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# UNITED STATES DEPARTMENT OF AGRICULTURE HENRY C. WALLACE SECRETARY

# AGRICULTURE YEARBOOK 1923



GOVERNMENT PRINTING OFFICE WASHINGTON 1924

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### 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. E. 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 view 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 provided 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 affecting hogs, dairy products, tobacco,

small grains other than wheat, and forestry.

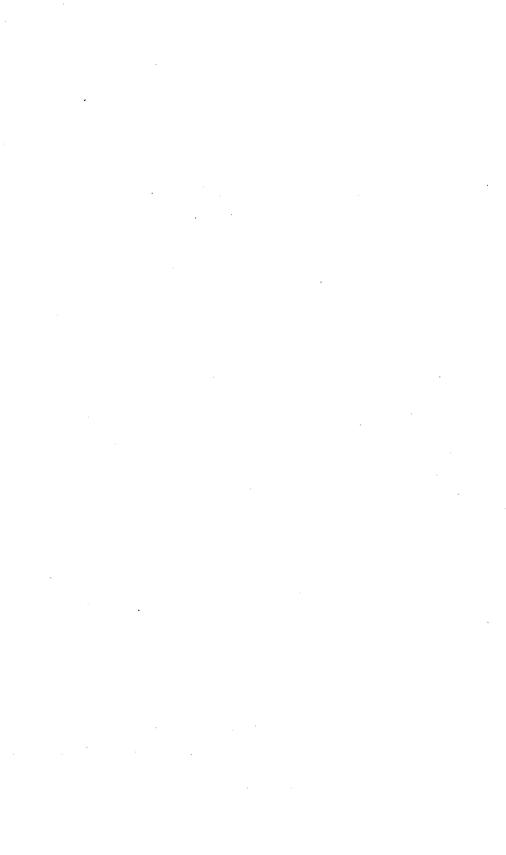
This volume contains similar studies as to sugar, the sheep industry, our forage resources, the utilization of land for crops, pasture, and forests, and the economic aspects of land tenure, prefaced by the annual report of the Secretary dealing with the agricultural situation in a general way and with 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.

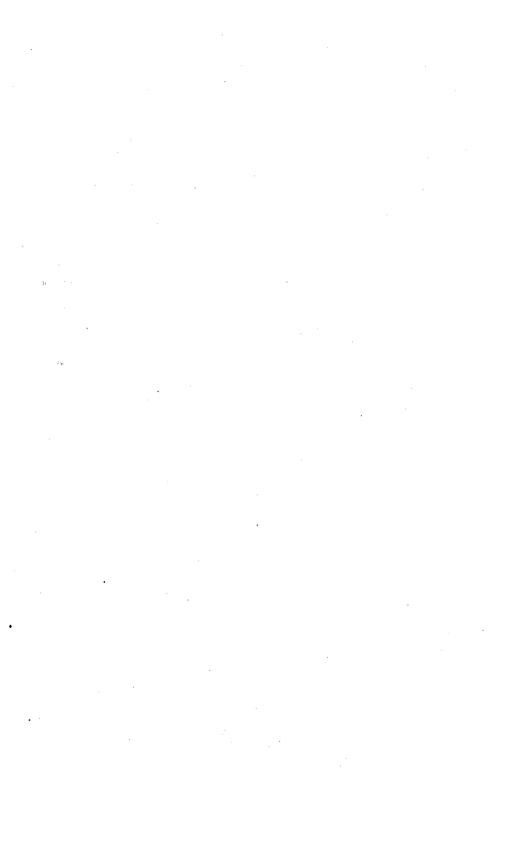
Studies such as are presented in this and the two preceding volumes are to be continued in the Yearbook of 1924.

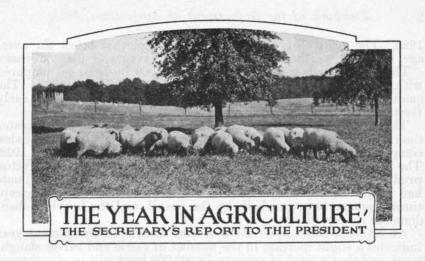
Henry C. Wallace, Secretary of Agriculture.



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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.

### VALUE OF ALL CROPS IN THE UNITED STATES, 1919-1923.

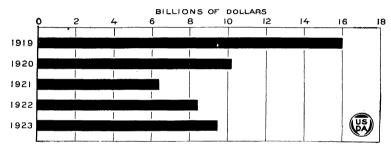


Fig. 1.—Heavy production combined with war prices raised the value of all crops produced in the United States to over \$16,000,000,000. Low prices, with an average crop, reduced the total value of all crops in 1921 to less than six and a half billion dollars. Prices of some crops have shown a gradual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

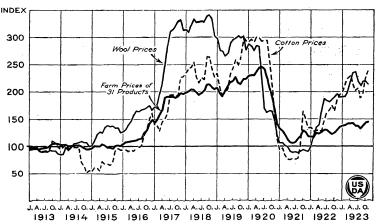


Fig. 2.—During the World War cotton and wool sold for relatively more than most other farm products. Although cotton and wool prices experienced an unprecedented decline in 1920, they recovered in 1922 and 1923, and are now well above the general level of farm prices.

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 yeal 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 supply 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.

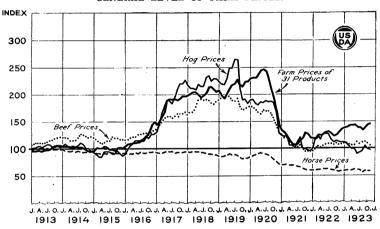


Fig. 3.—Hogs, horses, and beef have been very cheap compared with other farm products. The price of horses has declined steadily since 1913.

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. 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 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 Thus in selling their surplus wheat the farmers of and Austria. 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.

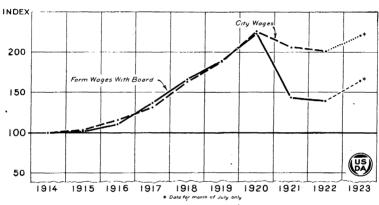


Fig. 4.—During 1920 farm wages with board were \$46.89, or 223 per cent of the 1914 level, while New York factory wages were 226 per cent. During the agricultural depression farm wages dropped to 139 per cent of the 1914 wages, while city wages fell to only 201 per cent. During 1921, 1922, and 1923 the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

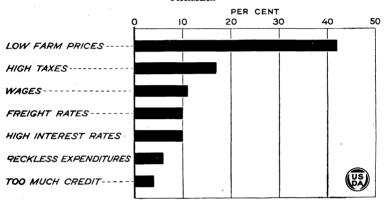


Fig. 5.—It is the opinion of farmers, based on reports received directly from them, that low farm prices is the dominant factor in the present depressed state of agriculture.

#### 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 one-half 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-

#### GENERAL PROPERTY TAXES PAID BY FARMERS, 1914-1923.

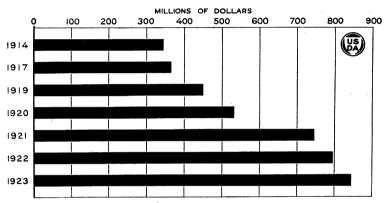


Fig. 6.—Property taxes paid by farmers doubled from 1917 to 1923. The marked increase in taxes which occurred immediately after the war was due to the adjustment of local and State governmental costs to the new price level, as well as to a material expansion in public improvements, which had been postponed 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 young 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 farms or property through fore-

closure 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.

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

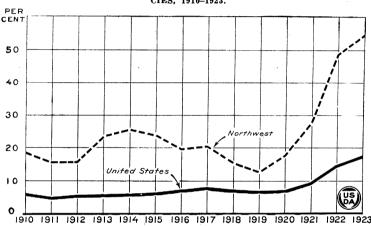


Fig. 7.—Between 1910 and 1920 the relative number of bankruptcies among farmers remained fairly constant. Since 1920 there has been a marked increase in farm failures, especially in the spring wheat region, where the percentage of farm to total bankruptcy cases rose from about 18 per cent in the fiscal 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.

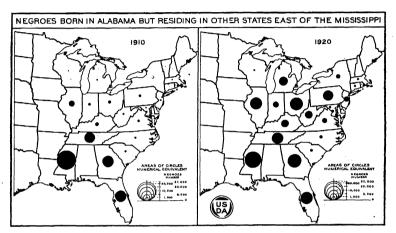


Fig. 8. In 1910 the Negro migrants born in Alabama moved largely to adjacent Southern States. In 1920 the direction of migration had changed and the Negroes born in Alabama migrated to northern industrial States east of the Mississippi.

### 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

beneficial 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.

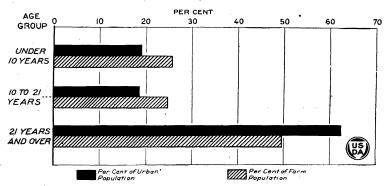


Fig. 9.—The farm has a surplus of nonproducers or partial producers of approximately 4,000,000 under 21 years of age as compared with an equivalent urban population. This surplus population, reared and educated in the country, is turned over to the cities as producers.

# 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 NEW YORK, 1913-1923.

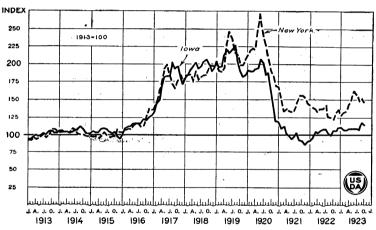


Fig. 10.—Prices paid to producers of farm products in New York and Iowa were very similar until 1920. During the agricultural depression prices in Iowa fell below the 1913 level, while prices in New York fell to only 125 per cent of the 1913 level. During the post-war adjustment farm prices fell greatest 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 pro-

duction 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.

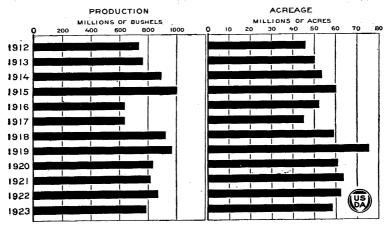


Fig. 11.—The wheat acreage reached the peak in 1919 under war conditions. Since that time the acreage has declined toward the pre-war level. The acreage sown for harvest in 1924 shows a decline of over 12 per cent from the acreage sown in the previous year.

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 flour 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 opera-

tion 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 reestablishment 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 hap-

pened 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 market 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 Agriculture 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 fall-sown crops was issued in August. These reports will be issued semi-annually 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 livestock 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.

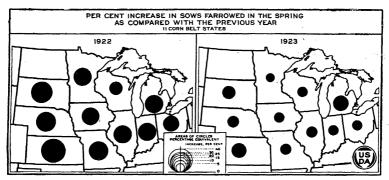


Fig. 12.—The number of sows farrowed in 11 Corn Belt States in the spring of 1922 was 22.8 per cent above the number farrowed in the spring of 1921. The increase in the spring of 1923 over 1922 was 8 per cent. The December, 1923, survey showed a decline of 6.1 per cent from the number farrowed in the 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 Through cost studies farmers learn how to reduce their the farmer. 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.

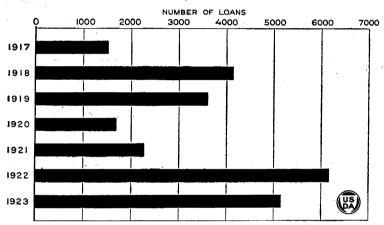


Fig. 13.—The first charter to a national farm loan association was granted March 27, 1917. By October 31, 1923, the Federal Land Banks had closed 284,095 loans amounting to \$846,030,954. The lending operations of the banks during 1920 and 1921 were curtailed by litigation involving the constitutionality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

namoei oi menseu warenouses.	Number	of	licensed	warehouses.
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Kind of ware-	To April 1, 1921.		To June 30, 1922.		To June 30, 1923.	
house.	Num- ber.	Capacity.	Num- ber.	Capacity.	Num- ber.	Capacity.
Cotton Grain Wool Tobacco.	56	429,975 bales 2,108,400 bushels 24,375,000 pounds	265	1,210,000 bales 14,450,000 bushels 27,500,000 pounds 68,400,000 pounds	231	2,639,200 bales. 20,297,047 bushels. 32,100,000 pounds. 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.

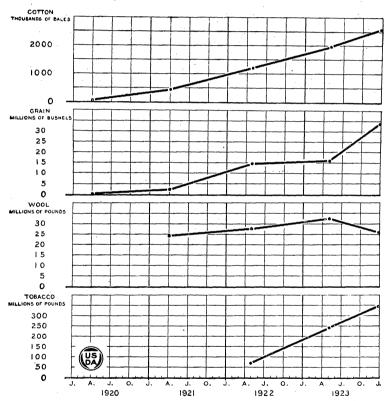


Fig. 14.—The license capacity for storing cotton from April 1, 1920, to December 31, 1923, was increased 64 times. Licensed capacity for grain during the same period increased 249 times. Although during April, 1923, there were no warehouses licensed for storing wool, on December 1, 1923, the licensed 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 longer 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,

although the work to be done at shipping points is fully ten times as extensive as that previously done in the terminal markets, where an

average 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

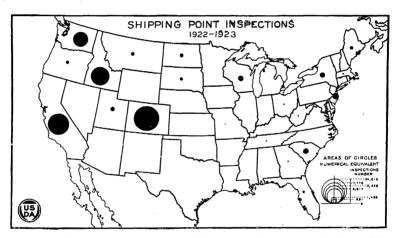


Fig. 15.—The above map shows that the greatest demand for shipping point inspection of fruits and vegetables was from heavy producing States which are far from the principal consuming centers. The number of inspections requested is determined largely by local conditions. State legislation encouraging and in some cases requiring inspection was very influential in determining the amount of cooperative Federal-State inspection work performed.

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.

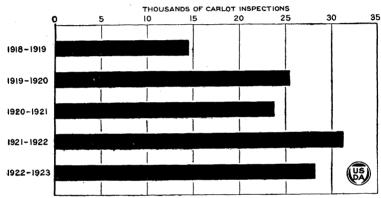


Fig. 16.—After the year 1918-19, during which the inspection service was being organized, the number of inspections requested in receiving markets has varied according to weather and crop conditions. The severe winter of 1919-20 resulted in thousands of requests being filed for inspection covering transit 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.

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 con-

tınued.

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

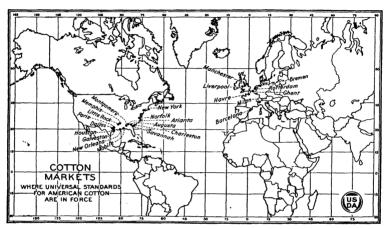


Fig. 17.—Every important cotton market in Europe and the United States has adopted and is now using universal standards for American cotton. Even the trade in American cotton in the Orient is based on these standards and purchases are usually consummated in the United States. Exporters representing eastern 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, 1914-1921.

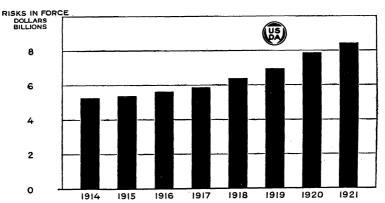


Fig. 18.—In 1921 there were 1,952 farmers' mutual fire insurance companies in the United States, and the risks in force in that year show an increase of 59.8 per cent over 1914. The average cost covering all losses and expenses was 27 cents per \$100 of insurance.

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

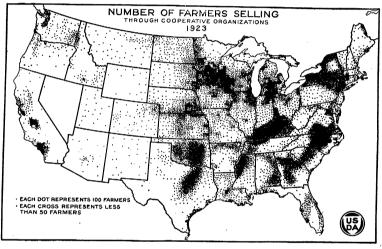


Fig. 19.—The 12,000 farmers business organizations functioning at the close of 1923 had a membership estimated at 1,500,000. While these members were scattered over the entire United States they were especially numerous in the dairy sections of New York, Wisconsin, and Minnesota, the tobacco-producing 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 movements, 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.

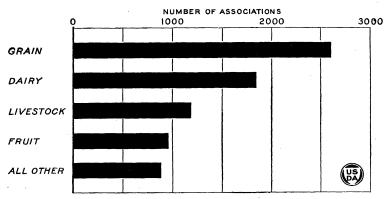


Fig. 20.—Reports received by the Department of Agriculture from farmers' business organizations have been classified according to the kind of enterprises being conducted. It is estimated that there were approximately 12,000 active business organizations at the close of 1923, and that during that year 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. 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 Ameri-

can 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 Broadly speaking, the new organization forward satisfactorily. 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 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 importance 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

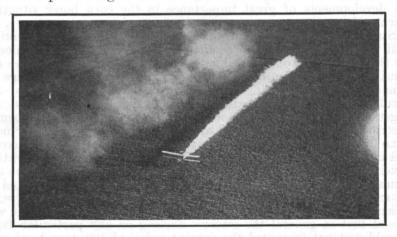
on the composition of agricultural crops has been directed chiefly toward what may be termed the quantity viewpoint. The new work is directed more toward the subject of quality. The chemist is now seeking to learn whether or not there is danger of producing quantity at the expense of nutritive quality. 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

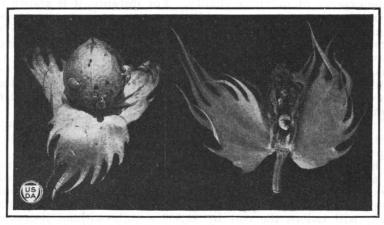


DUSTING COTTON WITH AIRPLANE.

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 larvæ. 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

#### PROGRESS OF BOVINE TUBERCULOSIS WORK, 1918-1923.

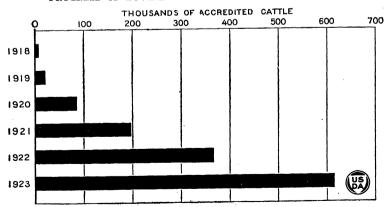


Fig. 23.—Rapid strides have been made in the eradication of hovine tuberculosis. The number of accredited cattle increased from practically nothing in 1918 to over 615,156 head in 1923.

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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 effort to improve domestic animals in the country, which began nearly four years ago under the slogan "Better Sires—Better 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

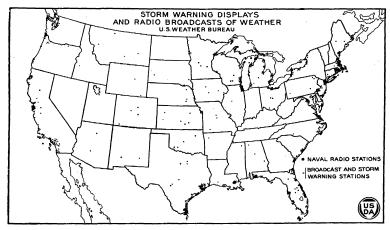


Fig. 24.—For forecasting purposes the country is divided into five districts, with forecasting centers at Washington, Chicago, New Orleans, Denver, and San Francisco. Radio is now used extensively in the distribution of these forecasts. Naval radio stations, 27 in number, are used primarily for broadcasting 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, heavy 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 neighbors 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-

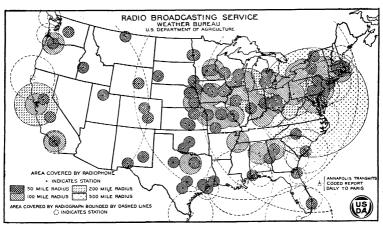


Fig. 25.—There are 27 naval stations and 117 general broadcasting stations which disseminate the daily forecasts of weather, cold waves, frosts, heavy snows, and other weather warnings. Distribution from naval stations is by radiotelegraph and covers forecasts for the entire country. Broadcasts from other stations are by radiophone and include forecasts for the sections within their range. 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

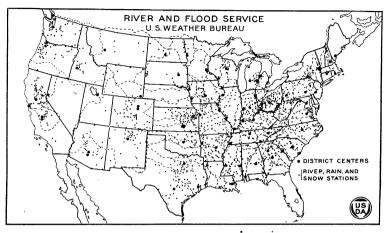


Fig. 26.—The district centers issue river forecasts and flood warnings; also, in the western mountain districts forecasts in the spring of the amount of water from the accumulated snow that will be available for irrigation and water-power purposes. River forecasts are made not only for the purpose of 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.

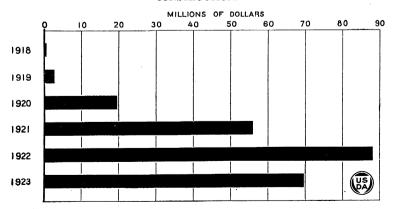


Fig. 27.—The Federal-aid roads are jointly financed by the Federal Government and the States. Federal-aid payments amount to about 43 per cent of the total cost of Federal-aid roads. The total payments made by the Federal Government prior to June 30, 1923, exceeded \$236,000,000.

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.

Fig. 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 small—perhaps 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-vielding 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 This plant was erected at Ribbon Cane Growers' Association. Lufkin, Tex., and operated during the season of 1922-23. 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. As 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.

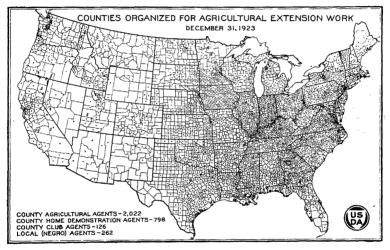


Fig. 29.—The above map shows the location and extent of organized extension work in agriculture and home economics carried on by the Department of Agriculture in cooperation with State agricultural colleges.

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. 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 during 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, fire-proof 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 fre-These statements in general are to quently from users of the films. 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 Stockvards 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 decep-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 This case is pending. economic necessity.

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. sentatives 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. 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.

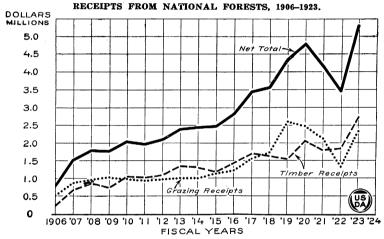


Fig. 31.—The receipts from the national forests have gradually increased until 1923, when for the first time they exceeded \$5,000,000. Receipts from the sale of timber were greater than in the best previous year and the grazing receipts were almost as high as in 1919.

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 agri-

cultural 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 Standards, 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.

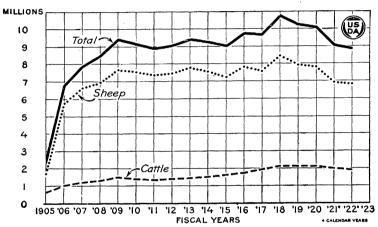


Fig. 32.—Grazing permits granted to local stockmen, to whom a permit is given covering the number of stock to be grazed, together with a description of the range to be occupied. The increase in the number of stock, which began in 1917 and reached a maximum in 1918, was due to efforts of the Government 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 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 While additional areas will, of course, be placed at dry farming. 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-

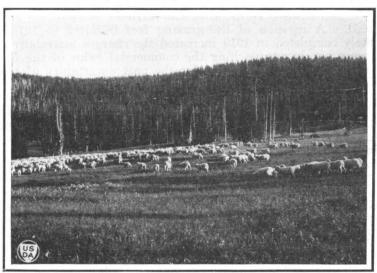
ful to the regrowth of timber or the security of valuable water resources, the department must be able to reduce or adjust the grazing use or, if need be, to eliminate it altogether. If the economic development of particular regions requires reduction in the herds of old users to make room for the livestock 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 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 assistance 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 very knotty one; for the cost of local government must somehow be met each

vear.

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. A 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 handling 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. 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. 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. 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 forage-

producing 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 range 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. perience 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 The task is one that must be assumed by the private ownership. 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 them-They know that their business can not be satisfactorily organized 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. 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

me 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

(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 phases—though 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.

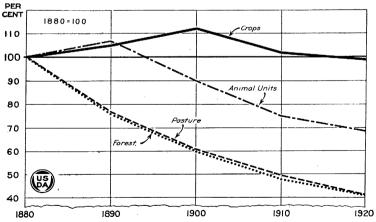


Fig. 38.—The acres of crops per capita of the United States increased 12 per cent between 1880 and 1900, and then decreased to an amount in 1920 1 per cent below that in 1880. The per capita acreages of both pasture and forest land, on the other hand, have declined since 1880, and are now only 40 per 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

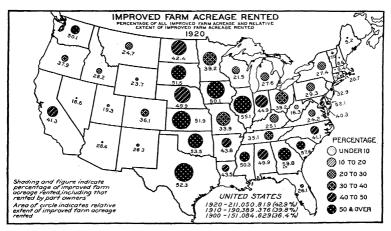


Fig. 39.—About five-sixths of the improved farm acreage under lease is rented by tenants, the remainder being rented by part owners. In some Western States part owners rent nearly as much land as do tenants. There are 11 States in which over half of the improved land is rented. The percentage of improved 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.

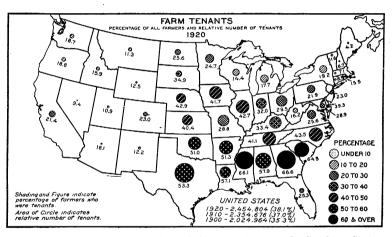


Fig. 40.—From a half to two-thirds of the farms in the eight Southern States from Oklahoma and Texas to South Carolina are operated by tenants. These States contain more tenants than the other States. About a third of the tenants in these States are croppers, whose work stock is furnished by their landlords. 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.

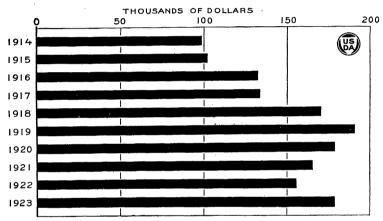


Fig. 41.—The total rental for buildings to house the staff of the Department of Agriculture increased from about \$100,000 in 1914 to over \$190,000 in 1919. Since that time the rentals have decreased despite the increasing activities of the department. Since 1920 the department has been assigned temporary 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

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 needed. 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 appro- priation for the acquisition of lands by the National Forest Reservation Com-				
mission)	\$33, 584, 173.00	<b>\$28, 540, 3</b> 86. 90	\$4, 226, 005. 92	\$817, 780. 18
Jan. 22, 1923, and Mar. 4, 1923) Supplemental appropriation for increase of	774, 980. 00	651, 322. 01	48, 915. 84	74, 742. 15
compensation (act of June 29, 1922) Permanent annual appropriation for meat	3, 232, 863.00	2, 935, 862. 96	218, 943. 62	78, 056. 42
inspection (act of June 30, 1906)	3,000,000.00	3, 000, 000. 00		
Revolving fund for classification of cotton  Allotment for fixed nitrogen research (\$500,- 000 transferred from appropriation placed at disposal of the President by the na-	134, 538. 29	80, 287. 63		54, 250. 66
tional 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 (reappro- priation of unexpended balance from				
1922)	353, 924. 93	53,392.49		300, 532, 44
in 1922)Control of insect infestations on national	124,663.12	119, 812. 72	866. 61	3, 983. 79
forests (available balance of continuing appropriation made in 1922)	109, 184. 73	39, 373. 78	25, 953, 18	48, 857. 77
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, 163. 07
Expenditures, as shown above Outstanding obligations, as shown above				
Total expenditure, fiscal year 1923, wh	en all obligation	s are paid		340, 194 <b>, 283. 04</b>
Receipts, 1923, deposited in United Stat	es Treasury to c	redit of miscel-		•
laneous receipts fund (see below) Reimbursement by dealers for cost of cla			\$5, 576, 904. 55 66, 711. 21	5, 643, 615. 76

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

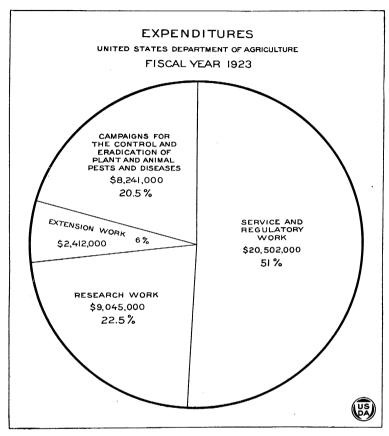


Fig. 42.—Over one-half of the expenditures of the Department of Agriculture involves public service and regulatory work, and less than one-fourth is devoted to research work for the development of agriculture.

\$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	0E EEC 004 EE
Deposited to credit of miscellaneous receipts	\$5, 576, 904. 55
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 528, 569. 06	
Contributions from private sources, used	
mainly for the construction of forest	
roads and trails 1, 517, 467. 46	0.040.000.00
The stand to small of support time for more larger and of	2, 046, 036. 52
Deposited to credit of appropriations for regular work of department	402, 588, 58
Deposited to credit of appropriations admin-	402, 000. 00
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. 35
Total receipts	9, 986, 908, 00
Fines imposed and judgments recovered by the courts in connec-	e, eco, eco. co
tion with violations of statutes intrusted to Department of	
Agriculture for enforcement	247, 895. 57
Total direct income to Government resulting from	

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

activities of Department of Agriculture\_\_\_\_\_ 10, 234, 803.57

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:

Extension work in agriculture and	Appropriation available, fiscal year 1923.	Expenditure, fiscal year 1923.	Unexpended balance, June 30, 1923.
home economics: Provided by Smith-Lever Act of May 8, 1914 Supplementary fund provided	<b>\$4,</b> 580, 000. 00		
by agricultural appropria- tion act for 1923 Balances from prior years	1, 300, 000. 00 154, 472. 77		
Research work of State agricultural experiment stations (provided	6, 034, 472. 77	<sup>1</sup> \$5, 810, 449. 45	\$224, 023. <b>32</b>
by agricultural appropriation act for 1923)	1, 440, 000. 00 210. 10		
•	1, 440, 210. 10	<sup>1</sup> 1, 439, 999. 59	210. 51

<sup>&</sup>lt;sup>1</sup> Paid direct to States by Treasury Department.

,	Appropriation available, fiscal year 1923.	Expenditure, fiscal year 1923.	Unexpended bal- ance, June 30, 1923.
Federal-aid road construction (provided by acts of July 11, 1916; Feb. 28, 1919; Nov. 9, 1921; and Jan. 22, 1923): Rural post roads—	year 1929.	nscai year 1925.	ance, June 30, 1923.
Appropriated for fiscal			
year 1923.			
Balances from prior years.	176, 703, 321, 43		
Roads and trails within or adjacent to national forests—  Appropriated for fiscal year 1923.  Ten per cent of national	203, 703, 521. 43 11, 000, 000. 00	<sup>1</sup> \$71, 601, 752. 72	\$132, 101, 768. 71
forest receipts for 1922, available for road and trail building in 1923 Balances from prior years.	338, 576. 96 6, 408, 586. 52	•	
•	17, 747, 163. 48	6, 467, 639. 69	11, 279, 523. 79
Payments to States from national forest receipts for benefit of county schools and roads	882, 204. 01	<sup>2</sup> 882, 204. 01	<b>, -</b> . •, •-•
Refunds to users of national forest resources of moneys deposited by them in excess of amounts re- quired to secure purchase price of timber, use of lands, etc	101, 824, 19	101, 824. 19	
Acquisition of lands by National Forest Reservation Commission for protection of forested water- sheds of navigable streams: Provided by agricultural ap- propriation act for 1923	450, 000. 00		
Balances from prior years	1, 458, 455. 35		
Expenses of National Forest Reservation Commission (provided by act of Mar. 1, 1911):	1, 908, 455. 35	768, 391. 84	<b>\$1, 140, 063.</b> 51
Appropriation for fiscal year 1923	25, 000. 00 48, 242. 21		
-	73, 242. 21	537, 06	<b>72,</b> 705. 15
Cooperative work, Forest Service, consisting principally of forest road and trail construction (paid from contributions from private sources):	70, 212. 21		12, 100. 19
sources): Amount contributed during 1923 Balances from prior years	1, 517, 467. 46 381, 495. 75		
- -	1, 898, 963. 21	1, 299, 782. 88	599, 180, 33
·	. , ,	, , , ==	,

<sup>&</sup>lt;sup>1</sup> Including expenditures of \$152,511.28 from fund of \$175,000 set aside for road material investigations. <sup>2</sup> Paid direct to States by Treasury Department.

	Appropriation available, fiscal year 1923.	Expenditure, fiscal year 1923.	Unexpended balance, 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	<b>\$</b> 75, 000. 00		
made in 1921 and 1922 Previously collected	1, 388, 194. 40 693, 173. 64		
	2, 156, 368. 04	\$69, 226. 66	<b>\$2</b> , 087, 141. 38
Exchange of lands, State of Washington	3. 31	3. 31	
culture 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	12, 623. 00		
prior years	62, 453. 35		
	75, 076. 35	<b>72, 6</b> 87. 59	<b>\$2,</b> 388. <b>76</b>
Procuring and disposing of nitrate of soda to farmers (balance of war emergency revolving fund pro-			
vided by acts of Aug. 10, 1917, Mar. 28, 1918, and Oct. 1, 1918)	512, 328. 26	79. 61	<sup>1</sup> 512, 248. <b>6</b> 5

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

ong pooder ged. 2000										
Title of appropriation.	Amount appropriated.	Expenditures to June 30, 1923.	Unexpended balance, June 30, 1923.							
Agricultural act for fiscal year 1923  Supplementary appropriations contained in deficiency acts of July 1, 1922, Jan. 22, 1923, and Mar. 4, 1923:	\$36, 774, 173. 00	\$31,388,336.97	\$5,385,836. <b>03</b>							
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 Rail-										
road 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 control	30, 000. 00	30, 000. 00								
Nut culture	5,000.00	5,000.00								
Investigating sources of crude rubber	100, 000. 00	4, 395. 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							
tion (act of June 29, 1922)	3, 232, 863.00	2, 935, 862. 96	297, 000. 04							

<sup>&</sup>lt;sup>1</sup>Turned into surplus fund June 30, 1923.

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

ing fiscul year 1320	)—Continue	1.	
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	
8, 1914)	4, 580, 000. 00	4, 510, 449. 45	\$69, 550. 55
tional forests (act of July 11, 1916)	1, 000, 000. 00		1,000,000.00
Mar. 1, 1911)	25,000.00	496.69	24, 503. 31
Continuing appropriations:			
Cooperative construction of rural post roads (defi-			
ciency 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	
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, Forest Service	1, 517, 467. 46	918, 287. 13	599, 180. 33
Revolving fund for classification of cotton	66, 711. 21	12, 460. 55	54, 250. 66
Fund from seed-grain loans collected during 1923	1,388,194.40		1,388,194.40
Appropriation for collection of seed-grain loans	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 (ex-			
clusive 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			
or other disposition during fiscal year 1923:			
Appropriations in agricultural acts for fiscal years			
1921 and 1922	<b>\$5, 683, 344</b> . 45	<b>\$2,747,852.18</b>	1 \$2, 935, 492. 27
Reappropriation of unexpended balance for eradi-			
cation of foot-and-mouth disease, etc	<b>353, 924</b> . <b>9</b> 3	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			İ
Industries Board	2,500.00		2,500.00
Protection of lands, Oregon and California Rail-			
road forfeiture suits	112.40	112.40	

<sup>1</sup> Of these balances, \$1,702,859.80 was turned into the surplus fund of the Trasury at the end of the year.

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

Title of appropriation.	Amount appropriated.	Expenditures to June 30, 1923.	Unexpended balance, June 30, 1923.
nexpended balances of appropriations and funds for			
prior fiscal years remaining available for expenditure			
or other disposition during fiscal year 1923-Contd.			
Supplemental appropriations for fiscal years 1921	ĺ		
and 1922—Continued.	Ì		ł
Consolidating addressing and duplicating			
work	\$33.94		\$33.9
Blowndown of timber, Olympic National			
Forest (1921–22)	8, 421. 63		8,421.6
Supplemental appropriations for increase of compen-	1		1
sation for fiscal years 1921 and 1922	138, 189. 81	\$125, 296. 55	1 12, 893, 2
Permanent specific appropriations—			
Meat inspection	532,400.04	306,069.76	1 226,330.2
Cooperative agricultural extension work	154, 472. 77		1 154, 472. 7
Cooperative construction of roads and trails, na-			1
tional forests	1,136,729.49	651, 909. 18	484, 820. 3
National Forest Reservation Commission	48, 242. 21	40.37	1 48, 201. 84
Continuing appropriations—			,
Cooperative construction of rural post roads	178, 703, 521. 43	71,449,241.44	107, 254, 279. 99
Forest highways	2,230,127.09	2,230,127.09	
Forest road development	1,975,242.50	1,975,242.50	<b></b>
Federal forest road construction	765, 939. 36	290, 193. 18	475, 746. 18
Acquisition of lands for protection of forested	·	1	
watersheds of navigable streams	689, 221. 88	413, 223. 70	275, 998. 18
Enforcement of grain standards act	2, 922. 10	1, 858. 51	1,063.59
Administration of warehouse act	6,092.98	5, 567. 04	52 <b>5</b> . 94
Determining cotton standards and spot markets.	722.26	487.45	234.81
Sullys Hill National Park game preserve	4, 744. 33	250.14	4, 494. 19
Wind Cave national game preserve	1, 296. 12	54.60	1,241.52
Laboratory building, Arlington Farm	74, 377. 79	- <b></b>	74, 377. 79
Exchange of lands, State of Washington	3.31	3.31	
Special funds—			
Roads and trails for States, national forests fund.	300, 548. 08	117, 743. 99	182, 804.09
Cooperative work, Forest Service	381, 495. 75	381, 495. 75	
Revolving fund for classification of cotton	67, 827.08	67, 827. 08	
Fund from seed-grain loans collected during 1922.	693, 173. 64		693, 173. 64
Procuring and disposing of nitrate of soda	<b>512, 32</b> 8. 26	79.61	1 512, 248. 65
Allotment for nitrate plants	\$275,903.46	\$212,976.17	\$62,927.29
Allotments from other departments-			
Air Service, Army, 1922.	260.73	260. 69	.04
Breeding experimental animals, Army, 1922	571.60	78.00	1493.60
Research by Forest Service in aircraft produc-			-
tion, Army	5.39		1 5.39
Tests of forest products for Army	36. 51	35. 26	¹ 1. 25
Investigations for Federal Power Commission	5, 800. 00	5,614.37	185. 63
Aviation, Navy, 1922.	50,000.00	49,000.60	999. 40
Aviation, Navy, 1921	5,779.12	5,777.33	1 1.79
Total (including balances from prior years)		2107 107 047 71	4 157, 298, 011. 02

 $<sup>^{1}</sup>$ These balances, no longer available for expenditure, totaling \$502.03, were returned to the departments from which the allotments originated.

<sup>&</sup>lt;sup>2</sup>Includes \$5,721,137.91 in annual appropriations for regular work of department for fiscal years 1921 and 1922.

<sup>&</sup>lt;sup>8</sup> 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.

<sup>4</sup> Includes \$2,740,003.20 unexpended balances of annual appropriations for regular work of department or fiscal years 1921 and 1922.

# Review of Agricultural Production and Exports.

Acreage of crops in the United States.

Crop.	Annual average, 1910–1914.	1915	1916	1917	1918	1919	1920	1921	1922 1	1923 <sup>1</sup> (preliminary estimate).
CEREALS.		· l	· 							
Corn . Wheat . Oats . Barley . Rye . Buckwheat . Rice . Grain sorghums .	105, 240, 000 48, 953, 000 38, 014, 000 7, 593, 000 2, 305, 000 826, 000 733, 000	105, 197, 000 60, 469, 000 40, 996, 000 7, 148, 000 3, 129, 000 769, 000 803, 000	105, 296, 000 52, 316, 000 41, 527, 000 7, 757, 000 3, 213, 000 828, 000 869, 000	116,730,000 45,089,000 43,553,000 8,933,000 4,317,000 924,000 980,900	104, 467, 000 59, 181, 000 44, 349, 000 9, 740, 000 6, 391, 000 1, 027, 000 1, 118, 550	97,170,000 75,694,000 40,359,000 6,720,000 6,307,000 700,000 1,063,000	101,699,000 61,143,000 42,491,000 7,600,000 4,409,000 701,000 1,336,000	103,740,000 63,696,000 45,495,000 7,414,000 4,528,000 680,000 921,000	102, 428, 000 61, 630, 000 40, 313, 000 7, 390, 000 6, 210, 000 785, 000 1, 055, 000	103, 112, 000 58, 253, 000 40, 768, 000 7, 980, 000 5, 234, 000 772, 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
Tota <sub>1</sub>	203,664,000	223,664,000	215,750,000	225,679,900	232, 309, 550	233,073,000	224, 499, 000	231, 109, 000	224,862,000	222,518,000
VEGETABLES.  Potatoes	3, 686, 000 611, 000	3,734,000 731,000	3,565,000 774,000	4, 384, 000 919, 000	4, 295, 000 940, 000	3,542,000 941,000	3,657,000 992,000	3, 941, 000 1, 066, 000	4,331,000 1,116,000	3,892,000 1,007,000
Potatoes Sweet potatoes Beans (commercial) Onions (commercial) Cabbage (commercial)		928, 000	1, 107, 000	1,821,000 64,580 93,090	1,744,000 65,400 111,940	1,060,000 52,830 94,300	847, 000 65, 550 121, 421	1,066,000 777,000 58,070 104,060	1, 043, 000 64, 780 136, 860	1,255,000 62,660 102,070
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
MISCELLANEOUS.									<del></del>	
Cranberries (3 States) Flaxseed Sugar beets Tobacco All hay Cotton Sorghum cane for sirup Peanuts Broomcorn. Clover seed	2, 402, 000 498, 122 1, 209, 000 66, 356, 000 35, 330, 000	23,100 1,387,000 611,301 1,369,900 67,904,000 31,412,000	26, 200 1, 474, 000 665, 308 1, 413, 400 72, 356, 000 34, 985, 000 1, 043, 000 235, 200 939, 000	18, 200 1, 984, 000 664, 797 1, 517, 800 71, 415, 000 33, 841, 000 415, 200 1, 842, 000 345, 000 821, 000	25, 400 1, 910, 000 594, 010 1, 647, 100 71, 120, 000 36, 008, 000 421, 600 1, 865, 000 366, 000 820, 000	25,000 1,503,000 692,455 1,951,000 74,038,000 33,566,000 487,000 1,132,000 352,000 942,000	25,000 1,757,000 871,676 1,960,000 73,888,000 35,878,000 536,000 1,181,000 275,500 1,082,000	25, 000 1, 108, 000 814, 988 1, 427, 000 74, 401, 000 30, 509, 000 518, 000 1, 214, 000 222, 000 889, 000	25,000 1,251,000 530,247 1,725,000 77,050,000 33,036,000 448,000 986,000 257,000 1,126,000	25,000 2,285,000 732,000 1,762,000 36,229,000 402,000 918,000 492,000 739,000
Grand total	313, 756, 122	<b>331, 994, 4</b> 01	334, 333, 108	345, 825, 567	354, 243, 000	353, 451, 585	347, 636, 147	348, 183, 118	347, 987, 887	350, 507, 730

<sup>&</sup>lt;sup>1</sup> 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.   Wheat   do.   Oats   do.   Barley   do.   Rye   do.   Rye   do.   Buckwheat   do.   Buckwheat   do.   Grain sorghums   do.	728, 223 1, 157, 961 186, 208 37, 568 17, 022 24, 378	2, 994, 793 1, 025, 801 1, 549, 030 228, 851 54, 050 15, 056 28, 947 114, 460	2, 566, 927 636, 318 1, 251, 837 182, 309 48, 862 11, 662 40, 861 53, 858	3, 065, 223 636, 655 1, 592, 740 211, 759 62, 933 16, 022 34, 739 61, 409	2, 502, 665 921, 438 1, 538, 124 256, 225 91, 041 16, 905 38, 606 73, 241	2, 811, 302 967, 979 1, 184, 030 147, 608 75, 483 14, 399 41, 985 130, 734	3, 208, 584 833, 027 1, 496, 281 189, 332 60, 490 13, 142 52, 066 137, 408	3,068,569 814,905 1,078,341 154,946 61,675 14,207 37,612 113,990	2, 890, 712 862, 091 1, 201, 436 186, 118 95, 497 15, 050 41, 965 90, 381	3, 029, 192 781, 737 1, 302, 453 199, 251 64, 774 14, 511 32, 737 103, 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
VEGETABLES.  Potatoesbushels  Sweet potatoesdo Beans (commercial)do Onions (commercial)do Cabbage (commercial)tons.	360,772 57,117	359, 721 75, 639 10, 321 7, 664 671	286, 953 70, 955 10, 715 8, 562 255	442,108 83,822 16,045 12,376 475	411, 860 87, 924 17, 397 19, 336 498	322,867 97,126 13,349 11,398 357	403, 296 103, 925 9, 185 23, 525 982	361, 659 98, 654 9, 150 14, 440 678	451,185 109,534 11,893 19,129 1,117	416, 722 97, 429 14, 936 16, 503 824
Peaches bushels Pears do Apples do Cranberries (3 States) bbls.	11, 184	64, 097 11, 216 230, 011 441	37, 505 11, 874 193, 905 471	48, 765 13, 281 166, 749 249	33, 094 13, 362 169, 625 352	53, 178 15, 006 142, 086 549	45, 620 16, 805 223, 677 449	32, 602 11, 297 99, 002 384	56, 705 18, 661 201, 252 568	45, 555 15, 335 193, 855 619
Flaxseed bushels. Sugar beets tons. Tobacco pounds. All hay tons. Cotton bales. Sorghum sirup galls. Peanuts pounds. Broomcorn tons. Clover seed bushels.	5, 391 991, 958 81, 640 14, 259 14, 974	14, 823	14, 296 6, 228 1,153, 278 110, 992 11, 450 13, 668 919, 028 39 1, 706	9, 164 5, 980 1, 249, 276 98, 439 11, 302 37, 472 1, 432, 581 57 1, 488	13, 369 5, 949 1, 439, 071 91, 139 12, 041 33, 387 1, 240, 102 62 1, 197	7, 256 6, 421 1, 465, 481 104, 760 11, 421 39, 413 783, 273 53 1, 484	10, 774 8, 538 1, 582, 225 105, 315 13, 440 49, 505 841, 474 36 1, 944	8, 029 7, 782 1, 069, 693 97, 770 7, 954 45, 566 829, 307 38 1, 538	11, 668 5, 183 1, 324, 840 112, 791 9, 762 36, 532 623, 507 35 1, 875	19, 343 6, 667 1, 436, 738 102, 914 10, 248 33, 643 647, 589 68 1, 121

<sup>1</sup> Subject to revision in December, 1923.

