
| Peoria, Ill | 72.5 | 72.4 | 77.8 | 75. 4 | 67.2 | 76.0 | 70.8 | 77.5 | 71.9 | 72.2 | 73.8 | 74.5 | 73.4 |
| Phoenix, Ariz | 89.0 | 86.2 | 86. 7 | 89.2 | 89.1 | 87.0 | 87.2 | 84.6 | 88. 6 | 86.4 | 87.1 | 89. 4 | 87.2 |
| Pierre, S. Dak | 72.8 | 71.0 | 76.8 | 71.9 | 68.0 | 71.6 | 71.0 | 74.2 | 75.1 | 70.8 | 74.0 | 76.6 | 69.8 |
| Pittsburgh, P | 72.9 | 68.8 | 73.2 | 73.2 | 69.1 | 74.2 | 72.2 | 76. 6 | 70.0 | 71.6 | 70.2 | 70.8 | 71.0 |
| Portland, Ore | 66.7 | 65.8 | 68.6 | 68.0 | 71.2 | 68.0 | 70.3 | 67.4 | 68.6 | 69.3 | 67.0 | 67.2 | 70.6 |
| Pueblo, Col | 72.1 | 72.0 | 75.2 | 72.6 | 67.9 | 71.9 | 70.4 | 73.9 | 74.6 | 69.8 | 72.8 | 76.5 | 70.8 |
| Roseburg, Oreg | 68.0 | 65.0 | 68.6 | 68.6 | 70.7 | 68.2 | 69.4 | 67.4 | 69.6 | 70.0 | 67.6 | 66.6 | 70.0 |
| Sacramento, | 72.9 | 71.6 | 76.9 | 71.2 | 75.0 | 71.8 | 72.6 | 74.0 | 72.8 | 76.0 | 72.1 | 72.8 | 73.5 |
| St. Louis, Mo. | 77.3 | 76. 2 | 83.0 | 78. 9 | 70.4 | 78.7 | 75.3 | 82.6 | 77.1 | 75.1 | 77.5 | 79.1 | 77.9 |
| St. Paul, Min | 69.4 | 66.5 | 72.2 | 68.8 | 65.4 | 71.6 | 66.5 | 70.4 | 68.5 | 69.2 | 70.0 | 72.0 | 66.9 |
| Salt Lake City, Utah | 74.5 | 72.5 | 75.8 | 75.6 | 78.0 | 72.9 | 73.9 | 72.4 | 77.4 | 73.7 | 74.6 | 76.2 | 73.0 |
| San Antonio, Tex. | 82.0 | 86: 0 | 84.0 | 82.6 | 82.5 | 82.0 | 85. 6 | 85.1 | 82.2 | 82.9 | 85.2 | 85.8 | 84.2 |
| San Diego, Calif | 68.7 | ${ }_{59}^{66.4}$ | 68.9 | 66. 2 | 69.5 | ${ }_{68}^{67.0}$ | ${ }^{68.6}$ | 69.8 | 68.4 | 70.4 | ${ }_{59}^{68.2}$ | 70.7 | ${ }_{61.8}$ |
| San Francisco, Calif. | 59.1 | 59.9 | ${ }_{68}^{62.1}$ | 58.2 | 61.3 | 58.5 | 57. 6 | 60.9 | 58.4 | 60.1 | 59.6 | 60.4 | 61.7 |
| Santa Fe, N. Mex.- | 67.4 | ${ }^{67.2}$ | 68. 6 | 66. 8 | 65.4 | 66.8 | ${ }^{67.8}$ | 67. 8 | 69.0 | 65. 0 | 66.0 | 70.7 | 65.8 |
| Scranton, Pa | 69.2 | 66.6 | 70.6 | 70.8 | 67. 4 | 71.8 | 71.5 | 73. 3 | 67.6 | 70.8 | 67.8 | 68.7 | 68.4 |
| Seattle, Wash | 63.1 | 62.2 | 64.8 | 63.2 | 66.8 | 63.6 | 65.2 | 62.6 | 63.0 | 64.4 | 62.0 | 62.7 | ${ }^{65.7}$ |
| Sheridan, Wy | 65.4 | 63.6 | 68.0 | 65.1 | 65.4 | 65.9 | ${ }^{64.0}$ | ${ }^{65.8}$ | 68.2 | 67. 0 | 68.0 | 71.1 | 64.4 |
| Shreveport, La | 81.4 | 80.2 | 82.4 | 80.5 | 78. 4 | 83. 2 | 80.6 | 83.4 | 82.6 | 79.8 | 84.0 | 82.1 | 83.0 |
| Springfield, Mo | 74.8 | 76.3 | 82.0 | 76.4 | 68.8 | 78.8 | 72.8 | 80.0 | 77.2 | 72.4 | 77.0 | 77.0 | 78.6 |
| Thomasville, | 81.0 | 80.4 | 80.0 | 81.0 | 82.2 | 81.0 | 80.4 | 80.4 | 80.8 | 80.0 | 81.0 | 79.4 | 79.9 |
| Trenton, N. J | 73.0 | 72.0 | 72.8 | 74.4 | 70.9 | 74.0 | 74.8 | 75. 4 | 70.6 | 72.4 | 70.2 | 71.0 | 71.6 |
| Walla Walla, Wash | 73.8 | 69.6 | 74.9 | 75.2 | 79.3 | 74.0 | 76.8 | 70.0 | 75.6 | 73.8 | 74.6 | 74.2 | 75.4 |
| Washington, D. ${ }^{\text {C- }}$ | 75. 0 | 73.4 | 74.2 | 76.4 | 74. 0 | 75. 2 | 75.9 | 77. 6 | 73.6 | 74.8 | 72.8 | 73.1 | 74.4 |
| Winnemucca, ${ }^{\text {Nev.-- }}$ | 69.3 | 66.7 | 71.0 | 70.6 | 72.0 | 66.4 | 71.0 | 65.7 | 71.2 | 68.6 | 69.8 | 67.8 | 67.8 |

Table 736.-Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | $\begin{gathered} \text { Nor- } \\ \text { mal } \\ \text { for } \\ \text { Sept. } \end{gathered}$ | September monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 192 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Amaril | 67.7 | 64.6 | 64.8 | 72.8 | 68.8 | 67.8 | 69.4 | 65.4 | 71.2 | 70.8 | 73.5 | 73.1 | 69. |
| Atlanta, | 72.4 | 75.3 | 70.4 | 71.4 | 74.9 | 71.4 | 70.0 | 68. 2 | 74.2 | 73.9 | 79.4 | 75. 3 | 74. |
| Bismar | 58.1 | 56. 6 | 59.8 | 61.0 | 76. ${ }^{\text {7 }}$ | 73. 8 | 72.6 57.6 | 73. 9 | 75.9 | 76.5 | 81.6 | 78.8 | 75 |
| Boise, I | 61.9 | 57.7 | 62.2 | 61.4 | 60.4 | 62.5 | 66.0 | 65.2 | 62.2 | 63.2 | 57.6 | 66. 0 | 65. |
| Boston; M | 63.2 | 63.7 | 62.0 | 64.6 | 66.8 | 65.0 | 60.2 | 61.2 | 63.9 | 65. 2 | 68.5 | 65.2 | 64. |
| Brownsvi | 80.5 | 81.8 | 79.2 | 80.9 | 82.2 | 80.0 | 78.8 | 80.8 | 82.3 | 84.4 | 83.0 | 80.7 | 83. |
| uffalo, | 62.4 | 64.6 | 60.8 | 61.6 | 64.6 | 62.0 | 59.4 | 56.0 | 63.1 | 64.3 | 67.6 | 64.4 | 62.9 |
| Canton, N. | 59.3 | 58. 0 | 56.4 | 57.4 | 61.4 | 60.1 | 56.6 | 54. 4 | 58.8 | 61.4 | 63.2 | 61.2 | 59. |
| Charleston, | 76.6 | 79. 2 | 75. 0 | 74.4 | 79.2 | 75.1 | 73.4 | 73. 2 | 76. 3 | 77.8 | 81.9 | 76.8 | 77.8 |
| Charlotte, N | 71.5 | 75. 0 | 68.6 | 69. 2 | 73. 2 | 70.0 | 67. 6 | 67. 0 | 72.7 | 72.7 | 79.2 | 73.5. | 73.7 |
| Cheyenne, W | 57.0 | 49.2 | 54.0 | 58.0 | 54.6 | 55.8 | 58. 6 | 53.1 | 59.0 | 57.1 | 58.4 | 60.8 | 55.8 |
| Chicago, Ill | 66.3 | 67. 7 | 65.4 | 66.6 | 67.2 | 64.4 | 63.7 | 59. 6 | 68.9 | 69.3 | 70.0 | 69.5 | 65.1 |
| Cinncinnati, | 67.1 | 70.9 | 68.4 | 68.4 | 68.4 | 65. 2 | 64.9 | 59. 9 | 69.6 | 67.8 | 72.3 | 70.6 | 68.3 |
| Cleveland, Ohio | 63.9 | ${ }^{66.6}$ | 62.6 | 62.6 | 67.0 | 63.8 | 60.5 | 58. 2 | 66.4 | 65.8 | 69.0 | 67.0 | 64.7 |
| Concordia, Kan | 68.1 | 65. 8 | 68.0 | 72.4 | 68.6 | 67.2 | 68.4 | 63. 2 | 71.4 | 69.7 | 73.8 | 73.0 | 69.6 |
| Des Moines, Iow | 65.6 | 63.2 | 65.9 | 65.8 | 65.6 | 64.3 | 64.0 | 60.2 | 68.9 | 68.0 | 69.4 | 68.0 | 65.2 |
| Devils Lake, N. D | 55.6 | 51.4 | 56.4 | 58.4 | 55.0 | 55.0 | 55.9 | 50.4 | 57.1 | 59.4 | 56. 6 | 59.4 | 58.2 |
| Dodge City, Kans | 69.4 | 64.0 | 64.8 | 72.6 | 68.4 | 67.0 | 69.4 | 63.4 | 73. 1 | 69.4 | 73.0 | 72.4 | 69. 6 |
| Dubuque, Iow | 64.0 | 63.8 | 63. 6 | 64. 4 | 64.4 | 62.2 | 61.8 | 57.4 | 66.1 | 66. 4 | 66.9 | 65. 9 | 62.8 |
| Duluth, Minn | 55. 1 | 54.8 | 53.9 | 56. 0 | 55. 6 | 53. 0 | 53. 6 | 50. 4 | 55.8 | 60. 3 | 58.2 | 58. 2 | 56. 4 |
| El Paso, Tex | 72.7 | 71.0 | 69. 2 | 74.3 | 73.6 | 73.0 | 73.8 | 73.6 | 72.6 | 75.1 | 76.5 | 75.6 | 73.5 |
| Eureka, Cali | 54.9 | 57.2 | 56. 2 | 55. 0 | 54. 5 | 55. 8 | 56. 4 | 56.6 | 56.5 | 57.2 | 55. | 56.0 | 57.2 |
| Evansville, In | 69.7 | 71.8 | 70.4 | 69.6 | 72.6 | 69.4 | 70.4 | 63.5 | 74.4 | 72.8 | 75.6 | 74.6 | 70.8 |
| Fort Worth | 76.7 | 76. 9 | 72.9 | 77.4 | 77.1 | 77.4 | 75. 8 | 73.0 | 75.6 | 77.9 | 81.9 | 79.4 | 78.5 |
| Fresno, | 74.3 | 73.2 | 76.6 | 71.6 | 73.0 | 73.2 | 75. 4 | 72.5 | 73.2 | 72.2 | 72.8 | 79.1 | 76. |
| Galveston, Tex | 80.1 | 81.6 | 76.8 | 80.2 | 81.2 | 79.4 | 79.4 | 77.0 | 80.0 | 81.4 | 82.6 | 80.2 | 79.8 |
| Grand Rapids, | 61.8 | 64.0 | 63.2 | 62.6 | 64.4 | 61.4 | 60.3 | 56. 2 | 65.3 | 65.9 | 67.8 | 65. 2 | 63.0 |
| Greenville, Me | 55.0 | 52.9 | 53.4 | 56.8 | 58.4 | 56.2 | 53.4 | 52.2 | 53.4 | 56.6 | 57.2 | 55. 4 | 56.2 |
| Havre, Mont | 56.4 | 48.6 | 57.0 | 56.8 | 51.8 | 55.4 | 56.6 | 55. 2 | 57.0 | 58. 7 | 52.6 | 60.8 | 57.8 |
| Indianapolis, | 66.9 | 68.1 | 66.0 | 66.4 | 68.1 | 65. 4 | 65. 2 | 59.8 | 70.3 | 69.4 | 70.8 | 71.2 | 67.0 |
| Iola, Kans | 68.6 | 67.6 | 68.9 | 71.8 | 70.6 | 68.4 | 69.8 | 63. 8 | 73.0 | 71.0 | 75.0 | 72.8 | 71.9 |
| acksonville, | 78.3 | 81.0 | 77.3 | 77.2 | 79.8 | 76.8 | 75.9 | 75.8 | 77.4 | 78.8 | 81.6 | 76.8 | 78.6 |
| Kaliskell, Mo | 53.9 | 48.4 | 53.4 | 52.6 | 51.4 | 53. 0 | 56. 8 | 56.8 | 54.0 | 54.2 | 48.8 | 57.8 | 57.0 |
| Little Rock, | 74.1 | 74.8 | 71.7 | 74.6 | 76.0 | 72.8 | 72.5 | 69.0 | 75.3 | 75. 2 | 79.6 | 77.7 | 73.2 |
| Los Angeles, | 69.0 | 68.7 | 73. 6 | 67.9 | 68.0 | 65. 2 | 70.8 | 72.2 | 68.3 | 68.4 | ${ }^{69.3}$ | 73.1 | 70.4 |
| Lynchburg, | 69.0 | 72. 0 | 67.5 | 66. 7 | 70.6 | 66. 8 | 64.9 | ${ }^{64.3}$ | 69.8 | 69.5 | 75.5 | 70.9 | 70.0 |
| Madison, Wis | 62.4 | 62.6 | 61.2 | 62.5 | 62.6 | 59.4 | ${ }^{60.0}$ | 55.9 | ${ }^{64.2}$ | 65.5 | 66. 0 | 65.1 | 61.7 |
| Marquette | 56. 8 | 58.4 | 56. 2 | 58. 2 | 57. 6 | 55. 1 | 55.8 | 49.3 | 59. 2 | 60.8 | 62.2 | 61.6 | 56.8 |
| Memphis, | 73.6 | 74. 2 | 72.8 | 73.8 | 76.0 | 72.0 | 72.2 | ${ }_{79}^{67.6}$ | 76.2 | 74.8 | 80.0 | 76.3 | 73.8 |
| Miami, Fla | 81.5 | 82.4 | 80.3 | 78.8 | 81.0 | 79.6 | 79.2 | 79.5 | 80.4 | 80. 4 | 80.9 | 80.1 | 80.0 |
| Mobile, Ala | 77.9 | 79.2 | 76. 6 | 76.8 | 79.8 | 77.0 | 76.8 | 74.3 | 78.6 | 79.9 | 82.2 | 79.4 | 79.6 |
| Modena, Uta | 60.2 | 54.4 | 59.7 | 60.6 | 58.8 | 60.4 | 60.3 | 60.8 | 61.2 | 59.0 | 60.2 | 65.1 | 58.2 |
| Nashville, T | 71.8 | 73. 9 | 72.2 | 71.0 | 73.8 | 69.2 | 70.3 | 65. 4 | 72.8 | 72.2 | 78.0 | 74.2 |  |
| New Orleans, | 79.2 | 82.0 | 78.0 | 78.8 69 | 81.2 | 79.3 | 78. 2 | ${ }^{76.9}$ | 80.2 | 81. 5 | 83.4 | 80.8 | 81.2 |
| Norfolk, Va | 71.6 | 74. 2 | 70.8 | 69.4 | 74.2 | 70.3 | 68.2 | 69.1 | 72.6 | 73.9 | 77.8 | 73.6 |  |
| North Platte, Nebr- | 72.1 | 58.1 | 62.8 | 65. 5 | ${ }^{62} 1$ | 62. 8 | 63. 6 | 58.9 | 67.8 | 64. 2 | 65. 0 | ${ }^{67.8}$ | 63.8 |
| Oklahoma City, Okla | 72.1 | 70.4 | 70.1 | 75. 5 | 73.8 | 72.2 | 73.3 | 68.0 | 74.3 | 73.8 | 78.0 | 77.0 | 74.0 |
| Omaha, Nebr | 66.8 | 63.0 | ${ }_{66}^{67.5}$ | 68.2 | 66.4 69.4 | 65.4 | 66. 2 | 62.4 | 70.8 68.6 | 68.8 | 71.4 | 71.0 | ${ }_{68}^{67}$ |
| Parkersburg, | 66.1 | 70.2 | 66. 4 | 65.5 | 69.4. | 64.2 | 64.0 | 61.0 | 68.6 | 68.8 | 72.8 | 70.4 | 68 |
| Peoria, | 64.3 | 67.0 | 66.8 | 66.2 | 67.8 | 63.6 | 63.7 | 58. 2 | 68.2 | 68. 5 | 70.0 | 69. 6 | 6.4 |
| Phoenix, Ariz | 81.4 | 78.9 | 81.7 | 84.5 | 79.9 | 80.9 | 83.2 | 82. 4 | 81.5 | 80.4 | 82.6 | 85. 0 | 80.2 |
| Pierre, S. Dak | 63.8 | 57.4 | 65.0 | 66.0 | 61.2 | 62.2 | 62.6 | 58.9 | 66.4 | 64.5 | 63.4 | 67.6 | 6. |
| Pittsburgh, P | 66.4 | 68.6 | 65.0 | 63.6 | 68.8 | 64.2 | 62.1 | 59.8 | 66.4 | 66.8 | 70.8 | 69. 6 | ${ }^{67.4}$ |
| Portland, Ore | 61.7 | 62.2 | 62.3 | 59.4 | 62.4 | 62.5 | 63.1 | 67.4 | 62.5 |  | 60.5 | 63.8 | 64.5 |
| Pueblo, Colo | 64.4 | 57.4 | 61.0 | 66.8 | 64.2 | 63.2 | 65.5 | 60.8 | 67.5 | 64.2 | 66.7 | 68.3 | 63.0 |
| Roseburg, Oreg | 62. 9 | 61.1 | ${ }^{62.0}$ | 60.1 | 61.7 | ${ }^{62.6}$ | 63.5 | 66. ${ }^{6}$ | 61.0 | 61.2 | 60.5 | 65.1 | 64.3 |
| Sacramento, C | 79.3 | 69.5 | 73.0 | ${ }_{69}^{67.5}$ | 68. 9 | 70.2 | 71.4 | 67.4 | ${ }^{69} 7$ | 67. 5 | 70.6 | 75.6 | 72.7 |
| St. Louis, Mo- | 70.1 | 70.8 | 69.9 | 69.6 | 72.4 | 68. 3 | 69.0 | ${ }^{63.6}$ | 73. 6 | 72.5 | 74.4 | 73.8 | 69.0 |
| St. Paul, Minn | 61.3 | 60.7 | 60.8 | 61.8 | 60.0 | 59.2 | 59.4 | 54.6 | 63 | 65.0 | 63.2 | 65 | ${ }^{62.4}$ |
| Salt Lake City, Ut | 64.4 | 58.0 | 63.5 | 64.4 | ${ }^{62.4}$ | ${ }^{65.3}$ | ${ }^{66.4}$ | 66. 6 | 66. 8 | 64.7 | 62.6 | 69.2 | 64.2 |
| San Antonio, Tex | 77.1 | 81. 6 | 75.6 | 79. 6 | 79.8 | 78.0 | 79.3 | 76.4 | 77. 8 | 82.1 | 81.7 | 79.6 | 79.2 |
| San Diego, Calif | 67.1 | 65. 8 | 70.3 | ${ }^{66.0}$ | ${ }^{66.4}$ | 64.4 | 68.2 | 70.6 | 66.5 | 66.2 | 66. 8 | 70.0 | 68.2 |
| San Francisco, | 60.9 | 63.4 | 64.6 | ${ }^{60.8}$ | 62.4 | 62.2 | 64.0 | 62.2 | 62.0 | 60.4 | 63.3 | 63.3 | 64.0 |
| Santa Fe, N. Me | 60.9 | 58.1 | 57.2 | ${ }^{63.0} 0$ | 59.6 | 60.8 | 62.6 | 60.4 | 61.4 | 60.4 | 63.5 | 63.8 | 58.6 |
| Scranton, Pa | 63.0 | 63.8 | 62.4 | 60.9 | 65.8 | 62.2 | 59.4 | 58.6 | 63.9 | 63.9 | 68.1 | 65.6 | 64.0 |
| Seattle, Wash | 57.9 | 59.2 | 58.8 | 56.7 | 59.1 | 58.8 | 58.9 | 62.2 | 59. | 57.8 | 57.0 | 59. | 60. |
| Sheridan, Wyo | 56.3 | 48.7 | 55.8 | 57.2 | 52.8 | 55. 2 | 57.9 | 55.0 | 59.6 | 57.5 | 55.0 | 60.8 | 56.6 |
| Shreveport, | 75.7 | 77.4 | 73.4 | 77.2 | 77.6 | 76. 2 | 74.1 | 72.2 | 76.4 | 78 | 81.7 | 78. | 75.6 |
| Springfield, | 67.9 | 68.7 | 68.4 | 70.6 | 70.7 | 68. 2 | 68.0 | 62.8 | 72.6 | 70.0 | 74.3 | 72.7 | 69. 2 |
| Thomasville, | 76.8 | 78.8 | 75.6 | 75.3 | 80.3 | 76.0 | 75. 2 | 74. 0 | 77.6 | 78.8 | 82.2 | 78.1 | 78.6 |
| Trenton, N. J | 66.9 | 68. 2 | 65.2 | 65.2 | 69.4 | 66.1 | 62.0 | 62.6 | ${ }^{66.0}$ | 67.2 | 70. ${ }^{\text {b }}$ | 67.2 | ${ }^{67.6}$ |
| Walla Walla, Was | 65.4 | 62.3 | 64.8 | 61.6 | 63.4 | 64.2 | 66.8 | 68. 8 | 63. 0 | 63.4 | 59.6 | 68.4 | ${ }_{69}^{67.1}$ |
| W ashington, ${ }^{\text {D }}$. | 68.1 | 70.4 | 67.4 | ${ }^{66.0}$ | 71.0 | 66. 6 | 63.8 | 64.2 | 69.4 | ${ }_{60}^{68.8}$ | 74.4 | 69.9 | 69.6 |
| Winnemucca, Ne | 59.2 | 55.0 | 61.8 | 57.8 | 57.1 | 59.1 | 61.4 | 61.6 | 59.4 | 60.0 | 57. | 62.4 | . 4 |

Table 736.-Temperature: Monthly normal ${ }^{1}$ and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | $\begin{aligned} & \text { Nor- } \\ & \text { mal } \\ & \text { mor } \\ & \text { for } \end{aligned}$ | October monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 192 | 1921 | 192 | 1923 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Amarillo | 56.1 | 58.2 | 55. 2 | 58.0 | 59.0 | 57.2 | 55.7 | 60.0 | 57.8 | 60.7 | ${ }_{61}^{62} 8$ | 60. 4 | 52. 1 |
| Atlanta, |  | ${ }_{65 .}^{64.0}$ | ${ }_{60}^{60.0}$ | 62. 4 | 65.3 |  | ${ }_{56.6}^{56} 5$ | 65. | 70.8 | 64.7 | 61.0 | ${ }^{63.2}$ | 2 1 |
| Bismarck, | 44.9 | 45.0 | 41.1 | 51.0 | 48. | 41. | 36.4 | 47.5 | 34.6 | 0. 6 | 48.9 | ${ }_{47.6}$ | 55. |
| Boise, Idaho | 51.1 | 48.2 | 48.0 | 55.4 | 54 |  | 53.2 | 53. ${ }^{\text {5 }}$ | 44.9 | 48.4 | 55. | 56.2 | 50. |
| Boston, Mass | 53.6 | ${ }^{57.4}$ | 56. 4 | 57.0 | 55.7 | 55. | 51.9 | 56.2 | 55.1 | 59.8 | 55. 2 | 55.1 | 55. |
| Brownsvil | 74. | ${ }_{53}^{73.8}$ | 73.8 | 75 | 75. ${ }^{2}$ | 74 | 73 |  | 80. | 75.8 | 75.8 | 9 |  |
| Canton, N | 51.9 47.2 | ${ }^{\text {59. }}$ 49.5 | ${ }_{50}^{53}$ | 50.4 | 50.4 | 48.2 | 42.8 <br> 42.8 | 53.4 | ${ }_{47.5}^{55.2}$ | $\stackrel{57.2}{52.8}$ | 52.2 <br> 47.8 | 51.9 46.3 | 46. |
| Charles | 67 | 68.0 | 66 | 68. | 70 | 67 | 63.7 |  |  | 67.5 | . 6 |  |  |
| Charlotte | 61 | ${ }_{44}^{62}$ | ${ }_{6}^{61.0}$ | ${ }_{47}^{62}$ | ${ }_{48}^{64}$ | ${ }_{42.9}^{61.0}$ | ${ }_{43.3}^{57.0}$ | 64.0 48.2 | 9 9 |  |  | ${ }_{47.5}^{62.8}$ |  |
| Chicago, | 55.1 | 55. | 53 | 59 | 56.4 | 54.4 | 45.0 | 57.4 | 57. 2 | 61.9 | 54.8 | 57.6 | ${ }_{52.5}$ |
| Cincinuati, | 55.7 | 59.1 | 57 | 60.5 | 58.0 | 54.9 | 48.0 | 59.0. | 61.8 | 60.2 | 55. 2 | 57.9 | 53 |
| Cleveland, Ohio | 53.6 | 55. 8 | 53.9 | 56.8 | 55. 4 | 52.7 | 46.5 | 56.0 | 58.8 | 59.5 | 53. 6 | . 4 |  |
| Concordia, Kan | 55.4 | 56.9 |  |  |  | 53.2 |  |  | 52. 5 | 60.8 |  | . 8 |  |
| Devils Lake, N. | 40.5 | 43.4 | 37.9 | 50.8 | 45. 4 | 38.4 | 32.4 | 44.4 | 31.8 | 48.9 | 46. | 44. | ${ }_{42.8}$ |
| Dodge City, Ka | 56.1 | 56.3 | 52.8 | 57.8 | 58. | 56. 2 | 50.2 | 59.8 | 53.3 | 59.8 |  | 59.0 |  |
| Dubuque, | 51.9 | 52. | 49 |  | 54.0 | 51 | 41.9 | 54.0 | 52. 0 |  | 52.9 |  |  |
| Duluth, ${ }^{\text {E P }}$ | 44.1 | ${ }_{62}^{46}$ | ${ }_{63}$ |  |  |  |  |  | 39.4 | ${ }_{63.2}^{51.8}$ | 45.6 | 46.0 |  |
| Eureka, Ca |  |  |  | 54 | 52.3 |  |  | ${ }_{54.2}$ |  |  | 54. |  |  |
| Evansville, In | 58.0 | 60.7 | 57 | 60.8 | 61.8 | 60 | 51.5 | 62. 4 | 4.2 | 64 | 58.6 | ${ }_{62.4}^{34.8}$ | 57. |
| Fort Worth, | ${ }_{64}^{66.3}$ |  | ${ }_{66}^{62}$ | ${ }^{66.2}$ | 67.6 |  | 64 |  | , | 67.6 |  | 67. 6 | 5 |
| Galveston, ${ }^{\text {Te }}$ | 72.7 | ${ }_{73} 6$ | 69.6 | ${ }_{71.7}{ }^{64.6}$ | ${ }_{74.2}$ | 72.5 | 68. 6 | ${ }_{72.7}^{66.7}$ | ${ }_{77.6}^{62.0}$ | ${ }_{72.3}^{60.0}$ | ${ }_{72.2}^{66.6}$ | ${ }_{71.0}^{64.2}$ | ${ }_{71 .}^{64 .}$ |
| Grand Rapids, | 50.1 | 52 | 51.8 |  | 52.8 |  | 42.9 |  | 54.6 | 52. | 52. | 53.0 | 49. |
| Greenville, M | 45.6 | 45. | 49.6 | 46.6 | 46.7 | 45.7 | 42.1 | 45.4 | 43.0 | 50. | 4 | 43.0 |  |
| Havre, Mont | 44.5 | 43.2 | 40.8 | 46.2 | 49.2 | 39.9 | 41.8 | 48.9 | 34.4 | 1 |  | 47.9 | 44.2 |
| Indianapolis, | 53.7 | 57. | 55.0 | 58. | 57.6 | 56.1 | 46.9 | 58.3 | 5. | 61.6 | 54.9 | 59.1 |  |
| Iola, Kans | 56. |  |  |  | 59.4 | 58.9 | 50.6 | 61.6 | 57.4 | 61.9 | 60.0 | 60. | 54.4 |
| Jacksonville, | 71.1 | 73. | 69.2 | 71 | 73.4 | 40. | 67.0 | 74.5 | 78. 6 |  |  |  |  |
| Kalispell, Mont | 42.5 | ${ }_{64}^{41}$ |  | ${ }_{63}$ |  |  |  |  |  | 42.4 |  | ${ }_{65 .}^{47.6}$ |  |
| Los Ange | 65.3 | 65 | 67.9 |  | 65. |  |  | 71.0 | 63.8 | 63.2 | 66.7 | 65.4 |  |
| Lynchburg, | 58. 5 |  | 59.7 | ${ }^{60}$ | ${ }^{60}$ |  | 53.0 | ${ }^{61.0}$ | 65. 4 | 60. 8 | 57.6 | ${ }^{60.6}$ |  |
| Madison, Wis | 50.3 | ${ }_{49}^{51.2}$ | 48.3 | 55. 4 | ${ }^{51.8}$ | 49 | 40 | 52. | 50.2 | 57.4 |  | 53.9 | 4. |
| Marquette, Mis | 45.7 <br> 63.3 | 49.6 64.6 | 46.4 60.6 | 53.9 | ${ }_{65.6}^{47.5}$ | ${ }_{64.0}^{45}$ | 33. 5 | 47.8 66.6 | 45.0 | 56.0 | 47.6 62.9 | 46. | 46. 60. |
| Miami, Fla | 77. | 79 | 75.2 | 76.0 | 78.9 | 77.2 | 77.4 | 78.9 | 80.1 | 75. | 7 | 78. | 75. |
| Mobile, Ala | 69.4 | 70.4 | 65.5 | 68.8 | 70.9 | 68.8 | 63.7 | 73.8 | 77.5 | 68.8 |  | 68. |  |
| Modena, Uta | 50.1 | 44.2 | 46. 5 | 49.9 | 50.6 | 45.0 | 51.1 | 51.1 | 42.2 | 44.3 | 54.0 | 49. |  |
| Nashvills, T | 61. | ${ }^{62}$ | 58.8 | ${ }^{61}$ | ${ }_{73}^{63}$ |  |  | 64.0 | 68. 2 | 71. |  | ${ }_{6}^{62 .}$ |  |
| Now N Orfolk, Va | ${ }_{62.5}^{71.0}$ | ${ }_{63} 72$ | ${ }_{62}^{68 .}$ |  |  |  |  | 65. | 70 | 71.4 |  | ${ }_{64}^{71 .}$ |  |
| North Platte, N | 49.7 | 51.5 |  | 53. | 54 |  |  |  |  |  | 54. |  |  |
| Oklahoma City, $\mathrm{Okla}^{\text {a }}$ |  |  | 5. |  |  |  |  | 5. |  |  |  |  |  |
| ${ }_{\text {Omaha, }}$ | 54 | ${ }^{55}$ |  | 59.8 | ${ }^{58}$ |  |  |  | ${ }_{63}^{50.6}$ | 61.0 598 |  |  |  |
| Peoria, Ill |  |  | 52.0 | 57.2 | 55.6 |  | 44. 2 | 56.2 | 55.8 |  | 55. | 58.0 |  |
| Phoenix, Ariz | -2 | 68.0 | 69.6 | 71.2 |  |  |  | T. 8 | 6.7 | 67.0 | 73.8 |  | 67.3 |
| Pierre, S. Dak | 49.8 | 51.3 | 46.0 | 54.0 | 53. | 47 | 42.9 | 53.4 | 40.8 | 55. 2 | . 0 | 52. 2 |  |
| ${ }_{\text {Pittsburgh, }} \mathrm{Pa}$ | 55.7 | 55.8 | 55. 4 | 58.4 | 56. 2 | 54.8 | 48. 9 | 58.2 | ${ }^{60.6}$ | 59.6 | 0 | 56.4 | 52.3 |
| Portland, Ore | 54. 2 | -51.6 <br> 51.4 | 53.2 49.3 | ${ }_{53.6}^{57.4}$ |  |  | 57. 3 | 56.4 55.8 | 50.9 49.9 | ${ }_{53}^{53 .}$ |  |  |  |
| Roseburg, Oreg | 53.9 | 49.8 | 53.4 | 56. 3 | 54. 6 | 50. | 54 | 56.4 | 49. | 52.2 | 57 |  |  |
| Sacramento, C | 62.9 | 50. | 65. | 62. | 65. | 58 | 68. 0 | 64. 2 | 60 |  | 64.0 |  |  |
| St. Louis, M |  | 60 50 |  |  |  |  |  |  |  | 64.0 55.6 |  |  |  |
| Salt Lake City, | 48 |  |  |  |  |  | 54. |  |  |  |  |  |  |
| San Antonio, Tee | 69. 2 | 71.9 | 67.0 | 70. | 72.2 | 70 | 68.6 | 71.6 | 73.8 | . 0 | 70.4 | 71. | 68.0 |
| San Diego, Calif | ${ }_{60}^{63}{ }^{6}$ | 63.3 | ${ }_{61}^{65.5}$ | 66. 0 | ${ }^{62.8}$ | 59.3 | 64.6 | 68.1 | 62.0 | 61.4 | 64. 6 | 64.0 | 64.4 |
| San Francisco, ${ }^{\text {C }}$ | 60.5 50.4 | 60.0 49.0 | 61.5 47.8 | 62.0 49.4 | 61.3 | 56. ${ }^{56}$ | 62.3 51.9 |  | ${ }_{4}^{60} 4$ | ${ }^{60}$ | ${ }_{53}^{61}$ | 51. | 45. |
| Scranton, Pa | 52.2 | 54.6 | 55.8 | 4. ${ }^{4}$ | 53.4 | 52.2 | 47 | 55.4 | 55.6 | 57.5 | 52 | 54 | ${ }_{51.6}$ |
| Seattle, Wash |  | 49.9 | 50.1 | 54.6 | 53.7 | 49.1 | 52 | 53.4 | 48. 5 | 50.1 | 53. | 53.5 | 54.6 |
| Sheridan, | 43.7 | ${ }_{61}^{41.6}$ | 40. 6 | 46 | 48. |  | 41 | 48. | 35. | 44.5 | 49. 2 | 47 |  |
| Shreveport | 65. ${ }^{65}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Thomasv |  |  |  |  |  | 68. |  |  |  | 67. |  |  |  |
| Trento |  |  |  |  |  |  | 51.6 56.6 |  |  |  |  |  |  |
| W ashington, D |  | 59.3 |  |  |  | 52.4 |  |  |  | 61. |  | 56.5 |  |
| Winnemucea, Nev. | 48.3 | 44.4 | 47.4 | 50.2 | 50.2 | 44. 9 | 51.7 | 51.6 | 42.0 | 44 | 51.9 | 49.0 | 46.6 |

[^351]Table 736.-Temperature: Monthly normal ${ }^{1}$ and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | $\begin{gathered} \text { Nor- } \\ \text { mal } \\ \text { for } \\ \text { Nov. } \end{gathered}$ | November monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  |  |  |  |  |  |  |  | - |  |  |  |  |  |
| Amarillo, | 43.8 | 46.9 | 50.3 | 50.4 | 49.5 | 44.4 | 50.8 | 42.6 | 42.6 | 42.8 | 51.0 | 47.2 | 45. |
| Atlanta, Ca | 52.1 | 50. 0 | 54.8 | 52. 4 | 54.2 | 52.4 | 51.3 | 51.6 | 54.7 | 50.2 | 54. 7 | 52. 9 | 49.8 |
| Birmingham, A | 54. 1 | 50. 5 | 57.8 | 53. 0 | 56.1 | 54.9 | 51.8 | 52. 4 | 56. 0 | 50.8 | 57.6 | 56.4 | 52.0 |
| Bismarck, N. D Boise, Idaho..- | 28.5 41.0 | 33.9 43.0 | 35. 2 43. 5 | 34.6 41.8 | 32.6 39.5 | 30.6 36.5 | 40.2 44.4 | 31.4 39.6 | 18.2 37.0 | 29.6 <br> 40 <br> 41 | 22. 6 | 56.9 33.2 37.0 | 38.8 |
| Bostor, Ma | 42.0 | 45.6 | ${ }_{4}^{46.5}$ | 42.7 | 45. 4 | 36. 42 | 44. 4 | 31.6 45.0 | 37. <br> 42 | 41.7 | 44.7 41.6 | 37.0 43.8 | ${ }_{6}^{6}$ |
| Brownsvill | 67.5 | 64. 2 | 71. 7 | 67.2 | 70. 2 | 66.5 | 68. 7 | 65. 8 | 70.5 | 64. 5 | 41.6 71.8 | 43.8 67.6 | 44.6 63.8 |
| Buffalo, | 39.4 | 42.5 | 43.4 | 40.0 | 42.4 | 39.2 | 35. 0 | 43. 0 | 38. 4 | 38. 4 | 37.6 | 42.0 | 63.8 40.2 |
| Canton, N. | 33.9 | 35.9 | 40.0 | 34.6 | 37.7 | 33. 8 | 28. 0 | 37.4 | 34.2 | 32. 0 | 30.8 | 37.0 | 36. 8 |
| Charleston, | 58.1 | 56.5 | 57.0 | 57.0 | 61.4 | 59.2 | 54.4 | 56.6 | 62.2 | 57. 4 | 62.0 | 60.1 | 30.8 55.0 |
| Charlotte, C | 50. 6 | 49.8 38.4 | 51.8 | 50.5 41.4 | 53.3 | 53. 0 | 49.2 | 50. 7 | 52. 9 | 49.4 | 54.0 54. | 51. 6 | 0 |
| Chicago, Ill | 34. 2 | 42.8 | ${ }_{47.2}$ | 4 | 37.0 4.2 | 43.2 | 40.8 43.0 | 30.9 43.5 | 30.6 | 31.8 40.2 | 38.6 40.8 | 31.4 44.6 | 4 |
| Cincinnati, | 42.5 | 45.8 | 49.6 | 46.7 | 46.6 | 45.4 | 41. 4 | 43. 4 | 42.2 | 42. 3 | 40.8 45.8 | 44.6 46.4 |  |
| Cleveland, Ohio | 40.9 | 43. 6 | 44. 6 | 41.8 | 43.9 | 42. 3 | 38. 2 | 43. 2 | 41.1 | 41.2 | 42.0 | 44. 2 | 43.8 42.0 |
| Concordia, Kan | 39.9 | 46. 2 | 48.7 | 47.5 | 47.0 | 42. 8 | 47.3 | 42.9 | 38. 2 | 38.2 | 41.1 | 44.8 | 44.9 |
| Des Moines, Low | 38.4 | 43. 0 | 46. 6 | 43.2 | 42. 6 | 39.7 | 43. 0 | 41.6 | 35. 8 | 37.6 | 35. 8 | 44.0 | 42.2 |
| Devils Lake, N , D | 22.6 42 | 26.9 | 32.6 | 29.0 | 26. 3 | 26.8 | 35. 6 | 27.1 | 12.8 | 37.6 27.2 30.4 | 18. 6 | 31.8 | 42. 2 |
| Dubuque, Iow | 37.0 | 40.0 40.6 | 48.0 44.2 | 48.4 40.6 | 47.4 | 42.0 37.6 | 48.6 40.2 | 41. 7 | 38.7 34.6 | 39.4 35.6 | 43. 6 34. | 45.5 | 45.2 |
| Duluth, Minn | 30.0 | 32.0 | 35.6 | 29.8 | 29.8 | 29.2 | 34. 4 | 33. 6 | 34.6 21.6 | 35.6 28.4 | 34.2 23.2 | 42.7 34.2 | 40.0 35.8 |
| El Paso, Tex | 50.9 | 49.3 | 54.8 | 54. 7 | 52.8 | 51. 2 | 55. 4 | 49.1 | 52. 4 | 51.6 | 54.4 | 50.1 | 31.3 51.2 |
| Eureka, Calif Evansiville | 51.0 45.3 | 52.4 | 50.8 | 50.8 | 49.8 | 47.5 | 52.8 | 50.0 | 48. 2 | 51.2 | 52. 0 | 48. 2 | 51. 6 |
| Fort Worth, | 55. 1 | 55. 26 | 62. 4 | 57.1 | 50.4 60.1 | 49.5 | 46.8 57.4 | 47.2 53.6 | 46. | 44.7 | 49.7 | ${ }^{49} 3$ | 47. 6 |
| Fresno, Calif | 54.6 | 55.2 | 55. 2 | 57. 4 | ${ }_{53} 58$ | 51.2 | 56.7 | 52.8 | 53.0 | 51.9 54.0 | 61.6 57.0 | 57.5 51.0 | 56.0 58.2 |
| Galveston, Tex | 63.3 | 62.3 | 66.4 | 63.1 | 67.0 | 62.9 | 62. 6 | 60.9 | 65. 4 | 59.2 | ${ }_{67.7} 7$ | 51.0 | 58.2 60.0 |
| Grand Rapids, | 38.1 | 40.5 | 43.8 | 39.6 | 41. 6 | 39.8 | 38.2 | 42.2 | 37.2 | 38. 2 | 36. 7 | 42. 4 | ${ }_{40.4}$ |
| Greenville, Me | 30.7 | 32. 2 | 34. 0 | 28.4 | 32.6 | 29.2 | 27.2 | 32.6 | 30.6 | 28. 4 | 27.2 | 31. 2 | 34.8 |
| Indianapolis, | 31.2 42 | 38.0 | 34.7 | 36.7 | 32.4 | 31.5 | 41.0 | 29.9 | 21.2 | 33. 6 | 25. 8 | 30.8 | 37.8 |
| Iola, Kans. | 42.3 43.0 | $\stackrel{43.1}{45.8}$ | 47.6 | 44.3 49.5 | 45.5 | 45. 0 | 43. 0 | 43.2 | 41.6 | 41.5 | 44. | 45.4 | 44.2 |
| Jacksonviile, - | 62.2 | 59.6 | 52. <br> 63 <br> 1 | 49.5 61.6 | 49.8 | 46.8 63.1 | 47.5 58.0 | 45.6 60.4 | 43. 0 | ${ }_{61}{ }^{41.6} 6$ | 5.6 | 47.8 | 47.2 |
| Kalispell, Mon | 32.0 | 35. 6 | 35. 4 | 36.4 | 32. 2 | 28.0 | 36. 2 | 60.4 <br> 32.8 | 66.6 26.7 | 61.6 32.6 | 65.8 30.3 | 64.8 30.0 |  |
| Little Rock, Ark | 52.1 | 51.8 | 58.2 | 54.2 | 55.5 | 53.5 | 52.9 | 51.0 | 52.8 | 48.4 | 55.8 | 54.2 | 33.7 |
| Los Angele | 60.9 | 65.1 | 61.8 | 67.0 | 61.8 | 59.4 | 63.7 | 60.8 | 61.5 | 60.1 | 63.2 | 54.8 | 52.6 66.4 |
| Lynchburg, | 47.2 | 47.4 | 49.9 | 46.6 | 48.1 | 48. 4 | 45.2 | 46.8 | 48.2 | 46. 4 | 50. 6 | 498. 4 | 66.4 46.1 |
| Madison, Wis | 35.2 | 38.6 | 41.9 | 38.2 | 38.8 | 35. 8 | 38. 2 | 39.4 | 32.6 | 34. 2 | 31. 9 | 41.0 | 38.9 |
| Marquette, M | 31.9 | 35.8 | 38.7 | 33.7 | 35. 6 | 32.4 | 35.4 | 37.4 | 30.0 | 33. 8 | 29.9 | ${ }_{37.6}$ | 38.2 |
| Memphis, T Miami, Fla | 51.7 72.0 | 51.2 71.5 | 57.6 71.4 | 53.5 70.5 | 55.9 73.9 | 54.0 71.9 | 51.8 67.0 | 51.0 72.2 | 52.1 73.4 | 48.7 | 55.8 | 54.8 | 52. 6 |
| Mobile, Ala | \%9.0 | 1.5 56.9 | 71.4 61 | 59.0 | 73. 2 61.8 | 71.9 60.0 | 67.0 56.6 | 72.2 59.0 | 73. 63 63 | 72.2 56.2 | 73.5 63.3 | 73.1 62.8 | 68.4 57.2 |
| Modena, Utah | 39.0 | 38.2 | 39.2 | 38.4 | 38.0 | 33.6 | 39.0 | 33.9 | 34.8 | 36.1 | 63.3 41.7 | 62.8 34.2 | 57.2 39.0 |
| Nashville, Ten | 49.0 | 47.2 | 53.8 | 49.6 | 52.8 | 50.2 | 47.9 | 48. 0 | ${ }_{4}^{34.7}$ | 46.7 | 52.4 | 34.2 | 38.9 48.9 |
| New Orleans, I | 61.6 | 59.4 | 64.8 | 51.2 | 66.2 | 62.6 | 59.0 | 61.7 | 66. 4 | 58.2 | 66. 6 | ${ }_{66.6}$ | 49.9 59.9 |
| Norfolk, Va | 51.4 | 51.6 | 52.5 | 51.0 | 52.4 | 52.4 | 47.8 | 52.0 | 53. 0 | 52.6 | 55. 8 | 51.8 | 50.6 |
| North Platte, Nebr-- | 36.6 47 | 41.4 | ${ }_{52}^{426}$ | 43.7 | 41. 2 | 35. 8 | 45. 5 | 36. 8 | 28. 2 | 34. 6 | ${ }^{38.0}$ | 31.8 | 42.5 |
| Omana, Nebr | 47.9 | ${ }_{43.6}$ | 55. 4 | 53. 4 | ${ }_{43} 53.8$ | 49.7 40 | 52.4 | 48.2 | 45. 4 | 45.2 | 51.5 | 51.3 | 50.2 |
| Parkersburg, w. ${ }^{\text {Va- }}$ | 43.2 | 44.9 | 46. 5 | 45.4 | 47.0 | 45.5 | 40.8 40.6 | 41.6 44.2 | 36.0 44.8 | 37.2 43.0 | 36.9 47.2 | 44.2 46.0 | 43.8 44.0 |
| Peoria, Ill | 37.5 | 41.8 | 47.2 | 43.4 | 43.8 | 42.4 | 41.8 | 41.9 | 37.9 | 38.6 | 37.9 | 43. 2 | 44.0 42.2 |
| Phoenix, Ariz | 58.7 | 59.8 | 61.6 | 63.9 | 59.2 | 55.8 | 50.9 | 57.2 | 57.0 | 58.6 | 60.9 | 55. 0 | 59.1 |
| Pierre, S. Dak | 33.6 | 40.6 | 40.6 | 41.3 | 38. 2 | 35.4 | 43.4 | 36. 2 | 25. 3 | 32.2 | 29.4 | 36. 7 | 42. 6 |
| Pittsburgh, | 43. 2 | 44.1 | 45. 1 | 42.9 | 45. 2 | 44. 5 | 39.8 | 43.8 | 42.6 | 42.2 | 44. 6 | 45. 3 | 43.2 |
| Portland, | 46.8 39.3 | 47.1 | 47.5 42.8 | 47.0 43.5 | 42. 4 | ${ }_{38}^{43.7}$ | 50.6 44 | 46. 6 | 45. 0 | 46.8 | 48.8 | 43.6 | 50.4 |
| Roseburg, Oreg | 45.9 | 46.8 | 47.4 | 46. 8 | 47.4 | 38.3 42.8 | 44.8 49.0 | 36.3 <br> 45.8 | 36.8 44.8 | 37.8 | 42.8 | 37.6 | 41.3 |
| Sacramento, C | 53.6 | 52.4 | 53. 6 | 55. 6 | 53.0 | ${ }^{42 .} 5$ | 49.0 55.2 | 45.8 50.6 | 44.8 | 45.6 51.0 | 49.8 54.8 | 44.3 | 49.2 |
| St. Louis, Mo | 45. 1 | 47.4 | 52.4 | 50.3 | 50.9 | 49.2 | 47.7 | 50. 46.2 | 34.8 | 43.7 | 54.8 47.3 | 48.8 | 58.5 47.9 |
| St. Paul, Minn | 32.5 | 37.0 | 40.0 | 36.0 | 35. 3 | 33.8 | 38.2 | 37.3 | 26. 6 | 32.6 | 27.0 | 48.8 | 47.9 38 |
| Salt Lake City, Ut | 41.1 | 42.7 | 44.0 | 43.4 | 43. 6 | 36. 2 | 44.0 | 38. 8 | 38.4 | 40.4 | 45.9 | 38.0 | 43.2 |
| San Antonio, Tex | 59. 2 | 59.7 | 66.2 | 61.2 | 63.8 | 59.0 | 63.4 | 57.4 | 60.8 | 57.4 | 65.6 | 61.9 | 58.7 |
| San Diego, Calif | 69.7 | ${ }^{61.2}$ | 60.8 | 64.4 | 59.6 | 56.5 | 60.8 | 59.8 | 58.6 | 58.2 | 60.4 | 58.0 | 64.0 |
| San Francisco, Cal | 56.3 38.9 | 56.6 39.2 | 55.2 42.4 | 59.0 43.0 | 56.1 <br> 39.8 <br> 3. <br> 1 | 54.4 38.9 | 58. 7 | 55. 6 | 56.0 | 55. 4 | 57.8 | 54. 3 | 60.8 68 |
| Scranton, Pa... | 40.6 | 43.0 | 44.9 | 43.0 40.2 | 39.8 42.1 | 38.9 40.8 | 36. 8 | 35. 4 | 38.6 41.0 | 37.7 40.2 | 43. | 35. 8 | 38.8 41 4 |
| Seattle, Was | 44.5 | 46. 2 | 46.2 | 47.2 | 43.7 | 43.0 | 49.6 | 45. 8 | 44.9 | 47.0 | 45.4 | 43.6 | 47.4 |
| Sheridan, W y | 32.8 | 35. 0 | 36.8 | 36. 6 | 32.6 | 28. 9 | 41. 8 | 29.4 | 24.4 | 28. 3 | 29.6 | 32.8 | 38.4 |
| Shreveport, La | 55.3 | 54. 9 | ${ }^{62.7}$ | 56. 8 | 59.3 | 56. 4 | 55.1 | 54.1 | 57.8 | 52.2 | 62.6 | 58.3 | 55.6 |
| Springfield, | 44.4 | 46. 4 | 53.0 | 50.6 | 50.7 | 48.3 | 47.4 | 45.3 | 44.4 | 41. 6 | 48.4 | 48.1 | 47.0 |
| Thomasvil | 58.5 | 54.8 | 59. 8 | 58. 1 | 61.7 | 59.8 | 55. 9 | 57.8 | 64.2 | 56.8 | 63. 8 | 62. 2 | 56.4 |
| Trenton, N. ${ }_{\text {Walla Walla, }}$ | 44.4 | 46. 4 | 46.2 46.0 | 43.5 44.6 | 44.5 | 43.7 | 40. 6 | 44. 8 | 43. 8 | 43. 2 | 44.6 | 45. 0 | 44.0 |
| Washington, D. | 45. 2 | 46.9 | 47.8 | 45. 4 | 46. 2 | 36. 46 46 | 42. ${ }^{4}$ | 42.7 | 40.5 | 41.8 45.9 | 43.9 | 36.9 <br> 47 | 44.8 |
| Winnemucca, Nev ..-- | 38.4 | 39.6 | 39.0 | 37.8 | 37.2 | 33.0 | 41. 9 | 34. 2 | 36. 0 | 37.6 | 41.0 | 43.9 | 45.1 39.7 |

Table 736.-Temperature: Monthly normal ${ }^{1}$ and mean temperature, at selected points in the United States, 1912-1923-Continued.

| Station. | $\begin{gathered} \text { Nor- } \\ \text { mal } \\ \text { for } \\ \text { Dec. } \end{gathered}$ | December monthly mean temperature. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 192 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Amarill | 36.4 | 33.6 | 33.2 | 30.4 | 40.2 | 36.6 | 36.1 | 32.4 | 37.0 | 39.0 | 43.5 | 41.8 | 4. |
| Atlanta, Ca | 44.7 | 45.8 | 45.9 | 40.3 | 43.7 | 45.0 | 36. 2 | 48.2 | 44.8 | 43.1 | 48.3 | 50.5 | 51 |
| Birmingham, Ala | 47.3 | 46.0 | 47.2 | 41.9 | 46. 7 | 46.8 | 39.2 | 50.4 | 45.8 | 45.6 | 50.2 | 53.2 | 53. |
| Bismarck, N. Dak | 14.7 | 22.0 | 24.6 | 7.4 | 19.8 | 3.6 | 8. 2 | 21.6 | 11.5 | 17.8 | 18.6 | 13.0 | 5. |
| Boise, Idah | 32.1 | 31.6 | 28.9 | 24.0 | 33. 6 | 28.4 | 43.2 | 29.6 | 23.6 | 34.3 | 32.9 | 30.0 | 31 |
| Böston, Ma | 32.5 | 38.5 | 37.8 | 30.4 | 34.2 | 32.6 | 23.7 | 34.7 | 28.7 | 35.6 | 31.4 | 30.9 | 0. |
| Brownsville | ${ }^{61.5}$ | 57.6 | ${ }^{61.4}$ | 54. 2 | 65. 2 | 65. 3 | 62.9 | 61.7 | 60.8 | 64. 1 | 67.7 | 67.4 | 61. |
| ufralo, | 29.8 | 34.4 | 33.6 | 26.0 | 27.8 | 28. 4 | 20.8 | 35.0 | 23.3 | 32.7 | 29.9 | 28.9 |  |
| anton, N | 22.7 | 26.9 | 27.0 | 20.6 | 23.1 | 18.6 | 8.6 | 24.0 | 17.2 | 23.3 | 21.8 | 21.4 |  |
| harlest | 51.7 | 53.6 | 52.0 | 48.8 | 48. 2 | 53.0 | 42.0 | 53.5 | 51.4 | 51.4 | 55.0 | 56.3 | 56. |
| harlotte | 43.0 | 45.4 | 44.6 | 38.4 | 41. 4 | 43.3 | 33.4 | 47.2 | 41.6 | 43.0 | 47.1 | 46.6 |  |
| heyenne | 28.5 | 25.3 | 22.0 | 20.2 | 28.8 | 21.0 | 30.4 | 26.7 | 28.0 | 27.9 | 30.2 | 29.5 | , |
| hicago, 111 | 30.0 | 33.4 | 37.4 | 24.1 | 29.1 | 26.0 | 22.4 | 37.7 | 21.4 | 32.4 | 32.5 | 29.9 |  |
| Cincinnati, | 33.4 | 37.2 | 39.1 | 30.2 | 32.7 | 31.6 | 22.3 | 41.8 | 27.4 | 35. 4 | 36.4 | 35.2 | 4. |
| Cleveland, Ohio | 31.2 | 33.8 | 35. 4 | 27.0 | 30.8 | 29.0 | 22.4 | 38.7 | 25.7 | 33.6 | 32.6 | 31.8 | 0. |
| Concordia, Kan | 29.5 | 35. 6 | 35. 0 | 19.9 | 33.4 | 25.6 | 23.5 | 35.0 | 24.4 | 32.1 | 34.3 | 31.4 | 5. |
| Des Moines, Iow | 26.1 | 31.7 | 34.0 | 18.7 | 27.8 | 22.0 | 16.7 | 34.2 | 16.6 | 28.8 | 30.0 | 25.6 | 5. |
| evils Lake, N. Da | 8.0 | 16.2 | 21.1 | 3.6 | 12.4 | 8 | -3.6 | 14.9 | 5.0 | 11. 6 | 15.2 | 6.0 |  |
| Dodge City, Kans | 32.6 | 34.6 | 33.6 | 23.4 | 34. 6 | 29.0 | 28.2 | 34.0 | 29.6 | 35. 1 | 33.4 | 33.7 | 34. |
| Dubuque, Iowa | 24.7 | 30.2 | 34. 2 | 18.4 | 25.5 | 19.3 | 15.8 | 33.0 | 14.4 | 27.3 | 27.2 | 23.8 |  |
| Duluth, Minn | 15.9 | 17.9 | 26.7 | 9.4 | 18.6 | 8.8 | 4.4 | 23.6 | 5. 6 | 19.3 | 14.8 | 11.8 | 4. |
| El Paso, Te | 44.8 | 40.0 | 41.8 | 42.8 | 44.8 | 45.0 | 49.6 | 41.2 | 47.2 | 43.4 | 49.4 | 49.2 | 42.6 |
| Eureka, Cal | 48.0 | 46.6 | 48.4 | 45.3 | 48.4 | 43.2 | 51.2 | 46.3 | 48. 1 | 48.4 | 48.4 | 47.6 | 45. |
| Evansville, In | 36.4 | 37.9 | 40.4 | 31.0 | 36.8 | 35. 2 | 26.6 | 44. 7 | 32.2 | 38. 4 | 41.0 | 39.4 | 46.6 |
| Fort Worth, | 47.5 | 45.5 | 45.6 | 39.7 | 50.9 | 48.0 | 41.6 | 49.8 | 44.4 | 48.3 | 51.2 | 52.8 | 50.7 |
| Frasno, Cal | 46.8 | 45.5 | 46.9 | 44.7 | 48.2 | 45.4 | 49.7 | 45.0 | 47.1 | 47.5 | 50.4 | 49.8 | 6. 2 |
| Galveston, Tex | 56.4 | 55.4 | 55.6 | 50.2 | 57.9 | 57.7 | 52.8 | 56.8 | 57.2 | 56.0 | 60.2 | 62.4 | 8. 8 |
| Grand Rapids, | 28.8 | 32.8 | 35. 1 | 24.6 | 27.0 | 25.4 | 21.1 | 34.5 | 21.4 | 32.0 | 30. 2 | 27.7 | 3. 6 |
| Greenville, M | 18.0 | 22.2 | 22.2 | 15.8 | 22.0 | 17.8 | 7.8 | 20.6 | 11.4 | 20.2 | 16.4 | 15.1 | 6. |
| Havre, Mont | 20.4 | 28.7 | 23.6 | 10.8 | 24.4 | 7.0 | 8.4 | 26. 4 | 16.9 | 22.6 | 20.0 | 11.4 | 5. |
| Indianapolis, | 32.2 | 34.6 | 37.2 | 25.8 | 31.0 | 29.5 | 22.8 | 40. 3 | 26.1 | 33.2 | 35. 2 | 33.4 |  |
| Iola, Kans | 32.5 | 35.6 | 37.6 | 26.2 | 36.8 | 30.2 | 25.4 | 38. 8 | 28.6 | 37.0 | 36. 6 | 36. 0 | 8. |
| Jaeksonville, | 50.3 | 59.8 | 58.2 | 54.6 | 53.8 | 58.0 | 48.4 | 58.2 | 56.1 | 55. 4 | 59.7 | 61.6 | 1.8 |
| Kalispell, Mont | 23.9 | 27.2 | 24.8 | 19.0 | 23.3 | 14.9 | 26.2 | 28.1 | 17.6 | 27.9 | 21.0 | 18.3 | 24. |
| Little Rock, Ark | 44.2 | 43.3 | 44.8 | 36. 9 | 46.0 | 43.4 | 35. 4 | 49.6 | 40.6 | 44.6 | 48.0 | 48.4 | 51.2 |
| Los Angeles, Cal | 56. 6 | 56.6 | 55. 4 | 53.4 | 57.4 | 52.6 | 62.8 | 57.2 | 58.9 | 55.8 | 60. 2 | 58. 3 | 58. 8 |
| Lynchburg, V | 39.5 | 41.4 | 43.5 | 35.0 | 38.0 | 38.6 | 29.0 | 42.9 | 36. 1 | 40.2 | 42.3 | 42.5 | 47.4 |
| Madison, Wis | 22.8 | 27.8 | 32.0 | 16. 4 | 23.9 | 18.0 | 13.9 | 31.4 | 12. 6 | 26.2 | 24.4 | 21.6 | 32. 5 |
| Marquette, M | 22.9 | 24.8 | 31. 6 | 18.4 | 24.6 | 18.6 | 14.6 | 28.8 | 13. 7 | 27.0 | 22.9 | 19.1 |  |
| Memphis, Ten | 43. 6 | 43.1 | 45.0 | 36. 2 | 45.0 | 43.4 | 34. 0 | 50. 2 | 40.4 | 44.6 | 48.1 | 48.4 | 51. 5 |
| Miami, Fla | 68.0 | 72.6 | 67.9 | 69.5 | 65. 6 | 69. 0 | 63. 6 | 67.8 | 68.8 | 68.0 | 69.6 | 71.8 |  |
| obile, Ala | 52.9 | 53.6 | 53.8 | 49.4 | 53.8 | 53.9 | 48.2 | 55.0 | 55.0 | 51.0 | 57.4 | 60.1 | 88 |
| Modena, Utah | 31.7 | 26.8 | 24.9 | 21.2 | 28.8 | 23.4 | 36. 1 | 26.6 | 26.1 | 27.6 | 34. 4 | 33.2 |  |
| Nashville, Ten | 41.0 | 40.4 | 42.6 | 35.8 | 42.4 | 38.8 | 31.4 | 47.4 | 38.8 | 41.6 | 44.8 | 46. 0 |  |
| New Orleans, | 55. 6 | 55.4 | 55. 0 | 50.8 | 56.7 | 57.4 | 51.4 | 57.5 | 57. 0 | 54.1 | 60.8 | 63.5 | 60. 9 |
| Norfolk, Va-- | 43.1 | 47.7 | 45.5 | 40.0 | 40.5 | 42.7 | 33. 8 | 47. 4 | 40.5 | 45.6 | 44.2 | 46.6 |  |
| North Platte, Neb | 26.7 | 29.6 | 28.6 | 18.0 | 28.2 | 19.4 | 23.7 | 28.5 | 19.4 | 27.0 | 30.7 | 27.8 | 0. 4 |
| OklahomaCity O | 38.6 | 39.0 | 39. 4 | 31. 4 | 43. 4 | 37.6 | 31. 6 | 40.8 | 33.8 | 40.8 | 42.7 | ${ }^{42} 86$ | 2. |
| Omaha, Nebr | 26.4 | 32.8 | 34.2 | 18.2 | ${ }_{34} 29$ | 22.2 | 18.0 | 34.8 | 19.4 | 28.7 | 31.7 | 27.2 37 | 35. |
| Parkersburg, | 35. 2 | 37.0 | 36. 1 | 30.6 | 34.2 | 34. 2 | 24.8 | 43. 3 | 30.4 | 37.8 | 37.4 | 37. | 5. |
| Peoria, I | 28.1 | 32.6 | 35.7 | 20.8 | 27.8 | 25. 2 | 19.8 | 36. 6 | 20.6 | 30.8 | 32. 2 | 28.8 |  |
| Phoenix, Ariz | 51.9 | 48.9 | 50.7 | 50.3 | 51.6 | 41.7 | 54.6 | 49.6 | 54.2 | 49.7 | 56.0 | 55.0 |  |
| Pierre, S. Dak | 21.8 | 29.5 | 28.6 | 15.1 | 25.8 | 12.5 | 13.1 | 25.5 | 18.6 | 24.9 | 25.9 | 16.4 |  |
| Pittsburgh, Pa | 34.2 | 35.8 | 35. 8 | 29.9 | 31.8 | 32.9 | 24.5 | 41.0 | 28.2 | 35. 6 | 34.0 | 35.6 | 0 |
| Portland, Ore | 41.2 | 41.4 | 40.7 | 36.8 | 42.0 | 38.1 | 48. 4 | 42.3 | 33.6 | 44. 1 | 39.1 | 38.0 |  |
| Pueblo, Colo | 31.7 | 31.2 | 22.1 | 24.6 | 32.6 | 29.8 | 35. 4 | 30. 2 | 30.9 | 33.8 | 34.2 | 36.5 | 32.2 |
| Roseburg, Oreg | 41.8 | 41.4 | 41. 5 | 37.0 | 43.2 | 39.0 | 48.4 | 40.4 | 39.6 | 42.7 | 39.0 | 42.2 | 4. 6 |
| Sacramento, O | 46. 2 | 46. 9 | 45.7 | 43.8 | 47.5 | 44.2 | 49.2 | 43.4 | 44.1 | 45.4 | 49.0 | 47.4 |  |
| St. Louis, Mo | 34.8 | 38. 6 | 41.2 | 28.6 | 35. 4 | 33.6 | 26.8 | 43.0 | 29.6 | 37.5 | 38.6 | 36.7 |  |
| St. Paul, Minn | 19.0 | 23.2 | 30.2 | 12.1 | 22.6 | 12.2 | 10.1 | 28.7 | 10.2 | 23.0 | 20. 2 | 17.8 |  |
| Sait Lake City, U̇t | 31.9 | 30.7 | 30.6 | 29.0 | 33.7 | 27.8 | 41.8 | 31.2 | 24.6 | 31.7 | 26. 4 | 33. 1 | 9.3 |
| San Antonio, Tex | 53.1 | 49.8 | 52.4 | 46.3 | 56.8 | 54.6 | 50.4 | 54.7 | 51.7 | 54.7 | 59.0 | 59.6 |  |
| San Diego, Calif | 56.0 | 54.1 | 55.4 | 54.6 | 55. 6 | 52.4 | 58.6 | 54.8 | 56.6 | 54.8 | 59.3 | 58.0 | 4 |
| San Francisco, Cal | 51.3 | 51.6 | 50.6 | 48.7 | 52. 2 | 48.9 | 54. 6 | 50.2 | 48.8 | 51.0 | 52.9 | 50.6 |  |
| Santa Fe, N. Mex | 30.7 | 25.9 | 26.4 | 26.0 | 32.1 | 27.9 | 38.2 | 27.0 | 34.2 | 27.4 | 36. 6 | 34.0 |  |
| Scranton, Pa | 30.0 | 35.5 | 34.7 | 28.0 | 29.4 | 30.4 | 21.3 | 36.2 | 24.9 | 33.6 | 29.6 | 30.8 | 8. 7 |
| Seattle, Wash | 41.2 | 41.6 | 42.4 | 39.7 | 42. 0 | 38.0 | 45.0 | 40.9 | 38.6 | 43. 4 | 39.1 | 38.4 | 2.2 |
| Sheridan, W yo | 22.1 | 28.6 | 24.4 | 14.2 | 24.8 | 14.6 | 21.2 | 28.0 | 13.7 | 24.6 | 22.6 | 17.0 | 3. 6 |
| Shreveport, La | 48.9 | 46.6 | 47.8 | 41.5 | 50.4 | 49.8 | 43.2 | 52.0 | 48.8 | 48.6 | 54.6 | 54.8 | . |
| Springfield, Mo | 35.5 | 36.6 | 38.4 | 27.4 | 37.6 | 33.2 | 26.5 | 41.3 | 32.6 | 38.1 | 38.4 | 39.2 | 2.8 |
| Thomasville, | 52.5 | 55. 0 | 54.0 | 50.4 | 50.8 | 54.6 | 46.0 | 54.8 | 53.0 | 51.4 | 57.8 | 59.5 |  |
| Trenton, N.J | 34.4 | 37.4 | 38.3 | 30.6 | 32.4 | 32.2 | 24.7 | 38.4 | 28.9 | 37.4 | 33.0 | 32.9 | 2.0 |
| Walla Walla, Wash. | 36.0 | 39.0 | 31.6 | 26.0 | 38.2 | 30.5 | 46.1 | 37.8 | 22.6 | 39.8 | 31.3 | 30.8 |  |
| Washington, D. C. | 36.6 | . | 40.4 | 32.8 | 35. 2 | 35. 5 | 27.9 | 41.6 | 32.6 | 39.3 | 37.9 | 37.6 |  |
| Winnemucca, | 30.0 | 30.0 | 27.4 | 18.9 | 30.7 | 26.6 | 37.2 | 24.9 | 28.2 | 31.2 | 31.6 | 30.9 | 25.2 |

[^352]${ }^{1}$ Normals are based on records of 30 or more years of observations.

Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923.

| Station. | $\begin{aligned} & \text { Nor- } \\ & \text { mal } \\ & \text { for } \\ & \text { Janu- } \\ & \text { ary. } \end{aligned}$ | January total precipitation. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | In | ${ }_{\text {In }}$ | In. | In. | In | , | In. | In. | In. | In. | . | In. | In. |
| Amarillo, | 0. 60 | 487 | 0. 11 | 0.06 | 0. 72 | $\begin{aligned} & 0.36 \\ & 2.53 \end{aligned}$ | 0. 69 | $\begin{aligned} & 1.01 \\ & 9.12 \end{aligned}$ | 5.40 | 1. 11 | 2. 10 | 0.78 |  |
| Atlanta, Ga- | 5. 31 5.32 | 4.87 | 5. 76 8.25 | 1.35 | 6. 19 | 2. 53 | 5. 79 | 9.12 | 5. 40 6.21 | 7. 69 5.37 | 3. 53 | 5. 63 | 1. ${ }^{\text {3. }} 82$ |
| Bismarck, N. | 54 | 18 | 37 | 25 | 08 | 81 | 65 | 62 | . 09 | . 52 | ${ }^{\text {. }} 12$ | . 34 | 29 |
| Boise, Idaho | 1.89 | 2. 53 | 1.34 | 1.06 | 1.06 | 1. 93 | 1. 10 | 2. 27 | 85 | 66 | 1. 57 | 90 | 1. 62 |
| Boston, Mass | 3. 82 | 2. 87 | 2. 38 | 3. 26 | 6. 33 | 1. 23 | 2. 82 | 3.11 | 3. 62 | 2. 72 | 2. 24 | 1. 41 | 6. 07 |
| Brownsville, | 1. 35 | 3. 28 | 2. 05 | 10 | 3. 35 | 19 | - 28 | 08 | 4.56 | 1.13 | 2. 26 | 1. 51 | 13 |
| Buffalo, N | 3. 30 | 3. 00 | 5. 56 | 3. 96 | 5.02 | 2. 96 | 2. 79 | 5. 64 | 1. 28 | 2. 58 | . 89 | 1. 44 | 3. 27 |
| Canton, N. Y | 3. 16 | 2. 59 | 4. 93 | 1. 70 | 3. 05 | 2. 52 | 3. 33 | 2. 37 | 1. 37 | 1. 69 | 1. 22 | 1. 82 | 2. 86 |
| Charleston, S. | 3.45 | 3. 85 | 99 | 2. 10 | 7. 44 | 1. 34 | 2. 69 | 1. 13 | f. 68 | 1. 60 | 1. 58 | 2. 48 | 2. 21 |
| Charlotte, N. | 4. 29 | 2. 81 | 3. 70 | 2. 78 | 5. 67 | 1. 66 | 3. 08 | 3. 82 | 5. 45 | 3. 81 | 5. 22 | 5. 24 | 3. 67 |
| Cheyenne, W | 40 | 44 | . 55 | 10 | 08 | . 63 | . 30 | 47 | T. | . 20 | 1.47 | 47 | 06 |
| Chicago, Ill | 2.00 | 84 | 1.33 | 3. 01 | 1. 99 | 4. 84 | 1. 55 | 4. 12 | . 20 | 1. 11 | 97 | 1. 16 | 92 |
| Cincinnati, O | 3.36 | 2.21 | 9.02 | 2.37 | 3.85 | 5. 84 | 4. 74 | 4. 30 | 1. 44 | 3. 48 | 1. 72 | 2. 07 | 4.64 |
| Cleveland, Ohio | 2. 45 | 3.13 | 5. 66 | 1. 61 | 2. 52 | 2. 40 | 2. 55 | 2. 60 | . 63 | 1.96 | 1. 53 | 1. 52 | 2. 61 |
| Concordia, Kans | . 72 | 03 | 55 | . 17 | 76 | 1. 34 | . 60 | 85 | . 02 | . 12 | . 50 | . 38 | . 01 |
| Des Moines, Iowa | 1. 21 | . 53 | 1.10 | . 85 | 1.96 | 2. 66 | . 53 | . 78 | . 08 | . 44 | . 59 | . 85 | 88 |
| Devils Lake, N. Dak | . 60 | . 31 | . 38 | . 61 | . 11 | . 71 | . 55 | . 24 | . 22 | . 74 | . 13 | . 58 | 42 |
| Dodge City, Kans. | . 47 | . 15 | . 28 | . 18 | 1.08 | . 59 | . 22 | 80 | . 06 | . 07 | . 24 | 45 | 03 |
| Dubuque, Iowa | 1. 49 | . 55 | 1. 11 | . 78 | 2. 01 | 2. 46 | 85 | 1. 83 | . 17 | 63 | . 18 | 1.16 | 63 |
| Duluth, Minn | 98 | . 47 | 75 | 1. 75 | 1.84 | 3. 48 | 80 | 91 | 46 | 1. 13 | . 18 | . 51 | 1. 60 |
| El Faso, Tex | 51 |  | 49 | 03 | 1.01 | 66 | 32 | 1. 20 | 08 | 1.06 | 06 | 30 | 64 |
| Eureia, Calif | 7. 63 | 10.17 | 8. 10 | 9.75 | 9.75 | 13.02 | 5. 53 | 2. 55 | 7.84 | 1. 87 | 8.37 | 2. 54 | 88 |
| Evansville, Ind | 3. 69 | 3.87 | 10. 27 | 1.92 | 6. 65 | 8. 73 | 4.93 | 5. 00 | 1.14 | 3. 64 | 1. 80 | 1. 47 | 5. 43 |
| Fort Worth, T | 93 | 17 | 2. 30 | 43 | 1. 32 | 4. 01 | 1. 43 | 1. 36 | 3.03 | 3.48 | 2. 87 | 1. 63 | 4. 60 |
| Fresno, Calif | 1. 60 | 72 | 1.22 | 4. 94 | 2. 78 | 5. 17 | 1. 40 | . 47 | 40 | 69 | 2. 63 | 2. 46 | 1. 10 |
| Galveston, Tex | 3. 62 | 2. 44 | 2. 92 | 34 | 4. 52 | . 86 | 2. 21 | 54 | 6. 22 | 7.09 | 2. 77 | 4. 84 | 6. 99 |
| Grand Rapids, | 2.78 | 1. 49 | 1. 86 | 3. 24 | 1. 57 | 3. 90 | 1. 40 | 3. 24 | 30 | 1. 19 | 59 | 71 | 1. 25 |
| Greenville, Me | 2.85 | 4. 53 | 2.15 | 3. 39 | 3.03 | 2. 35 | 3. 95 | 2.49 | 2. 85 | 2. 84 | 1.48 | 2.02 | 4. 58 |
| Havre, Mont | 69 | 88 | 1. 46 | 64 | 67 | 1. 75 | 97 | 1.19 | 40 | 1.14 | 12 | 42 | 1.12 |
| Indianapolis, | 2. 81 | 2.10 | 7.63 | 2. 76 | 3.31 | 6. 55 | 3. 40 | 2. 89 | . 91 | 2.01 | 2.86 | 1. 26 | 2. 73 |
| Iola, Kans | 98 | 37 | . 85 | . 39 | 2. 14 | 5. 13 | 48 | 90 | 02 | 76 | 1. 77 | 96 | 1.16 |
| Jacksonville, | 3. 12 | 4. 76 | 1. 53 | 3. 31 | 4. 10 | . 90 | 41 | 2. 78 | 1. 73 | 1. 21 | 2. 04 | 3. 21 | 1. 37 |
| Kalispell, Mont | 1. 59 | 1. 69 | 2. 69 | 1.21 | 1. 19 | 1. 95 | 1. 05 | 1. 82 | 72 | 85 | 1. 29 | 74 | 1. 07 |
| Little Rock, Ark | 4. 79 | 3. 54 | 11. 29 | 1.35 | 4. 62 | 8. 45 | 2. 53 | 5. 51 | 2. 72 | 9. 19 | 1. 52 | 1. 90 | 7. 42 |
| Los Angeles, C | 2. 84 | 07 | 2.01 | 10. 35 | 5. 42 | 13. 30 | 2. 68 | . 50 | -96 | . 50 | 3. 22 | 4. 64 | 1. 76 |
| Lynchburg, Va | 3. 72 | 1. 85 | 1.91 | 3. 00 | 3.86 | . 99 | 2. 69 | 4. 42 | 4. 11 | 1.64 | 2. 60 | 3.90 | 2. 25 |
| Madison, Wis | 1. 55 | 58 | 1. 64 | 70 | 2. 05 | 3.07 | 1. 04 | 2. 09 | 26 | 84 | 22 | 63 | 1. 25 |
| Marquette, Mi | 2. 04 | 2. 27 | 2. 03 | 2. 63 | 2. 41 | 3. 05 | 1. 20 | 4. 77 | 2. 21 | 1. 84 | 2. 28 | 1. 94 | 2. 84 |
| Memphis, Ten | 5. 21 | 3. 41 | 7.71 | 1. 60 | 5. 69 | ${ }^{7.16}$ | 5.37 | 5. 02 | 3. 77 | 6. 01 | 1.84 .73 | $\begin{array}{r}\text { 2. } 26 \\ . \\ \hline 5\end{array}$ | 5. 05 .21 2 |
| Mobile, Ala | 4. 85 | 4.01 | 4. 29 | 1.98 | 7.54 | 3. 06 | 3. 04 | 3. 87 | 6.57 | 11. 70 | 1. 83 | 6. 79 | 2. 65 |
| Modena, Utah | 73 | T. | 32 | 1. 42 | 1. 12 | 3. 47 | 1.06 | . 11 | . 32 | . 44 | 1. 27 | 1. 72 | 1. 40 |
| Nashville, Ten | 4.85 | 2. 92 | 12. 30 | 1.55 | 5. 89 | 7.62 | 7. 27 | 7. 43 | 4.71 | 7. 35 | 3.11 | 2. 90 | 5. 89 |
| New Orleans, | 4. 63 | 5. 10 | 5. 71 | 1. 02 | 8. 42 | 4. 46 | 4. 12 | 4. 43 | 8. 03 | 5. 66 | 1. 16 | 5. 22 | 5. 26 |
| Norfoik, Va | 3. 37 | 3.39 | 3. 39 | 2. 32 | 5. 66 | 2. 07 | 2. 28 | 2. 77 | 3. 10 | 2. 14 | 1. 55 | 3. 49 | 1. 74 |
| North Platte, Nebr-- | 47 | . 74 | 16 | . 18 | 51 | . 85 | 74 | . 54 | 03 | 07 | 68 | 66 | 11 |
| Oklahoma City, Okia | 1. 34 | 10 | 56 | 05 | 78 | 4. 28 | 37 | . 95 | 29 | 2. 09 | 2. 29 | 1.15 | 2. 74 |
| Omaha, Nebr- | 65 | 26 | 69 | 56 | 1. 87 | 2. 20 | . 58 | 65 | 10 | 28 | 48 | 94 | . 87 |
| Parkersburg, W. Va- | 3.19 | 2.05 | 8. 22 | 1.55 | 3. 68 | 5.34 | 5. 71 | 2. 24 | 2. 48 | 3. 83 | 3. 17 | 1. 91 | 4.14 |
| Peoria, Ill | 2.20 | . 35 | 2.18 | 1. 93 | 1. 89 | 5. 95 | 1. 86 | 1. 58 | . 07 | . 93 | 1. 39 | 1. 69 | 1. 10 |
| Pheenix, Ariz | 1.17 |  | . 38 | 30 | 1. 79 | 2. 34 | 2. 20 | 1. 14 | 22 | 1. 42 | 13 | 1. 29 | 28 |
| Pierre, S. Dak | 46 | 20 | T. | 43 | . 73 | 1. 06 | 84 | 1. 08 | 04 | 16 | 21 | . 68 | . 14 |
| Pittis burgh, P | 2. 87 | 1.90 | 5. 28 | 2.41 | 4. 66 | 3. 51 | 4. 33 | 2. 82 | 1. 42 | 2. 80 | 3. 35 | 1. 56 | 3. 49 |
| Portland, Ore | 6. 50 | 8. 01 | 6. 25 | 11. 53 | 5. 90 | 5. 69 | 2. 54 | 4. 68 | 9.08 | 4. 84 | 7. 82 | 3. 08 | 9.52 |
| Pueblo, Colo | 35 | 18 | 31 | . 18 | . 18 | 22 | 22 | 61 | 03 | 29 | . 30 | 39 |  |
| Roseburg, Oreg | 5. 70 | 5. 96 | 5. 76 | 7. 19 | 2. 93 | 6.15 | 2. 25 | 3. 56 | 7. 33 | 1. 51 | 4. 12 | 3. 68 | 5. 69 |
| Sacramento, Ca | 3. 69 | 2. 74 | 2. 52 | 5. 97 | 3. 76 | 9. 35 | 1. 30 | 97 | 1. 77 | 29 | 4. 61 | 2. 16 | 2. 05 |
| St. Louis, Mo | 2. 27 | 1. 31 | 4. 34 | 2. 21 | 2. 83 | 8. 53 | 1. 72 | 1.31 | 13 | 1. 85 | 1. 10 | 74 | 2. 08 |
| St. Paul, Minn | 90 | . 52 | 33 | 1.05 | 1. 19 | 2. 60 | 1. 79 | 51 | . 44 | 1. 80 | 59 | 90 | 1. 12 |
| Salt Lake City, Ut | 1. 35 | . 74 | 81 | 3. 08 | . 72 | 1. 96 | . 91 | 3. 89 | T. | 1. 24 | 1. 44 | 1. 42 | 1.90 |
| San Antonio, Tex | 1. 68 | 28 |  | 09 | 53 | 2. 25 | 9 | 10 | 3. 78 | 3. 36 | 1. 40 | 1. 23 | 46 |
| San Diego, Calif | 2,00 | 66 | 1. 19 | 3. 19 | 4. 91 | 7. 56 | 4. 32 | 1. 64 | 61 | . 43 | 2. 02 | 3. 45 | 1. 34 |
| San Francisco, Calif | 4. 33 | 2. 47 | 3. 84 | 9. 76 | 6. 74 | 14. 59 | 1. 83 | . 81 | 2. 57 | 26 | 6. 30 | 41 | 84 |
| Santa Fe, N. Mex. | . 80 | 03 | . 50 | 11 | 1. 95 | 3. 02 | . 55 | 1. 63 | ${ }^{-12}$ | 31 | 1. 35 | 64 | 12 |
| Scranton, Pa | 2. 80 | 2. 55 | 2. 50 | 2.11 | 4. 09 | 2. 07 | 3. 15 | 4. 71 | 2. 44 | 2.79 | 2. 56 | 1. 1.89 | 4. 7.51 |
| Seattle, W, ${ }^{\text {Sheridan, W y }}$ | 4. 84 | 4. 52 .35 | 4. 1.91 1.91 | 9.82 .35 | 2. 08 | $\begin{array}{r}4.32 \\ .92 \\ \hline\end{array}$ | 2. .84 . | 2. 21 | - .33 .38 | - 81 | - 54 | 1. 27 | . 57 |
| Shreveport, La | 4. 42 | 1. 76 | 4. 21 | 73 | 4. 22 | 6. 29 | 3. 29 | 2. 07 | 3. 28 | 7. 06 | 4. 18 | 5. 73 | 4.32 |
| Springfield, Mo | 2. 66 | 1. 00 | 3. 40 | 1. 80 | 2. 35 | 9. 31 | 1. 46 | 1. 96 | . 34 | 2. 36 | 1. 36 | 1. 38 | 3. 43 |
| Thomasville, | 4. 13 | 6. 93 | 1. 65 | 4. 89 | 9. 70 | 2. 03 | 6. 61 | 3. 73 | 2. 32 | 3. 24 | 2. 39 | 2. 72 | 3. 94 |
| Trenton, N. J | 3. 17 |  | 3. 12 | 2. 72 | 5. 15 | 1. 26 | 3. 10 | 3. 00 | 3. 28 | 2. 40 | 2. 41 | 2. 41 | 4. 13 |
| Walla Walla, Wash | 2. 01 | 2. 90 | 2. 52 | 2.62 | 75 | 2. 79 | 1. 05 | 2. 29 | 2.12 | 1. 55 | 1. 87 | 1. 54 | 1. 85 |
| Washington, D. C.- | 3. 37 | 2. 84 | 2. 85 | 4. 60 | 6. 34 | 1. 57 | 2. 57 | 4. 29 | 3. 47 | 2. 30 | 2. 30 | 5. 56 | 4. 21 |
| Winnemucca, Nev . | 1. 04 | 36 | 59 | 1.99 | 49 | 2. 21 | . 90 | 1.04 | . 10 | . 39 | . 46 | 5 | 91 |

[^353]$\mathrm{T}=\mathrm{Trace}$, indicates an amount too sraall to measure.

1212 Yearbook of the Department of Agriculture, 1923.
Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.


[^354]Table 737.-Precipitation: Normal ared total precipitatian at selecied poinis in the United States, 1812-1923-Continued.

| Station. | NormaI for Mar. | March total precipitation. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1820 | 1921 | 1322 | 1923 |
|  | ${ }_{\text {I }}$. | In. | In. | In. | In. | In | In. | In | n. | $\underline{I n}$. | In. | . | In. |
| Amarille | 0.65 | 0.82 | 0. 59 | 0.15 | 1.00 | 0.57 | 0. 25 | 1.06 | 1. 73 | 0.51 | 0.68 | 4.06 | 2.97 |
| Atlanta, | 5. 78 | 10,44 | 9.14 | 3.17 | 2.01 | 1.84 | 9.15 | . 89 | 3. 58 | 10.95 | 1. 64 | 10.30 | 5.14 |
| Birmingham, Ala | 5. 76 | 9.84 | 5. 96 | 5. 29 | 3.68 | 3.01 | 11. 85 | . 32 | 5.91 | 10.34 | 4.88 | 7.14 | 5.15 |
| Bismar ck, N. Dak | 1. 04 | . 70 | -49 | 1.23 | . 35 | 3.27 | . 60 | . 85 | t. 17 | 1.21 | 1. 00 | 7 78 | 28 |
| Boise, Idaho | 1.44 | 1.28 | 1.75 | - 39 | . 78 | . 71 | 1. 75 | 1. 78 | 1.82 | 1.89 | . 84 | 2.36 | 24 |
| Hoston, Mass | 4.08 | 4. 18 | 4.81 | 4.16 | T. | 3.20 | 3. 73 | 3.19 | 4.11 | 3. 72 | 1.92 | 4.30 | 2.49 |
| Brownsvill | 1. 23 | +20 | 1.86 | 1. 86 | 1.90 | . 07 | 1. 51 | . 94 | -44 | ${ }^{-76}$ | . 88 | 1.29 | 1.32 |
| Buifalo, N | 262 | 251 | 3. 60 | 4.18 | 1.38 | 3. 52 | 2.69 | 2.45 | 2.47 | 1. 57 | 3.40 | 3.61 | 1. 7.0 |
| Canton, N | 284 | 208 | 5. 24 | 3.03 | . 51 | 1.60 | 1.98 | 1.37 | 3.97 | 2.26 | 3.32 | 3.21 | 2.07 |
| Charlesten | 3.72 | 4. 14 | 380 | 2. 34 | 283 | 1. 96 | 3. 05 | 1. 65 | 4.05 | 4.65 | 2. 68 | 3. 15 | 2. 38 |
| Charlotte, | 4.57 | 7.86 | 5. 80 | 156 | 3.44 | 1.38 | 6. 42 | 2.33 | 2. 70 | 7.11 | 1.84 | 6. 32 | 5.84 |
| Cheyenne, ${ }^{\text {C }}$ | -95 | 1.33 | ${ }^{\text {a }}$ - 31 | ${ }^{.} 72$ | 1.61 | + 20 | ${ }^{-69}$ | - 19 | 1.52 | ${ }^{-66}$ | . 39 | ${ }_{5}{ }^{33}$ | 1.49 |
| Ohicago, Tl | ${ }_{3} 25$ | 220 | 3.44 | 1.87 | . 60 | 2.48 | 2.11 | 2.05 | 4. 32 | 4.57 | 4.00 | 5. 58 | 3. 05 |
| Cincinnati, Ohio | 3.64 | 4.73 | 9.09 | 2. 40 | 1.64 | 3. 34 | 4.06 | 2. 28 | 5.27 | 4.20 | 6. 60 | 6. 56 | 3. 50 |
| Cleveland, Ohio | 2.79 | 214 | 8.31 | 2.10 | . 92 | 2.29 | 2.14 | 2.38 | 2.67 | 1. 49 | 4.39 | 4.02 | 1.89 |
| Goncordia, Kans | 1. 48 | 1.32 | . 41 | 1.05 | 2.53 | . 37 | 1.49 | . 77 | . 90 | . 47 | . 47 | 2. 59 | 1. 32 |
| Dee Moines, Low | 1.65 | 287 | 3,08 | 1.18 | 1.16 | 60 | 2.30 | 29 | 3. 67 | 3.92 | 1.07 | 2.25 | 4.34 |
| Devils Lake, N. Dak | 1. 01 | . 09 | . 54 | . 76 | . 09 | 1. 09 | . 30 | . 22 | L. 49 | . 35 | . 71 | . 62 | . 71 |
| Dodge City, Kans-- | . 88 | ${ }^{.97}$ |  | . 09 | $\stackrel{64}{ }$ | 68 | . 36 | 2.59 | . 94 | . 43 | . 01 | 3. 76 | . 76 |
| Dubuque, Iowa | 221 | 2.07 | 281 | 1.74 | 1.14 | 3. 91 | 1.56 | 2.12 | 2.24 | 3.04 | 2.05 | 1. 65 | 2.93 |
| Duluth, Minn | 1. 55 | . 43 | 3.25 | 1.56 | . 36 | 2.48 | 4.97 | . 50 | 1.16 | 2.28 | 1.76 | 260 | 1.28 |
| E1 Paso, Tex | 38 | . 27 | 29 | 10 | 1.34 | 34 | . 07 | 08 | . 62 | . 22 | 04 | 16 | . 33 |
| Eureka, Calif | 6, 97 | 4.73 | 3. 61 | 3. 13 | 1.65 | 4.83 | 5.01 | 5.84 | 6. 25 | 5. 79 | 3.04 | 6.43 | 89 |
| Evansvilie, Ind | 4. 60 | 5.53 | 8.71 | 3.12 | 1. 08 | 2.56 | 3. 03 | . 95 | 5. 05 | 6. 10 | 4. 52 | 8.20 | 2.48 |
| Fort Worth, Te | 1. 76 | 3. 34 | 1.04 | 2.89 | 1.40 | 3.68 | 2. 42 | -93 | 3. 34 | 4.42 | 2.67 | 1. 57 | 1. 52 |
| Fresno, Cali | 1. 76 | 3. 02 | . 63 | . 25 | - 52 | 1. 81 | . 56 | 4.19 | 1.07 | 3. 98 | 1.05 | 1.53 | . 06 |
| Galveston, Tex | 2. 90 | 200 | 1.43 | 4. 63 | 1. 43 | 25 | . 91 | 1. 65 | 2.20 | 1. 77 | 3. 59 | 2. 69 | 4. 53 |
| Grand Rapids, M | 2. 52 | ${ }^{1} 52$ | 3. 57 | 1.59 | 1.13 | 3. 16 | 1.87 | ${ }^{2} 37$ | 4.93 | 3. 42 | 4.77 | 3.18 | 2.36 |
| Greenvile, Me | 3.76 | 3. 04 | 5.29 | 4.15 | 24 | 23.3 | 3.90 | 2.19 | 4.03 | 285 | 1.95 | 2.96 | 3.02 |
| Havre, Mont | . 48 | . 30 | . 65 | . 17 | 10 | . 59 | . 18 | . 51 | 74 | . 46 | 1.89 | 43 | 11 |
| Indianapolis, | 4. 01 | 5. 35 | 7.76 | 1.82 | 1.47 | 2. 44 | 4. 75 | 1. 58 | 6. 72 | . 66 | 7.25 | 7.16 | 4.41 |
| Iola, Kans | 235 | 5. 18 | 2.13 | 2.12 | 2.25 | 2.10 | 3. 55 | 1.96 | 1.06 | 5.36 | 3.60 | 7.71 | 3.69 |
| Jacksonville, $\mathbf{F}$ | 3. 52 | 3.27 | 5. 87 | 1.84 | 2.47 | 59 | 1.81 | 2.31 | 3.24 | . 82 | . 57 | 3. 69 | 1.15 |
| Kalispell, Mon | 1. 08 |  | 1. 73 | 1.17 |  | 2. 43 | 1. 09 | . 76 | 45 | . 92 | 1.55 | 77 | 42 |
| Little Rock, Ar | 4. 94 | 9.05 | 4.47 | 4.63 | 294 | 1.59 | 6. 43 | 1. 49 | 6. 44 | 4.89 | 7.03 | 8. 30 | 5.00 |
| Los Angeles, Ca | 3. 00 | 6. 99 | . 33 | 58 | . 60 | 90 | . 18 | 6. 21 | 2.18 | 4.25 | 2.75 | 1. 64 | . 32 |
| Tynchburg, V/ | 3, 81 | 8.54 | 5. 50 | ${ }_{2} 24$ | 1. 14 | 1. 32 | 4. 97 | 2.41 | 3. 02 | 2.82 | 1. 75 | 7.50 | 5. 91 |
| Marquett | 2. 21 | 1.92 .56 | 2.41 | 1.15 | . 8.80 | 2.93 | 2.00 | 2.17 1.13 | 2.17 .92 | 4.07 3.34 | 1.81 | 2. 01 | 4. 14 |
| Memphis, Ten | 5. 77 | 9. 53 | 4.78 | 3. 91 | 3.08 | 2.22 | 7.51 | 70 | 12.41 | 4.72 | 7. 41 | 8. 24 | 7.03 |
| Miami, FIa | 2.72 | 3. 76 | 4.39 | 99 | 1. 57 | 28 | 3.03 | 1. 48 | 9.74 | 06 | 5.15 | 13 | 58 |
| Mobile, Ala | 7.17 | 6. 62 | 10. 58 | 200 | 3.46 | 3. 69 | 2.28 | . 79 | 5.09 | 2. 21 | 6.71 | I1. 46 | 6. 09 |
| Modena | 1.30 | 2. 70 | . 15 | 15 | 40 | 1. 50 | 68 | 1.60 | 85 | 1.84 | 1.09 | 45 |  |
| Nashville, Ten | 5. 44 | 6. 00 | 4.54 | 4.33 | 2.14 | 3.60 | 8.06 | 1. 86 | 8.67 | 3. 25 | 5.95 | 9.32 | 7.69 |
| New Orleans, | 5. 30 | 10.81 | 4. 84 | 4. 17 | 2.31 | ${ }^{-64}$ | 3. 03 | 1. 69 | 3.22 | 3. 28 | 5. 59 | 8.45 | 4. 56 |
| Norfoik, Va, | 4.28 | 5. 18 | 1.99 | 3. 77 | 1. 14 | 1.68 | 4. 60 | 3. 68 | 3.36 | 2.39 | 1.50 | 4.85 | 5. 12 |
| North Platte, Nebr | 87 | 3. 08 | 1. 68 | . 41 | 2. 23 | 20 | 1.48 | . 32 | . 44 | . 38 | . 42 | . 47 | ${ }^{.} 38$ |
| Oklahoma City, Okla | 2.38 | 4. 11 | 3.11 | 1.68 | 2.08 | 1.66 | 1.20 | 1. 55 | 1.88 | 420 | 1.93 | 4.37 | 2. 58 |
| Omaha, Nebr | 1. 39 | 2.50 | 3. 03 | 1. 52 | 1. 67 | . 35 | 1.35 | . 11 | 1.59 | . 47 | 1.08 | 1.47 | 3. 95 |
| Parkersburg, W. Va- | 3. 82 | 5. 69 | 4. 13 | 2.19 | 1.42 | ${ }_{4}^{4} 48$ | 4. 46 | 3. 54 | 2.37 | 2.92 | 4.49 | ${ }_{5}^{6.0}$ | ${ }^{3} 35$ |
| Peoria, $\mathrm{Il}^{\text {. }}$ | 2.96 | 203 | 3.46 | 1. 60 | . 67 | 2.33 | 2.25 | . 91 | 4.52 | 5.84 | 4.89 | 5.99 | 4.08 |
| Phoenix, Ariz | . 49 | 1.96 | . 07 | . 92 | . 33 | . 37 | . 15 | . 93 | . 97 | 1. 35 | . 03 | . 99 | 1.08 |
| Pierre, P . Dak | 1. 33 | - 45 |  | - 79 |  |  |  | 1. 47 | 1.30 | 1. 78 | . 49 | . 0 |  |
| Pittsburgh, | 3. 01 | 483 | 4.37 | 2. 12 | 1.26 | 3.63 | 3,36 | 1.25 | 1.89 | 1. 77 | 3. 36 | 5.84 | 2.15 |
| Portland, Ore | 5.18 | 1. 41 | 4. 04 | 228 | 215 | 10.57 | 5.33 | 3. 47 | 4.64 | 3.94 | 4.28. | 6. 57 | 1.83 |
| Pueblo, Colo | . 86 | . 53 | . 21 | . 32 | . 48 | . 65 | . 44 |  | 1.43 | . 15 | 20 | 29 | ${ }^{67}$ |
| Roseburg, Oreg | 3. 98 | 4.05 | 2. 23 | 1. 76 | 1.76 | 4.95 | 3. 74 | 257 | 4.50 | 2.97 | 1. 71 | 4.09 | 1.32 |
| Easramento, Ce | 3. 01 | 1. 97 | 1. 34 | . 59 | 1.20 | 1. 06 | . 70 | 4.00 | 1.50 | 3. 27 | 1.45 | 1.29 | 43 |
| St. Louis, Mo | 3.43 | 5.85 | 7.97 | 1.25 | . 44 | 1.83 | 1.80 | . 67 | 1. 72 | 3. 97 | 6. 14 | 4.84 | 4.26 |
| §t. Paul, Minn | 1. 60 | . 32 | 1.74 | .$^{93}$ | . 99 | 1.26 | 209 | . 88 | . 81 | 291 | 2.51 | 1. 41 | 1.33 |
| Ealt Lake City, | 200 | 3.48 | 2. 50 | 1.24 | 1. 48 | 3.03 | 261 | 1.81 | . 54 | 3. 81 | 1.03 | 244 | 1.67 |
| EaII Antonio | 1.68 | 1. 86 | 1. 36 | . 83 | 1. 20 | . 78 | . 16 | 1.45 | 1.39 | . 83 | 5.91 | 3. 29 | 3.07 |
| San Diego, Cati | 1. 70 | 5. 72 | - 42 | . 36 | . 33 | . 98 | . 26 | 4.57 | 1.83 | 2. 46 | 1.13 | 1.34 | . 34 |
| San Franciseo, Cali | 3. 14 | 4. 10 | 1. 47 | 1. 09 | 3. 02 | 1.33 | 1. 42 | 2.73 | 2. 74 | 3. 25 | ${ }^{2} 28$ | 2.38 | . 08 |
| Santa Fer, N. Mex | ${ }^{\text {. }} 12$ | 1.85 | $\stackrel{8}{8} 8$ | 5.82 | ${ }^{+} 70$ | 1. 3.74 | ${ }_{2}{ }^{27} 9$ | 1.468 | ${ }_{3}^{1.70}$ | 3. 50 | - 3.75 | $\stackrel{44}{402}$ | 1.28 |
| Seattle, Wa | 288 | 1.79 | 1. 55 | 1.40 | 1.72 | 5. 45 | 2.96 | 3.92 | 1.84 | 282 | 3. 06 | 4. 45 | 1.37 |
| Sheridan, Wy | 1. 22 | . 72 | . 78 | 1. 14 | 1.40 | . 92 | 1.31 | 3,32 | . 43 | . 83 | . 65 | . 34 | 1.69 |
| \&hreveport, Lis | 4.52 | 9.93 | 4. 81 | 6. 55 | 1.92 | 1.88 | 2.12 | 1.14 | 3. 14 | 5:08 | 3. 87 | 2.31 | 363 |
| Epringfleld, M | 4.07 | 4.47 | 5. 69 | 3.37 | 223 | 2.42 | 231 | 1.33 | 223 | 4.90 | 7.35 | 6.45 | 2.40 |
| Thomasvill | 5.09 | 5. 64 | 5. 83 | 1. 22 | 3.17 | 1.62 | J. 98 | 1.411 | 7.36 | 3. 21 | 3. 30 | 4.12 | 5. 28 |
| Trentor, $\mathrm{N} . \mathrm{J}$ | 4.04 |  | 4.77 | 3. 28 | 1.37 | 2.61 | 2.45 | 2.02 | 4. 64 | 3. 81 | 2.42 | 3.89 | 3.78 |
| Walla Walla, Wash. | 1.89 | 1. 14 | 2.07 | ${ }^{5} 59$ | 1.96 | 3. 46 | . 52 | 1.26 | 1. 91 | 214 | 2.24 | .96 | .47 |
| Washington, D. C. | 3. 85 | 6. 14 | 4. 67 | 2.27 | 1.07 | 2.80 | 5. 12 | 5. 04 | 4.02 | 239 | 27.6 | 4.74 | 4.47 |
| Winnemuca, N | . 95 | . 72 | . 23 | . 08 | . 49 | . 62 | . 58 | 1. 95 | . 57 | 1. 73 | . 06 | . 79 | . 05 |

[^355]1214 Yearbook of the Department of Agriculture, 1923.
Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.

| Station. |  | April total precipitation. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | In. | In. | In. | In. | In. | In | In. | In. | In. | In. | In. | In. | In. |
| Amarillo, 'T | 1. 72 | . 72 | 1.76 | 0.95 | 5. 05 | 1.71 | 0. 71 | 0.48 | 2. 56 | 0.64 | 0.39 | 3.25 | 3. 22 |
| Atlanta, Ca | 3.63 | 6. 65 | . 84 | 3.16 | . 35 | 1.51 | 3. 17 | 6.98 | 4.18 | 5.32 | 3.31 | 4.34 | 3.82 |
| Birmingham, Ala | 3.67 | 8. 92 | 2.28 | 4. 46 | 1.05 | 2.14 | 4. 52 | 7. 17 | 1.55 | 10.71 | 4.81 | 6.64 | 7. 58 |
| Bismarck, N. Dak | 1.88 | 2. 30 | . 55 | . 92 | 1.04 | . 65 | 1.87 | 2.13 | 1.71 | . 45 | 2.40 | 68 | 2.01 |
| Boise, Idaho | 1. 18 | 3.34 | . 95 | 1. 63 | 1.05 | . 80 | 3.13 | 65 | 1. 18 | 1. 32 | 93 | 1.51 | 1. 09 |
| Boston, Mas | 3.55 | 3. 07 | 4.77 | 5.87 | 1.86 | 4. 51 | 2. 72 | 3. 08 | 2. 33 | 5. 68 | 4. 62 | 2. 48 | 5. 26 |
| Brownsville, | 1. 33 | 1. 76 | . 38 | 1. 16 | 1. 01 | 1. 28 | ${ }^{+43}$ | 2. 59 | 2. 39 |  | . 52 | 1. 52 | . 35 |
| Buffalo, N | 2. 45 | 3. 39 | 3. 78 | 3. 24 | - 59 | 2. 98 | 2. 45 | 2. 41 | 3. 40 | 2. 33 | 3. 62 | 1. 56 | 1. 17 |
| Canton, N. Y | 2. 26 | 2.46 | 3. 35 | 3. 56 | 1.30 | 1.83 | 1. 92 | 1. 84 | 3. 39 | 3. 45 | 1. 53 | 3.46 | 2.41 |
| Charleston, S | 2. 99 | 4. 92 | 1. 40 | 2. 77 | 1.13 | 2. 35 | . 97 | 2. 49 | . 73 | 7. 40 | 2.06 | 1. 50 | 1.06 |
| Charlotte, | 3.44 | 3.92 | 2. 72 | 2. 99 | . 63 | 2. 15 | 2. 54 | 5. 47 | 3. 90 | 5. 40 | 1. 99 | 6. 59 | 4. 23 |
| Cheyenne, W | 1. 85 | 1. 62 | 1. 35 | 2. 58 | 3. 29 | 48 | 1.75 | 3. 92 | 1. 23 | 3. 97 | 2. 00 | 3. 23 | 3.28 |
| hicago, Ill | 2.88 | 2. 55 | 1.91 | 1. 07 | 1. 02 | 1. 60 | 2. 58 | 3.41 | 3. 16 | 4. 71 | 4. 47 | 3. 70 | 1.38 |
| Cincinnati, | 2. 95 | 5. 62 | 3. 84 | 3. 07 | 84 | 2. 51 | 4. 07 | 3. 38 | 3. 29 | 5. 78 | 3. 19 | 4. 32 | 2.96 |
| Cleveland, Ohio | 2.31 | 3. 68 | 2.47 | 4. 28 | 65 | 2.43 | 3.24 | 2.55 | 2. 96 | 5.01 | 2.58 | 2. 10 | 2.21 |
| Concordia, Kan | 2. 42 | 1. 35 | 2. 46 | 1.00 | 2.47 | 1. 32 | 2.60 | 3.51 | 4. 20 | 2.82 | 2.79 | 2. 33 | 3. 20 |
| Des Moines, Iowa | 2.98 | 2.75 | 3.41 | 1.52 | 1.36 | 2. 44 | 5. 52 | 1.81 | 5. 30 | 4.09 | 3. 72 | 2.84 | 1.76 |
| Devils Lake, N. 1 | 2.03 | 2.41 | 83 | 1. 21 | 1.10 | 1. 09 | 1. 40 | 2.86 | 1.14 | 54 | 2.17 | 48 | 1. 44 |
| Dodge City, Kans | 1.87 | 1.73 | 2. 12 | 1.28 | 2.28 | 2.84 | 1.45 | 1. 38 | 1. 65 | 1.75 | 2. 73 | 4.24 | 2.13 |
| Dubuque, Iow | 2. 92 | 2. 49 | 1. 70 | 1. 53 | . 38 | 2. 69 | 2. 05 | 2. 16 | 4. 47 | 3. 91 | 4. 70 | 2. 89 | 1.48 |
| Duluth, Minn | 2.14 | 2.58 | 1.75 | 2. 90 | 1. 23 | 3.27 | 1.39 | 2.02 | 1.82 | 1. 41 | 2. 10 | 2.83 | 1. 11 |
| El Paso, | . 23 | 96 | 14 | 47 | 20 | 20 | T |  | 65 | 03 | 01 | 28 | 04 |
| Eureka, | 3. 93 | 5.92 | 3.41 | 3. 27 | 1.38 | 1.88 | 3.78 | 1.07 | 4. 03 | 3. 12 | 1. 67 | 2.39 | 2. 95 |
| Evansille In | 3.46 | 7. 02 | 3. 19 | 2. 83 | 40 | 1. 99 | 5. 12 | 5. 23 | 3. 71 | 2. 93 | 3. 42 | 4.07 | 4. 54 |
| Fort Worth, | 2. 65 | 3. 20 | 2.47 | 5. 99 | 4.98 | 6. 99 | 4.11 | 6.21 | 2.06 | . 51 | 1. 99 | 17.64 | 5. 30 |
| Fresno, Cali | . 71 | 1.86 | 1. 01 | 59 | . 81 | . 02 | . 21 | T. | . 06 | . 49 | 15 | 10 | 3. 93 |
| Galveston, Tex | 3. 13 | 4. 29 | 2. 46 | 8. 54 | 3.37 | 1.37 | 1.45 | 6.63 | 2. 17 | . 70 | 2. 47 | 1. 66 | 4.45 |
| Grand Rapids, | 2.45 | 2.46 | 2.45 | 1. 97 | . 85 | 2. 52 | 4.03 | 2. 22 | 2. 60 | 2. 95 | 4. 39 | 4. 50 | 2. 19 |
| Greenville, M | 2. 78 | 2. 87 | 2.54 | 4.51 | 3. 49 | 2.45 | 3.25 | 1.66 | 2.96 | 5. 40 | 2.61 | 2. 99 | 5.97 |
| Havre, Mont | 1.01 | 1. 36 | 1.35 | 04 | . 24 | . 69 | 1.35 | 35 | . 29 | 2.65 | 92 | 1:11 | 1.24 |
| Indianapolis, | 3.47 | 4. 62 | 3.01 | 3.21 | . 99 | 1.81 | 4.25 | 5. 36 | 3.35 | 7.26 | 3.73 | 8.55 | 1.94 |
| Iola, Kans | 2. 79 | 5. 70 | 1. 30 | 1. 68 | 5. 56 | 3.83 | 4.61 | 4. 60 | 4. 37 | 2. 01 | 2.86 | 9. 26 | 2.66 |
| Jacksonville, F | 2. 72 | 4.96 | 1.32 | . 30 | 49 | . 46 | . 82 | 5. 96 | 1.26 | 3.42 | 1. 43 | 1. 39 | . 98 |
| Kalispell, Mon | 1. 06 | 61 | 86 | 1. 21 | 1.16 | 73 | 1. 26 | 63 | 24 | 1. 48 | 1.17 | 1.86 |  |
| Little Rock, Ar | 4.51 | 10.76 | 11.46 | 5.19 | 2.92 | 2.61 | 3.91 | 8. 42 | 4.09 | 6. 59 | 7.40 | 3.55 | 7.69 |
| Los Angeles, | 1. 13 | 1.66 | . 35 | . 47 | . 81 | T. | 46 | 15 | . 17 | 1. 00 | . 28 | 10 | 1. 97 |
| Lynchburg, V | 3. 17 | 1. 89 | 3. 60 | 1.70 | . 87 | 1. 94 | 3. 10 | 4. 97 | 2.18 | 3. 53 | ${ }_{5}^{2.76}$ | 1. 53 | 2.71 |
| Madison, Wi | 2. 38 | 1. 48 | 1. 54 | 1.84 | . 92 | 3. 51 | 3. 29 | 2. 63 | 2. 90 | 3. 43 | 5. 16 | 3. 39 | 2. 59 |
| Marquette, Mic | 1. 99 | 3. 01 | 3. 00 | 6.80 | . 99 | 3. 51 | 1. 75 | 1. 37 | 3.24 | 2. 28 | 4.10 | 3.79 | 1.43 |
| Memphis, Ten | 4.83 | 8. 01 | 5.40 | 2.90 | 1. 67 | 2. 32 | 4. 13 | 4. 57 | 3.17 | 7. 75 | 11.64 | 3.21 | 6. 55 |
| Miami, Fla | 2. 59 | 5.61 | 3. 78 | 5.24 | 1.32 | 39 | 3. 74 | 4.49 | 3.07 | 3. 15 | 2.63 | . 54 | 2. |
| Mobile, Ala | 4.35 | 17. 32 | 4.16 | 1.77 | 14 | 6. 64 | 2. 50 | 11.11 | 6. 84 | 5.89 | 4. 43 | . 92 | 4. 3 |
| Modena, Utah | 79 | 1.99 | 37 | 2. 17 | 2.38 | 23 | 1. 17 | . 35 | . 27 | 44 | 1. 33 | 1. 02 | 1. 22 |
| Nashville, Ten | 4. 36 | 11.73 | 1. 65 | 3.83 | . 72 | 2. 49 | 4. 05 | 3. 39 | 2.66 | 8. 58 | 3. 50 | 4. 53 | 4.26 |
| New Orleans, | 4. 91 | 8. 62 | 4. 90 | 5. 34 | . 04 | 2. 55 | 4. 11 | 10.73 | 7.88 | 7.84 | 4.87 | 3.81 | 4.48 |
| Norfolk, Va-- | 3. 79 | 2. 78 | 79 | 1.88 | 91 | 1. 95 | 2. 61 | 4. 81 | 1.61 | 4. 25 | 3. 02 | 1.88 | 3.59 |
| North Platte, Ne | 2.15 | 2.93 | 2.07 | 1.48 | 7.10 | . 72 | 1. 95 | 2.51 | 2. 21 | 3. 42 | 1.30 | 2.01 | 2.02 |
| Oklahoma City, | 2. 80 | 2. 81 | 1.88 | 2.41 | 7.50 | 3. 15 | 2. 11 | 2.45 | 5.04 | 2. 11 | 2. 39 | 7. 67 | 4. 27 |
| Omaha, Nebr | 3, 01 | 1.31 | 3.00 | 3.13 | . 81 | 1. 72 | 3.96 | 1.57 | 4.66 | 3. 39 | 2.13 | 2.12 | 1.57 |
| Parkersburg, W | 2. 91 | 4. 02 | 1. 81 | 4. 38 | 2. 02 | 2.84 | 4. 29 | 4. 47 | 2.09 | 6. 38 | 2. 50 | 3. 81 | 1. ${ }^{1 .} 5$ |
| Peoria, Ill | 3. 28 | 6.88 | 3.54 | 2. 10 | 1. 60 | 1. 60 | 4. 54 | 3.70 | 2.35 | 6.12 | 6.36 | 3.62 | 1.95 |
| Phoenix, Ariz | . 43 | . 52 | 51 | . 10 | . 88 | 15 | 1. 22 | 02 | . 17 |  | . 02 | . 24 | , |
| Pierre, S. Dak | 1.98 | 89 | 1.17 | 1.78 | 2. 63 | 1. 06 | 2. 39 | 2. 60 | 2. 98 | 3. 37 | 1.33 | . 59 | 1. 54 |
| Pittsburgh, P | 2. 90 | 4.32 | 2.53 | 3. 98 | 1.27 | 2.54 | 2. 20 | 2. 73 | 3. 07 | 4.42 | 1.66 | 3.56 | 3.82 |
| Portland, Or | 3. 05 | 2. 04 | 2.94 | 3. 08 | 2. 03 | 2. 85 | 5. 36 | 1.13 | 3. 63 | 4.75 | 2. 26 | 3. 05 | 1.90 |
| Pueblo, Colo | 1. 43 | 1. 21 | 47 | 3. 64 | 3. 07 | 2. 02 | 1. 39 | 1. 31 | 2. 33 | 86 | . 79 | 1.21 | 54 |
| Roseburg, Ore | 2. 48 | 3.86 | 2.05 | 2. 50 | 1.38 | 2.28 | 3.37 | . 71 | 2. 53 | 2. 67 | 1.38 | 2.68 | ${ }_{2}^{2.23}$ |
| Sacramento, C | 2. 00 | 1. 69 | . 53 | . 70 | . 50 | . 06 | . 62 | 1. 06 | .$_{11} 1$ | 1.36 | 39 | 40 | 2.87 |
| St. Louis, Mo | 3.52 | 7.84 | 3.57 | 1.92 | 1. 20 | 1.78 | 4.64 | 7.09 | 1.76 | 3.43 | 7.01 | 7.40 | 3.20 |
| St. Paul, Minn | 2.33 | 2.60 | 1.62 | 3.73 | 2.75 | 3.03 | 1.65 | . 94 | 3. 98 | 2.21 | 2.46 | 1.55 | 2.20 |
| Salt Lake City, | 2. 26 | 2. 34 | 1.95 | 2. 84 | 1.88 | . 88 | 1.49 | . 59 | 2. 50 | 3. 16 | 2.65 | 3.05 | 3. 56 |
| San Antonio, Tex | 2. 94 | 1. 78 | 1.32 | 5. 26 | 11. 64 | 1.85 | . 28 | 5. 14 | 3. 60 | 1.09 | 2.78 | 5. 46 | 3.24 |
| San Diego, Calif | . 74 | 2. 13 | . 08 | . 85 | 1.15 | . 01 | 1. 06 | T. | . 30 | . 47 | . 04 | . 17 | 1.05 |
| San Francisco, Ca | 1.82 | 1. 38 | 1. 60 | 99 | ${ }_{4} .62$ |  | 33 | . 60 | . 10 | 1. 36 | 54 | . 47 | 3. 92 |
| Santa Fe, N. Me | 86 | . 43 | 1.32 | 44 | 4. 82 | 2. 50 | 15 | . 72 | 1. 94 | . 73 | -55 | 1. 43 | 1.60 |
| Scranton, | 2.65 | 3.78 | 3.63 | 3.89 | 1.65 | 4. 19 | 1.06 | 3.98 | 2. 71 | 2. 53 | 2. 88 | 3. 44 | 2.92 |
| Seattle, Wash | 2. 38 | 1. 73 | . 83 | 3. 31 | 2. 91 | 1.98 | 4. 48 | 96 | 3.20 | 3. 46 | 1.76 | 2. 53 | 1.67 |
| Sheridan, Wyo | 1.67 | 1. 23 | . 62 | 2. 75 | 1.79 | 2.71 | 1. 12 | 3. 74 | 1.16 | 3.45 | 62 | 3.47 | 2.47 |
| Shreveport, La | 4. 58 | 7. 49 | 4.17 | 3. 35 | 6. 42 | 4.61 | 3. 34 | 5. 28 | 3. 93 | 4.01 | 6. 24 | 6.97 | 4.40 |
| Springfield, Mo | 3.86 | 5.87 | 2. 05 | 3. 63 | 2.78 | 5. 15 | 4. 63 | 4. 25 | 3. 55 | 1. 53 | 4. 79 | 4. 94 | 3.33 |
| Thomasville, | 3. | 10.33 | 1.38 | 1.78 | ${ }_{3} .57$ | 2.47 | 1. 59 | 5. 02 | 2.78 | 7.22 | 3. 09 | . 64 | 3.88 |
| Trenton, N.J | 3. 29 | 3.77 2.07 | 5. 27 | 1.57 | 3. 04 | 2. 67 | 2. 29 | 3.25 .32 | 2.91 | 4.34 2.80 | 1.86 .81 | 1.69 | 3.34 1.24 |
| W ashington, D. ${ }^{\text {c }}$ | 3. 25 | 2. 33 | 5. 86 | 3. 20 | - 20 | 2.96 | 2.16 | 6. 58 | 3.72 | 4.69 | 2.93 | 1.05 | 3.94 |
| Winneruucca, Nev... | . 88 | . 70 | 1. 09 | 1.32 | 2. 33 | . 19 | . 68 | . 52 | . 48 | . 80 | . 08 | 55 | . 79 |

[^356]$T=$ Trace, indicates an amount too small to measure.

Table 737:-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{2}{*}{Station.} \& \multirow[t]{2}{*}{$$
\left\lvert\, \begin{gathered}
\text { Nor- } \\
\text { mal } \\
\text { for } \\
\text { May. }
\end{gathered}\right.
$$} \& \multicolumn{12}{|c|}{May total precipitation.} <br>
\hline \& \& 12 \& 1913 \& 1914 \& 15 \& 1916 \& 1917 \& 1918 \& 9 \& 1920 \& 1921 \& 2 \& 1923 <br>
\hline Amarillo \& ${ }_{3 .}$ \& $$
\begin{aligned}
& \text { In. } \\
& 1.67
\end{aligned}
$$ \& $$
\begin{aligned}
& \text { In. } \\
& 1.41
\end{aligned}
$$ \& $$
\begin{aligned}
& \text { In. } \\
& 4 .
\end{aligned}
$$ \& $$
\begin{gathered}
I n . \\
1.70
\end{gathered}
$$ \& $$
\begin{array}{|l|l|}
\hline I_{0 .} .
\end{array}
$$ \& $$
\begin{aligned}
& \text { 2. } 49
\end{aligned}
$$ \& $$
\begin{aligned}
& \text { 2n. } \\
& 2.23
\end{aligned}
$$ \& $$
\begin{aligned}
& { }_{2.0}^{I n .}
\end{aligned}
$$ \& \& 2. 09 \& \& <br>
\hline Atlanta, ${ }^{\text {a }}$ \& \& 4. 37 \& \& \& 6.11 \& 3. 57 \& 4. 37 \& 1.73 \& 7. 20 \& \& 1.75 \& \& <br>
\hline Birmingham, \& 3. \& 2. 68 \& 4. 48 \& 1. 52 \& 6.14 \& 5.85 \& 3.85 \& 4.07 \& 59 \& 7.94 \& 1.24 \& 42 \& 7. 27 <br>
\hline Bismar ci, N \& 2. 50 \& 3. 03 \& 1. 99 \& 3.61 \& 4. 43 \& 1. 95 \& \& 2.03 \& 4.06 \& 1.27 \& 2.72 \& 5 \& 1. 01 <br>
\hline Boise, Idah \& \& 4.04 \& 3. 22 \& 2.78 \& 4. ${ }^{\text {4. } 26}$ \& 1:80 \& 2. ${ }_{\text {2 }}$ \& 1. 05 \& 4.2 \& 5.26 \& 15 \& 56 \& 76 <br>
\hline Boston, M \& ${ }_{2.22}^{3.51}$ \& \& 1.12 \& 2. 03 \& 1. 64 \& $\begin{array}{r}2.83 \\ .37 \\ \hline\end{array}$ \& \&  \& \& 5. ${ }^{\text {5. }} 90$ \& 3. 40 \& ( $\begin{aligned} & \text { 5. } 34 \\ & 3.90\end{aligned}$ \& <br>
\hline Buffalo \& 3.10 \& \& 12 \& 3. 67 \& 1.86 \& 4.13 \& \& 2.47 \& ${ }_{4.32}$ \& 1.10 \& 2. 11 \& 2. 01 \& <br>
\hline Charton, \& 3. \& \& 2. 64 \& ${ }^{89}$ \& 1.57 \& ${ }^{4 .} 59$ \& ${ }_{2}^{2.8}$ \& 3. 91 \& 3.04 \& 1.41 \& 1. 08 \& 1.19 \& 3 <br>
\hline Charlotte, N \& 3. \& 3.14 \& 3.77 \& ${ }_{-82}$ \& 8.47 \& 1. 41 \& 2.45 \& ${ }_{92}^{65}$ \& \& ${ }_{1}^{1.96}$ \& -5.92 \& \& <br>
\hline Cheyenne, \& 2. \& 1.37 \& ${ }_{2} 22$ \& 2. 10 \& ${ }_{2} 21$ \& 1.93 \& 4.65 \& 2.60 \& 70 \& 2.15 \& 2. 40 \& 2.00 \& <br>
\hline Chicago, Ill \& 3.37 \& \& 4.38 \& 5. 22 \& 7.04 \& 2. 93 \& 3.41 \& 4.57 \& 3.84 \& 1.81 \& 80 \& 18 \& 3. 46 <br>
\hline Cincinnati, \& ${ }_{3}^{3.52}$ \& \& 2.30 \& ${ }^{1} 1.83$ \& ${ }_{3}^{5.56}$ \& 4. 49 \& 4. 62 \& 4.05 \& 3. 56 \& ${ }^{4.36}$ \& ${ }^{2} .79$ \& 2. 09 \& <br>
\hline Cleveland, ${ }^{\text {Concordia, }}$ \& 322 \& \& 2.84
5.70 \& 4.09
1.70 \& 3.13 \& 2. 04 \& 2.89 311 \& 2 \& 4. 15 \& 1.12 \& 1. 51 \& 2. 42 \& <br>
\hline Des Moines, \& 4.56 \& 5.62 \& 5.06 \& ${ }_{4.83}^{1.80}$ \& 8.21 \& 3. 87 \& ${ }_{3.94}$ \& 5.87 \& 2. ${ }_{26}$ \& 3.14 \& ${ }_{3}^{2.62}$ \& 6.87 \& <br>
\hline DevilsLake, N. D \& 2.20 \& ${ }^{5}$ \& 88 \& 1. 42 \& 2. 13 \& 1. 47 \& T. \& 3. 69 \& 3. 47 \& 1. 24 \& 1.03 \& 2.71 \& 2.04 <br>
\hline Dodge City, Kan \& 3. 34 \& 兂 \& 81 \& 3. 47 \& 5.43 \& 11 \& 1. 60 \& 2. 90 \& 1.56 \& 3. 47 \& 1.36 \& 2.77 \& 7. 74 <br>
\hline Dubuque, \& \& 5. 98 \& 8. 20 \& 4.64 \& 7.6 \& 2. 49 \& 2. 56 \& \& 2.79 \& 2.86 \& 76 \& \& 81 <br>
\hline ${ }_{\text {E1 } 1 \text { Paso, }}$ Tex \& \& T.90. \& ${ }^{4.82}$ \& ${ }_{\text {1. }}^{1 .} 23$ \& ${ }^{3.22}$ \& 3. 57 \& 14 \& $\begin{array}{r}4.07 \\ .05 \\ \hline\end{array}$ \& 1.72
14
14 \& ${ }^{4.67}$ \& \& \& 81 <br>
\hline Eureka, Calis \& 2. \& 1.98 \& 1.67 \& . 70 \& 2.07 \& 1.48 \& 1. 03 \& $\stackrel{\text { - } 29}{ }$ \& 1.48 \& 04 \& 2.54 \& \& 1. 26 <br>
\hline ${ }_{\text {Exansvile, }}$ In \& 3.43 \& 2.74 \& 2.74 ${ }^{\text {F }}$ \& \& 7.49 \& \& \& - 5.75 \& 4.74 \& 5.18 \& 1.56 \& 2. 68 \& 4. 66 <br>
\hline Frortso, Calif \& 4.15 \& 2.71 \& 2.74 \& 10.7. \& 2.49 \& 3. 7. \& 3.92 \& \& \& 8.66 \& \& \& <br>
\hline Galveston, \& 3. 23 \& 4.50 \& 3.87 \& 7. 54 \& 2.70 \& 8. 08 \& 3. 47 \& 22 \& 9.96 \& 3.876 \& 2.04 \& 4.93 \& 3. 56 <br>
\hline Grand Rapids, \& 3.34 \& 4.91 \& cole \& 3. ${ }^{\text {3 }} 70$ \& \& 4.13 \& 3 \& 4. 03 \& 4.78 \& \& ${ }_{1}^{1.23}$ \& \& <br>
\hline Greenville, \& 3. 2.09 \& ${ }_{2}^{6.52}$ \& 3.81
1.81 \& 1.70 \& ${ }_{1.95}^{2.99}$ \& 4. ${ }^{\text {4. }} 0$ \& 3. \& 3. 37 \& 4.76 \& ${ }_{1.39}^{1.33}$ \& 17 \& \& 2. 50 <br>
\hline Indianapolis, \& \& 5. 67 \& 1.49 \& 1.90 \& 3. 94 \& 3. 54 \& 3. 36 \& 3. 85 \& 3. 34 \& 5.04 \& 55 \& 258 \& 5.86 <br>
\hline Iola, Kans \& 5. \& 4. 15 \& 3.35 \& 5.84 \& 7.77 \& 2.98 \& 5. 12 \& 4.91 \& 4. 15 \& 4.71 \& 4.85 \& 70 \& <br>
\hline Jacksonvilie, F \& 4. 25 \& 3. 53 \& 1.06 \& 2. 00 \& ${ }^{3.67}$ \& ${ }^{3} 31$ \& 1.83 \& 2. 50 \& 7. 32 \& 7.41 \& 4. 02 \& 7. 18 \& <br>
\hline Little Rock, Ark \& 5.10 \& 1. 81 \& 2. 34 \& 2.25 \& 4. 38 \& 1.49 \& 3. 28 \& ${ }_{64}$ \& 4. 67 \& 8.18 \& 75 \& 4.74 \& 10.50 <br>
\hline s Angeles, O \& \& \& \& \& \& \& \& 15 \& . 19 \& 10 \& 3.57 \& \& <br>
\hline Lynchburg, ${ }^{\text {Madison, Wis }}$ \&  \& ${ }^{4} \mathbf{4},{ }_{57}$ \& 4.76 \& 5.97 \& 1.99 \& cis ${ }_{\text {5. }}^{13}$ \& 2.21 \& 2. 15 \& 3. 64 \& . 79 \& 6. 15 \& 4. 37 \& 1.

1. 96
de <br>
\hline Marquette, Mi \& 3. 32 \& ${ }_{3.73}$ \& 2. 04 \& ${ }^{1} .90$ \& 3.12 \& 1.78 \& 1.45 \& 6. 58 \& 2.77 \& 2.74 \& 1. 67 \& 3. 27 \& 7 <br>
\hline Memphis, T \& 4.34 \& 2.32 \& 2. \& 4.64 \& 5.70 \& 4. 09 \& 2.91 \& . 99 \& 5. 51 \& 8.12 \& 1.2 \& 3.48 \& <br>
\hline Mobile, Ala \& 6. 47 \& 7.70 \& 1. 59 \& 1.82 \& 4. 67 \& 6.0 \& 2. \& 2. 2.90 \& - 13.31 \& 10.33 \& \& 8.31 \& ${ }_{91}$ <br>
\hline Modena, Utah \& \& \& \& . 8 \& . 97 \& \& 2. \& \& \& 1. \& \& 1.61 \& <br>
\hline Nashvilile, Tenn \& 3. 50 \& 4.02 \& 2. 66 \& 3. 01 \& 4.94 \& 5. 37 \& 4.75 \& 3. 61 \& 8. 67 \& 3. 18 \& 1.15 \& \& 10 <br>
\hline Now N \& 3.88 \& 16.80 \& 7. ${ }^{\text {7 }} 31$ \& ${ }_{25}{ }^{19}$ \& 3. 64 \& 5. 48 \& 11.93 \& 2.79 \& ${ }^{63}$ \& 1. 99 \& 4.72 \& \& <br>
\hline North Plate, ${ }^{\text {N }}$ \& 4 0 \& 1.93 \& 3. 50 \& 2.14 \& 5. 55 \& 1.95 \& . \& 2.30 \& 2. 33 \& \& \& \& 4.08 <br>
\hline Oklahoma City, Ok \& 4 \& 2.91 \& 3.88 \& ${ }_{5}^{5 .}$ \& 3. 69 \& \& ${ }_{3}^{2.1}$ \& \& 5. ${ }^{56}$ \& \& \& \& 1 <br>
\hline ${ }_{\text {Omaha, }}$ Omebr ${ }^{\text {Pmarkersurg, }}$ \& 4. 46 \& 1.30 \& 5. $\begin{aligned} & 57 \\ & 4.80\end{aligned}$ \& 2. 1.51 \& 3.47 \& ${ }_{4.65}^{4.57}$ \& 3. ${ }_{\text {3 }}$ \& 3.51 \& 5. \& \& \& 2. 37 \& 2. 31 <br>
\hline Peoria, 11 \& 4.26 \& 4. 39 \& 1.85 \& ${ }_{2}^{2}$ \& 1.4 \& 7. \& 2. \& 3. 02 \& 3. 79 \& \& 2. 13 \& 4. 00 \& <br>
\hline Phoenix, Ariz \& 2.13 \& 1. 67 \& 3.75 \& 3. 54 \& ${ }_{2} .56$ \& 5. 81 \& 2.72 \& 3. 02 \& 2. 78 \& 5.11 \& 4.79 \& 3. 58 \& 1.43 <br>
\hline Pittsburgh, Pa \& 3. 30 \& 1. 56 \& 3. 11 \& ${ }_{2}{ }^{64}$ \& 3. 89 \& 2.33 \& ${ }_{2}{ }^{2} 8$ \& 3. 89 \& 4.89 \& 1.03 \& 49 \& 59 \& 3.34 <br>
\hline Portland, Ore \& 2.36
1.68 \& 1.89 \& 1.63 \& 1. 22. \& 2.59 \& 2.0 \& 2.3 \& ${ }^{1.38}$ \& $\begin{array}{r}1.95 \\ .38 \\ \hline\end{array}$ \& 1. 26 \& -99 \& 1.60 \& <br>
\hline Roseburg, Oreg \& 2.05 \& ${ }_{3} 11.11$ \& 1. 50 \& 1. 06 \& 3. \& 2.05 \& ${ }_{2.75}$ \& 1. 34 \& 1.23 \& . 24 \& 75 \& 1. 03 \& 56 <br>
\hline Sa \& \& , \& 51 \& 50 \& 275 \& \& . 12 \& \& \& \& \& \& <br>
\hline St. Louis, M \& 4. 424 \& 4.29 \& 2.93 ${ }_{\text {2 }}$ \& 1.48 \& \& 3. ${ }^{\text {3. }} 89$ \& 3. \& 3. 28. \& 2. \& \& 4. 298 \& 2. 48 \& <br>
\hline Sait Lake City, \& 1.95 \& \& \& \& 1.97 \& \& \& 1.30 \& \& \& 1.95 \& \& <br>
\hline San Antonio, Tee \& 2.96 \& $\stackrel{1}{1.4}$ \& \& \& 1.89 \& 3.85

01 \& 3.30 \& 2.80 \& \& \& 2. 21.5 \& + 46 \& <br>
\hline San Fra \& . 81 \& 1. 47 \& .$^{63}$ \& \& 3.17 \& -07 \& - 06 \& T. \& T. \& iT. \& \& 55 \& 66 <br>
\hline Scranta \& ${ }_{3.4}^{1.1}$ \& \& ${ }_{2}{ }^{17}$ \& ${ }_{3}^{2}$ \& 3. 30 \& 3.0 \& 3. \& \& ${ }_{3.33}^{3.37 .}$ \& 2.28 \& \& ${ }_{2} 20$ \& <br>
\hline Scranto \& 3.44 1.97 \& 1.44 \& 2. 1.37 \& \& 3. 30 \& 3. 1.56 \& \& 3. 58 \& 2.08 \& \& \& \& <br>
\hline Sheridan, W \& 268 \& 2. 2 \& 1. 52 \& 3. 10 \& 3. 98 \& 3.04 \& 3. \& 2.83 \& . 81 \& 12 \& 2. 98 \& 3. 04 \& 3. 27 <br>
\hline Shreveport, La \& 4. 55 \& 5. $\begin{aligned} & \text { 5. } 84 \\ & 2\end{aligned}$ \& 3. 31 \& 4. ${ }^{4 .} 59$ \& 1.81 \& ${ }_{2}^{5.78}$ \& 1. ${ }^{1.60}$ \& 1.49

4.19 \& 5.78 \& 5. 53 \& | 3. 68 |
| :--- |
| 4.06 | \& 94 \& 68 <br>

\hline Thomasville, G \& 4. 01 \& 2.12 \& 2.87 \& 1.45 \& 8.75 \& 1. 54 \& 8. 23 \& 1. 38 \& 8. 02 \& 3. 36 \& 4.03 \& 21 \& 6.00 <br>
\hline Trenton, ${ }^{\text {Walla }}$ Nalla, \& 3.52 \& 4.47 \& 3. 00 \& 1.98 \& 4. 33 \& 2. 29 \& 2. 90 \& 4.3 \& 4. 18 \& 2. 66 \& 4. 04 \& 3.03 \& <br>
\hline Walla walla, \& \& 4.84 \& 4.56 \& 1.72 \& 2. 218 \& ${ }_{2.30}^{1.29}$ \& 2. 88 \& 2.35 \& 5. 27 \& 1.42 \& 5. 82 \& 4. 27 \& 1.59 <br>
\hline Winnemucca, Nev \& -1. \& . 52 \& . 45 \& . 48 \& 1. 08 \& . 49 \& 2.4 \& . 77 \& 1.25 \& . 15 \& 1.1 \& 47 \& . 70 <br>
\hline
\end{tabular}

[^357]Table 737.-Precipitation: Narmal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{2}{*}{Station.} \& \multirow[b]{2}{*}{Normal for June.} \& \multicolumn{12}{|c|}{June total precipitation.} <br>
\hline \& \& 1912 \& 1913 \& 1914 \& 1915 \& 1916 \& 1917 \& 1918 \& 1918 \& 1920 \& 1921 \& 1922 \& 1923 <br>
\hline \& In. \& In. \& In. \& $\boldsymbol{I n}$. \& In. \& In. \& In. \& In. \& In. \& In. \& In. \& In. \& In. <br>
\hline \& 2.99 \& 1.90 \& 2.32 \& 0.84 \& 1. 04 \& 2.18 \& 0.83 \& 1. 44 \& 2. 94 \& 2. 56 \& 7.75 \& 3. 77 \& 9. 76 <br>
\hline Atlanta, Ga \& 3.88 \& 11. 21 \& 3.10 \& 2.14 \& 3.82 \& 3.28 \& 1. 75 \& 3. 31 \& 2. 08 \& 3. 47 \& 1.56 \& 41 \& 3. 23 <br>
\hline Birvingham, \& 3.88 \& 6.18 \& 2.75 \& 4.49 \& 4. 80 \& 2.02 \& 3. 44 \& 7. 64 \& 3. 30 \& 3. 63 \& 1.45 \& 3. 82 \& 2. 10 <br>
\hline Bismarcik, N \& 3.54 \& 3.55 \& 2.06 \& 9.90 \& 5.70 \& 1. 50 \& 2.15 \& - 59 \& 63 \& 2. 05 \& 92 \& 3. 24 \& 1. 89 <br>
\hline Boise, lda \& . 88 \& . 86 \& 1. 64 \& . 82 \& . 48 \& 1. 68 \& . 34 \& 58 \& T. \& 1.18 \& 09 \& . 57 \& 2. 05 <br>
\hline Peston, Ma \& 3. 03 \& . 27 \& -64 \& 1.40 \& 1.39 \& 5.04 \& 4.05 \& I. 94 \& 1. 08 \& 5. 78 \& 3. 58 \& 8.05 \& 2. 03 <br>
\hline Brownsville \& 2.37 \& 12.78 \& 4.96 \& . 63 \& T. \& . 17 \& . 71 \& 1. 38 \& 5.08 \& 6. 70 \& 4.59 \& 5. 55
3.38
7. \& 1. 98 <br>
\hline Buffalo, \& 3. 14 \& . 83 \& 1. 69 \& 1.72 \& 1.72 \& 4.04 \& 5. 28 \& 2.81 \& . 54 \& 3. 11 \& 1.52 \& 3. 38 \& 64 <br>
\hline Canton, \& 3. 43 \& 1.57 \& 1.15 \& 2. 29 \& 3.67 \& 2.84 \& 3. 58 \& 3. 57 \& 4. 83 \& 2. 69 \& 1. 66 \& 7. 56 \& 4.49 <br>
\hline Charles \& 5.39 \& 6.89 \& 2.88 \& 4.33 \& 4. 52 \& 9.75 \& 1.92 \& . 27 \& 6.33 \& 2. 45 \& . 61 \& 3. 54 \& 3. 58 <br>
\hline Charlotte, \& 4.46 \& 5.39 \& 4.21 \& 2. 12 \& 5.45 \& 5. 55 \& 4. 70 \& 2.43 \& 2.43 \& 3. 56 \& 1.33 \& 2. 74 \& 2.21 <br>
\hline Cheyenne, \& 1.57 \& 1. 17 \& 1.18 \& . 25 \& 1. 34 \& . 37 \& . 34 \& 1.24 \& . 72 \& . 70 \& 2. 92 \& . 90 \& 2.32 <br>
\hline Chieago, I \& 3.66 \& 1. 78 \& 1. 08 \& 3.53 \& 3.60 \& 7.25 \& 2.87 \& 1.60 \& 3. 16 \& 3. 94 \& 1.57 \& 12 \& 1.79 <br>
\hline Cineinnati \& 3.98 \& 2.16 \& 2. 29 \& 2. 20 \& 4. 47 \& 4.32 \& 2. 96 \& 5.97 \& 2. 44 \& 2. 63 \& 2. 35 \& 1.77 \& 3. 18 <br>
\hline Cleveland, \& 3.68 \& 1. 96 \& 1.33 \& 2.80 \& 2.03 \& I. 98 \& 3.59 \& 1.83 \& 1.24 \& 5. 28 \& 2. 38 \& 2. 66 \& 1. 49 <br>
\hline Cormeordia, Ka \& 4.97 \& 2. 96 \& 2. 76 \& 2. 73 \& 9.33 \& 4.60 \& 3.17 \& 1.85 \& 6. 14 \& . 84 \& 3. 35 \& 2.10 \& 7.32 <br>
\hline Des inomes, Io \& 4. 96 \& 2. 60 \& 3.52 \& 3. 89 \& 3. 60 \& 2. 24 \& 8.16 \& 5. 63 \& 7. 36 \& 1.25 \& 4. 66 \& 1.63 \& 4.95 <br>
\hline Devils Lake, N. Da \& 3. 53 \& 2.85 \& 1.28 \& 5. 84 \& 4. 53 \& 4. 14 \& 1. 69 \& 2. 00 \& 3. 58 \& 4. 69 \& \& 2. \& 46 <br>
\hline Dodge City, Kans \& 3.32 \& 8.55 \& 2.02 \& 3. 82 \& 2. 96 \& 5.16 \& 91 \& . 26 \& 1. 72 \& 2. 08 \& 4. 48 \& 1. 37 \& 2. 96 <br>
\hline Dubuque, Iowa \& 4. 55 \& 1. 93 \& I. 92 \& 5. 81 \& 3.06 \& 4. 61 \& 5. 12 \& 6.15 \& 6.24 \& 5. 24 \& 3. 54 \& 1. 20 \& 3. 66 <br>
\hline Duluth, Minn \& 4.53 \& 1.32 \& 2.03 \& 6. 28 \& 4.96 \& 5. 81 \& 1.93 \& . 84 \& 3.77 \& 5. 66 \& 4. 38 \& 3.97 \& 3.89 <br>
\hline E1 Paso, Tex \& 55 \& 1.27 \& 91 \& 1.47 \& T. \& \& . 36 \& 83 \& 27 \& . 99 \& 79 \& . 05 \& . 09 <br>
\hline Eureka, Calif \& 1. 06 \& 1.29 \& 1. 60 \& 1. 73 \& . 05 \& 1. 00 \& . 00 \& . 02 \& . 14 \& 1.92 \& 1. 30 \& 14 \& 7 <br>
\hline Evansvile, Ind \& 4. 17 \& 3.36 \& I. 55 \& 3.9\% \& 3. 69 \& 4.58 \& 4.20 \& 2. 05 \& 6.75 \& 3.77 \& 2. 44 \& 2. 65 \& 5. 09 <br>
\hline Fort Worth, Te \& 2.97 \& 4. 26 \& 3.03 \& 2. 97 \& 6.88 \& 3. 30 \& 1. 97 \& 5.16 \& 3.72 \& 2.33 \& 2.63 \& 1.76 \& 6. 74 <br>
\hline Fresno, Calif \& 10 \& T. \& . 10 \& . 23 \& \& \& \& ${ }^{-01}$ \& \& \& 4.07 \& \& <br>
\hline Gralveston, Tex \& 4. 75 \& 4. 08 \& 2. 51 \& . 12 \& - 86 \& 3. \& 3.44 \& 2. 79 \& \& \& 4. 97 \& 8. 96 \& <br>
\hline Grand Rapids, \& 2. 52 \& I. 02 \& 1.50 \& 6.13 \& 1.86 \& 6. 56 \& 3. 44 \& 1.17 \& 1.84 \& 4.09
3.12 \& 3.
2. 88
2. \& 8.16
10.09 \& 1. 77 <br>
\hline Qreenville, M \& 3.69 \& 1. 91 \& 1. 82 \& 3. 34 \& 2. 00 \& 3.99 \& 8. 69 \& 3. 38 \& 2.25 \& 3.12 \& 2. 88 \& 10.00 \& 3. 88 <br>
\hline Eavre, Mont \& 2.82 \& 1. 52 \& 1. 48 \& 4. 07 \& 3. 35 \& 4.03 \& 1.43 \& 1.45 \& 1.68 \& 3. 09 \& 2. 00 \& 82 \& 5. 89 <br>
\hline Indianapolis, \& 4. 31 \& 2.02 \& 2.35 \& 3. 65 \& 2. 91 \& 5. 92 \& 5. 24 \& 3.11 \& 3. 33 \& 3.78 \& 3. 22 \& . 99 \& 2. 30 <br>
\hline Tola, Kans \& 4. 73 \& 5. 98 \& 4.26 \& 3.94 \& 8.56 \& 8. 58 \& 94 \& 2. 54 \& 4. \& 3. 59 \& 8.41 \& 5.63 \& 5. 35 <br>
\hline Jacksonville \& 5. 53 \& 9. 62 \& 4. 55 \& 1.32 \& 1. 55 \& 6. 45 \& 3. 03 \& 3. 32 \& 13.79 \& 8.27 \& 2. 71 \& . 84 \& 49 <br>
\hline Kalispell, Mon \& 1. 74 \& 2.59 \& 3. 21 \& 2. 51 \& 2. 09 \& 3.91 \& 2. 76 \& - 58 \& +. 55 \& -95 \& 1. 22 \& + $\times 24$ \& 1.49 <br>
\hline Little Roels, Arl \& 4.09 \& 3.84 \& 2. 05 \& . 01 \& 3. 72 \& 3. 00 \& 3.82 \& 6. 77 \& 2.75 \& 4.27 \& 4.67 \& 2.21 \& 1.80 <br>
\hline Los Angelos, Cit \& 07 \& \& . 58 \& -09 \& 16 \& \& \& ${ }_{2} .08$ \& \& \& 1.85 \& 3.37 \& . 02 <br>
\hline Lyirchburg, V \& 3. 89 \& 2. 35 \& 2. 88 \& 2.21 \& 4.16 \& 6.28 \& 5.17 \& 2. 1.81 \& \& \& 1.85 \& 3.37
3.17 \& 2. 05 <br>
\hline Madisen, Wis \& 4. 10 \& 1. 13 \& 3. 73 \& 3. 46 \& 175 \& 4. 52 \& 6.47

2 \& 1. 8.51 \& 3. 36 \& 5.62
2.80 \& 3. 1.52 \& 3.17 \& 10 <br>
\hline Marquette, \& 3.51 \& 2.45 \& 2. 76 \& 4. 21 \& 5.13 \& 7.26
3.19 \& 2. 48 \& 2. 51 \& 2. 01 \& 2.80
1.83 \& 1.52 \& 3. 31 \& 3.10
5.04 <br>
\hline Memphis, \& 4.37 \& 4.34 \& .97
4.07 \& - 212 \& 1.72
12.53 \& 3. 19 \& 2. 61 \& 3.85
6.17 \& 7. 26 \& 1.83
3.90 \& 2. 1.14 \& 4. 50 \& 5.
5.94
5.94 <br>
\hline Miami, Fla \& 7. 89 \& 14.63 \& 4. 07 \& 2. 578 \& 12.53 \& 6. 36
5.42 \& 6. 71 \& 3.17
2.92 \& 7.26
2.12 \& 3.90
6.64 \& 1.14 \& 4.
2.03
2.03 \& 5.94
5.97 <br>
\hline Mobile, Ala \& 5. 95 \& 4.63 \& 3. 88 \& 5.78 \& 7.41 \& 5. 42 \& 2. 23 \& 2.92 \& 2. 12 \& $\begin{array}{r}6.64 \\ .59 \\ \hline\end{array}$ \& 3. 97
.01 \& 2.03
.23 \& 5. 97 <br>
\hline Modena, Uta \& . 40 \& 06 \& 44 \& 1. 50 \& . 85 \& ¢ \& \& - 70 \& - 36 \& 3. 81 \& 2. 29 \& 5. 37 \& 42 <br>
\hline Nashville, Te \& 4.37 \& 5. 66 \& . 30 \& 2. 95 \& 1. 42 \& 4. 62 \& 8. 03 \& 2. 70 \& 3.96 \& 3. 81 \& 2. 29 \& 6. 37 \& 38 <br>
\hline New Orleans, \& 6.16 \& 4.11 \& 5. 58 \& 3.51 \& 5. 61 \& 9. 70 \& 2. 77 \& 2. 45 \& 4. 50 \& 8. 45 \& ${ }^{9.44}$ \& 6. 45 \& 1.38 <br>
\hline Norfolk, Vet. \& 4.33 \& 4. 63 \& 5. 70 \& 3. 20 \& 6. 52 \& 1. 98 \& 4. 65 \& 3. 25 \& 3. 48 \& 5. 05 \& 1. 05 \& 9.78 \& 1. 13 <br>
\hline North Platte, Nebr \& 3. 25 \& . 57 \& 2.13 \& 4. 63 \& 3.39 \& 3. 09 \& 2. 38 \& 2. 18 \& 4.15 \& 2. 35 \& 1.30 \& . 87 \& 15 <br>
\hline Oktahoma City, Okla \& 3.07 \& 生. 75 \& 3. 82 \& . 02 \& 7. 23 \& 6. 16 \& 1. 83 \& 3. 09 \& 4.87 \& 2. 08 \& 3. 80 \& . 30 \& . 62 <br>
\hline Omaha, Aebr \& 5. 05 \& 3.09 \& 2. 28 \& 7.01 \& 2.83 \& 2.58 \& 6. 19 \& 1. 80 \& 4. 44 \& 2. 62 \& 3. 57 \& 2.68 \& 6.09 <br>
\hline Parkersburg, W.Va. \& 4.65 \& 8. 48 \& 2. 96 \& 2.16 \& 484 \& 3. 30 \& 3. 17 \& 3.39 \& 2.80 \& 5. 20 \& 3. 63 \& 5. 06 \& 5.42 <br>
\hline Peoria, Ill \& 4. 30 \& 1.86 \& 2. 50 \& 2. 45 \& 2.18 \& 2. 55 \& 7.43 \& 4. 69 \& 3. 96 \& 2. 18 \& 2. 17 \& 98 \& 2.00 <br>
\hline Phoenix, Äriz \& . 12 \& 1.81 \& 2. 5 \& . 05 \& - 48 \& \& \& . 08 \& 255 \& \& . 04 \& T. \& <br>
\hline Picrre, S. Dak \& 3. 08 \& - \& . 32 \& 5. 72 \& 4. 12 \& 2. 33 \& - \& 1. 59 \& 2. 55 \& \& \& 4. 60 \& 28 <br>
\hline Pittsourgh, $\mathbf{P a}$ \& 3.89 \& 5. 67 \& 1. 04 \& 3. 31 \& 5. 36 \& 3.82 \& 3. 65 \& 2. 40 \& 3. 58 \& 6. 74 \& 5. 33 \& 3. 12 \& 19 <br>
\hline Portland, Ore \& 1. 78 \& 3. 03 \& 4.24 \& 1. 52 \& 1.47 \& 1.83 \& 1. 17 \& ${ }^{.} 12$ \& .91
+39 \& 2. 11 \& 1. 36 \& - 14 \& 19 <br>
\hline Pueblo, Colo \& 1. 47 \& 2. 24 \& . 66 \& 1. 90 \& 1. 26 \& 1. 22 \& . 58 \& 1. 02 \& 1. 39 \& . 47 \& 7.14 \& . 53 \& . 91 <br>
\hline Roseburg, Oreg \& 1. 07 \& 3.07 \& 3. 27 \& 1. 76 \& 71 \& . 91 \& . 26 \& 33 \& . 98 \& . 96 \& 76 \& 1.01 \& 1.22 <br>
\hline Sacramento \& .15 \& $\square^{-18}$ \& . 11 \& . 60 \& \& - 07 \& \& \& \& \& ${ }^{-}$ \& \& 89 <br>
\hline St. Louis, Mo \& 4. 47 \& 6.93 \& 1. 55 \& . 10 \& 9.77 \& 3. 97 \& - 72 \& 1. 47 \& 5. 30 \& 1. 53 \& 2. 31 \& $\stackrel{80}{ }$ \& 4.38 <br>
\hline gt. Paul, Min \& 4.41 \& 1.10 \& 3. 05 \& 6. 49 \& 3. 58 \& 3. 79 \& 3. 79 \& 2.81 \& 4.40 \& 7. 76 \& 4. 70 \& 4. 61 \& 4.28 <br>
\hline Salt Lake City, Utah \& . 77 \& . 90 \& 3.37 \& 2.68 \& 1. 44 \& . 66 \& . 19 \& ${ }^{\cdot} 20$ \& 7. \& ${ }^{-15}$ \& - 08 \& +.83 \& 1.38 <br>
\hline San Antenio, Tex...- \& 3.11 \& 3.22 \& 2.90 \& . 01 \& . 03 \& 49 \& . 02 \& 3.35 \& 7.01 \& 2.83 \& 4. 59 \& 3. 92 \& . 79 <br>
\hline San Dieso, Calif \& . 03 \& 16 \& . 09 \& T. \& T. \& \& T. \& . 06 \& - ${ }_{\text {T }}$ \& . 02 \& \& 8 \& 0 <br>
\hline San Francisco \& +17 \& ${ }^{-81}$ \& - 02 \& 1.72 \& \& . 38 \& \& \& \& \& 2.85 \& . 74 \& 24 <br>
\hline Santa Fe, N. \& 1. 04 \& 2.21 \& 4. 26 \& 1. 72 \& . 16 \& 4.38 \& .06
4.48 \& .68
2.60 \& 1.50
4.46 \& 2. 04 \& 2.85 \& .74
7.08 \& 3. 05 <br>
\hline Scranton, P \& 3. 57 \& 1.67 \& 1.34 \& 3.05
1.75 \& 3.27
.40 \&  \& 4. 48 \& 2. 00 \& 4.46
.35 \& 5.

1. 93 \& I. 29
I. 29 \& 7.08
.03 \& 1. 01 <br>
\hline Seattle, W as \& 1. 49 \& 2.76
1.12 \& 1.71
3.90 \& 1.75
1.65 \& 4.70
4 \& 1.82 \& 3. 70
2. 02 \& .50
1.27 \& . 54 \& 1. 1.88 \& 1. 94 \& 2. 21 \& 2. 11 <br>
\hline gheridan, W \& 1. 90
3.58 \& 1.12
3.79 \& 3. 90
3. 23 \& 1.65
2.29 \& 4. 71 \& 2. 23 \& 1.02
.49 \& 1. 273 \& 5. 53 \& 5. 23 \& 3.34 \& 3.77 \& 2. 48 <br>
\hline Greveport, \& 3. 58
5.19 \& 1.12

5.74 \& | 3. 23 |
| :--- |
| 2.71 | \& 1.29

1.48 \& 5. 81 \& 3.08
5.00 \& 2. 69 \& 3. 61 \& 4. 00 \& 1. 43 \& 9. 68 \& . 66 \& 6. 10 <br>
\hline Thomas.ville \& 4. 72 \& 6.61 \& 7.90 \& 2. 62 \& 4. 15 \& 3. 55 \& 2. 59 \& 6.74 \& 6. 38 \& 3. 22 \& 3.51 \& 5. 36 \& 10.71 <br>
\hline Trenton, N.J \& 3.49 \& 2.30 \& . 68 \& 1. 74 \& 2. 07 \& 2. 94 \& 3. 15 \& 3. 78 \& 1. 39 \& 6.63 \& 4.83 \& 4.98 \& 1. 47 <br>
\hline Walla Walla, Wash- \& 1. 19 \& 1. 73 \& 2. 11 \& 1. 12 \& . 40 \& 1. 77 \& . 57 \& . 10 \& . 04 \& 1. 83 \& . 67 \& . 51 \& 2.89 <br>
\hline Washington, D. C--- \& 4. 18 \& 4.36 \& 1. 81 \& b. 20 \& 6.58 \& 7.53 \& 6. 25 \& 206 \& 3. 44 \& 4.80 \& 3. 45 \& 4. 10 \& 2.89 <br>
\hline Winnemucca, Nev.. \& . 64 \& 1. 14 \& 2. 14 \& 2. 17 \& . 05 \& -.-. \& . 35 \& 1.33 \& \& . 51 \& 82 \& . 25 \& 2. 59 <br>
\hline
\end{tabular}

[^358]$T=$ Trace, indicates an amount too small to measure.

Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923—Contipued.

| Station. | $\begin{gathered} \text { Nor- } \\ \text { mal } \\ \text { for } \\ \text { July. } \end{gathered}$ | July total precipitation. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | In. | In | 1 In. | In. | n. | $I n .$ |  | $I n,$ | In. | In. | In. | $1 n$. |  |
| Amarilo, |  |  |  |  | 4. 14 | C. 94 |  |  |  | 1. 85 | 4. 17 | 1.94 | 85 |
| Birmingham, Ala | 4.70 | 5. 65 | 4.72 | 3.91 | 5. 72 | 20.12 | 3. 71 | 3. 34 | 5. 53 | 4. 63 | 5. 79 | 5. 23 | 6. 42 |
| Sismarck, N. Dak | 2. 14 | 3. 18 | 2.72 | 204 | 4.02 | 4.03 | 1. 50 | 2.09 | $\dot{\mathrm{T}}^{76}$ | 2.72 | 2.18 | 2.37 | 4. 77 |
| $\mathrm{PR}^{\text {Paise, Idaho }}$ | . 18 | 1. 27 | 2. 01 | 1.04 | . 63 | . 81 | T. | . 11 | T. | 05 | T. | . 19 | 68 |
| Braston, Mass | 3. 36 | 5. 16 | 269 | 264 | 8.85 | 5. 67 | 1. 10 | 2.64 | ${ }^{4} 63$ | 1. 56 | 11. 69 | 2.63 | 3. 36 |
| Prownsstile, | 1. 88 | . 13 | ${ }^{28}$ | T. | - 15 | 4. 52 | 4. 52 | 1.34 | 6. 79 | 218 | 2.81 | 1. 92 | 58 |
| Canton, | 3.23 | 1.82 | $\underline{1.13}$ | 1.38 | 5. 37 | 2. 1.04 | 4. 42 | 1.37 | 1.33 3.10 | 4. 48 | 1. 20 | ${ }_{1}{ }_{86}$ | 1.71 |
| Charleston, | 7.26 | 3.05 | 5. 51 | 7. 14 | 2. 98 | 11.61 | 9.95 | 7.69 | 8.53 | 4.69 | 16. 61 | 8.02 | 7. 23 |
| Charlotte, N | 5.49 | 3. 56 | 4.42 | 4.83 | 3. 08 | 16. 55 | 5.85 | 1. 90 | 7. 40 | 4.11 | 5. 5.5 | 5. 19 | 5. 89 |
| Cheyenne, W | 1. 99 | 1.82 | 1.42 | 1.30 | 1.71 | 1.81 | 1.62 | 3.90 | 2.83 | 2.12 | 1.37 | 2.01 | 3. 23 |
| Chicago, Ill | 3. 64 | 3. 86 | 3. 30 | 2.11 | 5. 57 | 2.22 | 2.68 | 2. 66 | 1. 59 | 1.61 | 1.87 | 4.00 | 2. 67 |
| Cincinnati, O | 3. 54 | 5.11 | 2. 37 | 3.00 | 4. 93 | 1. 79 | 404 | 3. 05 | 2. 08 | 3. 19 | 4. 28 | 2,45 | 2. 51 |
| Cleveland, Ohio | 3. 55 | 8. 13 | 4.85 | 1.00 | 4.73 | 2.48 | 3. 60 | 1.08 | 2.46 | 3. 32 | 3. 52 | 3.98 | 2.09 |
| Cancordia, Kans | 3. 62 | 1.33 | 15 | 1.13 | 5. 10 | . 82 | . 60 | 1.77 | 03 | 4. 90 | 5. 24 | 5.82 | 4.48 |
| mesMoines, Lowa | 3. 86 | 3.07 | 1.05 | 1.22 | 9.39 | 1. 50 | 1. 58 | 1. 18 | 2.68 | 5. 66 | 2.49 | 7.13 | 78 |
| Dexils Lake, N. Dak | 3. 78 | 7.44 | 1.47 | 1.63 | 1.00 | 3. 70 | 1.60 | 281 | 1. 76 | 2. 51 | 4. 49 | 87 | 2.07 |
| Dodge City, Kans. | 3. 38 | 88 | 70 | 36 | 3.92 | 09 | 276 | 2. 25 | 1.83 | 3. 79 | 2.91 | 2.86 | 1.95 |
| Dubuque, Iowa | 4. 30 | 4. 81 | 2. 31 | 1.57 | ${ }^{5} 08$ | . 85 | 2. 10 | 3.77 | 7.82 | 1. 11 | 2.48 | 6.01 | 1. 67 |
| Duluth, Minn | 3. 65 | 224 | 6. 18 | 2.99 | 1. 60 | 1. 19 | 4.29 | 1.23 | 2.62 | 4.82 | 5. 41 | 2.30 | 5. 40 |
| Ex Paso, Tex | 2. 13 | 1.11 | 1. 13. | 4. 91 | 2.45 | - 59 | . 41 | 1.52 | 1.87 | 84 | 2.13 | 1. 08 | 20 |
| Eureka, Calif | 3. 81 | 5. 30 | 1.38 | $\underline{1.41}$ | $\stackrel{.}{26}$ | 1. 46 | 2.26 | 1. 45 | 1. 32 | 2.86 | -2.45 | 6.39 | .08 1.00 |
| Fort Worth, 7 | 3. 04 | . 27 | 4. 36 | 73 | 30 | 1. 38 | 2.65 | 1.10 | 5. 25 | 3.49 | 1.14 | 1.35 | 99 |
| Fresno, Calif |  | T. | 33 | T. |  | T. | T. | T. |  |  |  | T. |  |
| Galvesion, Tex | 3. 98 | . 16 | 1.48 | 1.29 | 2.45 | 4.64 | . 46 | 2.24 | 3.73 | 3. 21 | 5. 77 | 1. 60 | 5. 80 |
| Grand Rapids, | 2. 63 | 7.47 | 1.96 | 1. 18 | 4.00 | 1.07 | 6. 91 | 1.17 | 66 | 3. 60 | 2. 38 | 4.05 |  |
| Greenville, Me | 4.24 | 3.45 | 5. 01 | 2.62 | 8.98 | 5.60 | 6. 97 | 8.25 | 5. 82 | 4. 46 | 5.06 | 3. 54 | 4. 34 |
| Havre, Mont | 1.92 | . 97 | 1.28 | 41 | 3.17 | 5. 90 | 45 | 75 | . 12 | 1. 51 | 2.51 | 2.76 | 4. 33 |
| Indianopolis, | 4. 13 | 6.75 | 3. 88 | . 49 | 7.94 | 2. 44 | 3. 20 | 2. 44 | . 97 | 4. 51 | 1.42 | 2. 67 | 243 |
| Iola, Kans | 3. 92 | 1.49 | 2. 30 | 3. 75 | 6. 07 | F. | 4. 22 | 2.48 | 221 | 4. 13 | 4.03 | 3.99 | 2. 64 |
| Jacksonville, F | 6. 20 | 6.74 | 6. 28 | 5.13 | 9. 36 | 3. 93 | 10.36 | 3.35 | 6. 32 | 5. 47 | 9. 76 | 3.91 | 5. 14 |
| Kalispell, Mon | 84 | 1. 56 | . 38 | 69 | 2.74 | 1. 76 | . 09 | 1.47 | . 88 | . 98 | 62 | . 81 | 1.60 |
| Little Rack, A | 99 | 1. 93 | 3. 74 | 3. 71 | . 96 | 44 | 4. 54 | . 94 | 2.36 | 3.06 | T 4 | $2{ }^{2} 8$ | 7. 8 T |
| as Angeles, | 4. 03 | 3.64 | 1.53 | 4.53 | 3. 05 | 9.76 | 297 | 3. 75 | $5{ }^{5}{ }^{2} 1^{-1}$ | 4. 82 | 3. 56 | 2. 25 | 2. 5.8 |
| Madison, Wi | 3. 99 | 5. 63 | 8.47 | 1. 49 | 5. 04 | 2.66 | 3. 10 | 2.33 | 3.96 | 1.39 | 2.46 | 6.09 | 228 |
| Marquette, Mi | 3. 10 | 3. 42 | 3. 71 | 3.45 | 1.78 | 1.74 | 1. 99 | 2.50 | 2.47 | 4. 62 | 4. 38 | 3. 49 | 4.11 |
| Mamphis, Te⿴囗 | 3.51 | 3. 27 | 5. 91 | 58 | 1.16 | 1. 74 | 5. 96 | 2.27 | 1. 94 | 3. 55 | 3. 19 | 3.71 | 3.65 |
| Miami, Fla | 7.24 | 5.99 | 298 | 4. 52 | 6. 54 | 2.49 | 2.48 | 4.01 | 5. 90 | 6. 61 | 3. 09 | 8,16 | 5. 20 |
| Mobile, Ala. | 7.04 | 6.79 | 4.41 | 5.17 | 5.82 | 20. 50 | 10. 54 | 2.85 | 6. 94 | 7.04 | 4. 89 | 9. 57 | 4.98 |
| Modena, Utab | 1. 26 | 1. 28 | - 81 | 1. 50 | 1. 41 | 4. 72 | 1. 03 | ${ }^{93}$ | 1. 37 | 1.82 | 250 | 1. 22 | . 81 |
| Nashville, Tenn | 4.35 | 5. 37 | 4. 09 | 2. 58 | 2.03 | 4. 17 | 3. 25 | 3. 63 | 1. 83 | 3. 00 | 4.56 | 6.15 | 213 |
| New Orleans, | 6. 47 | 7.38 | 5. 37 | 9.18 | 7. 55 | 6. 78 | 8. 35 | 2. 03 | 7.62 | 6. 20 | 7. 90 | 4.05 | 8. 72 |
| Norfolk, Va | 5. 80 | 1.86 | 10. 24 | 3.91 | 5. 72 | 3. 05 | 11.73 | 3. 66 | 7. 21 | 4.33 | 3. 27 | 11. 92 | 4. 14 |
| North Platte, Nebr | 268 | 4.01 | 3. 37 | . 58 | 4. 66 | . 59 | 1.13 | 1.88 | 4.98 | 1.62 | . 80 | 4.91 | 3. 63 |
| Okkahoma City, Okla | 3. 65 | 232 | 5. 06 | 62 | 1.19 | 2. 87 | 2.96 | 13 | 53 | 4.02 | 4. 43 | 2.31 | 15 |
| Onanha, Nebr- | 4. 33 | 1. 78 | 1.92 | 1. 09 | 7.75 | 45 | . 78 | 1.76 | ${ }^{6} 83$ | 3.91 | 4.99 | 5. 60 | . 86 |
| Parkersiburg, W | 4. 66 | 8.07 | 4. 64 | 2.13 | 4.21 | 4.92 | 6.17 | 1.28 | 3. 30 | 4. 56 | 2.80 | 3.65 | 5. 52 |
| Pearia, 71 | 2.97 | 5. 04 | . 46 | . 82 | 6.91. | 1. 14 |  |  |  | 1.56 .85 | 35 | 3.06 .74 |  |
| Phoenix, Ariz | 1.07 | 1. 29 | ${ }^{-94}$ | .21 +53 | 1.12 | ${ }^{2} .77$ | 3.97 | 1.02 | 1.05 | 2. 81 | + 4.92 | 2.84 | - ${ }^{\text {2 }} 67$ |
|  | 2.35 4.42 | 3. 61 | 2.12 | 1. 28 | 6. ${ }^{6} 112$ | 3. 38 | 2. 33 | 2.28 | C. 20 | 3. 29 | 2. 81 | 2.80 | 6.74 |
| Prittsburgh, | $\begin{array}{r}4.42 \\ .54 \\ \hline\end{array}$ | 6.61 .48 | 4.86 .24 | $\stackrel{1}{2.89}$ | 1.52 | 2. 55 | ${ }^{2} .01$ | 1.08 | - 23 | 1.18 | ${ }^{2}$ T. | T | 217 |
| Pueblo, Colo | 1. 97 | 2. 50 | 3.12 | 3.92 | 1.91 | . 83 | 1.32 | . 93 | 2. 25 | 1.62 | 5. 26 | 29 | 4. 05 |
| Roseburg, Orag | . 32 | 20 | , | . 01 | 64 | 2.22 | 1 | . 57 | 06 | 42 |  |  | 59 |
| Sacramento, C |  | T. | T. |  | T. | 07 |  |  |  |  |  | . |  |
| 6t. Louis, Mo | 3. 43 | 5. 29 | 3.61 | 1. 52 | 6. 02 | 1.20 | 3. 17 | . 60 | 1. 50 | . 73 | 2.05 | 2.42 | 1.88 |
| Gt. Paul, Minn | 3.40 | 4.02 | G. 11 | . 95 | 4. 53 | . 75 | 4. 12 | 3. 05 | 7. 47 | 1. 35 | 2.39 | 2.32 | 2.52. |
| Salt Lake City, Utah | 54 | 1. 51 | . 55 | 1.20 | . 07 | ${ }^{6} 6$ | . 68 | . 76 | - 8 | . 51 | . 38 | . 65 | 2. 28 |
| Say Antonia, Tex | 222 | 1. 27 | . 03 | 02 | . 92 | 4. 53 | 219 | 1.68 | ${ }^{7.88}$ | . 39 | - 48 | . 10 | 2.64 |
| San Diego, Calif |  | 14 | 06 |  | T. | . 02 | T. | T. | T. | T. | T. | . 01 | . 01 |
| San Francisco, Calif. | 01 | T. | . 07 | . 02 | . 01 | ${ }^{-7}$ | 45 | T. | ${ }^{0} 01$ |  |  |  |  |
| Santa Fe, N. Mex. | 2.71 | 1.49 |  |  |  |  |  |  |  | 1.42 | 3.87 4.90 | 1.75 4.48 | 4.72 |
| Scranton, Pa | 3.83 | 21.11 | $\begin{array}{r}4.97 \\ .73 \\ \hline\end{array}$ | 6.71 .01 | 2. 80 | 2. 29 | 2.27 .09 | 2.59 1.88 | 4. ${ }^{21}$ | 5. 42 1.00 | ${ }^{4 .} 18$ | 4.48 | - 48 |
| Sheridan, Wy: | 1. 64 | 4.42 | 1. 70 | . 13 | 1.44 | . 83 | . 17 | 1.78 | 37 | 1.51 | . 56 | 2.11 | 6.37 |
| Shreveport, | 3. 72 | 3.73 | 70 | 84 | 2.44 | 3. 09 | 9. 30 | T | 70 | 4.02 | 4. 29 | 4.49 | 3.40 |
| springtield, Mo | 4.79 | 1.40 | 3. 84 | 3. 35 | 1.82 | . 74 | 4. 15 | 1.11 | 1.96 | 242 | ${ }^{6} 70$ | 6.15 | 267 |
| Themasvilic, C | 5. 32 | 5. 34 | 4. 78 | C. 20 | 4.68 | 18.32 | 9. 11 | 2.46 | 9.81 | ${ }^{3} 38$ | 6.71 | ${ }_{2} \mathbf{3} 64$ | 10.59 |
| Wranton, N. J-Wash | 4.77 .39 | 3.21 .59 | 1. 50 | 4.75 | 7. 20 .65 | 5.94 .72 | 4. T . | $\begin{array}{r}4.97 \\ .98 \\ \hline\end{array}$ | 10.41 | $\begin{array}{r}2.16 \\ .13 \\ \hline\end{array}$ | 2.38 | ${ }_{2}^{2.04}$ | - 3.73 |
| W ashington, D. C.- | 4. 65 | 7. 21 | 3. 24 | 2.32 | 3. 21 | 4. 97 | 9. 41 | 3. 79 | 6. 80 | 5. 71 | 4. 79 | 8. 59 | 4.92 |
| Winnemucca, Nev -- | . 17 | . 52 | 1.55 | . 19 | . 05 | . 01 | . 06 | . 27 | T | T. | T. | . 36 | . 24 |

[^359]$T=$ Trace, indicates an amount too small tomeasme.

Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.

| Station. | Normal for Aug. | August total precipitation. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | In. | In | In. | In. | $I_{n}$. | In. | In. | In. | In. | In. | In. | In. | $1 n$ |
| Amarillo, ${ }^{\text {T }}$ | 2.81 | 2. 28 | 0. 61 | 2. 97 | 5. 85 | 3.82 | 6. 17 | 2.36 | 3. 21 | 5. 52 | 5. 77 | 0.78 | 1. 54 |
| Atlanta, Ga - | 4. 48 | 3. 70 | 2. 53 | 5. 04 | 4. 92 | 3. 61 | 5. 61 | 4.20 | 3. 80 | 10.02 | 8. 03 | 2. 72 | 4. 17 |
| Birmingham, Ala | 4.48 | 5. 60 | 1.01 | 6. 38 | 4. 40 | 3. 51 | 8. 98 | 98 | 5. 33 | 9.09 | 3.97 | 2. 95 | 6. 90 |
| Bismarck, N. Dak | 1.98 | 2. 33 | . 77 | 2. 02 | 3.44 | 1.97 | 1.37 | 2.62 | 1.46 | 59 | 18 | . 22 | . 63 |
| Boise, Idaho | . 16 | . 07 | . 03 | . 04 | ${ }_{5} \mathrm{~T}_{6}$. | ${ }^{4} 45$ | T. | -48 | ${ }_{5} \mathrm{~T}$. | ${ }_{2}{ }_{32}^{33}$ | - 34 | 1. 13 | . 20 |
| Boston, Mas | 4.03 2.59 | 1.94 .12 | 2.86 1.04 | 3.20 .68 | 5. 63 2.58 | 2.19 | 7.06 .29 | 1.56 .40 | 5.07 .25 | 2.32 .00 | 1.63 .14 | 4.75 | 1.86 |
| Buffalo, N | 2.99 | 4.00 | 3. 26 | 4.95 | 6. 19 | 1. 46 | 1.86 | 3. 02 | 3.04 | 1.77 | 1.80 | 4. 62 | 1. 26 |
| Canton, N. Y | 2.69 | 4.44 | 2.91 | 4. 23 | 5. 66 | 1. 84 | 4.50 | 3.18 | 2. 60 | 1.94 | 3.91 | 4. 25 | 2. 36 |
| Charleston, | 6. 97 | 2.77 | 3. 50 | 4. 43 | 5. 40 | 3. 10 | 5. 06 | 2.87 | 5. 70 | 7.02 | 5. 70 | 5. 18 | 12. 29 |
| Charlotte, | 5. 55 | 1.87 | 4.48 | 2. 25 | 4. 59 | 2. 70 | 4.84 | 2.18 | 3.94 | 8.91 | 2. 78 | 2.74 | 2. 93 |
| Cheyenae | 1. 17 | 1. 44 | 1.43 | 1. 67 | 3. 98 | 1. 26 | 1.75 | 1. 68 | 43 | 1.32 | 61 | 2. 16 | 2. 06 |
| Chicago, Ill | 2.88 | 3. 59 | 4.06 | 3. 76 | 4. 33 | 1. 05 | 1.24 | 1. 27 | 1. 10 | 3. 16 | 4.92 | 1. 45 | 7.76 |
| Cincinnati, Oh | 3.33 | 5.00 | 1.27 | 4. 28 | 4.13 | 3. 57 | 1.70 | 4. 53 | 92 | 6. 10 | 6.02 | 5. 60 | 3.72 |
| Cleveland, Ohio | 3.15 | 4.54 | 2. 26 | 3.93 | 1. 47 | 1. 36 | 4.65 | 2. 47 | 7.19 | 2.33 | 3.32 | 1. 20 | 3. 97 |
| Concordia, Kans | 2.81 | 5. 18 | . 30 | 2.11 | 1.99 | 1.21 | 2.63 | 3.10 | 1. 00 | 5.15 | 1.93 | 88 | 2.75 |
| Des Moines, Iowa | 3. 61 | 3.52 | 3.44 | 1.77 | 1.71 | 2.62 | 1.82 | 2. 54 | 2. 19 | 2.11 | 6. 63 | 6. 63 | 5. 34 |
| Devils Lake, N. Dak | 2.76 | 2. 99 | 3. 93 | 2. 06 | . 90 | 3. 16 | 1.12 | 2. 25 | 2. 28 | 2. 21 | 5. 63 | 1.72 | 2. 25 |
| Dodge City, Kans | 2. 59 | 5. 80 | 72 | 1. 23 | 6. 16 | 2. 25 | 4. 46 | . 84 | 1. 23 | 2.43 | 2.65 | 3.19 | 1.46 |
| Dubuque, Iowa | 3. 04 | 6. 79 | 3.60 | 4.01 | 2.84 | 1.49 | 2.11 | 6. 09 | 1. 58 | 3. 44 | 4. 29 | 1.99 | 4.77 |
| Duluth, Minn. | 3. 53 | 3. 25 | 1.26 | 4. 20 | 1. 56 | 3. 37 | 2. 04 | 2. 32 | 2. 99 | 1. 44 | 2.84 | 2.01 | 1.76 |
| El Paso, Tex | 1. 72 | 2. 83 | 54 | 1.85 | 1. 37 | 3. 07 | 4.39 | 1. 66 | . 72 | 1.33 | 35 | . 27 | 2.96 |
| Eureka, Calit. | 10 | 08 | 03 |  |  | 12 | . 02 | 21 | 01 | 49 | 01 | 03 | 02 |
| Evansville, Ind | 3. 24 | 4.00 | 1.74 | 3.59 | 7.83 | 4.31 | 1.92 | 3.03 | 2. 49 | 6.31 | 5. 26 | 3.08 | 3.09 |
| Fort Worth, ${ }^{\text {P }}$ | 1.87 | 6. 56 | T | 9.02 | 10.33 | 3. 84 | 1.92 | 29 | 5.00 | 4.22 | 95 | ${ }^{5} 5$ | 1.68 |
| Galveston, Te | 5.01 | 1.59 | 3.88 | 8.17 | 19.08 | 4.14 | 2.71 | 3.04 | 2.17 | 2. 65 | 1.42 | 2.53 | 4.61 |
| Grand Rapids, | 2. 59 | 3.16 | . 97 | 3. 49 | 287 | 4.41 | 0.46 | . 84 | 1. 67 | . 76 | 6. 15 | 2.96 | 2.07 |
| Greenville, Me | 3.80 | 5.38 | 2.80 | 2. 90 | 6. 13 | 2. 95 | 4.98 | 1.42 | 3. 77 | 4.61 | 5. 56 | 3.41 | 2.85 |
| Havre, Mont | 1. 26 | 2. 24 | 74 | 2. 43 | 94 | 34 | 43 | 2.61 | 76 | . 81 | 27 | 1.70 | 1. 47 |
| Indianapolis, I | 3.33 | 3.12 | 4.98 | 5. 58 | 5. 25 | 2. 47 | 1.48 | 2.24 | 3. 43 | 1.85. | 7.26 | 2.45 | 4. 83 |
| Iola, Kans | 3. 47 | 3.78 | 15 | 2.74 | 5.05 | 2.43 | 3.91 | 1. 50 | 2.22 | 7.55 | 5. 79 | 3. 65 | 3.39 |
| Jacksonville, $\mathbf{F l}$ | 6. 21 | 5.32 | 3.32 | 8. 47 | 4.08 | 6. 76 | 6. 65 | 3. 12 | 6. 96 | 7.46 | 7.70 | 7.71 | 4.67 |
| Kalispell, Mont | . 89 | 1.03 | . 61 | 1. 31 | . 22 | 1. 96 | 32 | . 96 | 1.06 | 2.61 | 56 | . 76 | 96 |
| Little Rock, Ar | 3.65 | 4.98 | 2. 40 | 4.77 | 10.33 | 3.59 | 4.38 | 1. 42 | 3.45 | 3.33 | 7.08 | 83 | 2.55 |
| Los Angeles, C | 4.25 | 1.28 | 2. 40 | 2. 60 | 5. 45 | ${ }_{2.69}$ | 3.53 | $\stackrel{.03}{2.91}$ | 3. 03 | 6.76 |  | 1.18 | T. 44 |
| Madison, Wis | 3.21 | 3.16 | 1. 59 | 3. 60 | 4. 39 | 4.24 | 2.72 | 2.03 | . 89 | 2. 61 | 3. 97 | 1.33 | 5. 59 |
| Marquette, Mich | 2.86 | 5. 83 | . 73 | 2. 12 | 5. 43 | 99 | 3.28 | 3. 20 | 1. 60 | 3. 50 | 3. 48 | 2. 02 | 1.08 |
| Memphis, Tenn | 3. 20 | 3.41 | 3.09 | 7.31 | 10.60 | 2. 98 | 2. 55 | 2.56 | . 82 | 2.32 | 5. 84 | 76 | 5. 06 |
| Miami, Fla | 7.60 | 2.93 | 5. 67 | 3.77 | 1.37 | 10. 10 | 4.32 | 1.43 | 3.73 | 4. 12 | 3. 14 | 7.97 | 6. 34 |
| Mobile, Ala | 6.81 | 8. 25 | 5.61 | 9.78 | 7. 69 | 5.46 | 6. 42 | 14. 16 | 6. 04 | 7.78 | 8.37 | 5.13 | 4. 46 |
| Modena, Utah | 1. 83 | 13 | 1.07 | . 73 | 46 | 1. 97 | 26 | 1.26 | 50 | 81 | 2.44 | 2. 41 | 2. 13 |
| Nashville, Tenn | 3. 47 | 3.06 | . 85 | 8. 64 | 6.03 | 4. 27 | 3. 02 | 3.05 | 6. 80 | 6. 85 | 2.85 | 3. 83 | 9. 60 |
| New Orleans, L | 5. 61 | 4.93 | 5. 29 | 8.47 | 7. 22 | 4. 89 | 6. 92 | 6. 19 | 7. 38 | 4. 18 | 3. 09 | 5. 71 | 7.60 4.47 |
| Norfolk, Va, | 5. 97 | 2.12 | 4.14 | 1. 10 | 2. 46 | 2. 99 | 4. 54 | 2. 48 | 3. 47 | 3.83 4 4 4 | 3.13 | 8. 04 | 4.47 4.70 |
| North Platte, Nobr | 2.46 | 1.27 | . 98 | 3. 45 | 4. 23 | 2. 35 | 1. 96 | 1.73 | . 76 | 4.73 | 2.57 | 2. 26 | 4. 70 |
| OklahomaCity, Okla | 3. 17 | 3.61 | 57 | 2. 76 | 5. 26 | . 68 | 4. 50 | 1.91 | 2. 28 | 4. 88 | . 85 | ${ }^{-19}$ | 3. 57 |
| Omaha, Nebr | 3. 62 | 4. 78 | . 18 | 2. 24 | 3. 06 | 2.74 | 3. 65 | 1. 14 | 2.91 | 2. 78 | 2.07 | 1. 01 | 4. 24 |
| Parkersburg, W. Va- | 3. 53 | 3. 05 | 2. 53 | 5.05 | 4.78 | 2. 41 | 2. 18 |  | 4. 60 4 4 |  | ${ }_{3}^{3.71}$ | 7. 44 | 7.38 |
| Peoria, Ill | 2. 93 | 1.67 .72 | 2.87 .32 | 2.40 .30 | 4.78 .25 | 6.03 .30 | 3.36 .11 | 5.88 3.47 | 4. 2 | 1.87 .75 | 3.86 1.62 | . 72 | 2.84 .65 |
| Phoenix, Ariz | 2.91 | - 3.85 | . 32 1.37 | 2. 19 | . 25 | $\stackrel{+30}{4.65}$ | 1.93 | 3.47 2.30 | 2. 24 | 2. 07 | 1. 1.62 | 2. 03 | 3. ${ }^{\text {. }} \mathbf{8 5}$ |
| Pittsburgh, Pa | 3.18 | 2.39 | 2. 81 | 4.52 | 2.73 | 4.73 | 4.75 | 4.84 | 7.15 | 2. 53 | 3. 03 | 2.35 | 4. 24 |
| Portland, Oreg | . 65 | 3.39 | . 76 | 01 | . 01 | . 27 | T. | 31 | 10 | 1.25 | . 30 | 2.06 | 26 |
| Pueblo, Colo | 1.57 | 1.85 | . 87 | 2.18 | 3.27 | 3.12 | 1. 74 | . 57 | 3. 23 | 1. 89 | 2.24 | . 69 | 4.65 |
| Roseburg, Orcg | . 33 | . 59 | . 19 | T. | . 03 | $i$ | $\underset{T}{\mathrm{~T}}$ | $1.05$ | $\mathbf{i v}^{02}$ | $\dot{T}$ | . 04 | ' ${ }^{\text {T }}$ | $\mathrm{T}^{30}$ |
| Sacramento, Ca St. Louis, Mo. | 2. 01 | 2. 65 | .01 1.59 | 5.42 | 11.43 | ${ }_{10.69}{ }^{\text {T. }}$ | 1.99 | 5. 26 | 3. ${ }^{\text {T. }}$. | ${ }_{\text {4. }}^{\text {T. }} 16$ | 2.75 | ${ }_{1} \mathrm{~T} .79$ | T. 19 |
| St. Yaul, Minn | 3.46 | 4.40 | 1. 59 | 4.48 | 3.98 | 1.60 | 2.82 | 5. 19 | 2. 22 | . 96 | 2. 79 | 1.31 | 1.92 |
| Salt Lake City, Utah | . 78 | . 70 | . 47 | 24 | T. | . 60 | . 71 | . 61 | . 50 | 1.31 | . 82 | 1.85 | 2. 41 |
| San Antonio, Tex | 2. 69 | . 29 | 1.29 | 7.80 | 3.90 | 5.07 | .$^{10}$ | 2. 61 | 2.14 | 2. 26 | . 45 | . 27 | 2. 94 |
| San Diego, Calif |  | . 26 | 02 |  |  | . 29 | T. | . 11 | . 01 | . 01 | T. | T. |  |
| San Francisco, Cali <br> Santa Fe, N. Mex | 2.36 | 1.15 | .01 1.07 | 2.51 | 1.02 | 1. 2.29 | ${ }_{1.37}^{\text {T. }}$ | . 82 | 2.06 | 1.98 | 3.71 | ${ }_{1} \mathrm{~T} .85$ | 2. 33 |
| Scranton, Pa | 4.25 | 4.91 | 2.54 | 2.56 | 8. 17 | . 67 | 3. 94 | 4.04 | 2.30 | 3. 33 | 2.96 | 2.56 | 3.32 |
| Seattle, Wash | . 51 | 2. 49 | . 45 | . 01 | . 05 | . 11 | . 03 | 1. 12 | . 08 | 1.15 | 1.61 | 1. 17 | 1.98 |
| Sheridan, W yo | 73 | 1.18 | 20 | 65 |  | . 13 |  | 93 | 18 | 68 | . 24 | 1.65 | 1.44 |
| Shreveport, I | 2. 24 | 10.89 | 1.89 | 4.00 | 8.60 | . 55 | 5.55 | 2. 23 | 3.85 | 2. 82 | . 69 | 2.04 | 2.03 |
| Springfield, Mo | 4.31 | 3.00 | ${ }^{6} 88$ | 4. 70 | 10.81 | 4.45 | 4. 26 | 3. 12 |  | 6.31 | 7. 59 |  | . 78 |
| Thomasville, ${ }_{\text {Trenton, }}$ | 5.03 5.37 | 7.12 | 4.39 3.30 | 3.96 1.63 | 2. 76 6.22 | 1. 01 | 8. 95 | 6. 16 2.52 | 8.16 4.82 | 4.96 7.08 | 3. 56 | 2. 71 5.16 | 6.89 3.32 |
| Walla Walla, Wash | 5.37 .45 | 2. 67 | . 30 | ${ }^{1}{ }^{\text {T }}$. | T. | . 17 | T. | 2.99 | +. 06 | 1. 87 | . 57 | 1. 25 | . 57 |
| W ashington, D. C.-- | 4.40 | 1.50 | 5.42 | 6.00 | 7.00 | 2. 83 | . 77 | 1.88 | 3.41 | 4.70 | 1.10 | 3.08 | 2.19 |
| Winnemucca, ${ }^{\text {Nev.-- }}$ | 17 | . 13 | . 80 | T. | 08 | 11 | . 57 | . 37 | T. | . 76 | . 16 | . 91 | 25 |