# $Exports\ of\ domestic\ foodstuffs\ and\ cotton\ from\ the\ United\ States.$

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

Article exported.	Annual								
Armore exported.	average, 1910–1914.	1916	1917	1918	1919	1920	1921	1922	1923
Wheat bushels. Wheat flour barrels. Oats bushels. Rye do Barley do Corn do	56, 913, 228 10, 678, 635 8, 304, 203 854, 765 7, 895, 521 39, 809, 690	173, 274, 015 15, 520, 669 95, 918, 884 14, 532, 437 27, 473, 160 38, 217, 012	149, 831, 427 11, 942, 778 88, 944, 401 13, 260, 015 16, 381, 077 64, 720, 842	34,118,853 21,879,951 105,837,309 11,990,123 26,285,378 40,997,827	178, 582, 673 24, 181, 979 96, 360, 974 27, 540, 188 20, 457, 781 16, 687, 538	122, 430, 724 21, 651, 961 33, 944, 740 37, 463, 285 26, 571, 284 14, 467, 926	293, 267, 637 16, 179, 956 4, 302, 346 45, 735, 052 20, 457, 198 66, 911, 093	208, 321, 091 15, 796, 824 15, 987, 264 29, 683, 602 22, 400, 393 176, 385, 614	154, 950, 971 14, 882, 714 18, 573, 603 51, 411, 550 18, 192, 809 94, 064, 053
Total, 5 cereals and flourpounds	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
Sugardo	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: Butterdo Cheesedo Milk (condensed)do	4,277,955 4,915,502 15,773,900	13,487,481 44,394,301 159,577,620	26, 835, 092 66, 050, 013 259, 141, 231	17, 735, 966 44, 303, 076 528, 759, 232	33,739,960 18,791,553 728,740,509	27, 155, 834 19, 378, 158 710, 533, 270	7, 829, 255 10, 825, 603 266, 506, 031	7,511,997 7,471,452 288,628,298	9, 409, 837 8, 446, 321 159, 956, 707
Total dairy products 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	48,274,929 474,354,914 2 43,571,550	50, 803, 765 231, 214, 000 38, 114, 682 102, 645, 914 15, 426, 221 13, 062, 247 16, 288, 743 9, 610, 732 63, 005, 524 579, 808, 786 282, 208, 611 63, 460, 713 427, 011, 338 34, 426, 539 552, 843, 311	67, 536, 125 197, 177, 101 58, 053, 667 67, 110, 111 5, 651, 267 12, 936, 357 15, 209, 369 5, 896, 126 50, 435, 615 667, 151, 972 266, 556, 581 46, 992, 721 444, 769, 540 17, 576, 240	97, 343, 283 370, 032, 900 54, 467, 910 56, 603, 388 6, 309, 896 10, 360, 030 5, 014, 964 5, 194, 468 21, 390, 288 815, 294, 424 419, 571, 869 33, 221, 502 392, 506, 355 4, 258, 559 4, 258, 559 31, 278, 382	108, 459, 660 332, 205, 176 45, 065, 641 59, 292, 122 18, 570, 400 11, 537, 284 16, 172, 111 5, 273, 329 19, 644, 388 1, 238, 247, 321 667, 240, 022 31, 503, 997 724, 771, 383 17, 395, 888 128, 167, 327	31, 133, 918 153, 560, 647 32, 383, 501 74, 529, 494 20, 952, 180 22, 505, 602 32, 937, 026 32, 237, 026 32, 237, 026 32, 244, 941 41, 643, 119 587, 224, 549 23, 202, 027 44, 195, 842	10, 762, 986 21, 084, 203 22, 312, 856 106, 414, 800 6, 219, 165 19, 177, 311 16, 843, 868 1, 118, 967 57, 075, 446 489, 298, 109 172, 011, 676 33, 286, 662 746, 157, 246 22, 544, 303 42, 155, 971	3, 748, 486 3, 993, 449 26, 774, 124 117, 174, 260 1, 989, 421 32, 560, 766 27, 658, 097 2, 263, 102 25, 911, 193 350, 548, 952 271, 641, 786 33, 510, 146 812, 379, 396 19, 572, 940 36, 328, 178	2, 301, 499 4, 077, 002 24, 185, 263 104, 956, 378 2, 027, 544 70, 767, 939 25, 664, 985 2, 761, 121 43, 501, 610 408, 282, 065 319, 186, 689 40, 933, 756 952, 641, 705 26, 494, 079 11, 139, 730

Sausage, canneddo Sausage, otherdo Sausage, casingsdo	6, 369, 268 33, 644, 928	6, 823, 085 8, 590, 236 14, 708, 893	6, 294, 950 9, 134, 471 6, 118, 060	5, 787, 108 9, 239, 341 6, 173, 578	8,503,580 9,721,925 13,524,093	7, 034, 150 14, 750, 963 24, 379, 414	4, 429, 723 4, 926, 552 29, 894, 681	1, 963, 548 7, 207, 829 27, 768, 795	2,693,636 7,719,026 20,043,425
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 abovelbs	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
Cottondo	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
Tobaccodo	<b>392,</b> 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 totaldo	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

<sup>&</sup>lt;sup>1</sup> 2-year average.

<sup>&</sup>lt;sup>2</sup> 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.

	New.		Reprinted.		New and	d reprinted.
Name series.	Number of titles.	Number of copies.	Number of titles.	Number of copies.	Number of titles.	Number of copies.
Bulletins, circulars, Yearbook, etc.: Farmers' Bulletins. Department bulletins. Department circulars. Secretary's Annual Report. Soil surveys. Yearbooks (1921 and 1922). Bureau bulletins. Bureau circulars. Statistical bulletins. Miscellaneous circulars. Service and regulatory announcements. Miscellaneous. Total.	62 105 57 1 40 2 8 1 1 10 58 132	2, 226, 915 553, 089 874, 720 5, 000 40, 000 40, 472 30, 500 2, 500 69, 000 390, 500 1, 810, 518	574 46 23 8 7 3 6 116 783	84, 500 324, 520	636 151 80 1 40 2 16 8 1 1 3 64 248	21, 649, 398 637, 559 1, 199, 240 40, 000 40, 472 35, 500 13, 000 4, 500 97, 000 406, 500 2, 391, 343
Periodical and information publications: Experiment Station Record Official Record Clip Sheet Weather, Crops, and Markets Journal of Agricultural Research. Separates from Journal of Agricultural Research. Total Grand total.	23 53 51 53 17 44 241	165, 650 833, 200 255, 000 6, 007, 000 34, 000 63, 615 7, 358, 465 13, 406, 179	1 3 786	14,000 1,000 15,000 20,486,828	23 53 51 55 17 45 244	165, 650 833, 200 255, 000 6, 021, 000 34, 000 64, 615 7, 373, 465

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.	В.	1216
Beekeeping in the Tulip Tree Regions	$\mathbf{F}.$	В.	1222
The Insulating Value of Commercial Double-Walled Beehives	D.	С.	222
Birds and Game:			
Game Laws for 1922	F.	В.	1288
Laws Relating to Fur-Bearing Animals, 1922  Beaver Habits, Beaver Control, and Possibilities in Beaver	F.	В.	1293
Beaver Habits, Beaver Control, and Possibilities in Beaver	_		
Farming	D.	В.	1078
Migration Records from Wild Ducks and Other Birds, Banded	•	_	
in the Salt Lake Valley, Utah	р. Б	В.	1140
Silver-Fox Farming	υ.	В.	1191
Annual Report of the Governor of Alaska on the Alaska Game Law, 1921	n	~	995
Directory of Officials and Organizations Concerned with the	υ.	Ο.	ڪٽو.
Protection of Rirds and Game 1999	D	$\mathbf{C}$	949
Protection of Birds and Game, 1922Annual Report of the Governor of Alaska on the Alaska Game	ν.	٠.	414
Law. 1922	D.	C.	260
Law, 1922The Purpose of Bird Censuses and How to Take Them	D.	$\check{\mathbf{C}}$ .	$\frac{261}{261}$
Cotton:			
Cotton Dusting Machinery	F.	В.	1319
One-Variety Cotton Communities	Đ.	B.	1111
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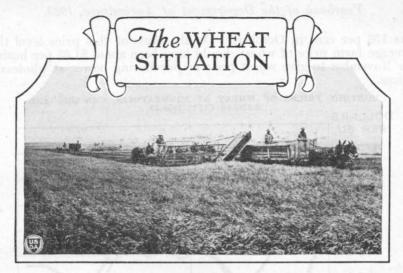
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A REPORT TO THE PRESIDENT BY THE SECRETARY OF AGRICULTURE.<sup>1</sup>

The Price and Purchasing Power of Wheat.

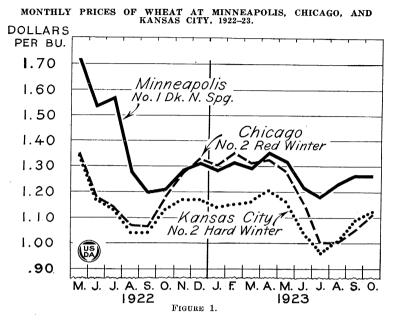
THE farm price of wheat is down nearly to pre-war level and the purchasing power of a bushel is far below. The farm price August 1, for the first time since the beginning of the war, fell below the average for the corresponding month in the period 1909-1913, being 84 cents, compared with 91 cents. Since 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.

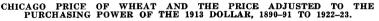
The purchasing power of a bushel of wheat is more significant than the price of wheat. Although the average farm price of November 1 was above the 1909–1913 average for November, it is equivalent to only about 60 cents per bushel in the pre-war period. A suit of clothes which cost the farmer in North 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

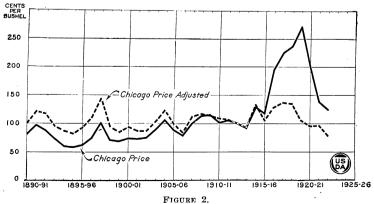
<sup>&</sup>lt;sup>1</sup>This report, prepared by members of the Bureau of Agricultural Economics, was submitted to the President Nov. 30, 1923. The following committee had charge of the study, under the direction of H. C. Taylor: W. A. Schoenfeld, chairman; Nils A. Olsen, executive secretary; O. C. 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.

was 153 per cent in October.<sup>2</sup> On the basis of this price level the average 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





<sup>&</sup>lt;sup>2</sup> 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.

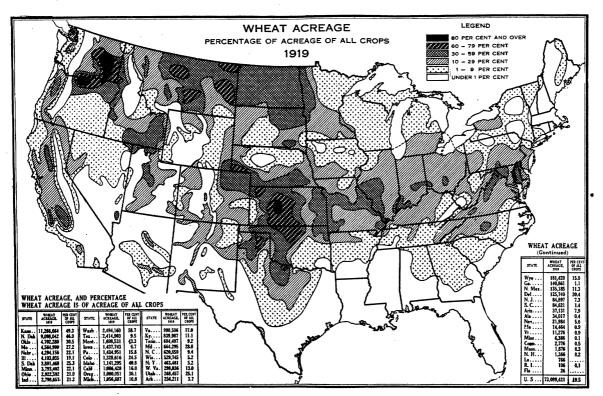
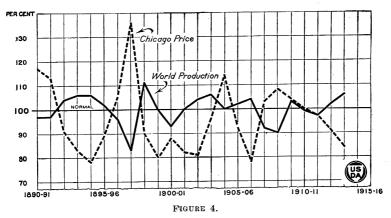


FIGURE 3.

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

# WORLD WHEAT PRODUCTION AND THE CHICAGO PRICE, 1890-91 TO 1913-14.



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. As 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, or 300,000,000 bushels greater than last year and 500,000,000

<sup>&</sup>lt;sup>3</sup> 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.

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



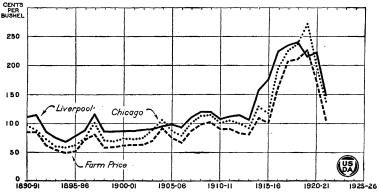


FIGURE 5.

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. 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. 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 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.<sup>4</sup> The import of rye also has failed to make up for the decrease in produc-

tion 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. 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

 $<sup>^4</sup>$  The net imports of European importing countries, 1922–23, preliminary 567,000,000 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 272,000,000, respectively.

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 than 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 but 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 advances 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 seeding are carried out and stocks on farms at the end of the year This is probably a maximum figure and are the same as last year. 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.

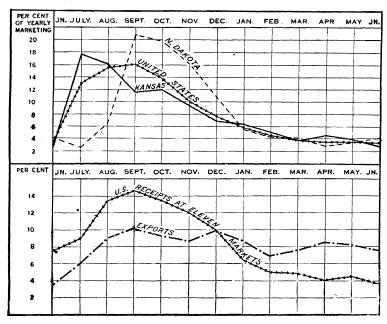


FIGURE 6.

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 bushels.

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

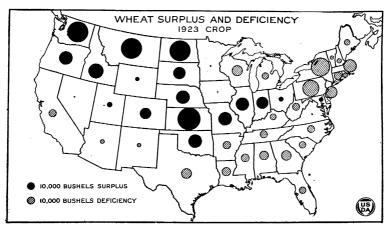


FIGURE 7.

feed in the last five years, 1918–1922, this region could export 92,000,000 bushels in the form of wheat and flour. If the amount fed to livestock in this part of the country is increased by 5,000,000 bushels, the amount available for export would be 87,000,000 bushels, provided the food consumption of wheat is not increased. The production cast 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 without 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

<sup>&</sup>lt;sup>5</sup> 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.

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

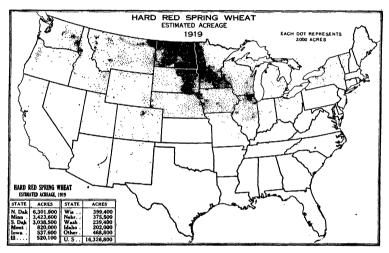


FIGURE 8.

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

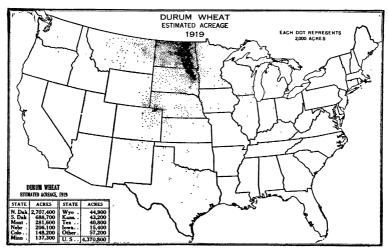


FIGURE 9.

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-

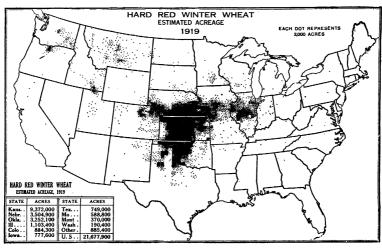


FIGURE 10.

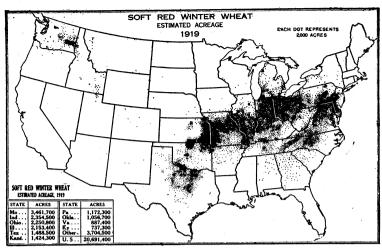


FIGURE 11.

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 ex-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

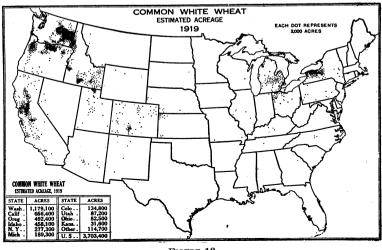


FIGURE 12.

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.

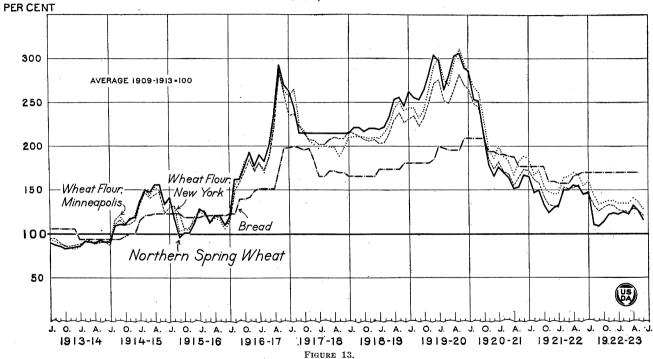
The export of flour also must be taken into account in considering the market for wheat. The exports of flour in the past three years have averaged 15,620,000 barrels, or an equivalent of 70,290,000 bushels of wheat. The exports of flour in four months this year have amounted to 6,000,000 barrels, or 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. considerable amount of flour exported, however, is of the lower 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. 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 1924-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 average 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.			
	To Port Arthur, Ontario.			To Duluth, Min.		Excess, United States over
From Canadian points.	Dis- tance.	Freight rate per bushel.	From Montana points.	Dis- tance.	Freight rate per bushel.	Canada, per bushel.
SASKATCHEWAN.  Maryfield Buchanan Regina Briercrest Dalmeny Conquest	794 854	Cents. 10.8 11.4 12.0 12.0 15.0 15.0	Snowden. Frazer Vandalia. Wagner. Havre. Teton.	Miles. 650 750 797 856 933 1,004	Cents. 18. 0 20. 4 21. 6 22. 5 23. 7 25. 2	Cents. 7.2 9.0 9.6 10.5 8.7 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 transporta-

tion 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.<sup>6</sup>

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.

These combined rates may vary from day to day on account of variations in lake and ocean rates.

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 low-priced 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 It is evident, therefore, that the American wheat in Nebraska. 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 affords 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.



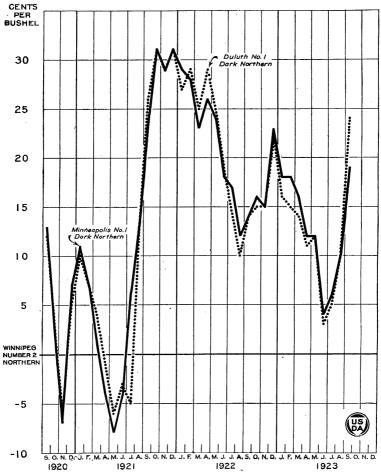
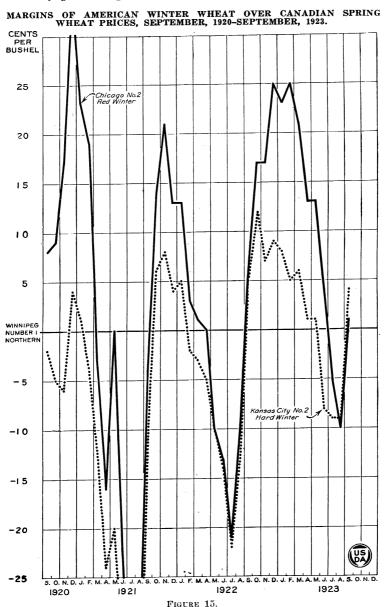


FIGURE 14.

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



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, amounted 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 scaports is not affected by the tariff and should not affect prices in this country. This movement 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 averaged 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

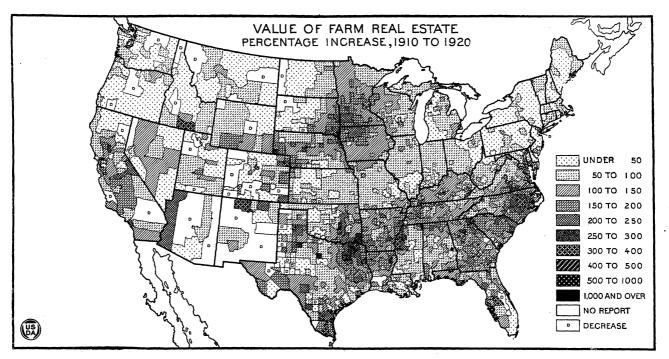


FIGURE 16.

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 owner-operated farm, which in 1910 ranged from \$1,960 to \$2,364 for the

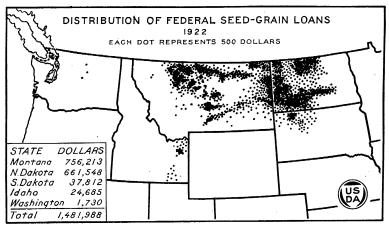


FIGURE 17.

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 difficulties, 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 sev-

eral 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 7.5 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

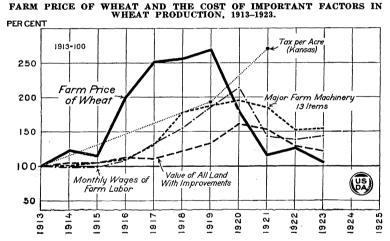


FIGURE 18 .- Data for 1923 as of September 1.

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

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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 1912-1923 the abandonment of seeded acreage has been 37.1 per cent. The yield of wheat in this county during the last twelve years has averaged 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 Mc-Pherson 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 By the use of large machinery and extensive methods be considered. 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 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.

ACREAGE OF WHEAT HARVESTED, ACREAGE ABANDONED, AND YIELD PER PLANTED ACRE IN SEMIARID AND SUBHUMID COUNTIES OF KANSAS, 1912-1923.

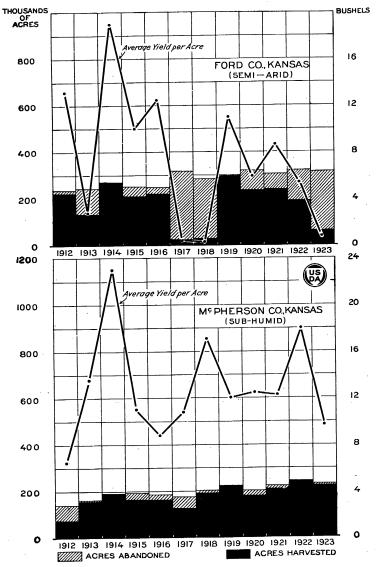


FIGURE 19.

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  $3\frac{1}{4}$  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 transportation agencies bear down heavily upon the wheat grower.

The Department of Agriculture 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 in-

crease 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.

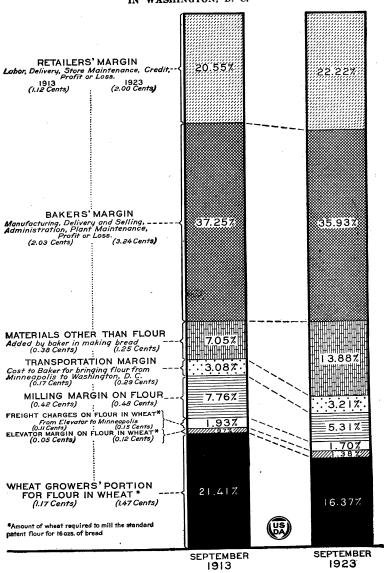


FIGURE 20.—Based on bread formulas for the years 1913 and 1923.

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 Larimore-Minneapolis 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-har-vester 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 The poorer grades usually sell, therefore, at submilling value. stantial 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 equivalent wheat prices based on their relative feeding values.<sup>1</sup>

[Experimental data	, Bureau of Animal Industry.]
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Corn.	Wheat.				Wheat.		
	Poultry and sheep.	Hogs.	Beef cattle.	Corn.	Poultry and sheep.	Hogs.	Beef cattle
Cents. 50 55 60 65 70 75	Cents. 54 59 64 70 75 80	Cents. 56 62 67 73 79 84	Cents. 62 68 74 80 86 92	Cents.  80 85 90 95 100	Cents.  86 91 96 102 107	Cents. 90 96 101 107 112	Cents. 99 106 111 117 123

 $<sup>^{1}</sup>$  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 beef cattle.

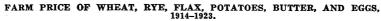
According to these ratios, when corn is 80 cents a bushel on the farm, for example, 86-cent wheat can be fed profitably to all animals, including poultry; 90-cent wheat can be fed to cattle and hogs but not to sheep and poultry; while 99-cent wheat is profitable for beef cattle only. These ratios do not take into account the cost of grind-

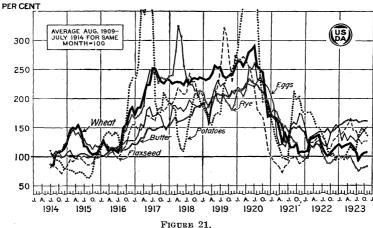
ing the wheat, a necessary measure in feeding it.

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



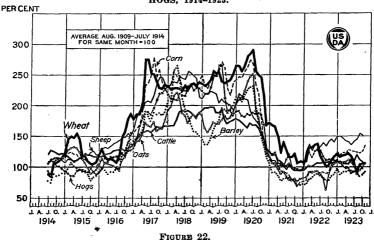


the acreage harvested that year fell to a point slightly below the prewar average.

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.



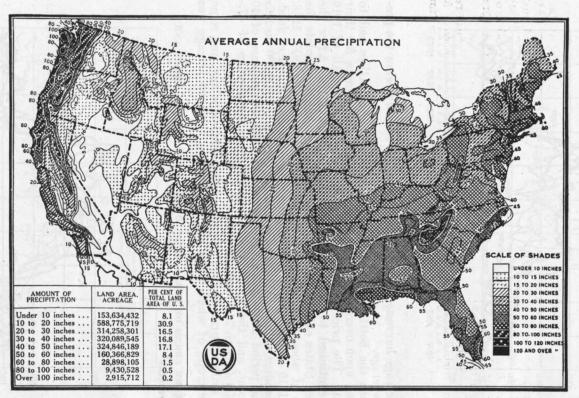


FIGURE 23.

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-

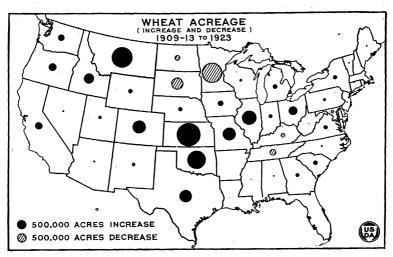


FIGURE 24.

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

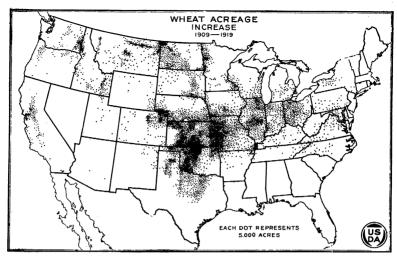


FIGURE 25.

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

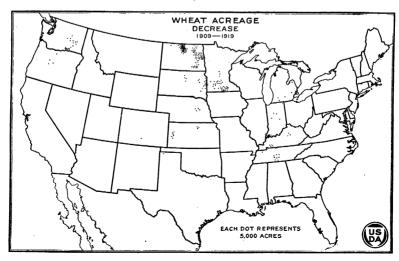


FIGURE 26.

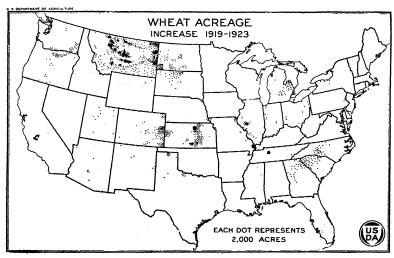


FIGURE 27.

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

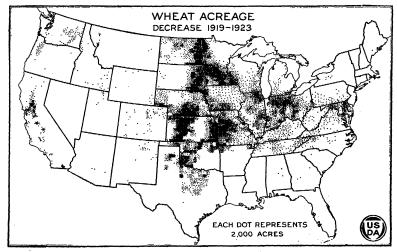


FIGURE 28.

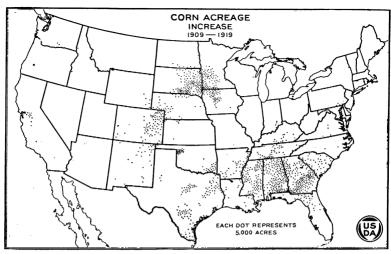


FIGURE 29.

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.

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.

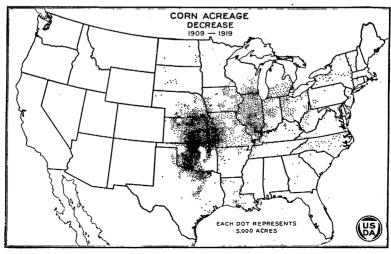


FIGURE 30.

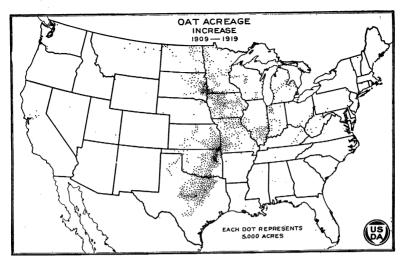


FIGURE 31.

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.

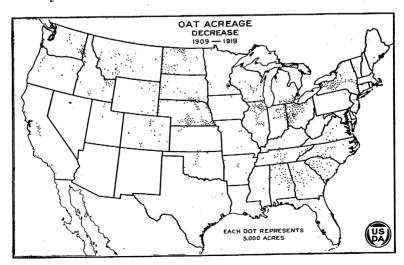


FIGURE 32.

## 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.

INCREASE AND DECREASE IN WHEAT PRODUCTION IN THE UNITED STATES AND PRINCIPAL WHEAT PRODUCING REGIONS, 1909-1913—1023.

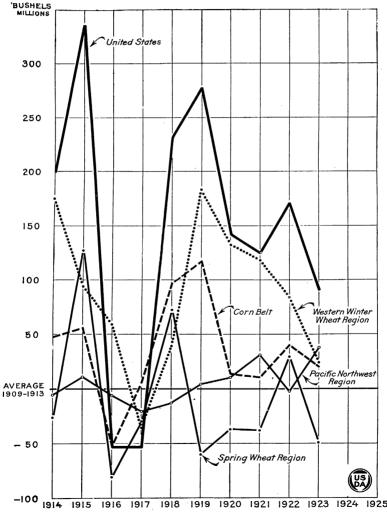


FIGURE 33.—Corn Belt (Ohio, Indiana, Illinois, Iowa, Missouri), western winter wheat region (Kansas, Nehraska, Oklahoma, Texas, Colorado), spring wheat region (Minnesota, North Dakota, South Dakota, Montana), Pacific Northwest region (Idaho, Washington, Oregon).

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.

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN UNITED STATES, 1909-1913-1923.

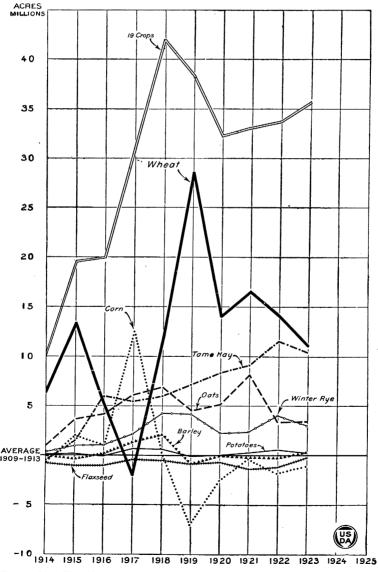
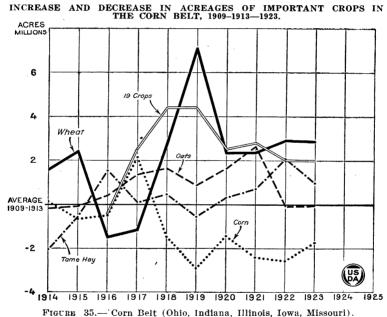


FIGURE 34.—The 19 crops comprise about 95 per cent of total crop acreage in the United States.

85813°--- твк 1923---- 10

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



Total Coll Dail (Cally) Indiana, Illinois, 2011,

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-

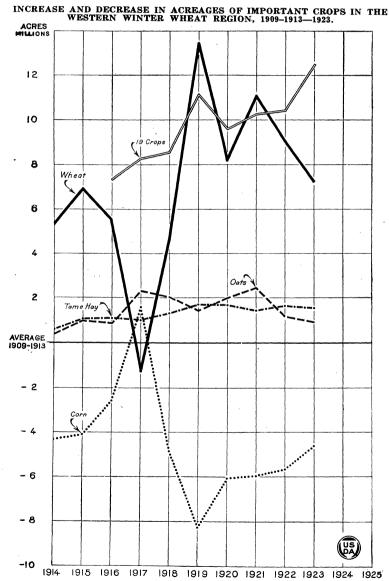


Figure 36.—Western winter wheat region (Kansas, Nebraska, Oklahoma, Texas, Colorado).

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 average 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, however, 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 heavy

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 vear.

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

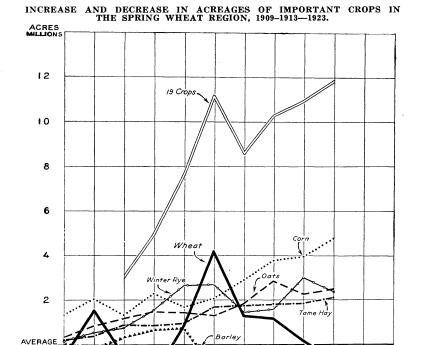


FIGURE 37.—Spring wheat region (Minnesota, North Dakota, South Dakota, Montana).

1919 1920 1921

1922 1923 1924

-2

1915

1916

1917

1918

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.

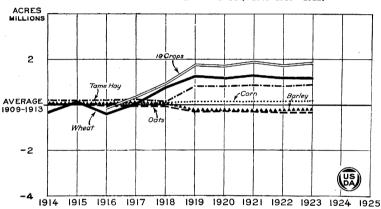


FIGURE 38.—Pacific Northwest region (Idaho, Washington, Oregon).

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 high-priced 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 crop 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.

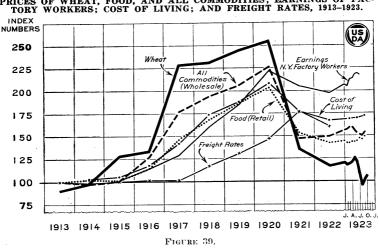
A large number of wheat producers are on the verge of bankruptcy. Many of them are, no doubt, beyond the point where further
credit extensions would benefit them. On the other hand, a larger
number can and should be saved by the renewal of loans or by additional credit on reasonable terms. Where a large 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, easy 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 main-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 serving 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.



PRICES OF WHEAT, FOOD, AND ALL COMMODITIES; EARNINGS OF FACTORY WORKERS; COST OF LIVING; AND FREIGHT RATES, 1913-1923.

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 To meet the emergency a reduction of at least their pre-war level. 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 Commission 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. As 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 man.

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 even 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-of-pocket 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 available 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 gluten 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.

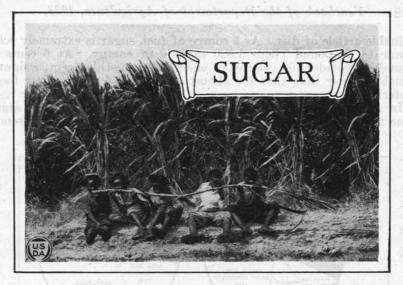
Cooperation among farmers has been suggested as a means of attaining the end sought. While cooperation is to be encouraged as one of the best means of improving marketing methods and reducing marketing costs, as well as of improving the quality of farm products, it does not appear possible, and certainly 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 sale 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 necessarily 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, P. A. Yoder, and S. F. Sherwood, Bureau of Plant Industry; R. S. Washburn, G. B. L. Arner, and O. E. Baker, Bureau of Agricultural Economics; F. C. Stevens, Louisiana College of Agriculture; F. H. CHITTENDEN, Bureau of Entomology, and C. F. LANG-WORTHY, Bureau of Home Economics.

C UGAR 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 11 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

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

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<sup>&</sup>lt;sup>2</sup> 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.

<sup>2</sup> 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 material on soils of the Louisiana sugar-cane district, also of the sugar-beet districts.

<sup>3</sup> P. F. Brookens assisted Doctor Arner in the preparation of the material on price and consumption

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.

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

#### VEGETABLES & LEGUMES POULTRY & EGGS OTHER 27 F0005 POTATOES-FOODS BEEF, PORK. LARD AND MUTTOI BREAD AND CEREAL FOODS & LEGUMES 35% FRUITS 5% MILK AND MUK AND RY PRODUCTS DAIRY PRODUCTS 15% BEEF, PORK, 19% 7% FOODS 22% PERCENTAGE OF PERCENTAGE OF FUEL OR ENERGY MONEY VALUE VALUE AT RETAIL

### 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 cost at retail, including candy, is only about 6 per cent of the total expenditure for food.

TABLE 1.

Food material.	Weight.	Protein.	Fat.	Carbo- hydrates.	Energy.
Meats Fish Dairy products (includes butter). Lard Other animal fats. Eggs.	1.2 24.2 .5 .2	Per cent. 21.9 3.1 17.7	Per cent. 24.6 .8 38.1 6.8 1.7 3.4		Per cent 10.7 .6 17.7 2.2 .3 1.7
Total animal food	35.6	47.9	75.4	4. 9	33. 2
Cereal products Sugar and sirups Vegetables Fruits Vegetable fat Miscellaneous vegetable food	4.7 24.2 12.9 .5	38. 6 10. 4 2. 1 1. 0	6.8 .9 .9 7.6 2.5	53. 0 18. 9 13. 0 9. 5	36. 1 10. 4 8. 7 5. 8 2. 5 1. 3
Total vegetable food	62.3	52.1	18.7	95.1	64.8
Miscellaneous	2.1		5. 9		2.0
Total food	100.0	100.0	100.0	100.0	100.6

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 Pearl's "Our Nation's Food," and of animal products from estimates of United States Department of Agriculture fer 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 dict 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).

# TOTAL AND PER CAPITA CONSUMPTION OF SUGAR, CONTINENTAL UNITED STATES, 1823-1922.

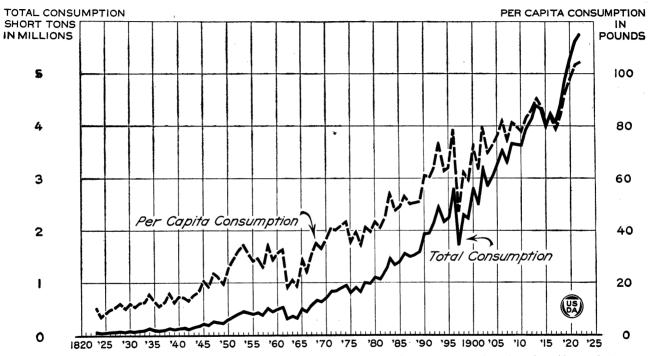


Fig. 2.—The consumption of sugar in the United States has increased during the past century from less than 10 pounds to more than 100 pounds per capita, while the total consumption in the United States has increased from a few thousand tons to more than 500,000 tons.

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 one-fourth 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,

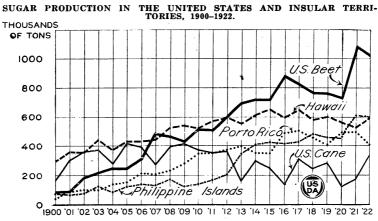


Fig. 3.—The sugar-cane production of Hawaii. Porto Rico, and the Philippines has increased more rapidly than that of Louisiana. The production of each of these insular territories is now greater than the cane sugar production of the continental United States. Likewise, beet-sugar production has increased more rapidly than that of cane sugar in the continental United 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).

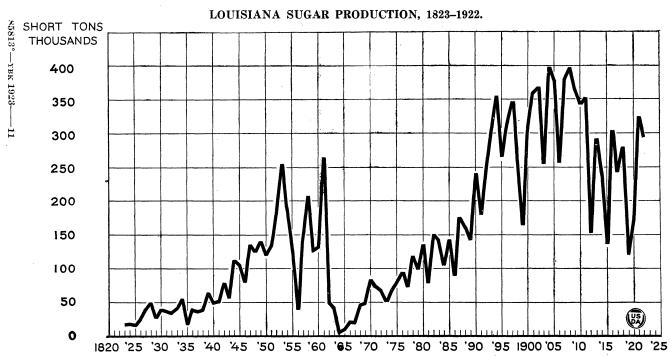


Fig. 4.—The production of cane sugar in Louisiana increased rapidly until the beginning of the Civil War. During the period of the war cane-sugar production in the Southern States was reduced practically to nothing. From that time there was a more or less constant increase in cane-sugar production until 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 BEET	ч.

			Farm cer	ısu <b>s r</b> ej	orts.		St	igar factorie	s reports.	1
States.	Farms report- ing.	Per- cent- age of all farms.	Area har- vested.	Area per farm re-port-ing.	Beets pro- duced.	Yield per acre.	Area har- vested.	Beets sliced.	Sugar pro- duced.	Produc- tion per acre.
California	No. 1,488 7,604 2,760 14,812 1,531 3,684 8,398 3,495 3,439	1. 3 12. 7 6. 6 7. 5 1. 2 1. 4 32. 7 1. 8	Acres. 88, 257 165, 840 37, 334 106, 450 54, 486 33, 561 93, 359 12, 737 44, 410	Acres. 59.3 21.8 13.5 7.2 35.6 9.1 11.1 3.6 12.9	Tons. 666, 866 1, 658, 167 260, 309 1, 025, 550 554, 646 365, 415 930, 427 136, 208 395, 821	Tons. 7. 56 10. 00 6. 97 9. 63 10. 18 10. 89 9. 97 10. 69 8. 91	Acres. 107,000 183,000 30,000 123,000 59,000 31,000 103,000 12,000 44,000	Short tons. 805,000 1,656,000 197,000 1,032,000 554,000 292,000 908,000 106,000 338,000	Short tons. 131,000 194,000 26,000 130,000 61,000 32,000 101,000 11,000 40,000	Lbs. 2, 440 2, 120 1, 740 2, 120 2, 060 2, 060 1, 840 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 report- ing.	Per cent- age of all farms.	Area har- vested.	Area per farm re-porting.	Quantity of cane produced.	Yield per acre.	Quantity of sugar produced.	Sugar pro- duced a ver- age per acre.	Quantity of sirup produced.	Sirup pro- duced aver- age per acre.
	No.		Acres.	Acres.	Tons.	Tons.	Tons.	Lbs.	Gallons.	Gals.
Alabama	56,604	22. 1	25, 302	0.45	208, 342	8. 23			3, 235, 231	128
Arizona	11	.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	1		7,052,984	170
Louisiana	36, 421	26.9	<sup>2</sup> 234, 049	6.42	<sup>2</sup> 2, 435, 683	10.41	2121,000	l <b></b>	1,899,423	
22 sugar-produc-	<b>'</b>		1 ′		1 ' '		l ′		′ ′	
ing parishes	12,296	31, 1	3 221, 204	18.00	<sup>3</sup> 2, 325, 004	10.50	121,000	41,340	326, 474	
Other parishes	24, 125	25. 1	12,845	. 53	111,679	8.69	l <del>.</del>	<del>.</del>	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	2 124, 493	6.76	1,125		1,631,459	89
			l							
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		94.02	4,862,707	39.48	556, 343	9,034		
Porto Rico	8, 839	21.5		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	<b></b>	
Philippine Islands			598, 424				562, 362	1,880		
			1	1	1		l			

<sup>&</sup>lt;sup>1</sup>These figures are from reports of sugar factories received by United States Department of Agriculture. 
<sup>2</sup>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. 
<sup>3</sup>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. 
<sup>4</sup>Shure produced her serve frequenced for more a Section to No. 2.

<sup>4</sup> Sugar produced per acre of cane used for sugar. See footnote No. 2. 5 Short tons.