[^360]Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Station.} \& \multirow[t]{2}{*}{\begin{tabular}{l}
Nor- \\
mal \\
for \\
Sept.
\end{tabular}} \& \multicolumn{12}{|c|}{September total precipitation.} \\
\hline \& \& 1912 \& 1913 \& 1914 \& 1915 \& 1916 \& 1917 \& 1918 \& 1919 \& 1920 \& 1921 \& 1922 \& 1923 \\
\hline \& In. \& In. \& In. \& In. \& In. \& In. \& In. \& \(I n\). \& In. \& In. \& In. \& In. \& , \\
\hline Amarillo \& 2. 36 \& 2. 28 \& 4.19 \& 1.07 \& 4. 69 \& 1. 76 \& 2. 05 \& 0. 64 \& 4. 58 \& 3. 04 \& 0.76 \& 1. 41 \& 6. 42 \\
\hline Atlanta, Ga \& 3. 53 \& 3. 52 \& 2.40 \& 2. 48 \& 3. 53 \& 2. 84 \& 6. 44 \& 3. 57 \& 1.12 \& 3. 36 \& 1.31 \& 1.16 \& 5 \\
\hline Birmingham, \& 3. 50 \& 3. 62 \& 7.41 \& 3.95 \& 6.54 \& 2.63 \& 6. 01 \& 7.73 \& 1.09 \& 4. 12 \& 4.20 \& 1. 54 \& 1. 50 \\
\hline Bismarck, N. Dak \& 1.19 \& 2. 42 \& 2.29 \& 1.10 \& 1. 68 \& . 70 \& 1. 75 \& . 47 \& 34 \& 1. 20 \& 1.67 \& 1. 93 \& 2. 83 \\
\hline Boise, Idaho. \& . 41 \& . 77 \& . 65 \& . 35 \& . 26 \& . 05 \& 1.39 \& 2.32 \& .79
.8 \& . 64 \& . 61 \& . 01 \& 55 \\
\hline Boston, Mass \& 3.19 \& 1. 67 \& 2. 51 \& .21 \& . 69 \& 1. 90 \& 1.91 \& 9. 19 \& 5.83 \& 1. 90 \& 1. 22 \& 3. 65 \& . 38 \\
\hline Brownsville \& 5. 42 \& 2. 35 \& 14. 38 \& . 86 \& 2.54 \& 3.21 \& 1.03 \& \(\stackrel{97}{ } \times\) \& 7. 69 \& . 34 \& 3.82 \& 12. 61 \& 4. 55 \\
\hline Buffalo, N. \& 3. 18 \& 3. 31 \& 1.35 \& 2.31 \& 1.35 \& 1. 38 \& 2.29 \& 3.79 \& 1. 47 \& 2. 03 \& 1. 96 \& 1. 25 \& 1. 86 \\
\hline Canton, \(\mathbf{N}\) \& 2.81 \& 4. 40 \& 2. 26 \& 1.73 \& 1. 32 \& 3. 42 \& 2. 02 \& 6. 05 \& 4. 69 \& 5. 11 \& 3. 52 \& . 96 \& 2. 10 \\
\hline Charlest \& 5. 46 \& 10. 42 \& 7. 26 \& 4.69 \& 2. 07 \& 2. 76 \& 2. 34 \& 3. 10 \& 1. 76 \& 8. 30 \& 5. 19 \& 1.13 \& 2. 11 \\
\hline Charlotte, \& 3.22 \& 3. 50 \& 2.45 \& 2.02 \& 2. 37 \& . 88 \& 3.29 \& 5. 83 \& . 84 \& 3. 53 \& 2. 55 \& 1. 23 \& 2. 32 \\
\hline Cheyenne, W \& . 94 \& 3.91 \& 2. 82 \& . 41 \& 2. 10 \& 1.00 \& . 56 \& 2. 57 \& 1. 76 \& 2. 31 \& . 5.02 \& 36 \& 2. 78 \\
\hline Chicago, Ill \& 3. 02 \& 3. 26 \& 1. 49 \& 1.56 \& 3. 53 \& 2. 24 \& 2. 15 \& 1.84 \& 3. 85 \& 3. 35 \& 5. 72 \& 4.37 \& 2. 50 \\
\hline Cincinnati, Ohi \& 2.31 \& 1.95 \& 1.86 \& 1.96
.90 \& 5. 65 \& 3. 29 \& 2. 97 \& 2.70 \& 3. 79 \& 2.98 \& 3.00 \& 2.93 \& 1. 40 \\
\hline Cleveland, Ohio \& 3. 22 \& 2. 39 \& 2. 10 \& 1. 16 \& 4. 23 \& 2.84 \& 2. 74 \& 3.78 \& 1.79
3.03 \& 36 \& 1.36 \& 1.35 \& 3. 32
2. 94 \\
\hline Concordia, Kans \& 2. 58 \& 2. 68 \& 3. 03
2. 65 \& +1.61 \& 4. 47 \& 2.70
1.72 \& 2.
+1.96
1.99 \& 1.72
.91 \& 3.
7.47 \& \(\begin{array}{r}\text { 1. } \\ \text { 4. } 44 \\ \hline\end{array}\) \& 1.36
7.16 \& 1.60
3.00 \& 2. 94
5. 17 \\
\hline Devils Lake, N. Dak. \& 1. 39 \& 1. 11 \& 2. 17 \& 1.57 \& 3. 11 \& . 89 \& . 83 \& . 48 \& . 95 \& 5. 34 \& 3. 58 \& 3.30 \& 1. 63 \\
\hline Dodge City, Kans..- \& 1. 77 \& 2. 70 \& 5. 40 \& 53 \& 3. 79 \& 1.15 \& . 36 \& 2.20 \& 1. 01 \& 3.34 \& 1. 53 \& 1. 84 \& 2. 50 \\
\hline Dubuque, Iowa. \& 3.59 \& 4. 42 \& 3.59 \& 4. 75 \& 9. 62 \& 6. 19 \& 2. 40 \& 1. 63 \& 5. 35 \& 1. 46 \& 8. 35 \& 3. 40 \& 5. 04 \\
\hline Duluth, Minn \& 3. 55 \& 1.80 \& 3.32 \& 2. 55 \& 2.28 \& 4. 25 \& 2.15 \& 1. 41 \& 1. 42 \& 1.31 \& 3. 09 \& 2.23 \& 2. 61 \\
\hline El Paso, Tex \& 1.45 \& 1. 77 \& . 60 \& . 56 \& 2. 68 \& . 55 \& . 76 \& . 01 \& 3. 30 \& 31 \& 2.49 \& 1.07 \& 41 \\
\hline Eureka, Calif \& 1.11 \& 2. 40 \& . 48 \& 1. 82 \& . 11 \& . 38 \& . 66 \& 1. 42 \& 1. 52 \& 2. 47 \& 27 \& 37 \& 1.54 \\
\hline Evansville, In \& 2. 66 \& 2.64 \& 4. 31 \& 5. 06 \& 2. 98 \& 2. 57 \& 3.35 \& 3.33 \& 3. 59 \& 3.36 \& 3. 87 \& 2. 16 \& 1.84 \\
\hline Fort Worth, Te \& 2. 95 \& . 83 \& 7.29 \& 1.61 \& 1.62 \& . 73 \& 2.41 \& 2. 09. \& 4. 12 \& 2.76 \& . 11 \& 41 \& 2.06 \\
\hline Fresno, Calif.- \& . 27 \& . 10 \& T. \& . 22 \& T \& +38 \& \({ }^{T}\) \& - 53 \& 29 \& T. 8 \& 21 \& \& 25 \\
\hline Galveston, Tex \& 5. 41 \& 1. 04 \& 18. 68 \& 5. 20 \& 2. 12 \& 4. 24 \& 3. 60 \& 2. 03 \& 3. 86 \& \& 4.33 \& 5. 04 \& 5. 91 \\
\hline Grand Rapids, Michin \& 3.12 \& 3.42 \& 2. 25 \& 2. 34 \& 8. 11 \& 2. 43 \& 3. 59 \& 2. 01 \& 3. 86 \& 3. 68 \& 4. 33
3.53 \& 5.89
1.89 \& 5. 77 \\
\hline Greenville, Me \& 4. 17 \& 4. 89 \& 4.30 \& 2. 68 \& 3. 74 \& 4. 23 \& 1. 80 \& 6. 52 \& 3. 71 \& 5.60 \& 3. 53 \& 1.89 \& 2. 11 \\
\hline Havre, Mont \& 1. 03 \& 1. 20 \& . 82 \& 1. 37 \& 2. 05 \& 1. 42 \& 4. 58 \& 5. 98 \& \(\begin{array}{r}.79 \\ \hline 1.86\end{array}\) \& \begin{tabular}{|}
. \\
24 \\
2
\end{tabular} \& 1. 50 \& 1. 68
1.52 \& 3. 90 \\
\hline Indianapolis, \& 3. 05 \& 3. 44 \& 3. 03 \& 2.15 \& 4.17 \& 2. 26 \& 2.93
1.85 \& 5. 14 \& 1. 86 \& 2.37
4.18 \& 7. 64
7.10 \& 1.52
4.33 \& 3. 91
4.23 \\
\hline Jola, Kans \& 3. 35 \& 3.82 \& 3. 12 \& 5.19 \& 13. 22 \& 5. 56
5.25 \& 1.85 \& 3. 517 \& 1. 5.62 \& 4. 18
7.14 \& 1.73 \& 6. 70 \& 4. 83
4.89 \\
\hline Jacksonville, Fla \& 8.03
1.33 \& 7.69
.68 \& 3.74
.31 \& 6. 39
1.21 \& 8.41
2. 04 \& 5.25
1.63 \& 1.85
.83 \& 6. 1.59 \& 1.02
.50 \& 7.18
.70 \& 1.73
.79 \& \(\begin{array}{r}\text { 6. } \\ \hline .52\end{array}\) \& 1.83 \\
\hline Kalispell, Mont \& 1.33 \& 2. 68
2 \& \(\begin{array}{r}\text { 9. } \\ \hline .31\end{array}\) \& 1.21
1.93 \& 2. 04 \& 1.63
1.95 \& .83
.27 \& 1. 4.63 \& 2. 78 \& 2.88 \& 2. 18 \& . 93 \& 3. 93 \\
\hline Little Rock, Ar \& 3. 26 \& 2. 59 \& 9.25
.03 \& 1.93 \& T. 16 \& 1.95
.77 \& \(\stackrel{\mathrm{T}}{ } \mathbf{2 7}\) \& 4. 63
.55 \& 2.
1.29 \& 2.88
.04 \& . 62 \& \& . 55 \\
\hline Los Angeles; Ca \& 3. 06 \& 6.98 \& 2.44 \& . 67 \& 3. 26 \& 2. 55 \& 1.96 \& 2. 61 \& 1.47 \& 4.51 \& 1. 71 \& 1.42 \& 2. 84 \\
\hline Madison, W \& 3. 18 \& 5. 62 \& 4.32 \& 3. 49 \& 10. 69 \& 5. 73 \& 2.98 \& 1. 52 \& 6.83 \& 1.12 \& 7.90 \& 2.34 \& 4.36 \\
\hline Marquette, M \& 3. 51 \& 2. 19 \& 3. 76 \& 1. 28 \& 3. 68 \& 5.74 \& 2.10 \& 5. 49 \& 2.49 \& 1.94 \& 4.30 \& 3.26 \& 1. 63 \\
\hline Memphis, Ten \& 3. 05 \& 2. 05 \& 6. 01 \& 3.92 \& . 55 \& 1. 07 \& 1. 88 \& 4. 95 \& 1. 34 \& 10.82 \& 1. 58 \& 1.41 \& 5. 47 \\
\hline Miami, Fla \& 9. 61 \& 2. 08 \& 6. 46 \& 6. 68 \& 5. 47 \& 4.81 \& 18. 55 \& 10. 06 \& 3. 72 \& 6.94 \& 2. 81 \& 1. 04 \& 6. 21 \\
\hline Mobile, Ala \& 5.02 \& 5: 76 \& 15. 50 \& 7.96 \& 4. 08 \& 6. 68 \& 6. 90 \& 5. 17 \& 1. 10 \& 7.81 \& 3. 74 \& 3. 19 \& 47 \\
\hline Modena, Utah \& 1.12 \& . 06 \& . 98 \& . 49 \& 1. 44 \& . 71 \& . 79 \& 1. 22 \& 3. 29 \& . 22 \& . 23 \& . 04 \& 46 \\
\hline Nashville, Ten \& 3. 68 \& 2. 46 \& 1. 79 \& 1. 46 \& 4.63 \& 1. 92 \& 1. 51 \& 3.75 \& 1. 33 \& 4. 15 \& 3. 72 \& 3. 28 \& . 44 \\
\hline New Orleans, I \& 4. 81 \& 3. 84 \& 11. 84 \& 5. 05 \& 10.83 \& 3. 13 \& 2. 69 \& 4.82 \& 2.93 \& 6.47 \& 3. 94 \& . 93 \& 2. 63 \\
\hline Norfolk, Va. \& 4.06 \& 2. 61 \& 5. 23 \& 2. 97 \& 1.76 \& 3. 53 \& 5. 26 \& 3. 12 \& . 70 \& 3.11 \& 2.43 \& 1.00 \& 23 \\
\hline North Platte, Neb \& 1. 50 \& 2. 04 \& . 90 \& . 17 \& 1. 81 \& . 70 \& 2. 68 \& . 38 \& 1. 56 \& . 83 \& 1. 00 \& 1. 00 \& 88 \\
\hline Oklahoma City, Okla. \& 2. 75 \& 2. 64 \& 4.80 \& 1.70 \& 3.62 \& 2. 54 \& 1. 55 \& 4. 28 \& 1. 03 \& 3.60 \& 3.79 \& . 90 \& 10.28 \\
\hline Omaha, Nebr \& 3. 03 \& 7.12 \& 3. 62 \& 3. 56 \& 2.17 \& 1. 76 \& . 91 \& 1. 03 \& 5. 28 \& 1. 03 \& 5. 35 \& 1. 29 \& 9.32 \\
\hline Parkersburg, W. Va. \& 2. 72 \& 1. 60 \& 2.96 \& . 62 \& 4.19 \& 3. 18 \& 1. 41 \& 2. 53 \& 98 \& 3.69 \& 4. 47 \& 3.73 \& 2. 92 \\
\hline Peoria, Ill \& 3.12 \& 3.54 \& 2. 58 \& 5. 55 \& 4. 88 \& 3. 73 \& 3. 14 \& 1. 67 \& 3.48 \& 1. 84 \& 4. 86 \& 2. 71 \& 5. 28 \\
\hline Phoenix, A \& 1.01 \& . 14 \& 13 \& T. \& +10 \& 1. 66 \& . 55 \& .39 \& 1. 93 \& 10 \& \& \& . 97 \\
\hline Pierre, S. Dak \& 1.11 \& 1. 86 \& \(\begin{array}{r}.56 \\ . \\ \hline 86\end{array}\) \& . 79 \& 2.18 \& 1.06 \& 1. 83 \& 2 \& 1.59
1.64 \& .98
3.48 \& 3. 21 \& 1.54 \& 1.21
1.62 \\
\hline Pittsburgh, Pa \& 2. 48 \& 2.89 \& 2.86 \& \(\stackrel{.}{ } 10\) \& 1. 71 \& 1. 63 \& 1. 1.90 \& 2. 22 \& 1. 3.18 \& 3.48
4.16 \& 5. 08 \& 1.54
1.90 \& 1.62
.59 \\
\hline Portland, Oreg \& 1.84
.62 \& 1.18
.52 \& 2.58
.79 \& 3.10
.32 \& 1.53
1.42 \& '71 \& 1.96
3.25 \& .66
1.43 \& 3.
2.
3 \& 4.16
1.33 \& 5. 08
.25 \& 1.50
.09 \& 1. \({ }^{1} 36\) \\
\hline Roseburg, \& 1. 04 \& 1. 99 \& 1. 44 \& 2. 80 \& . 57 \& . 59 \& . 73 \& .59
.58 \& 3. 36 \& 2. 27 \& 1.45 \& 1. 56 \& 1. 63 \\
\hline Sacramento, Calif \& +.39 \& 1. 25 \& T. \& T. \& 1.41 \& + 26 \& \(\begin{array}{r}\text { 3. } 51 \\ \hline\end{array}\) \& 3.58
5.09 \& 6.53 \& 4. 79 \& 5. 60 \& 2. 49 \& . 50
3.51 \\
\hline St. Louis, Mo \& 2. 91 \& 2. 84 \& 4.50
3.34 \& 6. 68 \& 1. 41 \& 2.69
1.81 \& 2. 500 \& \begin{tabular}{l} 
5. \\
1. 49 \\
\hline
\end{tabular} \& 6.13
1.25 \& 4.
1.36 \& b. 61 \& 2. 1.82 \& 1.10 \\
\hline St. Paul, Minn \& 3.42
.85 \& 1.27
.97 \& 3.34
.93 \& 2.16
.17 \& 2. 1.60 \& \begin{tabular}{l}
1.81 \\
.50 \\
\hline .88
\end{tabular} \& 2.00
1.16 \& 1.49
2.10 \& 1.25
1.76 \& 1.36
1.56

d \& 3. 21
.44 \& 1.82
.01 \& 1. 41 <br>
\hline San Antonio, Tex \& 2.94 \& 1. 47 \& 7.21 \& 2. 24 \& 2.39 \& 3. 78 \& 1.39 \& 1. 49 \& 7. 61 \& . 15 \& 8. 27 \& 97 \& 2. 98 <br>
\hline San Diego, Calif. \& . 06 \& \& 02 \& T. \& T. \& . 25 \& T. \& . 08 \& . 26 \& 88 \& 1. 24 \& \& 03 <br>
\hline San Francisco Calif. \& . 29 \& 1. 25 \& \& T. \& \& 1.20
1 \& . 02 \& 2. 53 \& 2. 53 \& 13 \& 18 \& 1.07 \& .44
1.10 <br>
\hline Santa Fe, N. Mex. \& 1. 64 \& . 08 \& 1. 54 \& $\begin{array}{r}\text { P } \\ \hline 1.05\end{array}$ \& 1. 2.91 \& 1.45
4.35 \& 64
91 \& 4. 59 \& 2. 21 \& 4. 94 \& 4. 38 \& 1.18 \& 4.38 <br>
\hline Scranton, Pa \& 2. 86 \& 6.94
.73 \& 3. 87
2. 37 \& 1. 1.42 \& 2.91
.65 \& 1.35
.70 \& +.81
1.29 \& 4.59
.08 \& 2.03 \& 2. 34 \& 1. 84 \& 1.19 \& 1. 37 <br>
\hline Seattle, Wash \& 1.77 \& $\begin{array}{r}6.84 \\ \hline 8.79\end{array}$ \& 2. 37 \& 1.42
.80 \& - 3.75 \& . 56 \& 1.29
.30 \& 2. 68 \& 1. 10 \& 2.34
.16 \& . 51 \& . 08 \& 8.18 <br>
\hline Shrevesport \& 3. 22 \& 1. 15 \& 16. 46 \& . 15 \& 1.75 \& 1. 46 \& 2. 56 \& $\begin{array}{r}.36 \\ \hline 8\end{array}$ \& 2. 16 \& 1.10 \& . 56 \& 1.36 \& 9.03 <br>
\hline Springfleld, M \& 3. 76 \& 4. 13 \& 3. 85 \& 3. 59 \& 3. 06 \& 1.19 \& 3. 74 \& 4.82 \& 1. 62 \& 4. 42 \& 3. 90 \& . 95 \& 3.82 <br>
\hline Thomasville, \& 4. 25 \& 10. 42 \& 2. 30 \& 7. 58 \& 4. 41 \& 3. 29 \& 2. 15 \& 3. 44 \& 1.34
2.74 \& 6. 07 \& 1.60 \& 3.42
1.75 \& 2. 32
4.19 <br>
\hline Trenton, N.J \& 3. 59 \& 2. 90 \& 4. 66 \& + 41
1.52 \& .62
.70 \& 2. 51 \& 3.89
1.31 \& 3.20
.32 \& 2.74
1.26 \& 2. 23
1.99 \& 1.69
.79 \& 1.75
.41 \& 4.19
.21 <br>
\hline Walla Walla, \& 3. 93 \& .61
5.86 \& 1. 2.41 \& 1.52
.66 \& .70
1.39 \& 2. 57 \& 1.31
1.34 \& 2. 79 \& 1. 26

1. 77 \& | 1. 2.87 |
| :--- |
|  |
| 2. |
|  | \& 1.79

3.29 \& 6. 27 \& 3. 15 <br>
\hline Winnemucca; Nev. \& $\begin{array}{r}\text { 3. } \\ \hline .34 \\ \hline\end{array}$ \& 5.
.36
.34 \& 2.
.
.51 \& . 48 \& 1.39
.94 \& 2.
.26 \& T. \& 1.53 \& . 40 \& \& , \& \& 1.16 <br>
\hline
\end{tabular}

[^361]Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.


[^362]Table 737.-Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United Staies, 1912-1923-Continued.

| Station. | Normal for Nov. | November total precipitation. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | In. | In. | In. | In. | In. | In. | In. | In. | In. | In. | In. | In. | In. |
| Amarillo | 1.16 | . 02 | 1.98 | T. | 0.18 | 0.40 | 0.59 | 1.16 | 1. 26 | 1.33 | T | 1.39 | 2. 13 |
| Atlanta, Ga | 3.40 | 1.05 | . 54 | 4.89 | 1. 53 | 2. 63 | 1.51 | 3. 68 | 2.92 | 3. 33 | 6. 47 | 1. 42 | 3. 55 |
| Birmingham, Ala | 3.39 | 1.18 | 3.24 | 2.28 | 3. 54 | 2.61 | 1. 55 | 5.25 | 4.01 | 2.45 | 2. 14 | 2. 59 | 5. 50 |
| Bismarck, N. Dak.-- | . 68 | T. | 18 | . 42 | . 57 | 13 | . 04 | . 51 | . 92 | . 39 | 84 | 1. 51 | . 29 |
| Boise, Idaho.-....-.-- | . 86 | . 88 | 2.82 | 11 | 1. 07 | 1.07 | 1. 17 | . 24 | 2. 34 | 1. 82 | 3. 27 | . 52 | - 55 |
| Boston, Mass | 4. 10 | 2.61 | 2.15 | 2. 72 | 2.14 | 1.67 | . 59 | 1. 20 | 5. 36 | 5. 46 | 6. 19 | . 84 | 2. 78 |
| Brownsville, ' | 2. 06 | 1. 40 | . 67 | 5.13 | . 14 | 1.39 | . 29 | 2. 16 | 2. 34 | - 42 | 1. 22 | 3. 67 | 3. 34 |
| Buffalo, N. | 3.35 | 2. 68 | 2. 43 | 1. 81 | 1.86 | 1.53 | 1.17 | 1. 43 | 1.38 | 4. 30 | 3. 77 | 1. 08 | 2. 74 |
| Canton, N | 3.41 | 6. 50 | 2.72 | 2. 31 | 1.25 | 1.63 | 1. 74 | 2.34 | 1.13 | 4. 45 | 2.67 | 1.66 | 3. 84 |
| Charleston, | 2. 87 | 1. 30 | 1.19 | 2. 34 | 1.65 | 1.11 | . 31 | 2. 34 | 23 | 3.07 | 1.82 | . 10 | 1. 79 |
| Charlotte, | 2.86 | 1.90 | 3.22 | 2.45 | 1.96 | . 36 | . 75 | 3. 23 | 1. 02 | 4.95 | 4. 02 | . 92 | 3. 09 |
| Cheyenne, | . 41 | . 58 | . 37 | . 26 | - 19 | $\stackrel{.88}{ }$ | . 40 | + 54 | 1. 63 | 22 92 | 3. 315 | 2. 40 | .28 1.46 |
| Chicago, Ill | 2. 50 | 1. 45 | 1. 47 | . 33 | 2. 03 | 2. 11 | . 56 | 2.65 | 2.38 | 292 | 3. 51 | 2.66 1.88 1.38 | 1. 46 |
| Cincinnati, Oh | 3. 21 | . 71 | 4. 26 | 1. 20 | 2.34 | 1.85 | . 31 | 1.65 | 3. 65 | 2. 92 | 5. 67 | 1.88 | 2. 28 |
| Cleveland, Ohio | 2. 75 | . 89 | 3.98 | 1. 34 | 1.84 | 2.35 | 1.37 | 1.77 | 1.31 | 2. 25 | 3. 93 | 1.37 | 2. 64 |
| Concordia, Kan | . 94 | . 10 | 1.90 | T. | . 99 | . 77 | . 07 | 1. 24 | 1. 71 | 1.47 | . 08 | 2. 05 | . 61 |
| Des Moines, Iow | 1. 48 | 1.11 | 1.03 | . 35 | 1. 24 | 1. 46 | $\bigcirc$ | 2.10 | 3.84 | 1. 63 | . 35 | 2. 54 | . 55 |
| Devils Lake, N. Dak. | . 71 | . 09 | . 17 | . 57 | . 60 | . 12 | . 32 | 1. 80 | 1. 01 | . 76 | . 43 | 2. 38 | . 47 |
| Dodge City, Kans... | . 55 | 26 | 2.14 | T. | . 08 | . 03 | . 58 | . 37 | 1.11 | 1.13 | T. | . 95 | 53 |
| Dubuque, Iowa... | 1.31 | 1. 51 | 1. 23 | . 21 | 1. 65 | 1.17 | . 07 | 1.10 | 3. 59 | 2.01 | . 91 | 4. 41 | 1.19 |
| Duluth, Minn | 1.58 | . 21 | . 74 | 1.15 | 3. 27 | . 09 | . 09 | 1. 94 | 3. 86 | 1.40 | . 70 | 3. 57 | . 63 |
| El Paso, Tex | . 59 | . 80 | 97 | 1.13 | . 01 | 52 | . 04 | 1. 04 | . 93 | T. | . 22 | . 29 | . 53 |
| Eureka, Calif | 5. 67 | 6. 86 | 5. 29 | 2.42 | 6.15 | 3.13 | 6. 43 | 4. 74 | 2.99 | 6.35 | 6.21 | 3.32 | 2. 86 |
| Evansville, In | 4.11 | 25 | 4.87 | . 65 | 3.40 | 1.11 | 2. 19 | . 98 | 3. 73 | 1.38 | 9.24 | 1. 64 | 3. 54 |
| Fort Worth, $T$ | 1.57 | . 33 | 5.90 | 6.44 | . 29 | 1.82 | 1.35 | 7.94 | 3. 32 | 1. 70 | 1.24 | 2. 57 | 1. 63 |
| Fresno, Calif | 1. 03 | . 85 | 1.86 | . 11 | . 30 | . 28 | . 35 | 1.81 | 04 | . 99 | . 26 | . 62 | . 10 |
| Galveston, Tex | 4. 02 | . 41 | 2. 49 | 9.19 | 1. 47 | 2. 16 | . 97 | 8. 15 | 1. 97 | 3. 64 | 1.61 | 2. 54 | 4.11 |
| Grand Rapids, Mich. | 2. 53 | 2. 69 | 2. 86 | 1. 47 | 1. 52 | 2.12 | 1.21 | 2. 63 | 2. 30 | 1. 54 | 3. 64 | 2. 39 | 1. 09 |
| Greenville, Me | 3.03 | 4.17 | 2. 98 | 2. 10 | 2. 55 | 4.17 | 1.26 | 3. 77 | 3. 58 | 3.75 | 5. 69 | 1.97 | 3.39 |
| Mavre, Mon | . 77 | 15 | . 83 | . 24 | . 12 | . 46 | . 02 | . 53 | . 90 | . 07 | 1.09 | . 54 | . 17 |
| Indianapol | 3. 52 | 1.21 | 6. 20 | 1. 45 | 3. 05 | 1. 73 | . 12 | 1.73 | 3. 27 | 2.12 | 8.91 | 2. 32 | 2. 04 |
| Iola, Kans | 1. 38 | . 26 | 1.67 | . 43 | . 31 | 3. 03 | . 05 | 2. 89 | 2. 12 | 1.35 | - 13 | 3. 01 | 1.59 |
| Jacksonville, Fla | 2.19 | . 82 | . 32 | 3.87 | 1. 07 | 2. 76 | . 23 | 3. 26 | 1. 06 | 5.38 | 2. 27 | $\stackrel{.}{1 .} 88$ | . 06 |
| Kalispell, Mont. | 1. 90 | . 83 | 1. 16 | 1.58 | 1. 69 | . 80 | . 51 | . 23 | 1.35 | . 43 | 2. 39 | 1.06 | -89 |
| Little Rock, Ark | 4. 59 | . 63 | 3. 05 | 2.36 | 5. 63 | 2. 12 | 2. 07 | 3.11 | 8. 21. | . 88 | 3.89 | 2.07 | 2. 59 |
| Los Angeles, Cal | 1. 48 | $\stackrel{.}{ } \times$ | 3.00 | . 20 | 1.35 | +.09 | .36 | 1.85 | $\bigcirc$ | 1.15 | .05 1.65 | 1.44 .19 | .04 1.98 |
| Lynchburg, Va | 2. 79 | 2. 72 | 3.32 | 2.31 | 1. 66 | 1. 52 | 25 30 | 1.26 1.17 | 2. 48 | 7.14 1.83 | 1.65 | .19 3.14 | 1.98 .68 |
| Madison, Wis | 1.80 | . 89 | 1. 73 | + 70 | 3. 12 | 1. 69 | + 30 | 1. 17 | 2.25 4.18 | 1.83 | 1.55 | 3.14 2.84 2. | 1. 68 1. 22 |
| Marquette, Mi | 2. 79 | 1. 25 | 1. 33 | 2. 43 | 3.79 7.05 | 2. 48 | 1. 1.14 | 5. 2.75 | 4.18 7.75 | 2. 93 1.32 | 1.97 4.59 | 2. 84 3.50 | 1. 22 |
| Memphis, Tenn | 4.59 2.55 | 1.02 | 1. 64 | 2.05 | 7. 05 2. 54 | .86 1.85 | 1.14 .24 | 2.75 .60 | 7.75 3.48 | 1. 32 3. 73 | 4. 59 .50 | 3.50 5.44 | $\begin{array}{r}\text { 3. } \\ \text {. } 27 \\ \\ \hline\end{array}$ |
| Mobile, Ala | 3. 74 | 3.91 | 3. 75 | 10.23 | 3. 32 | 2. 61 | 1. 43 | 7.14 | 4.58 | 1. 68 | 3. 79 | 3.98 | 4.33 |
| Modena, Ut | . 60 | . 29 | 1. 54 |  | . 54 | . 07 | . 16 | . 30 | 1.12 | . 10 | . 18 | 1. 00 | 1. 02 |
| Nashville, T | 3. 85 | . 65 | 1.84 | 2.13 | 6. 75 | 1. 00 | . 85 | 1. 36 | 7.89 | 2. 60 | 5. 68 | 1.80 | 2.87 |
| New Orleans, | 3.79 | 2.50 | 2. 67 | 4. 65 | 2. 29 | . 88 | . 34 | 4. 46 | 7.29 | 3. 03 | 3.83 | 3. 38 | 4. 94 |
| Norfolk, Va, | 2.72 | 1.96 | 1.30 | 2, 62 | . 87 | 1. 34 | . 59 | . 77 | . 20 | 3. 64 | 1. 70 | . 44 | 1.95 |
| North Platte, Neb | . 40 | . 01 | . 14 | T. | . 22 | . 47 | . 71 | . 29 | 2. 83 | . 04 | . 04 | 2. 35 | . 45 |
| OklahomaCity,Okla_ | 2.25 | . 39 | 3.71 | . 70 | 1.01 | 2. 35 | . 80 | 3. 53 | 2. 84 | 2. 04 | . 33 | 2.37 | 2. 13 |
| Omaha, Nebr | 1. 06 | . 81 | 1.15 | . 03 | 1. 51 | . 73 | . 12 | 2.89 | 2. 84 | 1.47 | . 09 | 2. 55 | . 27 |
| Parkersburg, W. Va- | 2. 83 | 1. 03 | 4. 62 | . 80 | 3.32 | 1.84 | . 60 | 1.85 | 4. 76 | 1.82 | 5. 56 | . 97 | 2.97 |
| Peoria, Ill | 2. 64 | 1.56 | 2. 77 | . 20 | 2. 29 | 1.88 | . 07 | 3. 18 | 2. 91 | 1.22 | 3.43 | 3.67 | 1. 37 |
| Phoenix, Ariz | 96 |  | . 83 | 1.00 | . 54 |  |  | 1.92 | 2.38 | T | . 04 | 1. 04 | 2.84 |
| Pierre, S. Dak | . 43 | 80 | . 11 | T. | -. 84 | - 86 | 18 | $\begin{array}{r}1.45 \\ \hline\end{array}$ | 1. 27 | .71 $\times 8$ | .49 506 | 3.16 | .20 2 |
| Pittsburgh, P | 2. 55 | . 80 | 2. 66 | 1. 35 | 2.37 | 1.86 | . 28 | 1.79 | 3.82 | 2. 57 | 5. 06 | 1.31 | 2.33 |
| Portland, Ore | 6.47 | 5. 80 | 5. 39 | 3.70 | 11.32 | 6.31 | 4.24 | 4.30 | 7. 44 | 5. 84 | 10. 04 | 2. 94 | 4.15 |
| Pueblo, Colo | . 37 | T. | - 11 | T. | .15 8.54 | . 20 | . 92 | $\stackrel{66}{4}$ | . 64 | ¢. 28 | - 72 | 1. 26 | . 66 |
| Roseburg, Ore | 4.37 | 5.16 | 4.79 | 2. 69 | 8. 54 | 4. 62 | 6. 27 | 4.73 | 3. 90 | 6.27 3.39 | 6. 46 | 2. 3.59 3.03 | 1.95 |
| Sacramento, | 2.15 | . 80 | 4. 58 | $\begin{array}{r}.47 \\ \hline\end{array}$ | . 83 | - 49 | . 25 | 1. 84 | ${ }_{2} .36$ | 3. 39 | 1.09 4.43 | 3. 2 2.38 | .62 1.90 |
| St. Louis, Mo. | 2.88 | 1.76 | 3. 12 | 1. 53 | 1. 97 | 2. 53 | . 78 | 2. 73 | 2. 08 | .56 1.08 | 4. 43 | 2.36 3.70 3. | 1.90 |
| St. Paul, Minn | 1.30 | 08 | . 56 | . 48 | 2.64 | . 92 | . 06 | 3. 45 | 2.59 | 1. 1.08 | 1. 58 | 3. 70 | . 35 |
| Salt Lake City, Utah_ | 1. 42 | 1.70 | 1.21 | . 37 | 1. 61 | . 92 | 1. 31 | 1.77 | . 81 | 1. 90 | 1. 04 | 3. 33 | 1.05 |
| San Antonio, Tex...- | 1. 78 | 1.45 | 4.55 | 3. 24 | . 29 | 2.14 | . 75 | 2. 53 | 1. 56 | 2. 95 | 1.16 | . 98 | 4. 21 |
| San Diego, Calif | . 83 | . 40 | 2. 23 | . 86 | . 73 | . 05 | . 08 | 1.91 | . 43 | . 19 | $\begin{array}{r}.30 \\ \hline\end{array}$ | $\bigcirc \cdot 75$ | . 16 |
| San Francisco, Calif- | 2. 47 | 1. 94 | 6. 22 | .$^{70}$ | . 92 | 1. 50 | . 81 | 5. 60 | . 44 | 2. 70 | 1.43 | 3. 77 | . 49 |
| Santa Fe, N. Mex | . 78 | . 03 | 1.75 | T. | . 61 | . 06 | . 26 | -63 | ${ }^{-7} 76$ | - 294 | ${ }_{5}$ T. 03 | 1. 13 | ${ }^{.82}$ |
| Scranton, Pa | 2. 29 | 3.75 | 2. 83 | 1.12 | 1.37 | 2. 01 | . 89 | 1. 04 | 2.76 | 2.97 | 5. 03 | . 76 | 2. 20 |
| Seattle, Wash | 5.33 | 6.82 | 4. 74 | 5.28 | 5. 66 | 4.58 | 2. 70 | 3.81 | 4.13 | 4. 42 | 6. 60 | 1.45 | 2. 06 |
| Sheridan, Wy | . 59 | 49 | . 22 | . 08 | 1.03 | .90 -94 | . 12 | . 58 | 1.05 | $\stackrel{.}{49}$ | 1.38 | 1.16 | $\begin{array}{r}.38 \\ \hline 3.19\end{array}$ |
| Shreveport, L | 4. 08 | .50 .85 | 2. 22 | 3.61 | 4. 14 | 2. 54 | 1.14 | 4.13 | 4. 68 4.49 | 2.15 .64 | 1. 2.42 | 2.01 4.14 | 3.19 3.47 |
| Springfield, ${ }_{\text {Thomasville, }}$ | 2. 64 | 1.85 3.79 | 1.59 .51 | .71 1.89 | 2. 66 1.67 | 2.88 1.87 | 2.61 | 3. 90 5.38 | 4.49 3.40 | .64 3.69 | 2.46 3.11 | 4.14 1.10 | 3.47 2. 87 |
| Thomasville, | 2. 64 | 3. <br> 3. <br>  <br>  | 2. 518 | 1.89 1.62 | 1.67 .96 | 1.87 1.31 | .61 1.02 | 5. 38 1.85 | 3.40 3.10 | 3.69 2.14 | 3. 11 2. 83 | 1.10 .62 | 2. 87 2. 09 |
| Walla Walla, Wash | 2. 13 | 1.77 | 1.91 | 1.00 | 3. 04 | 2.74 | 1.05 | 1.02 | 3.16 | 2. 10 | 3. 91 | 95 | 1. 18 |
| Washington, D. C. | 2. 71 | 1. 54 | 2. 20 | 2. 06 | . 93 | 2.11 | . 53 | 1. 48 | 2. 32 | 4. 51 | 4.15 | 55 | 2. 04 |
| Winnemucca, Nev | . 74 | . 92 | 1.37 | . 02 | . 38 | 4.4 | . 25 | . 77 | . 72 | 1.33 | . 64 | . 52 | 53 |

[^363]Table 737.—Precipitation: Normal ${ }^{1}$ and total precipitation at selected points in the United States, 1912-1923-Continued.

| Station. | Nor- <br> mal for Dec. | December total precipitation. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 |
|  | In. | In | In | I | In. | In. | In. | In. | In. | In | In. | In. | In. |
| Amarillo | 0.83 | 1. 18 | 2.84 | 1.17 | 0.13 | 0.88 | 0.04 | 2. 78 | 0.50 | 0.64 | 0.06 | 0.10 | 1.11 |
| Atlanta, ${ }^{\text {a }}$ | 4. 54 | 3.47 | 3.95 | 5. 31 | 9.07 | 3. 57 | . 89 | 5.46 | 12.94 | 4.36 | 1.79 | 6. 20 | 5. 60 |
| Birmingham, Ala | 4.60 | 5. 80 | 2.99 | 4.65 | 6.11 | 3. 70 | 1.48 | 4.14 | 9.56 | 9.57 | 3.23 | 7.63 | ס. 30 |
| Bismarck, N. Dak | . 62 | . 40 | . 28 | . 34 | . 39 | 1. 52 | . 59 | 1.02 | 23 | 29 | 29 | . 94 | . 22 |
| Boise, Idaho. | 1.72 | . 83 | 2.40 | . 47 | 1.56 | 1. 29 | 2.33 | . 39 | 1. 20 | 2.43 | 88 | 1.73 | 79 |
| Boston, Mas | 3.41 | 5.36 | 3.05 | 3.46 | 3.94 | 3.00 | 2. 56 | 3.21 | 1.63 | 3. 89 | 2.35 | 3.01 | 4. 99 |
| Brownsville, | 1.52 | 1. 51 | 1.17 | 2. 19 | 4.30 | . 69 | . 32 | 3.55 | 1.08 | 05 | 17. | . 38 | 2. 86 |
| Buffalo, $\mathbf{N}$. | 3. 37 | 2.21 | 1.37 | 3. 49 | 4. 09 | 3.37 | 3.93 | 2.41 | 1.96 | 3. 36 | . 86 | 3.23 | 3. 00 |
| Canton, N. | 3.59 | 2.55 | 2.38 | 2.15 | 2. 49 | 2. 53 | 1.76 | 2.79 | 1. 12 | 5. 41 | 1. 60 | 1.03 | 2. 51 |
| Charleston, | 3.15 | 3. 90 | 2. 59 | 2. 35 | 2.81 | 1.47 | 1.08 | 3.17 | 19 | 3.00 | 51 | 4.61 | 3.91 |
| Charlotte, | 3.86 | 1. 34 | 4.57 | 6.53 | 3. 53 | 2.32 | 1.69 | 4.35 | 2.20 | 4.47 | 2.66 | 4.47 | 3. 33 |
| Cheyenne, | . 31 | . 63 | 2. 00 | . 16 | . 41 | . 34 | . 81 | . 58 | 1.10 | . 57 | 1.31 | . 44 | 28 |
| Chicago, Ill | 2. 07 | 1. 08 | . 45 | 2.33 | 1.31 | 2. 58 | . 88 | 3.24 | . 70 | 3.33 | 4.63 | 1.21 | 1. 96 |
| Cincinnati, | 2.93 | 2. 25 | 1. 28 | 3.14 | 4. 59 | 3.60 | 1. 56 | 4.68 | 2.56 | 1.38 | 4. 86 | 4.00 | 6. 94 |
| Cleveland, Ohio | 2.58 | 1.33 | 1.38 | 1.57 | 1.75 | 2. 06 | 1.41 | 1.58 | 1.32 | 1. 64 | 1. 75 | 2.45 | 4. 50 |
| Concordia, Kans | . 48 | . 12 | 3.91 | 1. 57 | . 40 | . 88 | . 06 | 1.87 | . 24 | . 58 | . 01 | T. | . 17 |
| Des Moines, Iowa | 1. 31 | . 30 | 1.05 | 1. 28 | . 65 | . 65 | . 88 | 1.35 | . 93 | 1. 38 | . 80 | . 25 | 61 |
| Devils Lake, N. Dak | . 39 | 74 | . 06 | . 36 | . 64 | . 90 | . 66 | . 67 | . 42 | . 30 | . 75 | . 87 | 23 |
| Dodge City, Kans... | . 56 | T. | 1. 88 | . 46 | . 23 | . 30 | . 25 | 4.03 | . 08 | 81 | . 68 | T. | 48 |
| Dubuque, Iow | 1.72 | 1. 00 | . 34 | 1.83 | . 36 | 95 | . 52 | 1.90 | . 63 | . 96 | 2. 43 | . 41 | . 92 |
| Duluth, Min | 1. 22 | 2. 19 | . 17 | . 30 | . 87 | . 38 | 1.07 | 2. 03 | . 30 | 1.07 | . 69 | . 90 | 82 |
| El Paso, Tex | . 52 | . 48 | . 76 | 3.94 | . 43 | . 32 |  | . 78 | . 12 | T. | . 15 | . 09 | . 83 |
| Eureka, Calif | 7.25 | 5. 83 | 7.58 | 7.09 | 5.19 | 5.47 | 1.17 | 4. 29 | 4.33 | 10.89 | 4.48 | 7.62 | 4.93 |
| Evansville, Ind | 3.83 | 1.69 | 1.62 | 3.62 | 6.97 | 4.66 | 2.12 | 5.83 | 1.86 | 3.86 | 5.18 | 5. 94 | 6. 43 |
| Fort Worth, Te | 1. 22 | 1:95 | 5. 42 | 4.40 | 1.99 | . 11 | . 05 | 4.08 | . 44 | 1.31 | . 34 | . 06 | 4.68 |
| Fresno, Calif | 1. 53 | . 35 | 1.53 | 1.76 | 2.78 | 1.93 | . 14 | 1.46 | . 89 | 1. 07 | 3. 47 | 2.20 | . 24 |
| Galveston, Tex | 3.73 | 8.61 | 2.11 | 4.43 | 5.69 | . 79 | 1.00 | 3.46 | 2.02 | 6.49 | 2. 76 | 2.56 | 7.84 |
| Grand Rapids, Mich. | 2. 54 | 1.32 | . 31 | 1.89 | 1. 22 | 3.81 | . 82 | 4.02 | 1.19 | 4. 19 | 4. 14 | 1.40 | 2.18 |
| Greenville, Me. | 2. 79 | 2.14 | 4.10 | 1.50 | 4.84 | 4.87 | 3. 62 | 3.49 | 1.81 | 6.93 | 2.02 | 2.79 | 3.32 |
| Havre, Mont.. | . 63 | .11 | . 02 | . 66 | . 77 | 1.05 | 2.64 | . 09 | . 20 | 1.01 | $\stackrel{25}{ }$ | . 53 | . 69 |
| Indianapolis, | 3. 04 | 1. 43 | . 49 | 3.37 | 5. 15 | 2.50 | 1. 10 | 6. 19 | . 85 | 3. 27 | 3. 27 | 4.45 | 5.60 |
| Tola, Kans | . 93 | . 51 | 3.98 | . 82 | 1.12 | -68 | - 29 | 3. 22 | . 19 | . 89 | . 52 | . 18 | 1.14 |
| Jacksonville, | 2.99 | 2. 91 | 4. 49 | 5. 20 | 3.46 | 7.47 | 2.11 | 2.60 | 4.61 | 3.35 | 1.60 | 2. 54 | 1.38 |
| Kalispell, M | 1. 85 | . 69 | . 48 | . 40 | 2. 00 | 1. 70 | 4.78 | ${ }^{7} 87$ | . 91 | 1. 23 | 1.16 | 1. 50 | 1. 55 |
| Little Rock, A | 4.24 | 2.22 | 2.96 | 6. 88 | 5. 37 | 2.17 | 1.24 | 7.95 | 2.34 | 6.99 | 2. 58 | 3.38 | 4.70 |
| Los Angoles, C | 2.90 | 03 | 1.66 | 3.73 | 2. 52 | 3.67 | . 07 | 1. 54 | 1. 99 | 1. 01 | 7.90 | 3.09 | . 80 |
| Lynchburg, Va | 3.27 | 2.36 | 2.56 | 4.68 | 2.37 | 2.32 | 1.70 | 2. 59 | 1.96 | 2.34 | 1. 01 | 3.42 | 2.72 |
| Madison, Wis | 1.77 | 1.35 | . 33 | 1.76 | + 64 | 1.24 | . 45 | 2.19 | . 93 | 1.33 | 2.73 | 1. 23 | 2.12 |
| Marquette, M | 2. 52 | 2.42 | . 94 | . 85 | 2.17 | 3. 09 | 3.86 | 2. 94 | 1.88 | 2.27 | 2. 04 | 1.14 | 1. 52 |
| Memphis, T | 4.38 | 3.00 | 1.69 | 6.35 | 5.73 | 3. 26 | 1.33 | 4.58 | 2.61 | 7.11 | 2.53 | 5.19 | 5.35 |
| Miami, Fla | 2.24 | 1. 90 | 32 | 4. 43 | 2. 00 | 25 | 1.46 | 4.11 | 1.83 | 1.72 | $\stackrel{.}{23}$ | 1.19 | . 46 |
| Mobile, Ala | 4. 57 | 8.16 | 2. 55 | 4.13 | 4.16 | 6.68 | 1.85 | 4.92 | 5.42 | 6.18 | 5. 54 | 9.10 | 6.13 |
| Modena, Uta | . 58 | T. | . 54 | . 46 | . 80 | . 67 | . 20 | 2.01 | . 40 | . 25 | 2.14 | . 61 | . 41 |
| Nashville, Ten | 3.82 | 5.14 | 2.45 | 5.06 | 6.44 | 4. 29 | 1. 46 | 4.56 | 3. 28 | 2. 99 | 1.76 | 6. 29 | 4. 32 |
| New Orleans | 4. 46 | 11.21 | 1.78 | 3. 99 | 5. 07 | 7. 17 | 2. 16 | 8. 46 | . 83 | 8.70 | 3. 49 | 7. 01 | 4.37 |
| Norfolk, Va. | 3.49 | 4.65 | 1.68 | 4.69 | 2. 26 | 3. 11 | 2.62 | 2.94 | 1.71 | 4.91 | 3.69 | 2.93 | . 93 |
| North Platte, Nebr-- | . 47 | . 18 | 3. 09 | . 87 | . 82 | . 42 | . 27 | 1.31 | .32 | . 60 | . 14 | . 01 | . 39 |
| Oklahoma City, Okla_ | 1.74 | . 62 | 3.38 | 2.74 | . 33 | 1.05 | . 04 | 3.04 | . 12 | 1.37 | . 18 | . 53 | 2.06 |
| Omaha, Nebr | . 91 | . 32 | 2.19 | 1.38 | . 34 | . 65 | . 48 | . 72 | . 69 | . 81 | . 14 | . 07 | . 58 |
| Parkersburg, W. Va- | 2.77 | 2.62 | 2.75 | 4.75 | 5. 24 | 3. 48 | . 90 | 4. 23 | 4.07 | 1.68 | 4.30 | 4. 13 | 5. 36 |
| Peoria, Illan-...---- | 2.37 | 1.13 | . 74 | 1.81 | 1. 66 | 1.75 | . 63 | 2.80 | . 30 | 1.87 | 2.91 | 1.38 | 2.21 |
| Phoenix, Ariz | . 59 | . 83 | . 27 | 3.09 | 2. 54 | . 39 | . 00 | 1.16 | . 13 | T. | . 87 | . 28 | 2. 23 |
| Pierre, S. Dak | . 50 | . 01 | $\stackrel{.43}{ }$ | + 22 | . 25 | +61 | . 72 | 1. 45 | +12 | . 21 | . . | . 31 | . 24 |
| Pittsburgh, $\mathbf{P a}$ | 2. 73 | 2.86 | 2. 60 | 4.37 | 3.85 | 2.01 | 1.19 | 3. 50 | 2.88 | 1.94 | 2. 36 | 1. 98 | 6.22 |
| Portland, Oreg | 7.34 | 8.03 | 3. 48 | 2.56 | 8. 73 | 3. 81 | 14. 23 | 3. 13 | 4.78 | 8.32 | 3. 09 | 9.43 | 6. 25 |
| Pueblo, Colo | . 46 | . 02 | 1.35 | .59 +153 | .35 5 | . 283 | . 03 | . 8.92 | .59 4 | ${ }_{7}{ }^{38}$ | 1.12 | T. | +35 4.31 |
| Roseburg, Or | 5. 92 | 4. 16 | 2.36 | 1. 53 | 5. 50 | 3. 88 | 3.71 | 3.26 | 4.51 | 7.17 | 1.52 | 5.86 | $\begin{array}{r}4.31 \\ \hline 94\end{array}$ |
| Sacramento, Ca | 3. 53 | 0.23 | 4.40 | 3. 44 | 4.42 | 3.73 | . 45 | 1. 70 | 2. 22 | 4.32 | 3. 81 | 6.12 | . 94 |
| St. Louis, Mo- | 2. 23 | + 42 | 1.62 | 2. 23 | 3. 34 | 2. 16 | . 78 | 2. 69 | 1. 22 | 2.41 | 2. 89 | 4.98 | 3. 30 |
| St. Paul, Minn | 1. 06 | 1. 54 | + 02 | . 50 | ${ }^{-} 71$ | 1. 21 | . 57 | 2.05 | $\begin{array}{r}.66 \\ \hline 138\end{array}$ | ${ }^{-88}$ | $\stackrel{.27}{+29}$ | $\begin{array}{r}.18 \\ \hline\end{array}$ | . 96 |
| Salt Lake City, Uta | 1.33 | .80 .87 | 1.35 | .39 +43 | 1. 71 | 2. 64 | .$^{T}$ | - 5.51 | 1.38 2.05 | 1.38 .16 | 2.29 .23 | 2.92 .10 | 4.92 4.29 |
| San Antonio, Tex | 1. 56 | 2.76 | 4. 47 | 1.43 | 1.57 2.60 | $\begin{array}{r}.33 \\ 1.14 \\ \hline\end{array}$ | T. | 3.61 1.68 | 2.05 | . 16 | 9.23 | 1. 10 | 4. 29 1.65 |
| San Diego, Calif | 1.82 | + 03 | 5.72 | 2. 21 | 2. 60 | 1.14 | T. | 1. 68 | . 48 | $\bigcirc$ | 9.26 6.39 | 1.21 | 1.65 |
| San Francisco, Calif. | 4.24 | 1. 30 | 5. 41 | 5. 49 | 6. 42 | 4. 79 | . 72 | 2. 62 | 3. 21 | 7. 48 | 6.39 | 7. 77 | 1. 91 |
| Santa Fe, N. Mex.-- | . 76 | - 79 | - 77 | 1.70 | . 97 | +17 | $\stackrel{02}{ } \cdot 0$ | 1. 24 | ${ }_{-} \cdot 33$ | . 84 | . 88 | .20 .31 | . 98 |
| Scranton, Pa | 2. 61 | 4.07 | 2. 16 | 4. 19 | 4.66 | 3. 26 | 2.15 | 2.88 | 2. 52 | 3. 03 | 1. 83 | 2.31 | 2. 44 |
| Seattle, Wash | 5. 29 | 4.43 | 2.61 | 1.39 | 7.77 | 4.13 | 9.21 | 5.04 | 4.10 | 5. 68 | 7.25 | 7.37 | 3. 31 |
| Sheridan, Wy | . 60 | + 21 | . 12 | $\rightarrow 14$ | . 84 | 1. 07 | 1.02 | . 21 | $\stackrel{35}{ } \cdot$ | . 51 | . 54 | 1.02 | . 82 |
| Shreveport, | 4.37 | 4.77 | 4. 28 | 7. 16 | 3.05 | 1. 65 | 1.02 | 3. 09 | 2.08 | 6.37 | 1.92 | 2.59 2.07 | 7. 82 |
| Springfield, Mo. | 2. 67 | - 26 | 2.71 | 2. 90 | 3.21 | 2.07 | 1.18 | 2.97 | . 44 | 1.84 | 1.92 | 2.07 | 2. 92 |
| Thomasville, Ga | 3. 69 | 4.80 | 2.51 | 4.60 | 1.73 | 6.59 | 1.82 | 8. 13 | 2.56 | 8.60 | 2.14 | 6.33 | 2.79 |
| Trenton, N.J | 3. 16 | 4.23 | 2. 44 | 4. 64 | 4.44 1.97 | 4.87 | 1.55 | 3.86 | 2.94 1.92 | 4.25 2 | 1.85 1.57 | 3.46 1.83 | 3. 94 |
| Walla Walla, Wash. | 2. 10 | +62 | .99 .99 | .53 4.49 | 1.97 280 | 2.68 | 4.11 1.47 | 1.48 4.65 | 1.92 3.32 | 2.50 3.15 | 1.57 1.95 | 1.83 3.48 | 2.18 2.80 |
| Washington, D. C.--- | 3. 16 | 4. 12 | 2.29 1.84 | 4.49 .57 | 2. 80 1.22 | 4. 03 .26 | 1.47 .05 | $\begin{array}{r}1.65 \\ . \\ \hline\end{array}$ | 3.32 .94 | 3.15 1.17 | 1.95 1.34 | 3. 48 1.91 | 2.80 1.02 |
| Winnemucco, Nev.-- | 99 | . 27 | 1.84 | . 57 | 1.22 | . 26 | . 05 | . 50 | . 94 | 1.17 | 1.34 | 1.91 | 1. 02 |

[^364]
## INDEX.