<sup>6</sup> Virgin Islands census of 1917.

<sup>7 21</sup>st Annual Report, Philippine Bureau of Agriculture, 1922.

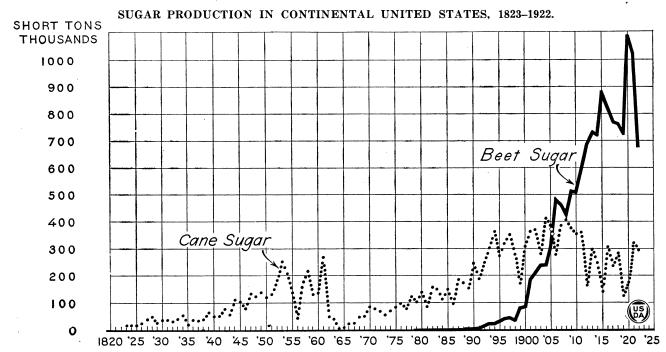


Fig. 5.—Cane-sugar production in the United States, which began near the close of the eighteenth century, has continued with many ups and downs until the present time. In 1879 beet-sugar production became established in the United States on a commercial scale and now far exceeds cane sugar in importance.

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.

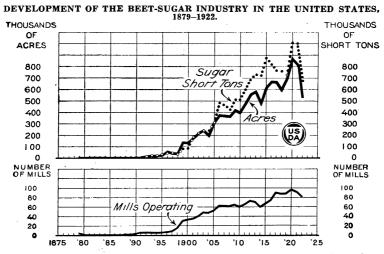


Fig. 6.—The development of the beet-sugar industry in the United States has been rapid since its establishment in 1879. The production has increased more rapidly than the acreage, and both more rapidly than the number of factories.

# 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

*Sugar.* 159

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 sunshine, 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

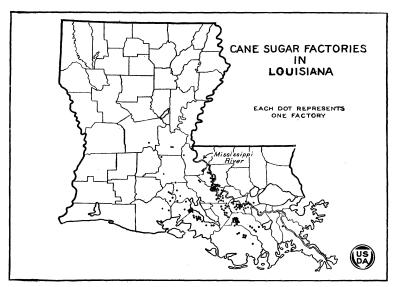


Fig. 7.—Cane-sugar production in the United States is confined almost entirely to the subtropical Mississippi Delta district of southern Louisiana. A small amount of sugar is produced annually in Texas, and three sugar-cane mills have been erected in Florida.

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° 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° or 27° 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-

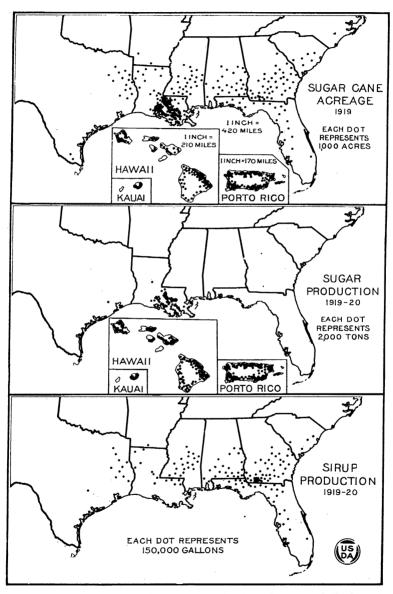


Fig. 8.—Sugar cane is grown in eight of the Southern States, much the largest acreage being Louisiana, with Georgia, Alabama, Mississippi, Florida, and Texas following in the order named. Of the cane sugar produced in this country over 95 per cent is made in Louisiana. The balance of the cane grown in the Southern States is used almost exclusively for sirup production. (Maps of Hawaii 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 more 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 must 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

*Sugar.* 163

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 vet 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 officinarum 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" The Cayana-10, grown in Georgia and Florida, is of the The Chinese canes are, as a rule, slow maturing and Chinese type. 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 large-stalk varieties and only a moderately large item for the Chinese varieties. However, the harvesting 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.

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 covered per day and the man and mule labor required per acre.<sup>1</sup>

			Acre	s per	)	Da <b>y</b> s p	er acre	
Operation.	Men.	Mules.	40.	on—	Clay	soil.	Sand	y soil.
•			Clay.	Sand.	Man.	Mule.	Man.	Mule.
Cap off. Mold, 4-furrow Harrow Plow drains. Shovel drains.	1 1	4 2 2 2 2	9 2 8 10 10	10 2.5 10 12 12 12	0. 22 . 50 . 12 . 10 . 10	0. 44 1. 00 . 25 . 20	0. 20 . 40 . 10 . 08 . 08	0.40 .80 .20 .17
Total man and mule labor, in days per acre					1.04	1.89	. 86	1.57

<sup>1</sup> Average, man 0.95 day; mule 1.73 days per acre.

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 offset 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 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 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.

Operation.	Cr	Crew.		Acres per		Days per - acre.		l days acre.
· Promise	Men.1	Mules.	per day.	đay.	Man.	Mule.	Man.	Mule.
Harvesting seed cane:								
Strip and cut	3		10	0.83	3,60	<b>.</b>	2 3, 60	l
Transporting seed cane:	•							
Load and haul	4	4	10	.83	4.80	4.80	4.80	4.80
Planting operations:		Ì						
Open row (2 times to row)	1	2		5	. 20	. 40		
Open row (1 time to row)	1	2		10	.10	. 20		
Lav and whack	4		10	2.5	1.60			
Cover (4 times to row)	1	2		2.5	.40	. 80		
Roll	1	3		24	.04	.13		
Plow and shovel drains	2	. 2		12	.17	.17		
Water boy	1	1	•	3.3	.30	. 30	2.81	2.0
Total per acre—3 groups o foperations							11.21	6.80

<sup>1</sup> 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.

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.	Cr	Crew.		Acres		rs per ere.		l days acre.
	Men.1	Mules.	per day.	day.	Man.	Mule.	Man.	Mule
Harvesting seed cane: Cut and lay in windrows Storage operations:	3		15	1. 25	2. 40		2 2. 40	
Cover (2 times to row)	1	2 2		5 5 12	. 20 . 20 . 17	0.40		
Remove soil cover Pull canes with monkey Shuck cut. Load and haul	1	2 1 4	8 8 8	5 .75 .75	. 20 1. 33 2. 67 5. 33	. 40 1, 33 	10, 10	
Planting operations: Open row (2 times to row). Open row (1 time to row). Lay and whack	1 1 4	$\begin{bmatrix} 2\\2 \end{bmatrix}$	8	5 10 2	. 20 . 10 2. 00	. 40		
Cover (4 times to row) Plow and shovel drains Water boy	1	2 2 1		2. 50 12 3. 3	. 40 . 17 . 30	. 80 . 17 . 30	3. 17	
Total days per acre—3 groups of operations							15.67	9. 5

<sup>&</sup>lt;sup>1</sup> The terms "men" and "man" are used in showing labor requirements as a composite including men, women, and children.

<sup>2</sup> This labor is charged to the crop furnishing the seed. It is shown here as a part of the labor actually

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.

### 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.

Table 6.—The size of crews, and duty of the crews, necessary in cultivating a crop of spring or fall planted cane.

	Times	Cr	ew.	Acres	Days p	er acre.
Operation.	done.	Men.	Mules.	per day.	Man.	Mule
Bar off (2 times to row)	2	1	2	5	0.40	0. 80
Drains:	,	١,	2	10		
Plow			_ Z	12 12	.08	. 17
Shovel		1		12	4,00	
Hoe and scrape	1	*	2	10	.10	
Re-bar off (2 times to row).	1	1 1	1 5	5	. 10	. 20
Shovel drains	1	1	1 -	10	.10	. 40
Mold (2 times to row)	2	1		5	.60	1, 20
List middles	1	1	1 5	10	.10	. 20
Hoe and grass out.	î	1 1		ΙÝ	4.00	. 20
Drains:				1	4.00	
Plow	1	1	2	10	.10	. 20
Shovel	•	î	1 -	10	.10	. 20
Cultivate:		1		10	• 10	
	5	1	2	8	.62	1. 25
Disk (1 time to row)	2	î	1 5	l š	.25	. 50
Shovel drains	5	î	_	12	. 42	
Plow middles (3 times to row)	ĭl	2	2	21	. 80	. 80
Plug drains 1 cent per row, \$1 acre, contract						
Total days of cultivation labor on plant cane					12. 04	5. 72

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 addition to those for planted cane.

Operation.	Times	Cre	эw.	Acres	Days per acre.		
· · · · · · · · · · · · · · · · · · ·	done.	Men .	Mules.	day.	Man.	Mule.	
Shave stubble (1 time to row)	1 1	1 1 1	2 2	6 10 12	0.17 .10 .08 12.04	0.33 .20 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 en-

riched 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 Although 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 hav 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 fertilizer when the rates of application are 400 to 600 pounds, per acre, respectively.

	Cr	ew.	Acres per day.		Days per acre.			
Operation.			At	A t		001bs.	At 600 lbs.	
	Men.	Mules.	4001bs.	$^{ m At}_{ m 6001bs}$ .	Man.	Mule.	Man.	Mule.
Haul to farm, 4 tons a day Mix and sack, 5.7 tons a day Haul to field Distribute	2	2 2 8	20 28 50 50	13½ 19 50 50	0.10 .07 .02 .08	0.10 .04 .16	0.15 .10 .02 .08	0, 15 . 04 . 16
Total labor, all distributed at one time. Total if put out in two applications					. 27	.30	.35	. 35 . 55

### 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 vary 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

•			Lab	or re-	Labor requirements per ton.				
Operation.	Cr	ew.	quirements per acre.		With yield of 12 tons per acre.		With yield of 17 tons per acre.		
	Men.	Mules.	Man days.	Mule days.	Man days.	Mule days.	Man days.	Mule days.	
Strip, top, and cut		12	7. 17 1. 14 1. 14	4. 56	0.60 .09	37	0.42 .07	0.27	
Hoist and weigh <sup>3</sup>	3 1	1	1.14	.38	.09	.03	.07	. 02	
All operations	29	14	10. 97	5. 32	. 90	. 43	. 65	. 31	

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.
 Mechanical loaders are now used on many of the larger plantations.

Weigher, driver, and forkman.

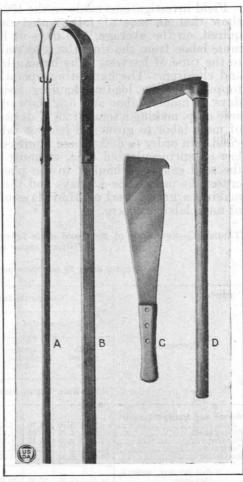
### Character of Implements and Labor Employed.

In the production of cane in Louisiana many special implements are used, including extra large plows and middle-breakers, high double cultivators, stubble shavers, and stubble diggers, and, on some plantations, mechanical loaders. Special hand tools of inexpensive de-

tations, mechanical loaders. sign 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-

Storage, and transporting seed

cane

Labor per acre, unfertil-

ized cane.....

Harvesting.....

Fitting land...

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-peracre 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 vield. 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.

Operation.		Cane for the factory.						Cane for seed.			
		17 tons j	per acre		12 1	ons	17 tons		12 tons		
	plan	all- nted ne.	plar	ing- nted ne.	stu	acre bble ne.	pla	acre int- ie. <sup>1</sup>	per : stuk ca:	ble	
	Man.	Mule.	Man.	Mule.	Man.	Mule.	Man.	Mule.	Man.	Mule.	

10.10

. 95 3. 17

12 04

10, 97

4.80

. 95 2. 81

12.04

10.97

31, 57

4.80 1.73 2.00

5.72

5, 32

[Days of labor shown for cane harvested for the mill and for seed.]

	19.57	37. 23	22. 27	23, 36	11. 57
г	Additio	n for fer	tilized o	ene l	

7.63

1. 73 1. 87

5.72 5.32

12.39

10. 97

6. 21 1. 73 1. 94

5.72

15, 60

12.39

20, 79

6. 25

4. 80

11.05

7.45

. 95 2. 99

12.04

26.43

6. 25 5. 32

11.57

Labor per acre, unfertilized cane Applying fertilizer	31.57 .45	19. 57 . 55	37. 23 . 45	22. 27 . 55	23. 36 . 45	11. 57 . 55	26. 43 . 45	15.60 .55	20. 79 . 45	11. 05 . 55
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

<sup>1</sup> 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.

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.

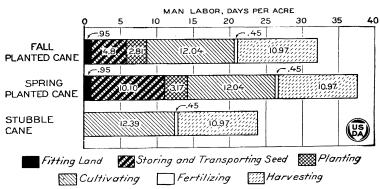


Fig. 11.—The production of spring-planted cane required over 5 days more man labor than fall-planted cane, and stubble cane about 8 days less labor. It required almost twice as much labor to store, transplant, and plant spring cane as it did fall cane. Stubble cane required a little more labor for cultivation 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 11.—Showing the prevailing plantation rates for labor through a series of years, grouped as to class and season.1

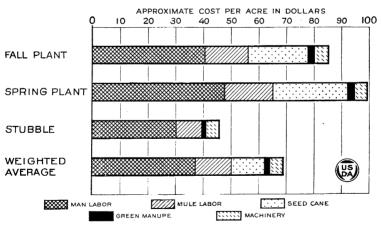
Year.	Du	ring grindi	ng.	Before and after grinding.			
	Men.	Women.	Drivers.	Men.	Women.	Drivers.	
1916. 1917. 1918. 1918.	\$1.25 1.25 2.25	\$1.00 1.15 1.75	\$1.50 1.50 2.50	\$0.80 .90 21.00 31.25	\$0.60 .70 2.70 3.80	\$0.90 1.10 21.40 81.50	
1919. 1920.	2.25	1.75	2.50	1.25 2 1.40	.90 2 1 .00	1.50 21.6	
1920. 1920.	2.25	1.75	2.50	11.50 51.75	4 1.10 5 1.25	4 1.75 5 2.00	
1921 1922	$\begin{array}{c} 1.25 \\ 1.25 \end{array}$	1.00 1.00	1.50 1.50	1.00	.80 .80	1.28 1.28	

Perquisites granted laborers not included.
 January to April.
 April 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.



13.—The cost of producing an acre of sugar cane is high compared with other field crops. The large amount of hand labor required 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

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

April to May. 5 May to time of grinding.

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 office 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 harvesting for the factory, 1 acre of sugar cane on individual plantations in Louisiana, 1922.

Item.	Fall plant.	Spring plant.	Stubble.	Weighted average
. 1	ļ			
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	<u></u>	12.15
Green manure—peas	2.43	2.43	1.42	1.92
Machinery	4.96	4.96	4,96	4.96
Total—unfertilized	, ,	99.75	45.84	69.13
Fertilizer	4.34	4, 34	6, 17	5, 26
Man labor for fertilizing	. 56	. 56	. 56	. 53
Mule labor for fertilizing	.44	. 44	. 44	. 44
Total—fertilized	90.45	105.09	53.01	75.39
A verage yield—tons	17	17	12	14, 5
Cost per ton	\$5,32	<b>\$6.18</b>	\$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. tion 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 one-tenth 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

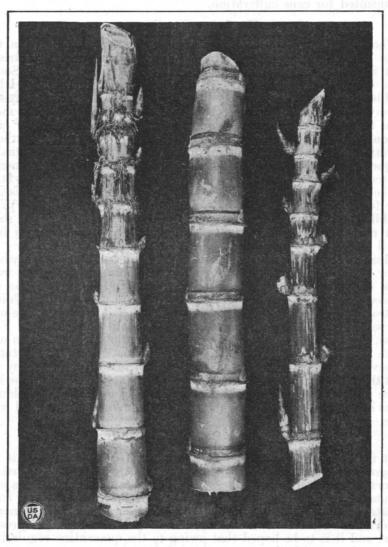
ours.

## 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 VARIETY OF SUGAR CANE.

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, 1½ 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. 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 leaves, 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. eral 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 Cane.

The primary insect pest of sugar cane in the United States is the sugar cane moth borer (Diatraea saccharalis crambidoides). 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.

Pig. 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° 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.

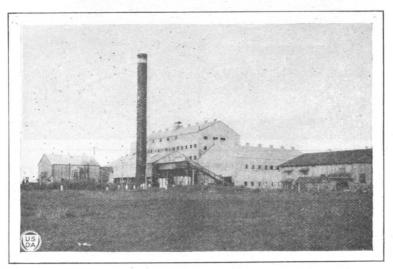
The sugar cane mealybug (Pseudococcus calciolariae) has a wide distribution in the United States, being particularly abundant in the important sugar-growing parishes of Lou-

isiana 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° 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.

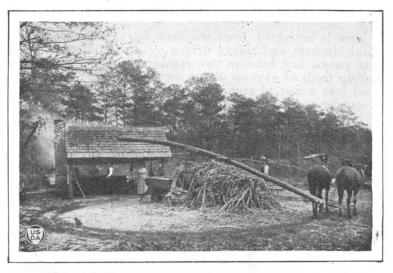
Fig. 16.—The development of the modern cane mill has kept pace with the most progressive of industrial enterprises. The efficiency and capacity of these mills have been greatly increased in recent times.

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° 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 clarified 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 re-

peated 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° 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 "By-

products 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° F. Figure 18 shows the belt in which the mean summer temperature is between 67° and 72° 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.

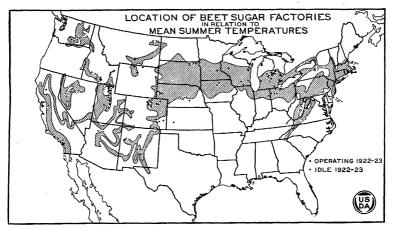


Fig. 18.—Sugar beets thrive best in localities where the temperature during the summer (average of June, July, and August) does not vary greatly from 70° F. Nearly all of the beet-sugar factories in the United States are located between the isotherms of 67 and 72° F. summer temperature. Owing to great 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 be selected 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 avoid 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

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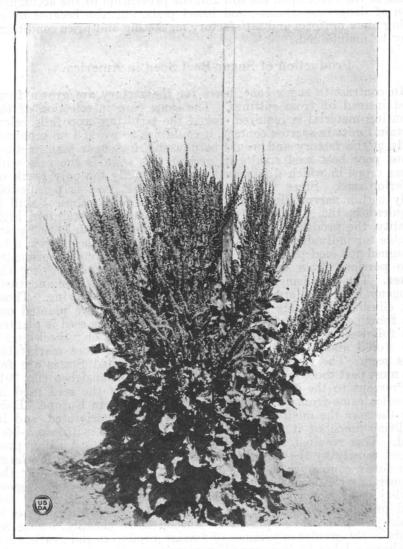
beets necessary to operate a beet-sugar mill. Just as it is unwise to grow sugar beets after sugar beets for a long series of years, it is also unwise to grow continuously any one of the competing crops. Among the crops that most strongly compete with sugar beets under present conditions are beans, potatoes, 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 America.

In contrast to sugar cane, beets for the factory 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 The promising beets are then stored over winter and their progeny from seed are analyzed the second year following. 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-

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 beet 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 beets are severely injured by cutting out beets when cultivating, and

# SUGAR-BEET SEED PRODUCTION, CONSUMPTION, AND IMPORTATION, 1911-1922.

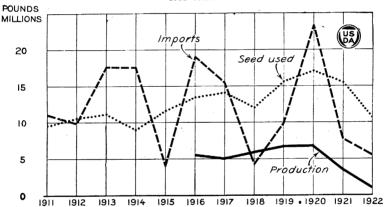
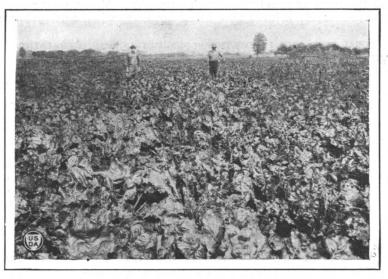


Fig. 20.—The quantity of sugar-beet seed used in the United States has increased with the increased acreage of beets planted. Until the outbreak of the World War practically all sugar-beet seed used in this country was imported from Europe. With the outbreak of the war, sugar-beet seed production was 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 one 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-Beet Diseases.

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 develop-

ment of such a strain.

Root rot, produced by a fungus known as Phoma, is found more or less generally distributed over the entire sugar-beet 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. It 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-Beet 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 beet 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 "curly-top" 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 over 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

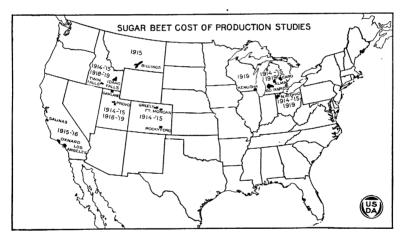


Fig. 22.—Location of areas where cost studies of sugar-beet production have been made. These areas include most of the typical sugar-beet districts of the United States.

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

<sup>&</sup>lt;sup>5</sup> 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 Beets in Utah and Idaho, 1918–19; 917, Farm Practice in Growing Field Crops in Three Sugar-Beet Districts of Colorado.

#### 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 horse-hour 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

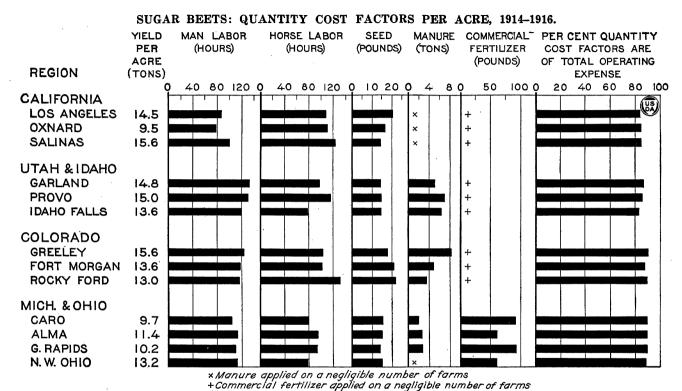


Fig. 23.—Differences in yields and in the practices of growing and handling the crop caused considerable regional variation in the hours of man and horse labor required, and in amounts of seed, manure, and commercial fertilizer used. In the Western States no commercial fertilizer was used, and in California 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, 1914-1916.

. Region.	Yield per acre.	Man labor.	Horse labor.	Seed.	Manure.	Com- mercial fer- tilizer. <sup>2</sup>	Percent- age quantity cost factors are of total oper- ating ex- pense.3
California:	Tons.	Hours.	Hours.	Pounds.	Tons.	Pounds.	Per cent.
Los Angeles	14.5	87.7	109.3	20. 7		(4)	84
Oxnard	9. 5	79.5	111.5	16.6	(1) (1) (1)	(+)	85
Salinas	15.6	101.2	124.3	14.6	1 86	(+)	85
Utah and Idaho:	10.0	202.2	121.0		( )	\ /	
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) (4)	83
Colorado:	10.0	110.1					
Greeley	15.6	123.9	104.5	18.0	8.3	(4)	91
Fort Morgan	13.6	118.1	103.0	21. 1	4.4	(4) (4) (4)	88
Rocky Ford	13.0	117.3	132.7	$\frac{51.7}{21.7}$	3.6	745	90
Michigan:	10.0	*****	102.1		0.0	( )	
Caro	9.7	105, 5	80.0	15.6	2.0	92	90
Alma		114.8	95.3	15.3	2.7	62	90
Grand Rapids.	10. 2	111.3	93.8	14.2	2.8	94	90
Grand Rapids Northwestern Ohio	13. 2	113.4	79. 1	15. 2	(1)	61	89
	10.2	-10.1		10.2	\ '		, "

used over the entire heet acreage.

<sup>3</sup> Operating expense includes all items of cost except use of land.

<sup>4</sup> Commercial fertilizers were not used in these States in growing sugar beets.

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 average 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.

<sup>&</sup>lt;sup>1</sup> Manure applied on a negligible number of farms.
<sup>2</sup> The quantities of require and commercial fertilizer shown are the result of prorating the total amount

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

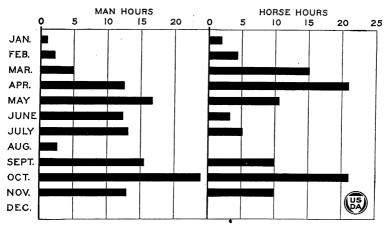


Fig. 24.—The heaviest requirements for man labor in the production of the beet crop occur in May and October, during the thinning and harvesting periods; the "peak loads" for horse labor are in April and October at the seeding and harvesting season. Much of the man labor required in these operations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

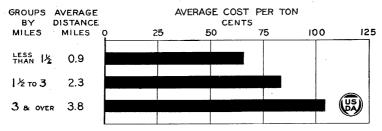


Fig. 25.—The labor cost of delivering sugar beets to the sugar factory or loading station depends largely upon the distance hauled. In Utah and Idaho, in 1918, the cost increased about 13 cents per ton for each mile after the first mile.

Table 14.—Computed cost of producing sugar beets, 1922.

Item.		California—Oxnard district.			Colorado—Greeley district.			Michigan—Caro		
	Amount	Rate.	Cost	Amount	Rate.	Cost	Amount	Rate.	C	

ost. per acre. 19.5 \$0.30 \$5, 85 44.2 \$0.25 \$11.05 38.5 \$0,25 \$9.62 Man labor (hours) 1 . . Contract hand labor 18.30 18.00 18, 50 107.1 93. 7 78, 2 13. 29 Horse labor (hours) 1..... 13.39 14.06 . 15 \$32 T. 2.34 Seed (pounds)... 16.6 . 15 2.49 18.0 .20 3.60 15.6 92. 0 3. 0 1.47 Commercial fertilizer (pounds)... 8.0 . 90 Manure (tons)..... .65 5. 20 2.70 40.03 51.91 47.92 Per cent these items were of total 90 operating expense, 1915... 85 Total operating expense per cent) 53. 24 47.09 57.04 21.00 \$125 Use of land... \$300 \$180 7% 12,60 6% 7.50 7%60, 74 69,64 Total cost per acre... 68.09 Yield per acre (tons), 1922. 6.79 6.75 8, 51 Total cost per ton . .

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.

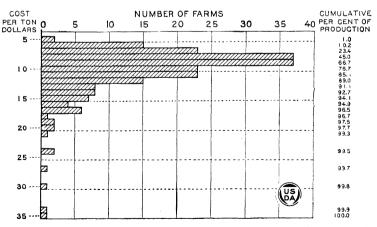


Fig. 26.—The largest number of farmers in these districts produced beets in 1918 at a cost of \$9 and \$10 per ton, but two farmers produced at a cost of \$5 per ton, while one farmer had a cost of \$35. Yield per acre was the principal factor which enabled some growers to produce at a cost materially 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.

<sup>&</sup>lt;sup>1</sup> Adjustments of man and horse-hour requirements were made on the basis of yield.

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. DOLLARS PER ACRE 280 280

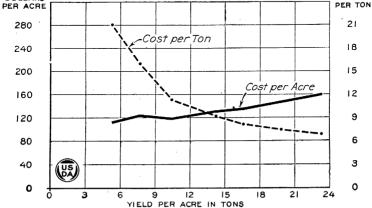


Fig. 27.—The farmers with the highest yield per acre produced beets at the lowest cost per ton. As the yields increased the cost per acre increased, but the cost per ton decreased at a much faster rate. The cost groups indicate that in these years the methods of production were not sufficiently intensive 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 growers, 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 sugar-beet 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 universal 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.

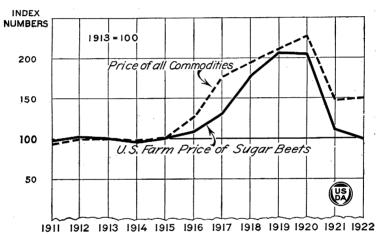


FIG. 28.—The price of sugar beets in 1922 was slightly below the price in 1913, whereas the average price of all commodities was nearly 50 per cent above the 1913 price. Consequently, the purchasing power of a ton of beets in 1922 was only about two-thirds of its purchasing power in 1913. This was the 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.

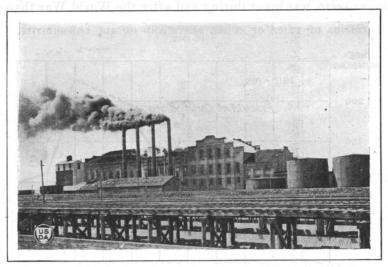
## Manufacture of Sugar From Beets.

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

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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. PURITY SUGAR EXTRACTED COEFFICIENT % OF WEIGHT ۱6 85 Purity Coef. 84 15 14 83 13 82 Extraction 12

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

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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

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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 yield 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.

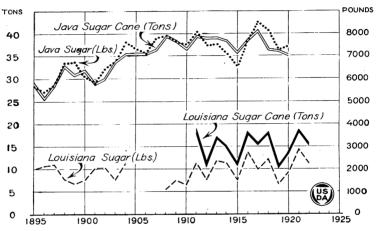


Fig. 31.—The gradual increase in yield of cane and sugar per acre in Java is owing largely to adoption of superior varieties evolved by experiment stations and nurserymen. Practically all of the sugar produced by Java to-day is made from hybrid seedling varieties.

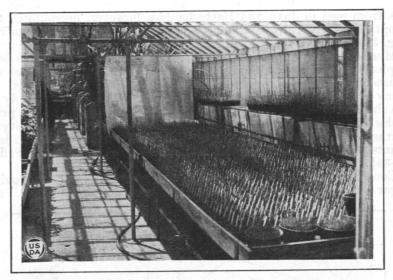
acre on account of the small size and weak stooling properties of the plants. The habit of growth of sugar cane, such as prolific stooling and early shading of the ground or "closing of the rows," results in a reduction of expense in cultivating. Erect growth, freedom from irritating bristles in the leaf sheath, and ease in removal of the leaves or "trash" are characteristics that facilitate harvesting.

In the case of sugar beets, 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 points, together with many others, must be taken into account by the sugar-plant breeder.

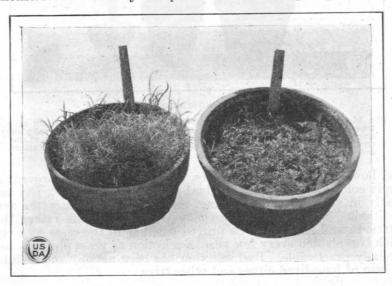
Sugar beets being grown commercially from seed, the desirable strains as described in the discussion of beet-seed production are bred by selection of pure lines rich in sucrose. The flowers are open-fertile and failure to select the desirable strains would soon lead to deterioration in subsequent generations.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

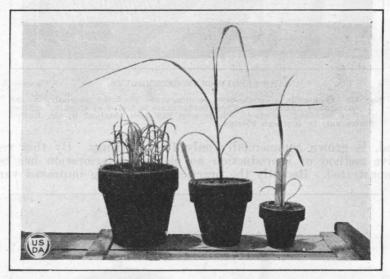
Fig. 33.—The minute seeds from cane which has "arrowed" is sown on sterilized soil in flats or pots. The amount of germination varies greatly with different varieties. Some varieties are quite sterile. The seedlings at the left are hybrids resulting from the crossing of a standard variety with a variety 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

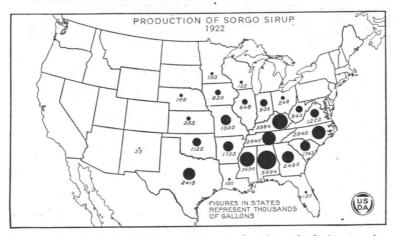


Fig. 36.—The production of commercial sorgo sirup is confined almost exclusively to the Southeastern and South Central States. Large quantities of sorgo sirup are produced for home consumption, however, as far north as Wisconsin and Minnesota. The map shows total production of sorgo sirup in the more 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.

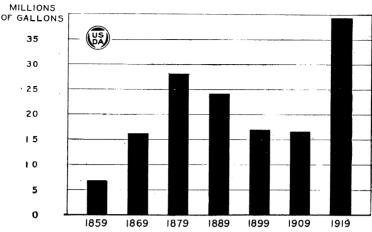


Fig. 37.—The production of sorgo was stimulated in the late seventies and the early eighties by the hope that sugar could be made from this plant. From that period the production of sorgo sirup declined until just previous to the World War, when less than 15,000,000 gallons were produced annually. With 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 gallons, 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

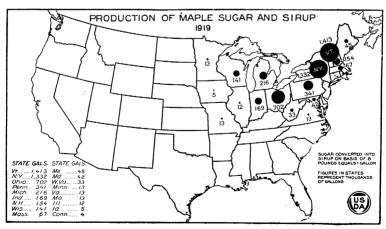
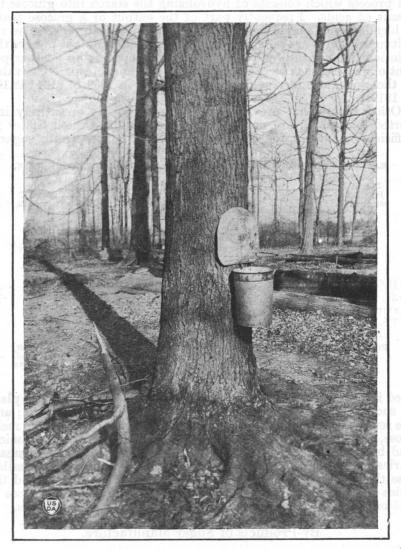


Fig. 38.—Maple sugar and sirup are produced in 23 States; but 13 States, located in the northeastern quarter of the United States, produce 95 per cent, and 3 States (Vermont, New York, and Ohio) produce over 70 per cent. No maple sugar or sirup is made outside of the United States and Canada. The production 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 fore-ground 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.

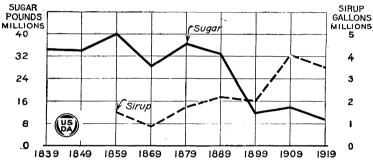


Fig. 40.—The production of maple sugar has decreased greatly since 1889, while the production of sirup has increased considerably during that period. The production of maple sugar and sirup is dependent upon the season, as well as upon the number of trees tapped.

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

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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.

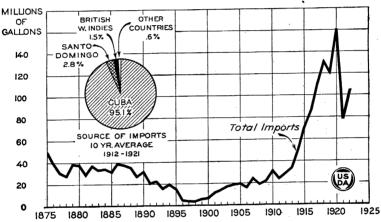


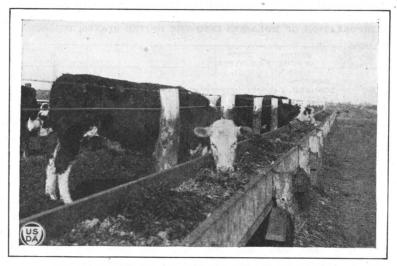
Fig. 41.—Considerable molasses was imported into the United States, mostly for human consumption, as early as 1875, but the imports decreased to almost nothing in the late nineties. During the past 10 years the importations have very greatly increased. These imports, however, are mostly black-strap molasses, 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.

Sugar. 213

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, 8,500 000 tons, or 46 per cent was beet sugar. In the five years since

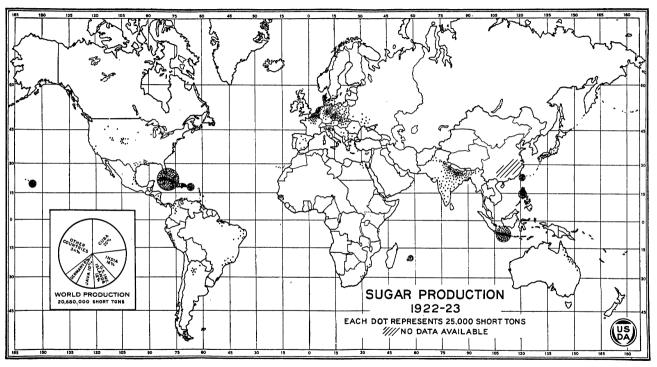


Fig. 43.—The production of sugar is widespread throughout the world. Cane sugar is produced in tropical and subtropical zones and beet sugar in temperate latitudes as far north as Sweden. Since the beginning of the World War sugar production has increased most rapidly in tropical countries, particularly in Cuba. Over one-fifth of the world's sugar is produced in Cuba. The United States and insular territories produce nearly one-seventh.

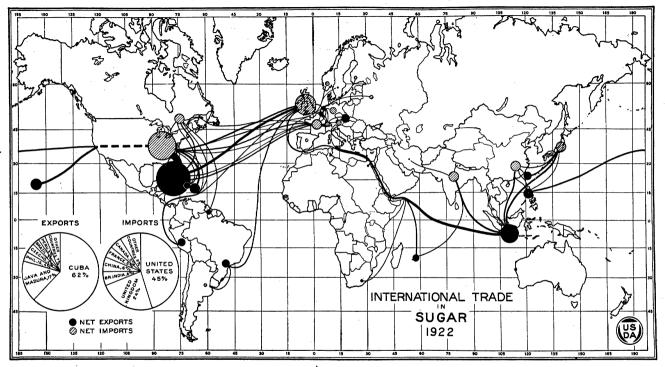


Fig. 44.—The two largest sugar-exporting countries are Cuba and Java, with secondary sources of supply in Hawaii, the Philippines, Porto Rico, Czechoslovakia, Formosa, Brazil, and Peru. The United States and the United Kingdom are the most important sugar-importing countries, followed in importance by 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. TONS MILLIONS Tota/ 20 15 Cane 10 Beet 5 0 9-19 885-86 ᅘ 890-9 0-006

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 equal to that of cane sugar from 1884 until 1914. Since 1914 canesugar 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.

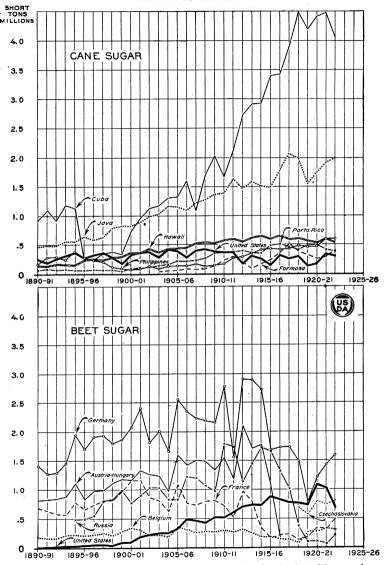


Fig. 46.—The great increase in cane-sugar production in the last 25 years has been chiefly in Cuba and Java. The Philippines, Hawaii, Porto Rico, and Formosa have also increased their production. The average production of cane sugar in the United States increased until 1908 and has since declined slightly. 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.

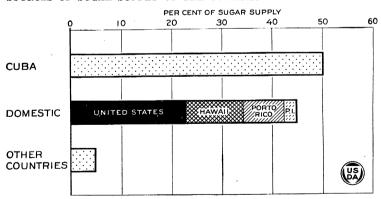
## IMPORTS AND EXPORTS OF SUGAR, CONTINENTAL UNITED STATES, YEARS ENDING JUNE 30, 1875-1922.



Fig. 47.—While the amount of sugar imported into the United States has varied somewhat from year to year, 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.



Pig. 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.

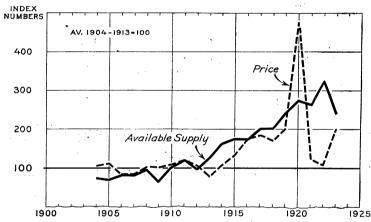


Fig. 49. Both price and supply of sugar in Cuba show an upward trend since 1904. This trend was apparent before 1914, but production in subsequent years was greatly stimulated by the high prices of the war years. If we disregard this upward trend, the inverse correlation between price and supply is apparent, the price tending to 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 calendar 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.

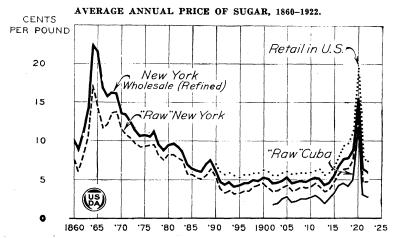


Fig. 50.—Sugar prices rose sharply from 1861 to the peak of 1864, then declined steadily until 1892 and remained at a practically constant level until 1914, when they rose again to the peak of 1920, falling rapidly in 1921 and 1922 to near the pre-war level. The margin in price between raw and refined became narrower during the period of declining prices, but has been a fairly constant proportion of the price of raw sugar since 1885. The curves of wholesale and retail refined sugar and raw sugar in Cuba and New York are all closely parallel, except that the retail margin rose to 4 cents in 1920. The retail margin is usually only about 1 cent a pound, which is less than that of almost any other food.

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.

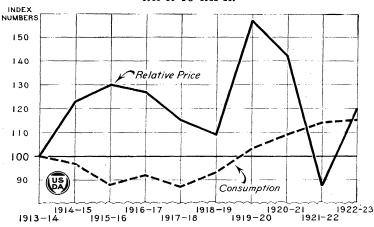


Fig. 51.—Since 1913-14 the consumption of sugar in the United States has generally shown an inverse correlation to the price. The most striking exception to this rule was in the year 1919-20, when prices increased so rapidly that people were led to speculate in sugar and hoard it in anticipation of still 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 for-eign 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.—Rates of duty on imports of sugar under the tariff acts, 1789-1922.