Africa- Page.
British, rainfall and sheep growing ..... 233-234
Portuguese, sugar production ..... 851
South-
meats, exports and imports ..... 1018
sugar production ..... 851
Union, sheep production ..... 230
wool exports ..... 292
Aftermath pastures, grazing ..... 374
Agricultural-
associations, cooperative studics ..... 35-38
Economics Bureau, preparation of report on wheat situation ..... 95
expansion, misdirection and excess ..... 502-504
mroducts-
exports ..... 1103-1114, 1118, 1119-1126, 1135
foreign trade, 1852-1923 ..... 1135
imports 1094-1102, 1111, 1114-1118, 112 ..... 6-1135
surplus, purchase by Government, discussion ..... 16-17 ..... 16-17
situation, monthly circular ..... 29
statistics ..... 601-1222
Agriculture-
changes, economic studies ..... 111
conditions, prices and costs, discussion ..... 6-7
credits act, effect, remarks ..... 275
Department-
appropriations and expenditures, 1923 ..... 77-78, 79-83
building program ..... 74-76
new organization ..... 38. 39
organization, 1924 ..... 11
receipts from various activities ..... 78-79
regulation of grazing on National Forests ..... 254
study of sheep raising costs ..... 269
wool, grades establishment ..... 298
work against predatory animals ..... 265
improvement-
in 1923 and causes ..... 1, 6, 12-13
needs ..... 13-14
information, demand for ..... 29
intensive, comparisons ..... 475-478
International Institute, reports ..... 20
Secretary-
foreword to Yearbook ..... III
report for fiscal year 1923 ..... 1-93
report on "The wheat situation" ..... 95-150
wheat regions, readjustments ..... 138-145
world, survey ..... 20-21
Alabama-
cane and sirup production ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
Alaska-
forest products consumption, comparisons ..... 483
timber stand ..... 1053
Alcohol, manufacture from molasses ..... 211
Aldous, A. E., aid on forage article ..... 311
Alfalfa-
feed-
for sheep, notes ..... 257, 258
use and value ..... 345-347
value, etc., 1919 ..... 337
freight rates ..... 1171
importance as feed crop ..... 342
Alfalfa-Continued.
seed- Page.
farm prices, monthly, 1912-1923 ..... 861
market prices, by months, 1910-1923 ..... 863
prices to farmers, monthly, 1912-1923 ..... 864
requirement for acre ..... 1140
Alkali-
bug, injury to beets, hibernation, etc ..... 192
salts, accumulation from irrigation water, prevention ..... 40
Almonds, imports ..... 11000, 1114
Ammoniates, fertilizer matcrial, prices, wholesale ..... 1190
Ammonium phosphate, preparation improvement ..... 40
Animal-
unit, definition, note ..... 321
units-
carried by pastures in United States ..... 369
per acre, on pastures in various localities ..... 383,Animals-
domestic, definition, note ..... 311
farm-
and products, statistics ..... 879-1049
prices changes ..... 4
live-
exports ..... 1103, 1111, 1119
imports ..... 1094, 1111, 1126
meat-
prices, index number, by months ..... 1193-1194
slaughter under inspection ..... 1012
numbers grazed on pastures in United States ..... 369
predatory
44
44
control.-.------------
elimination on ranges ..... 400
units required for increased population ..... 473
work, number per 1,000 acres of crop land, comparisons ..... 476
See also Livestock.
Ant, Argentine, protection of sugar-cane mealybug ..... 181
Appalachian Mountains, sheep raising ..... 250
Apples-
cold-storage holdings, by months, 1915-1923 ..... 735
commercial, crop summary, production and farm value, 1921-1923 ..... 1138
crop-
condition, by months, 1866-1923 ..... 732
summary, production and farm value, 1921-1923 ..... 1138
exports ..... 1107, 1113, 1122
jobbing prices, 10 markets, 1920-1923 ..... 736-738
prices-
by months, 1910-1923 ..... 735
by States, December 1, 1919-1923 ..... 731
wholesale, at New York, 1881-1923 ..... 739
production-annual, 1889-1923731-732
by States, 1919-1923 ..... 731-732
decrease, 1912-1922, and causes ..... 733
shipments, car lot, by States ..... 733-735
statistics, production, ete ..... 85, 731-739, 1107, 1113, 1122, 1138
Appropriations-
Agriculture Department, 1923 ..... 77, 79-83
Federal, against wolves, etc ..... 265
Apricots, dried, exports ..... 1107, 1122
Argentina-
beef, exports and imports, 1909-1922 ..... 909
corn prices, 1912-1923 ..... 678-679
eggs, exports and imports ..... 1046
meats, exports and imports ..... 1017
pesos, exchange rates in New York, 1912-1923 ..... 1164
pork products, net exports, 1909-1922 ..... 971
Argentina-Continued.
sheep- Page.
production ..... 230, 231
raising, decrease ..... 233
raising, note ..... 239
sugar production ..... 851
wheat, freight rates to Liverpool ..... 661
wool exports, note ..... 292
Argentine ant, protection to sugar-cane mealybug ..... 181
Argols, imports ..... 1096, 1111, 1114
Arid regions, wheat production cost ..... 123-124
Arizona-
cane and sirup production ..... 156
forest fires, number, damage area, and causes, 1916-1922 ..... 1059, 1061
sheep raising-
cost factors ..... 270
remarks ..... 255-256
Arkansas-
cane and sirup production ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059,1061 ..... 1059,1061
Arlington Experiment Farm road investigations ..... 41
Arner, G. B. L.-
artiele on "Sugar" (with others) ..... 151-228
preparation of statistics ..... 601
Army worm, beet, occurrence, injury and control ..... 192
Asclepias spp. See Milkweeds.
Asia Minor, sheep growing, note ..... 234
Asses, foreign countries, numbers ..... 1031-1036
Australia-
animal units, ratio to population ..... 322
beef exports and imports, 1909-1922 ..... 909
droughts, damage to sheep industry ..... 232
meats, exports and imports ..... 1017
pork products, net exports 1909-1922 ..... 972 ..... 972
Port Adelaide, wheat prices ..... 631
sheep-
production ..... 230, 231, 232
raising, note ..... 239
sugar production ..... 851
wool exports, note ..... 292
Austria- ..... 1046
eggs, exports and imports
1017
1017
meats, exports and imports
meats, exports and imports
1042
1042
poultry, exports ..... 849
Austria-Hungary- ..... 1046
eggs, exports and imports
1017
1017
meats, exports and imports, 1911-1913
meats, exports and imports, 1911-1913
1042
1042
poultry, exports and imports
poultry, exports and imports
47
47
Aviators, weather forecasts for
Aviators, weather forecasts for
1120
Bacon-
Bacon-
exports
969
exports by months, $1910-1923$
974-975
prices-
prices- in England, monthly, 1909-1923 ..... 965
wholesale and retail, 1913-1923
Bagasse
181-182
181-182
treatment and utilization
treatment and utilization
213
213
uses, note
uses, note
311
311
Barn, J. B., aid on forage article, note
Barn, J. B., aid on forage article, note
Barer, O. E.-article on-
"Our forage resources" (with others) ..... 311-413
"Sugar" (with others) ..... 151-228
"The sheep industry" (with others) ..... 229-310
"The utilization of our lands for crops, pasture, and forests" (with others) ..... 415-506
study of wheat situation ..... 95
Page.
Balkan region, sheep growing, note ..... 234
Ballow, E. B., study of wheat situation ..... 95
Baltimore, prices of tobacco, 1907-1923 ..... 873
Bananas, imports ..... 1099, 1131
Bankruptcy-
farmers, by States, 1910-1923 ..... 1158-1160
wheat farmers, percentage ..... 121
Barberry eradication, progress 1924 ..... 42-43
Barks, herbs, and roots, imports ..... 1097Barley-
condition and yield, 1866-1923 ..... 698
crop summary, production and farm value, 1921-1923 ..... 1137
exports ..... 1108
feed-
use and value ..... 355-356
value, etc, 1919 ..... 334, 335
importance as feed crop ..... 342
imports and exports, 1907-1923 ..... 705
marketing by farmers, 1917-1923 ..... 704
markets, receipts, 1909-1922 ..... 704
prices-
on farm, 1908-1923 ..... 705, 707
weighted, at Minneapolis, 1909-1923 ..... 707
production-
and value, by States ..... 697
value, exports, etc, 1869-1923 ..... 696-697
seed to sow acre ..... 1140 ..... 1140
statistics-
acreage, production, exports, etc ..... $84,85,86,1108,1137$
production value, prices, markets, etc ..... 696-707
straw, feed value, etc., 1919 ..... 339
supplies on farm and quality, 1910-1923 ..... 703
trade, international, 1910-1923 ..... 706
use in fattening sheep ..... 262
weight per bushel, 1902-1923 ..... 1141
world crop production and yield ..... 699-703
yield-
per acre, by States, 1908-1923 ..... 698
reduction, 1909-1922 ..... 697
yields, European countries comparisons ..... 467
Barn implements, number and value ..... 1156
Barnes, W. C.-
article on-
"Our forage resources" (with others) ..... 311-413
"The sheep industry" (with others) ..... 229-310
Barns, sheep, use in fattening for market ..... 262
Beans-
acreage, production and value, by States, 1922-1923 ..... 790-792
crop summary, production and farm value, 1921-1923 ..... 1138 ..... 1138
exports ..... 1110
field-
feed use and value ..... 337, 363
importance as feed crops ..... 342
seed to sow acre ..... 1140
straw, feed value, etc., 1919 ..... 339
imports ..... 1102
prices-
790
farm, by months, 1910-1923 ..... 791
wholesale, 1914-1923
186
186
rotation with beets ..... 791
shipments, car-lot, by States
soy. See Soy beans.
statistics, acreage, production, etc ..... 84, 85, 790-794, 1102, 1110, 1138
velvet-acreage, yield, and production794
See also Soybeans; Velvet beans.
Page.
Becker, Joseph A., preparation of statistics ..... 601
Beef-
cold-storage holdings, 1916-1923, by months ..... 906
consumption-
standards, comparisons ..... 479, 481, 489, 494
total and per capita, 1907-1923 ..... 1014
exports ..... 1113, 1119, 1120
exports, 1909-1922 ..... 909
foreign countries, exports and imports, $1909-1922$ ..... 909
imports, 1909-1922 ..... 909
production-
and percent of all meats, 1907-1923 ..... 1013
relation to grass, note ..... 327
use as food, per capita ..... 283
Beef-cattle-
farms, pasture on, economic importance ..... 411-412
purebred, freight and express rates ..... 1174-1175
ratio to population ..... 325
Beeswax, imports ..... 1094, 1116
Beet
farming, land tenure ..... 200
pulp-
feed use ..... 211
feed value, etc., 1919 ..... 340
use in fattening sheep ..... 262
States, acreage in crops and beets, comparison ..... 227
sugar-industry, development in United States156-159
See also Sugar, beet.
tops, feed utilization and value ..... 212
Beetle, beet leaf, injury to beets, hibernation, etc ..... 191-192
Beets-
acreage, comparison with acreage in other crops ..... 227
diseases and insect pests ..... 191-193
growing-
factors influencing ..... 184-187
practices ..... 189-191
harvesting method ..... 190
improvement of sugar plants by breeding and selection ..... 203-204
production-
consumption and imports ..... 189
cost factors in various regions ..... 193-200
seed-
selection and treatment ..... 187
to sow acre ..... 1140
sugar-
acreage and production by States ..... 156
acreage, production and value by States, 1914-1923 ..... 842
consumption by factories, sugar yield, etc., by States ..... 843
content, requirement ..... 190
extraction and purity, 1902-1922 ..... 203
feed use and value ..... 358
foreign countries, acreage and production by countries ..... 848-849
prices to growers by States, 1914-1923 ..... 842
statistics, acreage, production, etc. ..... 84, 85, 842-843, 848-849
sucrose content and recovery, etc., by States ..... 843
yields, European countries comparisons ..... 467
tests for harvesting ..... 190
Beet-sugar-
crop, summary, production and farm value, 1921-1923 ..... 1138
factories, number, output, etc. by States ..... 843
Belgium-
crop yield, comparison with United States ..... 467
eggs, exports and imports ..... 1046
forests growth, comparisons ..... 474
meats, exports and imports. ..... 1017
$85813^{\circ}$ - чвк 1923- 78
Belgium-Continued. Page.
pastures, acreage and capacity ..... 470-472
pork products, net imports 1909-1922 ..... 971-972
poultry, exports and imports. ..... 1042 ..... 1042
sugar- beets, acreage and production ..... 848-849-
production ..... 849 ..... 849
wool imports, note ..... 292
Bell, W. B., article on- "Our forage resources" (with others) ..... 311-413
"The sheep industry" (with others) ..... 229-310
Bent grasses, pasture value ..... 380, 381, 390
Bermuda grass, distribution and value ..... 386, 388
Besley, H. J., study of wheat situation ..... 95
Binder twine, fibers, cooperative work ..... 49-50
Binders, grain, prices 1913-1923 ..... 652
Blackstrap molasses, nature, feed value, etc ..... 211
Blue grass, seed to sow acre ..... 1140
Boards, imports ..... 1098, 1099, 1118
Boll weevil, dusting methods ..... 42
Borer, sugar-cane moth-
destruction method ..... 180
introduction and injury to cane ..... 179-180
parasites, preservation ..... 180 ..... 293
Boston, wool market, importance
Boston, wool market, importance
Bradshaw, N. P., article on "Our forage resources" (with others) ..... 311-413
Bran-
price at Minneapolis, 1916-1923 ..... 1153
prices paid by farmers ..... 1155 ..... 1155
Brandes, E. W., article on "Sugar" (with others) ..... 151-228
Brannen, C. O., study of wheat situation ..... 95
Brazil-
beef exports and imports, 1909-1922 ..... 909
cotton yields, comparison. ..... 468
meats, exports and imports ..... 1017
nuts, imports ..... 1100
sugar production ..... 851
Bread-
grains. See Grains.
price-
comparison with flour price ..... 110
distribution ..... 127-128
prices
634-635
634-635
1913-1923
1913-1923
109
109
at New York City, 1913-1914, 1922-1923
at New York City, 1913-1914, 1922-1923 ..... 126-128
Bread-cereals, consumption in Europe ..... 99-100
Bread-grain, situation ..... 98-102
Breadstuffs, imports ..... 1096
Breeding livestock, improvement ..... 44
Bristles, imports ..... 1095
British-India, silk exports 1909-1922 ..... 1049
Brookens, P. F., part in article on sugar ..... 151
Broomeorn-
crop summary, production and farm value, 1921-1923 ..... 1138 ..... 795

price on farm, by months

price on farm, by months
seed to sow acre ..... 1140 ..... 1140
statistics, acreage, production, ete ..... 84, 85, 795, 1138
Buckwheat -
condition and yield, 1867-1923 ..... 727
crop summary, production and farm value, 1921-1923 ..... 1137
prices-
on farm, 1908-1923 ..... 727
on farm and value, by States ..... 728
on markets ..... 728
production-
and farm value, by States ..... 726
value, exports, etc., 1849-1923 ..... 725
Buckwheat-Continued. Page.
seed to sow acre1140
84, 85
statistics-
acreage and production
production, value, prices, markets, etc ..... 725-728, 1137
yield per acre, 1908-1923 ..... 723
Buenos Aires-
corn prices, 1912-1923 ..... 678
wheat prices, 1912-1923 ..... 631
Buffalo-
1022
1022
hides, imports, 1909-1923
hides, imports, 1909-1923 ..... 728
Buildings, rented, cost to Department ..... 75
Bulbs, imports ..... 1100
Bulgaria, sugar-
beets, acreage and production ..... 848-849
production ..... 849
Bulletins, list, by subjects ..... 88-93
Butter-
cold storage holdings, monthly, 1916-1923 ..... 920

- creamery, production by months, 1917-1923 ..... 917 ..... 917
exports ..... 1103, 1119
imports ..... 1094, 1127
international trade, by countries, 1909-1922 ..... 920 ..... 917-919
market receipts, monthly
market receipts, monthly
prices retail and wholesale, and exports, by months
prices retail and wholesale, and exports, by months ..... 921-923 ..... 921-923
statistics, production, etc 917-923, 1094, 1103, 1119
Cabbage-
acreage and production, by States ..... 751
crop summary, production and farm value, 1921-1923 ..... 1138
Danish, prices at 10 markets, 1920-1923 ..... 753 ..... 753
plants, number to acre ..... 1140
prices, by months, 1910-1923 ..... 752
shipments, car lot, by States
shipments, car lot, by States ..... 752 ..... 752
statistics, acreage, production, etc ..... 84, 85, 751-753, 1138
Calcium arsenate, boll weevil control ..... 42
Calfskins, imports, 1909-1923 ..... 1022
See also Hides.
Galifornia-
beet production, cost per acre ..... 196, 198
beets and sugar pioduction ..... 156 ..... 268
disease of sheep
disease of sheep
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
fruits and nuts, production and value ..... 741-742, 743
labor, man and animal, per 1,000 acres crop land ..... 475,476
sheep
238
238
industry, early days, notes
industry, early days, notes .....
270 .....
270
raising, cost factors
raising, cost factors ..... 256-257 ..... 256-257
Gallander, W. F., preparation of statistics ..... 601 ..... 601
study of wheat situation
study of wheat situation ..... 95 ..... 95
Calyes- ..... 1012
carcasses, condemnation under inspection 1907-1923
895-904
at principal markets
892
892
on farm 1910-1923
on farm 1910-1923 ..... 893-894
slaughter under inspection 1907-1923 ..... 1012
weight, live and dressed, by months
weight, live and dressed, by months ..... 1015 ..... 1015
See also Cattle.
Camas -
death, distribution on ranges ..... 401
destructive to sheep ..... 264 ..... 264
Camphor, imports ..... 1098, 1118
Canada- animal units, ratio to population ..... 322
beef exports and imports 1909-1922 ..... 909
Canada-Continued. Page.
blue grass, pasture value ..... 380, 381
corn yields, note ..... 468
eggs, exports and imports ..... 1046
exports of wheat to United States ..... 623-624
farm lands, value per acre ..... 114
freight rates on wheat ..... 112, 661
meats, exports and imports ..... 1017
pork products, net exports 1909-1922 ..... 971-972
poultry, exports and imports ..... 1042
sugar production 1909-1923 ..... 849
wheat-
acreage increase ..... 451
exports ..... 660
production, competition with United States ..... 113-115
production, cost, advantages, etc ..... 114-115
production, increase, factors influencing ..... 113-115
Provinces, acreage and production ..... 113
Cane-
acreage-
and production, by States ..... 156, 855
production and sugar yield in Hawaii 1913-1923 ..... 844
"Chinese," comparison with Saccharum officinarum ..... 163-164
cultivation, fertilization and harvesting ..... 168-174
culture, factors influencing ..... 158-163
diseases and insect pests ..... 177-181
growing, operations, labor requirements and cost ..... 164-175
improvement, difficulties ..... 204-206
Louisiana acreage, production and sugar yield 1911-1923 ..... 844
planting material, requirements ..... 164-165
production-
cost, comparison with other crops ..... 174-175
crop summary ..... 1138
propagation, practices and requirements ..... 164-168
region, labor situation ..... 177
sugar-
consumption and output of factories in Louisiana, 1911-1923 ..... 844
industry development, historical notes
industry development, historical notes ..... 154-158 ..... 154-158
See also Sugar, cane.
tops, use as feed ..... 212
value on farm ..... 1138
varieties in United States ..... 163-164
"whacking," purpose and labor ..... 166-167
yield, 1895-1922, Louisiana and Java ..... 204
See also Sugar.
Cantaloupes-
freight rates ..... 1170
maturity determinations ..... 50
shipments, car-lot, 1917-1923 ..... 753
Capital, returns from farms ..... 1161
Carbon tetrachloride, use in hookworm control ..... 40
Carcasses, meat animals, condemnation under inspection 1907-1923 ..... 1012
Carpet grass, distribution and value ..... 387, 388
Carrier, Lyman, article on "Our forage resources", (with others) ..... 311-413
Casein imports ..... 1094
Castor beans, imports ..... 1101
Cattle-
accredited herds, 1917-1923 ..... 931
beef-
and dairy purebred, freight rates ..... 1174-1175Stee also Beef cattle.
carcasses, condemnation under inspection, 1907-1923 ..... 1012
dairy. See Dairy cattle.
exports-
and prices, 1896-1923 ..... 891
by months, 1910-1924 ..... 890
statistics. ..... 1103, 1112, 1119
Cattle-Continued.
farm- Page.
changes in numbers, 1920-1923 ..... 881
prices by States ..... 593
feed-
requirements for 100 pounds gain ..... 934-941
value of beet pulp ..... 211-212
feeder, prices by States ..... 933
foreign countries, numbers ..... 1031-1036
freight rates ..... 1173
grazing-
season in humid Northern pastures ..... 382
with sheep ..... 260
hides, imports 1909-1923 ..... 1022
imports- ..... 891
and prices 1896-1923
by month, 1910-1924 ..... 890
statistics ..... 1094-1126
losses-
from disease and exposure, 1890-1924 ..... 881
from poisonous plants ..... 400-402
market receipts and shipments ..... 882-883
marketing costs, by markets ..... 944
number-
and value by States ..... 880
and value statistics for 1867-1924 ..... 879
grazing in National Forests ..... 403, 1062
prices-
at principal markets ..... 895-904
by ages 1894-1924 ..... 890
on farm by months, 1910-1923 ..... 892, 593
production on farms, number and value ..... 1010
raising, relation to sheep raising ..... 252
range, price changes ..... 5
shipments, percentage crippled and dead, by markets ..... 943-944
shrinkage in shipment ..... 942
slaughter-
monthly, under inspection ..... 905
under inspection 1907-1923 ..... 1012
statistics ..... $879-907,1010,1031,1036,1094-1126$
stockyard receipts, slaughter and shipments ..... 883-889, 1010
tick, eradication work by States ..... 933
tuberculin tested, accredited herds, etc ..... 931
tuberculosis, eradication work by States ..... 932
weight, live and dressed, by months ..... 1015
Central American sugar production ..... 850
Cereals, bread, consumption in Europe ..... 99-100
Chambers, C. R., study of wheat situation ..... 95
Chapline, W. R.-
aid on forage article, note ..... 31
article on "The utilization of our lands, for crops, pasture ${ }_{\text {c }}$ and for- ests" (with others) ..... 415-506
Cheese-
cold storage holdings 1916-1923 ..... 925-926
exports ..... 1103, 1112
imports
924-925
market receipts, monthly
923
production, 1917-1923, by months
127
127
statistics
statistics 923-927, 1094, 1103, 1112, 1114, 1127
Chemistry, crop, studies ..... 41
Cherries, wild, danger to sheep ..... 264
Cheviot sheep, pure-bred, note ..... 245
Chicago-
704
barley receipts, 1909-1922
278, 280
for sheep262


## 1232 Yearbook of the Department of Agriculture, 1923.

Chicago-Continued.
prices of- ..... Page.
bread, 1913-1923 ..... 634 ..... 634
corn ..... 677 ..... 677
farm implements, 1913-1923 ..... 652
flour ..... 632-633 ..... 679-680, 694
oats
oats
rye, weighted, 1909-1923 ..... 645
sheep, variation ..... 285-286
wheat ..... 626, 629
slaughter of sheep, remarks ..... 281
wool market, note ..... 294
Chickens--
foreign countries, numbers ..... 1037-1039
number and value on farms, 1919-1924 ..... 1036
prices on farm, monthly ..... 1043
Chicle, imports ..... 1098
Chile
forest products consumption, comparisons ..... 483
meats, exports and imports ..... 1017
China-
eggs, exports and imports ..... 1046
meats, exports and imports ..... 1917 ..... 1917
poultry, exports and imports ..... 1042
silk exports 1909-1922 ..... 1049
Chinch bug, pest of sugar beet, and control ..... 192-193
"Chinese"
cane, comparison with Saccharum officinarum ..... 163-164
nut oil, imports ..... 1101
Chittenden, F. H., article on "Sugar" (with others) ..... 151-228
Cholera, hog, control work by States ..... 977
Cigar leaf tobacco, imports ..... 1102
Cinchona bark, imports ..... 1097
Cincinnati, prices of corn ..... 676
Cities and villages, land occupied ..... 418, 431
Climate, requirements for cane production ..... 159-161
Clover-
alsike-
seed prices at Toledo, 1910-1923 ..... 863
seed prices on farm by States ..... 862
feed value, etc., 1919 ..... 337
importance as feed crop ..... 342
red-
seed prices at Chicago, monthly 1910-1923 ..... 863
seed prices on farm by States ..... 862
seed-
acreage, production and value by States ..... 858
crop summary, production and farm value, 1921-1923 ..... 1137 ..... 1137
farm prices, monthly 1910-1923 ..... 861, 862 ..... 1101
imports
imports
prices in Chicago, 1910-1923 ..... 863
prices on farm, 1910-1923 ..... 861
prices to farmers, monthly, 1912-1923 ..... 864
receipts and shipments, monthly at Chicago, 1910-1923 ..... 859
to sow acre ..... 1140
stweet, seed prices on farm, by States ..... 862
white, distribution and value ..... 380
Clovers, feed use and value ..... 347-348
Cloves, imports ..... 1101
Clubs, boys' and girls', enrollment and value of products ..... 51
Cocoa, imports 1097, 1111, 1114, 1130Coconut oil-
exports ..... 1109
imports ..... 1101, 1132
Coconuts, imports ..... 1100
Coffee- Page:
exports ..... 1104, 1111
imports ..... 1097, 1111, 1114, 1130
price, wholesale, at New York, 1890-1923 ..... 875
trade, international, by countries, 1909-1922 ..... 874
Coffeebean, danger to sheep ..... 264
Collier, G. A., study of wheat situation ..... 95
Cold storage, space refrigerated, October 1, 1923 ..... 1145
See also Storage.
Cold-wave warnings, value ..... 46
Connecticut-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
manufacture of woolens ..... 293
Colorado-
beet production, cost per acre ..... 196, 197-198
beets and sugar production ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
sheep-
feeding for market ..... 262
raising, cost factors ..... 270
raising, note ..... 256
Concentrates. See Feeds, concentrated.
Condensed milk-
trade, international, 1909-1.922 ..... 912
See also Milk, condensed.
Contracts-
farm, between landlords and tenants ..... 582-589
tenant, need and means of improvement ..... 599, 600
Cooper, M. R., study of wheat situation ..... 95
Cooperage, exports ..... 1105
Cooperation-
agricultural, progress ..... 35-38
marketing associations, results ..... 12
wool marketing ..... 294
Corkwood bark, inaports ..... 1097
Corn-
acreage-
increase and decrease, maps ..... 136
production and exports, trend, 1909-1922 ..... 445
reduction in war period ..... 132-133
Bet-
agricultural readjustments ..... 140-141
pasture conditions ..... 379-384
position in farming in United States ..... 328
rent cash per acre ..... 546
sheep raising, remarks ..... 248-249
tenant farming, percentage ..... 515-516
wheat and corn acreages, shifts ..... 133
borer, parasites introduction ..... 41-42
canned, production, by States, 1905-1923 ..... 754
condition and yield, 1866-1923 ..... 666
crop summary, production and farm value, 1921-1923 ..... 1133
exports 1108, 1113, 1127
feed-
use and value ..... 343-344
value, etc., 1919 ..... 334, 335, 337 ..... 334, 335, 337
feeding value, comparison with wheat ..... 130
freight rates inland ..... 1168
grading by licensed inspectors ..... 673
growing on cane plantation, advantages ..... 169
importance as feed crop ..... 342
marketing by farmers ..... 672
markets, receipts and shipments ..... 671
planter prices, 1913-1923 ..... 652
price-
655
655
estimates
estimates ..... 674-675
weighted average on principal markets ..... 676-679

## 1234 Yearbook of the Department of Agriculture, 1923.

Corn-Continued.
prices- Page.
advance ..... 3-4
farm and trade
farm and trade ..... 674-679
production-
and farm value by States ..... 664
and quality, 1923 ..... 2
value, etc ..... 662-664
relation to pork production, note ..... 327
seed, to sow acre ..... 1140
silage, feed value, etc., 1919 ..... 340
situation ..... 130
statistics-
acreage production, exports, etc. 84, 85, 86, 662-679, 1108, 1113, 1127
production, prices, markets, etc ..... 662-679
stover, feed value, 1919 ..... 339 ..... 339
supplies in United States, 1917-1923 ..... 672
trade international, 1909-1922 ..... 674
wheat equivalent as feed ..... 130
world crop, production and yield per acre ..... 667-670
yellow, prices, 1899-1923 ..... 677-678
yield, by States, 1908-1923 ..... 665
yields, comparisons ..... 468
Corn-and-hog ratios, monthly, 1910-1923 ..... 960
Cornfields, use in feeding sheep for market ..... 261
Cornmeal, exports ..... 1108, 1113
Corriedale sheep, cross-bred, remarks ..... 245
Cost studies, value ..... 24
Cotton-
acreage-
production and exports, trend, 1909-1922 ..... 446
production, and prices ..... 2, 3
yield, and production ..... 798-799
American, universal standards ..... 32-33
area, yield, and production, various countries ..... 801-804
Belt-
crop production and animals ..... 329-330
forage production, etc ..... 328-330
grazing conditions ..... 386-389
sheep raising, remarks ..... 250-251
tenant farming, percentage ..... 515-516
crop-
condition and yield, 1867-1923 ..... 800
summary, production and farm value, 1921-1923 ..... 1137
exports ..... 1105, 1111, 1113, 1121
feed, use of seed, and value ..... 357-358
freight rates ..... 1171
ginned, 1902-1923 ..... 797
importance as feed crop ..... 342
imports ..... 1097, 1111, 1130
J. S., article on-
"Our forage resources" (with others) ..... 311-413
"The sheep industry" (with others) ..... 229-310
marketing-
and prices at nine markets ..... 807-808
by farmers, 1912-1923, by months ..... 805
prices-
at New Orleans and New York, 1900-1923 ..... 809-810
farm and market ..... 806-810
foreign markets, 1912-1923 ..... 810-811
production, value, reports, etc ..... 801-804
seed-
hulls, feed value, etc., 1919 ..... 339
to sow acre ..... 1140
statistics-
acreage, production, etc__ 84, 85, 796-811, 1105, 1111, 1113, 1121, 1137 acreage, exports, production, etc., 1869-1923 ..... 796-811
exports, 1915-1923 ..... 87
Cotton-Continued. Page. ..... 805
trade, international, by countries
trade, international, by countries
warehouses, number and capacity ..... 27
world production-
and acreage, 1909-1923, by countries ..... 801-804
statistics for, 1900-1923 ..... 804
yield reduction and cause, 1909-1922 ..... 800-801
yields, comparisons ..... 468
Cottonseed -
cake, exports ..... 1108, 1113
crop summary, production and farm value, 1921-1923 ..... 1137
feed value, etc., 1919 ..... 334
theal-
exports ..... 1108, 1124
freight rates ..... 1172
prices paid by farmers ..... 1156
prices, statistics for 1910-1922 ..... 1154, 1155
oil
and meal, production, 1900-1923
812, 813, 814
cake, freight rates ..... 1172
freight rates ..... 1172
trade international, by countries ..... 813
prices, farm, by months, 1910-1923 ..... 813
production, by States ..... 811-812
Cowpeas-
acreage, yield, and production, by States ..... 793
feed-
use and value ..... 361-362
values, etc., 1919 ..... 334, 337
prices, farm, by months, 1915-1923 ..... 794
seed to sow acre ..... 1140
straw, feed value, etc., 1919 ..... 339
Cows-
feed units obtained per year from feed and pasture ..... 412
grazinmilk-
number and value, by States ..... 880
number and value, statistics for 1867-1924 ..... 879
prices by months, 1910-1923 ..... 891
Coyotes-
danger in sheep raising ..... 265
eradication from ranges ..... 45
Cranberries-
crop summary, production and farm value, 1921-1923 ..... 1138
production and value, by States, 1914-1923 ..... 744
statistics, acreage, production, etc ..... 84, 85, 744, 1138
Creameries, associations, membership, business, etc ..... 930
Credit-
facilities-
for farm tenants, suggestions ..... 598
in sheep raising, discussion ..... 274-175
wheat farmers, recommendation ..... 145
Credits Act-
agricultural provisions and results ..... 12, 25-26
remarks on effect ..... 275
Creosote-
consumption by wood-treating plants, 1909-1922 ..... 1093
wood treated by, 1909-1922 ..... 1091
Crews, cane farming, size, and duties for various operations ..... 167-170
Crop-
diversification, discussion ..... 16
estimates, guide to marketing ..... 22
land-
potential, West and Southwest ..... 430
requirements, relation to increase of yield per acre ..... 463-469
Crop-Continued.
production- Page.
methods, changes needed ..... 489-492
ratio to population ..... 463
regions, discussion. ..... 313
Cróppers-
educational standards ..... 576-579
wealth per capita ..... 548
Crops-
acreage
aggregates by States, 1921-1923 ..... 1139
changes, 1909-1919 ..... 436
decrease per capita ..... 433-437
per capita, France, Germany, and United States ..... 498
present estimates ..... 422-423
production and value, 1923, discussion ..... 1-4
area in United States, percentage of forage ..... 311-317
areas for forage, food, and other products ..... 313-315
cost of production data ..... 24
diversity, owner and tenant classes, table, etc ..... 573-574
farm, prices, index numbers, by months ..... 1193-1194
feeding, 1909-1922, acreage trend ..... 448, 450
forecasts, "intentions-to-plant'" reports ..... 21-22
harvested, acreages, 1850-1920 ..... 434
insurance, need ..... 35
land utikzation, with pasture and forests ..... 415-506
production and exports statistics, review ..... 84-87
statistics, barley, corn, cotton, tobacco, wheat, etc ..... 602-873
value of 10 combined ..... 1142
values, with ratios and rank ..... 1142-1143
yield-
increase methods ..... 465-466
per acre, owner and tenant classes, table ..... 573, 575
per acre, 5 -year periods 1883-1887, 1918-1922 ..... 464
yields in European countries, comparison ..... 466-467
Cuba-
eggs, imports ..... 1046
imports of pork products ..... 972
meats, exports and imports ..... 1017
poultry, exports and imports ..... 1042
pork products, net imports, 1909-1922 ..... 972
sugar-
prices and supply of raw product, 1904-1923
prices and supply of raw product, 1904-1923 ..... 219 ..... 219
production ..... 850
production and exports, notes ..... 216 ..... 216
Cultivators, number and value ..... 1156
Curly leaf, beet, injury and control ..... 191
Curly-top, beet disease, occurrence and control ..... 191
Currants, imports ..... 1099, 1116
Cut-over lands-
available for pasture ..... 386
pastures, carrying capacity ..... 369
Cut-over lands, classes ..... 454
Cutworms, injury to beets, and control ..... 193Czechoslovakia-
meats, exports and imports ..... 1017
sugar-
beets, acreage and production ..... 848-849
production ..... 849
Dairy
cattle-
purebred, freight and express rates ..... 1175
ratio to population ..... 323-325
cows, relation to sheep raising, note ..... 411-412
Dairy-Continued.
products- Page.statistios909-927
Dairying relation to sheep raising ..... 239
Dates, imports ..... 1099, 1116
Delaware
dairy cows feeding, details and results ..... 412
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
Denmark-
beef exports and imports, 1909-1922 ..... 909
eggs, exports and imports ..... 1046
meats, exports and imports ..... 1017
pastures acreage and value ..... 470-472
pork products, net exports, 1909-1922 ..... 971-972
poultry, exports and imports ..... 1042
sugar-
beets, acreage and production ..... 848-849
production ..... 849
Denver, market for sheep ..... 278, 280
Diet-
percentages of various foods ..... 152
sugar in, cost and value ..... 151-152 ..... 151-152
Dipping, use in eradication of scab ..... 267
Diversification, crop, discussion ..... 16
Dockage-
factor in wheat price ..... 128-129
wheat-
losses on transportation, etc ..... 128
on Minnesota markets, 1899-1922 ..... 619
Dogs, danger to sheep ..... 266
Dominican Republic, sugar production ..... 850
Dorset sheep, purebred, note ..... 244
Drainage-
lands needing, acreage estimates ..... 425, 427
sugar-cane lands, necessity ..... 162
Drills, grain, prices, 1913-1923 ..... 652
Droughts, no losses in sheep industry ..... 232
Dry lands, wheat production cost ..... 123-124
Drecks, foreign countries, numbers ..... 1037-1039
Duluth, barley receipts, 1909-1922 ..... 704
Durum wheat. See Wheat.
Dusting boll weevil, methods ..... 42
Dwellings, rented, percentage of farm homes ..... 510
Dyewoods, imports ..... 1097, 1111
Economy, application to land and to labor, comparisons ..... 475-478
Education, farm families, relation of form of tenure ..... 576-579 ..... 576-579
Eigge:
cold-storage holdings, monthly, 1916-1923 ..... 1045
exports ..... 1046, 1103, 1111
farm prices, by months, 1910-1923 ..... 1047
imports ..... 1046, 1094, 1111 ..... 1046, 1094, 1111
market receipts, and origin, monthly ..... 1043-1045 ..... 1043-1045
prices at principal markets, monthly, 1910-1923 ..... 1047-1048
produetion and value, 1919-1923 ..... 1036
statistics ..... 1043-1048, 1103, 1111
trade, international, by countries, 1909-1922 ..... 1046
Eigypt
cotton yields, comparisons ..... 468
sugar production ..... 851
Egyptian talari, exchange rates in New York, 1912-1923 ..... 1164 ..... 1164
Elevators, factor in price of wheat ..... 126
Elsworth, R. H., study of wheat situation ..... 95 ..... 95
Emmer-
feed- Page.
use and value ..... 365
value, etc., 1919 ..... 334
importance as feed crop ..... 342
England-
labor, man and animal, per 1,000 acres crop land ..... 475, 476, ..... 477
wool prices, 1908-1923 ..... 1007-1008
Estimates, crop guide to marketing ..... 22
Europe-
demand for bread-cereals ..... 99-100
farm animals, relation to population ..... 322
market for American wheat, outlook ..... 101-102
wheat imports, 1909-1913 and 1921-1923 ..... 100 ..... 100
European countries-
cereals production, imports, and consumption, 1919-1921 ..... 450-451
crop productivity, comparisons ..... 475-478
pasture and feed crops ..... 470-472
pastures, carrying capacities, comparison ..... 366
Exhibits, Department, scope and value ..... 52
Expenditures, Agricultural Department, 1923 ..... 77-78, 79-83
Export corporation, Federal, discussion ..... 17-19
Exports-
agricultural products 1103-1114, 1118, 1119-1126, 1135
animal oils ..... 1104
apples 1107, 1113, 1122
barley ..... 1108 ..... 1108
beef-
annual, 1909-1922 ..... 909
by countries of destination, 1910-1923 ..... 908 ..... 908
statistics ..... 908, 909, 1113, 1120
butter ..... 1103, 1119
cattle, by months, 1919-1924 ..... 890
condensed milk ..... 1103
corn ..... 1108, 1123 ..... 1108, 1123
cotton ..... 1105, 1111, 1113, 1121
dairy products ..... 1103, 1111, 1112
eggs ..... 1046, 1103, 1111
farm-
increase by reduction in domestic supply ..... 448-449
products, abnormal ..... 445-446
products, land requirements ..... 455-459
trend, 1890-1922 ..... 444
feeds ..... 1108
foodstuffs, cotton, and tobacco, statistics, 1915-1923 ..... 86-87
forest products 1105-1107, 1111, 1118, 1125-1126, 1135
fruits 1107, 1111, 1113, 1122
grain-
products ..... 1108, 1111
statistics ..... 1108, 1111, 1123
hides and skins ..... 1022, 1104
hogs, 1910-1923, monthly ..... 958
horses, number and prices, 1896-1923 ..... 1028
increase during World War, results ..... 446
lard ..... 1104, 1113, 1121
live animals ..... 1103, 1111, 1119
livestock, land requirements for production ..... 456-457, 460
lumber 1105-1106, 1118, 1125-1126
meat, 1920, discussion ..... 456-457
meats ..... 1017, 1103-1104, 1112
mutton, monthly, 1909-1923 ..... 1105, $11 \overline{1}, 1118,1125$
oats ..... 1108 ..... 930-931
oleo oil, by countries of destinationpork-
968-971
and pork products ..... 971-972
rice ..... 1108
Exports-Continued. ..... Page.
rye ..... 1108
seeds ..... 1109, 1111
sheep, 1895-1923 ..... 991
sugar-
situation, etc ..... 216, 218 ..... 846, 1110, 1113
statistics
statistics
tobacco ..... 1110, 1111, 1113, 1125
vegetable oils $878,1109,1111,1113,1114,1124$111
wool, 1870-1923 ..... 1001-1002
Express, rates, purebred livestock ..... 1174-1176
Extension-
service, progress 1923 ..... 51-53
work-
appropriation ..... 79
Director, duties ..... 38
Falke, Professor, estimates on German pastures ..... 471
Fallow pastures, grazing ..... 374
Farm-
acreages-
for export production, causes and comparison ..... 446, 447
percentage operated by tenants, by countries ..... 208
conditions, cause of decline in morale ..... 11-12
credit, laws helpful ..... 13, 25-26
equipment, manufacture and sale ..... 1156-1157
flocks, management in sheep raising ..... 246-251
houses, abandonment, causes ..... 122
implements, numbers and values ..... 1156
income, relation to form of tenancy ..... 577
labor. See Labor.
land-
expansion direction during next few decades ..... 496-497
percentage operated by tenants ..... 515
proportion in pasture ..... 406-407
See also Land.
managers, types of farms and location ..... 520 ..... 9-10

owners, loss of property, causes

owners, loss of property, causes
ownership and tenancy, article by L. C. Gay (with others) ..... 507-600 ..... 507-600
pastures, economic importance ..... 406-412
population, changes and drift to cities ..... 8-9, 10-11
population statistics, study ..... 34
production-
for export, overdevelopment ..... 443-451
principal crops and groups of crops, 1919-1923 ..... 1143-1144
values on farm, 1897-1923 ..... 1144-1145
products-
demand in world markets ..... 20
exports, overdevelopment ..... 443-445
exports, production, land requirements ..... 455-459
freight rates, etc ..... 1165-1176
Hawaii, shipments to and from U. S ..... 1118-1119
imports, relation to crop land requirements ..... 459
Porto Rico, shipments to and from U.S ..... 1118-1119
prices, 1914-1923 ..... 131
prices, changes ..... 3-4 ..... 14
prices in Iowa and New York, 1913-1923
prices in Iowa and New York, 1913-1923
prices, index numbers, 1913-1923, by months ..... 1192-1193 ..... 1192-1193
purchase and export, by Government, discussion ..... 17-19
standardization ..... 31-32
program, readjusting, studies ..... 25
Farmers-
age, relation to size of farms ..... 528
ages by tenure classes ..... 548-550
aid by Government
aid by Government ..... 19-20 ..... 19-20
bankruptey, by States ..... 1158-1160
Farmers-Continued. Page.
Bulletins, list by subjects ..... 89-93
dependence on wheat income ..... 96-98
educational standards of tenants and owners ..... 576-579
financial-
condition in 15 States ..... 659
difficulties, causes ..... 6-12
incomes, returns from farming ..... 1161-1163
living
expenses of landlords, and tenants ..... 580-581
standard, studies ..... 34
marketing-
of corn ..... 672
of wheat, 1917-1923 ..... 613
mortgages and debts ..... 1157, 1158-60
mutual fire insurance ..... 34-35
organizations handling grain ..... 1164
owner, percentage of farm operators ..... 509
owner, wealth per capita ..... 548
periodicals received, number and classes ..... 579-580
retircment from farms, age and percentage ..... 527
sced-grain loans, appropriation 1923 ..... 81, 82
supplies, prices paid ..... 1150-1152
tenure classes, relative importance ..... 509-515
wheat-
aid from Government ..... 120
credit extension, recemmendation ..... 145
held for seed and feed ..... 102
regions, financial situation ..... 143-145
regions, situation ..... 118-1.22
Farming-
area, expansion, undue and misdirected ..... 502-504
efficiency, relation of type of tenure ..... 569-576
methods for increase of production ..... 489-492
tenant, development causes ..... 522-569
Farms-
acquisition methods ..... 535-538, 561-563
acreage decrease per capita ..... 433-437
business reckonings ..... 1162-1163
land-
and buildings, average, by States ..... 549
used in 1919 ..... 417 ..... 417
negro tenant, location ..... 517
occupancy, duration, oomparison of owners with tenants ..... 594
operator classes and locations ..... 517-520
organization, comparisons for various-countries ..... 477-478
part-owner, number, acreage and location ..... 519, 521
population, movement to cities, causes ..... 121-122
purchase from farm income, amortization dates, table, ctc ..... 563-568
shift of operators-
causes, length of tenure, ete ..... 589-597
relation of tenure ..... 589-600
size, relation of age of operator ..... 528
South-
South-
number operated by white and by colored owners ..... 518
number operated by white and by colored tenants ..... 517 ..... 517
tenant, percentage by countries ..... 208
tenure classes, percentage of each ..... 509
unimproved acreage under lease ..... 521-522
valuation-
changes, 1859-1920 ..... 542-547
in various localities ..... 540
per acre, 1850-1919 compariseus ..... 442, 443
relation to income ..... 541-547 ..... 541-547
value, increase 1910-1920 ..... 119
wages of labor, by classes ..... 1148-1149
Farms-Continued.
wheat-
wheat- Page. Page.
loss from foreclosure, ete ..... 121
regions, mortgage debts ..... 120
Farmsteads, land occupied by buildings, ete ..... 418
Fattening lambs, costs ..... 272-274
Feathers, imports ..... 1094, 1111
Feed-
areas east and west, percentages of total area of crop lands ..... 314
beet tops and crowns, utilization and value ..... 212
cane tops, note ..... 212
cattle, requirements for 100 pounds gain ..... 934-941
corn, comparison with wheat ..... 130
crops, acreage, trend 1909-1922 ..... 448
hogs, requirements for 100 pounds gain ..... 978
sugar factory by-products ..... 211-212
systems, remarks on use ..... 332-333
trade international, prices, etc ..... 1153-1156
units per dairy cow, in year from feed and pasture ..... 412
wheat, utilization of low-priced ..... 129
Feeder, sheep, shipments, discussion ..... 280-281
Feeding-
livestock improvement ..... 44
sheep, for market ..... 261-262
Feeds-
concentrated, discussion ..... 332, 333-336
exports ..... 1108
imports ..... 1096
lamb, for fattening ..... 272-274
Fertilization, cane, practices ..... 169-170
Fertilizer-
bagasse for, note ..... 211
filter press cake, use and value ..... 212
manufacture, studies ..... 40
materials-
imports, exports, production, and consumption ..... 1187-1189
prices, wholesale, 1913-1923 ..... 1189-1190 ..... 1189-1190
pyrites, production, price, and value, by States ..... 1177-1179, 1186
sales, commercial, in cotton States, 1914-1923 ..... 1192
statistics, materials, production, prices, etc ..... 1177-1192
Fertilizers-
application to cane, practices and cost ..... 169-170
beet ..... 186
expenditures for, by States, 1879-1919 ..... 1191-1192
tons sold in Georgia, 1901-1921 ..... 1190
tobacco requirements ..... 49
Fiber crops, area of United States, note ..... 312
Fibers-
animal, imports ..... 1094, 1127-1128
binder-twine, cooperative work ..... 49-50 ..... 49-50
vegetable, imports ..... 1097, 1111, 1130
Field peas, seed to sow acre ..... 1140
Figs, imports ..... 1099, 1116
Fiji-
disease of cane, note ..... 177
sugar production ..... 851
Filberts, imports ..... 1100, 1131
Filter press cake, sugar-mill, fertilizer use ..... 212
Finances, farm, conditions for 1920-1923 ..... 659
Financial statement, 1923 ..... 77-83
Finland-
eggs, exports and imports ..... 1046
forest products consumption, comparisons ..... 483
poultry, exports and imports ..... 1042
sugar-
beets, acreage and production ..... 848-849
production. ..... 850
Fir, Douglas, prices, 1913-1923 ..... 1088