Date of act (and when effective).	Rates of duty.
July 4, 1789 (Aug. 1, 1789)	Brown, 1 cent per pound; loaf, 3 cents per pound; other 12 cents per pound.
Aug. 10, 1790 (Dec. 1, 1790) May 2, 1792 (July 1, 1792)	Brown, 1 cent per pound; loaf, 3 cents per pound; other 1½ cents per pound.  Brown, 1½ cents per pound; loaf, 5 cents per pound; other 2½ cents per pound.
May 2, 1792 (July 1, 1792) June 5, 1794 (Oct. 1, 1794)	All sugar free. Refined, 4 cents per pound.
June 5, 1794 (Oct. 1, 1794) June 7, 1794 (July 1, 1794) Jan. 29, 1795 (Apr. 1, 1795)	Clayed or lump, 1 cent per pound.
Jan. 29, 1795 (Apr. 1, 1795)	White clayed or white powdered, 3 cents per pound; other clayed or powdered, 12 cents per pound.
Mar. 3, 1797 (July 1, 1797)	Brown, ½ cent per pound.
Mar. 3, 1797 (July 1, 1797) May 13, 1800 (July 1, 1800) July 1, 1812 (July 1, 1812)	Brown, 1 cent per pound.
Apr. 27, 1816 (July 1, 1816)	Existing rates doubled until one year 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.
July 14, 1832 (Mar. 4, 1833) Mar. 2, 1833 (Jan. 1, 1834)	loaf, 12 cents per pound; brown, 3 cents per pound. White clayed, 33 cents per pound; brown, 24 cents per pound. Existing rates exceeding 20 per cent to be reduced to 20 per cent by yearly
	reductions to July 1, 1842.
Aug. 30, 1842 (Aug. 31, 1842).	Raw and brown clayed, 2½ cents per pound; other, not refined, 4 cents per pound; refined, 6 cents per pound.
July 30, 1846 (Dec. 2, 1846) Mar. 3, 1857 (July 1, 1857) Mar. 2, 1861 (Apr. 2, 1861)	All kinds, 30 per cent. All kinds, 24 per cent.
Mar. 3, 1857 (July 1, 1857) Mar 2, 1861 (Apr 2, 1861)	All kinds, 24 per cent.   Brown (muscovado), white and clayed, unrefined, \(\frac{2}{3}\) cent per pound; refined,
1441. 2, 1001 (11p1. 2, 1. 01)	2 cent per pound; refined, tinctured, colored, adulterated, 4 cents per
Ang 5 1861 (Ang 6 1861)	pound. Brown and sugars not advanced above No. 12 Dutch standard, 2 cents per
Aug. 5, 1861 (Aug. 6, 1861)	pound; above No. 12, not refined, $2\frac{1}{2}$ cents per pound; refined, 4 cents per
Dog 24 1981 (Dog 95 1881)	pound; refined and tinctured, 6 cents per pound.  Brown and sugars not above No. 12 Dutch standard, 2½ cents per pound;
Dec. 24, 1861 (Dec. 25, 1861).	above No. 12, not refined, 3 cents per pound; refined, 5 cents per pound;
Inl- 14 1009 (A 0 1009)	refined and tinetured. 8 cents per pound.
July 14, 1862 (Aug. 2, 1862)	Not above No. 12, 2½ cents per pound; above No. 12 to No. 15, 3 cents per pound; above No. 15 to No. 20, 3½ cents per pound; above No. 20, 4 cents per
	pound; refined and tinctured, 10 cents per pound.
Apr. 29, 1864 (Apr. 29, 1864). June 30, 1864 (July 1, 1864)	Existing rates increased 50 per cent for 60 days.  Not above No. 12, 3 cents per pound; above No. 12 to No. 15, 34 cents per
(July 1, 1004)	Not above No. 12, 3 cents per pound; above No. 12 to No. 15, 31 cents per pound; above No. 15 to No. 20, 4 cents per pound; above No. 20, 5 cents
(vlv 11 1970 / Top 1 1971)	per pound; refined and tinctured, 15 cents per pound. Raw not above No. 7, 12 cents per pound; above No. 7 and other sugars not
July 14, 1870 (Jan. 1, 1871)	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, 22 cents per pound;
	other sugars above No. 16 to No. 20, 31 cents per pound; all sugar above No. 20 and all refined, 4 cents per pound.
Dec. 22, 1870 (Dec. 22, 1870).	All sugar not above No. 7, 13 cents per pound: above No. 7 to No. 10, 2 cents
	per pound; above No. 10 to No. 13, 21 cents per pound; above No. 13 to No. 16, 22 cents per pound; above No. 16 to No. 20, 31 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
Mar. 3, 1875 (Mar. 4, 1875)	"sugar" dutiable according to the rates for the Dutch standard.
Aug. 15, 1876 (Sept. 9, 1876).	"Sandwich Island sugar" free.
Mar. 3, 1883 (July 1, 1883)	All sugars not above No. 13 and melada, beet and cane juice, etc., testing by polariscope not above 75°, 1.4 cents per pound; for each degree over 75°,
	0.04 cent per nound additional. All sugar above No. 13 to No. 15, 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.
Oct. 1, 1890 (Apr. 1, 1891)	8.5 cents per pound; refined, tinctured, etc., 10 cents per pound. Bounty to United States producers to July 1, 1895, sugar not below 90° by polariscope from beets, sorghum, sugar cane, and maple sap, 2 cents per pound; below 90° and not below 80°, 1½ cents per pound. Duties—all sugars above No. 16, 0.5 cent per pound; not above No. 16, and melada, sugars above No. 16, 0.5 cent per pound; included the form of the product.
	polariscope from beets, sorghum, sugar cane, and maple sap, 2 cents per
İ	sugars above No. 16, 0.5 cent per pound; not above No. 16, and melada,
A 97 1904 (A 1 1904)	Rounty law repealed All sugars melada sirins of beet and sugar cane.
Aug. 27, 1894 (Aug. 1, 1894).	etc., 40 per cent; all sugars above No. 16 and all discolored sugars, & cent
Index 01 1007 (Tester 94 1007)	
July 24, 1897 (July 24, 1897).	Sugars not above No. 16, melada, sirups of cane juice, etc., testing by polariscope not above 75°, 0.95 cent per pound; for each additional degree 0.035 cent per pound additional; above No. 16 and all sugar which has
	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
Apr. 12, 1900 (Apr. 12, 1900) Apr. 30, 1900	Shipments from Porto Rico to United States: 15 per cent of existing rates.  Territorial Government of Hawaii established and any dutiable article
11/1. 00, 1000	the growth, production, or manufacture of that territory may enter that territory may enter that territory may enter that the growth, production, or manufacture of that territory may enter that the growth, production, or manufacture of that territory may enter the content of the growth, production, or manufacture of that territory may enter the growth of the growt
July 25, 1001	States free. Shipments from Porto Rico to United States free. (Proclamation by
July 25, 1901	President.)
Mar. 8, 1902 (Mar. 8, 1902)	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. Not subsequently repealed. Sugars not above No. 16, melada, sirups of cane juice, etc., testing by polariscope not above 75°, 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, 1.9 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 cross tons.
Dec. 17, 1903 (Dec. 27, 1903)	Imports from Cuba of products of soil or industry of that country, 20 per cent
,	below existing rates. Not subsequently repealed.
Aug. 5, 1909 (Aug. 6, 1909)	scope not above 75°, 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 renning, 1.9 cents per pound; renned and thickned, 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
1	fiscal year exceeding 300,000 gross tons.

Table 15.—Rates of duty on imports of sugar, etc.—Continued.

Date of act (and when effective).	Rates of duty.
Oct. 3, 1913 (Mar. 1, 1914)	Sugars, melada, sirups of cane juice, etc., testing by polariscope not above 75°, 0.71 cent per pound; for each additional degree, 0.026 cent per pound additional; on and after May 1, 1916, free. Maple sugar and sirup, 3 cents per pound; on and after May 1, 1916, free. All articles the growth or product of the Philippine Islands, free.
May 27, 1921 (May 28, 1921).	Sugars, melada, sirups of cane Juice, etc., testing by polariscope not above 75°, 1.16 cents per pound; for each additional degree, 0.04 cent per pound additional.
Sept. 21, 1922 (Sept. 22, 1922).	Sugars, melada, sirups of cane juice, etc., testing by polariscope not above 75°, and all mixtures of sugar and water testing above 50° to 75°, 1.24 cents per pound; for each additional degree, 0.046 cent per pound additional; refined sugar, tinctured, 40 per cent. Maple sugar and sirup, 4 cents per pound. From Philippine Islands, if grown or produced there, free. All rates subject to change by President after investigation of cost of production, domestic and foreign.
	or production, domestic and foreign.

As 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 Curação, 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.—Rates of duty on imports of sugar for various countries.

Country and description.	Actual duty in money and weight of each country.	Date when duty was in force.	Duties converted in dollars per 100 pounds (exchange as on date of duty listed).
Argentina (law of 1906, as increased 1920):  Sugar, refined or polarizing 96° and more. Sugar, unrefined or polarizing less than 96°, including the sack.  Australia (law of 1920): Glucose Sugar, produced of sugar cane Molasses.  Austria:   Candy sugar.  Other bect and raw sugar.	$ \begin{array}{c} 9 \\ \text{pesos per 100 legal} \\ 6 \\ \text{kilos.} \end{array} $ $ \begin{array}{c} 12 \\ \text{9-6-8} \\ \text{ton.} \end{array} $ $ \begin{array}{c} 12 \\ \text{ton.} \\ 48 \\ \text{gold crowns per 100} \\ 16 \\ \text{kilos.} \end{array} $	λug. 13,1923	\$\begin{cases} 3.085 & 2.056 \\ 2.447 & 1.903 & Free. \\ 4.376 & 1.458 \end{cases}

<sup>1</sup> There is a surtax of 7 per cent of the value.

2 Duties to be paid in gold.

Table 16.—Rates of duties on imports of sugar for various countries—Contd.

Country and description.	Actual duty in money and weight of each country.	Date when duty was in force.	Duties converted in dollars per 100 pounds (exchange as on date of duty listed).
Belgium (law of 1913, as increased 1921): Juices and raw sugars, of beet and cane. Refined sugars.	}40 francs per 100 kilos.	Aug. 13, 1923	0.819 .819
Brazil: 8 Sugar, candy Sugar, other.  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, or standards, not covered by tariff item No. 135 4 (graduated scale increasing by from 2 to 9 cents for each additional degree of polariza- tion)—	135\milreis per 100 266.8 kilos.	}do∵	7.489 14.826
When not exceeding 88° of polarization	1.50\Canadian dollars 1.89} per 100 pounds.	Aug. 7, 1923	{ 1.4659 1.8476
When not exceeding 76° of polarization	0.8108 Canadian dol- 1.3432 lars per 100 1.425 pounds.	}	1.312 1.3926
content— More than 98 per cent but not over 99½ per cent. Impure sugar, moist or dry	6 pesos per 100 kilos 3 net.	Aug. 7, 1923	3289 .1649
China: <sup>6</sup> Sugar, brown Sugar, white Colombia: <sup>7</sup>	0.23) Haikwan tael 0.32∫ per picul.	}do	{ .1389 .1932
Sugar, muscodado or centrifugal	$\binom{8}{12}$ pesos per 100 kilos	do	3.3883 5.0824
Sugar, "corriente" not refined	16\colons per 100 kilos 60\ gross.	}do	$\left\{\begin{array}{c} 1.6744 \\ 6.2790 \end{array}\right.$
Raw sugarRefined sugar	1.00 dollars per 100 0.9375 kilos.	}do	$\left\{ \begin{array}{c} .45 \\ .421 \end{array} \right.$
Czechoslovakia:  Beet sugar and all sugar of similar kinds (cane sugar) in every condition of purity, except molasses.			4. 4629
Sugar of other kinds, c. g., glucose, starch sugar grape sugar, fruit sugar, milk sugar and the like, sugar for coloring purposes (for coloring beets), etc.	338 crowns per 100 kilos.	}do	4. 4629
Denmark: 9 Stigar in loaves, sheets, cakes, and the like, whole, undivided, also powdered sugar with a polarization of over 98 per cent, grape or	crowns per 100	}do	. 8253
starch sugar.  Powdered sugar with a polarization of over 86 per cent not over 98 per cent.	6.5 kilos.	,	. 5364

per cent not over so per cent.

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 satisfactory 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 Haikwan 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 2½ 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.
9 Duty is per legal weight.

Table 16.—Rates of duties on imports of sugar for various countries—Contd.

Country and description.	Actual duty in money and weight of each country.	Date when duty was in force.	Duties converted in dollars per 100 pounds (exchange as on date of duty listed).
France—foreign sugar:  Raw, intended for refining, the estimated yield in refined being 98 per cent or less.  Others, raw, the estimated yield in refining being 98 per cent or less.  Germany: 10	99.75 francs per 100 kilos net.	}Aug. 7, 1923	2. 5596
Cane, beet, and other sugar of the chemical com- position of cane sugar (saccharose) refined. Other, solid and liquid, of all kinds, sirup and mo- lasses, beet-root juice, maple juice. Greece: 11 Sugar, of all kinds (cane and beet), made	Free		
Greece: <sup>11</sup> Sugar, of all kinds (cane and beet), made from fruit or starch, and sirup derived from sugar. Hungary (law of 1916): <sup>12</sup>	68.965 gold drachmas per 100 okes.	Aug. 1, 1923	4. 467
Beet sugar and sugar of a similar kind (cane sugar) in every condition of purity, except m <sup>1</sup> lasses. Mclasses. Italy (law of 1921) <sup>13</sup> —sugar:	Free gold crowns per 100 kilos.	May 5, 1923	1. 4587 Free.
(a) First class	18\gcld lire per 100 12} kilos.	July 27, 1923	1. 5633 1. 0422
Japan (law of 1912)—sugar:  1. Under No. 11, Dutch standard.  2. Under No. 15, Dutch standard.  3. Under No. 18, Dutch standard.  4. Under No. 21, Dutch standard.  5. Other.  Latvia 14—sugar (gross weight):	2. 50 3. 10 3. 35 4. 25 4. 65	Aug. 1, 1923	$\left\{\begin{array}{c} .922\\ 1.436\\ 1.236\\ 1.568\\ 1.715\end{array}\right.$
<ol> <li>Half manufactured sugar, pounded or ground, except powdered sugar, without pieces of all kinds.</li> <li>Refined loaf and powdered crystal sugar, and</li> </ol>	20 Lat or Latvian gcld francs per 100 kiles.	}Aug. 7, 1923	15 9
in pieces. Lithuania: Sugar, articles not specially mentioned	10 per cent ad valerem.	do	10 per cent ad valo-
Mexico (law of 1916, as increased 1922): 16 Common sugar.	15 pesos per 100 kilos gross.	do	rem. 3. 2579
Netherlands 17—sugar:  (b) Loaf, lumps and not specified  (a) Raw, of 98 per cent purity and over  (d) Raw, of less than 98 per cent purity, for every degree of purity * * * but the duty shall not be less than 0.15 florins per 100 kilos net.	22. 50 22. 50 . 225 florins per 100 kilcs net.	}Aug. 1,1923	3. 98 3. 98 . 039
Norway <sup>18</sup> —sugar and sirup: Sugar of all kinds, including dissolved and liquid sugar and juice from which sugar has been sep- arated. Common sirup and molasses with a sugar content of less than 70 per cent ad valcrem.	55 per lorem.	Aug. 7, 1923	1.610 to 6.442 Free to 55 per cent ad valo-
Peru: <sup>19</sup> Refined sugar Poland: <sup>20</sup> Raw sugar Refined sugar	cent: $\begin{bmatrix} 20 \text{ scls per } 100 \text{ kilos net.} \end{bmatrix}$ $\begin{bmatrix} 35 \\ 40 \end{bmatrix}$ marks per 100 kilos.		rem. 3.717  7796 1.00_3
Retugal <sup>21</sup> —sugar: Above No. 20 Dutch standard, net Not specified, net	·	May 5, 1923	(0, 8752 to 1.4586.
Rumania: Raw sugar and sirup and gluccse Refined sugar	$\binom{150}{300}$ leu per 100 kilos	Aug. 7, 1923	{ 1.2155.
10 Import permit required	- '	. '	-

Import permit required.
Duties are paid in gold. When paid in paper, duties on sugar are to be multiplied by 6.
Duties to be paid in gold or in paper at current exchange.
Sugar temporarily imported free of duty until further notice (by cable of May 14, 1923). Duties to

18 Sugar temporarily imported free of duty until further notice (by cable of May 14, 1923). Duties to be pad in gold.
 14 No rates of exchange could be obtained Aug. 14, 1923.
 15 Latvian gold francs 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.
 19 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. Exchange is given as per last quotation, Dec. 13, 1922, 10 sols is app. oximately I 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 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.	Duties con verted in dollars per 100 pounds (exchange as on date of duty listed).
Russia; 22			
1. Sugar, raw, crushed or ground, of all kinds 2. Sugar, refined, lump and candy Spain: 3	2.50 gold rubles per 4.00 pood.	Aug. 7, 1923	3, 530 5, 649
Sugar			[ 11.3481
Glucose	kilos net .first	}do	11.0481
Sweden (law of 1911):		,	
Sugar, refined, all kinds; e. g., in the form of loaves, candy and cakes, also crushed or pul-	10		1.1965
verized. Unrefined, not darker in color than No. 18 Dutch standard, which is generally recognized in com-	crowns per 100		1, 1965
merce, and specimens of which are to be supplied by the customs administration to the	kilos net.	}do	{
various customhouses. Of a color darker than the standard above men-			
tioned, even if imported in solution or in liquid	7		0, 8:75
state. Switzerland:	J		l
Sugar, unrefined	2).	_	( 0, 1625
Sugar, crystallized and crushed, solid glucose and sugar candy.	7 francs per 100 kilos	do	0.5688
United Kingdom—Graduated scale increasing by from 10 to 46 cents for each additional degree of	,		
polarization:			
Not exceeding 76° of polarization  Exceeding 97° and not 98° of polarization.	0-12-4\pounds per 112 1- 3-8  pounds.	}do	$ \begin{cases} 2.5123 \\ 4.829 \end{cases} $
Venezuela: 24			,
Sugar, muscovado or brown Sugar, white or refined	${25 \choose 75}$ bolivar per 100 kilos	}do	$\left\{ egin{array}{c} 2.009 \ 6.027 \end{array}  ight.$

### 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 available land is already utilized for this purpose. Pineapples, the chief competitive crop, are fre-

All imports are under license. Duties are paid in paper at official conversion rates.
 The second tariff is one-half rate of first tariff. The lower rates apply to goods from the United States.
 There is an additional surtax of 56.55 per cent of duty. Exchange is given as per last quotation, Sept. 5, 1922.

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.	Land in crops, 1919.	Irrigated area. 1919.	Area in sugar beets.	Sugar-beet acreage, percentage of.		Beet-
				Acreage of all crops.	Value of all crops.	sugar factories.
California.	Acres. 6, 850, 805	A cres. 4, 219, 040	A cres. 88, 257	Per cent.	Per cent.	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 22, 843, 587	47,312	7,009 1,682	.03	.06	1
Kansas	10,000,611	47,312	106, 450	1.06	2.92	16
Minnesota	17, 149, 813		3,509	.02	. 05	10
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	.04	
Utah	1,071,160	1,371,651	93, 359	8.72	17.31	18
Washington	4, 251, 170	529, 899	5,363	.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 much of our own territory.

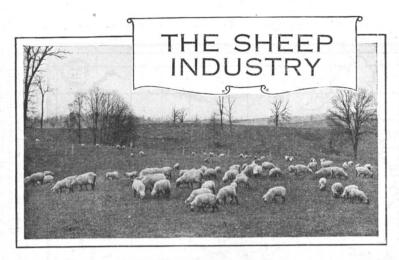
In general, the natural conditions of soil and climate in American cane and beet regions can not be considered the factors which limit expansion of the sugar industry. The limiting factors appear to be economic rather than agronomic. Labor supply, market price, crop competition, and assurance of protection 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 small-farm production by owners rather than by day labor under supervision. Such a system, however, puts difficulties in the way of coordination of effort 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.



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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 available to the people living in the colder regions is somewhat larger. The American people are among the heaviest users of wool, the an-

nual 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 Germany.

Sheep raising has always been one of the world's leading pioneer enterprises. In the past, sheep kept primarily for the production

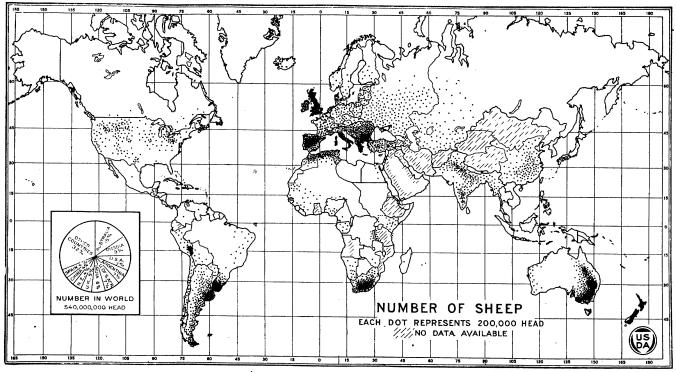


Fig. 1.—The leading sheep-producing countries are Australia, Russia, Argentina, United States, India, Union of South Africa, United Kingdom, and New Zealand. The distribution of sheep in Russia and the United States is less dense than in the other countries. Four of the six densest centers of sheep raising—Australia, the Argentine—Uruguay area, the Union of South Africa, and New Zealand—are in the Southern Hemisphere. These are relatively new lands with sparse population. In the Mediterranean countries topography and climate favor the sheep 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.

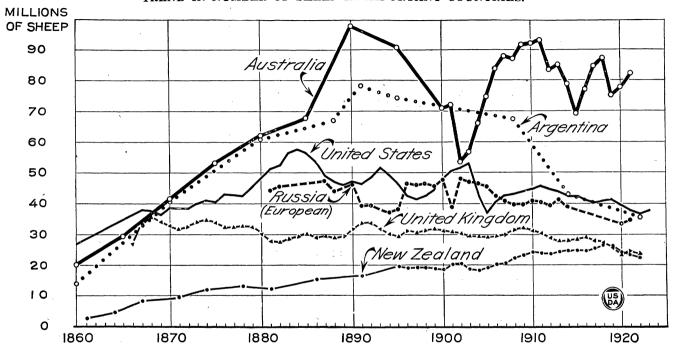


Fig. 2.—In Australia, the greatest sheep-producing country of the world, the number of sheep increased very rapidly from 1860 to 1890. Since 1890 wheat production and cattle raising have been displacing sheep. The sheep industry of Argentina is, likewise, giving way to grain production and cattle raising. New Zealand continued to increase its number of sheep until quite recently, but dairying may soon check further growth of the sheep industry. Russia maintained a large number of sheep before the war, and there is a vast territory in Siberia and eastern Russia presumably suitable for sheep raising. The United Kingdom, despite its dense population, 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 four—Australia, 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 aver-

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.

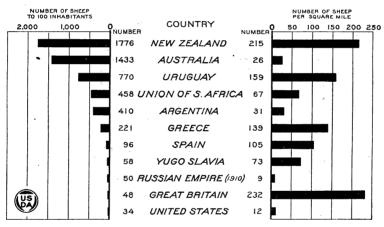


Fig. 3.—The leading countries in the number of sheep for each 100 inhabitants are all in the Southern Hemisphere. These countries are sparsely populated. Great Britain, although densely populated, leads in the number of sheep per square mile, New Zealand standing next. The Balkan States, represented by Greece 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.

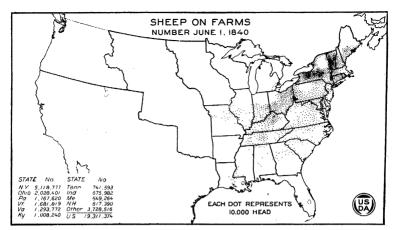


Fig. 4.—The greatest sheep-raising center in the United States in 1840 was in Vermont. Sheep were numerous along the eastern bank of the Hudson River and in western New York, in southwestern Pennsylvania, and eastern Ohio. The blue-grass districts of Kentucky and Tennessee also had a number of sheep. There were only a few sheep in the South and practically none in the western United 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.

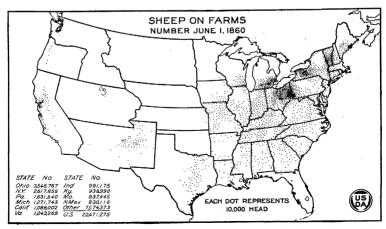


Fig. 5.—Between 1840 and 1860 the number of sheep declined greatly in New England and New York, being displaced largely by dairy cows. Ohio has become the leading State: and several million sheep are found in Texas, New Mexico, and California. The number has also increased several fold in Michigan and the upper Mississippi Valley.

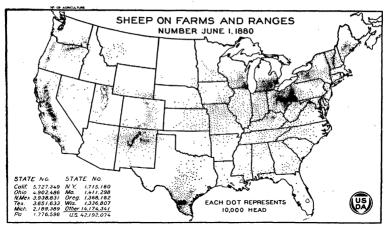


Fig. 6.—Ohio, southwestern Pennsylvania, and southern Michigan constituted the most important sheep-producing region in 1880. The increase in numbers in the far West has been much greater than in the East. Two-fifths of the sheep are now west and southwest of the Missouri River. The decrease in New England and New York continues, whereas the number of sheep in 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.)

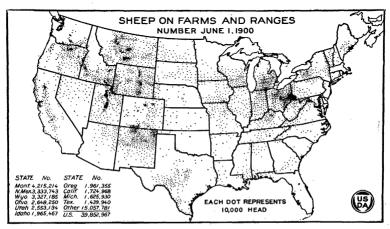


Fig. 7.—In 1900 nearly three-fifths of the sheep were in the western range country. The increase in numbers in the Great Plains and intermountain regions since 1880 has been very great, but the industry began to decline in California and western Oregon soon after 1880. The number of sheep in New England 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 lead-

ing 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. At first the business was mostly in the hands of large operators who generally purchased all their feeds. A little later farmers began feeding sheep as a means of utilizing large quantities of roughage, and in the Corn Belt some of their 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

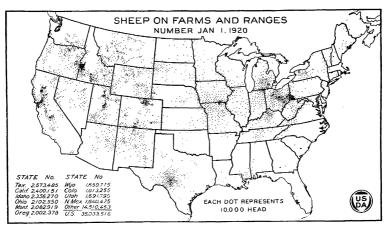


Fig. 8.—By 1920 sheep had largely disappeared from the Atlantic coast. Vermont, which was the densest center of sheep production in 1840, contains only a few thousand head. Large numbers of sheep are still found in the Ohio fine-wool region, in the valleys of the Appalachian Mountains, and in southern Michigan. A notable decline has occurred in the Great Plains region, except in the feeding 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 had 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 from 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 needs. The southwestern range men had just passed through a three-year drought period in which there had been heavy 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

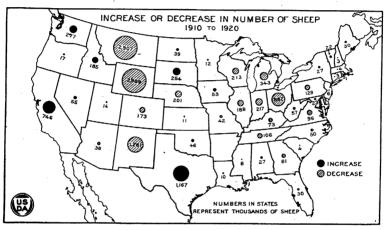


Fig. 9.—The decrease in the number of sheep in the United States is due to several factors. In the more densely populated farming sections the dairy cow has been steadily displacing sheep. The heavy decrease of range sheep in Montana and Wyoming is owing largely to the severe climatic conditions of 1917—1919, 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 160 per cent in Texas. The number of sheep in Arkansas remained practically unchanged.

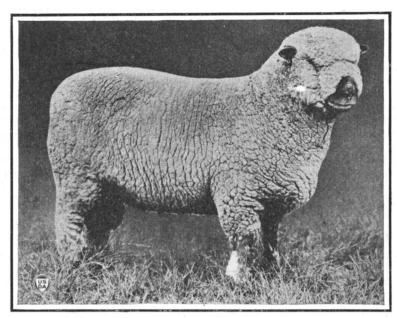
their operations. With the passing of the financial stringency, those who were able to survive have gradually been getting on their feet. The accumulated stocks of wool have been used up and the

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.

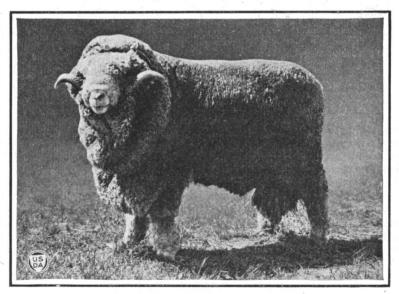
### Improved Types of Sheep.

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 heavy-shearing, wrinkled type, for in those early days wool was para-



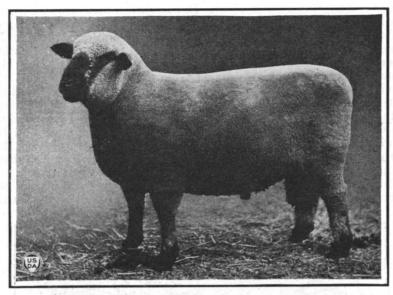
#### SHROPSHIRE RAM.

Fig. 10.—Shropshire sheep are popular for mutton and wool production on the farm. Shropshires 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.



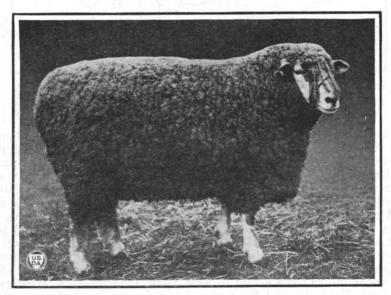
RAMBOUILLET RAM.

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

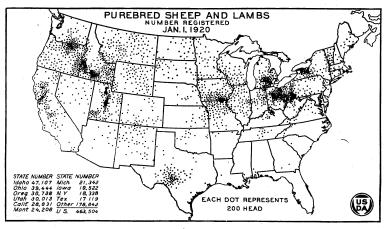


Fig. 14.—In the farm-flock region the purebred sheep business is largely concentrated in the North Central States, notably Ohio and Michigan. In the range area a large proportion of the purebreds are found in the Snake River Valley of Idaho and eastern Oregon and the Salt Lake Valley of Utah.

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 heavy-shearing 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 long-wool rams for the production of lambs that mature for the market at an earlier age and with more pronounced mutton form than would

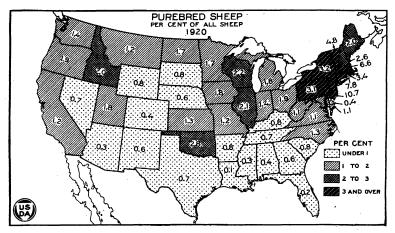
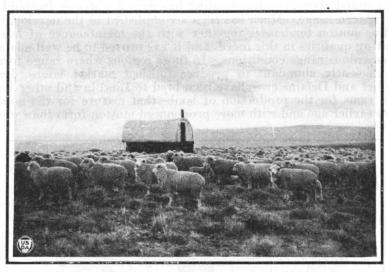


Fig. 15.—The proportion of purebred sheep to all sheep is greatest in the North Atlantic States. According to the 1920 census, 54.1 per cent of all purebred sheep in the United States were of the medium-wool breeds, 42.2 per cent were fine wool, and 3.7 per cent long wool. Shropshires made up 31.5 per cent of the purebreds; Rambouillets, 27.07; Merinos, 15.17; Ilampshires, 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 Lincoln-Rambouillet 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 con-Some choice Corriedales have been sidered an established breed. 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.

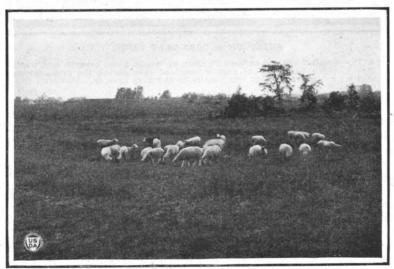
#### Farm Flocks.

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 out 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 Iowa, 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 fine-wool 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. 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 April 15, make a rapid growth and are ready for the May, June, and July markets. As 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

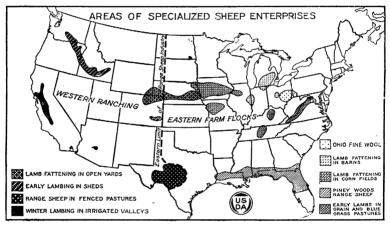


Fig. 19.—The production of lambs for the early markets is highly specialized. In the valleys of California, where there is excellent winter grazing, the production of lambs for the April and May market is rapidly developing. In the Pacific Northwest many lambs are produced for the June and July market. In the blue-grass districts of Kentucky, Tennessee, and the Virginias early lamb production is also an important industry. In Michigan, Indiana, and Ohio lambs are usually fattened in barns. In the Central 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 sheep 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 sheep 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.

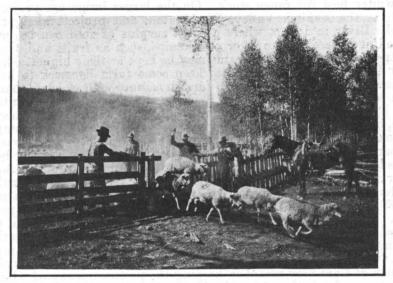
## Range Sheep.

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:

2) 1,00-703,000-00	Low.	High.
00 to 1,000 breeding ewes at \$8 to \$10 each (one band) 0 to 25 rams. camp outfit. 10me ranch to serve as operating base. 2ash with which to meet current expenses.	\$6,400 600 600 5,000 1,000	\$10,000 1,000 1,000 5,000 1,000
	13,600	18,000

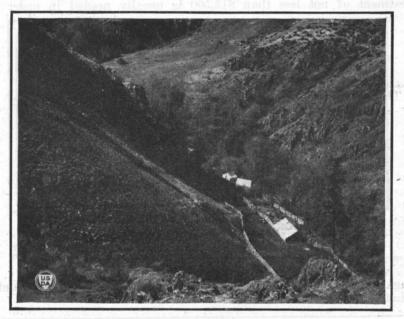
While there are numerous bands with a much lower investment, these are generally operated by persons of foreign birth or descent who are willing to live very cheaply, and who usually act as herders or camp tenders. In order that a man may make a managerial wage he should have at least two bands.

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 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 usually 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 de-

veloped.

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 sometimes 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 vards.

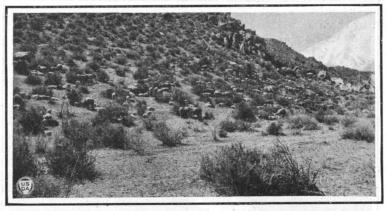
California Region.—In California the methods of handling sheep are quite diverse. In the northern half of the State the same general methods that prevail in the central range district are found. The

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.

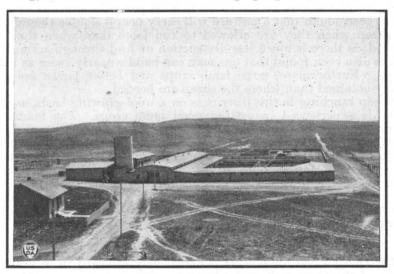
Fig. 24.—Range sheep usually begin grazing at early dawn. It is customary for them to rest from about the middle of the forenoon, when it begins to get warm, until late afternoon. Then they continue grazing until dark, when they settle down for the night.

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, adiacent 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 ways.

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.

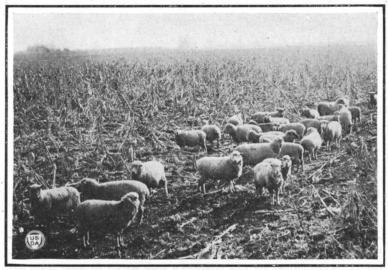
Fattening sheep for market is extensively followed in several sections of the Corn Belt and adjacent areas, and in many irrigated districts. There are three general systems of finishing: (1) Fattening in cornfields in the Corn-Belt States; (2) open-yard feeding west of the Missouri River; (3) fattening in barns in the East Central States.

Fattening 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 beet-growing 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 equivalent. 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 There is also much less risk as the sheep is not much farm work. 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

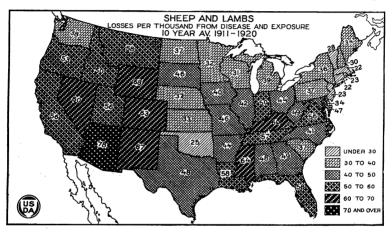


Fig. 28.—On the western range predatory animals, poisonous plants, and exposure on hazardous grazing grounds cause considerable loss. In the farming States internal parasites constitute an important cause of loss, particularly among lambs. Lamb losses are generally larger than those for mature sheep, 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 vegetation 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 which 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

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.

<sup>&</sup>lt;sup>1</sup>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.

#### 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

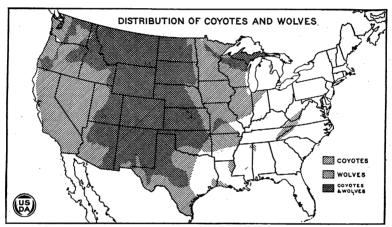


Fig. 29.—Predatory animals at one time exacted a heavy toll from the western livestock industries. In recent years, through concerted efforts of various local and State organizations and the United States Department of Agriculture, losses from this source have greatly decreased.

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 animals 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 ex-

ternal 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 in-

volved 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,

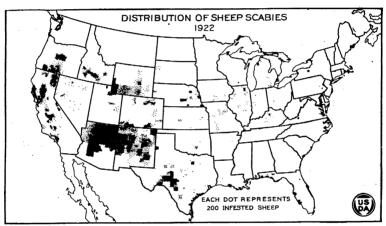


Fig. 30.—Sheep scab is most common on the range, but occurs in the Central States as far south as southern Missouri and Kentucky. The Atlantic Coast States, with the exception of New York, and most of the Southern States are free from the disease. Although scab spreads rapidly and requires energetic 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.<sup>2</sup>

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 avoiding 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

<sup>&</sup>lt;sup>2</sup> For further information see Farmers' Bulletin No. 1330.

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 negli-

gible 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 available 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 section, 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.

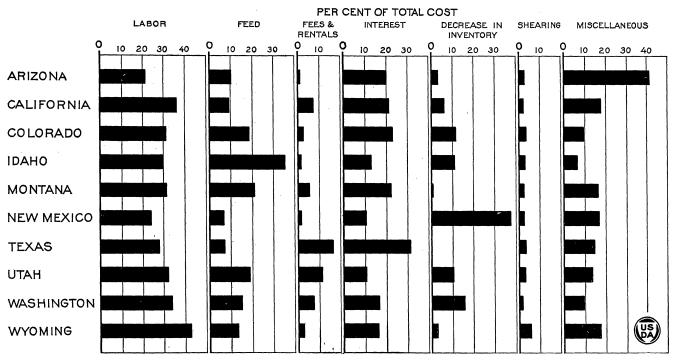


Fig. 31.—Labor constituted approximately one-third of the total cost, varying from 20 per cent in Arizona, where cheap Mexican labor was obtainable, to over 40 per cent in Wyoming, where because of difficulties with new settlers considerable help was necessary. Interest on investment in sheep and land 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 the latter State the sheep are kept on owned or leased land. The feed bill varied from less than 10 per cent in New Mexico and Texas, where the sheep are seldom fed, to over 30 per cent in Idaho, where winter feeding prevails. The heavy decrease in inventory in New Mexico was due to the liquidation following a 3-year drought. In Texas there was an increased inventory, as the sheep men were rapidly expanding their business. (Data from report of the United States Tariff Commission, "The Wool-Growing Industry," Table XXX.)

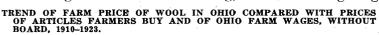
greatest inflation, but much higher than in 1910. This is because it is now necessary, owing to the more crowded condition of the range, to run the sheep in smaller bands and to depend more and more on the use of supplemental feeds during the winter, and especially because of the generally much heavier 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 1918-1921, 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



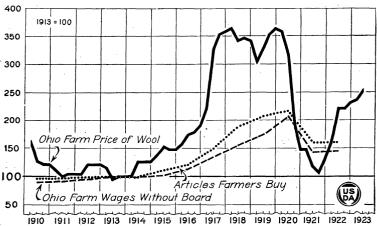


Fig. 32.—Farm prices of wool in Ohio were lower in the last half of 1913 than at any other like period since these prices have been reported by the Department of Agriculture. In June, 1911, and again in October, 1921, prices were nearly as low. High prices prevailed from 1917 to 1920, and were also relatively 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 7½-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 one-fourth 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.

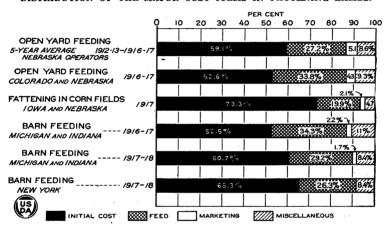


Fig. 33.—The initial cost, which is the cost of the feeder lamb delivered at the feed yard, varied from a little over half the total cost of the fattened lamb for the winter of 1916-17, when lambs were purchased on a pre-war value, to as high as 73 per cent for lambs fattened in cornfields in the fall 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.<sup>3</sup> 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.<sup>4</sup> These lambs in a 90-day feeding period consumed, on an average, 404 pounds of concentrates and 828 pounds of roughage. Again, in the

<sup>&</sup>lt;sup>3</sup> Indiana Experiment Station Bulletin 202. <sup>4</sup> Indiana Experiment Station Bulletin 221.

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.<sup>5</sup> 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.<sup>6</sup> 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.<sup>7</sup> 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

Indiana Experiment Station Bulletin 263.
 Nebraska Experiment Station Bulletin 153.
 Nebraska Experiment Station Bulletin 157.

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. At 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

of the rancher or livestock man.

# Marketing Sheep and Wool.

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

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 Febru-During that month the market value of an average ary, 1924. 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 80pound 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 mut-Furthermore, the character of mutton is such that, without freezing, it can not be stored satisfactorily for more than two or

three weeks.



no. 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 east 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

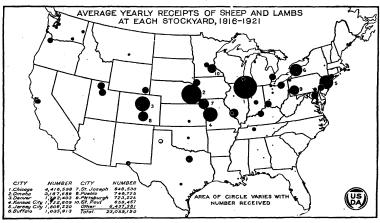


Fig. 35.—Chicago, the premier sheep and lamb market of the country, draws its supplies from the range and from most of the Corn Belt. The Missouri River points, which, in the aggregate, receive more sheep and lambs than Chicago, secure most of their supplies from the range country, with a few from the 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 7½ 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. 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. 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 vears California spring lambs, which are marketed in April and May.

# MONTHLY RECEIPTS OF SHEEP AND LAMBS AT 67 MARKETS; AVERAGE OF 1916-1921 COMPARED WITH 1922.

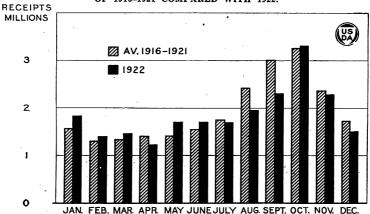


Fig. 36.—October is usually the month of heaviest movements of sheep and lambs. Over a period of eight years October receipts constituted 14.4 per cent of the total movement for the year. February is generally the lightest month, though March and April frequently show movements fully as light as the 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. ment 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-

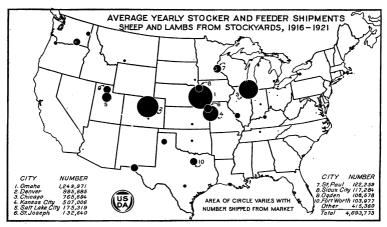


Fig. 37.—Omaha is the leading distributing point for feeder sheep and lambs. Denver shipments go largely to feed yards in eastern Colorado and Nebraska. Chicago, which ranks third, is the main distributing point for the eastern Corn Belt. Kansas City receives large numbers of sheep and lambs from the 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

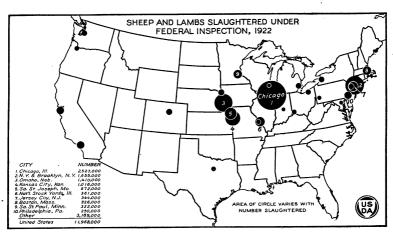


Fig. 38.—The majority of the range sheep are shipped east for slaughter to the large packing houses at Chicago and Missouri River points, all of which are under Federal inspection. Most of the sheep and lambs from the Central States are also slaughtered at these plants. A large proportion of the dressed 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, 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 federally inspected (fig. 38).

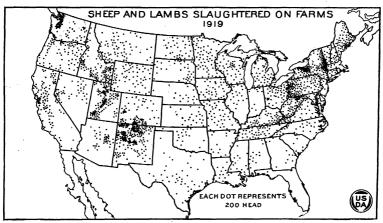


Fig. 39.—In the western range country large numbers of sheep and lambs are slaughtered by herders and camp tenders. In the East, notably the North Atlantic States, farm-dressed mutton and lamb are used for the country home and small town consumption. A dot on this map represents a much smaller number 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

<sup>&</sup>lt;sup>8</sup> The bulk of slaughter credited to Jersey City actually occurs in Greater New York.

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.

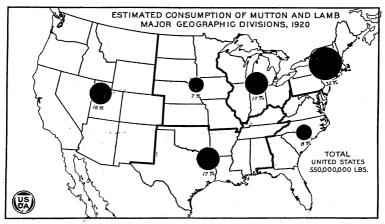


Fig. 40.—Of the total lamb and mutton available for consumption in the United States approximately 35 per cent is consumed in the North Atlantic States. However, the heaviest per capita consumption is in the Western States. The lowest per capita consumption is in the South Atlantic and the West North 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.

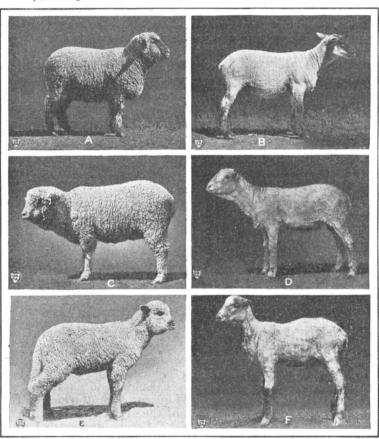
Table 1.—Annual per capita consumption of lamb and mutton, beef, veal, pork, and lamb, 1907-1923.

Year.	Lamb and mut- ton.	Beef.	Veal.	Pork, ex- clud- ing lard.	Lard.	Year.	Lamb and mut- ton.	Beef.	Veal.	Pork, ex- clud- ing lard.	Lard.
1907	Lbs. 6.4 6.2 6.6 6.5 7.8 8.2 7.6 7.5	Lbs. 79. 7 72. 4 76. 2 71. 8 68. 4 61. 7 60. 8 59. 3 56. 0	Lbs. 7.1 6.8 7.5 7.4 7.0 7.0 5.0 4.4 4.3	Lbs. 74. 1 85. 4 68. 6 60. 3 75. 1 70. 6 72. 5 70. 3 70. 2	Lbs. 12.5 14.3 11.6 10.5 11.8 11.4 11.7 12.1 13.2	1916	Lbs. 6.2 4.6 4.7 5.8 5.0 6.2 5.0 5.2	Lbs. 57. 3 61. 1 65. 2 58. 0 61. 2 57. 8 61. 4 62. 5	Lbs. 5.3 6.5 7.4 7.7 7.9 7.0 7.3 7.9	Lbs. 73.1 58.5 67.6 68.6 69.0 72.9 76.0 91.4	Lbs. 14.4 11.9 13.6 12.8 13.1 11.3 14.1 16.4

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 variations in general business, trade, and economic conditions than do most commodities.

A study of yearly average sheep prices at Chicago from 1893 to 1923 inclusive, indicates that average prices reached their lowest point 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).

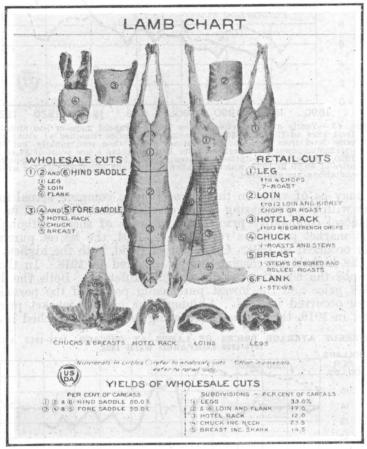


Fig. 42.—Although a lamb carcass produces fewer retail cuts than either beef or pork, a larger proportion of it is used as chops than is true of any other class of meat. This fact, together with the comparatively small size of the various retail cuts, makes lamb particularly suited to the needs of small 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.



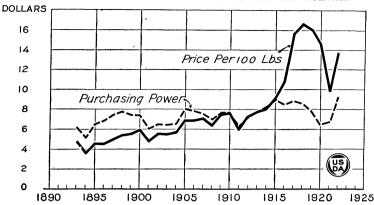


Fig. 43.—Yearly average prices of live lambs advanced more or less steadily from 1894 to 1914, but the purchasing-power price remained at about the same level from 1895 to 1914. Money prices then rose rapidly, but the purchasing-power price declined after 1915, reaching a low point of \$6.46 in 1920. 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 sheep, 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.

## WEEKLY AVERAGE PRICES OF LAMBS AT CHICAGO, 1911-1915 AND 1916-1920 COMPARED WITH 1923.

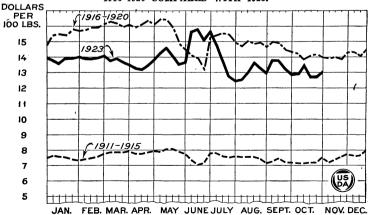


Fig. 44.—Prices of lambs in 1923 were almost double the average price for 1911-1915, which years are fairly representative of pre-war prices, and were nearly as high as the average price during the period 1916-1920. Lamb prices usually reach their seasonal peak in May, though in 1923 the high point occurred 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.

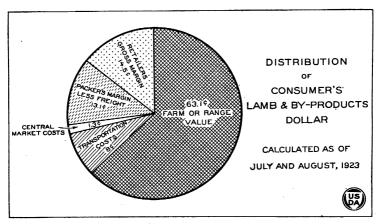


Fig. 45.—Out of the dollar which the average consumer paid for dressed lamb in July and August, 1923, 63.1 cents went to the producer, 14.5 cents were retained by the retailer; 13.1 cents went to the packer; 8 cents were paid to the transportation companies; and 1.3 cents to the various central market 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 average 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 dur-

ing 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.

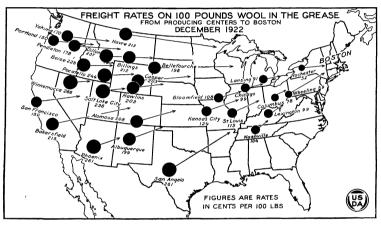


Fig. 47.—The freight rate in December, 1922, on 100 pounds of wool in the grease from Pocatello, Idaho, to Boston was \$2.44; from Pendleton, Oreg., \$1.78; and from Portland, Oreg., \$1.50. The rate from Salt Lake City, Utah, was \$2.36; from Winnemucca, Nev., \$2.66; and from San Francisco, \$1.50. The rate from Phoenix, Ariz., 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. Wool 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

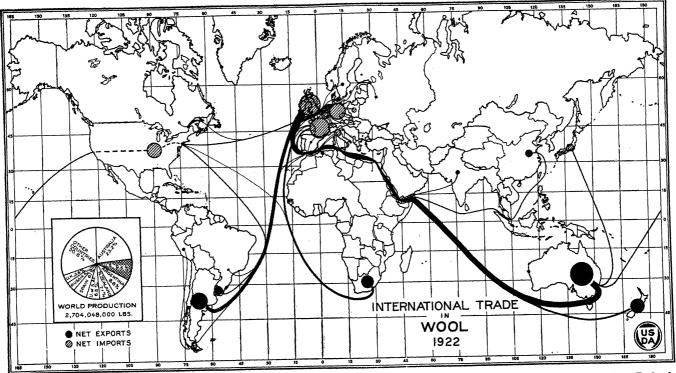


Fig. 48.—The heaviest exporters of wool are the sparsely populated, recently developed countries of Australia, Argentina, New Zealand, South Africa, and Uruguay. These countries supply the fine wools. Most of the carpet wools come from China, India, and western Asia. The heaviest importers of wool are the densely populated, industrial countries of western Europe and eastern North America. The wool trade largely centers in Europe. The United States imports much of its wool through London and Liverpool, but a smaller proportion than before the war.

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 453,727,000 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

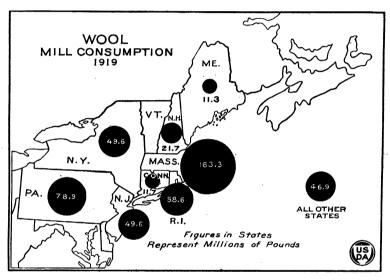


Fig. 50.—The manufacture of woolen goods is very largely concentrated in the North Atlantic States. Ninety per cent of the mill consumption of wool in the United States is in these States. The industry centers mostly around Boston and Philadelphia. Massachusetts leads in consumption, manufacturing nearly a third of the total. The remaining 10 per cent of mill consumption is not reported separately by States in the 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 seoured.

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.<sup>9</sup>

#### 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-

<sup>&</sup>lt;sup>9</sup> 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.

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 Washington-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.

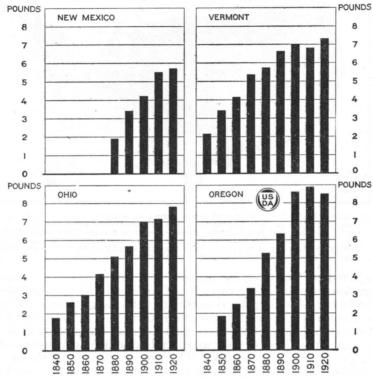


Fig. 51.—By introducing new strains and by careful selection for heavy shearing qualities in the breeding flocks woolgrowers have increased the average fleece weight from about 2 pounds in 1840 to 7 or 8 pounds by 1920 in Vermont, the Mid-West and the far Northwest. In New Mexico the average fleece weight has increased from about 2 pounds in 1880 to almost 6 pounds at present.

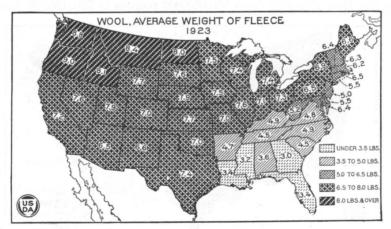


Fig. 52.—In recent years fleece weights of 7 or 8 pounds are the rule, except in the Southeastern States, where the weight ranges from 3 to 5 pounds, and in the North Atlantic States, where the average fleece ranges from 5 to 7 pounds. The weight of the fleece varies somewhat from year to year, depending upon feed and climatic conditions.

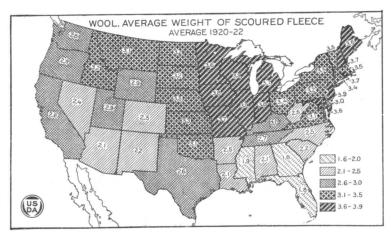


Fig. 53.—Fleeces from the desert range shrink on scouring about 60 to 70 per cent, while fleeces from the farming States shrink only about 40 to 50 per cent. The heaviest fleeces in the grease come from the northern range States (fig. 52), whereas the heaviest fleeces after scouring are from the North 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

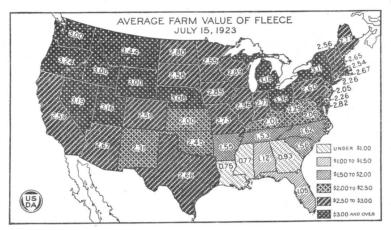


Fig. 54.—The farm value of fleeces is usually highest in Ohio and Montana, followed by Oregon and Michigan, and is lowest in the Southeastern States. In the other States the average farm value of fleeces ranged mostly between \$2 and \$3 in 1923.

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. 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. 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 proportion 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 because 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.

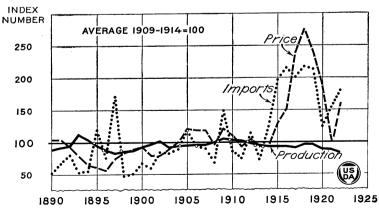


Fig. 55.—As a rule there is a close relationship between wool prices and imports into the United States. Both prices and imports reached their highest points in 1918. Domestic production of wool has been fairly constant during the past 30 years.

#### PRICE OF "WASHED" MEDIUM OHIO FLEECE WOOL AT ATLANTIC SEA-BOARD MARKETS, AND PURCHASING POWER, 1824 TO 1922.

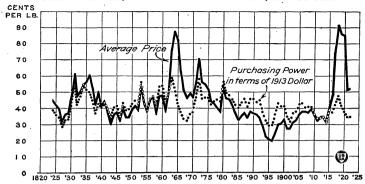


Fig. 56.—Since 1824 there have been two long-time cycles of falling and rising prices—the first from 1836 falling until 1843 and rising until 1864; the second falling from 1864 until 1896 and rising again until 1918. In general, wool prices have followed the trend of the general price level. Within these long-time cycles there are short cycles with annual fluctuations, 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 pur-

chasing power (figs. 55 and 57).

# 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.

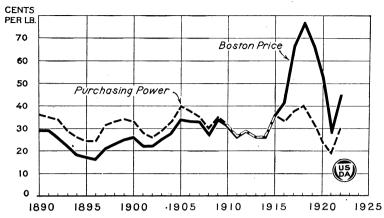


Fig. 57.—The trend of wool prices was downward from 1890 to 1896, upward from that year to 1905, fairly stable till 1909, and then slightly downward until 1914. In the latter year a sharp advance began which culminated in 1918. The purchasing power of wool in terms of the 1913 dollar exceeded the money price until about 1910. In 1915 a wide divergence between the two began, and for the peak year of 1918 the yearly 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.

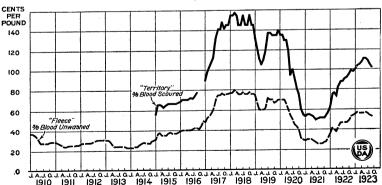


Fig. 58.—Wool prices were fairly steady from 1910 to 1914. In 1915 the market started definitely upward and, so far as medium grades were concerned, reached the peak in 1918. After a secondary advance during the speculative period of 1919 prices broke sharply and reached the low point about the middle 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.

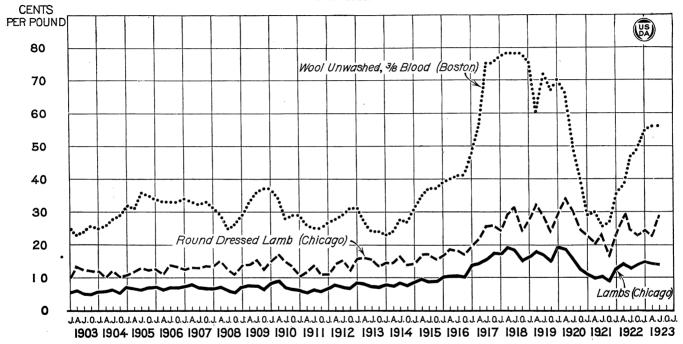


Fig. 59.—The relationship between prices of live and dressed lambs is usually very close and fluctuations in the one are, as a rule, very promptly reflected in the other. Wool prices are subject to less sudden fluctuations than either live or dressed lamb, showing usually rather broad upward and downward 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.

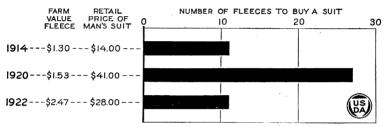


Fig. 60.—In 1914, when wool and clothing were both comparatively cheap, the farmer needed 11 fleeces to exchange for a suit of clothes. In the fall of 1920, when prices of farm commodities were at a low level and when clothes were still high in price, approximately 27 fleeces were needed to purchase 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

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 cover-The rate on all other wools (used prinings are admitted free. cipally 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.						
1789-1816	Free. First act. 15 per cent ad valorem.						
May 22, 1824 (July 1, 1824). May 19, 1828 (September 2, 1828). July 14, 1832 (March 4, 1833). March 2, 1833 (January 1, 1834).	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.  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.  Value of 8 cents a pound or less, free; other wool, 4 cents a pound plus 40 per cent.  Duties exceeding 20 per cent to be reduced to 20 per cent by yearly reductions						
Sept. 11, 1841 (Oct. 1, 1841).	to July 1, 1842. All rates below 20 per cent to be 20 per cent.						
August 30, 1842 (August 31, 1842). July 30, 1846 (December 2, 1846).	Value of 7 cents a pound or less, 5 per cent; other wool, 3 cents a pound plus 30 per cent.  30 per cent.						
March 3, 1857 (July 1, 1857).	Valued at 20 cents a pound or less free. All other, 24 per cent.						
March 2, 1861 (April 2, 1861). June 30, 1864 (July 1, 1864).	Value of 18 cents a pound or less, 5 per cent; value over 18 cents to 24 ce 3 cents a pound; value over 24 cents, 9 cents a pound.  Value of 12 cents a pound or less, 3 cents a pound; value over 12 cents to cents, 6 cents a pound; value over 24 cents to 32 cents, 10 cents a pound, 10 per cent; value over 32 cents, 12 cents a pound plus 10 per cent. Scou						
March 2, 1867 (March 3, 1867).  June 6, 1872 (August 1,	wool, three times these rates.  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 3 (carpet wools), value of 12 cents a pound or less, 3 cents a pound; value over 12 cents, 6 cents a pound. Washed, Class 1, twice these rates; scoured, all classes, three times these rates.  All wools, 10 per cent reduction of former rates.						
1872). March 3, 1875 (March 4,	10 per cent reduction of June 6, 1872, repealed.						
1875). March 3, 1883 (July 1, 1883).  October 1, 1890 (October	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, 22 cents a pound; value over 12 cents, 5 cents a pound. Washed, Class 1, twice these rates; scoured, all classes, three times these rates. 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.						
6, 1890). August 27, 1894 (August	a pound of 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.  Free.						
1,1894). July 24, 1897 (July 24, 1897).							
August 5, 1909 (August 6, 1909).	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 pound. Washed, Class 1, twice this rate; scoured, Classes 1 and 2, three times these rate; flt for carding or spinning, Class 3, three times these rates. 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 pound. Washed, Class 1, twice this rate; scoured, Classes 1 and 2, three times these rates: flt 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). May 27, 1921 (May 28,	Free.						
1921).	Clothing wool, unwashed, 15 cents a pound; washed, 30 cents a pound; scoured, 45 cents a pound.						
September 21, 1922 (September 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. Considering 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 enter-

prise.

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 utmost 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! ODUCTION AND NET IMPORTS OF WOOL, NUMBER OF SHEEP, 1850-1922; CONSUMPTION OF WOOL AND NUMBER OF SHEEP PER CAPITA, 1870-1920.

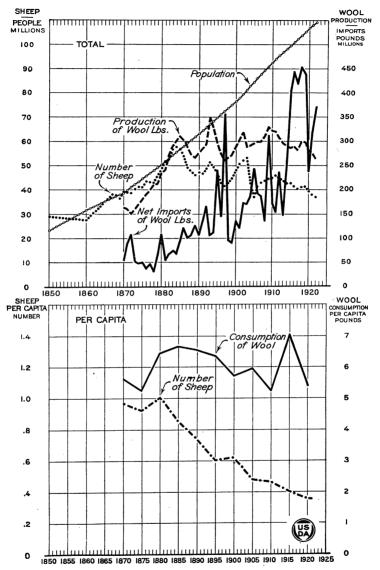


Fig. 61.—The number of sheep in the United States kept pace with the increase in number of people until 1884, which year marked the high point of the industry. The number per capita is now only two-fifths as great as in the early eighties. It is interesting to note the wavelike character of the curve 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

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.

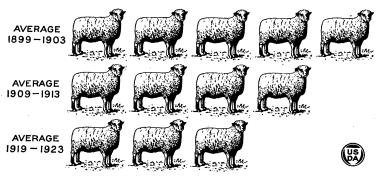


Fig. 62.—The ratio of number of sheep to human population in the United States has been declining since 1884. In the 5-year period, 1899–1903, there were approximately 5 sheep for every 8 people. Ten years later there were only 4. For the period of 1919–1923 there were only 2.8 sheep for every 8 people, 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.

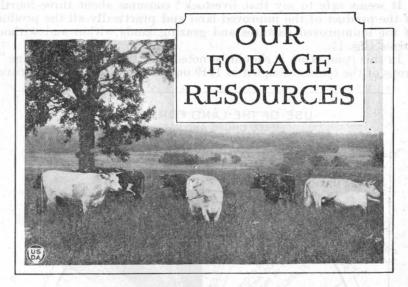
#### The Outlook for the Industry in the West.

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

CEVEN-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

¹A 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 deal, the writers will be fully satisfied. will be fully satisfied.

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

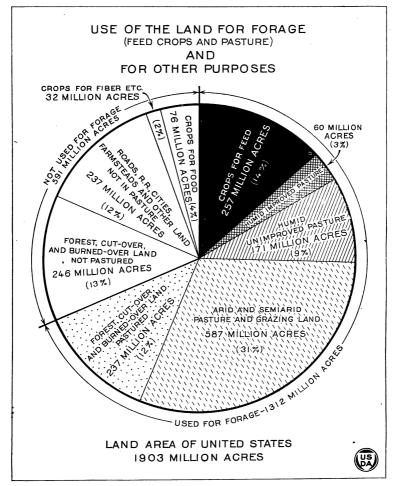


Fig. 1.—About 69 per cent of the total land area of the United States was used in 1919 for the production of forage. Some of this, for instance the forest land that was pastured, contributed other products than forage. The above statement merely indicates the immensity of the land area required for the support of the Nation's livestock. The 257,000,000 acres producing crops for feed yielded slightly more sustenance than the 1,055,000,000 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.

<sup>&</sup>lt;sup>4</sup> Livestock and domestic animals as hereinafter referred to include horses, mules, cattle, sheep, goats, hogs, and poultry. All are purely herbivorous except hogs and poultry, which are omnivorous.

<sup>\*\*\*</sup>Torque 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.

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, 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 one-fifth 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.

<sup>&</sup>lt;sup>6</sup> 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.

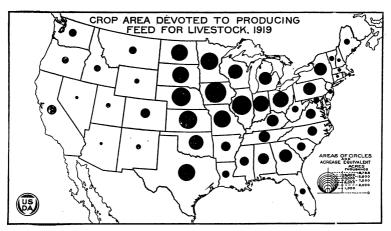


Fig. 2.—A very large proportion of our harvested forage is produced in the eastern or humid part of the United States. In this eastern half crops are much more important than pasture, while in the western half the reverse is true. The Corn Belt and the Great Plains States, it will be noted, are the principal 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

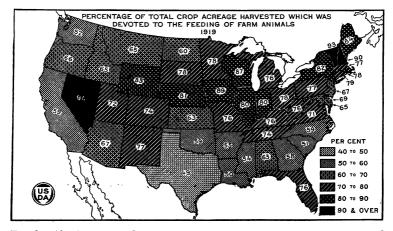


Fig. 3.—About seven-tenths of the land in harvested crops in 1919 was used to produce forage for livestock. In only one State did the proportion fall below 50-per cent, and in six-it was 85 per cent or more. The total quantity of forage thus produced was sufficient to feed all livestock only a little more than half the year. Pasture supplies the remainder of the forage needed by our farm animals.

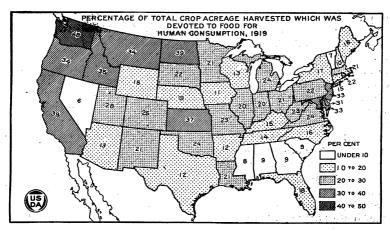


Fig. 4.—Only a little over one-fifth of the land in harvested crops in 1919 was used to produce breadstuffs, fruit, vegetables, and other human food. The percentage of crop land devoted to the production of foodstuffs was highest in the wheat and fruit-growing areas and lowest in Nevada and Vermont and 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

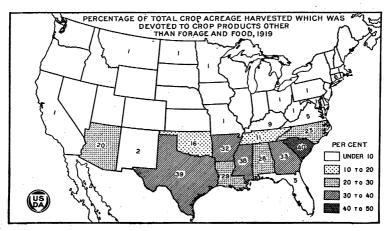


Fig. 5.—The percentage of the crop land devoted to the production of plant products other than feed for livestock and human food is almost negligible in the States north of the Cotton Belt. In 1919 only 9 per cent of all the cropped land in the United States was devoted to the production of such products.

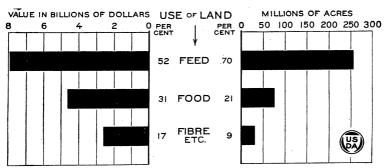
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all but one State more than half the crop land was used to produce forage for livestock, in only 24 States did the value of this forage equal half the farm value of all crop products.

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.



16. 6.—The farm value of the crops and crop products used as feed for live-stock 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 pro-ducing 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 grop 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.

TREND IN PER CAPITA PRODUCTION OF THE NINE PRINCIPAL CROPS IN THE UNITED STATES, AND OF NUMBER OF UNITS OF LIVESTOCK, 1850-1923; AND TREND IN PER CAPITA ACREAGE OF PASTURE, 1880-1920.

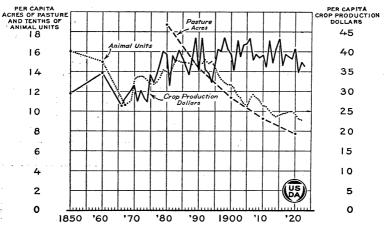


Fig. 7.—The per capita production of the nine principal crops (combined on the basis of the average price during the 34 years, 1889–1922) shows an upward trend from the Civil War years to about 1890, then remained more or less constant till 1915; and has since declined slightly. In order to maintain 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.

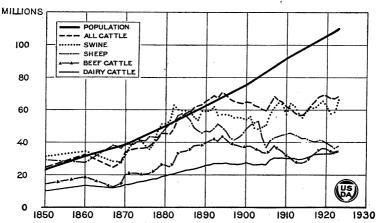


Fig. 8.—The marked divergence in the trends of human and animal population indicates a gradual change in our national diet. The numerical relation between people and livestock continued much the same from 1850 to the decade 1884–1893. The number of sheep show a downward trend since 1884. The number of 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,

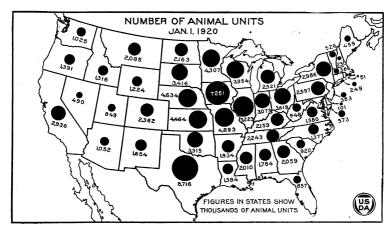


Fig. 10.—Nearly half the animal units in the United States are in the Corn Belt and Great Plains States. Yet even the eastern Corn Belt does not produce enough livestock to supply its needs for meat and other animal products. (See fig. 11.) It will be noted that livestock are most abundant in the regions 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.<sup>7</sup> The number

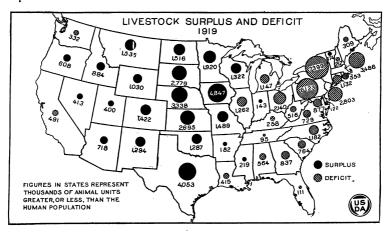


Fig. 11.—In the United States there was approximately one animal unit for each person in 1919. The above map shows for each State the number of animal units in excess or in deficiency of a number equal to the national proportion. Illinois had a deficiency because of the large industrial population of 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).

 $<sup>^7\,\</sup>rm Exception$  to this general statement should be noted in the case of the study by E. W. Shanahan, entitled "Animal Foodstuffs," London, 1920.

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" 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.	Human population.	Livestock (animal units).	Ratio 1 to—	Surplus of animal units.	Deficiency of animal units.
United States	Number, 105, 711, 000	Number. 105, 688, 000	1.0	Number.	Number.
Geographic divisions:	W 404 000	1 000 000	07		F F10 000
New England	7, 401, 000 22, 261, 000	1, 882, 000 5, 936, 000	. 25		5,519,000 16,325,000
East North Central.	21, 476, 000	18, 390, 000	21		3, 086, 000
West North Central	12, 544, 000	31, 128, 000	2.48		0,000,000
South Atlantic.	13, 990, 000	8, 422, 000 l		20,001,000	5, 568, 000
East South Central	8, 893, 000	8, 197, 000	. 92		696,000
West South Central	10, 242, 000	15, 350, 000	1.50	5, 108, 000	
Mountain	3, 336, 000	11, 032, 000	3.31		
Pacific	5, 567, 000	5, 352, 000	. 96		215,000
New England:	768, 000	459,000	.60		309,000
Maine New Hampshire	443, 000	231,000			212,000
Vermont.	352,000	526,000	1.49		212,000
Massachusetts	3, 852, 000	366,000	.10	1,1,000	3, 486, 000
Rhode Island.	604,000	51,000	. 08		553,000
Connecticut	1, 381, 000	249,000	18		1, 132, 000
Middle Atlantic:					
New York	10, 385, 000	2,986,000	. 29		7, 399, 000
New Jersey	3, 156, 000	353, 000	.30		2, 803, 000 6, 123, 000
PennsylvaniaEast North Central:	8, 720, 000	2, 597, 000	. 30		0, 123, 000
Ohio	5,759,000	3,619,000	. 63		2, 140, 000
Indiana	2, 930, 000	3,073,000	1.05	143,000	_,110,000
Illinois	6, 485, 000	5, 223, 000	. 81		1, 262, 000
Michigan	3,668,000	2,521,000	. 69	[ <b></b> ]	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 3.34		• • • • • • • • • • • • • • • • • • •
North Dakota	647, 000 637, 000	2, 163, 000 3, 416, 000	5.36		
South Dakota Nebraska	1,296,000	4,634,000	3.58		• • • • • • • • • • • • • • • • • • •
Kansas	1,769,000	4, 464, 000	2. 52		
South Atlantic:	1,100,000	1, 101, 000	2.02	2,000,000	
Delaware	223,000	101, 000	. 45		122,000
Maryland.	1, 450, 000	573, 000	.40		877,000
District of Columbia	438,000	7,000	.02		431,000
Virginia	2,309,000	1, 580, 000	.68		729, 000
VirginiaWest Virginia	1, 464, 000	948,000	. 65		516,000
North Carolina	2,559,000 1	1,377,000	.54		1, 182, 000

s 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 satisfectory.

Table 1.—Human population and livestock (animal units), January 1, 1920—Continued.

Division and State.	Human population.	Livestock (animal units).	Ratio 1 to—	Surplus of animal units.	Deficiency of animal units
South Atlantic—Continued.	Number.	Number.		Number.	Number.
South Carolina	1,684,000	920,000	. 55	Tramber.	764,00
Georgia	2, 896, 000	2,059,000			837, 00
Florida	968,000	857,000	.88		111,00
East South Central:	000,000	301,000	.00	• • • • • • • • • • • • • • • • • • • •	111,00
Kentucky	2,417,000	2, 159, 000	. 89		258,00
Tennessee	2, 338, 000	2, 243, 000	.96		95,00
Alabama	2,348,000	1,784,000	76		
Mississippi	1,791,000	2,010,000	1.12	219,000	564,00
West South Central:	1,,01,000	2,010,000	1.12	210,000	• • • • • • • • • • • • • • • • • • • •
Arkansas	1, 752, 000	1,934,000	1.10	182,000	
Louisiana	1,799,000	1,384,000	. 77	102,000	415,000
Oklahoma	2, 028, 000	3,315,000	1.63	1 287 000	110,000
Texas.	4,663,000	8,716,000	1.87		
Mountain:	2,000,000	-,,,,,,,,	2.0.	1,000,000	•••••
Montana	549,000	2,085,000	3, 80	1.536.000	
Idaho,	432,000	1,316,000	3, 05	884,000	
Wyoming	194,000	1, 224, 000	6. 31		
Colorado.	940,000	2,362,000	2. 51		
New Mexico.	360,000	1,654,000	4, 59	1, 294, 000	
Arizona	334,000	1,052,000	3. 15		
Utah	449,000	849,000	1. 89	400,000	
Nevada	77,000	490,000	6, 36		
Pacific:	,	,		,	
Washington	1,357,000	1,025,000	. 76		332,00
Oregon	783,000	1,391,000	1.78	608,000	•••
California	3, 427, 000	2,936,000	. 86		491,00

Note.—Due to rounding the figures the different items 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.	Ratio of persons to animal units, 1 to—
Germany Belgium France Great Britain and Ireland Spain Denmark Netherlands	7, 424, 000 39, 602, 000 45, 221, 000 19, 951, 000	Number. 31, 182, 000 2, 419, 000 22, 156, 000 19, 062, 000 7, 818, 000 3, 295, 000 2, 811, 000	0. 48 .33 .56 .42 .39 1. 20 .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 an 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.		Dairy cattle	Dairy cows	People per head of—		
		(all ages).	2 years old and over.	Dairy cattle.	Dairy cows.	
United States	Number.	Number.	Number.	Number.	Number.	
	105, 710, 620	31, 364, 459	19, 675, 297	3. 4	5. 4	
Subtropical coast	18, 176, 211	247, 987 5, 536, 022 5, 147, 168	151, 914 3, 117, 859 3, 347, 233	10.8 3.3 4.1	17.7 5.8 - 6.3	
Corn Belt. Hay and dairying belt. Great Plains.	12, 263, 229	5, 773, 957	3, 612, 164	2.1	3. 4	
	41, 032, 968	11, 291, 651	7, 364, 735	3.6	5. 6	
	2, 662, 822	1, 335, 501	809, 494	2.0	3. 3	
Rocky Mountain. Arid interior plateaus South Pacific North Pacific	1,313,228	378, 513	229, 699	3.5	5.7	
	1,556,132	475, 279	272, 391	3.3	5.7	
	2,826,599	610, 465	395, 925	4.6	7.1	
	2,099,551	567, 916	373, 883	3.7	5.6	

In European countries the ratios of dairy cows to people is much the same as in the United States. Previous to the war this ratio in

<sup>&</sup>lt;sup>9</sup>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.

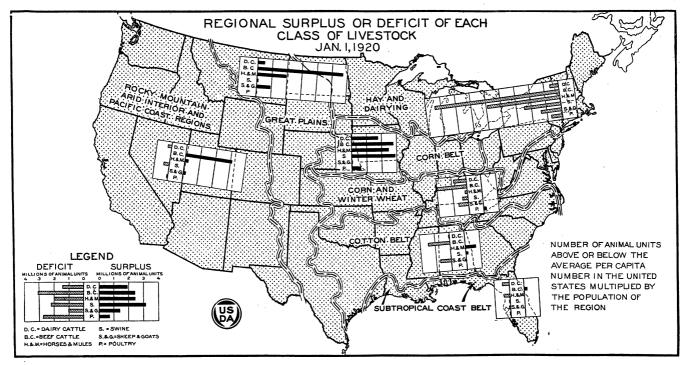


Fig. 12.—The principal regions of surplus livestock production are the Corn Belt and the Great Plains. These two regions produce a surplus of all classes of livestock. The area of greatest deficit is the Hay and Dairying region, where the large urban population has to depend in part upon other portions of the United States for its Animal Foodstuffs, especially for its beef and pork. This region, however, supplies almost its entire need for dairy products. The Cotton Belt also, and even the corn and winter wheat 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.

Region.	Population.	Beef cattle (all ages).	People per head of beef cattle.
United States  Subtropical coast Cotton Belt Corn and winter wheat belt Hay and dairying belt Great Plains Rocky Mountain Arid interior plateaus. South Pacific North Pacific	12, 263, 229 41, 032, 968 2, 662, 822 1, 313, 228	Number. 35, 288, 100  1, 082, 791 4, 020, 492 4, 565, 209 8, 110, 509 2, 779, 890 8, 163, 965 1, 626, 722 3, 713, 905 871, 026 873, 591	Number.  2.5 4.5 4.6 1.5 14.8 0.3 0.8 0.4 3.2 5.9

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.

ı 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.	Number.	Number.	Number.
	105, 710, 620	21, 872, 594	4.8	17. 2
Subtropical coast. Cotton Belt. Corn and winter wheat belt. Corn Belt. Hay and dairying belt. Great Plains. Rocky Mountain.	12, 263, 229 41, 032, 968 2, 662, 822 1, 313, 228	248, 230 4, 575, 392 4, 170, 818 4, 809, 384 4, 012, 762 2, 235, 677 569, 143	10.8 4.0 5.1 2.5 10.2 1.2 2.3	15. 0 16. 8 16. 6 18. 6 19. 3 16. 1 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. 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. 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, three-fourths 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

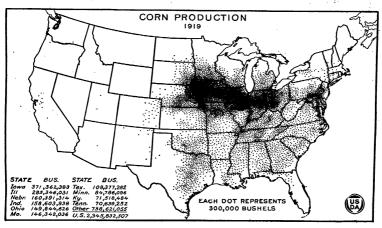


Fig. 13.—Corn is by far our most important forage crop. It supplies over half the harvested forage produced in the United States and is the real foundation of our vast meat-packing industry. More than half of the crop is produced in the Corn Belt (see fig. 12); but corn is the leading crop in value also 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

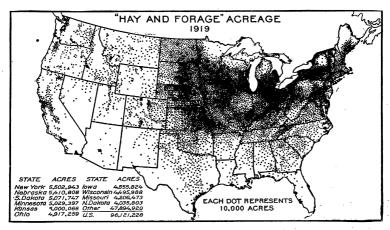


Fig. 14.—"Hay and forage" crops in the census reports include only the crops that are used as roughage for livestock, principally hay, fodder, silage, and roots. The distribution of these crops is heaviest in the north-central and northeastern quarter of the United States, especially around the margin 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-

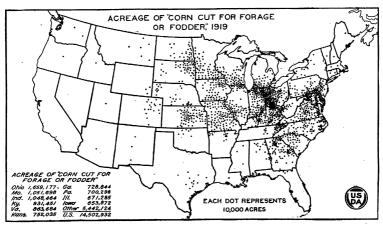


Fig. 15.—The practice of harvesting corn as fodder is less common in the areas of intensive corn production than it is on the outskirts of the Corn Belt. This method of harvesting results in a higher feed value for the crop, but requires too much labor to become popular on farms with a large corn acreage. It is probable that the corn from two-thirds of the acreage shown on this map was husked from 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 bushels 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

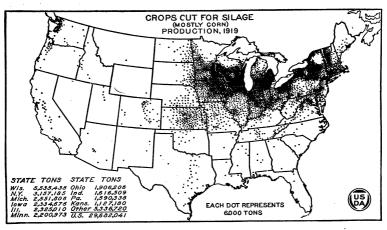


Fig. 16.—The distribution of silage production is correlated closely with the intensity of the dairy industry. The storing of corn and the sorghums in silos is also now becoming common in many of the dry-farming areas of the central and southern Great Plains region and in the irrigated districts of the 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.

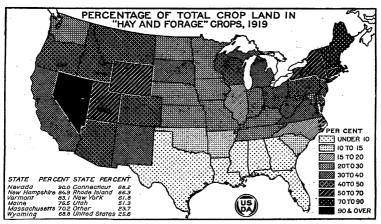


Fig. 17.—"Hay and forage" crops as considered by the census include only those crops which are used as roughage. The percentage of cultivated land devoted to such crops is highest in New England, Wyoming, and Nevada, ranging from 66 per cent to 90 per cent in these States. In most of the States north 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 3½ per cent is in crops. About 35 per cent of the crop land

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. It is realized that this system, like all

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:

	Tons.	Tons.	
Concentrated feeds:		Hays and fodders—Continued.	
Cottonseed or flaxseed meal and		Timothy, wild hay, miscellane- ous tame hays, and sorghum	
peanuts	2. 10	fodder 8.00	
Corn, barley, rye, emmer, and	0.05	Straws and stovers:	
spelt	2. 65	Corn and sorghum stover 10.00	
Wheat, mixed grains, dry beet	ŀ	Oat and rice straw 11.00	
pulp		Cottonseed hulls 12.00	
Oats, sorghums, rice	2.85	Barley straw 13. 00	
Havs and fodders:	İ	Wheat, rye, and flax straw 15.00 Silage and roots:	
Alfalfa, annual legumes, clover_	5. 00	Silage and sweet potatoes 16.00	
Corn fodder and small-grain		Potatoes 20. 00	
hays	7. 00	Wet beet pulp and roots 32.00	1

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.

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 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. Hays and fodders. Straws and stovers. Silage and roots. Mature crops pastured off. Total.	44,147,000 6,035,000	Tons. 85, 494, 000 101, 918, 000 45, 420, 000 34, 263, 000 4, 978, 000	Number. 31,862,000 15,761,000 4,301,000 2,034,000 855,000 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 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

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.	Produc- tion.	Production, less seed and net exports.	Esti- mated quantity eaten by live- stock,	Theoret- ical annual ration,	Animal units each item would theoretically support for one year.
Corn	7,679	Thous- ands of tons. 65,683 16,883 28,362 2,018 2,929 21,817 2,128 311 175 795	Thous- ands of tons. 65, 083 14, 743 19, 735 1, 997 1, 932 1, 592 711 4 241 311 175 308	Thous- ands of tons. 5 58, 576 14, 256 7 6, 555 1, 997 6 1, 519 986 510 241 280 175 8 90	Tons. 2, 65 2, 85 2, 75 2, 85 2, 65 2, 10 2, 65 2, 10 2, 75 2, 75 2, 85	Thous- ands. 22, 104 5, 002 2, 384 701 573 470 192 112 102 64
Peanuts: Nuts. Cake and meal Emmer and spelt. Field peas. Field beans. Sweet corn.	167	302 8 82 73 81 422 91	367 82 67 65 440 90	18 62 67 52 44 30	2. 10 2. 10 2. 65 2. 85 2. 65 2. 65	9 30 25 18 17 11
Soybeans: Seed	113 150 633	33 36 91	10 5 8 15 10	8 8 15 5	2. 65 2. 75 2. 75 2. 85	3 3 5 2
Total	221,976	122, 433	107,982	85, 494		31,862

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. the concentrates corn is by far the most important, providing about

For methods employed in calculating the figures given see footnotes under Tables 13 to 20.
 From report of the Federal Trade Commission on Commercial Feeds, March 29, 1921.
 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.

Imports of flaxseed and products exceed exports.
 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.
 Includes brewers' grains and malt sprouts.

 <sup>7</sup> Mill feed mostly.
 8 Bran and polish with the accompanying broken grains or "grits."

# RELATIVE IMPORTANCE IN LIVESTOCK PRODUCTION OF THE FIVE PRINCIPAL CLASSES OF HARVESTED FORAGE, UNITED STATES, 1919.

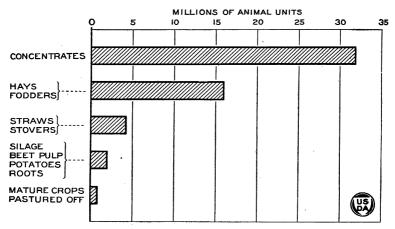


Fig. 18.—The concentrates alone provide sufficient feed to sustain over 32,000,000 animal units for one year, which is almost exactly twice the number that could be maintained on the hays and fodders, and is greater than the total of all other harvested forage.

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.

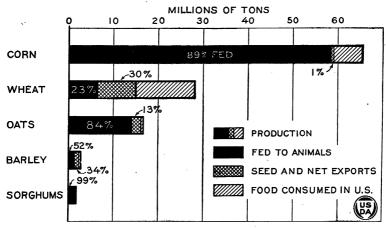


Fig. 19.—Corn is by far the most important grain feed of livestock in the United States. Outs rank second, although the total production is less than that of wheat. The wheat represented as fed to livestock consists of the bran, middlings, and other by-products of the flour mills, and an estimated 2 per cent of the grain fed to poultry and other farm animals.

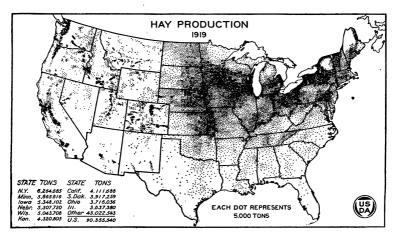


Fig. 20.—The production of hay is greatest in the hay and dairying region, in the western Corn Belt, and in the irrigated valleys of the West. New York leads all other States in production followed closely by Minnesota, Iowa, Nebraska, Wisconsin, and Kansas. These States produce one-third of the entire 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.

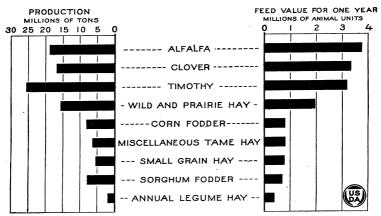


Fig. 21.—Alfalfa hay, on account of its high feeding value per unit of weight, leads all the hays and fodders in the number of animal units it will theoretically support for one year. The production of timothy hay is considerably greater than that of clover hay, but the latter outranks it in aggregate feed value. The production of timothy and clover mixed, as reported by the census, is assigned half to timothy and half to clover.

<sup>&</sup>quot;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.

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 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. 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. Clover 1. Timothy 1 Wild grass Corn (fodder) 2 Miscellaneous tame grass 8 Sorghum (fodder) 4 Oats Wheat 5 Cowpea 6 Barley 5 Soybean 6 Peanut 6 Velvet bean 7 Rye 5 Field bean 6 Field pea 6 Field pea 6 Vetch 6	2, 300 1, 700 1, 100 1, 500 287 307 193 175 64 59	Thousands of tons. 18, 853, 16, 818, 25, 470, 15, 631, 8, 100, 6, 404, 7, 913, 2, 300, 1, 700, 1, 700, 287, 230, 193, 150, 992, 69, 45,	Thousands of tons. 18, 853, 16, 818, 25, 470, 15, 631, 5, 670, 6, 404, 45, 539, 22, 300, 1, 700, 287, 230, 15, 700, 1990, 193, 150, 992, 69, 44	Tons. 5 5 8 8 7 7 8 8 7 5 5 7 5 5 5 5 5 5 5 5	Thousands. 3, 771 3, 364 4, 9, 14 1, 954 1,
Hay, net imports 8	82, 220	106, 558	101, 918	7	15,761

and Sudan grass.

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-

<sup>1</sup> 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.

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)

<sup>20.)

7</sup> 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.

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.

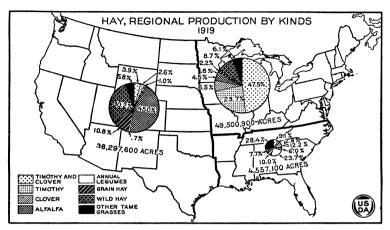


Fig. 22.—In the northeastern humid region (the States north of the Cotton Belt and cast of the Great Plains) timothy constitutes nearly half the acreage of hay, and mixed with clover nearly a quarter more. In the Southeastern States the census group known as "other tame and cultivated grasses" (in this 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 <sup>12</sup> are the least nutritious of all substances used as feed, if estimated on the basis of dry weight. The best of them

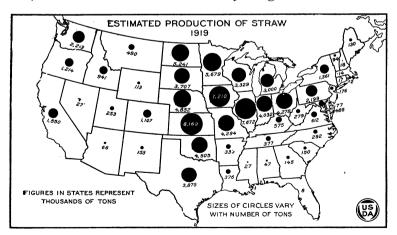


Fig. 23.—An estimate of the quantity of straw produced in each State has been made chiefly by calculating it from known ratios of straw to grain for the different cereals. Much of the straw is wasted or used for other purposes than for feeding livestock; yet on account of the immense quantity produced 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.

<sup>&</sup>lt;sup>12</sup> 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.

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 aggregate feed value in 1919.

Kind of straw or stover.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoreti- cally sup- port for one year.
Corn (stover)¹ Oat Wheat Sorghum (stover)¹ Cotton (seed hulls)² Field bean Peanut Barley. Cowpea Rye Mixed grains Field pea Rice. Soybean Flax Total	37, 991 73, 099 3, 957 1, 162 1, 125 6, 473 633 7, 679 577 233 911	Thousands of tons. 75,000 34,000 43,000 43,000 4,946 1,143 581 563 3,000 508 116 911 56 315	Thousands of tons. 25,000 10,000 4,300 2,473 1,029 523 422 750 237 250 152 87 90 42 65	Tons.  10 11 15 10 12 8 7 13 8 15 11 8 11 8 11	Thousands. 2,500 909 287 247 86 65 60 58 30 17 14 11 8 5 4

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 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.