## 1242 Yearbook of the Department of Agriculture, 1923.

Fires, forest- Page.
causes, by States and groups of States, 1916-1922 ..... 1060-1061
number, damage and area, by States and groups of States 1916-19221058-1060
Fish scrap, production, by States, 1912-1922 ..... 1186-1187
Flax-
feed use and value ..... 359
growing, profitableness, comparison with wheat ..... 142-143
importance as feed crop ..... 342
imports ..... 1130
straw, feed value, etc., 1919 ..... 339
world crop, production, 1909-1923 ..... 710-711
Flaxseed-
acreage and production ..... 84, 85
condition and yield, 1908-1913 ..... 709
crop summary, production and farm value, 1921-1923 ..... 1137
feed value, etc., 1919 ..... 343
imports-
by countries of origin, 1910-1923 ..... 713
exports and supplies ..... 712
statistics $713,1101,1115,1$ ..... 1133
marketings by farmers, 1917-1923 ..... 712
prices-
and value per acre ..... 142
at Minneapolis, 1899-1923 ..... 715
on farm, 1908-1923 ..... 714
production-
dernand, etc ..... 142
value, etc., 1849-1923 ..... 708
receipts at Minneapolis, 1910-1923 ..... 712
requirement for sowing acre ..... 1140
statistics, production, values, prices, etc 708-715, 1101, 1115, 1133, ..... 137
trade international, 1911-1922 ..... 713
use in oil production ..... 713
yield per acre, by States, 1908-1923 ..... 709
Fleece, wool-
values on farms ..... 296
weight, increase and average ..... 295-297 ..... 295-297
Fleeces, wool, weights and number by States ..... 1002-1003
Flohr Lewis B., preparation of statistics ..... 601
Flood warnings, value ..... 46
Florida-
cane and sirup production ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059,1060
fruits, production and value ..... 743
Flour-
consumption per capita ..... 102-103
exports-
quality, etc ..... 108
statistics ..... 1108, 1113, 1114, 1123
price, comparison with price of bread ..... 110
prices-
at New York City, 1912-1914, 1922-1923 ..... 109
markets, etc ..... 632-634
quality for domestic use ..... 108
rye, imports and exports ..... 643
Fluke, liver, danger in sheep-raising ..... 268
Fodder, production and use ..... 336-338
Fodders, fuel value, etc., 1919 ..... 337
Food
Commission, Inter-allied Scientific, estimates of food requirements ..... 481
consumption, changes required for land economy
consumption, changes required for land economy ..... 489, 492-494 ..... 489, 492-494
crops, area of United States, note ..... 312
sugar, value, and consumption ..... 151-152
Foods, percentage of various kinds in diet ..... 152
Foodstuffs, consumption, comparisons ..... 479-483
Forage- Page.
crops, value as compared with food, etc ..... 314-316
definition and kinds, note ..... 311
harvested-
classes and uses ..... 333-340
production, kinds and use ..... 332-342
relative importance of classes ..... 335
principal crops, discussion ..... 342-359
production-
acreage, discussion ..... 311-316
agricultural regions of ..... 324, 327-332
area, percentage of United States lands, note ..... 312
development ..... 316-320
in Corn Belt ..... 328
relation of production to livestock ..... 325-326
resources of United States, article by C. V. Piper and others ..... 311-413
seeds, imports, 1911-1923 ..... 860
Forecasting, river stages and floods ..... 46
Forecasts, crops and livestock ..... 21-24
Foreign exchange, rates in New York, 1912-1923 ..... 1163-1164
Foreigners, land ownership ..... 537-538
Forest-
area in United States, by regions ..... 1050
experiment stations, value ..... 56
fires. See Fires.
land-
classes ..... 454
expansion direction during next few decades ..... 496-497
ownership problem ..... 501-502
nurseries, promotion of forest planting ..... 66
pastures-
area in farms and not in farms ..... 366
carrying capacity ..... 369 ..... 369
products-
consumption, comparisons ..... 483-487
cut from stored supply, results ..... 451-455
exports 1081-1085, 1105-1107, ..... 26, 1135
foreign trade, relation to and requirements ..... 460-461 ..... 460-461
imports 1097-1099, 1111, 1118, 1134, 1135statistics ----------1050-1093, 1105-1107, 1111, 1118, 1125-1126, 1135
Forestry
constructive policy, need ..... 60-62
statistics ..... 1050-1093
Forests-
acreage-
estimates ..... 421, 423
per capita, France, Germany and United Státes ..... 498
area of United States, note ..... 312
grazing, acreage, and animal units ..... 523
growth rate, comparisons various countries ..... 474
land-
area decrease by timber cutting ..... 452-453
exclusively suited for, acreage ..... 431, 432
utilization, with crops and pasture ..... 415-506
National-
administration, receipts and uses ..... 55-74
areas by States ..... 1050-1051 ..... 403, 404
grazing, animal units, permits, and grazing season
grazing, animal units, permits, and grazing season
grazing of sheep, notes ..... 254-259 ..... 254-259
grazing, statistics ..... 1062
on Western range, control
on Western range, control ..... 404 ..... 404
receipts from
receipts from ..... 55, 56, 79 ..... 55, 56, 79
road construction, 1923 ..... 1058
timber, free uses, 1907-1922 ..... 1062 ..... 1062
timber sales, 1905-1922 ..... 1062
timber stand, by forests and by States ..... 1054-1055 ..... 1054-1055
timber stand by species, 1922 ..... 1056 ..... 1056
$\dagger 85813^{\circ}$ — YbK $1923-79.480$
Forests-Continued.planting, areas, 1922, 1923.--------------------------------------1057
private ownership, timber growing ..... 64-65, 66-67
productivity, conditions and requirements ..... 473-475
protection against fires ..... 65
public-
and private, grazing leases, nature and practices ..... 524-521
ownership extension ..... 62-64
State and municipal, areas by States ..... 1050-1051
utilization problem growth, waste, and ownership ..... 500-502
world area, by divisions and by countries ..... 1051
Foreword, Yearbook contents and agricultural outlook ..... III
Formosa, sugar production ..... 851
Fort William and Port Arthur, barley rcceipts, 1909-1922 ..... 704
France-
beef exports and imports, 1909-1922 ..... 909
crop yields, comparison with United States ..... 467
crops, pasture, and forest acreage per capita ..... 498
eggs, exports and imports ..... 1046
forest products consumption, comparisons ..... 483, 484
forests growth, comparisons. ..... 474
labor, man and animal, per 1,000 acres crop land ..... 475, 476, 477
meats, exports and imports ..... 1017
pasture acreage per 100 acres crop land ..... 491
pastures, acreage and value ..... 470-472
pork products, net imports, 1909-1922 ..... 872-971
poultry, exports and imports ..... 1042
silk production, 1909-1922 ..... 1049
sugar-
beets, acreage and production ..... 848-849
production ..... 849 ..... 849
wheat consumption per capita ..... 99
wool imports, note ..... 292
Freight-
livestock marketing, costs ..... 1020
rates-
burden on farmers ..... 6, 7, 14
factor in wheat situation ..... 110-113
index numbers, 1900-1923 ..... 1177
inland, on wheat, oats and corn ..... 1167-1168
inland, on wool in grease ..... 1168
ocean, on wheat ..... 1166
pre-war and present comparison ..... 110-113
wheat, in Canada ..... 661
Freights
tonnage on railways, 1917-1923 ..... 1165-1166
weight per carload, 1917-1923 ..... 1165
French Colonies, sugar production ..... 850
Fruit, dried, exports ..... 1107, 1122
Fruits-
canned and preserved, exports ..... 1107
citrus-
shipments, car lots, by States, 1918-1923 ..... 740
total production by States ..... 740
exports ..... -1107, $111 \overline{1}, 1113,1122$
imports 1099, 1111, 1116, 1131
inspection, shipping points and markets ..... 29-31
receipts at principal markets, 1917-1923 ..... 788-789
shipments, car lot, by months. ..... 787-788
statistics, production, prices, etc$1099,1107,1111,1113,1116,1122,1131$
Fuel, bagasse, notes ..... 211, 213
Garden seed, imports ..... 1101
Gardner, H. B., study of wheat situation ..... 95
Garlic, factor in wheat cost ..... 129
Gay, L. C., article on "Farm ownership and tenancy" (with others) ..... 507-600
Geese, foreign countries, numbers ..... 1037-1039
Page.
Gelatin, imports ..... 1095Georgia-
cane and sirup production ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
Germany-
beef exports and imports, 1909-1922 ..... 909
crop-
area in 1923, notes ..... 428, 433
yields comparison with United States ..... 467
crops, pasture and forests, acreage per capita ..... 498
eggs, exports and imports ..... 1046
food-
and timber consumption, comparisons ..... 494
consumption, standards comparisons ..... 481-483
forest products, consumption, comparisons ..... 483, 484
forests growth, comparisons ..... 474
labor, man and animal, per 1,000 acres crop land ..... 475, 476, 477
meats, exports and imports ..... 1017
pasture acreage per 100 acres crop land ..... 491
pastures acreage and capacity ..... 470-472
pork products, net imports, 1909-1922 ..... 971-972
poultry, exports and imports. ..... 1042
purchase of American wheat, situation ..... 101
sugar-
beets, acreage and production ..... 848-849
production ..... 216, 849
wool imports, note ..... 292
Gibbons, C. E., article on "The sheep industry" (with others) ..... 229-310
Gid, danger in sheep raising ..... 269
Ginseng, imports ..... 1107, 1111
Glucose-
cornstarch, production, nature and value ..... 210
exports ..... 123
production from cornstarch, nature and value ..... 210
Glue, imports ..... 1095
Goats-
carcasses, condemnation under inspection 1907-1923 ..... 1012
foreign countries, numbers ..... 1031-1036
number grazing in National Forests ..... 403, 1062
slaughter under inspection 1907-1923 ..... 1012
Goatskins, imports 1909-1923 ..... 1022
See also Hides.
Gophers, pocket, distribution and control ..... 399, 400
Grades, wool, and their uses ..... 297-298
Grading- ..... 673
corn in cars, by licensed inspectors ..... 690
Grain-
bread-
consumption changes since 1913 ..... 5
situation ..... 98-102
cleaning device, demonstration ..... 33-34
exports ..... $1108,1111,1123$
Futures- ..... 54-55
Act, administration
Act, administration
law, results ..... 12
handling by farmers, etc ..... 1164-1168
implements, prices, 1913-1923 ..... 652
imports ..... 1096, 1111, 1131
mixed, feed use and value ..... 359
products, exports ..... 1108, 1111
sorghum-
crop summary, production and farm value, 1921-1923 ..... 1138
See also Sorghums.
warehouses, number and capacity ..... 27
Grains- Page.
bread, statistics of acreage, values, export, etc ..... 602-661
growing after beets, advantage ..... 186
mixed-
feed value, etc., 1919 ..... 334
importance as feed crop ..... 342
straw, feed value, etc., 1919 ..... 339
production and feeding ..... 335
Grape fruit-
Florida, production and value, 1919-1923 ..... 743
freight rates ..... 1169
prices, wholesale, by months, 1908-1923 ..... 740
shipments, car lots, by States, 1918-1923 ..... 740
stem-end rot control ..... 40
Grapes-
exports ..... 1107
freight rates ..... 1169
imports ..... 1098
production estimate, by States, 1922-1923 ..... 744
shipments, car lots, by States, 1917-1923 ..... 744
Grass, relation to beef production, note ..... 327
Grasses-
introduction on ranges, importance ..... 398
pasture-
in humid regions 379-381, 38 ..... 390
in Western range region ..... 391
tame, feed use and value ..... 356-357
wild importance as feed crop ..... 342
Grassland-
arid-
areas in farms and not in farms ..... 366
semiarid, carrying capacity ..... 369
humid-
areas in farms and not in farms ..... 366
carrying capacity ..... 369
semiarid, pasture composition and capacity ..... 390-396
Gray, L. C., article on "The utilization of our lands for crops, pasture, and forests" (with others) ..... 415-506
Grazing-
deferred and rotation, for range improvement ..... 397
land-
classes, area and carrying capacity ..... 367-371
management on Western ranges ..... 396-399
privately owned, area and carrying capacity ..... 368-369
National Forests-
receipts, regulations and fees ..... $55,56,57-60,68$
statistics ..... 1062
periods and degree, definition ..... 371
relation to sheep production, note ..... 327
season in pasture regions ..... 381-384, 388-9, 392-395
source of stomach worm infection ..... 268
systems in different pasture regions ..... 372
Great Britain-
butter prices by months ..... 921
crop yields, comparison with United States ..... 467
pastures, acreage and value ..... 470-472
pork prices, monthly, 1909-1923 ..... 972-973
Great Plains-
agficultural region and its products ..... 331
farm property, losses ..... 121
farmers, movement to cities ..... 121-122
semiarid land, crop possibilities ..... 430
sheep raising, notes ..... 264
Grub, head, danger in sheep raising ..... 268
Guiana, sugar production ..... 851
Gum arabic, imports ..... 1098
Gumming disease of cane, note ..... 177
Gums, imports ..... 1098, 1111, 1118
Page.
Hans, G. C., study of wheat situation ..... 95
Hair, imports ..... 1094, 1095, 1128
Haiti, sugar production ..... 850
Hall, M. C, article on sheep industry (with others) ..... 229-310
Hampshire -
ram, picture ..... 243
sheep, pure-bred, note ..... 244
Hams
exports ..... 1120
prices-
in England, monthly, 1909-1923 ..... 976
wholesale and retail, 1913-1923 ..... 965
Hansen, Professor, estimates on German pastures ..... 471, 472
Harrison, L. M., study of wheat situation ..... 95
Harvesting -
beets, method ..... 190
cane, operations, labor requirements and cost ..... 170-174
machines, number and value ..... 1156
seed cane, labor requirement ..... 167
sorghum for fodder ..... 354
Hauling, beets to sugar mills, note ..... 191
Hawaii-cane-
and cane products, production ..... 146, 160
sugar production by islands, 1913-1923 ..... 844
farm products, shipments to and from U. S ..... 1118-1119
sugar production-
average and 1917-18 to 1923-1924 ..... 850
by islands, 1913-1923 ..... 844 ..... 844
by years 1874-1923 ..... 845
Hay-
acreage- ..... 814-816
production, and value, by States
production, and value, by States
yield and production, by States ..... 819-825
area occupied by ..... 814, 816
crop-
condition and forecasts, 1908-1923 ..... 826
summary, production and farm value, 1921-1923 ..... 1137
exports, statistics ..... 814-815
freight rates ..... 1171
grades, use ..... 32
imported, importance as feed crop ..... 342
prairie- ..... 353
grass varieties used ..... 352
prices, farm and market, by States ..... 829-835
production and use ..... 336-338 ..... 336-338
receipts at 12 markets, 1910-1923 ..... 827
regional production by kinds, 1919 ..... 338
shipments, from 8 markets, 1910-1923 ..... 828 ..... 828
statistics-
statistics- ..... 84, 85
acreage and production, 1915-1923 ..... 814-835
stocks on farms, 1910-1923 ..... 826
tame, grasses in use ..... 357
wild, feed use and value ..... 352-353
yield reductión, 1900-1922 ..... 826
yields, United Kingdom, comparisons ..... 467
Haying machines, number and value ..... 1156
Hays-
337
337
feed value, etc., 1919
feed value, etc., 1919 ..... 356-357
Hemp, imports ..... 1097, 1115
Herding, sheep, disadvantages ..... 260
Hides-
exports ..... 1022, 1104
imports by kinds, 1909-1923 ..... 1022-1023
Hides-Continued. Page.
prices at Chicago, monthly 1910-1923 ..... 1023
statistics ..... 1129
stocks, by kinds ..... 1021
trade, international by countries ..... 1022
Highways-
Federal-aid, projects completed and under way, by States ..... 1195-1196
See also Roads.
Hog-and-corn ratios, monthly, 1910-1923 ..... 960
Hogs-
carcasses, condemnation under inspection 1907-1923 ..... 1012
cholera control work, by States ..... 977
exports, 1910-1923, monthly ..... 958
foreign countries, numbers ..... 1031-1036
freight rates ..... 1173
losses from disease, 1888-1924 ..... 947
market receipts and shipments, by markets ..... 950-951
marketing costs, items ..... 980
number-
and prices, 1867-1924 ..... 946
and value on farms by States ..... 945-946
grazing in National Forests, 1905-1922 ..... 1062
on farms, changes, etc ..... 946-947
pig surveys, spring and fall ..... 948-949
price-
4
changes, relation to corn crop ..... 656
prices-
at principal markets, monthly ..... 961-964
on farm, monthly, by States ..... 960
production on farms, number and value ..... 1010
purebred, freight and express rates ..... 1176
ratio to population ..... 326
shipments, percentage crippled and dead ..... 978-980
shrinkage in shipment ..... 977
slaughter under inspection, 1907-1923 ..... 966, 1012
statistics 945-980, 1010, 1012, 1031-1036, 1062
stockyard receipts, slaughter and shipments ..... 951-957, 1010
weight, live and dressed, by months ..... 1015
weights at four markets, monthly ..... 958-959
Holman, H. K. jr., study of wheat situation ..... 95
Holmes, G. K., article on "The sheep industry" (with others) ..... 229-310
Home
demonstration work results ..... 51
Economics-
Bureau, establishment and scope ..... 38, 39
specialists, conference, work ..... 39
Homes
conveniences and conditions, landlords and tenants ..... 581-582
rented, percentage of farm dwellings ..... 510
Hookworms-
control work ..... 40
danger in sheep raising ..... 269
Hopkinsville, prices of tobacco, 1907-1923 ..... 873
Hops
consumption and movement, 1910-1923 ..... 837
crop summary, production and farm value, 1921-1923 ..... 1138
exports ..... 1109, 1111, 1113, 1114, 1124
imports ..... 1115
prices, wholesale, 1913-1923 ..... 838
statistics, acreage, production, etc ..... 836-838,1109,1111,1113,1114,1124, 1138 ..... 838
trade, international, by countries
world crop, production, and yield by countries ..... 836-837
Horses
carcasses, condemnation under inspection ..... 1012
Cotton Belt, need and numbers. ..... 329-330
Horses-Continued.
exports- Page.
number and prices, 1896-1923 ..... 1028
statistics ..... 1028, 1103, 1119
foreign countries, numbers ..... 1031-1036
imports-
number and prices, 1896-1923 ..... 1028
statistics ..... 1028, 1094, ..... 1126
losses from disease, 1888-1924 ..... 1026
market receipts, 1900-1923 ..... 1026
number and value on farms-
by States ..... 1025
statistics, 1867-1924 ..... 1024
number-
grazing in National Forests ..... 403
grazing in National Forests, 1905-1922 ..... 1062 ..... 1062
prices-
by ages, 1894-1924 ..... 1029
export and import ..... 1028 ..... 1028
on farm monthly, 1910-1920 ..... 1029
on farm, monthly by States ..... 1030
production on farms, number and value ..... 1010
ratio-
478
478
to laborers
to laborers ..... 325 ..... 1028
skins, imports, 1909-1923
skins, imports, 1909-1923
slaughter under inspection, 1919-1923 ..... 1012
stockyard receipts, 1915-1923 ..... 1027-1028
use in production of export crops, etc., pasture requirements ..... 460
wild, elimination on ranges ..... 400
Housing, farmers, conditions and conveniences of landlords and tenants ..... 582-589
Houston, Texas, prices of rice ..... 724
Humid region- Northern, pasture lands, composition, and capacity ..... 379-385
Southern, pasture lands, composition and capacity ..... 386-389
Hungary-
corn yields, comparison ..... 468
sugar
beets, acreage and consumption ..... 848-849
production ..... 849
Hunting, licenses issued, 1922-23, by States ..... 1198
Idaho-
beet production, cost per acre ..... 196, 199 ..... 156 ..... 156
beets and sugar production
beets and sugar production
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059-1061
sheep raising - ..... 270
cost factors ..... 251, 256
source of market lambs ..... 279
Illinois-
Bates road, observations, results ..... 41
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
Implements- ..... 171
cane harvesting, description
cane harvesting, description
cost increase, factor in cost of wheat production ..... 122, 123 ..... 122, 123
farm, number and value ..... 1156 ..... 1156
Imports
agricultural products ..... 1094-1102, 1111, 1114-1118, 1126-1136
animals ..... 909
beef, 1909-1922-19-192-19
cattle, by months, ..... 890
coffee ..... 1097, 1111, 11.14, 1130
cotton
cotton
dairy products ..... 1094, 1111, 1114, 1127
dyewoods ..... 1097, 1111
farm products, relation to crop land requirements ..... 450
Imports-Continued. Page.
flax ..... 1097, 1115, 1130
forage seeds, 1911-1923 ..... 860
forest products 1097-1099, 1111, $1118,1134,1135$
fruits ..... 1099, 1111, 1116, 1131
grain ..... 1096, 1111, 1131
gums 1098, 1111, 1118
hides and skins-
statistics 1094, 1095, 1117, 1128, 1129
by kinds, 1909-1923 ..... 1022-1023
horses, number and prices, 1896-1923 ..... 1028
lumber ..... 1098, 1118
manila fiber ..... $1097,11 \overline{1}, 1116,1130$
meats ..... 1017, 1096
molasses, 1875-1922 ..... 211
nursery stock ..... 1100, 1111
nuts $1100,1111,1114,1117$, ..... 1131
opium ..... 1115, 1116, 1132
pulp wood ..... 1099
rice ..... 1096, 1115, 1131
sceds ..... 1101, 1111, 1132
sheep, 1895-1923 ..... 991
spices ..... 1101, 1111, 1133
sugar-
and molasses 1102, 1111, 1115, 1116, 1133
remarks ..... 218, 864
timber ..... 1098, 1118
tobacco 1102, 1111, 1115, 1134
vegetable-
fibers ..... 1097, 1111, 1130
oils, statistics 878, 1101, 1111, 1115, 1132
vegetables ..... 1102, 1111
wheat-
from Canada ..... 660
statistics ..... 104, 1096, 1131
wood pulp ..... 1099, 1111, 1118
wool 1001-1002, 1094, 1111, 1114, ..... 1127
Index numbers
condition of crops, 1910-1923 ..... 1140
freight rates, 1900-1923 ..... 1177
wheat ..... 650-651
yields of crops, 1911-1923 ..... 1140-1141
India-
British, silk exports, 1909-1922 ..... 1049
Karichi, wheat prices, 1912-1923 ..... 631
sheep production ..... 230
sugar production ..... 851
Indian-
lands, acreage leased for farming and grazing ..... 523
rupee, exchange rates in New York, 1912-1923 ..... 1164
Indiana-
dairy cows, feeding, details and results ..... 412
experiments in lamb feeding ..... 273
farm area in crops and pasture, per cent ..... 407
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
sheep raising -
costs ..... 272
note ..... 248
Indo-China, silk exports, $1909-1922$ ..... 1049
Insecticide and Fungicide Act, enforcement ..... 55
Insects-
cane pests, descriptions and damage ..... 179-181
control work progress ..... 41-42
Inspection
Federal, of livestock slaughter ..... 281
fruits and vegetables ..... 29-31
Insulating material, manufacture from bagasse ..... 212
Insurance, farmers' mutual ..... 34-35
Page.
Interest charges, burden on farmers ..... 7-8
Iowa-
farm area in crops and pasture, per cent ..... 407
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
labor, man and animal, per 1,000 acres crop land ..... 475, 476
sheep raising, note ..... 248
rrigation
enterprises and resources ..... 424
sugar-cane, benefits ..... 162-163
Italy-
eggs, exports and imports ..... 1046
labor, man and animal, per 1,000 acres crop land
labor, man and animal, per 1,000 acres crop land ..... 475, 476 ..... 475, 476
meats, exports and imports ..... 1018
poultry, exports and imports ..... 1042
silk production, 1909-1922 ..... 1049
sugar-
beets, acreage and production ..... 848-849
production
production ..... 849 ..... 849
Ivory, imports ..... 1095
Jackson, Donald, study of wheat situation ..... 95
Japan-
eggs, imports ..... 1046
meats, exports and imports ..... 1018
silk exports, 1909-1922 ..... 1049
sugar production. ..... 851
Java, sugar-
production and exports
production and exports ..... 216 ..... 216
production, statistics ..... 851
Jennings, R. D., article on "The sheep industry" (with others) ..... 229-310
Jersey City
market for sheep ..... 278
slaughter of sheep, remarks ..... 281
Jones, L. A., aid in estimates, note ..... 428
Jugoslavia. See Yugoslavia.
Jute, imports ..... 1097, 1115
Juve, O. A. -
article on "Our forage resources" (with others) ..... 311-413
part in article on "Sugar" ..... 151
preparation ef statistics ..... 601
Kafir, prices, farm and market ..... 730
Kangaroo skins, imports, 1912-1923 ..... 1023
Kansas City-
market for sheep ..... 278, 280
prices- ..... 730
and receipts of kafir
676, 677
676, 677
of flour ..... 634
of oats ..... 694
slaughter of sheep, remarks ..... 281
wheat prices ..... 627, 629
Kansas-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
pastures, rental value and costs, notes ..... 407-411
semiarid region, wheat production cost ..... 123-124
taxes on farm land ..... 658
wheat production, cost ..... 123
Kapok, imports ..... 1097 ..... 1097
Karakul sheep, introduction and use ..... 246
Kentucky- bluegrass, distribution ..... 379, 380, 390
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
pastures, rental value and costs, notes ..... 407-411
sheep raising ..... 249
Killovgh, H., study of wheat situation ..... 95 ..... 95
Kleinwanzleben beets, type grown in United States ..... 187
Page.
La Plata, Argentina, corn prices, 1912-1923 ..... 679
Labor-
Labor-
beet production, cost per acre in various regions ..... 194-198
cane-
growing and transporting, requirements ..... 164-177
planting, requirements and cost ..... 165-168
crews for cane farming ..... 167-170
farm-
productivity in various countries, comparison ..... 475-478
supply and demand, 1918-1923 ..... 1150
wages by classes ..... 1148-1149
foreign, effect on farm prices ..... 15, 16
man and horse, hours per bushel of wheat ..... 646
returns on farms ..... 1161
sugar-cane region, situation ..... 177
wage increase, factor in cost of wheat production ..... 122, 123
Lactose, manufacture in United States ..... 210
Lake Charles, Louisiana, prices of rice ..... 723
Lamb-
cuts wholesale and retail ..... 285
use as food, per capita ..... 282-283
See also Mutton.
Lambing, midwinter, origin and progress ..... 257
Lambs-
costs of fattening for market ..... 272-274
demand increase, remark ..... 277
fattening
cost items distribution ..... 273
for market ..... 262
grade factors and prices ..... 283
market, source of supplies ..... 279
marketing-
discussion ..... 276-282
problems ..... 289
price average yearly at Chicago, 1893-1922 ..... 286
prices, relation to price of wool ..... 283
raising and marketing, note ..... 247
receipts at stockyards ..... 277-279
winter, remarks ..... 248
See also Sheep.
Land-
acreage potentially available for use ..... 423-433
area and utilization in United States in 1919 ..... 416, 417
available for pasture acreage, classes, and value ..... 365-413
crop and pasture, need of increased productivity ..... 505
farm-
acreage, comparison with forest land, 1850-1920 ..... 452
improved area, 1850-1920, changes ..... 434, 435
tax increase 1913-1924 ..... 657
value 1914-1922 ..... 650
forest-
acreage, comparison with farm land, 1850-1920 ..... 452
and cut-over, available for crops, acreage, 1923 ..... 426, 427, 428
grazing, classes, area and carrying capacity ..... 367-371
improved, acreage decrease per capita ..... 433-437
in harvested crops, acreage estimates ..... 422, 423
irrigated-
and irrigable, acreage, estimates ..... 424
States leading in acreage ..... 424
not used for crops, pasture, or forest, estimates ..... 418
ownership-
concentration, advantages and trend ..... 529-533
suggestions for aid ..... 598
pasture and range, classified for ownership, 1919 ..... 367
policy, need of administrative unification ..... 505-506
productivity increase, conditions ..... 475-478
Land-Coninued.
requirements-Page.
economy through increase of yield per acre ..... 463-478
estimating, methods, notes ..... 417, ..... 419, 428,
$438,469,473,480,482,494-495,497$ for population of $150,000,000$
487-496
probable changes
455-461
relation to foreign trade ..... 461-463
resources-
crop, pasture and forest, limitations ..... 497-500
present uses, acreage estimates ..... 417, 419-423
scarcity, factors tending to obscure ..... 443-455
scarcity, increase and nature ..... 433-443
settlement, need of wise direction ..... 505
tenure-
beet farming ..... 200
by corporations ..... 536-537
titles, standardization need ..... 598
uses, trend, 1880-1920 ..... 438
utilization-
problems and policy ..... 72-74
study, point of view ..... 415-417
valuation methods, need of improvement ..... 599
valuation, relation of farm tenancy ..... 539-541
values increase, indication of scarcity of land ..... 439-443
wet, unfit for crops without drainage, area ..... 425, 427
"Landlordism," use of term ..... 524
Landlords-
acquisition of farms, methods ..... 535-538, 561-563
contracts with tenants ..... 582-589
farmers, educational standards ..... 576-579
leasing, residence, farming, etc ..... 529-536
organizations, note ..... 599-600
percentage owning one or more rented farms ..... 530
returns from different forms of farm tenancy ..... 588-589
use of term ..... 524
Lands-
available for forests only
available for forests only ..... 431, 432 ..... 431, 432
Canadian farm, value per acre ..... 114
farm value per acre ..... 114
Federal, unappropriated and unreserved, acreage and location ..... 522
grazing, Western range, ownership and control ..... 402-405
Indian, on Western range control ..... 404
public-
addition to Forests ..... 63-64, 68-72
on Western range, control ..... 404-405
sheep, notes ..... 237
State-
acreage leased for farming and grazing ..... 524
on Western range, control ..... 404
unimproved; in Eastern States, classification ..... 429, 430
uses by percentages in United States ..... 312
utilization for crops, pasture, and forests, article by L. C. Gray and others ..... 415-506
Langworthy, C. F., article on "Sugar" (with others) ..... 151-228
Iard-
cold storage holdings, monthly, 1916-1923 ..... 968
consumption per capita, 1907-1923 ..... 1014
exports-
monthly, 1910-1923 ..... 969
statistics ..... 1104, 1113, 1121
price estimates ..... 656
prices-
at Chicago monthly, 1905-1923 ..... 973
in England, 1909-1923 ..... 976
wholesale and retail, 1913-1923 ..... 965
statistics ..... $1012,1014,1019,1020,1104,1113,1121$
Page.
Lärkspurs, poisonous to cattle, distribution ..... 400-402
Lath, production, by states 1870-1922 ..... 1072-1076
Laths, imports ..... 1098
Laurel, destructive to sheep ..... 264
Leaf-hopper, distribution of curly top of beet and control ..... 192
Leaf-spot, beet disease, occurrence and control ..... 191
Leaf-spotting disease of cane, note ..... 179
Leases, public lands, nature ..... 524-525
Legislation-
forestry, recommendations ..... 67-68, 71
helpful to farmers ..... 12
sugar, 1789-1922 ..... 221-226
Legumes, annual, feed use and value ..... 359-361
Lemons-
California, prices, wholesale, 1908-1923 ..... 741
imports ..... 1098, 1117
shipments, car lots, by States, 1918-1923 ..... 740, 741
Lespedeza, distribution and value ..... 387, 388
Lettuce-
freight rates ..... 1170
shipments, car-lot, by states, 1917-1923 ..... 754
Levulose, manufacture in United States ..... 210
Licenses, hunters, number issued, 1922-23, by States ..... 1198
Licorice, imports ..... 1097, 1114
Lime, use for fertilizer, production and value, 1908-1923, by States ..... 1184-1185
Lincoln ram, picture ..... 243
Linseed--
cake, exports ..... 1108, 1124
oil-
imports ..... 1101
meal, prices ..... 1154, 1155
price in New York, 1910-1923 ..... 716
trade international, 1909-1922 ..... 715
Liquors-
exports ..... 1109, 1111
imports ..... 1100, 1111
Liver fluke. See Fluke.
Liverpool-
freight rates on wheat from America ..... 661
prices of-
corn, 1912-1923 ..... 678-679
wheat ..... 630, 652
Livestock-
and products, statistics ..... 879, 1049
breeding and feeding improvement ..... $-44$
carcasses and parts, condemnation under inspection, 1907-1923 ..... 1012
classification ..... 32
commission rates, arbitration ..... 53
comparison of numbers with population, by States, 1920 ..... 321
cost of production data ..... 24
definition, note ..... 311
exports, production, crop land required ..... 460 ..... 460
feed crops, relative importance ..... 341
foreign countries, numbers by kinds. ..... 1031-1026
freight rates ..... 1173-1176
grazing in National Forests ..... 57-60
marketing-
Government supervision ..... 12
freight and other costs_ ..... 1020
numbers, changes 1850-1922 ..... 438-439, 440, 441
production on farms, number and value ..... 1010
production, pasture acreage requirement ..... 459-460
products-
consumption per capita, comparisons ..... 479-483
consumption, probable changes ..... 493
pure bred, express rates ..... 1174-1176
regions of United States, map 324, 327-332
Livestock-Continued. Page.
relation to forage production ..... 326-327
relations with human population ..... 320-326
reporting, improvement ..... 23-24
shipping, cooperative ..... 54
slaughter under inspection, 1907-1923 ..... 1012
statistics ..... 879-1049
stockyard receipts slaughter and shipments ..... 1010
value- ..... 1011
on farms with machinery, average by States ..... 549
per acre of farm land, owner and tenant farms ..... 570-573
work, feeding, crop land requirements ..... 457-459
Living-
conditions of farm landlords and tenants
conditions of farm landlords and tenants ..... 581-582 ..... 581-582
cost, prices, and wages, index number ..... 1194
expenses of farm landlords and tenants ..... 580-581
Loans-
by Federal land banks ..... 26
seed-grain, distribution ..... 120
sheep, quick liquidation ..... 274
Loco-
plants, destructive to sheep ..... 263
weeds, distribution on ranges ..... 400, 402 ..... 400, 402
Logs, imports ..... 1098
London, price of wool as control of world prices
London, price of wool as control of world prices ..... 292 ..... 292
Long, L. E., part in article on "Sugar". ..... 151
Louisiana-
cane-
acreage, production and sugar yield ..... 844
and cane products, production ..... 156
dairy cows feeding, details and results ..... 412
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061 ..... 1059, 1061
sugar-
industry, development and magnitude ..... 154-156
production 1866-1923 ..... 845
Louisville, prices of tobacco, 1907-1923 ..... 873
Luedtie, C. L., study of wheat situation ..... 95
Lumber-
1105-1106, 1118, 1125-1126exports
imports-
and exports, 1907-1923 ..... 1081
statistics ..... 1098, 1118 ..... 1098, 1118
prices, 1840-1922 and 1913-1923 ..... 1087, 1088
production-
by species, 1899-1922 ..... 1069-1071
by States, 1870-1922 ..... 1063-1067
value-
at mill, by kinds of wood, $1890-1922$ ..... 1086-1087
by States, $1840,1850,1860,1920$ ..... 1068
Lupines, destructive to sheep ..... 264
Macaroni, imports ..... 1117
Machinery, farm, value ..... 1156
Maggots, wool, danger in sheep raising ..... 267
Mahogany, imports ..... 1098, 1134
Maine
Maine ..... 1058, 1060
forest fires, number, damage, area, and causes, 1916-1922 .....
293 .....
293 ..... 1109 manufacture of woolens manufacture of woolens
Malt, exports
475-477
Man labor, persons employed per 1,000 acres, comparisons ..... $10971115,1116,1130$
Manila fiber, imports ..... 262
Maple
products-
production ..... 208-210
production and yield per tree ..... 857
sugar and sirup, crop summary, production and farm value, 1921- 1923 ..... 1138
Marbut, C. F., aid on maps and estimates ..... 415, 428
Market-
lamb, spring supplies ..... 257
News Service, expansion ..... 28
sheep, seasonal variation ..... 278
Marketing-
barley, by farmers, 1917-1923 ..... 704
corn, by farmers, 1917-1923 ..... 672
cost for wheat ..... 651
flaxseed, by farmers, 1917-1923 ..... 712
hogs, costs ..... 980
lambs, note ..... 247
livestock, freight and other costs ..... 1020
oats, by farmers, 1917-1923 ..... 687
rye, by farmers, 1917-1923 ..... 642
sheep-
and lambs, problem ..... 289-290
and wool, discussion ..... 275-310
cost items ..... 1010
systems of finishing ..... 261-262
wheat-
by farmers ..... 613
costs, etc ..... 126-128
wool-
discussion ..... 290
methods in United States ..... 293-298
problems ..... 301-303
Markets-
barley, receipts, 1909-1922 ..... 704
corn, receipts and shipments ..... 671
European, opening in 1845, effect on sheep industry ..... 238
flour, with prices ..... 632-634
kafir prices and receipts ..... 730
lamb grades ..... 284
oats, receipts and shipments, 1909-1922 ..... 689
prairie hay, note ..... 352
sheep-
congestion avoidance ..... 289
functions of four great centers ..... 279-280 ..... 279-280
wheat-
in Minnesota, dockage ..... 619
prices, etc ..... 625-631
receipts and shipments, 1909-1923 ..... 615
world, survey ..... 20-21
Marl, use for fertilizers, production and value, 1880-1923
Marl, use for fertilizers, production and value, 1880-1923 ..... 1186 ..... 1186
Marschner, F. J., article on "The utilization of our lands for crops, pasture, and forests" (with others) ..... 415-506
Marsh, C. D., article on-
"Our forage resources" (with others) ..... 311-413
"The sheep industry" (with others) ..... $229-310$
Maryland, forest fires, number, damage, area, and causes, 1916-1922_ 1059, 1060
Massachusetts-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
manufacture of woolens ..... 293.
sheep introduction ..... 234
Mauritius, sugar production ..... 851 ..... 851
McAtee, W. L., aid, note ..... 415
McCrory, S. J., aid on maps ..... 415
McKay, A. W., study of wheat situation ..... 95
McLendon, W. E., part in article on "Sugar" ..... 151
Meal, cottonseed- Page.
freight rates ..... 1172
See also Cottonseed meal.
Meals, feed, prices, 1910-1923 ..... 1154, 1155, 1156
Mealybug, sugar-cane-destruction method
181
occurrence, damage and spread ..... 180-181
Meat-
animals-
prices, index number, by months ..... 1193-1194
slaughter under inspection, 1907-1923 ..... 1012
condemnation under inspection, 1907-1923 ..... 1012
exports, 1920, discussion ..... 456-457
markets, extension ..... 38
packing, refrigeration space ..... 1145
products, statistics ..... 1012
situation-
monthly ..... 906-907
pork and pork products ..... 967-976
trade, international, by countries ..... 1017-1018
Meats-
classes and grades ..... 32
cold-storage holdings by months, 1917-1923 ..... 1018
consumption, total and per capita, 1907-1923 ..... 1014
exports 86-87, 1017, 1103-1104, 1112, 1120
imports ..... 1017, 1096
market supply, by months ..... 1015-1017
prices at principal markets, monthly ..... 1018-1020
statistics ..... 86-87, 1012-1020
Memphis, prices of cottonseed meal ..... 1154
Merino sheep-
characteristics ..... 234
fitness for semiarid regions ..... 232
note ..... 241
purebred, note ..... 244
Meteorology, statistics, by States and by months ..... 1199-1222
Mexico, sugar production ..... 850
Michigan-
beet production, cost per acre ..... 196, 198
beets and sugar production ..... 156
farm area in crops and pasture, per cent ..... 407
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
lands adapted to sheep raising ..... 238
Middlings, price at Minneapolis, 1916-1923 ..... 1154
Mildew, downy, cane disease, note ..... 177
Milk-
condensed-exports1103
trade, international, by countries, 1909-1922 ..... 912
prices, retail and wholesale, principal cities ..... 913-916
production and uses, statistics ..... 910-912
Milkweeds-
danger to sheep ..... 264
poisonous, distribution on ranges ..... 400, 401
Mills, beet-sugar, number and output ..... 158
Milwaukee, barley receipts, 1909-1922 ..... 704
Minneapolis-
flaxseed receipts, 1910-1923 ..... 712
prices of -
bran, etc., 1916-1923 ..... 1153-1154
bread, 1913-1923 ..... 633
buckwheat ..... 728
corn ..... 676
flaxiseed, 1899-1923 ..... 715
flour ..... 632
oats ..... 695
wheat 625-626, ..... 629
Minnesota- Page.
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
pastures, rental value and costs, notes ..... 407-411
wheat production, cost ..... 123
Mississippi-
cane and sirup production ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
Missouri-
forest fires, number, damage, area, and causes, 1916 -1922 ..... 1059, 1061
wheat production, cost ..... 123
Molasses-
beet-
laxative action on stock ..... 211
treatment and uses ..... 202
blackstrap, nature, use for stock feed, etc ..... 211
cane, constipating action of stock ..... 211
imports ..... 211, 1102, 1111, 1115, 1116
production in Louisiana, 1911-1923 ..... 844
sources and utilization ..... 210-211
Money, exchange rates at New York, 1912-1923 ..... 1164
Montana-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
pastures, rental value and costs, notes ..... 407-410
sheep raising-
cost factors ..... 270
note ..... 252
Morse, W. J., aid on forage article, note ..... 311
Mortgages-
debts on owner-operated farms ..... 1157
farm, in wheat regions ..... 120
Mosaic disease-
damage to cane ..... 178, 179
introduction and spread in cane ..... 179
Motion pictures, work of Department ..... 52-53
Mountain regions, value for sheep raising ..... 24, 249-250
Mowers, prices, 1913-1923 ..... 652
Mules-
exports ..... 1103
foreign countries, numbers ..... 1031-1036
number and value
on farms, 1867-1924 ..... 1024
on farms by States ..... 1025
prices, by ages, 1894-1924 ..... 1029
production on farms, number and value ..... 1010
See also Horses.
Mushrooms, Canned, imports ..... 1102
Mustard, imports ..... 1102
Mutton-
cold storage holdings, monthly, 1916-1923 ..... 999-1000
consumption, total and per capita, 1907-1923 ..... 1014
demand-
for, effect on sheep industry ..... 238
increase and value ..... 275-276
exports, monthly, 1909-1923 ..... 1000
food use, prejudice and its causes ..... 276-277
foreign countries, net exports and imports, 1909-1922 ..... 1001
frozen, exportation, note ..... 233
keeping fresh ..... 276
New Zealand production ..... 232
production-
and per cent of all meats, 1907-1923 ..... 1013
cost, discussion ..... 269-274
sheep breeds, supply from England ..... 234
use
277
increase after 1870
per capita ..... 229, 282-283
National Forest Reservation Commission, expenditures Page.
Naval stores, exports ..... 80, 83
Nebraska-
beets and sugar production ..... 156
dairy cows, feeding details and results ..... 412
experiment in sheep feeding ..... 274
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
wheat production, cost ..... 123
Negroes-
extension agents, number ..... 52
farm operators, shifting tendency, comparison with white tenants ..... 593
farmers, periodicals received, number and classes ..... 579-580
land owners, location ..... 518
migration from southern farms ..... 11
tenant farmers, number in South ..... 517
Nematode, sugar-beet, cause of wilt ..... 191
Netherlands-
eggs, exports and imports ..... 1046
forests, growth comparisons ..... 474
meats, exports and imports ..... 971-972, 1017
opening to pork shipments ..... 38
pastures, acreage and value ..... 470-472
sugar beets, acreage and production ..... 848-849
Nevada .....
1059, 1061 .....
1059, 1061 ..... 256
forest fires number, damage, area, and causes, 1916-1922
forest fires number, damage, area, and causes, 1916-1922
New-
Hampshire -
farm area in crops and pasture, per cent ..... 407
forest fires, number, damage, area, and causes, 1916-1922-. 1058 ..... 060
manufacture of woolens ..... 293
Jersey -
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
manufacture of woolens ..... 293
Mexico-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
sheep-
industry, early days, note ..... 238
raising, cost factors ..... 270
remarks ..... 255-256
wool, fleece, increase in weight ..... 295
Orleans, prices of rice ..... 724
York-
forest fires, number, damage area, and causes, 1916-1922 ..... 1058-1060
labor, man and animal, per 1,000 acres crop land ..... 475, 476
manufacture of woolens ..... 293
maple products ..... 209
market for sheep and lambs ..... 262
prices of -
bread, 1913-1923 ..... 634
flour ..... 633
linseed oil meal ..... 1154
rice ..... 723
wheat ..... 628
western, importance of sheep raising ..... 248
Zealand-
animal units, ratio to population ..... 322
beef, exports and imports, 1909-1922 ..... 909
meats, exports and imports ..... 1017
production of sheep and mutton ..... 232-233
sheep production ..... 230, 231
wool exports, note ..... 292
News, market, service expansion ..... 28
Newton, R. W., study of wheat situation ..... 95
Nodular worms, danger in sheep raising ..... 268
$\mathbf{8 5 8 1 3}{ }^{\circ}$ - YBK 1923— $\mathbf{8 0}$
North Carolina Page.
dairy cows, feeding, details and results ..... 412
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
North Dakota-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
labor, man and animal, per 1,000 acres crop land ..... 475, 476
wheat, production cost ..... 123
Norway-
forest products, consumption, comparisons ..... 483
meats, exports and imports ..... 1018
poultry, exports and imports ..... 1042
Nursery stock, imports ..... 1100, 1111
Nuts-
exports ..... 1109, 1111
imports 1100, 1111, 1114, 1117, 1131
Oakley, R. A., article on "Our forage resources" (with others) ..... 311-413
Oatmeal, exports ..... 1108
Oats-
acreage, increase and decrease, maps ..... 137
condition and yield, 1866-1923 ..... 683
crop summary, production and farm value, 1921-1923 ..... 1137
exports ..... 1108
feed-
use and value ..... 344-345
value, etc., 1919 334, ..... 335, 337
freight rates inland ..... 1167
grading in cases by licensed inspectors ..... 690
importance as feed crop ..... 342
imports and exports, 1907-1923 ..... 692
marketing by farmers, 1917-1923 ..... 687
markets, receipts and shipments, 1909-1922 ..... 689
prices-
on farm, 1908-1923 ..... 692-693
per pound in terms of yellow corn ..... 695
weighted average, 1899-1923 ..... 694-695
production and farm value, by States ..... 681
seed to sow acre ..... 1140
statistics-
acreage, production, and exports, 1915-1923 ..... 84, 85, 86
production, value, prices, markets, etc 679-695, 1108, 1137, 1149
straw, feed value, etc., 1919 ..... 339
supplies-
on farm and quality, 1897-1923 ..... 688
visible, 1909-1923 ..... 688
trade international, 1910-1923 ..... 691
use in fattening sheep ..... 262
weight per bushel, 1902-1923 ..... 1141
world crop, production and yield ..... 684-687
yield, European countries comparisons ..... 467
yield per acre by States, 1908-1923 ..... 682
Ocean freight rates on wheat ..... 112
Ohio-
beets and sugar production ..... 156
farm area in crops and pasture, per cent ..... 407
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
lands adapted to sheep raising ..... 238
pastures, rental value and costs, notes ..... 407-411
rent, cash ratio to land value ..... 547
sheep raising- .....
272 .....
272 ..... 249
costs
costs
wool fleece, increase in weight ..... 295
Oil-
and oil cake, cottonseed, freight rates ..... 1172
cake- imports ..... 1096
trade international ..... 1153
Oil-Continued. cottonseed-
international trade, by countries Page. Page. ..... 813
prices at New YorkSee also Cottonseed oil.
lard compounds, exports ..... 1109
linseed-
price in New York, 1910-1913 ..... 716
trade international, 1909-1922 ..... 715
meal, linseed, prices ..... 1154, 1155
oleo, exports by countries of destination ..... 930
paving, consumption by wood-treating plants, 1909-1922 ..... 1093
peanut, trade international, 1909-1923, by countries ..... 841
Oils-
animal, exports ..... 1104
distilled, imports ..... 1101
vegetable
exports 1109, 1111, 1113, 1114, 1124
exports and imports, 1910-1923 ..... 878
imports. ..... 1101, 1111, 1132
Oklahom Oleo-
oil, exports by countries of destination ..... 930
stock, exports ..... 1104, 1120
Oleomargarine -
materials in manufacture, 1915-1923 ..... 929
production, 1918-1923 ..... 912
production by months, 1909-1923 ..... 928-929
statistics ..... 912, 927-929
Olive oil-
imports
1101, 1115, 1132
1101, 1115, 1132
trade international, $1909-1922$ ..... 742
Olives, imports ..... 1098
Olsen, Nils A., study of wheat situation ..... 95
Omaha-
704
barley receipts, 1909-1922
market for sheep, note ..... 278, 280
prices from ..... 676
slaughter of sheep, remarks ..... 281
Onions-
755
755
acreage and production, by States
acreage and production, by States
1138
1138
imports ..... 1102, 1116, 1134
prices-
at 10 markets, 1920-1923 ..... 757
farm, 1910-1923 ..... 756
shipments, car lot, by States, 1917-1923 ..... 756
statistics, acreage, production, etc 84, 85, 755-757,1102, 1116, 1134, 1138
Opium, imports ..... 1115, 1116, 1132
Oranges
California navel, prices, wholesale, at New York, 1908-1923 ..... 741-742
crop summary, production and farm value, 1921-1923 ..... 1138
cull, utilization, methods ..... 50
Florida, production and value, 1919-1923 ..... 743
freight rates ..... 1169
production and value, 1915-1923 ..... 739
shipments, car lot, by States, 1918-1923 ..... 740
stem-end rot, control ..... 40
Orchard grass-
pasture value ..... 381
seed to sow acre ..... 140
Oregon-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
prevalence of fluke among sheep ..... 268
source of market lambs ..... 279
wool fleece, increase in weight ..... 295
Oxford sheep, purebred, note ..... 244
Pacific Paga.
coast States, humid land crop possibilities ..... 430-431
humid region, pasture conditions ..... 389-390
Northwest, crop acreage, shift ..... 144
Packers and Stockyards Act, administration ..... 53-54
Packing-house products- exports ..... 1104, 1111, 1113
imports ..... 1095-1096
Paine, H. S., part in article on "Sugar" ..... 151
Palm oil, imports ..... 1101
Paper-
exports, 1870-1922 ..... 1082
manufacture from bagasse, note ..... 212
newsprint, imports, 1911-1922 ..... 1083
production and consumption, 1810-1922 ..... 1078, 1080
Paraguay, sugar production ..... 851
Parasites-
animal, control work ..... 40
danger in sheep raising ..... 266-269
sugar-cane moth borer, preservation ..... 180
Pasturage
acreage, classes, and value ..... 365-413
importance-
Northern humid region ..... 384-385
Southern humid region ..... 389 ..... 389
Pasture
acreage-decrease per capita437-439, 443
European countries ..... 470-472
per capita, France, Germany, and United States ..... 498
present estimates and capacity ..... 419-420 ..... 419-420
area requirements for producing livestock ..... 459-460
condition, by months, 1866-1923 ..... 835
grasses in-
humid regions ..... 379-381, 388, 390
Western range region. ..... 391
humid- ..... 460
livestock production requirements
491
491
per 100 acres of crops, comparisons
per 100 acres of crops, comparisons ..... 470
importance on dairy and cattle farms ..... 411-412
kinds, classification and description ..... 370, 372-377 ..... 370, 372-377
land- ..... 383
carrying capacity
carrying capacity utilization, with crops and forests ..... 415-506
regions, location and description ..... 377-406
Pastures-
acres per animal unit, comparisons ..... 471
area of United States, note ..... 312
areas in United States ..... 311
carrying capacity, comparisons ..... 469-473
classes, areas in farms and not in farms ..... 366
farm-
economic importance ..... 406-412
improved, acreage and capacity ..... 420 ..... 420
improved and unimproved, areas and capacity ..... 366, 368-369 ..... 366, 368-369
grazing capacity improvement, need ..... 472-473
humid Northern, carrying capacity ..... 383, 384 ..... 383, 384
injury by herding of sheep ..... 260 ..... 260
permanent, description and composition ..... 370, 372-374
rental value and costs in several States ..... 407-411 ..... 407-411
rotation or short-lay, description ..... 370, 374
source of parasites in sheep ..... 269 ..... 269
tame, grazing ..... 370, 376-377 ..... 370, 376-377
unimproved, acreage and capacity ..... 419 ..... 419 ..... 419
Pastures-Continued. Page.
value in United States ..... 413
wild, grazing ..... 370, 377
Pea, field, feed value, etc., 1919 ..... 337
Peaches-
crop-
condition, by months, 1868-1923 ..... 746
summary, production and farm value, 1921-1923 ..... 1138
prices-
748
748
at 10 markets, 1921-1923
at 10 markets, 1921-1923 ..... 747
production, 1890-1923 ..... 745
shipment, carlots, by States, 1917-1923 ..... 746-747
statistics-
production, etc 85, 745-748, 1138
Peanut oil, trade, international, 1909-1923, by countries ..... 841
Peanuts-
crop summary, production and farm value, 1921-1923 ..... 1138
feed-
use and value ..... 362
value, etc., 1919 ..... 334, 337
importance as feed crop ..... 342
imports ..... 1100,1131
prices, farm and market, by months ..... 839
seed to sow acre ..... 1140
statistics, acreage, production, value, etc-.- 84, 85, 839-841, 1100, 1131, ..... 1138
straw, feed value, etc., 1919 ..... 339
trade, international, by countries ..... 840
use in oil production, 1919-1923 ..... 840
Pears-
crop-
condition, by months, 1908-1923 ..... 749
summary, production, and farm value, 1921-1923 ..... 1138
exports ..... 1107
prices, farm, by months, 1910-1923 ..... 750
production-
and prices, by States, 1919-1923 ..... 749
statistics for 1909-1923 ..... 748
shipments, carlot, by States, 1917-1922 ..... 750
statistics-
production, 1915-1923 ..... 85
production, prices, etc 748-750, 1107, 1138
Peas-
canned, production, by States ..... 758
cannery refuse, feed value, etc., 1919 ..... 340
canning, importance as feed crop ..... 342
field-
feed use and value ..... 363
feed value, etc., 1919 ..... 339
importance as feed crop ..... 342
See also Cowpeas.
Peat, use for fertilizer, production and value, by States ..... 1184-1185
Pennsylvania
farm area in crops and pasture, per cent ..... 407
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
manufacture of woolens ..... 293
Pepper, imports ..... 1102, 1133
Periodicals, number and types taken by landlords and tenants ..... 579-580
Péru, sugar production ..... 851
Pests, animal, control work ..... 44-45
Philadelphia, wool market, note ..... 294
Philippine- Page. ..... 49-50Bureau of Agriculture, fiber investigationsIslands-
cane and sugar production ..... 156, 160
meats, exports and imports ..... 1018
sugar production ..... 156, 160, 851
sugar production, 1866-1923 ..... 845
Phoma, cause of beet root-rot ..... 191
Phosphate rock production and value, by States, 1891-1922 1179-1184, 1186
Phosphates, fertilizer material, prices, wholesale ..... 1190
Pickles, imports ..... 1102
Pieters, A. J., aid on forage article, note ..... 311
Pig surveys, reports ..... 22-23
Pigs-
litter numbers, by States ..... 948-949
See also Hogs.
Pine- ..... 43
yellow prices, 1913-1923 ..... 1088
Pineapples, imports ..... 1098
Piper, C. V.-
article on "Our forage resources" (with others) ..... 311-413
note ..... 415
Plantation-
region, number of organization, crops, etc ..... 530
tenancy, development ..... 529-530
Planters, etc., numbers and value ..... 1156
Planting, cane, date, operations, practices, etc ..... 165-168
Plants, poisonous, on ranges, eradication ..... 400-402
Plow lands, value per acre by States, 1916-1924 ..... 1146-1147
Plows, number and value ..... 1156
Plums, freight rates ..... 1170
Poison, use against animal pests ..... 44-45
Poisoning rodents on ranges ..... 400
Poisonous plants-
destructive to sheep, discussion ..... 263
on ranges, eradication ..... 400-402
Poland-
sugar beets, acreage and production ..... 848-849
sugar production ..... 850
Pools, wool, marketing method ..... 294
Population-
agricultural limits of our resources ..... 497-500
farm and city, per cent, by age groups ..... 13
growth, estimation ..... 461
increase, relation to land requirements ..... 461-463
ratio to crop production ..... 463
shift from country to city, causes ..... 121-122
Pork-
cold storage holdings, monthly 1916-1923 ..... 967
consumption, total and per capita, 1907-1923 ..... 1014
exports- .....
968 .....
968 ..... 1113
by months, 1910-1923
by months, 1910-1923
prices, wholesale and retail, 1913-1923 ..... 965
production-
and per cent of all meats, 1907-1923 ..... 1013
relation to corn ..... 327
products-
exports by countries of destination, 1909-1923 ..... 969-971
foreign countries, net exports and imports ..... 971-972
prices at Chicago, 1913-1923 ..... 965
967-976, 1013, 1103, 1112, 1113
trade, foreign, improvement ..... 38
use as food, per capita
Portland, Oreg., wool market ..... 294
Porto Rico- Page.
cane and cane products, production ..... 156, 160
farm products, shipments to and from United States ..... 1118-1119
sugar production ..... 850
sugar production, 1866-1923 ..... 845
Potatoes-
crop-
condition and yield, by States, 1866-1923 ..... 762
summary, production and farm value, 1921-1923 ..... 1137
exports, statistics ..... 759, 1110
feed-
use and value ..... 364
value, etc., 1919 ..... 340
importance as feed crop ..... 342
prices, farm and market ..... 770-773
production and value, by States, 1921-1923 ..... 760
rotation with beets, caution ..... 186
seed to sow acre ..... 1140
shipments, car-lot, by States ..... 766-769
statistics, acreage, production, etc ..... 84, 85, 759-778, 1110
stocks on hand ..... 765-766sweet. See Sweet potatoes.
trade, international, by countries ..... 770
world, crop acreage and production, by countries ..... 763-764
yield-
by States ..... 761
reduction and causes, 1909-1922
reduction and causes, 1909-1922 ..... 762 ..... 762
yields, European countries, comparisons ..... 467
Poultry
cold storage holdings, monthly, 1917-1923 ..... 1039
dressed, market receipts and origin, monthly ..... 1039-1041
foreign countries, numbers by kinds ..... 1037-1039
number and value on farms, 1919-1924 ..... 1036
statistics ..... 1036-1043
trade, international, by countries ..... 1042
See also Chickens; Ducks; Geese; Turkeys.
Prairie-
dogs, distribution and control ..... 399, 400
hay. See Hay, prairie.
Precipitation-
annual, by States ..... 132
statistics by months and by States ..... 1211-1222
Predatory animals, danger in sheep raising ..... 265-266
Preservatives, wood-
consumption, 1909-1922 ..... 1093
treated by, 1909-1922 ..... 1091-1092
Prices-
barley-
on farm, 1908-1923 ..... 705, 707
weighted for 1909-1923 at Minneapolis ..... 709
beet, fixing method ..... 200-201
brans-
at Minneapolis ..... 1153
statistics for 1910-1923 ..... 790
bread, 1913-1923 ..... 634-635
buckwheat, on farm and markets ..... 727-728
butter, retail, wholesale and export, by months ..... 921-923, 927
calves on farm, 1910-1923 ..... 892, 893
cattle-
by ages, 1894-1924 ..... 890
on farm by months, 1910-1923 ..... 892, 893
chickens, on farm, by months, 1910-1923 ..... 1043
coffee, wholesale, at New York, 1890-1923 ..... 875
corn, farm and trade ..... 674-679
cowpeas, 1915-1923 ..... 794
crops and meat animals, index number, by months ..... 1193-1194
eggs, farm and market, 1910-1923 ..... 1047-1048
estimates for corn ..... 655
Prices-Continued. Page.
export and import ..... 1028
farm-
products, changes ..... 3-4
products, wholesale, index numbers, by months, 1913-1923_ ..... 1192-1193
farmers' supplies ..... 1150-1152
feed, bran, and meals ..... 1150-1156
fertilizer materials ..... 1189-1190
flaxseed, farm and market ..... 714-715
flour, 1909-1923 ..... 632-634
hay, farm and market, by States ..... 829-835
hogs-
at principal markets, monthly ..... 961-964
estimates ..... 656
on farm, monthly, by States ..... 960
hops, 1913-1923 ..... 838
horses and mules by ages ..... 1029
on farms, monthly, by States ..... 1020
on farms, monthly, 1910-1920 ..... 1029
kafir, farm and market ..... 730
lard ..... 656
linseed oil in New York, 1910-1923 ..... 716
living cost and wages, index number, 1913-1924 ..... 1194
market, of sheep and lambs ..... 282-289
milk-
cows, by months, 1910-1923 ..... 891
retail and wholesale in principal cities ..... 913-916
oats-
on farms, 1908-1923 ..... 692-693
weighted average, 1899-1923 ..... 694-695
peanuts, 1910-1923 ..... 839
pork products at Chicago, 1913-1923 ..... 965
rice on farm and market ..... 722-724
rye-
farm and trade, 1909-1923 ..... 645
on farms, 1908-1923 ..... 644
seeds, clover, timothy, and alfalfa, monthly, 1912-1923 ..... 861-865
sheep-
abnormal variation ..... 288
and wool decline, 1870-1896 ..... 239
monthly and by States ..... 992-998
relation to prices of wool ..... 283
seasonal variations ..... 287-288
sugar
fluctuations, causes, etc ..... 219-221
monthly, 1890-1923 ..... 854-855
relation to production ..... 226-227
tea, wholesale, at New York, 1890-1923 ..... 876
tobacco, farm and market ..... 871, 873
turkeys, on farm, monthly, 1912-1923 ..... 1943
variation notes ..... 238
wheat
by months ..... 654-655
comparison with cost of production ..... 122, 123
effect of tariff ..... 115-118
factors, etc ..... 652-655
factors in making ..... 653
flour, and bread, 1913-1914, 1922-1923 ..... 109
fluctuation and outlook ..... 95-98
statistics for 1908-1923 ..... 624-631
wool-
discussions ..... 298-301
establishment ..... 292
farm and market monthly, 1910-1923 ..... 1004-1008
in United States, notes ..... 237
relation to production and imports ..... 299
relationships ..... 302
Prunes, dried, exports ..... 1107, 1122
Publications- Page.
Agriculture Department, 1923 ..... 88-93
Division, change in organization ..... 39
Pulp wood-
consumption, 1869-1922 ..... 1080
imports ..... 1099
imports, 1907-1923 ..... 1081
prices, by species, 1899-1922 ..... 1091
Purebred livestock. See Livestock.
Pyrethrum flowers, imports ..... 1097
Pyrites, fertilizer, production, price, and value, by States ..... 1177-1179, 1186
Rabbits, jack, distribution and control ..... 399, 400
Radio-
broadcasting weather report ..... 45-46
news service, value ..... 28-29
Railroads, land-leasing practices ..... 525-526
Rainfall, Africa, South, notes ..... 233, 234
Raisins, imports ..... 1098-1116
Rambouillet-
ram, picture ..... 241
sheep, purebred, note ..... 244
Rams, purebred, pictures ..... 242-243
Range-
land, carrying capacity ..... 383, 395-396, 404
open, stabilization methods ..... 405
region, Western, pasture composition and capacity ..... 390-396
sheep management, remarks ..... 251-261
use, regulation need ..... 68-71
Western-
grazing methods, improvement ..... 396-402
grazing season area, map ..... 392-395
wool, marketing method ..... 294
yearlong, condition in Western pasture region ..... 393
Ranges- ..... 419-420
carrying capacity
71
71
forest, management
forest, management
399-402
399-402
protection against rodents and poisonous plants
protection against rodents and poisonous plants ..... 269-271
Rapeseed oil, imports ..... 1101
Rations, annual, table of Wisconsin station ..... 332
"Ratoon" cane crops, nature and practices ..... 164-165
Rats, control work ..... 45
Rattan, imports ..... 1099
Redtop, distribution and value ..... 380, 381
Reforestation, necessity ..... 63, 64, 66-67
Refrigeration, space reported, October 1, 1923 ..... 1145
Regulatory work director, duties ..... 38
Reynoldson, L. A., study of wheat situation ..... 95
Rent
cash-
per acre in Corn Belt ..... 546
ratio to value of land ..... 545-547
market, development, causes, etc ..... 522-269
Research, scientific, results ..... 39-41
Reunion, sugar production ..... 851
Rhode Island-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
manufacture of woolens ..... 293
Rice-
condition of crop and yield, 1894-1923 ..... 717
crop summary, production and farm value, 1921-1923 ..... 1137
exports ..... 1108
feed-
use and value ..... 364
value, etc., 1919 ..... 334
importance as feed crop ..... 342
imports ..... 1096, 1115, 1131
Rice-Continued.
prices- Page.
on farm, 1908-1923 ..... 722
wholesale, 1900-1923 ..... 723-724
production, value, exports, etc_ ..... 716-717
seed to sow acre ..... 1140
statistics-
$\quad$ acreage and production, 1915-192384, 85
production, value, distribution, prices, etc ..... 715-724, 1108, 1137
straw, feed value, etc., 1919 ..... 339
trade international, 1909-1922 ..... 722
world crop, production and yield ..... 718-721
yield per acre ..... 717, 718
Richmond, prices of tobacco, 1907-1923 ..... 873
Road work, wages paid per hour, 1915-1923 ..... 1197
Roads-
expenditures, 1923 ..... 80, 83
Federal-aid-
maintenance expenditures, 1922, by States ..... 1197
mileage completed and under construction ..... 47-48
projects completed and under way, by States ..... 1195-1196
projects completed, by types ..... 1196
forest, construction, 1923 ..... 1058
investigations at Arlington Experiment Farm ..... 41
land occupied ..... 418-431
mileage prior to passage of Federal highway act ..... 48
State systems, analysis results ..... 48
See also Highways.
Rock, phosphate, production and value, by States ..... 1179-1184
Rocky Mountains, agricultural region and its products ..... 331
Rodents, elimination on ranges ..... 399-400
Root-
crops-
feed use and value ..... 365
feed value, etc., 1919 ..... 340
production and use ..... 339-340
disease, damage to cane ..... 179
lice, beet, occurrence ..... 192
Root-rot, beet disease, occurrence and control ..... 191
Roots-
importance as feed crop ..... 342
imports ..... 1097
Rosin-
exports ..... 1105, 1118, 1125
international trade, 1909-1913, 1920-1922 ..... 1085
prices, New York, 1890-1923 ..... 1090
production, 1910-1923 ..... 1085
stocks, United States, 1919-1923 ..... 1084
Rot, stem-end, of citrus fruits, prevention ..... 40Rotation-
beet lands, practices ..... 186-187
cane plantations, practices ..... 169
Rubber-
imports ..... 1098, 1118, 1134
international trade, 1909-1913, and 1920-1922 ..... 1086
Para Island, prices, 1890-1923 ..... 1089
plant, Colorado, danger to sheep ..... 264
production possibilities, studies ..... 49
Rum, manufacture from molasses, note ..... 211
$\underset{\text { sugar- }}{\text { Rumania- }}$
beets, acreage and production ..... 848-849
production ..... 850
Rupee, exchange rates in New York, 1912-1923 ..... 1164
Russia- .....
1018 .....
1018 ..... 971-972
meats, exports and imports
meats, exports and imports
Russia-Continued.
sheep- Page.
growing, remarks ..... 234
production ..... 230, 231
sugar-
848-849
beets, acreage and production ..... 850
wheat exports ..... 99
Rust-
cane, note
cane, note ..... 177 ..... 177
white-pine blister, field surveys
43
43
Rye-
condition of crop, 1866-1923 ..... 639
crop summary, production and farm value, 1921-1923 ..... 1137
exports ..... 1108
feed-
use and value ..... 358
value, etc., 1919 ..... 334, 335
importance as feed crop ..... 342
marketing by farmers, 1917-1923 ..... 642
markets, receipts and trade in ..... 643-644
prices on farm-
by States, 1908-1923 ..... 645
statistics, 1908-1923 ..... 644
production-
and farm value, by States ..... 637
value and exports, 1869-1923 ..... 636
value, prices, etc ..... 636-642
seed to sow acre ..... 1140
statistics-
acreage, production, and exports, 1915-1923 84, 85, 86, 1108, 1137
production and distribution ..... 636-645
straw, feed value, etc., 1919 ..... 339
trade international ..... 644
world-
production ..... 99
production and yield ..... 640-642
yield per acre, by States, 1908-1923 ..... 638
yields European countries, comparisons ..... 467
Saccharum officinarum. See Cane.
Galary classification ..... 76
Salt, distribution on ranges ..... 398
Sanders, J. T., article on "Farm ownership and tenancy" (with others). 507-60 ..... $-600$
Sausage-casings-
exports ..... 1104
imports ..... 1096
exports ..... 1104
Scab-
control of infection in sheep ..... 266-267
eradication by dipping ..... 267
potato, danger to beets ..... 186
sheep, losses by ..... 266
Scabies. See Scab.
Schoenfeld, W. A., study of wheat situation ..... 95
Scientific work, Director, duties ..... 38
Sicotland, labor, man and animal, per 1,000 acres crop land ..... 475,476
Screw worm, danger in sheep raising ..... 267
Secretary, Agriculture-
report for 1923 ..... 1-93
report on the wheat situation ..... 95-150
See also Agriculture, Secretary.Seed-
alfalfa. See Alfalfa seed; Seeds.cane, harvesting, planting, etc., labor requirements167-168