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 crescent-shaped 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, root-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 theoreti- cally sup- port for one year
Corn silage Beet pulp (wet) Potatoes Sweet potatoes Sorghum silage Root crops Canning pea silage <sup>1</sup> Total	3, 252 804 79 88	Thousands of tons. 29, 284 2, 550 8, 713 2, 343 398 599 260 44, 147	Thousands of tons. 29, 284 2, 550 797 440 398 599 195 34, 263	Tons.  16 32 20 16 16 32 16	Thousands. 1,830 80 40 28 25 19 12 2,034

<sup>&</sup>lt;sup>1</sup> 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

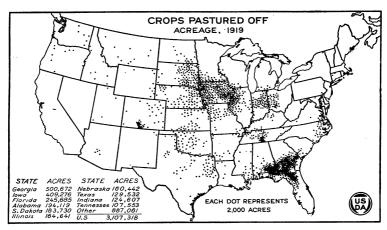


Fig. 24.—The acreage of mature crops pastured off is composed very largely of corn in the Northern States and of cowpeas, velvet beans, and peanuts in the Southern States. In many cases these legumes are interplanted with corn in the South, and in the Corn Belt the practice of planting soybeans in the 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

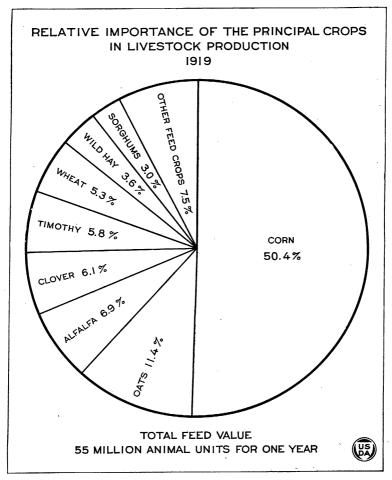


Fig. 25.—Corn contributes as much feed for our livestock as all other crops taken together. Corn originated in the Western Hemisphere, and was the chief food grain of the American Indian when this country was discovered by the white man. While it has not retained its primitive importance among the food 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 theoreti- cally sup- port for one year.
Corn Cowpeas Velvet beans. Peanuts. Soybeans. Total.	Thousands. 2, 350 1, 000 800 1, 125 174 3, 107	Thousands of tons. 1 3,525 800 800 750 160 6,035	Thousands of tons. 1 2,468 800 800 750 160 4,978	Tons. 7 5 5 5 5 5 5	Thousands. 353 160 160 150 32

<sup>1</sup> 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.

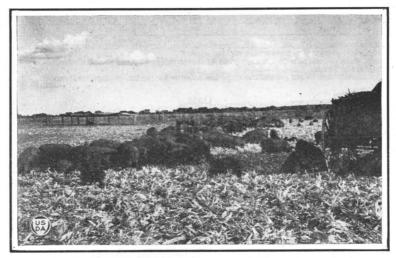
Table 12.—Relative importance in livestock production of the principal cropplants producing harvested forage, 1919.

Crop plant.	Animal units each item would theoretically support for one year.	Crop plant.	Animal units each item would theoretically support for one year.
1. Corn 2. Oats 3. Alfalfa 4. Clover 5. Timothy 6. Wheat 7. Wild or native grasses 8. Sorghums and sugar cane 9. Barley 10. Miscellaneous tame grasses 11. Cotton 12. Cowpeas 13. Peanuts 14. Rye 15. Velvet beans 16. Sugar beets	6, 240, 000 3, 7771, 000 31, 364, 000 2, 914, 000 1, 954, 000 1, 965, 000 800, 000 556, 000 295, 000 230, 000 204, 000	17. Flax 18. Mixed grains 19. Soybeans 20. Field beans 21. Field peas 22. Rice 23. Potatoes 24. Sweet potatoes 25. Emmer and spelt 26. Roots 27. Canning peas 29. Vetch 29. Hay (imported)  Total	40,000 40,000 28,000 25,000 19,000 9,000

<sup>1</sup> 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.

#### 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 acres 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 aggregate feed value in 1919.

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoreti- cal annual ration.	Animal units each item would theoreti- cally sup- port for one year.
Grain. Fodder Stover Silage. Pastured off. Sweet corn	87, 772 3, 924	Thousands of tons. 65, 683 2 8, 100 75, 000 29, 284 3 3, 525 91	Thousands of tons. 58, 576 5, 670 25, 000 29, 284 4 2, 468 30	Tons. 2. 65 7. 00 10. 00 16. 00 7. 00 2. 65	Thousands. 22, 104 810 2, 500 1, 830 353 11 27, 608

<sup>&</sup>lt;sup>1</sup> The acreage of stover is included also in the grain acreage, hence it is omitted from the total.

### 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

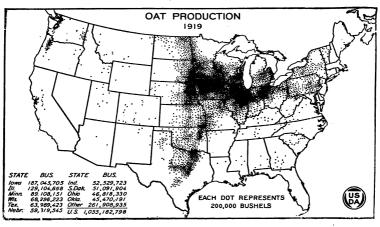


Fig. 27.—Oats rank second to corn among the crops producing harvested forage. The threshed grain is valued especially for feeding work animals. Production of oats is heaviest in the northern portion of the Corn Belt, but the crop is very important also in the hay and dairying region and in eastern Kansas, 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 nurse-crop 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.

<sup>&</sup>lt;sup>2</sup> Average yield of corn plus the average yield of stover.

<sup>3</sup> Average yield of corn plus the average yield of stover reduced by one-sixth for interplanting of leguminous crops in the South.

Table 14.—Oats: 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 theoreti- cally sup- port for one year.
Grain Hay. Straw Total.	Thousands. 37, 991 2, 300 37, 991	Thousands of tons. 16,883 2,300 34,000	Thousands of tons. 2 14, 256 2, 300 10,000	Tons. 2. 85 7. 00 11. 00	Thousands. 5,002 329 909 6,240

The acreage of straw is included also in the grain acreage, hence it is omitted from the total.
 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

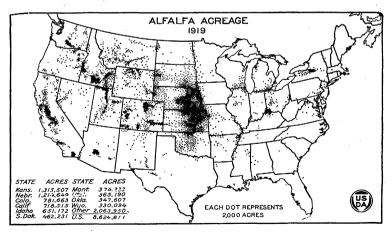
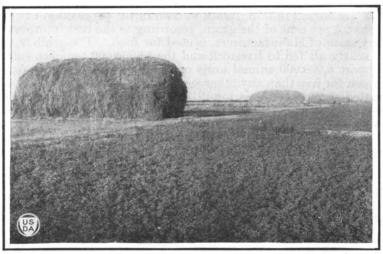


Fig. 28.—Kansas and Nebraska led in alfalfa acreage in 1919. The climate in these States is subhumid and the soil is fertile and well supplied with lime. Most of the alfalfa west of the one hundredth meridian is grown under irrigation. On the Irrigated lands it is commonly the leading crop. Less than 9 per cent of the alfalfa acreage of the United States is east of the Mississippi River and only 13½ 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, depending 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 95th 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

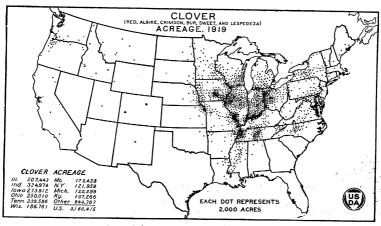


Fig. 30.—It is said that the best interests of a permanent agriculture require about 20 per cent of the cultivated acreage to be in clover or a similar crop every year. In 1919 only 2.7 per cent of the cultivated land on farms in the Corn Belt was devoted to clover. If half the acreage of timothy and 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-

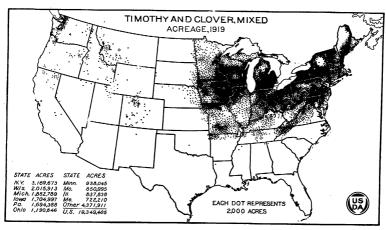


Fig. 31.—Timothy and clover, mixed, is the premier hay crop of the north-eastern quarter of the United States. The total production of this mixed hay is nearly twice that of timothy alone and over six times that of clover alone. Timothy and clover do not thrive in dry regions except when irrigated. The 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).

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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 hav 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

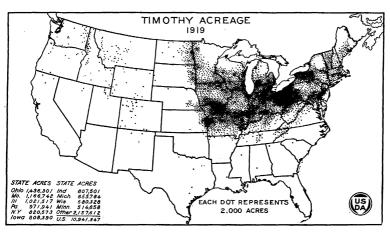


Fig. 33.—Timothy is practically confined to the northeastern quarter of the United States, except for a scattered acreage in the cool, moist valleys of the Rocky Mountain region. There were nearly 1,500,000 acres devoted to timothy cut for hay in Ohio in 1919, and Missouri and Illinois each are credited 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

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. 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 The principal by-products are bran, of the wheat milled in 1919. 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 hav is an important forage, particularly in the Pacific Coast

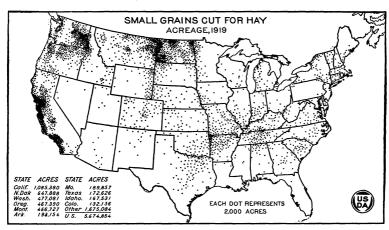


Fig. 34.—In regions where other have are scarce a considerable acreage of the small grains is cut for hay, usually to provide roughage for work stock on the farm. Some grain hay finds its way to the city markets, however, principally on the Pacific coast. Of the 5.462,853 tons of grain hay produced in 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.

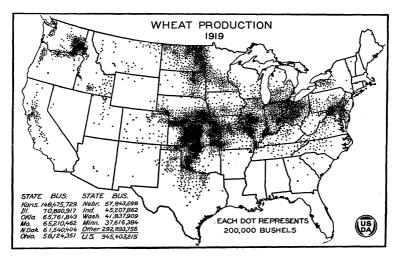


Fig. 35.—Wheat is, of course, most important as human food. However, the bran, middlings, and other by-products of the flour mills, the low-grade grain, the straw, the wheat cut for hay, and the fall pasturage of wheat fields in the winter wheat areas, altogether provide a generous contribution to our forage supply.

Table 15.-Wheat: Acreage, production, quantity eaten by livestock, and 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	Thousands. 73,099 1,700 73,099 274,799	Thousands of tons. 28,362 1,700 43,000	Thousands of tons. 1 6,555 1,700 4,300	Tons. 2.75 7.00 15.00	Thousands. 2,384 243 287 2,914

This quantity was estimated as indicated in the preceding text discussion.
 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

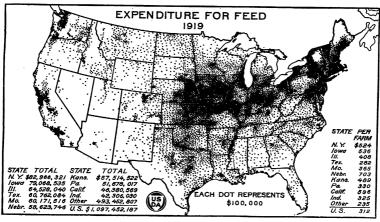


Fig. 36.—The expenditure for feed, as reported by the census, includes mill feed, mostly wheat bran and middlings, grain, hay, and other feed not raised on the farm. The expenditure is greatest in the hay and dairying region, especially the eastern portion, where the production of grain is deficient, 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 for feed.

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

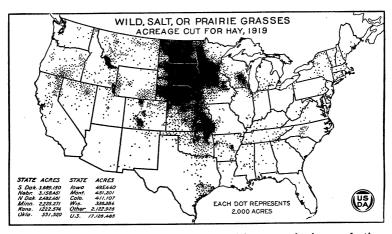


Fig. 37.—The importance of wild, salt, and prairie grasses for hay production will be appreciated when it is noted that they occupied in 1919 almost twice the acreage devoted to alfalfa and produced nearly as much hay. About three-fourths of the acreage of wild hay is found in the Dakotas, Nebraska, 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 two-thirds 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 live-stock 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 (A. 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 im-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 hav species. In the high mountain parks of Colorado, Wire grass (Juncus balticus) 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 hav.

#### 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

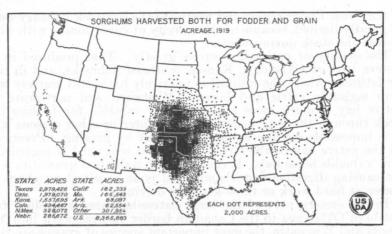
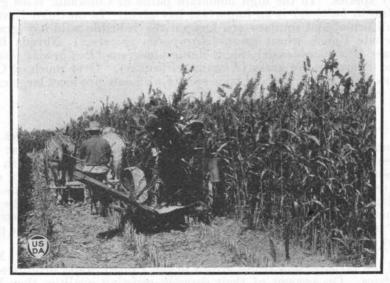


Fig. 38.—This map shows the combined acreage of all sorghums, except those grown for sirup production and broomcorn. It will be noted that the sorghum crop is confined chiefly to the southern Great Plains and the irrigated valleys of Arizona and California. The sorghums are very drought resistant and 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	Produc- tion. <sup>2</sup>	Estimated quantity eaten by livestock. <sup>3</sup>	retion	Animal units each item would theoretic- ally support for one year.
Grain Fodder Stover Silage For sirup	Thousands. 3,619 4,747 3,957 79 482 9,265	Thousands of tons. 2,018 7,913 4,946 398 1,644	Thousands of tons. 1,997 5,539 2,473 398	Tons. 2.85 8.00 10.00 16.00	Thousands. 701 692 247 25

<sup>1</sup> The acreage of grain is included also in the stover acreage; hence it is omitted from the total, which

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.

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 1½ 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.

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 stower are extended.

cent of the stover are eaten by animals.

## 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

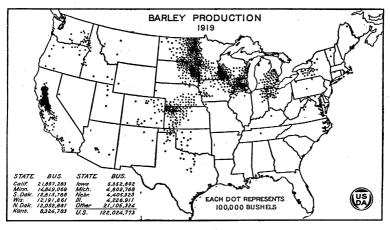


Fig. 40.—Barley ranks ninth among the forage-producing crops. Its value as a substitute for corn in the feeding of farm animals is becoming more generally recognized, especially in sections where corn is not well adapted to climatic conditions. The principal centers of production are the western portion 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 theoreti- cally sup- port for one year.
Grain	Thousands. 6,473 1,500 6,473	Thousands of tons. 2,929 1,313 3,000	Thousands of tons. 1, 519 1, 313 750	Tons. 2.65 7.00 13.00	Thousands. 573 188 58

<sup>1</sup> 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.

Kind of grass.	Estimated acreage.	Estimated production.	0.000.001	Animal units each item would theoreti- cally sup- port for one year.
Redtop . Orchard grass Millets Kentucky bluegrass Sudan grass. Crab grass Bermuda grass. Johnson grass Miscellaneous. Total	750 650 600 600	Thousands of tons. 800 800 1,000 400 1,050 500 954 6,404	Tons. 8 8 8 8 8 8 8 8 8	Thousands. 100 100 125 50 131 63 50 62 119

<sup>&</sup>lt;sup>1</sup> 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.

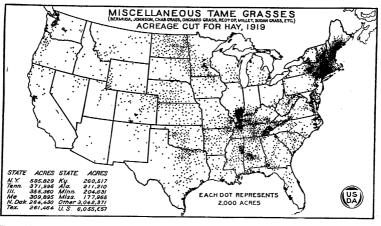


Fig. 41.—The miscellaneous tame grasses cut for hay, which include orchard grass, redtop, Kentucky blue grass, Bermuda grass, Johnson grass, Sudan grass, millet, brome grass, and others, cover an acreage only a little more than half as large as the acreage devoted to timothy alone. Nevertheless, these 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 theoreti- cally sup- port for one year.
Grain Hay Straw Total	Thousands. 7, 679 175 7, 679	Thousands of tons. 2, 128 150 5, 000	Thousands of tons. 510 150 250	Tons. 2. 65 7. 00 15. 00	Thousands. 192 21 17 230

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 The principal acreages were in Minnesota, 193,864; 577,078 acres. 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. mated 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 quantities 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

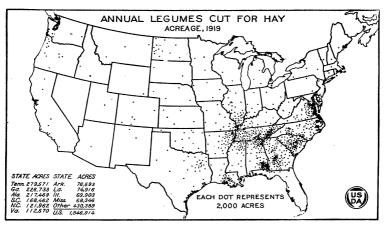


Fig. 42.—The annual legumes included in the acreage shown on the above map are cowpeas, soybeans, field peas, peanuts, and vetches. These crops are most important in the Southeastern States. That portion of the crop cut for hay represents only a small part of the total acreage of these legumes. Large 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

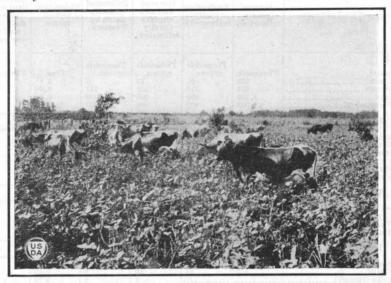
<sup>&</sup>quot;The actual acreage of these legumes is very difficult to determine, owing to the extent to which they are interplanted with corn and other crops. The acreage reported by the Census is much less than that estimated by the Department of Agriculture, especially for velvet beans. (See Farmers' Bulletin 1276, p. 9, and for soybeans and cowpeas the Monthly Crop Reporter for December, 1920.)

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.	Animal units each item would theoreti- cally sup- port for one year.
Compaga	Thousands.	Thousands	Thousands	Thousands	<i>m</i>	mı
Cowpeas: Grain	633	of tons.	oft ons.	of tons.	Tons. 2.85	Thousands.
Straw	633	316	316	237	8.00	30
Hay	1,100	990	990	990	5.00	1.8
Pastured off	1,000	800	800	800	5.00	: 160
Total	1 2, 733					390
Peanuts:		=====				
Grain	1, 125	302	367	18	2.10	)
Mealand cake		82	82	62	2.10	30
Straw	1, 125	563	563	422	7.00	60
Hay Pastured off	307 1, 125	230 750	230	230	5.00 5.00	46 150
rastured off	1,125	780	750	750	5.00	150
Total	1 2, 557					295
Velvet beans:						
Grain	150	36	15	15	2.75	5
Pastured off	800	800	800	800	5.00	160
Hay	193	193	193	193	5.00	39
Total	1, 143					234
Sovbeans:						
Grain	113	33	10	8	2.65	3
Cake (import)			8	8	2.75	3
Straw	113	56	56	42	8.00	5
Hay	287	287	287	287	5.00	57
Pastured off	174	160	160	160	5.00	32
Total	1 574					100
Field beans:						
Grain	1, 162	422	440	44	2.65	17
Straw	1, 162	581	581	<b>52</b> 3	8.00	65
Hay	64	92	92	92	5.07	18
Total	1 1, 226			•••••		100
Field peas:						
Grain	233	81	65	52	2.85	19
Straw	233	116	116	87	8,00	îĭ
Hay	. 59	69	69	69	5.00	14
Total	1 292					43
Canning peas: Silage	104	260	260	195	16, 0)	12
Vetch:	104	200	200	199	10.07	12
Hay	30	45	45	44	5.00	9
-						1.153

<sup>&</sup>lt;sup>1</sup> 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

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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 value in 1919.

Kind of forage.	Acreage.	Production.	Estimated quantity eaten by livestock.	Theoretical annual ration.	Animal units each item would theoret- ically sup- port for one year.
Grain	Thousands. 911 911	Thousands of tons. 795 911	Thousands of tons. 90 90	Tons. 2. 85 11. 00	Thousands. 32 8 40

<sup>&</sup>lt;sup>1</sup> 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 normally 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 Recent studies show that pastures has persisted among farmers. 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 pas-

turage.

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

<sup>&</sup>lt;sup>14</sup> 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 also extended to include the berries of palm trees and the seeds of pine trees.

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.<sup>15</sup>.

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.

# ESTIMATED AREAS OF HUMID AND ARID GRASSLAND AND FOREST PASTURES, IN FARMS AND NOT IN FARMS, UNITED STATES, 1919.

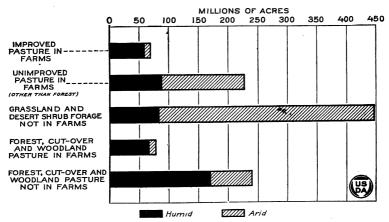


Fig. 44.—Although improved pasture in farms occupies a smaller acreage than any other class of pasture shown in the graph, it carries about 25,000,000 animal units during the 6-months season, or nearly one-fourth of the total animal units in the United States (see Table 22). Unimproved pasture in farms 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. The carry-

<sup>15</sup> See next article, The Utilization of the Land for Crops, Pastures, and Forests, p. 469.
16 See "The Utilization of Our Land for Crops, Pasture, and Forest," p. 427.

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.

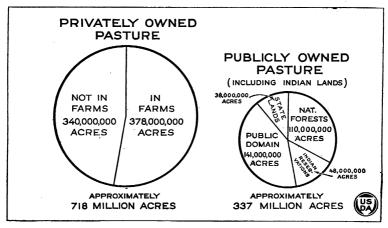


Fig. 45.—Over two-thirds of the land used for grazing is privately owned. Of the privately owned grazing land stightly over half is in farms. The privately owned land not in farms includes a vast area in the West, belonging to railroad and lumber companies and to large livestock producers, and a smaller 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.

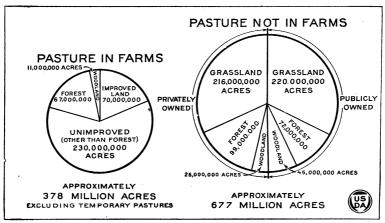


Fig. 46.—Although pasture land in farms includes only 36 per cent of the total grazing land of the United States, it carries 60 per cent of the total animal units grazed (excluding temporary pasture). Improved pasture is the most productive. It includes only 7 per cent of the total pasture area (in farms 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

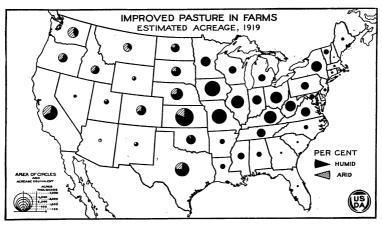


Fig. 47.—The Corn Belt and the Great Plains States contain the largest areas of improved pasture. In the Western States a considerable amount of arid and semiarid pasture which has been fenced has been included evidently in improved land. The proportion of this arid pasture, as shown on the map, is only 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	Number of animal units carried.	
•	Acres.	unit and length of season.	Season.	Year long equivalent.
Humid grassland: Improved in farms. Unimproved in farms—East. Unimproved in farms—West. Privately owned not in farms National forest (alpine) Indian reservations Other publicly owned.	Thousands 60,000 73,000 15,000 70,000 2,000 3,000 8,000		Thousands. 24,000 14,600 1,500 7,000 333 375 800	Thousands. 12,000 7,300 1,125 5,250 83 281 600
Total  Semiarid and arid grazing land: 2 Grassland and dessert shrub— Improved in farms. Unimproved in farms. Privately owned not in farms. National forests. Indian reservations. Other publicly owned. Public domain (excluding next item and woodland). Mohave-Gila Desert. Pinon-juniper and chaparral woodland (including 30,000,000 acres in national forests <sup>3</sup> ).	231,000 10,000 142,000 146,000 14,000 27,000 116,000 13,000	10 for 6 months 15 for 9 months 20 for 9 months 18 for 6 months 38 for year long 27 for 8 months 55 for 6 months 55 for 2 months	48,608 1,000 9,466 7,300 778 1,000 1,000 2,109 236 1,620	26, 639 500 7, 100 5, 475 389 1,000 667 1,054 39
Total  Forest and cut-over land:  In farms.  Privately owned not in farms.  National forests.  Indian reservations.  State forests.	587,000 66,400 98,000 65,000 5,600 2,000	20 for 6 months 25 for 6 months 24 for 5½ months 24 for 6 months 25 for 6 months	24,509 3,320 3,920 2,708 233 80	17,439 1,660 1,960 1,241 117 40
Total. Temporary crop land pastures: Hay aftermath. Stubble fields <sup>5</sup> . Winter grain fields. Total.	237,000 24,600 45,000 8,000 77,000	3 for 1½ months 5 for 2 months 5 for 3 months	8,000 9,000 1,600	5,018 1,000 1,500 400 2,900
Total pasture.	1, 132, 000			<sup>6</sup> 51,996

¹ These estimates, which are subject to change, are based on 1920 and 1910 census statistics: data supplied by the Forest Service, 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 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.
⁴ Of the forest, cut-over, and burned-over land, it is estimated 246,000,000 acres are not pastured.
⁴ Of the forest, cut-over, and burned-over land, it is estimated 246,000,000 acres are not pastured.
⁶ The forage supplied by pasture is, therefore, almost equal 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 (Tables 22 above) were prepared by Mr. Baker. (Table 22 above) were prepared by Mr. Baker.

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.

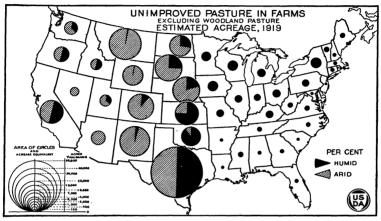


Fig. 48.—The Great Plains and Rocky Mountain States contain most of the unimproved pasture in farms. Much of this pasture in the Great Plains, Rocky Mountain, and Arid Interior regions is arid or semiarid. In the East it is mostly upland pastures, often hilly and stony. In the Lake States and along the 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, re-

gardless 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
- (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. 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.

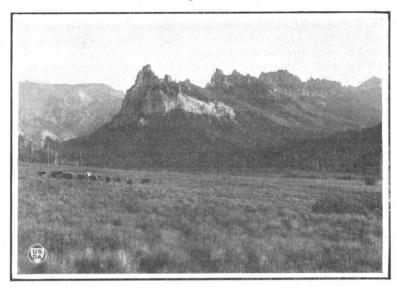
In the far Western States, where there are large areas of land usable only for grazing purposes, most of the livestock is grazed during as much of the year as possible. A number of farmers, especially in the semiarid Great Plains region, divide their lands into summer and winter pastures. On some of 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 Uncompangre 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, however—Johnson 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 winter 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 one-fourth 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.

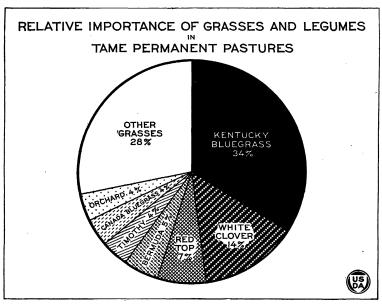


Fig. 51.—Of the various tame grasses and legumes which form the vegetation of permanent tame-grass pastures in the United States, Kentucky blue grass constitutes about one-third of the total, while white clover, redtop, Bermuda grass, timothy, Canada blue grass, and orchard grass jointly form 38 per 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.

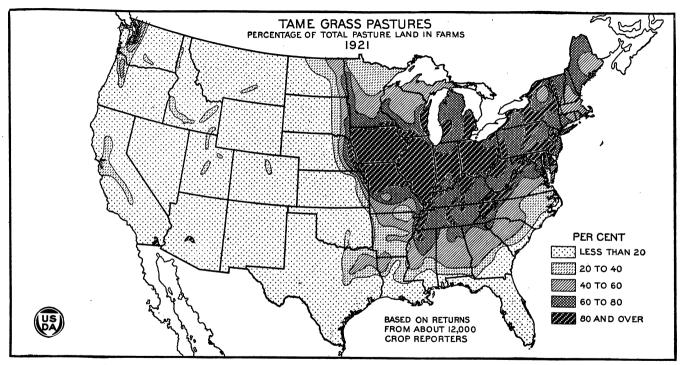


FIG. 52.—Most of the tame-grass pastures are in the northern humid region. In the Corn Belt, where tame grasses constitute 80 per cent or more of all pastures, rotation pastures, largely timothy and clover, are very important. In the South little attention has been given to tame pastures in the past, 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 North Pacific region and in some of the irrigated districts.

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 semi-arid grassland and desert shrub areas, limited areas of the humid grassland, and nearly one-third of the forest and woodland pasture.

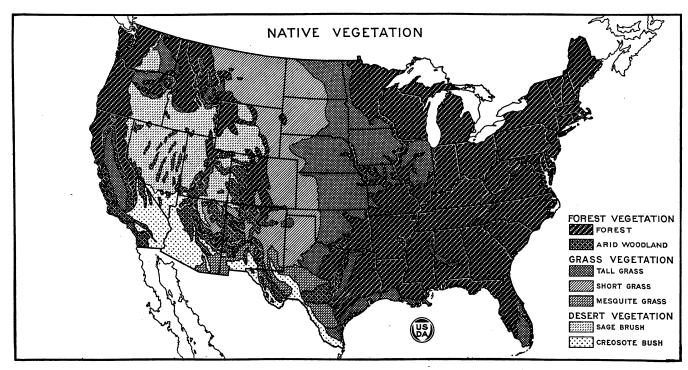


Fig. 53.—Forests, including semiarid woodland (pinon, juniper, mesquite, chaparral, etc.), originally covered about 830,000,000 acres in the United States. About 270,000,000 acres have been cleared for agriculture and 350,000,000 acres have been cut over or devastated. About 670,000,000 acres of land 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

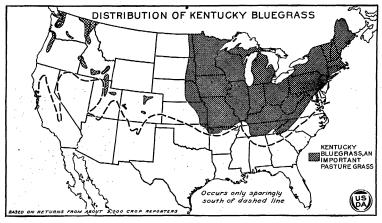


Fig. 54.—Kentucky blue grass is the most important pasture plant in the northern humid region and is undoubtedly the leading tame-pasture grass in the United States. It is also important in the valleys of the Pacific humid region, and occurs in many of the irrigated pastures and some of the mountain 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-

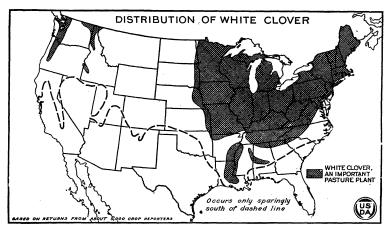


Fig. 55.—White clover occurs in most pastures of the northern humid region. It grows much farther south than Kentucky blue grass, extending in places to the Gulf of Mexico. It is also found in many of the humid valleys and mountain areas of the West.

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.

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-

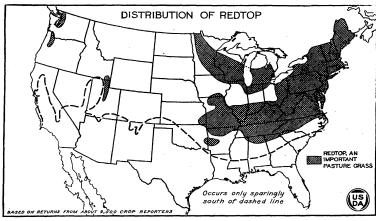


Fig. 56.—Redtop (including the bent grasses) occupies a prominent place in many of the pastures of the northern humid region and the more mountainous portions of the southern humid region. In west-central Ohio, central Indiana and Illinois, and in most of Iowa, where more than 50 per cent of the tame-grass 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

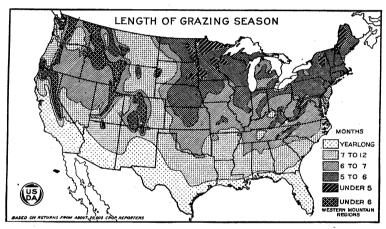


Fig. 57.—The average length of grazing season for the entire United States is about 6½ months. In the hay and dairying region of the North and in those parts of the Corn Belt where late summer droughts are frequent and the feed used up early in the fall the grazing season is less than 6 months. In the 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

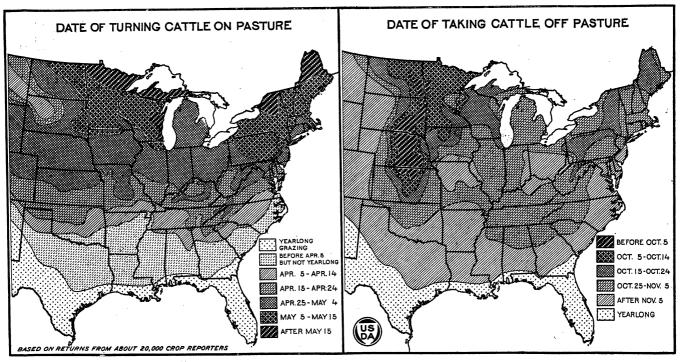


Fig. 58.—In the northern part of the eastern humid region cattle are mostly turned on pasture about May 1, at which time the grass has made a fair start. In the southern part they are mostly turned out in April, except where they are allowed to graze throughout the entire year. In sections when the pasture gives out early because of shortness of feed, due to dry weather or insufficient acreage, cattle are taken off pasture as early as October 1. Where there is an abundance of feed they may be left out until snow falls. Sheep, which graze on a large variety of vegetation, are usually turned out a week or two earlier and kept on pasture a little later in the fall.

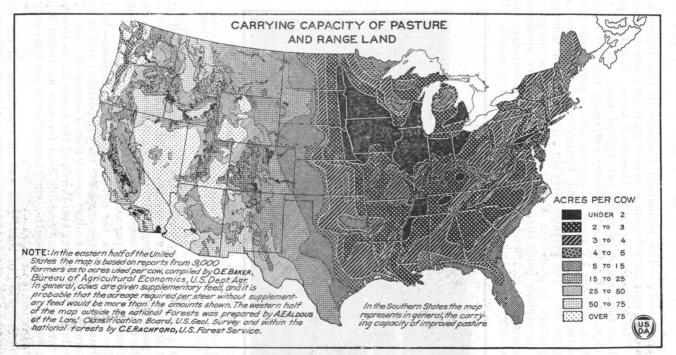
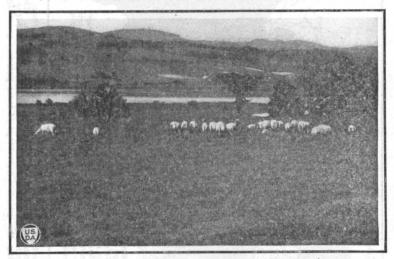


Fig. 59.—In the Corn Belt and in the southwestern portion of the hay and dairying region, where the soil is naturally rich and where there is ample rainfall, most of the pastures will carry an animal unit on 1 to 2 acres. The lowest carrying capacity, over 75 acres per animal unit, is in the arid interior 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.

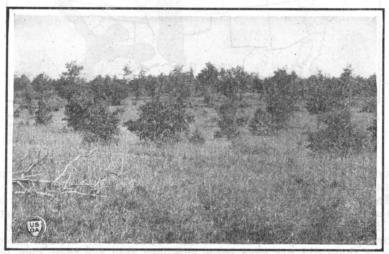
Fig. 60.—A pasture in northern Vermont on which sheep have been grazed for several years. It has an excellent stand of blue grass and is comparatively free from weeds.

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.

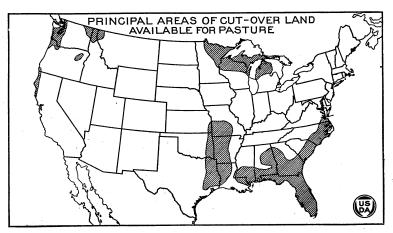
Fig. 61.—Jack pine and scrub oak are characteristic of the sandy plains of northern Michigan, Wisconsin, and Minnesota. So long as these pine plains are subject to fires they are incapable of either forest or pasture improvement. In their present condition they afford only very poor grazing.

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-

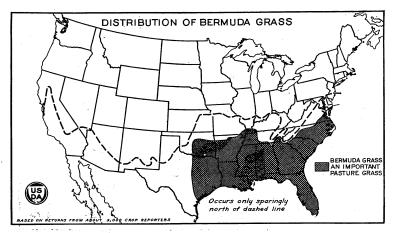


16. 62.—The principal areas of cut-over land available for grazing purposes are in the piney-woods regions of the south Atlantic and Gulf coastal plain and the upper Lakes region of Michigan, Wisconsin, and Minnesota. Much of this land is sandy, although good soils are also to be found. There are smaller 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



G. 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 West-Central 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.

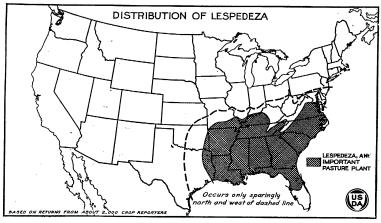


Fig. 64.—Lespedeza occupies a prominent place as a pasture plant in most of the Southeastern States. While it will grow on poor soils, it does best on rich loams. It is spreading over a large area of the southern cut-over lands, where it furnishes excellent feed after the wire grass has become unpalatable. 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.

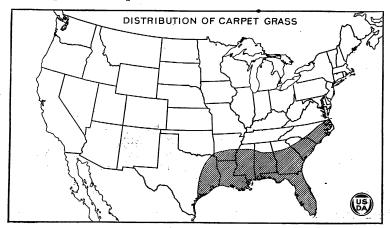


Fig. 65.—Carpet grass is becoming one of the most important pasture grasses in the southern humid region. On many soils it has demonstrated its ability to crowd out most other grasses. It is common around small towns where burning the pastures is not customary and close grazing is practiced.

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 steer a year.

other unimproved land, especially during the spring and early sum-

mer 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 live-stock 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 1½ 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.

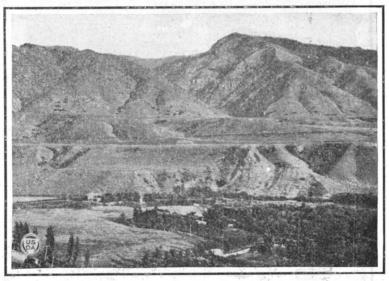
Fig. 67.—A "park" or open space in the yellow-pine forests of the higher plateau region of Arizona. Grama grass and other short grasses prevail, although some weeds and browse occur. These parks, which sometimes contain several hundred acres, are used mostly as summer range for cattle and sheep.

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 live-stock 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-

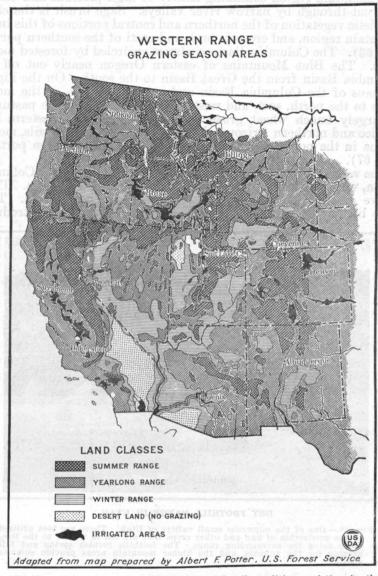
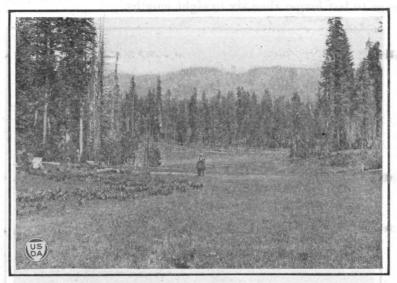


Fig. 69.—The great variety of climatic and soil conditions existing in the Western States results in very decided differences in the possible grazing seasons as well as the character and value of the herbage. The higher mountains furnish from 3 to 6 months of excellent grazing in summer (when the ground 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.

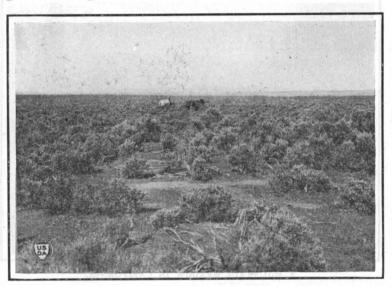
Fig. 70.—A typical mountain meadow (altitude 7,000 feet) in the Sierra Nevada. The meadows and surrounding open-timber areas furnish excellent summer grazing for cattle. The top of the ridge in the background is better adapted to sheep.

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.

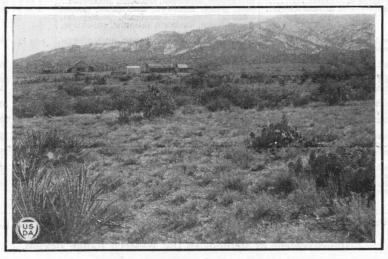
In the northern portion of the Great Basin the range, although it can generally be grazed throughout the greater part of the year, is now so restricted in area that it will carry only a part of the total livestock. For this reason it is generally reserved for spring and fall grazing, and serves to a 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, fre-

quently 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.

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Table 23.—Character of forage and estimated capacity of the western grazing areas of the United States.

Areas.	Chiefforages.	Length ofseason.	Area to support a cow.
'		Months.	Acres.
Northern Great Plains Southern Great Plains	Grama, buffalo, needle, and wheat grasses Grama, buffalo, bluestem, beard, and mesquite grasses; scrub oaks.	5 to 10 8 to 12	10 to 30 15 to 35
Black Hills	Grama, buffalo, and bluestem grasses.  Blue, fescue, wheat, brome, and redtop grasses; Balticrush; and "weeds." 1	3 to 5 3 to 6	25 to 39 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	Fescue, wheat, blue June, porcupine, brome,	5 to 7	15 to 30
and high plains.  Northern Rocky Mountains Central Idaho  Wasatch, Uinta, and Wyoming	and grama grasses.  Pine, wheat, blue, brome, and fescue grasses  Pine, wheat, brome, fescue, and blue grasses  Wheat, porcupine, fescue, and blue grasses; blue-	3 to 6 3 to 7 3 to 7	20 to 150 25 to 30 8 to 25
Mountains. Northeastern Nevada, southern	bells and other "weeds;" 1 browse. Wheat, blue, and fescue grasses; sagebrush, shadscale, greasewood.	4 to 8	35 to 40
Idaho, and central Oregon. East-central Nevada mountains. Wyoming semideserts. Utah, Nevada, Arizona deserts	Wheat, blue, and fescue grasses: browse	4 to 6 2 to 6 2 to 5	25 to 50 35 to 100 50 to 150
New Mexico-Arizona foothills and basins.	cacti. 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; sage- brush	7 to 9	30 to 40
Utah foothills and valleys Nevada semideserts	Wheat, porcupine, and June grasses; sagebrush. Salt, and lyme grasses; greasewood, shadscale, sagebrush.	5 to 7 1 to 4	20 to 30 75 to 150
Southeastern Oregon and Snake	Fescue, wheat, and lyme grasses; sagebrush	2 to 5	50 to 100
River plains. Columbia River Basin	Blue, fescue, wheat, lyme, and salt grasses; sage- brush, greaswood.	7 to 9	10 to 50
Eastern California mountains	Short, blue, wheat, needle, oat, and brome grasses; deerbrush and other browse.	3 to 6	15 to 35
Western Oregon mountains	Fescue, brome, wheat, pine, and bent grasses; deerbrush and other browse.	3 to 7	<b>3</b> 0 to 10 <b>0</b>
Southwestern California moun-	Deerbrush and other browse.	6 to 12	40 to 60
tains. 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 8	15 to 50

<sup>1</sup> 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 one-third 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

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 relish, 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 pas-

tures 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 tram-

pling 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

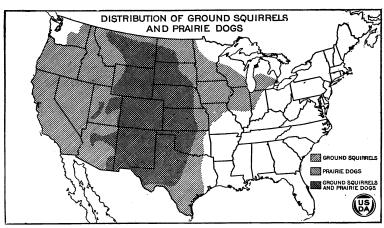


Fig. 73.—Prairie dogs and ground squirrels eat the more valuable grasses throughout the area in which they occur. Where they are numerous pasturage is commonly reduced from 10 to 25 per cent and at times the forage value of infested land is entirely destroyed. Organized community campaigns have proven 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 im-

portant 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

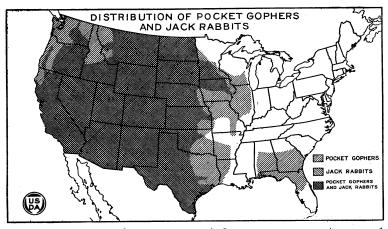


Fig. 74.—Jack rabbits often become excessively numerous over great areas and destroy much growing forage. As many as 10,000 are sometimes killed in a single organized drive. Pocket gophers greatly reduce the quantity of feed available by burrowing under ground, eating and breaking off grass roots, thus 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 handl-

ing 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 3-year 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

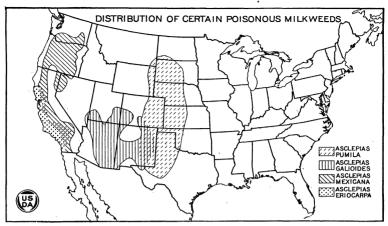


FIG. 75.—Asclepias pumila, A. galiodes, and A. mexicana are all whorled milkweeds. The A. pumila grows in the Great Plains region and does comparatively little harm. The A. galioides, the worst of the whorled milkweeds, is confined to the Southwestern States, while A. mexicana is limited to Nevada and 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

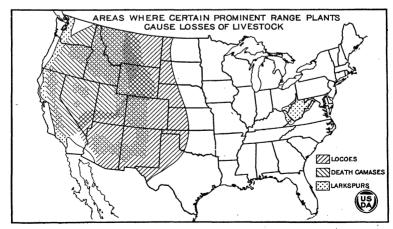


Fig. 76.—The locoes, larkspurs, and death camases are widely distributed in the western half of the United States. The death camases are particularly characteristic of the foothill regions. The larkspurs are largely mountain plants and are distributed over practically all of the western mountain regions 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 live-stock 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.

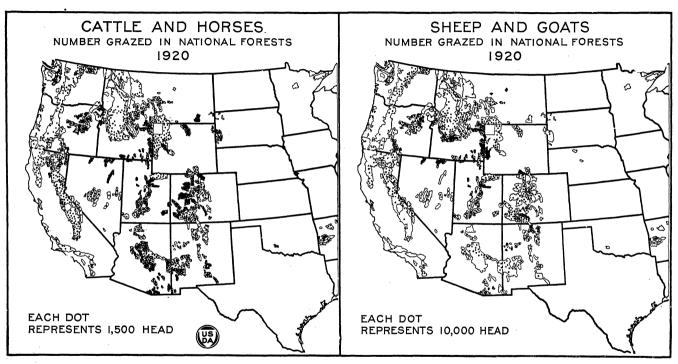


Fig. 77.—Approximately 2,250,000 cattle and horses (animal units) and over 7,000,000 ewes with about three-fourths as many lambs are grazed annually on the national forests. This is about one-fifth of the cattle and one-third of the sheep in the 11 far Western States. In the more northern forests permits 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 vi-

oinity

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 inef-

fective, 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 belts 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.

					Farm area in pasture.						
District.	Farms.	Year.	Average farm area.	Farm area in crops.	Rota- tion pas- ture.	Permanent pasture tillable.	Permanent pasture untillable.	Woods pas- ture.	Total pas- ture.		
	Num-										
-	ber.	i i	Acres.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.		
Hillsboro County. N. H.2	136	1918	130	25		3	8	40	51		
Chester County, Pa.3	378	1911	90	61	4	6	10	1	21		
Mercer County, Pa.4	349	1916	101	47		13	30	10	53		
Lenawee County, Mich.5	300	1911	104	57	10	8	6	9	33		
Dane County, Wis.6	60	1913-17	148	55	15	4	7	9	35		
Washington County, Ohio7	14	1912-22	157	29	2	28	19	i l	50		
Clinton County, Ind.8	100	1910 1913-19	127	74	12	2		6	20		
Tama County, Iowa 9	209	1918	219	65	13	9	6	2	30		
Warren County, Iowa 10	183	1918	177	52	4	18	13	5	40		

<sup>&</sup>lt;sup>1</sup>Table furnished by H. W. Hawthorne, Division of Farm Management, Bureau of Agricultural

<sup>2</sup> Dairy products constituted 39 per cent, poultry 19 and apples 12 per cent of the total farm receipts. <sup>3</sup> Dairy products constituted 39 per cent, hay 14, potatoes 9, wheat 8, and poultry 8 per cent of total farm

#### 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  $2\tilde{5}$ ). 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.		Num-	Total.	Acre	s in past	ture.	Value per acre, dollars.			
	County.	ber farms.	acreage per farm.	Perma- nent.	Rota- tion.	Total.	Perma- nent.	Rota- tion.	Total average	
KentuckyOhioOhioWisconsinMinnesotaMinnesotaSouth DakotaKansasKansasKansasMontana	Greene. Medina. Walworth. Steele. Cottonwood. Kingsbury. Jackson. McPherson. Gallatin.	23 20 15 23 1 20 1 19 20 17 17 8	236. 6 155. 4 131. 0 141. 6 186. 6 170. 0 289. 2 206. 6 308. 2 326. 50	36. 2 13. 2 38. 7 39. 9 42. 7 38. 5 18. 5 75. 8 50. 0 96. 84	24.9 21.6 6.5 2.4 .5 15.1	61. 1 34. 8 38. 7 46. 4 45. 1 39. 0 33. 6 75. 8 50. 0 96. 84	100. 00 68. 43 65. 33 127. 25 138. 81 103. 13 101. 57 122. 67 34. 00	125.00 138.63 140.00 160.00 113.06	137. 20 115. 53 68. 43 75. 61 127. 90 139. 00 107. 58 101. 57 122. 67	

ceepts.

4 Dairy products constituted 26 per cent, cattle 24, poultry 10, and hogs 8 per cent of the total farm receipts.

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.

7 Cattle constituted 21 per cent, poultry 19, hogs 12, and sheep 11 per cent of the total farm receipts.

8 Hogs constituted 41 per cent, cattle 18, and corn 13 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.

<sup>17</sup> 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.

County and State.		F	Lai	nd char	ges.	76:-		Range in costs.				
	Man and horse labor.			Cash	_				Mis- cella-	Total		l .
	Man hours.	Horse hours.	Cost.	out- lay.	To- tal.	Inter- est.	Taxes.	To- tal.	neous. costs.	costs.	High.	Low
Kentucky					\$0.32	\$6. 86	\$1.07	<b>\$</b> 7.93		\$8. 25	<b>\$</b> 16, 69	<b>\$</b> 3, 12
Greene County, Ohio	1.65	.67	<b>\$0.58</b>	\$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,	ł	1	ŀ	i	1							
Minn	2.28	.71	.90	.72	1.62	6.55	. 81	7.36	.01	8.99	13, 21	7. 82
Kingsbury County, S.					į.							
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.					i	1 1						
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

Table 26.—Pasture costs per acre, 1922.

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 pas- ture per farm.	Total pasture charge (includ-	from regu-	ture c	ent tota harge I feed	was of	pastui	cent re e charg al feed	e was	Rental returns from regular pas- ture per acre.		
		ing fall pas- ture.) <sup>1</sup>	lar pas- ture per farm. <sup>2</sup>	Aver- age.	High.	Low.	Aver- age.	High.	Low.	Aver- age.	High.	Low.
Kentucky	<b>\$</b> 1,9 <b>4</b> 1.21	<b>\$471.</b> 21	<b>\$</b> 378. 95	24. 4	53. 7	10.9	19.7	45. 0	8, 0	<b>\$6.</b> 20	\$15. 77	<b>\$2.</b> 36
Greene County. Medina County Minnesota:	2, 536. 79 1, 892. 53				20. 4 18. 9	8. 3 6. 6			1.3 .4			
Steele County Cottonwood	2, 268, 29					2.8		15. 5		1		
County South Dakota, KingsburyCounty	2,412.20 1,890.51	232. 97 249. 88				6. 8 9. 2			5. 6 5. 9		14.66 11.60	
Kansas: Jackson County	•					9.0		16. 9	3, 2			.72
McPherson County Montana, Gallatin	1, 175. 67	<b>165. 4</b> 8	132.60	14. 1	33.8	3.5	11.3	24. 1	2. 2	2.65	12.80	. 91
County	1,573.18	313. 85	267.78	16. 6	30. 9	11.3	14. 2	29.8	11. 0	2.77	12.00	1. 20

<sup>&</sup>lt;sup>1</sup> Fall pasture includes aftermath of hay meadows, stubble fields, corn stalks, etc.
<sup>2</sup> Regular pasture includes only the farm area that is fenced and used to carry stock throughout the entire summer.

<sup>&</sup>lt;sup>1</sup> Fencing costs include both the cost of replacement and repairs.

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.

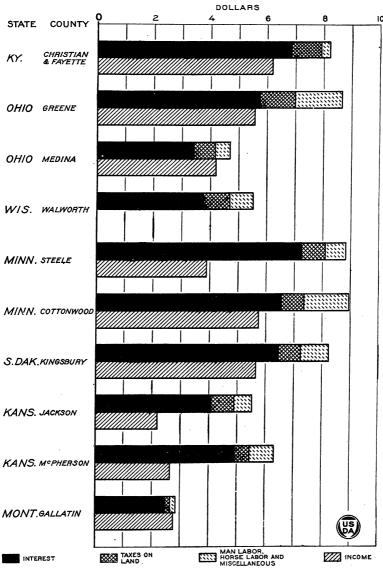


Fig. 78.—In only two districts, Gallatin County, Mont., and Medina County, Ohio, does the rental value equal the interest charge. In these two districts it very nearly equals the annual pasture costs. In Steele County, Minn., and the two Kansas districts the rental value was very low. In the other areas 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.

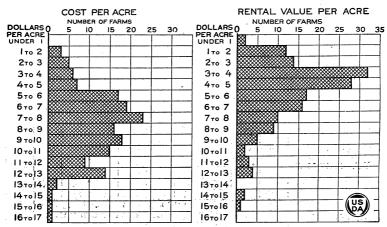


Fig. 79.—There is wide variation in the pasture costs, these ranging from a little over \$1 per acre to almost \$17. The normal cost, however, seems to center around \$6 to \$8, which was the average cost for 25 per cent of the farms. The income per acre had very nearly the same range. The normal income, 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.

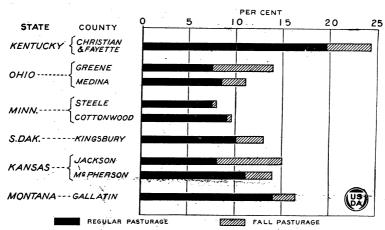


Fig. 80.—Pasture rental constituted less than 10 per cent of the total feed bill for the two Minnesota districts, where this charge was very low. In both these districts but little value was assigned to the grazing obtained from the crop fields after harvest. In Kentucky the pasture charge was nearly 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 one-seventh 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 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.—Feed units per dairy cow obtained in a year from concentrates, roughage, and pasture in seven widely scattered districts.1

			I	eed unit	s per co	w.	Aver-			Per cent	
State and time of study.	Year.	Num- ber of cows.	Con- cen- trates.	Rough- age.	Pas- ture. <sup>2</sup>	Total for year.	age produc- tion of milk per cow per year.	Feed units per pound of milk.	Per cent of total feed fur- nished by pasture.	of total feed cost repre- sented by pasture cost.3	
North Carolina (1915-17)	\Second	301 256 334 404 444 403 533 514 268 266 452 441 249 282 5, 147	1,711 2,486 1,898 1,902 999 1,023 937 1,510 1,221 2,079 2,452 1,984 1,467	2, 046 2, 216 2, 225 2, 425 2, 425 2, 381 2, 216 2, 218 2, 418 2, 617 281 332 1, 404 1, 465	1, 170 856 1, 481 1, 490 2, 184 2, 134 2, 262 2, 284 1, 336 2, 170 282 546 2, 077 2, 220	4,927 5,558 5,674 5,756 5,438 5,538 5,214 5,264 6,008 2,642 3,330 5,465 5,152	Pounds. 4,908 4,922 6,877 6,987 5,415 5,111 7,369 8,323 5,806 5,843 3,263 5,556 5,326	1. 004 1. 129 .825 .824 1. 004 1. 083 .707 .717 .906 1. 028 .882 1. 020 .983 .967	23, 7 15, 4 26, 1 24, 3 40, 1 38, 5 39, 5 38, 2 25, 3 36, 1 10, 4 38, 0 43, 0	7. 1 5. 2 17. 5 10. 6 9. 6 24. 2 20. 7 19. 8 22. 3 10. 6 5. 9 11. 9 20. 0	

cow per day.

3 The cost of pasture was based upon the interest on the value of the land, taxes, upkeep of fences and

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

<sup>&</sup>lt;sup>1</sup> 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.
<sup>2</sup> 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

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.<sup>18</sup> 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.

<sup>&</sup>lt;sup>18</sup> 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.

## 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 Utilizing Sorghums for Forage. 973. The Soy Bean: Its Culture and Uses. 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: Utilization. 836. Sweet Clover: Harvesting the Seed Crop. 1151. Alsike Clover. 1142. Growing Crimson Clover. 579. Crimson Clover. Utilization. 646. Crimson Clover: Seed Production. 693. Bur Clover. 370. Button Clover. 1143. Lespedeza as a Forage Crop. 990. Timothy. 1048. Rhodes Grass. 1126. Sudan Grass. 1130. Carpet Grass. 814. Bermuda Grass. 726. Natal Grass. 1254. Important Cultivated Grasses. 1433. Cultivated Grasses of Secondary Importance. Importance.

Department of Agriculture Bulletins. (Free if supply permits; some can be secured from Superintendent of Documents at price quoted.)

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 Soy Beans (5 cents). 1174. Hungarian Vetch (5 cents). 876. Hairy Vetch Seed Production in the United States (10 cents). 617. Australian Saltbush (5 cents). 1045. The Sunflower as a Silage Crop (10 cents).

#### 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.)

545. 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 United States (15 cents). 772. The Genera of Grasses of the United States (40 cents). 626. Pasture Land on Farms in the United States (10 cents). 1170. Effects of Different Systems and Intensities of Grazing Upon 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). duction (15 cents).

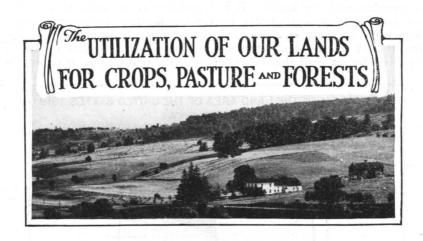
#### Miscellaneous.

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 libraries.

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

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.



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 decades and the relation of these requirements to the potential area available

for the various uses.

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, Burcau 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 wel 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.

The three principal agricultural uses 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

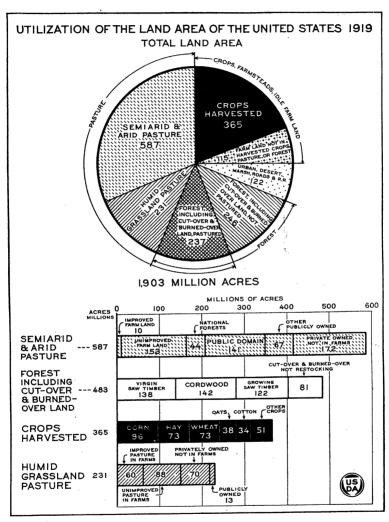
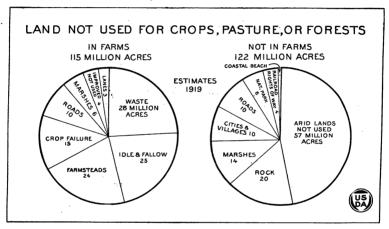


Fig. 1.—Crops harvested in 1919 occupied 19 per cent of the land area of the United States. Pasture (excluding both temporary crop pasture and forest land used incidentally for pasture) occupied 43 per cent, and forest and cutover land about 25 per cent of the total area. However, the fifth of the land 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



To: 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 for 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.

<sup>&</sup>lt;sup>2</sup> 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.

<sup>3</sup> 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 Bureau 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.

<sup>4</sup> 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.

## Land Not Used for Crops, Pasture, or Forest.

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 However, this last includes an estimate of 15,000,000 uses mentioned. 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 (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. maximum population of the Nation is attained, it is probable that about 35,000,000 acres more may be needed for these uses, reducing

land is a residuum.

<sup>o</sup> 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.

about 35,000,000 acres more may be needed for these uses, reducing 15 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 known, classifying 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 devoted 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 roads 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. Thus 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 soll survey maps, topographic sheets, coast survey charts, etc., and includes 7,500,000 acres of coastal leaches is derived from the same sources. The area of national parks is an

the area ultimately available for crops, pasture, and forest to approximately 1,734,000,000 acres of land.

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

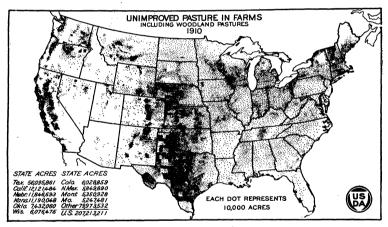


Fig. 3.—The largest acreage of unimproved pasture in farms, including wood-land pastures, as reported to the census enumerators in 1910, was in the subhumid to arid Great Plains region, notably in Texas, and in the valleys and plateaus of the Pacific Coast States. In addition to the unimproved pastures 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.

<sup>&</sup>lt;sup>7</sup>It is probable that the area of cities, roads, railways, and farmstcads will not increase so rapidly as the increase of population.

<sup>8</sup>Includes 15,000.000 acres of crop failure.

<sup>9</sup>The animal unit is a means of measuring the feed requirements of livestock. It is the equivalent 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.

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;

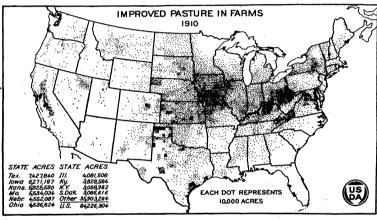


Fig. 4.—The largest acreage of improved pasture in 1910 was in the upper Ohio Valley, the western portion of Corn Belt, the southern part of the hay and dairying region, and the eastern portion of the Great Plains; in other words, in the best general farming and livestock-producing sections of the United 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. The

 <sup>10</sup> 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."

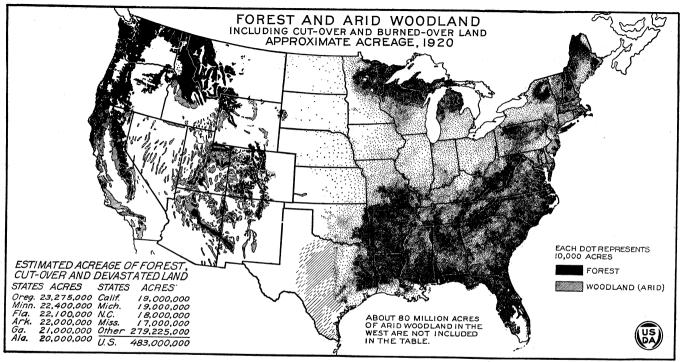


Fig. 5.—This generalized map of forest areas, including cut-over and burned-over lands and arid woodland, was prepared in cooperation with the Forest Service. The figures given in the table are merely tentative. As a result of more recent estimates the statistics portion of the United States are somewhat different from estimates previously published. The estimates for the originally forested eastern from the statistics of the 1920 census. These compilations were made by counties. Of the 483,000,000 acres of forest and cut-States, and nearly one-quarter in the West, mostly in the Rocky Mountain and north Pacific regions. However, over half of the 138,000,000 acres of virgin saw timber is in the West.

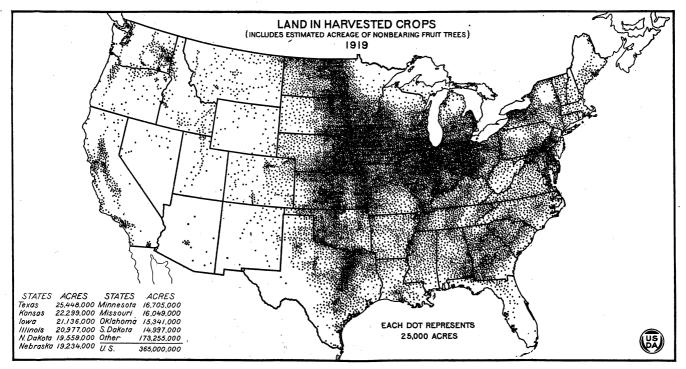


Fig. 6.—Over five-sixths of the crop land is in the humid eastern half of the United States, and nearly two-thirds is concentrated in a triangular-shaped area, the points of which are located in western Pennsylvania, central Texas, and north central North Dakota. In this area, which includes only about one-fourth of the land of the United States, are produced four-fifths of the corn, three-fourths of the wheat and oats, and three-fifths of the hay crops of the Nation. No region in the world of equal size affords so favorable 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 The carrying capacity of this forest and cut-over not in farms. pasture 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.

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 Some of this probably consists of old fields recently abandoned. 13

# Land Potentially Available for Crops, Pasture, or Forest.

With the agricultural development 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.

These estimates are somewhat larger than those given in the so-called Capper Report ("Timber Depletion, Lumber Prices, Lumber Exports and Concentration of Timber Own-crship," Report on 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 due 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.

13 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 other items bring the total up to 365,000,000.

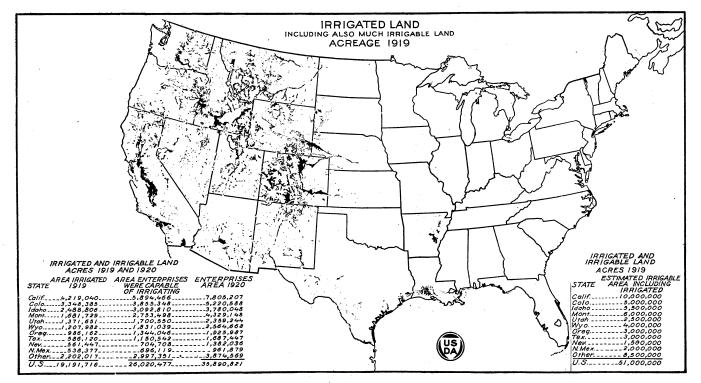


Fig. 7.—The area of irrigated land increased 5,000,000 acres, or one-third, between 1909 and 1919; and the irrigation enterprises were capable of irrigating 7,000,000 acres more than were actually irrigated in 1919. There is sufficient water in the West to irrigate double the area that existing enterprises 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 lead 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.

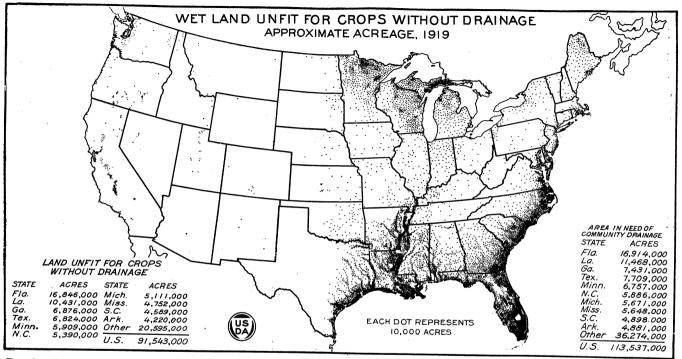


Fig. 8.—This map is based largely upon drainage reports available in the Division of Agricultural Engineering (Drainage Investigations), and maps were compared with statistics of drainage enterprises and of land in farms needing drainage, available for the first time in the 1920 census, by L. A. Jones, of the Bureau of Public Roads, and F. J. Marschner, of the Bureau of Agricultural Economics. Two-thirds of the land unfit for cultivation without drainage is in the Southern States and one-half of the remainder is in the three 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

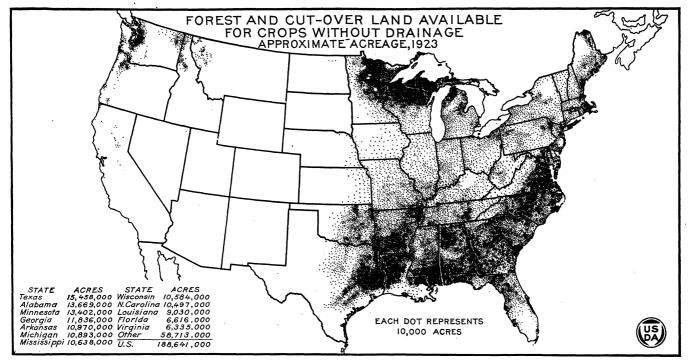
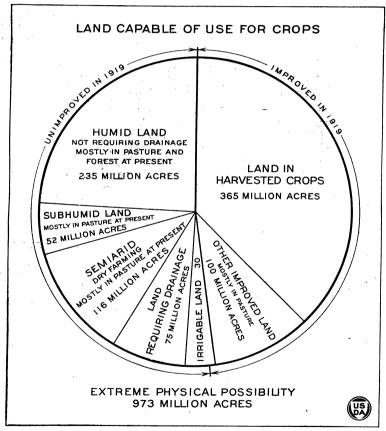


Fig. 9.—This map is based on compilations by counties for the eastern forest region, including a marginal woodland belt containing about 19,000,000 acres, along the western edge of the forest region in Texas and Oklahoma. The study also included the Pacific Coast States, the Idaho Panhandle, and northwestern 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 small proportion of the available forest and cut-over land in the eastern half of the United States comprises land even of fair quality. Much of this land would require heavy expenditure for fertilization in addition to the expense for clearing. By far the greater part consists either of sands or light sandy loams. The map is based on information gathered by the Soil Survey and descriptive data in the General Land Office survey records, and was prepared by F. J. Marschner, Bureau of Agricultural Economics (Division of Land Economics).

It appears that about 100,000,000 acres more of improved land, mostly improved pasture, are potentially available for crop produc-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.



16. 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 dry-

land 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. However, 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

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 L. 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 crops.

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 ecoperation 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 l'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.

Including areas classified as bare fall

<sup>14</sup> 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.

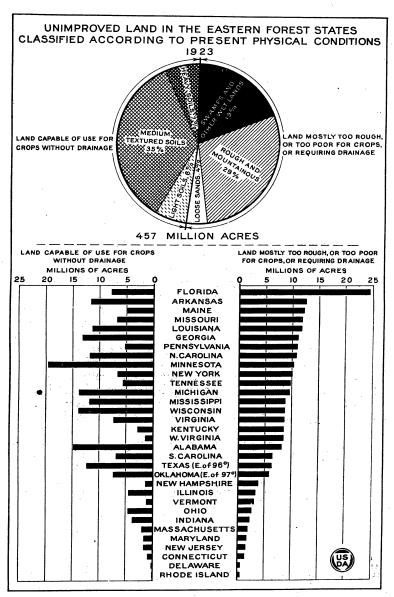


Fig. 11.—Most of the 220,000,000 acres in the region capable of use for crops without drainage is now forest or cut-over eastern originally forested land. There are about 9,000,000 acres more of such land in the Prairie States. The light soils will, in general, need more fertilizer than the heavy soils. 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

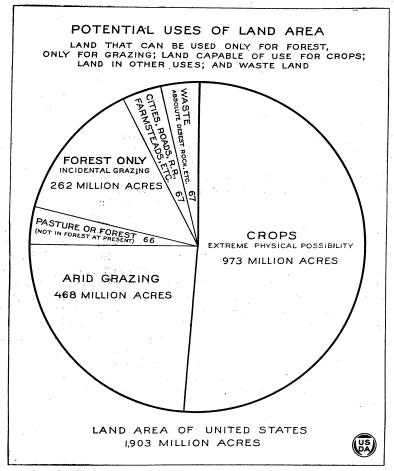


Fig. 12.—Of the 1,903,000,000 acres in the United States, about 468,000,000 acres are arid range suitable only for grazing, with very low-carrying capacity. About 328,000,000 acres are humid land, of which 262,000,000 acres are so rough or sandy that the land is primarily valuable only for forests, and 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

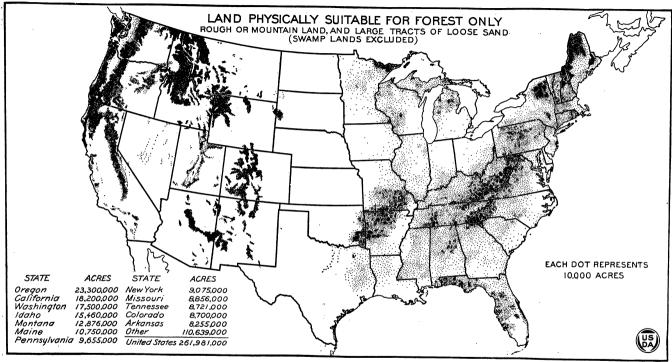


Fig. 13.—The study on which this map is based, as in the case of Figures 9 and 11, included county compilations only for the eastern half of the United States and the Pacific Coast States. Within these regions the land classed as suitable only for forests consists of the areas too rough for crops and the areas of coarse sand. The total is about 152,000,000 acres in the East and 67,000,000 acres in the Pacific 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 be more economically used for forests than for other purposes during the next few decades. The increase of "improved" and cleared "unimproved" farm land in the forested portions of the United States was only 5,000,000 acres between 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). However, 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-

AREA OF LAND IN FARMS AND AREA OF IMPROVED FARM LAND, UNITED STATES, 1850-1920; HARVESTED AREA OF 14 PRINCIPAL CROPS, 1880-1920.

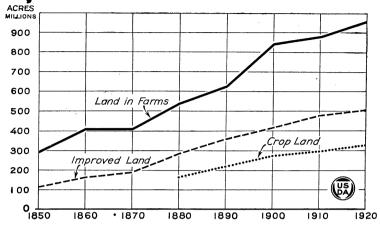


Fig. 14.—While the increase in the area of land in farms from 1850 to 1920 was greater than the increase of improved land, the rate of increase for the former was less than for the latter. However, since 1880 the ratio of improved land to farm land has been more or less constant at about 1 to 2. From 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.

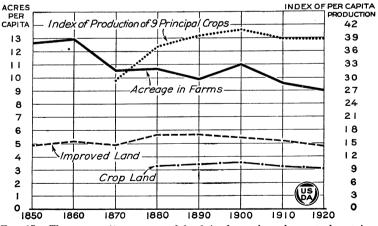
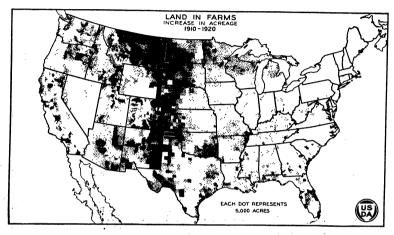
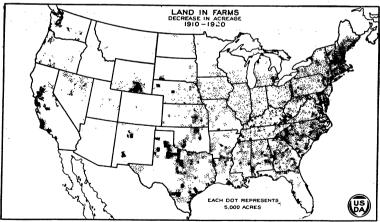


Fig. 15.—The per capita acreage of land in farms has shown a decreasing trend since 1850. The per capita acreage of improved farm land was about the same in 1920 as in 1850, but has decreased in each decade since 1890, when the maximum was attained. The per capita area of land in the 14 principal crops 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 wide-spread decrease in the acreage of land in farms, amounting to 7,000,000 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 offset by a widespread increase in the area of land in farms in the western half of the United States, amounting

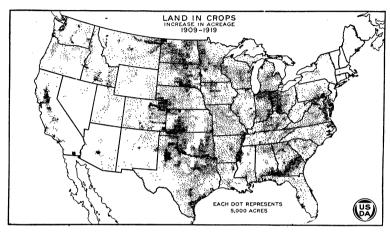


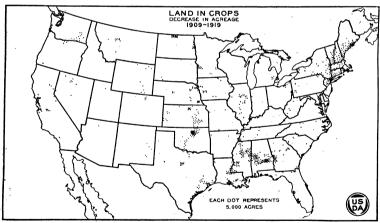


Cigs. 16 and 17.—With the exception of the northern portion of the Great Lakes States, Florida, and southeastern Oklahoma, there was no notable increase in the acreage of land in farms east of the Great Plains. In the latter region and other parts of the West the great expansion of the area of land in farms was owing largely to the enactment of the enlarged homestead act, in 1909, and the grazing homestead act, in 1906, 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

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





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, and northeastern 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.

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 1910-1919, 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 Ŵar 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. 45).<sup>17</sup>

#### 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

<sup>&</sup>lt;sup>17</sup> Since the various crops involve products of such widely different value in proportion to weight as hay and cotton or tobacco, it was necessary to 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.

<sup>18</sup> 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.

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.

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: <sup>20</sup>

		Acres.	
1890-1899		38, 000, 00	00
1900-1909		11, 000, 00	00
1910-1919		32, 000, 00	00
	•		
Total		81 000 00	በበ

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



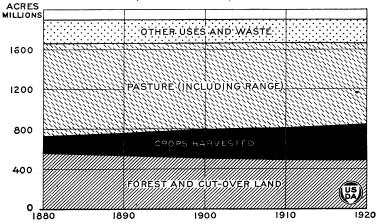


Fig. 20.—The area of land in harvested crops has steadily increased at the expense of forest and cut-over land, on the one hand, and of pasture, on the other hand. During recent years the increase has been mostly at the expense of improved pasture. The area of other uses and waste has been practically 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

<sup>&</sup>lt;sup>20</sup> 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 covered 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.

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.

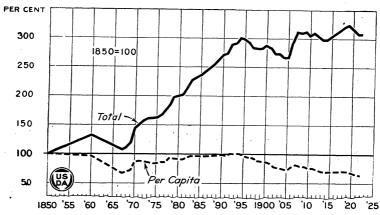


Fig. 21.—Since about 1894 there has been but little increase in the total number of livestock in the United States, and consequently the number per capita in 1922 was only about two-thirds that of 1894. In order to reduce the different classes of livestock for any given year to a single figure, the number of head of each class was given a relative weight equivalent to its 56-year 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 certain periods, as, for instance, between 1906 and 1907.

Increasing Land Values as an Indication of Increasing Scarcity of Farm

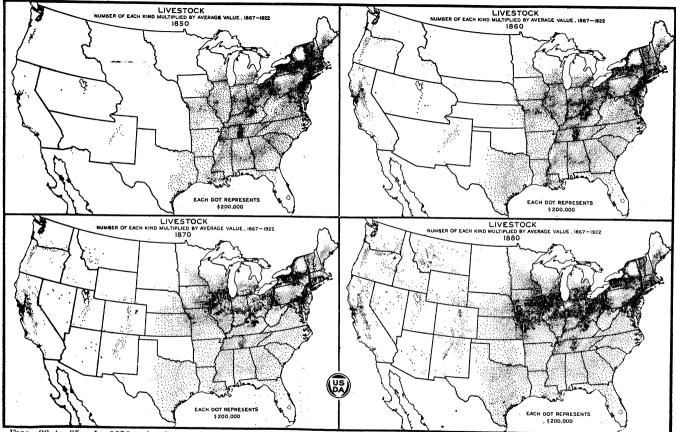
An increase in the average valuation of land per acre is not a conclusive proof of the increasing scarcity of land in a particular country. It may be a result of other influences, such as a decrease in the rate of capitalization or influences outside of the country affecting the world market. Again, 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.<sup>21</sup>

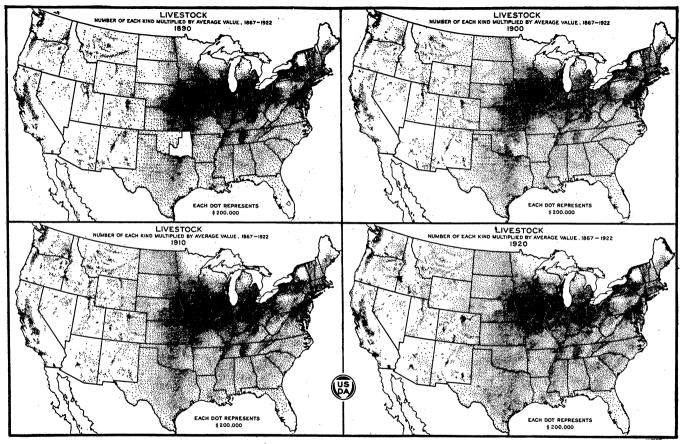
When land valuation is expressed in current dollars without reference to changes in the value of the dollar itself, without regard to the relationship between the valuation of land expressed in dollars and the valuation of other commodities expressed in dollars, it appears that the valuation per acre 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

<sup>21</sup> Compare also article "Farm Ownership and Tenancy," p. 541.



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.<sup>22</sup>

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.

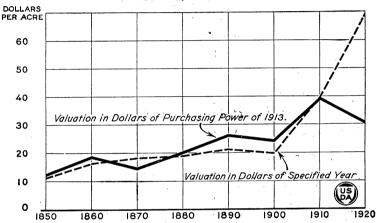


Fig. 30.—The general trend of the valuation of farm real estate has been upward since 1850, so far as it is revealed by decennial census figures. The upward movement was especially rapid from 1900 to 1920, but from 1910 to 1920 the increase in the valuation of land was not as rapid as the upward movement 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,

<sup>&</sup>lt;sup>22</sup> 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.

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 COMMODITIES IN THE UNITED STATES (DEPARTMENT OF LABOR INDICES), 1877–1921.

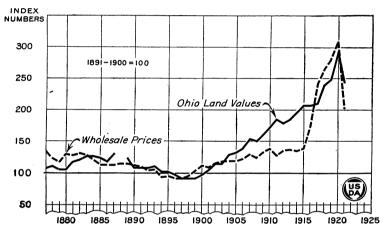


Fig. 31.—Unlike the curve of land valuation shown for the United States as a whole in Figure 30, the curve for Ohio does not reflect the influence of the development of large areas of new farm lands within the State, for Ohio was fully settled before 1877. Instead of an upward movement in the curve of 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 available 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.

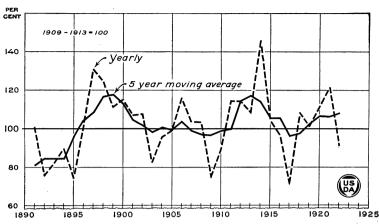


Fig. 32.—The annual variation in the volume of exports is shown by the dashed line, while the solid line is a 5-year moving average centered on the middle year, except for the last two years, which represent 4-year and 3-year averages, respectively. A comparison of the two curves indicates that about 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.

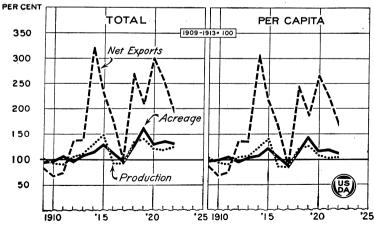


Fig. 33.—Small percentages of change in the production of wheat (whether due to variations in acreage or in yield) result in large percentages of change in exports. The general trend of acreage, production, and exports of wheat was upward from 1910 to 1914. There followed a decline until 1917, and then 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.

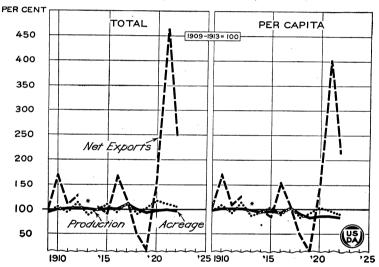


Fig. 34.—The illustration shows the enormous relative expansion in the total and per capita exports of corn in 1921. However, the normal percentage of exports to total product is so small that a slight percentage of increase in the total volume of production, due to increase in acreage or yield, may 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 <sup>23</sup> (fig 36). On

### TREND OF ACREAGE, PRODUCTION, AND NET EXPORTS OF COTTON, TOTAL AND PER CAPITA, UNITED STATES, 1909-1922.

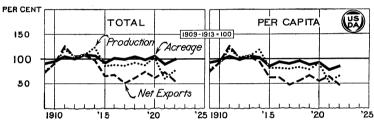


Fig. 35.—While there have been annual fluctuations in cotton acreage, there has been no marked trend either above or below the average for the five years just preceding the World War. However, the per capita acreage has decreased considerably. As a result of this, of the decreased yield due to the ravages 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.<sup>24</sup>

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

<sup>&</sup>lt;sup>22</sup> Calculated on the basis of direct exports.
<sup>24</sup> 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.

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.

TOTAL AND PER CAPITA ACREAGE EMPLOYED FOR DOMESTIC USES AND FOR NET EXPORTS OF 12 PRINCIPAL CROPS, AVERAGE OF 5-YEAR PERIODS, UNITED STATES, 1889-1893 TO 1919-1922.

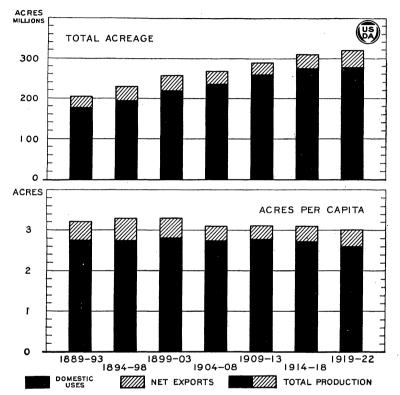
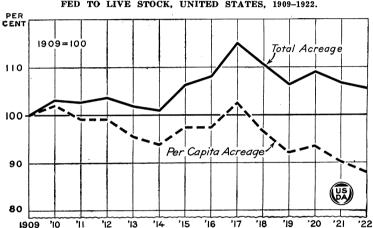


Fig. 36.—The area devoted to these 12 principal crops has increased each decade, but the area per capita was less in the period 1919-1922 than in the period 1899-1903. The area per capita devoted to export production was less in the 1919-1922 period than in the earlier period, but in the 1919-1922 period, 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.<sup>25</sup>

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,

<sup>&</sup>lt;sup>25</sup> 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 offset by a decrease in the acreage of cotton.

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.26

The diversion of most of the acreage thus economized to increasing the production of wheat and rve 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.<sup>27</sup> 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

<sup>&</sup>lt;sup>26</sup> 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.

<sup>27</sup> 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.

<sup>28</sup> 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.

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.

PERCENTAGES BY WHICH THE COMBINED AVERAGES OF PRODUCTION, NET IMPORTS, AND CONSUMPTION OF CEREALS IN GREAT BRITAIN, FRANCE, GERMANY, AND ITALY DURING THE THREE YEARS 1919-1921, WERE ABOVE OR BELOW THE CORRESPONDING AVERAGES FOR 1909-1913.

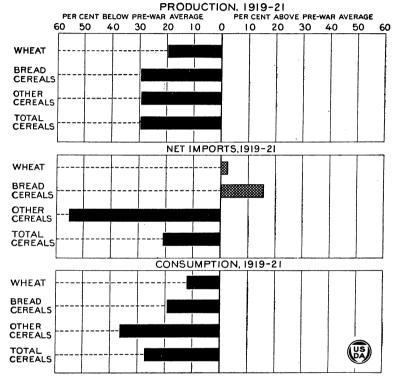


Fig. 38.—The consumption of cereals in the four countries was far below the pre-war average, though the deficit was less for the bread cereals (wheat and rye) than for other cereals; and less for wheat than for rye. After allowing for the slight increase in population, it is evident that in the years 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.<sup>29</sup> 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. 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 im-

portant 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-

<sup>&</sup>lt;sup>20</sup> Yearbook for 1922, International Institute of Agriculture and preliminary estimate for 1923, Dominion Bureau of Statistics.
<sup>30</sup> Tylor, W. Russell. The Natural Increase of Contemporary Peoples. An unpublished doctoral dissertation prepared at the University of Wisconsin.

### ACREAGE OF FOREST LAND CONTRASTED WITH ACREAGE OF IMPROVED FARM LAND, UNITED STATES, 1850-1920.

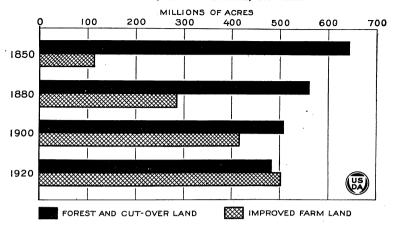


Fig. 39.—The steady increase in the area of improved farm land has been accompanied by a continual but much smaller decrease in the area of forest land. However, less forest land is being cleared for crops or pasture each decade. From 1910 to 1920 only 5 per cent of the increase of "improved" and "other 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.

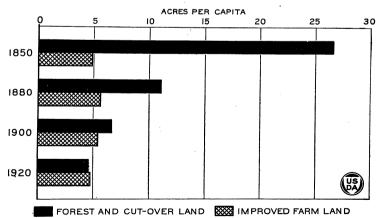


Fig. 40.—The estimated per capita area of forest land in 1920 was about a sixth as large as it was in 1850. The per capita area of improved farm land was nearly the same for the two periods, but it was somewhat less in 1920 than it had been in 1880.