## 1270 Yearbook of the Department of Agriculture, 1923.

Seed-Continued.
clover- Page.
statistics, acreage and production ..... 84, 85
See also Clover seed; Seeds.
sugar-beet-
domestic production, advantages. ..... 187-188
production processes ..... 187-188
timothy. See Timothy seed. wheat, need per bushel produced ..... 646
See also Wheat, seed.
Seed-cane-
banked, injury from disease ..... 179
requirements per acre ..... 179
Seed-grain loans, distribution ..... 120
Seeding ranges with tame-pasture plants ..... 398-399
Seedling pastures, grazing ..... 374
Seeds-
exports ..... 1109, 1111
field, prices to growers, by States ..... 862
forage crops, statistics ..... 858-865
imports ..... 1101, 1111, 1133
requirements per acre of several crops ..... 1140
Semple, E. C., aid on forage article, note ..... 311
Sereh, cane disease, note ..... 177 ..... 177
Sheep-
for improvement ..... 244-246
notes ..... 254-255
breeds, improvement ..... 241-246
carcasses, condemnation under inspection; 1907-1923 ..... 1012
cross-bred, remarks ..... 245
decrease factors ..... 241
dipping for eradication of scab ..... 267
distribution in world ..... 230-234
Experiment Station in Idaho; remarks ..... 245
exports, 1895-1923 ..... 991
fattening in Corn Belt ..... 240
feed, value of beet pulp ..... 211, 212
feeder, shipments discussion ..... 280-281
feeding for market, note ..... 238
flocks, increase in size, note ..... 236
foreign countries, numbers ..... 1031-1036
freight rates ..... 1174
grade factors and prices ..... 283
grazing
improved methods ..... 397
with cattle ..... 260
growing-
development in United States ..... 234-241
factors influencing ..... 232
herd sizes, notes ..... 260
herding injury to pasture ..... 260
importance of industry, article by D. A. Spencer and others ..... 229-310
imports, 1895-1923 ..... 991
industry-
financing, discussion ..... 274-275
outlook, discussion ..... 306-310
types ..... 308
introduction into United States ..... 234-235
investment in range management ..... 253
losses-
annually, estimate ..... 264
from diseases and exposure, 1889-1924 ..... 981
from poisonous plants ..... 400
from scab ..... 266
from wild animals ..... 266
in raising, discussion ..... 263-269
Sheep-Continued.
management- Page.
as farm flocks ..... 246-251
on range ..... 251-261
systems, discussion ..... 246-262
market receipts ..... 983-990
marketing
costs, items ..... 1010
discussion ..... 275-310
problems ..... 289
systems of finishing ..... 261-262
number-
and value on farms, 1867-1924 ..... 981
and value on farms, by States ..... 982
decrease ..... 5
grazed in National Forests ..... 403
grazing in National Forests ..... 1062
in United States, 1846 ..... 237
in United States in 1910 ..... 235
numbers in-
producing countries ..... 230
relation to population and wool imports ..... 304
pasturing on corn- ..... 260, 261
price decline, 1870-1896 ..... 239
prices-
abnormal variation ..... 288
at Chicago, 1893-1923 ..... 285-286
differential from prices of lamb ..... 288-289
in relation to price of wool ..... 283
monthly and by States. ..... 992-998
seasonal variations ..... 287-288
production on farms, number and value ..... 1010
prospects for raising in Eastern United States ..... 309-310
purebred-
freight and express rates ..... 1175
increase, discussion ..... 244-246
raising
as affected by Civil War ..... 239
course of industry since World War ..... 240-241
relation to Civil War ..... 238
ranges for control features ..... 253
ratio to population ..... 326
receipts at stockyards ..... 277-279
relation to grazing lands, note ..... 327
shipments-
percentage crippled and dead ..... 1009
principal markets, 1900-1923 ..... 983, 987-989
shrinkage in shipment ..... 1008
slaughter-
at stockyards, 1915-1923 ..... 986-989
leading markets ..... 281-282
under inspection, 1907-1923 ..... 1012
under inspection, monthly, 1907-1923 ..... 999-1000
statistics ..... 981-1012, $1031-1036$
stockyard-
receipts, monthly, 1915-1923 ..... 984
receipts, slaughter, and shipments ..... 1010
supplies available, variation ..... 282
weight, live and dressed, by months ..... 1015
Sheeping-down corn, remarks ..... 260, 261
Sheepskins, imports, 1909-1923
Sheepskins, imports, 1909-1923 ..... 1023 ..... 1023
See also Hides.
Sheets, E. W., article on "Our forage resources" (with others) ..... 311-413
Shellac, imports ..... 1098, 1118
Shepard, Ward, article on "Utilization of lands for crops, pasture and forests" (with others) ..... 415-506
Sherwood, S. F., article on "Sugar" (with others) ..... 151-228
Shingles- Paga
imports ..... 1098
production, by States, 1870-1922 ..... 1072-1076
Shipping-point, inspection service ..... 29-31
Shooks, exports ..... 1105Shrinkage-
catṭle in shipment ..... 942
hogs in shipment ..... 977
sheep in shipment ..... 1008
Shropshire ram, picture ..... 242
Silage
beet tops, value and use as feed ..... 212
corn, feed value, etc., 1919 ..... 340
production and use ..... 339-340
Silk-
foreign countries, production, 1909-1922 ..... 1049
prices, monthly, 1890-1923 ..... 1049
raw, imports ..... 1127
statistics, 1890-1923 ..... 1049
Sirup-
cane-
crystallization, prevention method ..... 183-184
manufacture, improvement ..... 50
manufacture, processes ..... 183-184
production, by States ..... 158, 855
exports ..... 1110
maple-
farm prices, by months ..... 858
production ..... 208-210
production and yield per tree, by States ..... 857
production from sorgo and maple ..... 206-210
sorghum
production and prices, by States ..... 856
production, 1915-1923 ..... 85
sorgo-
production distribution ..... 207
production, 1859-1919 ..... 207-208
Sisal, imports 1097, 1115, 1116, 1130
Skins-
exports ..... 1104
imports-
by kinds, 1909-1923 ..... 1022-1023
statistics $1094,1095,1117,1128,1129$
statistics ..... 1021-1023
See also Hides.
Slaughter
cattle, under inspection, monthly ..... 905hogs-
at stockyards ..... 953-954
under inspection, 1907-1923 ..... 966
livestock, inspection by Federal Government ..... 281
meat animals under inspection, 1907-1923 ..... 1012
sheep, under monthly inspection, 1907-1923 ..... 999-1000
Smut-
cane, note ..... 177
factor, in wheat cost ..... 129
Sneezeweed, danger to sheep ..... 264
Soda nitrate for farmers, expenditure by Government ..... 81, 82
Soils-
beet growing, nature and location ..... 185-186
colloidal material, studies ..... 40
sugar-cane, nature and requirements ..... 161-162
Sorghum -
fodder, feed value, etc., 1919 ..... 337
grain-
feed value, etc., 1919334, 335
statistics, acreage, and production, 1915-1923 ..... 84, 85
silage, feed value, etc., 1919 ..... 340
Sorghum-Continued.
sirup- Page.acreage and sirup yield, by States856
crop summary, production and farm value, 1921-1923 ..... 1138
stover, feed value, etc., 1919 ..... 339
sweet, acreage, 1915-1923 ..... 84
Sorghums-
353-355
353-355
feed use and value
feed use and value
729
condition and yield ..... 729
harvesting, method ..... 354
importance as feed crop ..... 355
varieties in use ..... 353
Sorgo sirup, production 1859-1919 ..... 207-208
South-
Africa-
meats, exports and imports ..... 1018
sugar production ..... 851
Carolina-
cane and sirup production ..... 156
forest fires, number, damage, area, and causes, 1916-1922
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060 ..... 1059, 1060
labor, man and animal, per 1,000 acres crop land ..... 475, 476
Dakota-
forest fires, number, damage, area, and causes, 1916-1922_ _ 1059-1061
pastures, rental value and costs, notes ..... 407-410
wheat production cost ..... 123
farms operated by white and by colored owners ..... 218
plantation region, units, crops, etc ..... 530
tenant farms, number operated by white and by colored tenants ..... 517
Southdown sheep, purebred, note ..... 245
Southern humid region, pasture lands, composition and capacity ..... 386-389
Sows, number farrowing, by States ..... 948-949
Soybean oil, imports ..... 1101, 1132
Soybeans-
acreage, yield and production, by States ..... 792
feed-
use and value ..... 363
value, etc., 1919 ..... 334, 337
importance as feed crop ..... 342
prices, by months ..... 791
seed requirement for acre ..... 1140
Spain-
meats, exports and imports, 1918 ..... 1018
sheep growing, remarks ..... 234
silk production, 1909-1922 ..... 1049
sugar-
beets, acreage and production ..... 848-849
production ..... 849, 851 ..... 849, 851
Sparhawk, W. N., aid-
on estimates ..... 415
on forage article ..... 311
Spencer, D. A., article on "The sheep industry", (with others) ..... 229-310
Spices, imports ..... 1101, 1111, 1133
Spilliman, W. J.-
aid on forage article, note ..... 311
article on "Farm ownership and tenancy" (with others) ..... 507-600
Spelt-
feed-
use and value ..... 365
value, etc., 1919 ..... 334
importance as feed crop ..... 342
Spring wheat. See Wheat.
Squirrels, ground, distribution and control ..... 399, 400
St. Louis-
prices- Page.
flour ..... 632
corn ..... 676, 678
wheat ..... 627, 629
wool market ..... 294
Standards-
cotton, international agreement ..... 33
farm products, general use ..... 31-32
Starch, exports ..... 1110,1111
Statistics-
agricultural, introduction to tables ..... 601
comparative, of livestock and population by States, 1920 ..... 321
crops, farm animals, exports and imports ..... 601
forestry and forest products ..... 1050-1093
grains and other staple crops, and domestic animals, with introduc- tion to tables ..... 601-1094
tables, with explanation of make up ..... 601-1222
"Stecklinge," use of term ..... 187
Steere, L. V., study of wheat situation ..... 95
Sterling pound, exchange rates in New York, 1912-1923 ..... 1164
Stevens, F. C., article on "Sugar" (with others) ..... 151-228
Stewart, Charles L., article on "Farm ownership and tenancy" (with others) ..... 507-600
Stine, O. C.-
article on "The sheep industry," (with others) ..... 229-310
study of wheat situation
95
95
Stock grazing, exemption limits on owners ..... 404
See also Livestock.
Stockyards-
receipts of sheep and lambs ..... 277-279
supervision ..... 54
Stomach worms, danger in sheep raising ..... 268
Storage
beef, holdings by months, 1916-1923 ..... 906
butter, holdings monthly, 1916-1923 ..... 920
cheese, holdings 1916-1923 ..... 925-926
egg holdings, monthly, 1916-1923 ..... 1045
lard holdings, monthly, 1916-1923 ..... 968
meat holdings, monthly, 1917-1923 ..... 1018
mutton holdings, monthly, 1916-1923 ..... 999-1000
pork holdings, monthly, 1916-1923 ..... 967
poultry holdings, monthly, 1917-1923 ..... 1039
wheat, suggestions ..... 129
Stover, production and use ..... 338-339
Straw, production and use ..... 338-339
Strawberries-
prices at 10 markets, 1921-1923 ..... 751
shipments, car lot, by States, 1917-1923 ..... 750
cane crops, nature and practices ..... 164-165
pastures, grazing
pastures, grazing ..... 374 ..... 374
Sucrose, production from sorgo and maple ..... 206-210
Sugar
article by E. W. Brandes (with others) ..... 151-228
beet-
foreign countries, production ..... 849-850
production and length of campaigns, by States, 1919-1923 ..... 843
production, by States ..... 156
production, 1866-1923 ..... 845-486
production, 1909-1923 ..... 849
beets-
crop summary, production and farm value, 1921-1923 ..... 1138
importance in feed crop ..... 342
seed to sow acre ..... 1140
See also Beets; Beets, sugar.
Sugar-Continued.
cane ..... Page.
factories, and output in Louisiana ..... 844
foreign countries, production ..... 850-851
importance as feed crop ..... 342
production, 1820-1923 ..... 157
production, 1866-1923 ..... 845-846
production, 1909-1923 ..... 850
production, by States ..... 156
yield, Hawaii ..... 844
See also Cane.trade and consumption, 1866-1923845-846
zone of production, shift from beet sugar, etc ..... 213-216
consumption-
and per cent supplies by United States ..... 847
per capita ..... 151
total and per capita ..... 151-154
total and per capita, 1866-1923 ..... 846
duties on imports by various countries ..... 223-226
exporting countries, principal ..... 215-216
exports ..... 1110, 1111, 1113
food value, consumption, etc ..... 151-152
foreign countries, exports and imports ..... 853
imports-
and exports ..... 218-219
statistics ..... $1102,1111,1115,1116,1133$
industry-
development, historical notes ..... 154-158
outlook ..... 226-228
legislation 1789-1922 ..... 221-226
manufacture-
by-products ..... 210-213
from beets, processes ..... 201-203
from sugar cane, processes ..... 181-183
maple-
farm prices by months ..... 858
production and yield per tree, by States ..... 857
prices-
and consumption ..... 219-221
monthly, 1890-1923 ..... 854-855
production-
consumption, exports and imports, 1866-1923 ..... 846
distribution of ..... 213-216
in Hawaii, by islands, 1913-1923 ..... 844
increase, fluctuation, etc ..... 213-219
trade and consumption, 1866-1923 ..... 845-846
statistics-
exports, 1915-1923 ..... 86
production, etc $843,858,1102,1110,1111,1113,1115,1116,1133$
supply, sources ..... 216-218
trade, international by countries ..... 853
world prcduction-
and movement. ..... 212-219
statistics, 1895-1923 ..... 852
yield per acre, 1895-1922, Louisiana and Java ..... 204
Sugars, "rare," manufacture in United States ..... 210
Swarthout, A. V., study of wheat situation ..... 95
Sweden-
eggs, exports and imports ..... 1046
meats, exports and imports ..... 1017
pork products, net exports, 1909-1922 ..... 971-972
poultry, exports and imports ..... 1042
sugar-
beets, acreage and production ..... 848-849
production ..... 849
Sweet potato plants, number to acre. ..... 1140
$\dagger 85813^{\circ}$ - $\mathrm{YBK} 1923-81$
Sweet potatoes- ..... 774
acreage, production, and value, by States
crop-
condition and yield, 1860-1923 ..... 775
summary, production and farm value, 1921-1923 ..... 1137
feed-
use and value ..... 364
value, etc., 1919 ..... 340
importance as feed crop ..... 342
plants, number to acre ..... 1140
prices, farm and market ..... 776-778
production and value, 1849-1923 ..... 773
shipments, car lot, by States, 1917-1922 ..... 775
statistics, acreage, production, etc ..... 137
yield, by States ..... 774
Swine-
freight rates ..... 1173
purebred, freight and express rates ..... 1176
See also-Hogs.
Switzerland-
eggy, exports and imports ..... 1046
meats, exports and imperts ..... 1018 ..... 1018
pork produets, net imports, 1909-1922 ..... 971 1 972
poultry, exports and imports ..... 1042
sugar-
beets, acreage and production ..... 848-849
production ..... 849
Tallow, experts ..... 1104
Tame pastures, grazing ..... 370, $378-377$
Tanning extracts, imports ..... 1097, 1111
Tapeworm, danger in sheep raising ..... 269
Tariff-
Board, studies of sheep industry, remarks ..... 269
effect on wheat prices ..... 115-118
relation to prices of wool ..... 299
sugar, legislation, 1789-1922 ..... 221-226
wool-
classifications, blood and other ..... 305
histery and features ..... 303-306
Taxation, timber lands ..... 66
Taxes-
7-8
7-8
burden on farmers
burden on farmers ..... 658
increase, factor in cost of wheat production ..... 122, 123
land, increase, 1913-1921 ..... 657
wheat farms, delinquency ..... 121
Taylor, H. C., study of wheat situation ..... 95
Tea-
Formosa, price, wholesale, at New York, 1890-1923 ..... 877
imports 1102, 1111, 1115, 1116; 1133
trade international, by countries, 1909-1922 ..... 876
Tedlef, H. R., study of wheat situation ..... 95
Teele, R. P., aid on estimates, note ..... 428
Temperature, statistics by months and by States ..... 1199-1210
Tenancy, farm-
relation to land valuation ..... 539-541
shifting, causes and significance ..... 593-597
Tenants-
contracts with landlords 582-589educational standards.576-579
farm-
classes ..... 568
distribution of various elasses ..... 515-522
increase, 1910-1920 ..... 514
loss of property, causes ..... 9 ..... 9
organization, note ..... 509-600
percentage of different classes ..... 509
Tenants-Continued.
farm-Continued. Page.
progress to ownership, stages, factors, etc ..... 547-569
wealth per capita ..... 548
periodicals received, number and classes ..... 579-580
Tennessee -
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
sheep raising ..... 249
Tenure-
farm-
beet farming ..... 200
relation to shift of operators ..... 589-599
steps to ownership ..... 547-548
ladder-
movement upward, rate ..... 556-569
stages to ownership ..... 547-556
types, relation to efficiency in farming ..... 569-576
Texas-
cane and cane products ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061 ..... 1059, 1061
sheep raising- cost factors ..... 270
early days, note ..... 238
Tick, cattle, eradication work by States ..... 933
Ticks, danger in sheep raising ..... 267
Ties, railroad, exports ..... 1105, 1126
Timber-
consumption-
per capita, comparisons ..... 494
reduction ..... 453
depletion, disastrous effects ..... 61-62
exports ..... 1105, 1106, 1118
growing, acreage required at present rate of consumption ..... 455
imports ..... 1098, 1118 ..... 1098, 1118
removal annually from forest, uses and waste ..... 1079
requirements, present and future ..... 461, 462
resources, Capper report, note ..... 423
sales-
National Forests ..... 1062
National Forests, receipts, 1923 ..... 55
stand-
by species and by regions, 1920 ..... 1053 ..... 1054-1056
in National Forests
in National Forests
in United States and Alaska ..... 1058
standing-
annual removal, uses, waste, and destruction ..... 485-487
consumption available at various rates of growth ..... 484
supply, increasing scarcity ..... 453
world production and consumption, by countries ..... 1077
Timberland on farms, area by States and regions ..... 1052
Timothy -
feed-
349
use and value
337
value, etc., 1919
342
342
importance as feed crop
1109
1109
farm prices monthly, 1910-1923
farm prices monthly, 1910-1923 ..... 861 ..... 861
market prices monthly, 1910-1923 ..... 864
prices on farm by States ..... 862 ..... 865
prices to farmers monthly, 1912-1923
prices to farmers monthly, 1912-1923
receipts and shipments, monthly at Chicago, 1910-1923 ..... 859-860
to sow acre ..... 1140 ..... 1140
Titles, land, standardization, need ..... 598
Tobacco- .....
870 .....
870
acreage and yield for nine countries, 1909-1923
acreage and yield for nine countries, 1909-1923
869
869
condition and yield
condition and yield ..... 1137
1278 Yearbook of the Department of Agriculture, 1923.
Tobacco-Continued. Pega.
exports ..... 1110, 1111, 1113, 1125
imports ..... 1102, 1111, 1115, 1134
plants, number to acre ..... 1140
prices-
on farm, 1908-1923 ..... 871
wholesale, 1907-1923
wholesale, 1907-1923 ..... 873 ..... 873
production-
and farm value by States ..... 866-867
value, etc., 1849-1923 ..... 865
soils, fertilizer requirements ..... 49
standards, tentative ..... 32
statistics-
acreage and production ..... 84, 85
exports, 1915-1923 ..... 87
production, value, prices, markets, etc ..... 84, 85, 87, 865-872
trade international, 1909-1922 ..... 872
types and districts, production and farm value ..... 866-867
warehouses, number and capacity ..... 27
world crop, production ..... 870-871
yield per acre, by States, 1908-1923 ..... 868
yields, European countries, comparisons ..... 467
Tomatoes-
acreage and production, by States ..... 779
canned, production, 1891-1923, by States ..... 780-782
prices, farm and market, by months ..... 779-780
shipments, car-lot, by States ..... 779
Townsend, C. O., article on "Sugar" (with others) ..... 151-228
Tractors, number and value ..... 1156
Trade, international-
barley, 1910-1923 ..... 706
butter, by countries, 1909-1922 ..... 920
cheese, by countries, 1909-1922 ..... 926
condensed milk, by countries, 1909-1922 ..... 912
eggs, by countries, 1909-1922 ..... 1046
hides and skins, by countries ..... 1022
meat, by countries ..... 1017-1018
poultry, by countries ..... 1042
rice ..... 722
sugar, by countries ..... 853
wool, by countries, 1909-1922 ..... 1004
Trails-
building on ranges ..... 398
forest, construction, 1923 ..... 1058
Transportation-
cane, from field to mill, considerations ..... 175-177
farm products ..... 1177
freight rates-
factor in wheat situation ..... 110-113
in farm products ..... 1165-1176
Truck crops-
acreage and production, by kind ..... 783
See also under specific crop name.
Tuberculosis, bovine-
eradication progress ..... 43-44
eradication work, by States ..... 932
Turkeys-
foreign countries, numbers ..... 1037-1039
prices on farm, monthly ..... 1043
Turner, Howard A., article on "Farm ownership and tenancy" (with others) ..... 507-600
Turnips, prices, farm, by months ..... 782
Turpentine-
exports ..... 1105, 1118, 1125
prices, New York, 1890-1923 ..... 1089-1090
production, 1910-1923 ..... 1085
stocks, United States, 1919-1923 ..... 1084
trade, internationał, 1909-1913, 1920-1922 ..... 1084
Page.
Unit, animal, definition ..... 419
United Kingdom-
beef exports and imports, 1909-1922 ..... 909
eggs, exports and imports ..... 1046
food consumption standards, comparisons ..... 479-480
hay yields, comparisons ..... 467
meats, exports and imports ..... 1018
pork products, net imports, 1909-1922 ..... 971-972
poultry, exports and imports ..... 1042
sheep-
growing, favorable factors ..... 234
production ..... 230, 231
sugar beets, acreage and production ..... 848-849
wheat, consumption per capita ..... 99
wool-handling leadership ..... 292
Uruguay-
beef exports and imports, 1909-1922 ..... 909
meats, exports and imports ..... 1017
wool exports ..... 292
Utah-
beet production, cost per acre ..... 196, 197
beets and sugar production ..... 156
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
sheep raising- cost factors ..... 270
note ..... 256
Valgren, V. N.-
article on "The sheep industry" (with others) ..... 229-310
study of wheat situation ..... 95
Vanilla beans, imports ..... 1102, 1111
Varnish, gums, imports ..... 1098
Veal-
consumption total and per capita, 1907-1923 ..... 1014
production and per cent of all meats, 1907-1923 ..... 1013
use as food, per capita ..... 283
Vegetable-
oils, exports and imports, 1910-1923 ..... 878
seed-
785-786
imports ..... 783-785
Vegetables-
canned, exports ..... 1110
exports ..... 1110, 1111
imports ..... 1102, 1111
inspection, shipping points and markets ..... 29-31
receipts at principal markets, 1917-1923 ..... 788-789
shipments, car-lot, by months ..... 787-788
Vegetation, native, in forest, grass, and desert pastures ..... 378
Velvet beans
acreage, yield, and production ..... 794
feed-
use and value ..... 362
value, etc., 1919 ..... 334, 337
importance as feed crop ..... 342
Vermont-
dairy cows feeding, details and results ..... 412
forest fires, number, damage, area, and causes, 1916-1922 ..... 1058, 1060
maple products ..... 209
wool fleece, increase in weight ..... 295
Vetch-
feed-
use and value ..... 363
value, etc., 1919 ..... 337
importance as feed crop ..... 342
Vilmorin beets, type grown in United States ..... 187
Vinall, H. N., article on "Our forage resources" (with others) ..... 311-413
Virgin Islands- Page.
cane and sugar production ..... 156
sugar production ..... 850
Virginia-
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
sheep-
introduction ..... 234
raising, notes ..... 249
Wages--
cane production, rates, 1916-1922 ..... 173-174
farm
and city, comparison ..... 6
by sections ..... 1149
increase, factor in cost of wheat production ..... 122, 123
labor, by class ..... 1148-1149
index number, 1913-1924 ..... 1194
road work, amount paid per hour, 1915-1923 ..... 1197
Wall board, manufacture from bagasse ..... 212
Wallace, Henry C.-
foreword to Yearbook ..... III
report as Secretary for 1923 ..... 1-100
See also Agriculture, Secretary.
Walnuts, imports ..... 1100,1117
War-Civil-
relation to sheep raising ..... 238-239
wool prices ..... 300
World-
effect on wool production ..... 240-241
wool prices ..... 301
Warburton, C. W., aid on article on "Land utilization" ..... 415
Warehouse
act, benefit to farmers ..... 26-28
wool, factor in wool marketing ..... 294
Warehouses, licensed, number ..... 27
Wars-
British-American, relation to sheep industry, notes ..... 235
relation to price of wool ..... 300
Washburn, R. S.-
article on "Sugar" (with others) ..... 151-228
study of wheat situation ..... 95
Washington-
dairy cows, feeding, details and results ..... 412
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 106โ ..... 1059, 106โ
sheep raising- ..... 270
cost factors ..... 251
source of market lambs ..... 279
Waste, timber, causes and control ..... 485-487, 501
Watering places, development on ranges ..... 397
Watermelons-
freight rates ..... 1169
shipments, car-lot, by States ..... 782
Wax, vegetable, imports ..... 1102, 1111
Weather-
effect on beet growing ..... 184-185
work, importance ..... 45-47
Webworm, sugar-beet, food plants, damage and control ..... 191-192
Weeds-
cleaning up with sheep, note ..... 247
factor in wheat cost ..... 129
Weights-
bushel, of wheat, oats and barley, 1902-1923 ..... 1141
live and dressed, of farm animals ..... 1015
Weitz, B. O., article on "The utilization of our lands for crops, pasture and forests"' (with others) ..... 415-506
West Indies, sugar production ..... 850
West Virginia- Page.
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1060
sheep raising, notes ..... 249
Wheat-
abandoned acreage ..... 123-124, 125, 646
acreage-
abandoned, by States, 1890-1923 ..... 607
increase and decrease, maps ..... 133-135
per cent of all acreage, etc ..... 97
production, and exports, trend, 1909-1922 ..... 444
reduction discussion ..... 15-16
requirements ..... 108
Barletta, prices in Buenos Aires ..... 631
black stem rust, control ..... 42-43
Canadian, quality, comparison with United States products ..... 114
condition of crop, by months, 1890-1923 ..... 606
consumption-
changes since 1913 ..... 5
decrease, cause and results ..... 110
corn equivalent as feed ..... 130
cost of production-
factors, 1913-1923 ..... 122-126
in 1922 ..... 124-126
per acre, 1902-1921, ..... 647, 648
per bushel, 1902-1921 ..... 647, 648
United States and Canada ..... 114-115
crop-
distribution in United States ..... 102-113
summary, production and farm value, 1921-1923 ..... 1137
demand in Europe, decrease, results ..... 449-451
disposal of crop ..... 660
dockage, Minnesota markets, 1899-1922 ..... 619See also Dockage.
durum-
acreage by States, 1919 ..... 106
production ..... 105
production and yield ..... 604
exports-
from United States, 1910-1924 ..... 621-622
statistics 103-104, 1108, 1114, 1123
feed-
use and value ..... 349-351
value, etc., 1919 ..... 334, 335
feeding value, comparison with corn ..... 130
flour. See Flour.
freight rates-
Canada ..... 661
inland ..... 1167
on ocean ..... 1166
gluten content, relation to price ..... 129
grades on markets, 1921-1923 ..... 618-619
grading cars by licensed inspectors ..... 620
growers, cooperation, discussion ..... 17
grazing with sheep, note ..... 249
hard red-
acreage, by States, 1919 ..... 105-106
production and export ..... 106
importance as feed crop ..... 342
imports-
from Canada ..... 105, 622, 660
statistics ..... 104, 1096, 1131
marketing-
by farmers, 1917-1923 ..... 613
costs, etc ..... 126-128
from farms ..... 103
markets, receipts and shipments, 1909-1923 ..... 615
needs, surplus and deficiency, 1923-1924 ..... 616
Wheat-Continued. price- Page.
factors ..... 653
on farm, comparison with cost of factors in production, 1913- 1923 ..... 123
prices-
and cost of production ..... 122
at Minneapolis, 1913-1914, and 1922-1923 ..... 109
effect of tariff ..... 115-118
estimates ..... 654-655
farm, 1908-1923 ..... 624-625
fluctuation and outiook. ..... 95-98, 99
in Buenos Aires, 1912-1923 ..... 631
in Liverpool ..... 630
weighted averages ..... 625-629
production--
and quality, 1923 ..... 1-2
foreign competition ..... 100-102
increase, price fluctuation, etc., and factors influencing ..... 130-145
purchasing power ..... 95-96
quality-
importance ..... 129
relation to price ..... 128-129
region, farm mortgage debts ..... 120
regions, agricultural readjustments ..... 138-145
seed-
and feed supplies held on farms ..... 102
to sow acre ..... 1140
situation-
discussion by Secretary ..... 4-5, 14-19
report by Secretary of Agriculture ..... 95-150
soft red-
acreage by States, 1919 ..... 107
production and export ..... 107
spring-
cost of production and farm prices, 1913-1923 ..... 648-649
council, work ..... 25
prices, United States and Canada ..... 651
production and value ..... 603-604
yield per acre ..... 606 ..... 606
statistics-acreage production exports, etc84, 85, 86, 103-105,
$602-631,1096,1108,1114,1123,1131$
646-651
cost of production, 1912-1923
602-604
602-604
production, prices, etc
production, prices, etc
602-631
602-631
production, prices, markets, etc
production, prices, markets, etc ..... 602-604
stocks on farm, 1895-1923 ..... 614
straw, feed value, etc., 1919 ..... 339
supplies-
and distribution, United States ..... 614
location and character ..... 104-106
surplus-
and deficiency by States ..... 104
marketing problem ..... 108
purchase by Government, discussion ..... 16-17
trade, international, 1910-1923 ..... 623-624
visible supplies, U. S., 1889-1923 ..... 617-618
weight per bushel, 1902-1923 ..... 1141
white-
acreage by States, 1919 ..... 107
production and export ..... 107
world-
crop, acreage, production, and yield ..... 608-613
production and Chicago prices, 1890-1914 ..... 98-99
Wheat-Continued.
yield- Page.
in semiarid regions ..... 125
per acre ..... 605-606, 607
yields, European countries, comparisons ..... 467
Wilcox, R. H.
part in article on "Sugar" ..... 157
study of wheat situation ..... 95
Wild-
grass, feed value, etc., 1919 ..... 337
pastures, grazing
pastures, grazing ..... 370, 377 ..... 370, 377
Wilt, sugar-beet, cause and control ..... 191
Winnipeg, wheat prices ..... 628
Wisconsin-
beets and sugar production ..... 156
Experiment Station, table of animal rations ..... 332
farm area in crops and pasture, per cent ..... 407
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
pastures, rental value and costs, notes ..... 407-409
Woll, F. W., table of anímal rations ..... 332
Wolves, danger in sheep raising ..... 265
Women, aid by Home Economics Bureau ..... 39
Wood-
alcohol, exports ..... 1107
consumption per capita, various countries, comparisons ..... 483
exports ..... 1105-1106, 1111
imports ..... 1098-1099, 1111, 1134
preservation, statistics, 1909-1922 ..... 1091-1092
pulp-
exports ..... 1107, 1111
exports, 1870-1922 ..... 1082
imports ..... 1099, 1111, 1118
imports, 1889-1922 ..... 1081
prices, statistics for 1914-1923 ..... 1088
production, 1869-1922 ..... 1078
trade, international, 1909-1913, 1920-1922 ..... 1083See also Pulp wood.
world production and consumption, by countries ..... 1077
Woodland-
cut-over and burned-over, acreage estimates ..... 1419
on farms, area, by States and regions ..... 1052
Woodlands, farm, improvement need ..... 492, 501
Wool-
cost of production, discussion ..... 269-274
duties on imports of, discussion ..... 303-306
duty rates on imports, 1789-1922 ..... 303-306
early use and trade in United States, note ..... 235
England, prices, 1909-1923 ..... 1007-1008
exports, 1870-1923 ..... 1001-1002
fleece-
farm values ..... 296
weight increase and averages ..... 295-297
fleeces, weight and number by States ..... 1002-1003
foreign countries, production 1912-1922 ..... 1003
grades and their uses ..... 297-298
grading, factors in ..... 297-298
grease, freight rates inland ..... 1168
growing-
progress in New England and New York, note ..... 237
stimulus of World War ..... 240
holdings by dealers and manufacturers, monthly ..... 1005
imports ..... 1094, 1111, 1114, 1127
maggots, injury in sheep raising ..... 267
marketing -
discussion ..... 275-310
methods in United States ..... 293-298
problems ..... 301-303
Wool-Continued. Page.
mill consumption ..... 293
place in sheep industry ..... 275-276
pools for selling, remarks ..... 291
price-
decline, 1870-1896 ..... 239
fixing, note ..... 276
prices-
as factor in mutton prices ..... 283
discussion ..... 2, 3, 298-301
fleeces for suit of clothes ..... 303
on farm, by months, 1910-1923 ..... 1004-1006
relationships ..... 302
production-
and distribution of world ..... 290-293
of world, exports and imports ..... 291
prices and imports, 1890-1922 ..... 299
statistics for 1870-1923 ..... 1001-1002
stimulus of loss of cotton by Civil War ..... 238-239
purchasing power, discussion ..... 299
sheep breed, supply from Spain ..... 234
statistics ..... 1001-1008
trade, international-
by countries, 1909-1922 ..... 1004
remarks ..... 290
transportation -
and other problems ..... 289
remarks ..... 289, 290
use per capita ..... 229
warehouses, number and capacity ..... 27
Woolen-
mill, first in United States ..... 235
mills, increase and improvement in United States ..... 235-236
Woolens-
British, use in United States, notes ..... 235
weaving in homes, remarks ..... 235
Wools, classification in tariff laws ..... 305
Wooton, E. O., study of wheat situation ..... 95
Worms, danger in sheep raising ..... 268
Wright, Sewell, aid on maps ..... 415, 440, 441
Wyoming
forest fires, number, damage, area, and causes, 1916-1922 ..... 1059, 1061
sheep-raising-
cost factors ..... 270
note ..... 256
Yearbooks, 1921, 1922, contents summary ..... III
Yellow pine, prices, 1913-1923 ..... 1088
Yoder, P. A., article on "Sugar" (with others) ..... 151-228
Yugoslavia, sugar-
beets, acreage and production ..... 848-849
production ..... 849
Zinc chloride-
consumption oy wood-treating plants, 1909-1922 ..... 1093
wood treated by, 1909-1922 ..... 1091
Zino-creosote, wood treated by, 1909-1922 ..... 1092
Zon, Raphael, article on "The utilization of our lands for crops, pas- ture, and fcrests" (with others) ..... 415-506
ADDITIONAL COPIES
of this publication mat be procured from

            THE SUPERINTENDENT OF DOCUMENTS
    
                GOVERNMENT PRINTING OFYICE
    
            WASHINGTON, D. C.
    
                AT
    
            \$1.25 PER COPY
[^0]:    $85813^{\circ}$ - увк 1923-6 6

[^1]:    ${ }^{1}$ Paid direct to States by Treasury Department.

[^2]:    ${ }^{1}$ Including expenditures of $\$ 152,511.28$ from fund of $\$ 175,000$ set aside for road materiai investigations.
    2 Paid direct to States by 'Treasury Department.

[^3]:    ${ }^{1}$ These balances, no longer available for expenditure, totaling $\$ 502.03$, were returned to the departments from which the allotments originated.
    ${ }^{2}$ Includes $\$ 5,721,137.91$ in annual appropriations for regular work of department for fiscal years 1921 and 1922.
    8 Includes $\$ 2,981,134.71$ expended from annual appropriations for regular work of department in payment of obligations incurred during fiscal years 1921 and 1922.

    4 Includes $\$ 2,740,003.20$ unexpended balances of annual appropriations for regular work of department or fiscal years 1921 and 1922.

[^4]:    ${ }^{1}$ This report, prepared by members of the Bureau of Agricultural Economics, was submitted to the President Nov. 30, 1923. The following committee had charge of the study, under the direction of H. C. Taylor: W. A. Schoenfeld, chairman; Nils A. Olsen, executive secretary; O. C. Stine. H. R. Tolley, V. N. Valgren, O. E. Baker. W. F. Callander, and R. H. Wilcox. The committee was assisted by G. C. Haas, Donald Jackson, R. S. Washburn, H. B. Gardner, L. V. Steere, C. L. Luedtke, L. M. Harrison, M. R. Cooper, L. A. Reynoldson, E. O. Wooton, C. R. Chambers, H. Killough, A. V. Swarthout, E. B. Ballow, H. J. Besley, C. O. Brannen, R. W. Newton, G. A. Collier, H. K. Holman, jr., A. W. McKay, and R. H. Elsworth.

[^5]:    ${ }^{2}$ A one-year base for an individual commodity is not satisfactory. The index of the price of wheat is therefore based on the 1909-1913 average.

[^6]:    ${ }^{3}$ All estimates of production for $1923-24$ are subject to change by report of revisions and by receipt of official estimates for countries not officially reported.

[^7]:    ${ }^{4}$ The net imports of European importing countries, $1922-23$, preliminarr $\mathbf{-} \mathbf{6 7 , 0 0 0 , 0 0 0}$ bushels wheat and flour as wheat: $1921-22,535,000,000 ; 1909-1913,505,000,000$, of which European exporting countries supplied about $11,000,000,20,000,000$ and $27 \%$, 000,000 , respectively.

[^8]:    ${ }^{5}$ Computed on the basis of the average annual disappearance in the United States for food and feed distributed per capita by States as found in a survey made in 1911, and seed requirements with a reduction of 15 per cent in the winter wheat area. Spring wheat area same as last year.

[^9]:    ${ }^{6}$ These combined rates may vary from day to day on account of variations in lake and ocean rates.

[^10]:    ${ }^{1}$ The feeding value of a pound of wheat in pounds of corn is 1 for poultry and sheep, 1.05 for hogs, and 1.15 for becf cattle.

[^11]:    Figure 33.-Corn Belt (Ohio, Indiana, Illinois, Iowa, Missouri), western winter wheat region (Kansas; Nebraska, Oklahoma, Texas, Colorado), spring wheat region (Minnesota, North Dakota, South Dakota, Montana), Pacific Northwest region (Idaho; Washington, Oregon).

[^12]:    ${ }^{1}$ Doctor Townsend was originally chairman of the committee which began the preparation of this article. While the work was in progress he was transferred to the Tariff Commission. The article has been extensively revised and rewritten.
    ${ }_{2}$ H. S. Paine, Bureau of Chemistry, contributed a portion of the material on manufacture of sugar from beets; and W. E. McLendon, Bureau of Soils, a portion of the ma terial on soils of the Louisiana sugar-cane district, also of the sugar-beet districts.
    ${ }^{3}$ P. F. Brookens assisted Doctor Arner in the preparation of the material on price and consumption.
    ${ }_{4}$ The contribution of Mr. Stevens, Louisiana Agricultural College, on labor requirements and costs of producing cane in Louisiana was prepared in cooperation with the Bureau of Agricultural Economics and was summarized for publication by O. A. Juve, L. E. Long, and R. H. Wilcox of that bureau.

[^13]:    ${ }^{1}$ These figures are from reports of sugar factories received by United States Department of Agriculture. ${ }^{2}$ Bad seasonal conditions in Louisiana and Texas in 1919 caused an abnormally low yield. Ordinarily the yields per acre are a half to two-thirds higher.
    ${ }^{3}$ Of this amount 179,900 acres were grown for sugar only, producing $1,883,000$ tons of cane, according to reports of United States Department of Agriculture.
    4 Sugar produced per acre of cane used for sugar. See footnote No. 2.
    ${ }^{5}$ Short tons.
    ${ }_{6}^{6}$ Virgin Islands census of 1917.
    ${ }^{7}$ 21st Annual Report, Philippine Bureau of Agriculture, 1922.

[^14]:    1 Average, man 0.95 day; mule 1.73 days per acre.

[^15]:    1 The terms "men" and "man" are used in showing labor requirements as a composite including men, women, and children.
    ${ }_{2}$ This labor is charged to the crop furnishing the seed. It is shown here as a part of the labor actually involved in the propagation of sugar cane.

[^16]:    ${ }^{1}$ The labor requirements per acre do not change materially with increased yields, while, on a ton basis, the labor requirements per ton decrease as the yield increases.
    ${ }^{2}$ Mechanical loaders are now used on many of the larger plantations.
    :Weigher, driver, and forkman.

[^17]:    ${ }^{1}$ A verage fall and spring plant.
    ${ }_{2}$ Composite of stripping and cutting for fall plant and cutting and laying in windrow for spring plant. Loading and hauling included in storage and transporting seed cane.

[^18]:    $85813^{\circ}$ - увк $1923-13+14$

[^19]:    ${ }^{5}$ The cost data contained in this article are based on information taken from the following United States Department of Agriculture Bulletins: 693. Farm Practice in Growing Sugar Beets for Three Districts in Utah and Idaho, 1914-15; 726, Farm Practice in Growing Sugar Beets for Three Districts in Colorado, 1914-15; 735, Farm Practice in Growing Sugar Beets in the Billings Region of Montana: 748, Farm Practice in Growing Sugar Beets in Michigan and Ohio; 760, Farm Practice in Growing Sugar Beets in Three California Districts; 763, Cost of Producing Sugar Reets in Utah and Idaho, 1918-19; 917, Farm Practice in Growing Field Crops in Three Sugar-Beet Districts of Colorado.

[^20]:    ${ }^{1}$ Manure applied on a negligible number of farms.
    2 The quantities of rianure and commercial fertilizer shown are the result of prorating the total amount used over the entire beet acreage.
    ${ }^{3}$ Operating expense includes all items of cost except use of land.
    ${ }^{1}$ Commercial fertilizers were not used in these States in growing sugar beets.

[^21]:    Fig. 25.-The labor cost of delivering sugar beets to the sugar factory or loading station depends largely upon the distance hauled. In Utah and Idaho, in 1918, the cost increased about 13 cents per ton for each mile after the first mile.

[^22]:    $85813^{\circ}$ - Үвк $1923-14$

[^23]:    Fig. 46.-The great increase in cane-sugar production in the last 25 years has been chiefly in Cuba and Java. The Philippines, Hawaii, Porto Rico, and Formosa have also increased their production. The average production of cane sugar in the United States increased until 1908 and has since declined slightly. The production of beet sugar has, either declined in recent years, or advanced but slightly in every country except the United States, which in 30 years has advanced from small beginnings to the third position among the beet-sugar producing countries of the world.

[^24]:    $85813^{\circ}-$ rbe $1923-15+16$

[^25]:    ${ }^{1}$ The distribution of some of the poisonous plants of the West is shown in Figures 75 and 76 of the article "Our Forage Resources," page 401.

[^26]:    ${ }^{2}$ For further information see Farmers' Bulletin No. 1330.

[^27]:    ${ }^{3}$ Indiana Experiment Station Rulletin 202.
    ${ }^{4}$ Indiana Experiment Station Bulletin 221.

[^28]:    5 Indiana Experiment Station Bulletin 263.
    ${ }^{6}$ Nebraska Experiment Station Bulletin 153.
    7 Nebraska Experiment Station Bulletin 157.

[^29]:    ${ }^{8}$ The bulk of slaughter credited to Jersey City actually occurs in Greater New York.

[^30]:    ${ }^{9}$ The estimated domestic production, net imports, and estimated consumption of. wool for 54 years- 1870 to 1923 -are shown in Table 546 -entitled "Wool, raw : Production, Imports, Exports, and Apparent Consumption, United States, 1870-1923," in Statistical Appendix, page 1001 .

[^31]:    85813 ${ }^{\circ}$ - ybi 1923- 20

[^32]:    ${ }^{1}$ A J. Pieters and W. J. Morse, Bureau of Plant Industry ; H. W. Hawthorne and W. J. Spillman, Bureau of Agricultural Economics; J. B. Bain and E. C. Semple, Bureau of Animal Industry, furnished valuable data and criticisms.
    ${ }^{2}$ In the broad consideration here given the relations of forage to livestock production, and indeed to agriculture as a whole, the word "forage" is used in its wide significance; that is, all vegetable nutriment, fresh or cured, consumed by domestic animals, such as pasturage, browse, mast, green feed, hay, straw, silage, and grain. The term "feed" includes all plant and animal products consumed by livestock, and "food" refers to the nutriment of man.
    ${ }^{3}$ These acreages of the several classes of pasture are estimates based on the replies made to the questions on "Uses of land," contained in the 1920 census schedule; on various Federal and State reports; and on correspondence with officials and other well-informed persons in the several States. Special acknowledgment is due W. R. Chapline and W. N. Sparhawk, of the Forest Service and A. E. Aldous, of the Land Classification Board, United States Geological Survey, for assistance and valuable criticism. Additional data are contained in Table 22. These estimates and others that follow are not final. If they serve to call attention to the importance of forage, especially our pastures, and stimulate students in the various States to study the problems in more deail, the writers will be fully satisfied.

[^33]:    ${ }^{4}$ Livestock and domestic animals as hereinafter referted to include horses, mules, cattle, sheep, goats, hogs, and poultry. All are purely herbivorous except hogs and poultry, which are omnivorous.
    ${ }_{5}$ Forage crops properly include only those plants grown primarily for feed, and of which animals consume all or most of the harvested herbage or roots or both. Strictly speaking, the term crop applies only to products that are harvested by man, and therefore does not include pasturage: but it is extended in common use to include planted crops like corn, oats, soybeans, etc., even if they are grazed down by animals.

[^34]:    ${ }^{6}$ Forty-one per cent of the crop land in the Cotton Belt was in cotton, but after the value of the seed, most of which is used for feed and food, is allowed for, the acreage allotted to the production of cotton fiber becomes only 35 per cent.

[^35]:    ${ }^{7}$ Exception to this general statement should be noted in the case of the study by E. W. Shanahan, entitled "Animal Foodstuffs," London, 1920.

[^36]:    8 The "animal unit" is employed to reduce the different kinds of livestock to one class, in so far as their relation to the consumption of feed is concerned. It is roughly estimated that the amount of forage required to maintain 1 adult cow one year would be sufficient to maintain for the same period 1 horse, mule, or steer, 5 hogs, 7 sheep or goats, or 100 poultry. Colts, calves. pigs, and lambs are estimated to require one-half as much feed as the adult animal. These ratios have been used in farm management surveys for many years, and have proved fairly satisfctory.

[^37]:    ${ }^{2}$ In many European countries dual-purpose cattle are very common and the statistics often do not distinguish carefully between dairy and beef animals. The ratios given are, therefore, not strictly comparable with those for the United States, but it is believed they are satisfactory for a broad comparison of this kind.

[^38]:    $85813^{\circ}$ - YBK 1923-22

[^39]:    ${ }^{10}$ Wisconsin Agricultural Experiment Station Circular No. 37, by F. W. Woll, Table No. 1, supplied the basis for the calculation, but the feed value of a few items was slightly altered. The following theoretical annual rations per animal unit were used :

    | Concentrated feeds : | Tons. | Hays and fodders-Continued. | Tons. |
    | :---: | :---: | :---: | :---: |
    | Cottonseed or flaxseed meal and peanuts $\qquad$ | 2. 10 | Timothy, wild hay, miscellaneous tame hays, and sorghum fodder | 8. 00 |
    | Corn, barley, rye, emmer, and spelt | 2. 65 | Straws and stovers: Corn and sorghum stover | 10.00 |
    | Wheat, mixed grains, dry beet pulp | 2.7 | Oat and rice straw_- | 11.00 12.00 |
    | Oats, sorghums, | 2.85 | Warley straw - | 13.00 15.00 |
    | Hays and fodders: |  | Silage and roots : |  |
    | Alfalfa, annual legumes, clover- | 5. 00 | Silage and sweet pot | 16. 00 |
    | Corn fodder and small-grain |  | Potatoes | 20.00 |
    | hays | 7. 00 | Wet beet pulp and roots | 32.00 |

    The feed value of mature crops pastured off was estimated by using for the annual legumes the same ration as for the hays, since both contain the seed; and for corn the same ration as for fodder.

[^40]:    ${ }^{11}$ The word " fodder" in the United States is applied mostly to harvested and drycured corn or similar plants, like sorghum, when the whole plant, both herbage and grain, are fed together. It is hereafter used in that sense. In the South, corn fodder refers to the leaves and tops of the plants which are dried after removal from the living plant before the ears are mature.

[^41]:    ${ }^{1}$ Includes half of the "timothy and clover mixed"' acreage and production.
    ${ }^{2}$ It is estimated that of the 14,502,932 acres of corn cut for forage, as given in the census, approximately $10,000,000$ acres were also reported to the census enumerator under "Corn harvested for grain." Consequently only the product from 4,500,000 acres is included as corn fodder in this table.
    ${ }^{3}$ Includes redtop, orchard grass, Bermuda grass, Johnson grass, millet, Kentucky blue grass, crab grass, and Sudan grass.
    ${ }^{4}$ Includes sugar cane cut for forage, but this is a negligible quantity.
    ${ }^{5}$ The census gives only the total for "small grains cut for hay." This has been divided among the four small grains according to the best information available.
    ${ }^{6}$ The census gives only the total for "Annual legumes cut for hay." This has been divided among the six annual legume crops (excluding velvet beans), according to the best information available. (See Table 20.)
    ${ }^{7}$ The census gives only a total acreage of velvet beans; this has been divided among the different methods of harvesting according to the best information available.
    ${ }_{8}$ In 1919 there was a net import of 165,000 tons of hay, mostly from Canada. The variety is not given, but the hay probably consists mostly of timothy and clover. It has been included only in the totals.

[^42]:    ${ }^{12}$ The term " stover" is applied to the harvested and dry-cured stalks and leaves of corn and similar plants after the grain has been removed.

[^43]:    ${ }^{1}$ A large part of the corn-stover item is from stalks left standing in the field after the grain has been harvested. This forage is really pastured off and is not stover according to the commonly accepted definition of the term, but for the purpose of estimating its feeding value it has been classed with the stovers.
    ${ }_{2}^{2}$ Cotton-seed hulls do not belong in any of the chief groups, but are similar to straw in unit feeding value and are therefore considered here.

[^44]:    1 The data on which this table is based are found in the summary tables of the various crops and those under the preceding discussion of classes of forage.

[^45]:    ${ }^{1}$ The acreage of grain is included also in the stover acreage; hence it is omitted from the total, which represents the actual acreage of sorghums including broomcorn.
    ${ }_{2}{ }^{2}$ The production figures of grain and fodder are taken from the 1919 census. The stover production is estimated by applying to the grain sorghum acreage plus the broomcorn acreage a theoretical yield of $1 \frac{1}{2}$ tons per acre. The quantity of silage is based on the best information available regarding the percentage of the total silage that is made from sorghums in States where sorghum is an important crop.
    ${ }_{3}$ It is estimated that all the grain not used for seed, all the silage, 70 per cent of the fodder, and 50 per cent of the stover are eaten by animals.

[^46]:    1:The actual acreage of these legumes is very difficult to determine, owing to the extent to which they are interplanted with corn and other crops. The acreage reported by the Census is much less than that estimated by the Department of Agriculture, especially for velvet beans. (See Farmers' Bulletin 1276, p.9, and for soybeans and cowpeas the Monthly Crop Reporter for December, 1920.)

[^47]:    ${ }^{14}$ Pasturage includes all herbaceous feed gathered directly by domestic animals. When the plants are shrubs or trees the pasturage is called "browse." Feed consisting of acorns and other nuts that have fallen from forest trees is termed " mast." This term is aiso extended to include the berries of palm trees and the seeds of pine trees.

[^48]:    ${ }^{15}$ See next article, The Utilization of the Land for Crops, Pastures, and Forests, p. 469.
    ${ }^{18}$ See "The Utilization of Our Land for Crops, Pasture, and Forest," p. 427.

[^49]:    ${ }^{1}$ These estimates, which are subject to change, are based on 1920 and 1910 census statistics; data supplied by the Forest Scrvice, Indian Office, Land Office, and other Federal bureaus; reports of various State commissions; and on correspondence with state officials and others.
    ${ }^{2}$ It is estimated that at present about $57,000,000$ acres of desert are too dry for grazing, but with the development of wells and tanks this area may ultimately be reduced to about $30,000,000$ acres. There are also about $20,000,000$ acres, mostly in the West, of rocky peaks and rock out-crops unusable for pasture.
    ${ }^{3}$ The remaining $51,000,000$ acres of pinon-juniper and chaparral used for grazing are located in Indian reservations, the public domain, and privately owned land in farms and not in farms. These items, as given in the table, have been correspondingly reduced.
    ${ }_{5}^{4}$ Of the forest, cut-over, and burned-over land, it is estimated $246,000,000$ acres are not pastured.
    5 Does not include corn ficlds pastured off, nor corn stalks grazed, which have been included under crops. See Table 13.
    ${ }_{6}{ }^{6}$ The forage supplied by pasture is, therefore, almost cqual to that supplied by all the crops (Table 12). In order that responsibility may be placed for these basic estimates, it may be noted that the rations of the various crops and crop products, as measured in tons, required (theoretically) to support an animal unit for one year, were supplied by Mr. Sheets and Mr. Semple, that the resulting tables of feeding value of the crops (Tables 6 to 21 ) were prepared by Miss Bradshaw under the joint direction of Mr. Vinall and Mr. Baker, and that the estimates of the acreage and carrying capacity of the pastures and range lands (Table 22 above) were prepared by Mr. Baker.

[^50]:    ${ }^{1}$ Table furnished by H. W. Hawthorne, Division of Farm Management, Bureau of Agricultural Economics.
    ${ }_{3}^{2}$ Dairy products constituted 39 per cent, poultry 19 and apples 12 per cent of the total farm receipts.
    ${ }^{3}$ Dairy products constituted 39 per cent, hay 14, potatoes 9 , wheat 8 , and poultry 8 per cent of total farm receipts.
    ${ }^{5}$ Dairy products constituted 26 per cent, cattle 24 , poultry 10 , and hogs 8 per cent of the total farm receipts.
    ${ }_{6}^{5}$ Dairy products constituted 24 per cent, hogs 12 , wheat 7 , and poultry 6 per cent of the total farm receipts.
    ${ }^{6}$ Dairy products constituted 49 per cent, hogs 28 , cattle 14, and poultry 4 per cent of the total farm receipts.
    ${ }_{8}^{7}$ Cattile constituted 21 per cent, poultry 19 , hogs 12 , and sheep 11 per cent of the total farm receipts.
    ${ }_{9}^{8}$ Hogs constituted 41 per cent, corn 13 , oats 12 , and cattle 10 per cent of the total farm receipts.
    ${ }^{9}$ Hogs constituted 43 per cent, cattle 18, and corn 13 per cent of the total farm receipts.
    ${ }^{10}$ Hogs constituted 43 per cent, cattle 19, and wheat 14 per cent of the total farm receipts.

[^51]:    1 Fall pasture includes aftermath of hay meadows, stubble fields, corn stalks, etc.
    $\mathbf{2}^{\mathbf{2}}$ Regular pasture includes only the farm area that is fenced and used to carry stock throughout the entire sumimer.

[^52]:    Table compiled by J. B. Bain, Market Milk Specialist. Data obtained from studies of requirements for producing milk conducted by Dairy Division, Bureau of Animal Industry.

    2 The feed units obtained from pasture were figured by using the feed-unit consumption of the same cows during the winter. According to this method, pasture furnished an average of 8.78 feed units per cow per day.

    3 The cost of pasture was based upon the interest on the value of the land, taxes, upkeep of fences and similar items.

[^53]:    18 These rental values are based on cost of production and other surveys and on reports of the Forest Service and the Commissioner of Indian Affairs. The rental value in normal years is considerably less than this amount.

[^54]:    B. P. I. Bull. 201. Natural Vegetation as an Indicator of the Capabilities of the Land for Crop Production in the Great Plains Area.
    B. A. I. Bull. 91. Feeding Prickly Pear to Stock in Texas.

    Department of Agriculture Report 110. Livestock Production in the Eleven Western Range States.

    Forest Service Circular 178. The Pasturage System of Handling Range Sheep.
    Division of Forestry Bull. 15. Forest Growth and Sheep Grazing in the Cascade Mountains of Oregon.

[^55]:    ${ }^{1}$ This article grew out of the work of the Land Utilization Committee appeinted by the Secretary of Agriculture in 1921. The contribution of C. V. Piper, Bureau of Plant Industry, a member of this committee, has been included in the preceding article, "Our Forage Resources." S. J. McCrory, Bureau of Public Roads, a member of the committee, provided much of the basic data for the map of wet lands (fig. 8), and C. F. Marbut, Bureau of Soils, much of the basic data for the map of forest and cut-over land available for crops without drainage (fig 9) and for the map of land physically suitable for forest only (fig. 13). Suggestions concerning the economic value of wild life as a consideration in land utilization were made by W. L. McAtee, Biological Survey. L. C. Gray, Chairman of the Committee, was in general charge of the preparation of this article. Many of the estimates of land area were made by O. E. Baker, who acted as secretary to the committee. Dr. Sewell Wright, Bureau of Animal Industry, who was not, however, a member of the committee, prepared the maps in this article showing the quantity of livestock by counties, $1850-1920$ (figs. 22 to 29 ) ; C. W. Warburton, Director of Extension Work, contributed to the discussion of the means of increasing crop yields ; and W. N. Sparhawk, Forest Service, furnished valuable assistance in checking the various estimates.

[^56]:    ${ }^{2}$ In certain parts of the semiarid territory scrubby forests of mesquite and live oaks, or of piñon pine and juniper occur. This arid woodland may be of considerable value in supplying fence posts and fuel. Also along the borders of streams, species characteristic of humid regions are found.
    ${ }^{3}$ These estimates are derived as far as possible from calculations based on census statistics, on reports and maps prepared by the Soil Survey and the Forest Service and on the field notes and plats in the General Land Office. These materials were supplemented by information obtained from various sources, especially the Division of Agricultural Engineering (Drainage Investigations), of the Burcau of Public Roads, the Geological Survey, and various State surveys. More complete data have made necessary changes in certain rough estimates previously issued of the present and potential uses of land.
    ${ }^{4}$ The land area of the United States is $1,903,289.000$ acres. In the following discus sion the round number is used, and the various estimated subdivisions of the entire are are made to total $1,903,000,000$.

[^57]:    5 The various classes of land outside the boundaries of farms and not employed for crops, pasture, or forest were estimated as follows: City area was estimated by finding the density per square mile for a number of representative cities for which the area was the density per square missifying these by size, and then dividing the factor of density into the population living in incorporated places of each.class. The estimates were made by states. Area in public roads was estimated by multiplying the mileage of various classes of roads in each State by estimates of average width of these roads supplied by the Bureau of Public Roads. Since the estimates were obtained as of 1914 , about 2,$500 ; 000$ acres were added for increase in the area devcted to public roads. In reporting the area of farms to census enumerators, farmers living in the regions where the rectilinear system of survey prevails frequently give the total area originally in the tract without making deduction for the area, devoted to public roads. Thus, a 160 -acre farm from which a portion was subtracted for reads is very commonly still reported as 160 acres. On this account, the estimate of $20,000,000$ acres in public roads was arbitrarily divided equally between the area in farms and the area not in farms. The area in farms is less than the area not in farms, but it contains a much larger proportion of the roads. The area of unused desert land is a rough estimate, based on such information as could be obtained in the Department of Agriculture and from the Land Classification Board of the United States Geological Survey. The area of rocky peaks and rock outcrop is merely a rough estimate based on the ruggedness of the country. The area of coastal and interior marshes not pastured or cut for hay and not in farms is computed from soil survey maps, topographic sheets, coast survey charts, etc., and includes $7,500,000$ acres in tidal marshes ind $6,500,000$ acres in sweetwater marshes. The estimate of $1,000,000$ acres of coastal lieaches is derived from the same sources. The area of national parks is an official figure, and the area of railroad rights of way was obtained by multiplying the railroad mileage, courteously provided by the Interstate Commerce Commission, by an estimated a cerage width of the rights of way.

    The various items included in the $115,000,000$ acres of land in farms not used for crops, pasture, or forests were estimated as follows: Various local surveys have indicated that a little less than 4 acres per farm is occupied by what may be called "the farmstead "; that is, the land occupied by buildings. barn yards, feed lots, etc. On this basis and the number of farms, the area in farmsteads is estimated at about $24,000,000$ acres. The area in private lanes and roads not used for grazing or in timber was roughly estimated by assuming an eighth of a mile per farm, 2 rods wide. The acreages of crops not harvested because of crop failure and of crop land lying idle or fallow are based on partial results of a tabulation of this census inquiry now being made by the Bureau of the Census in cooperation with the Bureau of Agricultural Economics (Division of Land Economics). The estimate of marsh lands in farms is based in part on soil surveys and in part on the census. The item of idle and fallow crop land is a rough estimate based on incomplete tabulations of replies to a census question on this subject. The item om waste land is a residuum.
    ${ }_{6}^{6}$ Most of the items in this total of $134,000,000$ acres have been mentioned. They include the following in round millions of acres: Public roads, 20; cities and villages, 10 ; railroads, 4 ; naticnal parks. 6; farmsteads, 24 ; lanes in farms, 3 : sandy beaches, 1 ; rocky peaks and other rocky outcrop areas. 20 : land too arid for grazing and nonirrigable, 30 ; marsh and swamp land of no potential value for any of the three uses. 16.

[^58]:    ${ }^{7}$ It is probable that the area of cities, roads, railways, and farmstcads will not increase so rapidly as the increase of population.
    ${ }^{8}$ Includes $15,000.000$ acres of crop failure.
    ${ }^{9}$ The animal unit is a means of measuring the feed requirements of livestock. It is the equivalenti of a mature horse, cow. or steer, 5 hogs, 7 sheep or 100 poultry. For very young animals double the equivalent of an animal unit for mature stock of the same kind is allowed. On semiarid grazing land the ratio is more properly 3 to 5 mature sheep to each cow.

[^59]:    ${ }^{10}$ For method of estimating the area and carrying capacity of pasture in the United States see the preceding article, "Our Forage Resources," p. 369.
    ${ }^{11}$ See discussion of pasture land in preceding article entitled "Our Forage Resources."

[^60]:    ${ }^{13}$ These estlmates are somewhat larger than those given in the so-called Capper lieport ("'rimber Depletion, Lumber Prices, Lumber Exports and Concentration of Timber Owncrship," lepport m Senate Resolution No. 311, United States Forest Service, 1920), or the article "Timber : Mine or Crop?" in the 1921 Yearbook. In the eastern originally forested region the figures are based on tabulations, by counties, of census statistics with duc allowance for roads, railroads, cities, etc., except that where forest surveys have been made these figures were used instead. In the West the figures are based on estimates by the Forest Service of timberland in the national forests and privately owned. These estimates have been increased to allow for forest land in Indian reservations and in the public domain. Further study is being given the matter, and the figures will doubtless be modified as a consequence.

    18 The area for the various harvested crops whose acreage was reported in the census totaled only $348,000.000$ acres. but estimated additions for corn fodder, fruits, and ot?rer items bring the total up to $365,000,000$.

[^61]:    14 These various items were estimated as follows: Improved land potentially capable of being added to crop area: From the total area of improved land reported in the census of 1920 (503,000,000 acres) was subtracted the estimated areas in harvested crops (365,000,000), farmsteads $(24,000.000)$, all of which was considered improved land, and a small allowance for roads and lanes and other minor items. There was included an area of $60,000,000$ acres of improved pasture, estimated on the basis of 1909 statistics which were tabulated by the Department of Agriculture from the census schedules and published in Department Bulletin 626. and similar statistics for 1919 , now available for certain States.

    Land capable of irrigation : Estimated by R. P. Teele, Bureau of Agricultural Economics (Division of Land Economics), on the basis of various surveys made by the Reclamation Service, Bureau of Public Roads (Irrigation Investigations), and the United States Geological Survey.

    Estimates of drainable land were compiled by I. A. Jones and F. J. Marschner from data in the Bureau of Public Roads (Drainage. Investigations), reports and maps of the Soil Survey, topographical maps of the Geological Survey, and various State reports, supplemented by the results of the 1920 census. The total drainable area of $91,000,000$ acres has been reduced to $75,000,000$ acres to allow for certain areas of very deep peat and some of the coastal marsh which would not be suitable for creps.

    Humid unimproved land: This estimate is based on a classification of the land by counties, made by F. J. Marschner, Bureau of Agricultural Economics (Division of Land Economics), with the cooperation of Dr. C. F. Marbut, Bureau of Soils. This classification was made largely on the basis of available data in the United States Soil Survey, United States Geological Survey, United States Land Office, and various State surveys and other State sources of information.
    The subhumid prairie region and the semiarid and arid portions of the Great Plains and of the Rocky Mountains interior plateaus. and I acific coast regions: The estimates were made by O. E. Baker, Bureau of Agricultural Economics (Division of Land Economics), on the basis of the census statistics on the use of land in farms, in process of tabulation, and for land outside of farms, on the basis of data assembled by the Land Classification Board of the United States Geological Survey, supplemented by climatic records and data from the Soil Survey and the Forest Service.
    ${ }^{15}$ Including areas classified as bare fallow; green manure crops and fields under natural grass; "trees, shrubs, and bushes" (i. e.. orchards and small fruits). For a given year, of course, fields under natural grass are more properly considered pasture, but they comprise land that comes into crops during the course of the rotation.

[^62]:    Figs. 18 and 19.-While the area of land in farms generally decreased throughout the region east of the Great Plains (figs. 16 and 17), there was a widespread increase in the area of harvested crops in this section as well as in the Great Plains and various parts of the West. Patriotic motives, together with the inducements represented by high prices for farm products during the war and for some time thereafter, were mainly responsible for this increase, which consisted largely in the employment for crops of land formerly used for pasture. The large increase in the acreage of crops in the Great Plains corresponds with an increase in land in farms already noted. The principal regions where a decrease in crop acreage occurred were New England, the Black Prairie of Alabama, and northeastern Mississippi, a district along the Mississippi River in the southwestern Mississippi and northeasterm Louisiana, and a part of northern Oklahoma. In all of the southern districts mentioned, with the exception of Oklahoma, the ravages of the boll weevil are largely accountable for the reduction in the acreage of harvested crops.

[^63]:    ${ }^{17}$ Since the various crops involve products of such widely different value in proportion to weight as hay and cotton or tobacco, it was necessary te reduce them to some common denominator which would reflect their relative value over a long period. For this purpose the 43 -year average price of each crop ( 1879 to 1922) was used as a weight in obtaining the index of average yield per acre of the principal crops.

    18 In 1880 a considerable part of the range land in the West, especially in the Dakotas and Montana, was not in use for pasture; but by 1890 nearly all of the land in the West, outside the absolute deserts, was employed for grazing, as is shown by the local distribution of livestock in the census of 1890 (fig. 26). Consequently, since 1890 it is fair to assume that all grassland brought into the classes of improved land or unimproved land other than woodland was still used for pasture, except in so far as it was devoted to increasing the crop area.
    ${ }_{19}$ Some of this forest land was used for pasture before clearing, but its value for pasture was very low in comparison with its value after clearing.

[^64]:    ${ }^{20}$ This result was obtained by tabulating the acreage of improved and of unimproved land other than woodland separately for the counties originally forested and for those originally cervered mostly with grass or desert vegetation. The increase in crop land harvested in each decade, less the increase in improved and unimproved land in forested counties, is assumed to indicate roughly the net loss in pasture area for the decade. To whatever extent these forest areas were formerly pastured before clearing, to that extent the loss in pasture acreage was greater than the figures indicate. However, the carrying capacity of woodland is so small that to allow for it on an acreage basis would be misleading.

[^65]:    ${ }^{21}$ Compare also article " Farm Ownership and Tenancy," p. 541.

[^66]:    ${ }^{22}$ In this last decade the relationship was abnormal, because the prices of commodities had been moving upward with great rapidity while the valuation of land, being apparently slower to respond to the influence of inflation, had tended to lag behind. Consequently the decrease shown from 1910 to 1920 may be only a nominal decrease due to the taking of the statistical picture at a time when the valuation of land had not yet caught up with the upward movement of commodity prices.

[^67]:    ${ }^{23}$ Calculated on the basis of direct exports.
    24 In the latter half of 1923 there was a marked decrease in exports of cereals and cereal products. If this lower level is maintained during the remainder of the fiscal year, the acreage required to produce these cereal exports will be only about half the annual average 1919-22.

[^68]:    ${ }^{25}$ Besides the cereal crops, the acreage of tobacco was considerably larger in the postwar period than in the pre-war period, but this is more than offiset by a decrease in the acreage of cotton.

[^69]:    ${ }^{28}$ As shown above, these changes are largely the outcome of the reduction in the number of sheep and beef cattle per 1,000 people, and also in the number of horses per 1,000 people due to the substitution of other forms of motive power.
    ${ }_{27}$ The acreage harvested in 1920 was $14,500,000$ acres less than in 1919 , nearly $5,000,000$ in 1920 not being harvested because of crop failure. In 1923 over $6,000,000$ acres were not harvested. The acreage harvested was about $17,000,000$ acres less than in 1919 and $3,000,000$ less than in 1920 , but $11,000,000$ acres more than the pre-war acreage, 1909-13.
    ${ }_{28}$ Yearbook of the International Institute of Agriculture, 1921, p. 65 . Since 1921 there has been an increase in world production due largely to the expansion of wheat production in Europe outside of Russia.

[^70]:    ${ }^{29}$ Yearbook for 1922 , International Institute of Agriculture and preliminary estimate for 1923 , Dominion Bureau of Statistics.
    ${ }_{30}$ Tylor, W. Russell. The Natural. Increase of Eontemporary Peoples. An unpublished doctoral dissertation prepared at the University of Wisconsin.

[^71]:    ${ }^{1}$ The 12 crops are corn, wheat, oats, rye, barley, rice, flax, hay, potatoes, cotton, tobacco, and buckwheat. ${ }^{2}$ The term "net exports" is employed not in the sense of total excess of all agricultural exports over agricultural imports, but merely to indicate that in the case of the principal export crops included in the table reductions were made for the comparatively minor imports of the same crops.
    ${ }^{3}$ This includes the area used in feeding livestock for export.

[^72]:    ${ }^{31}$ See preceding article, " Our Forage Resources," p. 311.
    ${ }^{22}$ Based on estimates made from results of a survey by United States Department of Agriculture in 1918, showing farm consumption of feed crops by each class of livestock. See Yearbook for 1920, p. 811.

[^73]:    ${ }^{33}$ The large importation of mutton in 1920 was due to an extraordinary combination of conditions. The English market at that time was glutted with an oversupply of mutton, and favorable ocean freight rates on ships outbound and high prices in the United States were the primary causes of the movement.

[^74]:    ${ }^{34}$ This, of course, assumes that we could increase our imports of agricultural products in the same proportion.

[^75]:    ${ }^{35}$ For more detailed discussion see article, "Timber: Mine or Crop," Yearbook, 1922.
    ${ }^{36}$ Some students of the subject have even believed the effect of immigration is merely to displace an equivalent number of native population, so that at the end of a given period the native population is smaller than it otherwise would have been by approximately the volume of immigration during the period.
    ${ }^{37}$ Rossiter, W. S., "Increase of Population in the United States, 1910-1920." Census monograph No. 1, 1922, p. 204.

[^76]:    ${ }^{38}$ The productivity per acre of each country is weighted by the average annual acreage for the particular crop during the five years 1909-13. inclusive.
    ${ }^{39}$ It may be doubted if we could hope to attain so high an average product per acre as obtains in Great Britain, Germany, and Belgium, for a large part of our small-grain crops is produced under semiarid conditions. Some of the European countries, notably Great Britain, Belgium, and Germany, import large quantities of concentrates, which are fed to livestock, and the manure applied to field crops. Morecver, it is wise to allow for the inertia which may retard the general adoption of the most approved agricultural methods in so large a country as our own.
    ${ }^{40}$ The statistics comprise separate figures for production of clovers, sainfoin, etc., on the one hand, and for hay cut from permanent meadows on the other hand. However, the averages per acre for the two classes are not greatly different, and may be safely combined as a basis of comparison with our own statistics.

[^77]:    ${ }^{41}$ This involves the assumption, of course, that the remaining 10 per cent or more of crop acreage may be made to show an average per cent of increase in yield equal to that estimated for the 10 crops considered.
    ${ }^{42}$ The method of estimate was as follows: The acreage now required for domestic consumption was divided into two parts: (1) The acreage used to maintain horses and (2) the acreage employed for other domestic uses. The ratio of the one quantity to the other was determined. The area required for uses other than the maintenance of horses was increased by the ratio of $150,000,000$ to the population in 1920 , and the resulting quantity was then divided by the ratio of crop acreage required at present for uses other than for the maintenance of horses to the area required for horses. This quotient was then divided by 1.468 , in order to allow for increase of yield, and the area required for other crop uses was also divided by 1.468 . The two quotients were added to give the estimated crop acreage.

[^78]:    ${ }^{1}$ International Yearbook of Agricultural Statistics, Rome, 1921.
    ${ }_{2}$ The number of animal units is calculated by the usual method. The livestock statistics from which the animal units are calculated are averages for the three years 1911-13, inclusive, for all the European countries with the following exceptions: All German figures are an average for 1912 and 1913, except that for asses and mules statistics for 1912 only are available; all statistics for the Netherlands are averages for 1910 and 1913; for Denmark the statistics for horses, cattle, sheep, and goats are for 1909, and the statistics of hogs are an average of 1909 and 1914. For Belgium the statistics of sheep and goats are for 1910.
    ${ }^{3}$ No statistics available or number insignificant.
    ${ }^{4}$ Includes marsh, heath, and uncultivated productive land.
    ${ }^{5}$ Included under natural meadows and pastures.

[^79]:    ${ }^{43}$ See Bulletin 588, United States Department of Agriculture, by J. T. Jardine and L. C. Hurtt-"Increased Cattle Production in Southwestern Ranges."
    ${ }^{44}$ Computed from unpublished reports in Forest Service. ${ }^{45}$ United States Department of Agriculture Bulletin 367, by E. O. Wooton-" Carrying Capacity of Grazing Ranges in Southern Arizona."

[^80]:    ${ }^{46}$ The above estimate was made as follows: The number of animal units other than work stock required for a population of $150,000,000$ people was calculated. The number of horse animal units was estimated as follows: The fraction of a horse animal unit per acre of crop land at present was determined. This requirement was increased by 40 per cent (see $p .478$ ) and the resulting horse requirement per acre was multiplied by the crop acreage required for $150,000,000$ people under the assumption of an incrase of 46.8 per cent in productivity, as previously estimated. The required number of horse units was then added to the number of other animal units. The estimated number of animal units carried on semiarid pasture, increased by 50 per cent, was added to the estimated number maintained on woodland pasture. The sum was subtracted from the required number of animal units. The percentage of the remainder to the number now maintained on humid pasture other than woodland was then ascertained, and the present acreage of humid pasture other than woodland was multiplied by this percentage.

[^81]:    ${ }^{47}$ This is on the basis of the United States census for 1920 , which was taken as of January 1, and which shewed fewer persons engaged in agriculture by about $1,500,000$ than were reported in the 1910 census, which was taken as of April 15 . It is believed that the difference in date of enumeration is partly responsible for the smaller number shown for 1920.
    ${ }^{48}$ It should be recognized that the statistical comparison is a very rough one and should be regarded only as suggestive rather than an exact measure of the differences involved. In the first place, occupational statistics are very inaccurate because the time of year in taking the census makes a considerable difference. Moreover, the proportions of casual labor and of woman and child labor vary considerably in the different countries. Again, the production figures are for only seven principal crops. America produces at least two important crops not grown in the four European countries; and some of these countries in turn lay a greater emphasis on small fruits and vineyard, truck, and other intensive products than is the case in the United States. In some of the European countries a good deal of the time of the agricultural population is employed in by-industries, such as domestic manufactures, or in making things for themselves or performing services for which American farmers have to pay. Finally, it must be recognized that no account has been taken of the relative amounts of labor employed in producing and caring for livestock.

[^82]:    ${ }^{16}$ Even as compared with English requirements the assumption of an increase of 40 per cent in number of horses and mules appears a conservative one and makes considerable allowance for the substitution of tractors and other forms of mechanical power. It is difficult to allow for this factor. Some would make greater allowance for the future displacement of horses by these means. Apparently, thus far, there has been some progress in this regard. During the past decade the number of horses and mules per thousand acres of cultivated land decreased from 75 to 69 . On the other hand, such studies as have been made indicate that the tractor does not displace more than 15 to 20 per cent of the horses on the average farm outside of the wheat regions. Moreover, there are probably large areas of the country where topographic conditions do not favor the introduction of tractors.

[^83]:    ${ }^{1}$ The figures for beef and veal, mutton and lamb, and pork do not correspond exactly to the statistics gathered by the Bureau of Crop Estimates in an attempt to obtain from crop correspondents the consumption of these products by sections. See Yearbook 1920, p. 828.
    ${ }_{2}$ Game is not included in the United States figure.

[^84]:    50 The data for United Kingdom are derived from the report of "A Committce of the Royal Society at the Request of the President of the Board of Trade," London, H. M. Stationery Office, 1917, and comprise the average annual consumption for the years 1909-13. The American figures comprise the average annual consumption for the years 1918-23.

[^85]:    ${ }^{51}$ The estimate was made as follows: The acreage required for each class of livestock other than horses for a population of $150,000,000$ was calculated, and this was multiplied by the percentage the British per-capita consumption for this class of livestock is of the American per-capita consumption. The sum of the average requirements for the various classes of livestock was then added to the acreage required for other domestic uses under a population of $150,000,000$. This total was divided by a factor representing the ratio of acreage required for domestic consumption exclusive of the maintenance of horses to the acreage required for horses. The quotient added to the other acreage previously estimated gives the requirement under the British standard. The American consumption of poultry is relatively very much higher as compared with that of the United Kingdom than it is for eggs. This is partly due to the fact that the United Kingdom imports a large part of its supply of eggs, while the greater part of the American supply is produced at home, with the consequence that the surplus poultry incidental to egg production is consumed at home. It was therefore considered best to take the relative consumption of eggs rather than the relative consumption of poultry as a basis of obtaining the economy in acreage. To determine the proportionate consumption of all dairy products the percapita consumption of butter and of cheese was reduced to whole milk.
    ${ }_{52}$ The estimate was made as follows: The number of animal units for each class of livestock required for $150,000,000$ people under the American standard of consumption was calculated. This was multiplied by the percentage the British standard of consumption fer that particular class of livestock is of the American. The necessary number of horse units was determined by multiplying the horse units that would be required under the American standard of consumption by the ratio of crop acreage required for horses under the British standard to the crop acreage required for the maintenance of horses under the American standard previously estimated. From the total number of animal units that wculd be required under the British standard thus determined was subtracted the number of animal units now maintained by semiarid pasture and woodland. The ratios of the remainder to the number of animay units now maintained by humid grassland pasture was determined and this ratio multiplied by the acreage of humid grassland pasture now employed for domestic consumption, thus giving the area required under the British standard.

[^86]:    ${ }_{53}$ " Report on Food Conditions in Germany," by Ernest H. Starling, with Memoranda on Agricultural Conditions in Germany, by A. P. McDougall, and on Agricultural Statistics, by G. W. Guillebaud (London, H. M. Stationery Office, 1919). The statistics on food consumption used herein are based on official statistics.
    ${ }^{54}$ By "average man" is meant a figure in which the women and children, for whom the food requirement is less than for men, are converted into equivalent man units. For the German Empire this was done by multiplying the total pepulation by 80 per cent. After the war, however, as a result of the loss of man power, it was found that the equivalent was 84 per cent (in 1919).
    ${ }^{56}$ The undoubted undernourishment which resulted from the war is attributed in the above-mentioned report largely to the disorganization in production and distribution.

[^87]:    ${ }^{1}$ Derived with minor modifications and adjustments for purposes of comparison from "Report on Food Conditions in Germany" by Ernest H. Starling and others.
    ${ }^{2}$ Animal products consumed in the United States-Beef and veal, pork and pork products, including lard, mutton and lamb are based on average consumption, 1918 to 1922, inclusive; statistics furnished by John Roberts, United States Department of Agriculture. Statistics on average consumption of dairy products in the United States, 1918 to 1922, inclusive, furnished by T. R. Pirtle, United States Department of Agriculture.
    ${ }^{8}$ From" The Nation's Food," by Raymond Pearl. Average consumption, 1911-18, inclusive, calculated from tables in Chapter XI.

[^88]:    ${ }^{56}$ In making this estimate allowances were made for seed requirements and for the proportion of the area of the several crops employed in feeding livestock. The economy in sugar consumption is applied only to the acreage of cane and sugar beets in this country, not to the acreage required for the proportion of those crops imported. In calculating the respective acreage requirements for rye the percentage in Table 7 was not employed, because of the tendency to exaggerate unduly possible errors in the small estimate of rye employed for human consumption in the United States. Consequently, it was found best to calculate the rye requirement direct from the statistics of German production and consumption.

[^89]:    ${ }^{57}$ On the basis of the population in 1920.

[^90]:    Fig. 54.-Of the total timber annually removed from the forests of the United States a little over 4 per cent is destroyed by fire and a little over 5 per cent by insects and disease. Lumber, dimension material, and sawed ties comprise about one-third of the total, ${ }^{\text {b }}$ but the timber of saw-timber size removed for various purposes amounts to more than half of the timber annually removed. About two-fifths of the total is employed for fuel. Pulp wood, though economically of great importance, represents only a little over 2 per cent of the timber annually removed. As indicated in Figure 55, nearly half of the total timber removed represents waste, but only a small part of this waste could be prevented without considerable increase in cost of utilization.

[^91]:    58 With either a corresponding economy in wool or increased importation.
    ${ }^{59}$ See p. 463.

[^92]:    ${ }^{60}$ The requirement for crops was estimated as follows: The changes in crop acreage used in producing food for direct consumption were estimated by assuming that the per capita consumption of certain items for $150,000,000$ people will be the following percentages of present consumption: 103 per cent for cereals, 110 per cent for potatoes, 90 per cent for sugar, 95 per cent for hogs, 80 per cent for beef cattle, and 80 per cent for poultry, the other classes of food remaining unchanged. The requirement for work stock was estimated as follows: The areas at present used in producing food crops for domestic consumption, employed in producing crops used in feeding livestock, and for producing

[^93]:    crops for export were added. The sum was subtracted from the total acreage in harvested crops (1919), leaving the area employed at present in producing nonfood crops for domestic consumption. This figure was increased by the ratio of $150,000,000$ to the population of 1920, and the resulting figure added to the estimated acreages required for food crops, and for livestock other than work stock, the sum of the three items being the estimated acreage of crops required for $150,000,000$ people under the assumed changes in consumption, not including the area used to produce feed for work stock. The ratio of this figure to the corresponding figure for the population of 1920 was determined, the result being the ratio of work stock required for $\mathbf{1 5 0 , 0 0 0}, 000$ people under the assumed changes, as compared with the number now required. The acreage required at present for work stock employed in producing for domestic consumption was multiplied by this ratio, and the result added to the acreage required for domestic purposes other than feeding work stock, as previously estimated. The sum was divided by 1.1 in order to allow for the assumed increase of 10 per cent in the average yield per acre of crop land.

    The requirement of humid pasture was estimated as follows: The numbers of animal units of the different classes of livestock other than work stock to supply $150,000,000$ people, under the assumed changes in consumption, were calculated by employing the same factors as in the case of crop acreage above. The percentage increase of work stock was calculated on the basis of the ratio of crop acreage required under the assumed changes in consumption and production, as previously estimated, to the acreage of crops in 1919. The number of animal units on semiarid pasture in 1920 was multiplied by 1.2 to allow for an increase of 20 per cent in carrying capacity. The sum added to the number of animal units on woodland pasture was subtracted from the total number of animal units required, the remainder being the number to be maintained by humid pasture. The ratio of this to the number of animal units now on humid pasture was determined and the acreage of humid pasture now employed for domestic consumption was multiplied by this ratio.
    ${ }^{{ }^{1}} \mathbf{F}$ For statistical reasons the estimates have been made on the basis of harvested crops. Allowance would also have to be made for the small additional acreage for crop failure, estimated at about $15,000,000$ acres in 1919. However, it is probable that the proportionate requirements for this purpose would not greatly change. In a given year there is also a certain acreage of crop land in rotation devoted to pasture.
    ${ }_{62}$ If we should fail to economize as much as the very moderate modifications in consumption and production assumed as the basis of these estimates imply, the requisite increases of crop and pasture land would fall somewhere between the above estimates and the increase of $96,000,000$ acres of crop land and $116,000,000$ acres of humid pasture that would be necessary if no economies in consumption and production are effected (p. 462), allowing in each case half the acreage at present employed for exports.

[^94]:    ${ }^{63}$ On account of new materials made available, these estimates are somewhat different from those given in testimony by L. C. Gray before the Senate Committee on Reforestation (S. Res. 398) and also quoted-in the article "Timber: Mine or Crop," Yearbook. 1922. While the estimated areas are not identical, the essential conclusions are the same.

[^95]:    ${ }^{64}$ The method of calculation was as follows: The per capita area of humid pasture other than woodland that would be required under the German standard of consumption, if no semiarid or woodland pasture was available, was calculated on the basis of relative carrying capacities of the several classes of pasture. This per capita figure was divided by 2.22 to allow for a potential increase of 122 per cent in carrying capacity. The per capita crop area under the German standard of consumption divided by 1.468 to allow for a potential increase of 46.8 per cent in average yield was added to the per capita requirement of humid pasture, and this sum was divided into $1,004,000,000$ acres, indicating a provisional population of $330,000,000$ people without allowing for use of semiarid and woodland pasture. This allowance was made as follows: The number of livestock that would be carried on the area of semiarid land capable of being used only for pasture was estimated on the basis of present carrying capacity. This was increased by 50 per cent to allow for potential increase in carrying capacity, and the resulting number added to the number of animal units carried on woodland pasture. The total was then divided by the number of animal units per capita required under the German standard of consumption. This gave the number of people that could be provided for by the available semiarid and woodland pasture. This number divided by the per capita requirement of humid pasture under the assumed economies in consumption and production. as previously calculated, indicated the area of humid pasture to which the semiarid and woodland pasture would be equivalent. This equivalent was added to the $1,004,000.000$ acres and the sum divided by the total per capita requirement of crop land and humid pasture.
    ${ }^{65}$ On the basis of calories for human consumption, including animal products used in the diet, it is estimated that Germany was about 85 per cent self-sufficient.

[^96]:    ${ }^{66}$ Including an allowance for the larger area required for our maximum population.

[^97]:    ${ }^{67}$ By a study of the relation of cultivated acreage to population in Germany, France, and Belgium, Prof. E. M. East has concluded: "The maximum population the United States can support under any conditions conceivable to those of us who live at the present day, therefore, is $331,000,000$." "The Agricultural Limits of Our Population" in The Scientific Monthly, XII, No. 6, p. 555. By an entirely different method of calcula-tion-that is, by the projection of a population curve-Profs. Raymond Pearl and L. J. Reed have reached the conclusion that our maximum population will be $197,000,000$. "On the Rate of Growth of the Population of the United States since 1790 and its Mathematical Representation", in Proceedings of the National Academy of Science, VI, pp. 275-286. If the population should become stationary at the figure suggested by Professor Pearl it would be due to economic and social motives working to limit population, rather than to the physical incapacity of our land resources to maintain a larger number.

[^98]:    ${ }^{69}$ An estimate by R. P. Teele, associate economist, Bureau of Agricultural Economics (Division of Land Economics).

[^99]:    ${ }^{1}$ Tenure in this country, though commonly referred to as allodial, is, in all cases, held subject to the paramount authority of the State. The classes referred to as tenure classes in this study are somewhat more inclusive than when defined legally. One class, managers, is included here, although as such they can scarcely be said to have tenure with reference to land.

[^100]:    ${ }^{2}$ No attempt was made by the Census Bureau to separate croppers from tenants before 1920. In that census they were defined and enumerated as tenants to whom the work stock was furnished by the landlord. The tabulations were made only for the South and showed 561,091 croppers in that section. Some farmers corresponding to the above description are to be found in other parts of the country, although relatively few in number.

[^101]:    ${ }^{8}$ In the census of 1920 , the land owned by part owners was not enumerated separately from that rented. This was done in 1900 . In 1910 the figures were not published, but they have been available for the present study. Estimates have been made for 1920 by assuming that the proportion of the two classes of land are the same as they were found to be in 1910.

[^102]:    "The terms " landlords" and " landlordism" are not used in an invidious sense. Landlordism is employed merely as a convenient expression to designate the system of letting land to those who will use it. The term landlords is used to indicate individuals or corporations who let land to others, whether on a large or a small scale.
    corporations believed that this promiscuous and unregulated use should be replaced by a system of regulated grazing. (See pp. 404, 405, and 505.)

[^103]:    - The grant does not involve the exclusive or assured use of a specific area but only the ight to graze a certain number of stock under carefully drawn regulations and for a certain charge per head. This right is revocable.

[^104]:    7 The census shows that 75.2 per cent of all tenant farms were owned by landlords definitely reported to reside in the county where the farms were located. However, 4.:) per cent were owned by landlords of unreported residence. By prorating this 4.5 per cent, the total percentage is changed to 76.8 .

[^105]:    ${ }^{8}$ It should also be noted that in this region no small part of the number of tenant farmers is accounted for by the renting of State lands and Indian lands.

[^106]:    ${ }^{10}$ For the purpose of measuring the relationship between income from farm real estate and its valuation cash rent proves more serviceable than share rent, because the former represents more nearly payment for the use of the farm real estate as distinguished from some of the other elements which enter into share rent, such as payment for a larger amount of risk assumed by the landlord, for supervision contributed by him, and frequently a participation in some of the expenses of production. It is true, cash rent is not exactly identical with the net income received from the real estate by the landlord, for taxes are yet to be deducted and certain minor expenses, including repairs and depreciation oi buildings. However, it is the best statistical measure available.

[^107]:    ${ }^{11}$ Gray, L. C. "Accumulation of Wealth by Farmers," Proceedings of American Eco. nomic Association, March. 1923. The estimate, though made with care, is considered a rough one because of numerous gaps in available statistics.

[^108]:    ${ }^{1}$ Based on census statistics.

[^109]:    ${ }^{12}$ Local surveys have shown that the percentage of returns on operating capital of tenants is frequently several times as great as the percentage of rent to the valuations of real estate. However, this is due in part to the fact that the income includes wages of management and return for risk and enterprise, the whele being calculated as a percentage on a much smaller base than in the case of owner farmers.

[^110]:    ${ }^{13}$ Census officials have expressed the opinion that a considerable number of farmers failed to report previous farm experience as laborers or as tenants, and this failure tends to exaggerate unduly the proportion who became ewners without previous farming experience. The results of a number of local surveys appear to confirm this conclusion.

[^111]:    ${ }^{24}$ This difficulty also applies to the otherwise interesting calculations in the Census anomograph entitled "Farm Tenancy in the United States," 1924.

[^112]:    ${ }^{15}$ These surveys are as follows: One each in Illinois and Indiana by the Interchurch World Movement; a survey in Iowa, in Missouri. and in Georgia, by the Bureau of Agricultural Economics, Division of Farm Population; surveys in Texas, Nebraska (nine localities), Kentucky, and in Tennessee (two localities) by the Bureau of Agricultural Economics, Division of Land Economics. State universities cooperated in the Nebraska, Kentucky, and Tennessee surveys.

[^113]:    ${ }^{16}$ The importance of these aids to farm ownership would, of course, be different during a time when land valuations were not rapidly rising.
    ${ }^{17}$ See article by George Stewart, "Can Farms Pay for Themselves?" Journal of Farm Economics, Vol. III, No. 3.
    ${ }^{18}$ In so far as the difference in years makes a difference in the valuation of the farms, there is a tendency toward corresponding changes in income.

[^114]:    ${ }^{2}$ These farms yield less than $\$ 600$ annual income,

[^115]:    ${ }^{18}$ It should be noted that most of the surveys do not reffect the decrease in the value of the dollar which resulted from the World War. Probably, the $\$ 600$ represented a larger amount of purchasing power at the time the surveys were taken than it would represent, at present.

[^116]:    ${ }^{i}$ Surveys in 3 areas (Georgia, Iowa, and Missnuri) by Bureau of Agricultural Economics, Division of Farm Population; and in 11 areas (California, Illinois, Indiana, Maryland, Missouri, Nebraska, New Jersey, New York, Oklahoma, Pennsylvania, and Wisconsin) by Inter-Church World Movement.

[^117]:    ${ }^{1}$ Sources as follows: Southwestern Ohio, A Rural Survey in Southwerstern Ohio, Department of Church and Country Life, Board of Home Missions of the Presbyterian Church, 1913 ; North Carolina, Economic and Social Conditions of North Carolina Farmers, State Board of Agriculture in cooperation with United States Department of Agriculture, 1923; Nebraska, University of Nebraska Agricultural Experiment Station in cooperation with Bureau of Agricultural Economics, Divisions I and Economics and Farm Population, data unpublished in this form; Kentucky, Tennessee, and Texas, same sources as in Table 7, footnote 1, data unpublished; Virginia, Bureau of Agricultural Economics, Division Land Economics, data unpublished.
    ${ }^{2}$ Including religious magazines.
    ${ }^{3}$ Reported as "news" hence probably not all dailies, probably includes local weeklies.
    4 Women's magazines. 5 Standard magazines. ${ }^{6}$ Cheap advertising. 7 Children's papers
    ${ }^{8}$ For the Texas and Virginia survey, the total number of operators reporting on other periodicals than dailies varied with each, hence percentages here given are not on basis of those reporting for dailies.

[^118]:    ${ }^{1}$ The New York figures are from United States Department of Agriculture Bulletin 1214, Family Living in Farm Homes, in cooperation with the Cornell Agricultural Experiment Station. The figures for Texas, Tennessee, and Kentucky are from the same sources as those in Table 7, footnote 1.

[^119]:    ${ }^{20}$ For 971 owner farmers and 1,065 tenants. For sources of statistics for first three States, see rable 7, footnote 1. The Nebraska data are from sources cited in Table 9 , footnote 1 .

[^120]:    ${ }^{21}$ Although 37.1 per cent were reported in the group of "cash and unspecified " in 1900, the unspecified were such a proportion of the whole ( 4.8 per cent in 1910) that it is unsafe to say that more than a third of the tenants were on a cash basis in 1900.

[^121]:    ${ }^{22}$ In a number of Southern. States they are legally classified as laborers rather than as tenants and, therefore, are adjudged to have no rights of ownership in the implements and work stock advanced for their use, nor in the crop itself until after division by the plantation operator.

[^122]:    ${ }^{23}$ In 1910 the census did not enumerate as farm occupants persons operating farms but not living on them. In 1920 this group, estimated at about 4 per cent of the total number of farm operators, was included. The census of 1910 was taken as of April 15, while the census of 1920 was taken as of January 1, a time when a large proportion of tenants are shifting or just have shifted. The effect was to decrease the proportion of operators in 1920 classed in the group on farms less than one year and to increase the group who had been on their farms for longer periods.
    ${ }_{24}$ In the following references to differences between classes of operators and sections of the country, only the statistics of past occupancy are used.
    ${ }^{25}$ In the case of owners free of mortgage debt it is probable that the relatively shorter period of occupancy for colored farmers is due in part to the large percentage of negro owner farmers who had recently succeeded in achieving farm ownership shortly before the census of 1910 .

[^123]:    ${ }^{27}$ Local tenure surveys in Kentucky, Tennessee, and Texas, referred to previously.

[^124]:    ${ }^{28}$ The following number of county landlord-tenant conferences were held in the period, 1921-1923: Illinois, 4; Iowa, 26 ; North Dakota, 1; Ohio, 1; and South Dakota, 4.

[^125]:    Division of Crop and Livestock Estimates．Figures in italics are census returns．
    ${ }^{1}$ Based on farm price Dec． 1.
    ${ }^{2}$ No． 1 Northern spring to 1915．Chicago Daily Trade Bulletin．
    ${ }^{3}$ Bureau of Foreign and Domestic Commerce．
    ${ }^{4}$ Preliminary．

[^126]:    Division of Crop and Livestock Estimates.

[^127]:    ${ }^{1}$ Four-year average.
    ${ }^{2}$ Commercial estimate.
    ${ }^{3}$ Old boundaries.
    Includes production in Alsace-Lorraine.
    ${ }^{5}$ Orre year only.

[^128]:    1 Four-year average.
    ${ }^{3}$ Old boundaries.

    - One year only.
    ${ }^{10}$ Includes Bessarabia.
    ${ }_{11}$ Preliminary estimate of former Russian territory within 1923 boundaries.
    12 Estimate U. S. Dept. of Agriculture.
    ${ }^{18}$ Exclusive of native locations which produced 359,000 bushels in 1918 and 290,000 bushels in 1921 .

[^129]:    ${ }^{1}$ New boundaries.
    ${ }^{2}$ Includes Hungary proper and Creatia Slavonia.
    ${ }^{3}$ Includes 50 governments in Europe, 10 governments of Poland, and 1 government and 2 provinces of Northern Caucasia.
    ${ }^{4}$ Excludes Poland.
    ${ }^{6}$ Excludes production in Alsace Lorraine.

[^130]:    Division of Crop and Livestock Estimates.

[^131]:    Compiled from Bradstreet's. Includes grain stored at approximately fifty interior and seaboard points of accumulation and grain in transit by canais and lakes; also Pacific Coast stocks at Portland, Tacoma and Seatile. Reported on the Saturday nearest the first of the month.

    Division of Statistical and Historical Research.

[^132]:    ${ }^{1}$ Ten months ending May 31.
    ${ }^{2}$ Twelve months for wheat, ten months for flour.
    ${ }^{8}$ Calendar years, 1909-1922.

    - Years ending June 30.
    ${ }^{8}$ Less than 500 bushels.
    6 Eight months, Aug.-Dec., 1920 and May-July, 1921.
    7 Ten months for wheat, twelve months for flour.
    8 Eleven months.

[^133]:    ${ }^{1}$ Compiled from Minneapolis Daily Market Record. Prior to the promulgation of the Federal grades, August 1, 1917, the subclass Dark Northern did not exist.
    ${ }_{2}$ Compiled from the Chicago Daily Trade Bulletin.

[^134]:    ${ }^{3}$ Compiled from St. Louis Daily Market Reporter
    4 Compiled from Kansas City Daily Price Current.
    ' Six months' average. No record for 1901.

[^135]:    Division of Statistical and Historical Research.

[^136]:    Division of Statistica! and Historical Research.
    ${ }^{3}$ Compiled from Chicago Board of Trade and Daily Trade Bullecin.

    - Compiled from New York Journal of Commerce.

[^137]:    Division of Statistical and Historical Research.
    ${ }^{1}$ Miller's Almanack, 1923, page 192. Does not include a few minor States.
    ${ }_{2}$ Census of Manafactures, 1921 .-Flour-Mill Products and Bread and Other Bakery Products. Includes merchant mills only. Calendar years.
    ${ }_{8}$ Division of Crop and Livestock Estimates. Department of Agriculture Yearbooks, 1921 and 1922.

[^138]:    ${ }^{1}$ Based on farm price December 1.
    ${ }^{2}$ Chicago Daily Trade Bulletin.
    ${ }^{3}$ Compiled from reports of Bareau of Foreign and Domestic Commerce.
    ${ }^{4}$ Preliminary.

[^139]:    Division of Crop and Livestock Estimates.

[^140]:    ${ }^{1}$ Not a vailable. 8 Net imports.
    : Years ending June 30.
    ${ }^{4}$ Net exports.

[^141]:    Division of Crop and Livestock Estimates.

[^142]:    Division of Cost of Production.

[^143]:    Division of Cost of Production.
    ${ }^{1}$ Costs computed from basic requirements as shown in Bulletin No. 943; 1913-1821 prices:are:averages of prices from July to June; 1922-23 prices are for Oct. 1.
    ${ }^{2} 1923$ figures subject to revision.

[^144]:    Division of Cost of Production.

[^145]:    Division of Cost of Production.
    ${ }^{1}$ 1913-1921 indices are averages of prices from July to June; 1922-1923 are fcr Oct. 1.
    ${ }_{2} 1923$ wage index, Kansas: Janiary, 132; A pril, 142; July, 146; October, 151. North Dakota: January, 101; April, 125 ; July, 144; October, 147 .

[^146]:    Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.
    iPrices are common averages of the mean of the range of daily closing prices. Only days on which prices for the three markets appeared were used.
    ${ }_{2}$ Conversions at current rate of exchange as reported by the Federal Reserve Board. Winnipeg prices on basis in store at Fort William and Port Arthur.

[^147]:    Division of Statistical and Historical Research.
    ${ }^{1}$ Burean of Labor Statistics index converted to 1909-1913 base.
    ${ }^{2}$ A verage price of pure lard, Chicago.
    ${ }^{3}$ The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.

[^148]:    Division of Statistical and Historical Research. Compiled from records of the Bureail of Foreign and Domestic Commerce.
    ${ }^{1}$ Four months; Emergency tariff became effective May 28, 1921.

[^149]:    Division of Statistical and Historical Research.
    Interstate Commerce Commission, United States Shipping Board, Consular Reports, Dominion Bureau of Statistics, International Institute of Agriculture.

    1 Rate in effect on November 19, 1923.
    ${ }^{2}$ A verage rate for nine months, January to September, 1923; all conversions on the basis of average rate of exchange prevailing during these months.

[^150]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Preliminary.

[^151]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Includes all other causes.
    ${ }^{2}$ Less than 0.05 per cent.

[^152]:    ${ }^{1}$ Yield per acre not computed when acreage is less than 12,000 acres.
    ${ }_{2}^{2}$ One year only.
    ${ }^{3}$ Old boundaries.
    ${ }^{4}$ Includes Bessarabia.
    ${ }^{6}$ Preliminary estimate of former Russian territory within 1923 boundaries.
    ${ }^{6}$ Two-year average.
    7 Four-year average.
    $85813^{\circ}$ - YBK $1923-43$

[^153]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Based on reported percentage of entire crop on farms, merchantable, and shipped out of county where
    grown.
    ${ }_{2}$ Preliminary.

[^154]:    Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin
    and the Chicago Board of Trade Annual Reports.
    ${ }^{1}$ No report.

[^155]:    Division of Statistical and Historical Research.
    Compiled from the Chicago Daily Trade Balletin. Reported on Saturday nearest the first of eaeh month.

[^156]:    Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultura Statistics 1912-1921. Subsequently Review of the River Plata. Average of weekly quotations. For rate of exchange used in conversion from shillings see Table 696, p. 1164.
    ${ }^{1}$ No quotations.
    ${ }_{2}$ Interpolation, no quotation.

[^157]:    Division of Crop and Livestock Estimates Figures in italics are census returns. Exports and imports from Bureau of Foreign and Domestic Commerce.
    ${ }^{1}$ Based on Dec. 1 price.
    2. Chicago Daily Trade Bulletin. Quotations are for No. 2 to i906; for contraet 1906-1915.

    8 Oatmeal not included until 1882.
    :Oatmeal not included 1869-1882, and 1909.

    - Preliminary.

[^158]:    ${ }^{2}$ Less than 0.05 per cent

[^159]:    ${ }^{1}$ One year only.
    ${ }^{2}$ Old boundaries.
    ${ }_{4}^{3}$ Former Kingdom of Serbia.
    ${ }^{4}$ Three-year average.

[^160]:    - Inchudes Bessarabia.
    ${ }^{6}$ Preliminary estimate of Eascian territory within 1923 boundaries.

[^161]:    ${ }^{1}$ Commercial estimate.
    ${ }^{2}$ Old boundaries.
    ${ }^{3}$ Includes production in Alsace Lorraine.
    4 Includes 627,000 bushels grown in Venezia
    Tridentina and Venezia Givlia.

[^162]:    Division of Statistical and Historical Research. Official sources and International Institute of Agriulture unless otherwise stated. Parentheses denote interpolation.
    Five-year averages are of the crops harvested during the calendar years 1909-1913 in the Northern Hemisphere, and during the crop seasons 1909-10 through 1913-14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.
    ${ }^{7}$ Three-year average.
    7 One year only.
    Includes Bessarabia.
    ${ }^{10}$ Preliminary estimate of former Russian territory within 1923 boundaries.
    ${ }_{12}^{11}$ Four-year average. bushels in 1920-21.

[^163]:    Division of Crop and Livestock Estimates.

[^164]:    Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin. Reported on the Saturday nearest the first of each month.

[^165]:    ${ }^{1}$ Based on farm price Dec. 1.
    ${ }^{2}$ Chicago Daily Trade Bulletin. Prices, 1895-1908, for No. 3 grade.

[^166]:    ${ }^{3}$ Compiled from reports of Bureau of Foreign and Domestic Commerce.
    ${ }_{4}$ Preliminary.

[^167]:    ${ }^{1}$ Condition at time of harvest.

[^168]:    Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record, Chicago Daily Trade Bulletin, Grain Dealers Journal, and Canadian Statistics.
    ${ }^{1}$ Crop year begins in September.
    ${ }^{2}$ Five-year average.

[^169]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Includes all other causes.
    ${ }^{2}$ Less than 0.05 per cent.

[^170]:    ${ }^{1}$ Four-year average.
    ${ }^{4}$ Pre-war Poland included in Russia, Austria, and Germany.
    ${ }_{2}$ Three-year average.
    ${ }^{3}$ Pre-war boundaries.

[^171]:    Division of Statistical and Histqrical Research. Compiled from reports of the Burean of Foreign and Domestic Commerce and Division of Crop and Live Stock Estimates.
    ${ }^{1}$ Stated as seed equivalent, 27 gallons of oil equal 1 bushel of seed.
    ${ }^{2}$ Six monrhs beginning July 1, not separately reported in 1923.

[^172]:    Division of Statistical and Historical Research. Official sources except where otherwise noted.
    ${ }^{1}$ Two-year average. $\quad{ }^{8}$ Less than 500 bushels. $\quad{ }^{6}$ One year only.
    ${ }^{2}$ International Institute of Agriculture. EEight months, May-December.

[^173]:    Division of Statistical and Historical Research. Official sources and International Institute of Agri-

[^174]:    Division of Crop and Livestock Estimates.

[^175]:    Division of Statistical and Historical Research. Compiled from Kansas City Annual Statistical Report, Board of Trade, and Minneapolis Daily Market Record.
    ${ }^{1}$ Kafir, milo maize, and feterita included from January, 1915-December, 1921.

[^176]:    Division of Crop and Livestock Estimates.

[^177]:    ${ }^{1}$ International Institute of Agriculture, for Oleaginous Products and Vegetable Oils.
    ${ }_{2}$ Four-year average.
    ${ }^{2}$ Less than 500 pounds.

[^178]:    Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis.

[^179]:    .Division of Crop and Livestock Estimates.
    ${ }^{1}$ Preliminary.

[^180]:    Division of Crop and Livestock Estimates.

[^181]:    ${ }^{1}$ Yield per acre not calculated when acreage is less than 12,000 acres.
    ${ }^{2}$ Four-year average.
    ${ }^{2}$ One year only.
    4 Old boundaries.
    ${ }^{8}$ Three-year average.
    ${ }^{6}$ Former Kingdom of Serbia.

[^182]:    1 One year.
    ${ }_{2}^{2}$ Old boundaries.
    ${ }^{3}$ Two-year average.
    4 Four-year average.
    ${ }^{6}$ Three-year average.

[^183]:    ${ }^{1}$ Maine; Vermont, New York, Pennsylvania, Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Montana, Wyoming, Colorado, Utah, Nevada, Idaho, Washington, Oregon, and California.
    ${ }_{2}$ New Hampshire, Massachusetts, Rhode Island, Connecticut; New Jersey, Delaware, Maryland, Virginia, West Virginia, Ohio, Indiana, Illinois, Iowa, Missoari, Kansas, and Kentacky.

[^184]:    Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in carlots include those by boat reduced to carlot basis. The crop movement season normally begins in April and extends through June of the following year, with irregular shipments continuing into July and August.
    ${ }^{1}$ Old crop only. Includes carlot shipments in July as follows: Maine 43, New York, other 3, Pennsylvania 3, Michigan 148 (also 9 in August), Wisconsin 55, Minnesota 21, North Dakota 2, W yoming 2, Colorado 2 and Idaho 10.
    ${ }^{2}$ Includes 1 car in February and 221 cars in March.
    ${ }^{3}$ Southern District included in Northern District.
    ${ }^{4}$ Includes 289 cars in July and 9 cars in August.

[^185]:    1 Includes 1 car in March.
    2 Includes 5 ears in March.
    3. Encludes 95 cars in March.

    4 Fipcludes 1 car in Februsry and 221 cars in March.

[^186]:    Division of Crop and Livestock Estimates.

[^187]:    1 Carlot sales.
    4 Sales direct to retailers.
    ${ }^{2}$ Eight day average.
    ${ }^{6}$ Sales direct to retailers except September-December, 1923.
    ${ }^{3}$ Bulk only.

[^188]:    Division of Crop and Livestock Estimates.

[^189]:    Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

[^190]:    Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

[^191]:    Division of Statistical and Historical Research. Compiled from National Canners' Association data.

[^192]:    ${ }^{1}$ Stated in cases of 24 NO. 3 cans.

[^193]:    ${ }^{3}$ Included in "All other:"

[^194]:    Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

[^195]:    ${ }^{1}$ Reports incomplete.
    ${ }^{2}$ New Yorl received, fn addition in L. C. E. reeeipts for 1921, 152 cats of apples, 53 of cabbage, 142 of cantaloupes, 306 of onions, 74 of peaches, 1,754 of potatoes, 822 of strawberries, 1,624 of sweet potatoes; 512 of tomatoes, and 6,467 of total fruits and vegetables; for 1922; 558 cars of apples, 65 of cabbage, 292 of: cantaloupes, 465 of onions, 1,385 of peaches, 751 of potatoes, 650 of strawberries, 1,368 of sweet potatoes, 814 of tomatoes, and 6,348 of total fruits and vegetables; and for 1923,318 cars of apples, 101 of cabbage, 280 of cantaloupes, 239 of onions, 1,182 of peaches, 689 of patatoes, 822 of strawberries, 1,301 of sweet potatoes, 1,156 of tomatoes, and 5,786 of total fruits and vegetables.

[^196]:    Division of Crop and Livestock Estimates.

[^197]:    ${ }^{2}$ Shelled, or equivalent bushels in the pod.

[^198]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Interplanted acreage is included as its equivalent solid acreage.

[^199]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Interplanted acreage is included as its equivalent solid acreage.
    ${ }^{2}$ Shelled, or equivalent bushels in the pod.
    ${ }^{3}$ Preliminary.

[^200]:    Division of Crop and Livestock Estimates.

[^201]:    Division of Crop and Livestock Estimates; figures in italics are census returns; acreage revised on census basis since 1899.
    ${ }^{1}$ Based an farm price Dec. 1.

[^202]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Preliminary estimate of the Department of Agriculture.
    ${ }^{2}$ Includes 6,000 net bales Missouri cotton estimated to have been ginned in Arkansas.

[^203]:    Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Data for crop year as given at the head of the table are for crops harvested between August 1 and July 31 of the following year. This applies to both northern and southern hemispheres.
    ${ }^{-1}$ Estimates by the Chinese Mill Owners' Association, which represent the most important cotton growing areas where the commercial crop is grown.
    ${ }_{2}$ From an unofficial source.
    ${ }^{3}$ Average for 4 years.

[^204]:    ${ }^{1}$ Linters not included.
    ${ }^{2}$ From an unofficial source.
    ${ }^{8}$ Laguna District and Lower California only.

    - For one year.
    - Average for 4 years.
    - Average for 3 years.

    T Exports.
    ${ }^{8}$ Pre-war territory.
    ${ }^{9}$ A verage for 2 years.

[^205]:    Division of Statistical and Historical Research. Official sources except where otherwise noted. Bales of 500 pounds gross weight or 478 pounds net. The figures for cotton refer to ginned and unginned cotton and linters, but not to mill waste, cotton batting, scarto (Egyptian and Soudan). Wherever unginned cotton has been separately stated in the original reports it has been reduced to ginned cotton in this statement at the ratio of 3 pounds unginned to 1 pound ginned.

[^206]:    Division of Statistical and Historical Research. Compiled from Market Reports of the New York Cotton Exchange.
    ${ }^{1}$ Cotton Exchange closed of account of the war.
    ${ }^{2}$ Cotton Exchange opened on Nov. 16. Quotations cover only half month.

[^207]:    Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Oensus.

[^208]:    Division of Crop and Livestock Estimates.

[^209]:    Division of Crop and Livestock Estimates.

[^210]:    Division of Crop and Livestock Estimates.

[^211]:    Division of Crop and Livestock Estimates.

[^212]:    $85813^{\circ}$ - YBK 1923
    53

[^213]:    Division of Statistical and Historical Research. Compiled from New York Journal of Commerce and San Francisco Daily Commercial News.
    ${ }^{1}$ Monthly averages are computed from daily ranges. Yearly averages are simple averages of monthly averages.

[^214]:    Division of Crop and Livestock Estimates.

[^215]:    Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census. Quantities reported in terms of "hulled"' have been converted to "in the hull" basis by dividing by .67 .
    ${ }^{1}$ Includes peanuts "in the hull" which were not reported separately.

[^216]:    11900-1906 shipments from Porto Rico to the United States.
    2 Statistics for Hawaii 1874-1880 represent exports.
    4 Estimated average production.
    © Exports.

[^217]:    Division of Statistical and Historical Research.

[^218]:    Unofficial.
    Official.
    ${ }_{5}$ Includes a small amount of refined.
    ${ }^{5}$ Four-year a verage.

    - Former Kingdom of Serbia.

[^219]:    Division of Statistical and Historical Research.
    ${ }^{1}$ Figures are for the crop years 1895-96 to 1923-24 for the countries in which the sugar season begins in the autumn months and is completed during the following calendar year, except in the case of cane sugar producing countries where the season begins in May or June and is completed in the same calendar year.

[^220]:    Four-year average.
    Three-year average.
    : Lamborn \& Co. $\quad 6$ Eight months, May-December.

    - One year only.
    ${ }^{6}$ Eight months, May-

[^221]:    Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

[^222]:    Division of Crop and Livestock Estimates.
    ${ }^{1}$ Preliminary.

[^223]:    ${ }^{1}$ Imports of all seeds up to and including the fiscal year 1913, also of perennial and Italian rye grass and hairy vetch up to and including 1917, and sweet clover for all years, are based on information furnished by U.S. Customs Service. All other figures represent imports of seed permitted entry under the seed importation act.
    ${ }^{2}$ Preliminary.
    ${ }^{2}$ Figures missing.
    ${ }^{4}$ Less than 500 pounds

[^224]:    Division of Statistical and Historical Research. Compiled from the Seed World.
    ${ }^{1}$ Price based on very few sales.

[^225]:    Division of Crop and Livestock Estimates

[^226]:    1 Two-year average.
    ${ }^{3}$ One year only.
    ${ }^{3}$ Old boundaries.
    2 Three-year average.
    4 Four-year average.

    - Exclusive of invaded territory.

[^227]:    Division of Statistical and Historical Research. Official sources.
    Tobacco comprises leaf, stems, and strippings, but not snuff.
    ${ }^{1}$ Less than 500 pounds.
    2 Java and Madars only.
    ${ }^{2}$ Eight months, May-Decomber.

[^228]:    Division of Statistical and Historical Research. Compiled from Western Tobacco Journal, Richmond Grain Exchange Price Current, and Baltimore Daily Price Current.
    ${ }^{1}$ Monthly averages are computed from weekly ranges. Yearly averages 1907 to 1917, inclusive, for Hopkinsville, Louisville and Baltimore, are simple averages of monthly ranges. All other yearly averages are simple averages of the monthly averages.
    ${ }^{2}$ Largely common to good.
    ${ }^{8}$ Good.

    - Average common to good.

[^229]:    ${ }^{1}$ Four-year average.
    2 International Institute of Agriculture.
    ${ }^{3}$ Java and Madura only.

    - Three-year average.
    ${ }^{5}$ One year only.
    ${ }^{6}$ Less than 500 pounds.
    ${ }^{7}$ Eight months, May-December.
    Chiefly from Porto Rico.

[^230]:    1 Two-year average.
    ? Java and Madura only.
    I International Institute of Agriculture.

[^231]:    Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

[^232]:    1 Includes peanut oil.
    ${ }^{2}$ Included in all other fixed or expressed.
    ${ }^{3}$ Included in Chinese nut oil.
    4 Includes hemp seed.
    ${ }^{5}$ Less than 500 pounds.

[^233]:    Division of Crop and Livestock Estimates; figures in italics are census returns.

[^234]:    ${ }^{1}$ Less than 500.

[^235]:    ${ }^{1}$ Less than 500

[^236]:    Division of Crop and Livestock Estimates

[^237]:    Division of Crop and Livestock Estimates.

[^238]:    Division of Statistical and Historical Research.

[^239]:    Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
    Classification of livestock changed July 1, 1923.
    ${ }^{1}$ Beef yearlings excluded.

[^240]:    Division of Statistical and Historical Research. Compiled from data of the reporting service of the

[^241]:    Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
    Classification of livestock changed July 1, 1923.
    ${ }^{1}$ Beef yearlings excluded.

[^242]:    Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
    Classification of livestock changed July 1, 1923.
    ${ }^{1}$ Beef yearlings excluded.

[^243]:    Division of Statistical and Historical Research. Compiled from data of the repor ting service of the
    Livestock, Meats, and Wool Division.
    Classification of livestock changed July 1, 1923.
    ${ }^{1}$ Beef yearlings excluded.

[^244]:    Division of Statistical and Historical Research. Compiled from data of the reporting service of the

[^245]:    Bureau of Animal Industry.

[^246]:    Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and reports of the Bureau of Foreign and Domestic Commerce. ${ }^{1}$ Less than 500 pounds.

[^247]:    Division of Statistical and Historical Research. Official sources.
    1 Includes some preserved milk.
    2 Two-year average.
    ${ }_{5}^{4}$ Three-year average. $\quad{ }_{8}^{7}$ Less than 500 pounds.
    ${ }^{5}$ Not separately stated. ${ }^{8}$ Includes some powdered milk.
    ${ }^{6}$ One year only.
    ${ }_{9}$ Eight months, May-December.

[^248]:    Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

[^249]:    ${ }^{2}$ Two-year average.
    ${ }^{3}$ Four-year average.
    ${ }^{5}$ Eight months, May-December.
    ${ }^{1}$ Less than 500 pounds. $\quad$ Java and Madura only.

[^250]:    Division of Statistical and Historical Research. Compiled from Ministry of Agriculture and Fisheries, Agricultural Statistics of Great Britain and Agricultural Returns of Great Britain. Average of wholesale prices at country markets. Conversions at par of exchange 1904-1913; subsequently at monthly average rates of exchange as quoted by Federal Reserve Board.

[^251]:    Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

[^252]:    ${ }^{1}$ Four-year average.
    ${ }^{2}$ Two-year average.
    ${ }^{3}$ Less than 500 pounds.
    ${ }^{4}$ Java and Madura only.
    ${ }^{5}$ One year.
    ${ }_{6}$ Eight months, May-December.

[^253]:    Division of Statistical and Historical Research. 1915-1919 Institate Margarine Manufacturers. 19202922, Bureati of Internal Revenue.

[^254]:    Division of Cost of Production.

[^255]:    1Consisting principally of Schumacher feed and molasses.
    ELess than one-half pound.
    iIncluding interest, equipment charge, death loss, veterinary, insurance, taxes, incidentals, and marketing.

[^256]:    ${ }^{1}$ From hogs following steers.

[^257]:    Division of Cost of Marketing．
    Data from 237 Cooperative Shipping Associations in the Corn Belt（shipments through central market commission agents）．
    ${ }^{1}$ A verages are of associations shipping to the given market，weighted on the volume shipped not based on shipments．Low figures are for low cost associations and high figures for high cost associations．

[^258]:    Division of Crop and Livestock Estimates.

[^259]:    Division of Statistical and Historical Research Wholesale prices of ham, bacon, and pork loins in Chicago and of lard in New York. Retail prices in leading cities throughout the United States. Price of live hogs, Bureau of Agricultural Economics; other prices from Bureau of Labor Statistics.
    ${ }^{1}$ Mostly on sliced ham.

[^260]:    Division of Statistical and Historical Research. Compiled from reports of Bureau of Foreign and Domestic Commerce.
    These figures include exports of fresh, canned, and pickled pork, cured hams and shoulders, bacon, lard, and neutral lard.

[^261]:    Division of Statistical and Historical Research. Compiled from Foreign Commerce ard Navigation of the United States, 1910-1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commeres.

[^262]:    1 Interpolated.

[^263]:    ${ }^{1}$ Entire half of hog in one piece, head off, backbone out, ribs in.
    ${ }^{2}$ Interpolated.

[^264]:    Division of Statistical and Historical Research. Compiled from Great Britain, Ministry of Agriculture and Fisheries, Return of Market Prices. Average for the last week of the month. Converted to cents per and Fisheries, Return the basis of monthly average rate of exchange as given in Federal Reserve Bulletins.

[^265]:    Division of Cost of Marketing.
    ${ }^{1}$ Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
    ${ }^{2}$ Straight shipments contain but one species of livestock.
    ${ }^{3}$ Mixed shipments contain more than one species of livestock.

[^266]:    ${ }^{1}$ Straight shipments contain but one species of livestock.

[^267]:    1 Straight shipments contain but one species of livestock.
    ${ }_{2}$ Mixed shipments contain more than one species of livestock.

[^268]:    Division of Cost of Marketing. Data from 237 cooperative shipping associations in the Corn Belt.

[^269]:    Division of Statistical and Historical Research. Prior to 1915 figures compiled from yearbooks of the stockyard companies; subsequent figures compiled from data of the reporting service of the Livestoek, Meats, and Wool Division.

[^270]:    ${ }^{1}$ Less than 500 .

[^271]:    ${ }^{1}$ Less than 500

[^272]:    ${ }^{1}$ Less than 500.

[^273]:    Classification of livestock changed July 1, 1923.

[^274]:    Division of Statistical and Historical Research.

[^275]:    ${ }^{1}$ Preliminary.

[^276]:    ${ }^{1}$ International Institute of Agriculture. ${ }^{3}$ Three-year average.

    - Eight months, May-December.
    ${ }^{1}$ International Instit.

[^277]:    Division of Crop and Livestock Estimates.

[^278]:    ${ }^{1}$ First-shurn fleece, but not lambs' wool.
    ${ }_{2}$ Period of price control. Approximate issue prices: 1917, 50 cts.; 1918, 55 cts.; 1919, 46-48 cts

[^279]:    Division of Cost of Marketing.
    ${ }^{1}$ Shrinkage represents the difference between the shipping point weight and the terminal weight including the weight af all crippled and dead. Hence the shrinkage figure is over and above the direct lossos due to crippled and dead.
    ${ }^{2}$ Straight shipments contain but one species of livestock.
    8 Mixed shipments contain more than one species of livestock.

[^280]:    Bureau of Animal Industry.

[^281]:    1 Includes 491 pounds of mutton for February, 19,345 pounds for May, and 8,990 pounds for August.

[^282]:    Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.
    ${ }^{1}$ Figures prior to 1915 not available.
    ${ }^{8}$ Less than 500.

[^283]:    Division of Orop and Livestock Estimates.

[^284]:    ${ }^{1}$ Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by

[^285]:    ${ }^{1}$ Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by

[^286]:    ${ }^{1}$ Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by

[^287]:    Division of Crop and Livestock Estimates.

[^288]:    1 Census returns in italies; other returns in roman. No data ayailable for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Podand, Roumania, Serbia, Tunis, Uruguay and Venezuels.
    ${ }^{2}$ Less than 500.
    ${ }^{3}$ Estimate of Doctor Thalmayer of the Austrian Department of Agriculture.
    4 Includes South Jutland where the number of chickens amounted to 408,000 in 1929; 618,000 in 1921; 795,000 in 1922 and 900,000 in 1923; turkeys 3,000 ; ducks 14,000 ; geese 13,000 .
    ${ }_{5}$ New boundaries for 1919 and subsequent years. The number of poultry for present boundaries in 1913 was 71,879,656.

[^289]:    Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

[^290]:    Division of Statistical and Historical Research. Official sources.
    ${ }^{1}$ Not separately stated.
    ${ }^{2}$ Eight months, May-December.

[^291]:    ${ }^{1}$ Three-year average.
    ${ }^{3}$ Two-year average. ${ }^{5}$ Not separately stated.
    ${ }_{2}$ Eight months, May-December. 4 Less than 500 pounds. ${ }^{6}$ Expressed only in value.

[^292]:    Division of Statistical and Historical Research Compiled from Bureau of Labor Statistics reports.
    ${ }^{1}$ No quotations.

[^293]:    Division of Statistical and Historical Research. Compiled from Statistique de la Prodaction de la Soie, Silk Merchants Union, Lyon, France.
    ${ }^{1}$ Includes Hungary, Czechoslovakia, Yogoslavia, Rumania, Bulgaria, Greece, Salonika, Adrianople, Crete, the Caucasus, Anatolia, Turkestan, Central Asia, Syria, Cyprus, and Persia.
    ${ }_{2}$ For years 1911-1013.

[^294]:    ${ }^{1}$ Few if any of the public forests are entirely covered with saw timber. They contain lakes, rocky mountain tops and other barrens, open grazing land and natural meadows, unproductive burns, brushlands, and scrub timber useful chiefly for fuel, posts, and similar small material. These are usually inseparable parts of the administrative units.
    ${ }_{2}$ National forest areas are corrected to June 30, 1923. These figures do not of course include the forested land within Indian reservations, national parks, national monuments, military reservations, and the

[^295]:    Forest Service. Compiled from " Forest Resources of the World."
    ${ }^{1}$ Includes approximately $80,000,000$ acres incapable of producing saw timber on a commercial scale. The figures for many other countries also include areas of low grade forest land.

[^296]:    ${ }^{1}$ Includes office estimates for a few States which did not report in certain years.

[^297]:    1 Includes smokers, 1916-1921.
    I Includes office estimates for a few States which did not report in certain years.
    8 Includes smokers, 1016-1922.

[^298]:    ${ }^{1}$ Includes cut of District of Columbia.
    2 Included in "All other."
    ${ }^{3}$ Includes cut of North Dakota.
    ${ }^{4}$ Reported as the cut of Alaska.

[^299]:    $\delta$ Includes cut of Alaska, Nevada, and Oklahoma.

    - Excludes custom mills (sawing 3,196,527 M ft. in 1890).
    ${ }^{7}$ Includes both merchant and custom sawing.
    ${ }^{8}$ Includes "All other."

[^300]:    ${ }^{1}$ Included in＂All other．＂
    ${ }^{2}$ Includes cut of Nebraska．
    ${ }^{8}$ Includes cut of Kansas，Nebraska，and Nevada．
    －Mills cutting less than 50 M feet each year excluded．
    ${ }^{\delta}$ Excludes custom mills（sawing 3，196，527 M feet in 1890）．
    －Includes＂All other．＂

[^301]:    ${ }^{1}$ Includes cut of Nevada.
    ${ }_{2}$ Mills cutting less than 50 M feet each per year.
    ${ }^{3}$ Includes cut of Nebraska.

    4 Included with Kansas.
    ${ }^{5}$ Included with California.

[^302]:    ${ }^{1}$ Estimated.
    ${ }_{2}$ Inciuding District of Columbia (product valued at $\$ 29,000$ in 1850 , and $\$ 21,125$ in 1860).
    ${ }^{3}$ Included with California.
    4 Part of Virginia prior to 1870.
    ${ }^{6}$ Distribution of States same as shown in Table 622

[^303]:    ${ }^{1}$ Inoludes a small quantity of softwoods in New York not separatoly reported．

[^304]:    Forest Service. Compiled from Forest Service and Bureau of the Census reports.

[^305]:    ${ }^{1}$ Included in "All other States."
    ${ }_{2}$ These statistics were collected by the New York State Forest, Fish, and Game Commission.
    ${ }^{3}$ Includes Indian Territory, Nevada, Oklahoma, and Alaska.
    4 Includes Arizona, Kansas, Nebraska, Nevada, New Mexico, Indian Territory, and others.
    $\checkmark$ Includes production of many States; no further data available

[^306]:    ${ }^{1}$ Included in "All other States."
    ${ }_{2}$ Inoludes Nebraska and Nevada.
    ${ }^{8}$ Includes Kansas, Nebraska, and Nevada.

[^307]:    Forest Service. Compiled from Forest Service and Bureau of the Gensus reports.

[^308]:    4 July 1-Sept. 21.
    ${ }^{5}$ Including kip skins until Sept. 21, 1922.
    ${ }^{6}$ Beginning Sept. 22, 1922.

[^309]:    ${ }^{1}$ Preliminary.
    ${ }_{2}^{1}$ Included in " Substitutes for coffee."
    ${ }^{3}$ See " Chicory root."
    ${ }^{4}$ Includes chicory root.

[^310]:    5 Known as " Dressed Line."
    ${ }^{6}$ July 1-Sept. 21, 1922.
    ${ }^{7}$ Beginning Sept. 22, 1922.

[^311]:    ${ }^{1}$ Preliminary.
    ${ }^{2}$ July 1 -Sept. 21.
    ${ }^{3}$ Beginning Sept. 22.
    4 Less than 500 pounds.
    5 Timber, "Ship and .other."

[^312]:    ${ }^{1}$ Preliminary.

[^313]:    ${ }^{1}$ Preliminary. ${ }^{2}$ Less than 500 pounds. ${ }^{3}$ Beginning Sept. 22. ${ }^{4}$ Included in "Other oil seeds."

[^314]:    Division of Statistical and Fistorical Research. Compiled from the Monthly Summaries of Foreign

[^315]:    ${ }_{2}$ Preliminary. $\quad{ }^{3}$ Beginning Sept. 22.
    2 July 1-Sept. 21, 1922. ${ }^{4}$ Less than 500 pounds

[^316]:    1 Preliminary.
    2 July-Dec. 31
    ${ }^{3}$ Jan. 1-June 30.

    - Less than 500.
    s Includes all fresh pork prior to Jan. 1, 1922.

[^317]:    ${ }^{1}$ Preliminary.
    Bales of 500 pounds.

[^318]:    ${ }^{2}$ Preliminary.
    ${ }^{2}$ Includes rice flour and broken rice prior to Jan. 1, 1922.
    8 Jah. 1-June 30, 1922.

[^319]:    4 Less than 500
    ${ }^{6}$ Included in rice grain from July 1 to Dec. 31, 1921.

[^320]:    ${ }^{1}$ Preliminary.

[^321]:    ${ }^{1}$ Preliminary.

[^322]:    ${ }^{1}$ Preliminary

[^323]:    1 Includes canned, cured, and fresh beef, oleo oil, oleo stock, oleomargarine, tallow, and stearin from animal fats.
    ${ }^{2}$ Preliminary.

[^324]:    1 Includes canned, fresh, salted or pickled pork, lard, neutral lard, lard oil, bacon, and hams.

[^325]:    ${ }^{1}$ Does not include oatmeal. ${ }^{2}$ Preliminary. ${ }^{3}$ Includes wooled sheep and lamb skins, dry and green.

[^326]:    ${ }^{1}$ Preliminary

[^327]:    Division of Statistical and Historical Research.
    Compiled from Foreign Commerce and Navigation of the United States, 1852-1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922, and 1923, Bureau of Foreign and Domestic Commerce.

    Where figures are lacking, either there were no imports or they were not separately classified for publication. "Silk" includes, prior to 1881 , only "Silk, raw or as reeled from the cocoon"; in 1881 and 1882 are included this item and "Silk waste"; after 1882, both these items and "Silk cocoons." From "Cocoa and chocolate" are omitted in 1860,1861 , and 1872 to 1881 , small quantities of chocolate, the official returns for which were given only in value. "Jute and jute butts" includes in 1858 and 1859 an unknown quantity of "Sisal grass, coir, etc.," and in 1865-1868 an unknown quantity of "Hemp." Cattle hides are included in "Hides and skins other than cattle and goats" in 1895-1897. Olive oil for table use includes in 1862-1864 and 1885-1905 all olive oil. Sisal grass includes in 1884-1890 "Other vegetable substances." Hemp includes in 1885-1888 all substitutes for hemp.

[^328]:    ${ }^{1}$ Preliminary.

[^329]:    ${ }^{1}$ Preliminary.

[^330]:    ${ }^{1}$ Preliminary.

[^331]:    ${ }^{1}$ Preliminary

[^332]:    1 Preliminary.

[^333]:    ${ }^{1}$ Preliminary.

[^334]:    ${ }^{1}$ Preliminary.

[^335]:    Division of Cróp and Livestock Estimates. Compiled from reports of the Bureau of the Census.

[^336]:    ${ }^{1}$ Compiled from International Yearbook of Agricultural Statistics, 1921, page 505, through June, 1921; average of weekly quotations. Federal Reserve Bulletin, July, 1921, to date; average monthly rate of exchange.

    2 Interpolation, no quotation.
    ${ }^{8}$ International Yearbook of Agricultural Statistics, 1921, page 505, and 1922, page 342.

[^337]:    Division of Agricultural Cooperation. Reports from associations to Feb. 5, 1924.

[^338]:    Division of Statistical and Historical Research. Supplied by Interstate Commerce Cemmission.
    ${ }^{1}$ Class rate.

[^339]:    Division of Statistical and Historical Research. Supplied by Interstate Commerce Commission. Figures printed in italics are for "class rate."

[^340]:    1 No rates in force.

[^341]:    See footnotes end of tables.

[^342]:    Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.
    ${ }^{1}$ Includes " Other potash.bearing substances" amounting to 20,734 tons and valued at $\$ 238,651$.

[^343]:    ${ }^{1}$ Production for all purposes.
    ${ }_{2}$ The American Fertilizer Handbook.
    Geological Survey.
    ${ }^{4}$ Federal Trade Commission, 1902-1014. Data for later years not available.
    Estimated.

[^344]:    Division of Statistical and Historical Research. Compiled from Oil, Paint, and Drug Reporter.
    ${ }^{1}$ Converted from price per unit. Unit equals 1 per cent in a ton, or 20 pounds of pure ammonia.

[^345]:    Division of Statistical and Historical research. Compiled from Serial Bulletin No. 89 of the Georgia Department of Agriculture, 1922.

[^346]:    Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

[^347]:    ${ }^{1}$ Based on prices 1st of month.

[^348]:    Division of Statistical and Historical Research.
    ${ }^{1}$ Bureau of Agricultural Economics.
    : Bureau of Labor Statistics.
    ${ }^{3}$ Bureau of Labor Statistics. Food (22 items prior to 1921; 43 from Jan. 1921); heat and light (5 items); clothing (about 75 items varying from time to time); rent (representative number of moderate-priced houses); furniture and household articles ( 28 items), and 42 miscellaneous articles.
    ${ }^{4}$ New York State Department of Labor.
    ${ }^{5}$ December.

    - June.

[^349]:    ${ }^{1}$ Notmals are based on records of 30 or more years of observations.

[^350]:    ${ }^{1}$ Normals are based on records of 30 or more years of obserfations.

[^351]:    ${ }^{1}$ Normals are based on records of 30 or more years of observations.

[^352]:    Weather Bureau.

[^353]:    ${ }^{1}$ Normals are based on records of 20 or more years observations.

[^354]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.
    $T=$ Trace. indicates an amount too smail to measure.

[^355]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.
    T=Trace, indicates an amount too smal? to measure.

[^356]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.

[^357]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.
    $T=$ Trace, indicates an amount too small to measure.

[^358]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.

[^359]:    ${ }^{1}$ Normals are based on records of 20 or mone years of observations.

[^360]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.
    $\mathbf{T}=$ Trace, indicates an amount too small to measure.

[^361]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.
    $\mathrm{T}=$ Trace, indicates an amount too small to measure.

[^362]:    1 Normals are based on records of 20 or more years of observations.
    $T-$ Trace, indicates an amount too small to measure.

[^363]:    ${ }^{1}$ Normals are based on records of 20 or more years of observations.
    $\mathrm{T}=$ 'Trace, indicates an amount too small to measure.

[^364]:    Weather Bureau.
    ${ }^{1}$ Normals are basod on records of 20 or more years of observations.
    $T=$ Trace, indicates an amount too small to measure.