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 there-

fore 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

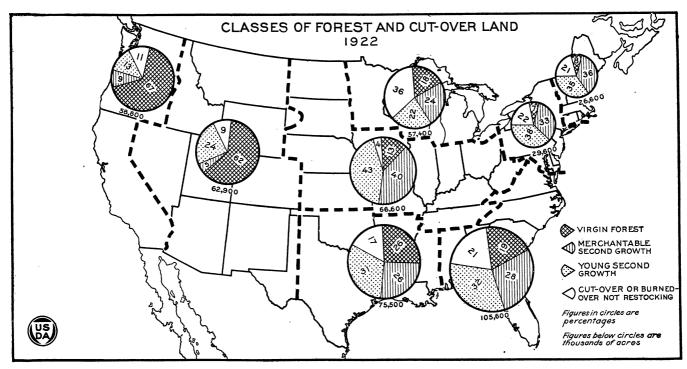


Fig. 41.—In six of the eight regions, all in the East, only about 40 to 53 per cent of the forest area consists of merchantable timber. In these regions the area of virgin timber ranges from 7 to 26 per cent of the total. On the other hand, in the Rocky Mountain and Pacific coast regions the area of 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 equiva- lent of net exports.	Acreage equivalent of direct net exports <sup>2</sup> of surplus com- modities.		Remaining acreage <sup>8</sup> (employed for domestic uses, including the feeding of livestock).	
	Λ	В	C	D	E	F	G
Average, 1889–1893. Average, 1894–1898. Average, 1899–1903. Average, 1904–1908. Average, 1909–1913. Average: 1914–1918 1919 1920 1921 1922	1,000 acres. 206,668 231,884 258,372 269,269 291,396 312,080 325,463 320,732 322,228 322,105	Per capita acres. 3. 22 3. 27 3. 32 3. 14 3. 11 3. 10 3. 10 3. 10 2. 99 2. 95	1,000 acres. 29,496 36,362 38,003 32,002 30,583 36,874 38,102 41,839 54,336 37,352	1,000 acres. 30,055 36,921 38,550 32,811 33,158 41,102 46,460 50,016 59,325 43,295	Per capita acres. 0.47 .52 .50 .38 .35 .41 .44 .47 .55	1,000 acres. 177, 172 195, 522 220, 369 237, 267 260, 813 275, 206 287, 361 278, 893 267, 892 284, 753	Per capita acres. 2. 76 2. 76 2. 83 2. 76 2. 78 2. 74 2. 62 2. 48 2. 61

<sup>&</sup>lt;sup>1</sup> The 12 crops are corn, wheat, oats, rye, barley, rice, flax, hay, potatoes, cotton, tobacco, and buckwheat.
<sup>2</sup> The term "net exports" is employed not in the sense of total excess of all agricultural exports over agricultural imports, but merely to include 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.
<sup>3</sup> This includes the area used in feeding livestock for export.

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

HogsCattle	89, 000, 000
Horses and mulesPoultry	
Sheep	
Total	257, 000, 000

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 live-

stock 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 In 1920 the net exports of pork products were equivalent to 9,100,000 hogs, or about 15 per cent of the total production.

See preceding article, "Our Forage Resources," p. 311.
 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.

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.<sup>33</sup> 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

<sup>&</sup>lt;sup>33</sup> 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.

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

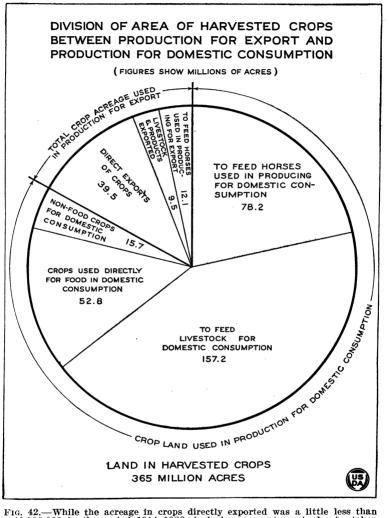


Fig. 42.—While the acreage in crops directly exported was a little less than 40,000,000 in the period 1914–1922, inclusive, account must also be taken of the acreage employed in producing livestock and livestock products for export and in maintaining horses employed in producing for export. Including 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.

 $<sup>^{24}\,\</sup>mathrm{This},$  of course, assumes that we could increase our imports of agricultural products in the same proportion.

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 imports 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).

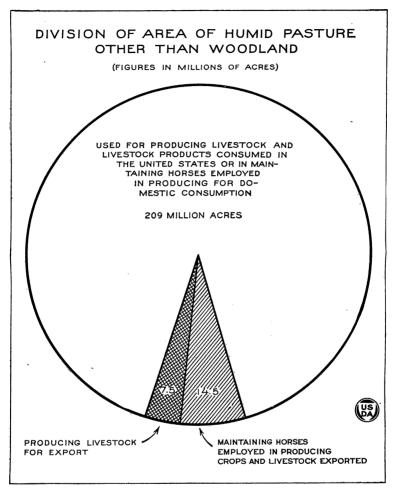


Fig. 43.—The average exports of livestock and livestock products for the period 1914–22 required only a small proportion of our pasture area, and the entire amount has been imputed to humid pasture, because the products exported were essentially the products of humid regions. The acreage of pasture employed 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 ap-

proximately 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.<sup>35</sup>

### 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 cen-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

<sup>&</sup>lt;sup>25</sup> For more detailed discussion see article, "Timber: Mine or Crop," Yearbook, 1922.

<sup>36</sup> 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.

<sup>37</sup> Rossiter, W. S., "Increase of Population in the United States, 1910–1920." Census monograph No. 1, 1922, p. 204.

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.

Use of the land.	Area.
Crop land	Acres. 431, 000, 000 237, 000, 000 1 336, 000, 000 587, 000, 000

<sup>&</sup>lt;sup>1</sup> 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.

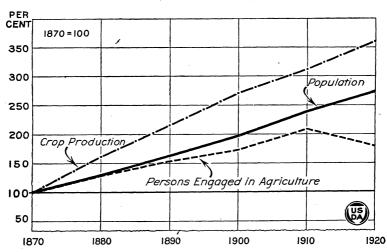


Fig. 44.—The chart indicates that the ratio of population to crop production has not changed greatly since 1880, but that since 1870 the volume of crop production has increased much more rapidly than the number of persons engaged in agriculture. In fact, in 1920 the index of crop production was more 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.

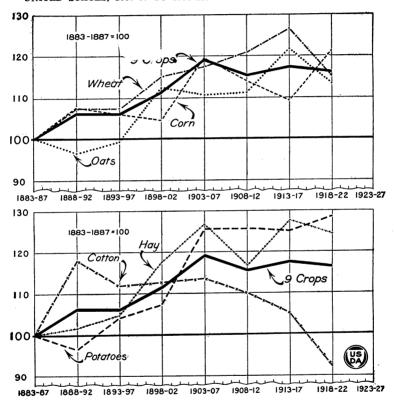


Fig. 45.—The five-year average yield per acre was higher in 1918-22 than in 1883-87 for all of the six crops except cotton. However, the average yield for 1918-22 was lower than it was in 1903-07, not only of cotton but also of wheat, oats, and hay. The composite curve for nine principal crops, shown 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 increasing 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 EUROPEAN COUNTRIES EXPRESSED IN PERCENTAGE OF AVERAGE YIELDS IN THE UNITED STATES.

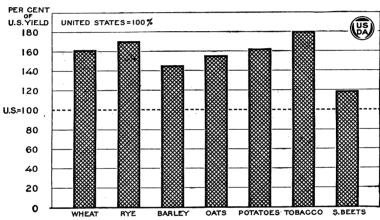


Fig. 46.—The average yield per acre for the four European countries—United Kingdom, France, Germany, and Belgium—is higher than that for the United States in the case of each of the seven crops. The combined average yield for all seven crops, weighted in each case by the relative importance as shown 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.

	Yields per acro.						
Crop.	Germany.	France.	Great Britain and Ireland.	Belgium.	A verage weighted by crop acreage.	United States.	Supe- riority in yield.
Wheat	Bush. 31. 8 29. 0 38. 5 54. 9 203. 7 Pounds. 1, 713. 0	Bush. 19. 6 16. 6 25. 8 36. 2 127. 4 Pounds. 1, 231. 2	Bush. 31. 7 30. 1 35. 3 50. 7 216. 2 Pounds. 936. 8	Bush. 37. 6 35. 2 51. 1 66. 1 277. 2 Pounds. 2, 034. 2	Bush. 23. 5 26. 6 34. 7 47. 4 157. 2 Pounds. 1, 481. 0	Bush. 14. 6 15. 6 24. 0 30. 4 97. 0 Pounds. 820. 8	Per cent. 61. 22 70. 40 44. 96 55. 96 62. 12 80. 43
Sugar beets	Tons. 12.6	Tons. 10. 7	Tons.	Tons. 12.3	Tons. 12, 0	Tons. 10. 1	19, 28

<sup>&</sup>lt;sup>1</sup> 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, how-ever, 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 hav have not been obtained for all these countries.

Satisfactory statistics for hay production are available for the United Kingdom.<sup>40</sup> 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.

<sup>38</sup> 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.

30 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. Moreover, 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.

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 aver-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 cotton-producing 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.

<sup>&</sup>lt;sup>41</sup> 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.

<sup>42</sup> 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. crop acreage.

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

	Natural meadows and pasture land.	Marsh, heath, and un- cultivated productive land.	Land sown with grass and other forage crops.	Bare, fal- low green manure crops and fields under natural grass.	Total, all classes of pasture.	All classes of pas- ture per animal unit. <sup>2</sup>
	Thousands	Thousands	Thousands	Thousands	Thousands	
	of acres.	of acres.	of acres.	of acres.	of acres.	Acres.
Germany (1913)	21, 211	4, 893	8, 938	3, 642	38, 684	1. 24
Belgium (1910)	1, 280	267	633	22	2, 202	0. 91
France (1910)	24, 866	8, 177	12,679	(3)	45, 722	2. 06
Great Britain and Ireland	· ·					
(1911)	4 44, 324	(5)	5, 837	329	50, 490	2. 65
Denmark (1912)	761	1, 085	2, 466	502	4, 814	1.46
Netherlands (1911)	2, 997	1, 268	227	12	4, 504	1. 60
Total	95, 439	15, 690	30, 780	4, 507	146, 416	1. 81

Includes marsh, heath, and uncultivated productive land.
Included under natural meadows and pastures.

#### EA OF HUMID PASTURE (OTHER THAN WOODLAND) UNIT, UNITED STATES AND VARIOUS EUROPEAN ( COUNTRIES.

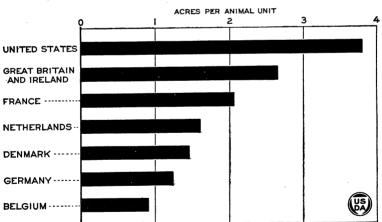


Fig. 47.—The areas of humid pasture per animal unit range from less than 1 acre for Belgium to nearly 4 acres for the United States. However, these differences are not wholly due to differences in carrying capacity, but, to a large extent, reflect differences in the degree of dependence on pasture, as contrasted with other kinds of feed, in the livestock husbandry of the several countries. In calculating the ratios the estimated number of livestock 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. small.

<sup>&</sup>lt;sup>1</sup>International Yearbook of Agricultural Statistics, Rome, 1921.

<sup>2</sup> 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.

<sup>3</sup> No statistics available or number insignificant.

<sup>4</sup> Includes morsh, beath, and uncultivated productive land.

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:

— <del></del>	cent.		cent.
Great Britain and Ireland			
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. 2. 04-3. 33 1. 35-2. 04 1. 16-1. 61 0. 81-1. 61 1. 35-1. 62 0. 90-1. 16 0. 81-1. 01	Cattle of ½ to 1 year Cattle of 1 to 2 years Cattle of 2 to 3 years Cows Horses of 1 year Horses of 1 to 2 years Horses of 2 to 3 years	Number per acre. 1. 61–2. 70 1. 16–1. 61 0. 90–1. 35 0. 68–1. 00 1. 16–1. 35 0. 81–1. 00 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. 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.

<sup>43</sup> 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."

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

<sup>&</sup>quot;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 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.

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.

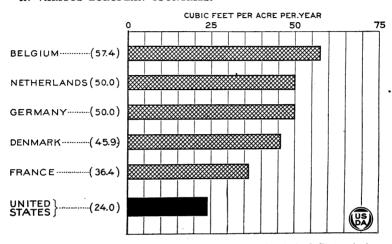


Fig. 48.—The rate of growth of growing forests in the United States is less than half that of Belgium, the Netherlands, and Germany. The rate of growth for the United States is calculated only on the basis of the 264,000,000 acres of actually growing forest, omitting the area of virgin forests and the 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 offset 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.

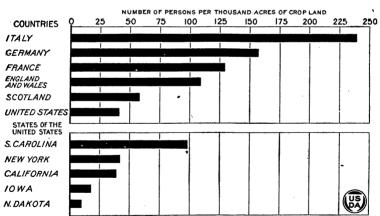


Fig. 49.—The larger yields per acre characteristic of European nations involve a heavy cost in human labor. To some extent the contrasts reflect differences in the character of the crops. Thus the large relative amount of labor in Italy is partly due to the prevalence of such intensive crops as silk, 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.

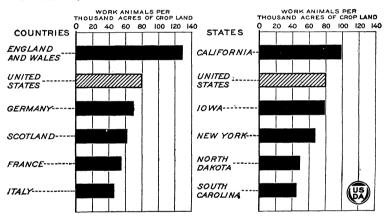


Fig. 50.—While the United States uses more work animals per thousand acres of crop land than the European countries, except England and Wales, the percentages by the United States exceeds the respective countries in this regard are not as large as the percentages by which they exceed the United States 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 2½ 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.<sup>47</sup> 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 em-

ploy 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

<sup>&</sup>lt;sup>47</sup> This is on the basis of the United States census for 1920, which was taken as of January 1, and which showed 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.

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.

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 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

<sup>&</sup>lt;sup>46</sup> 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.

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.<sup>50</sup>

Table 6.—Per capita consumption of food products from livestock, the United Kingdom and the United States.<sup>1</sup>

		,	
Products.	United Kingdom (pounds per capita).	United States (pounds per capita).	Per cent the Brit- ish is of the Amer- ican.
Beef and veal.  Mutton and lamb. Pork, bacon, ham and lard. Poultry (and game). Eggs.  Milk (including cream and condensed milk). Butter. Cheese. All dairy products in terms of milk for human consumption. Fish.	246. 4 15. 6	68. 36 5. 34 83. 80 2 20. 20 28. 30 418. 80 15. 23 3. 45 773. 13 17. 00	93. 6 544. 9 49. 6 14. 4 44. 2 58. 8 102. 4 208. 7 83. 6 243. 5

<sup>&</sup>lt;sup>1</sup> 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.
<sup>2</sup> Game is not included in the United States figure.

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

<sup>&</sup>lt;sup>50</sup> The data for United Kingdom are derived from the report of "A Committee 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.

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 grop 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

standard.

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.

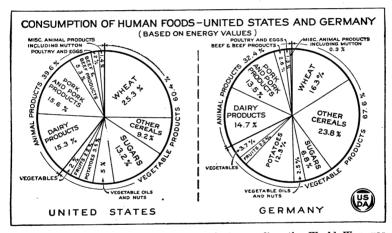
The estimate was made as follows: The number of animal units for each class of livestock required for 150,000,000 people under the American standard of consumption was calculated. This was multiplied by the percentage the British standard of consumption for that particular class of livestock is of the 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 artio of crop acreage required for horses under the British standard of the number of animal units now maintained

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.<sup>55</sup>

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.



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 in United States, although our consumption o. 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. in the German diet.

<sup>53 &</sup>quot;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 feod consumption used herein are based on official statistics.

M 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 population 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).

The undoubted undernourishment which resulted from the war is attributed in the above-mentioned report largely to the disorganization in production and distribution.

Table 7.—Comparative per capita consumption of foodstuffs in Germany and the United States.

#### ANIMAL PRODUCTS.

Kind.	Ger- many.1	United States. <sup>2</sup>	Per cent German figure is of American figure.
Beef and veal. Pork and pork products (including lard). Mutton and lamb. Poultry. Eggs. Milk All dairy products in terms of milk. Butter. Cheese. Fish.	Pounds. 39. 40 75. 45 2. 00 4. 82 15. 99 283. 30 711. 34 10. 38 19. 56	Pounds. 68. 36 83. 80 5. 34 20. 20 28. 30 418. 80 773. 13 15. 23 3. 45 17. 00	57. 6 90. 0 37. 5 23. 9 56. 5 67. 6 92. 0 101. 4 300. 9 115. 1

#### VEGETABLE PRODUCTS.

Wheat flour Rye flour Corn meal or flour Rice. Other cereals (oatmeal, barley, buckwheat, etc.)	Pounds. 129. 92 157. 82 7. 20 22. 06	Pounds. <sup>3</sup> 204. 70 4. 30 58. 40 5. 40 6. 30	63. 5 3, 670. 2 133. 3 350. 2
Total all cereals	317. 00	279. 10	113. 6
PotatoesSugars	407. 27 44. 57	150. 10 95. 70	271. 3 46. 6

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.

§ From "The Nation's Food," by Raymond Pearl. Average consumption, 1911-18, inclusive, calculated from tables in Chapter XI.

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

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 better to exagger the requirement of the statistics of German production and consumption is 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.

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.

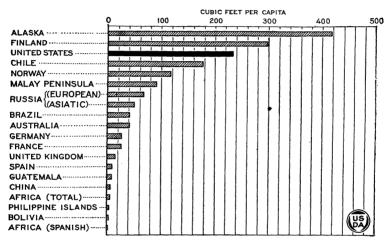


Fig. 52.—The per capita consumption of timber is closely related to the abundance or scarcity of it in the various countries. It is especially large in countries which are still cutting from a stored-up supply, or where so large a proportion of the total area is mountainous that the population is small in proportion 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

<sup>&</sup>lt;sup>57</sup> On the basis of the population in 1920.

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.

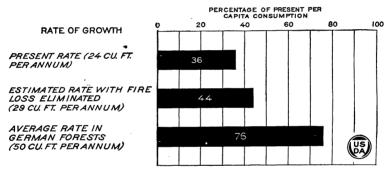


Fig. 53.—On our present forest area, including the \$1,000,000 acres denuded and not restocking, it would be possible to provide for 150,000,000 people, at present rates of growth on the growing area only a little more than a third of our present per capita consumption. The elimination of fire would 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 22½ 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.

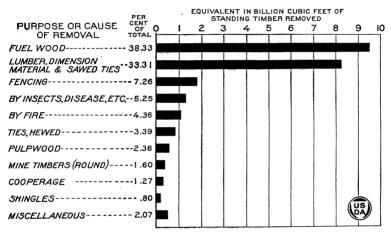


Fig. 54.—Of the total timber annually removed from the forests of the United States a little over 4 per cent is destroyed by fire and a little over 5 per cent by insects and disease. Lumber, dimension material, and sawed ties comprise about one-third of the total, but the timber of saw-timber size removed 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.

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 7½ 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 STATES THROUGH WASTE, DESTRUCTION, OR USE.

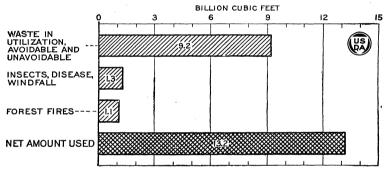


Fig. 55.—It is estimated that of the 25,000,000,000 cubic feet of standing timber annually removed from the forests of the continental United States nearly one-half represents waste. About one-tenth of the total removal is due to fire or insects and disease. The greatest volume of waste is in manufacture 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.

would 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 con-

struction 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 changes in per capita consumption, or in the average yield per acre of crop land, carrying capacity per acre of pasture land, and an nual growth per acre of forest land.		Assuming no changes in per capita consumption, but an increase to European standards in yield per acre of crop land, carrying capacity per acre of pasture land, and annual growth per acre of forest land. <sup>2</sup>		A s s u m i n g no changes in yield per acre of crops, carrying capacity of pasture, and growth of forests per acre; but a reduction in per capita consumption of food and forest products to the standard prevailing in Germany prior to the World War.	
	Total (thousands of acres).	Acres per capita.	Total (thousands of acres).	Acres per capita.	Total (thousands of acres).	Acres per capita.
Crop land	431, 000 336, 000 587, 000 237, 000 1, 465, 000	2, 87 2, 24 3, 91 1, 58 9, 77	270, 000 121, 000 587, 000 237, 000 636, 000	1. 80 0. 81 3. 91 1. 58 4. 24	394, 000 215, 000 587, 000 237, 000 169, 000	2, 63 1, 43 3, 91 1, 58 1, 13
Provisional total Less duplication of forest and woodland pasture	3, 056, 000 237, 000		1, 851, 000 237, 000		1, 602, 000 169, 000	
Net total	2, 819, 000	18. 79	1, 614, 000	10. 76	1, 433, 000	9. 55

<sup>1</sup>With no allowance for exports and assuming the same proportion of our national consumption of farm

Each of the three columns in Table 8 is based on extreme as-Nevertheless, they are exceedingly useful in defining some of the limits of the problem of land utilization. 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. 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. 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 economy. It is, of course, obvious that in at-

with no allowance for exports and assuming the same proportion of our national consumption of farm products obtained from imports as for the present population.

For maximum increase in crop yields, the basis of determination was the average yields, for four European countries; in lumid 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).

Area required for growing the timber consumed instead of cutting from a stored supply.

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 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.

<sup>&</sup>lt;sup>58</sup> With either a corresponding economy in wool or increased importation. <sup>50</sup> See p. 463.

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 employed 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.

### ACRES OF HUMID PASTURE PER HUNDRED ACRES OF CROPS, UNITED STATES (EXCLUDING EXPORTS), COMPARED WITH FRANCE AND GERMANY.

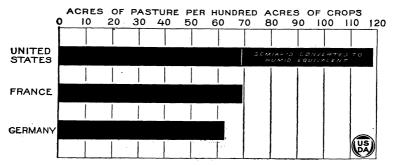


Fig. 56.—As the density of population in a country increases there is a tendency to rely more largely on crops rather than on pasture for the maintenance of livestock. The area of crops and pastures used for the United States excludes acreage employed in producing for export. If allowance were made for 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 of 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. 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.<sup>60</sup>

<sup>&</sup>lt;sup>60</sup> 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 potatocs, 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

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.<sup>62</sup>

The very moderate requirements for crop land and pasture will leave a very large area available for forests. It will be recalled

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 150,000,000 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 row on humid pasture in 1920 was multiplied by 1.2 to allow

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 restock-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

<sup>&</sup>lt;sup>63</sup> 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.

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.<sup>64</sup>

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. <sup>65</sup> No

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.

So 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.

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.

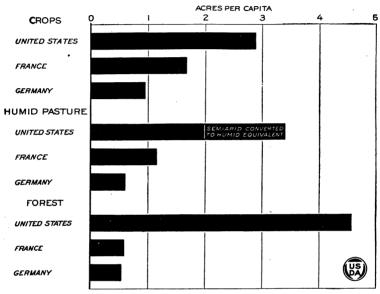


Fig. 57.—The acreages of crops and humid pasture for the United States do not include land employed in producing for export. No allowance is made for the acreage in France and Germany that would be required to produce the farm products imported. The column showing pasture area per capita for the United 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, <sup>66</sup> 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

<sup>66</sup> Including an allowance for the larger area required for our maximum population.

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 pas-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.<sup>67</sup> This would involve a severe reduction in

<sup>&</sup>lt;sup>67</sup> 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 calculation—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.

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.

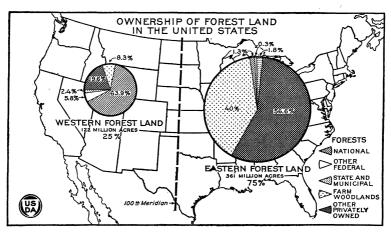


Fig. 58.—In the eastern forest region, which comprises 75 per cent of the total forest area of the United States, the national forests are only 1.3 per cent of the total, and all publicly owned forest land in this region is only a little more than 3 per cent. Two-fifths of the area is in farm-wood lots 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 land-selling 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 detri-

ment 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

<sup>&</sup>lt;sup>69</sup> An estimate by R. P. Teele, associate economist, Bureau of Agricultural Economics (Division of Land Economics).

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.

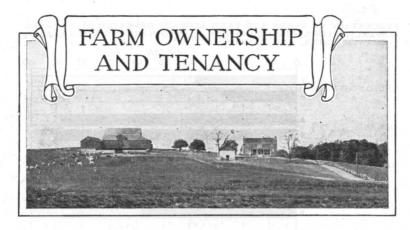
Importance of Taking Steps to Increase the Productivity of Crop and Pasture Land.

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.

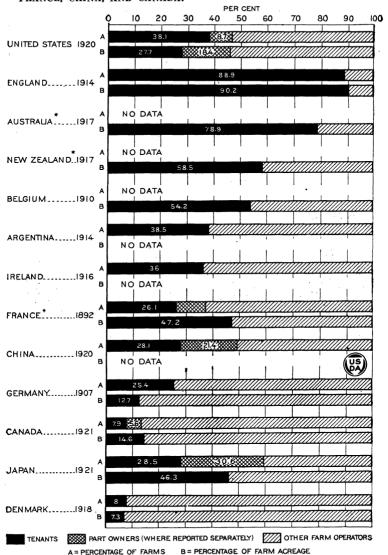
THE general attitude toward the subject of land ownership and tenancy in this country has been determined by our very recent emergence from the pioneer stage of agricultural development. In that stage farm land was superabundant and its ownership easily acquired. There was little necessity for farmers 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 abnor-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.

<sup>&</sup>lt;sup>1</sup> 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.

## PERCENTAGE OF FARMS AND FARM ACREAGE OPERATED BY TENANTS, SELECTED COUNTRIES; INCLUDING PART OWNERS IN UNITED STATES, FRANCE, CHINA, AND CANADA,



<sup>\*</sup> Crown Land accounted for 46 per cent in New Zealand and 77 per cent in Australia Exclusive of workers tracts operated by owners. Percentage of farm acreage rented by part lowners not separately reported

A = PERCENTAGE OF FARMS

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 standpoint 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 United 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. 521-522.)

# 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 croppers), 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.

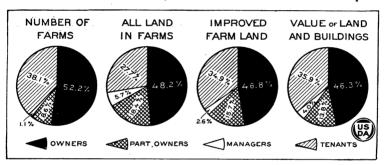


Fig. 2.—More than half the farms in the United States are operated by full owners, but somewhat less than half of the land or of the value of farm real estate. Although tenants who rent all the land they operate constitute over 38 per cent of all farmers, they operate less than 28 per cent of the farm 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 2½ 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.

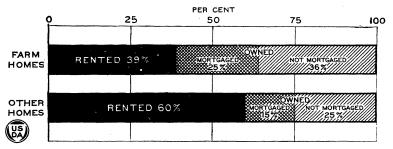


FIG. 3.—The proportion of the farm homes rented is only about two-thirds as large as the proportion of city and village homes rented. The proportion of farm homes free of mortgage encumbrance and occupied by the owners is also larger than in the case of other homes. Farm homes comprise the homes of persons 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; PERCENTAGE OF TOTAL FARMERS; UNITED STATES, CENSUS 1880-1920.

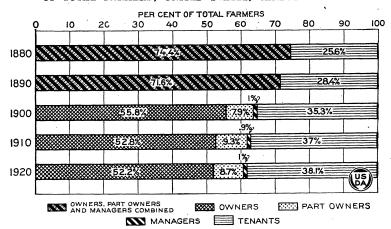


Fig. 4.—In 1880 and 1890 owners, part owners, and managers were not separated in the census statistics. The increase in percentage of tenancy between 1880 and 1900 was 3½ times the increase between 1900 and 1920.

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 so-called 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.<sup>2</sup>

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

OWNER FARMERS, TENANTS, AND OTHER PERSONS (MOSTLY WAGE LABORERS); PERCENTAGE OF ALL PERSONS 10 YEARS OLD AND OVER ENGAGED IN AGRICULTURAL PURSUITS, UNITED STATES, 1880-1920.

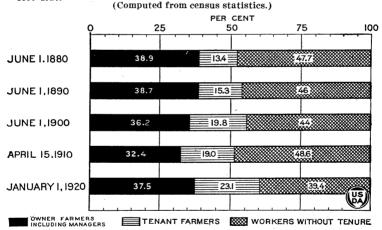


FIG. 5.—On account of changes in the time of year of taking the census, the percentages shown above, particularly those showing the number of farm laborers, are not exactly comparable. The first three census enumerations were taken as of June 1, and indicate that the rapid increase in the percentage 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

<sup>&</sup>lt;sup>2</sup> 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.

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 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).

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.

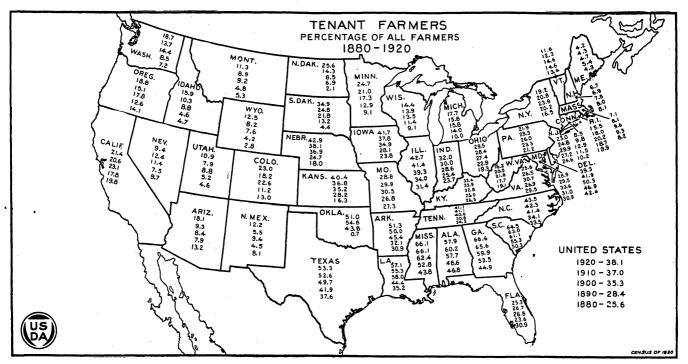


Fig. 6.—In all the States north of North Carolina and east of Ohio and Kentucky, with the exceptions of New York and Pennsylvania, the percentages of farms operated by tenants were smaller in 1920 than in 1880. In most of these States the maximum percentages were attained about 1900. In Kentucky and 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 has also been notable in the Corn Belt and the wheat regions.

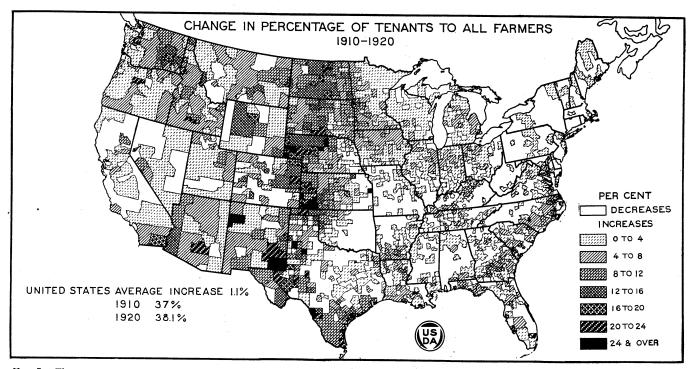


Fig. 7.—The greatest increase in the percentage of tenant farms occurred in the newly developed lands of the Great Plains and of Idaho, eastern Washington, and Arizona. There was a notable increase in certain parts of the Corn Belt, especially northern Iowa. There was also some increase in those parts of the South where there has been a comparatively recent agricultural development. In short, the map indicates that the marked increase in the percentage of tenancy was mainly in regions where the farming industry has been expanding, or where such expansion 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, United States, 1920, 1910, and 1900.

Date.	Acreage.		Value of
	Total.	Improved.	real estate.
1920 1910 1900	39. 3 35. 6 34. 2	43. 8 41. 0 37. 5	43. 6 39. 5 35. 4

<sup>&</sup>lt;sup>1</sup> 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.

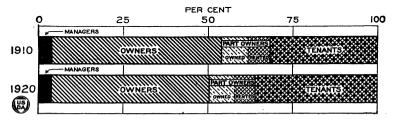


Fig. 8.—The proportion of all farm real estate rented by tenants and part owners in 1920 was 42 per cent, and the proportion of all farm land, excepting that in farms of managers, was nearly 44 per cent. Less than half the farm real estate was owned by full owners in 1920, and but little more than half 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-

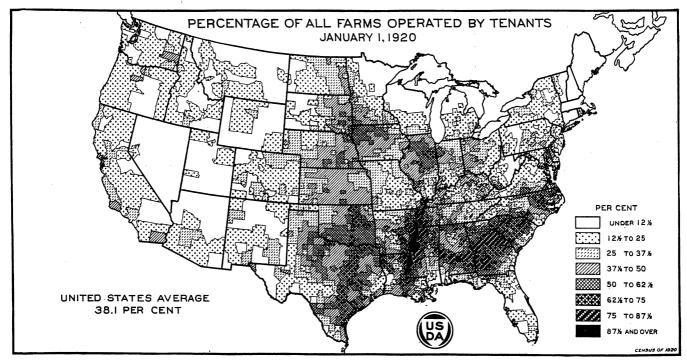


Fig. 9.—The percentage of farms rented is highest in the Cotton Belt, where tenant farms constitute usually from one-half to nine-tenths of the number of all farms. In the Corn Belt and the eastern portions of the winter wheat and spring wheat regions tenant farms comprise from one-fourth to three-fourths 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 general, constitute less than one-fourth of all farmers.

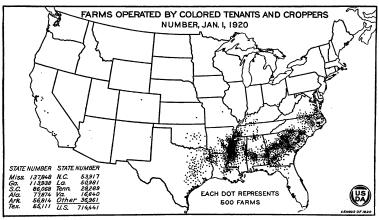


Fig. 10.—The Negro tenant and cropper farms or holdings are located mostly in the Yazoo-Mississippi Delta, in the Black Prairie of Alabama, and in the upper Coastal Plain and Pledmont of Georgia and the Carolinas—districts having the richest soils in the old South. Many of these "farms" are merely allotments 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 and 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 rela-

tively 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

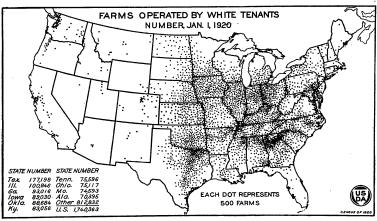


Fig. 11.—The regions of greatest density for farms operated by white tenants are the upper Piedmont of the Carolinas, Georgia, and Alabama, and the Black Waxy Prairie of Texas. In these districts negroes are less numerous than to the south and east, and the cotton is grown mostly by white farmers. A large number of white tenants are shown in Kentucky and western Ohio, especially in the tobacco districts and throughout the Corn

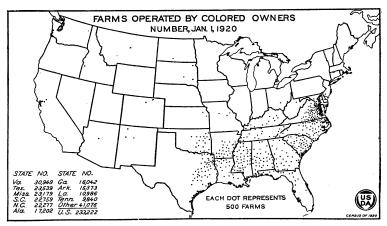


Fig 12.—The regions of greatest density for farms operated by Negro owners are eastern Virginia, southeastern South Carolina, and northeastern Texas—all of them areas of cheap land. In Virginia there are almost twice as many farms operated by Negro owners as by Negro tenants, and in Florida the numbers 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

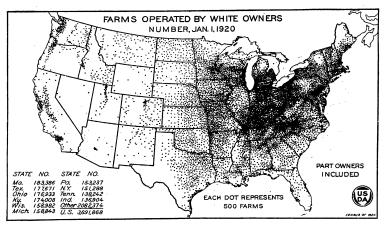


Fig. 13.—The regions of greatest density for farms operated by white owners are those occupied by the Germans of southeastern Pennsylvania and eastern Wisconsin, the mountaineers of western Pennsylvania, eastern Tennessee, and western North Carolina, by the farmers of Kentucky, Indiana. Ohio, and southern 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.

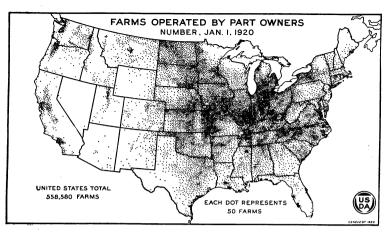


Fig. 14.—More than a half million farms were operated by part owners in 1920. They were most numerous in the States of the Middle West, especially in the marginal portions of the Corn Belt and in the wheat-growing areas of the eastern plains,

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

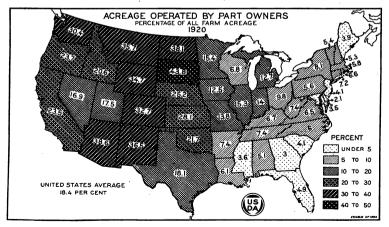


Fig. 15.—The relative importance of part owners in the western half of the country, expressed in terms of farm acreage, is much greater than is shown in Figure 14. In the Western States part owners operate from a sixth to nearly two-fifths of the farm area; in the eastern and central Corn Belt from a sixth to a tenth; and in the Eastern and Southern States less than one-tenth.

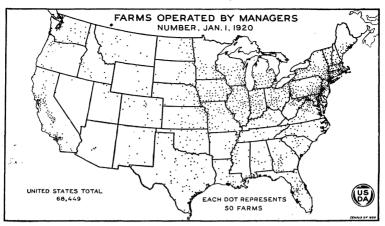


Fig. 16.—In New England and some of the Middle Atlantic States a good many of the farms operated by managers are country estates of wealthy men in the cities. Others are large truck farms, flower farms, and fruit farms

the semiarid lands of this region, the farms as taken up were too 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

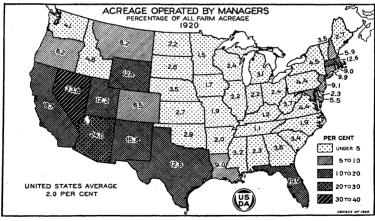


Fig. 17.—In nearly all parts of the country the percentage of the farm acreage operated by managers is much larger than the percentage of the number of farms so operated, because manager-operated farms are larger than other farms. This is especially the case in some of the New England and Middle Atlantic States: in Florida, Louislana, 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-

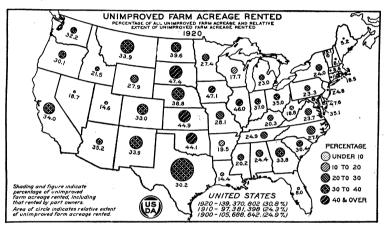


Fig. 18.—Over two-thirds of the unimproved farm acreage under lease is in the 17 Western States, the 6 stretching from North Dakota to Texas containing two-fifths of all such land. In the half of the United States lying west of meridian 100 nearly all of the unimproved farm land under lease is used for 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-

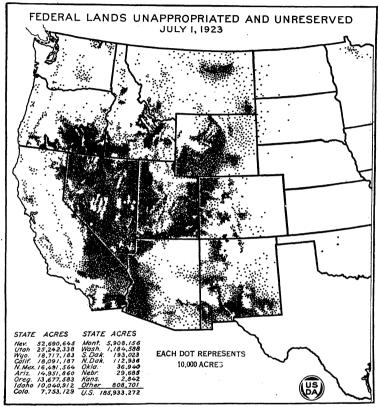


Fig. 19.—About 186,000,000 acres of unappropriated and unreserved land remained in the Federal public domain on July 1, 1923. Over 185,000,000 acres were in the States shown above. In some counties of Wyoming. Nevada, and Oregon over 60 per cent of the land area is still in the Federal domain and open 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

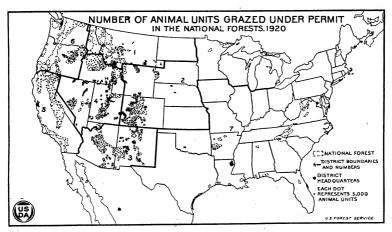


Fig. 20.—Out of 156,000,000 acres in national forests, about 110,000,000 acres, practically all in the Western States, is included in the grazing allowances. On this acreage nearly one-fourth of the livestock, excluding work stock in the West is grazed during the pasture season. The percentage of grazed 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 their grazing operations in much the same way as if owning or renting this land.

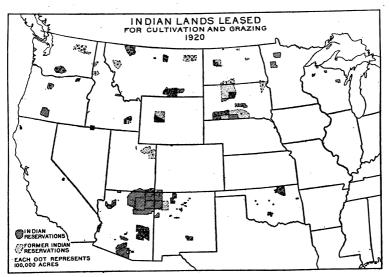


Fig. 21.—In 1920 approximately 17.000,000 acres of Indian land, mainly in the western half of the country, were leased for cultivation and grazing under the auspices of the Federal Government. The amount of such land reported for the year ended June 30, 1923, was about 15.000,000 acres. Of the area thus 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.

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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?

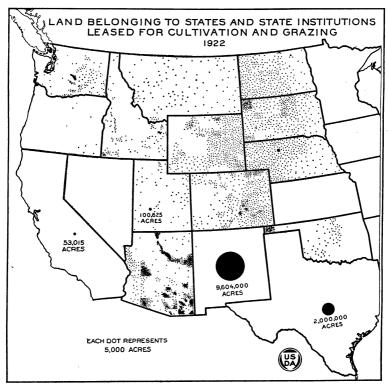


Fig. 22.—Practically all of the State-owned lands leased for cultivation and grazing are in the 17 Western States, amounting to about 30,000,000 acres. In Texas, New Mexico, and California the available information does not admit of the location of the land by counties. In Texas the 2,000,000 acres shown 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. 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

<sup>4</sup> The terms "landlords" and "landlordism" are not used in an invidious sense. \*The terms "landlords" and "landlordism" are not used in an invitious 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.

5 It is believed that this promiscuous and unregulated use should be replaced by a system of regulated grazing. (See pp. 404, 405, and 505.)

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.<sup>6</sup>

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).

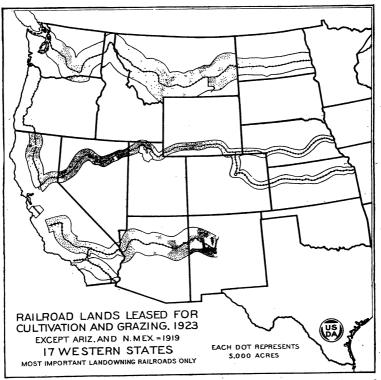


Fig. 23.—Approximately 17,000,000 acres of land leased for cultivation and grazing is owned by the principal landowning railroads in the 17 Western States. Nearly all of this area is leased for grazing. The information was made available through the courtesy of the officials of the railroads concerned. Outside of the area shown above it is probable that less than 3,000,000 acres is leased for cultivation or grazing by other railroads in the United 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 having 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

The grant does not involve the exclusive or assured use of a specific area but only the right to graze a certain number of stock under carefully drawn regulations and for a certain charge per head. This right is revocable.

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 nearly 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, even 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.

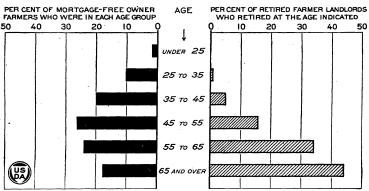


Fig. 24.—Death and retirement combined reduce the proportion of owner-farmers in age groups above 55 years. The number of farmers retiring increases with each successive age group. The left-hand portion of the graph is based on the 1920 census, while the right-hand portion is based on reports from 7.583 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

# AGE OF FARMERS IN RELATION TO SIZE OF FARMS OPERATED, SELECTED STATES, CENSUS OF 1910.

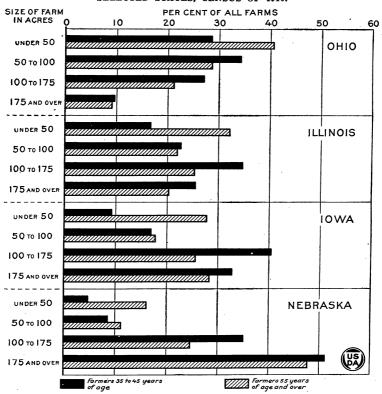


FIG. 25.—Men who are not beyond middle age usually prefer the larger-sized farms, and rent such farms if they can not buy. Elderly farmers who own the larger farms find it possible to retire and live on the rent which younger farmers are willing to pay for the use of the larger farms. A phase of the 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.

## TENANTS WHO RENTED FARMS OWNED BY RELATIVES; PERCENTAGE OF ALL TENANTS ON 56,845 FARMS IN 24 STATES, 1920.

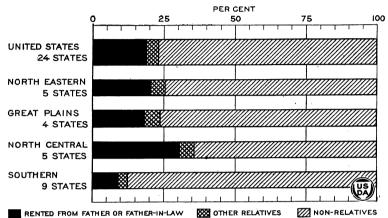


Fig. 26.—Twenty-three thousand landlords reported their degree of relatedness to approximately 57,000 tenants. For the United States as a whole about 23 per cent of the tenants were related by blood or marriage to the landlord, most of them being sons or sons-in-law. The proportion is lowest in the South 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.

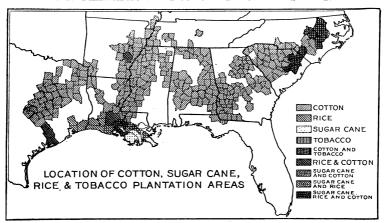


Fig. 27.—For the most part the plantation area of the South is identical in location with the area of the antebellum plantation system. The plantation system occupies the regions of more fertile soils. The typical plantation is operated as a comparatively large farming unit, mostly by means of hired 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.

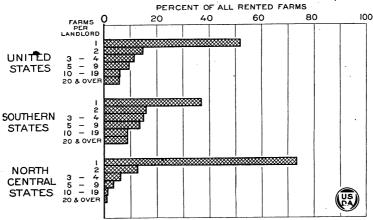


Fig. 28.—In the above graph concentration of ownership is shown in terms of number of farms, with evidence of heavier concentration in the Southern States, due to the plantation system. The concentration of ownership measured by acreage and valuation was less than when measured by number of farms. The census of 1900 affords the only complete information for the country as a whole concerning the concentration of ownership of rented farms.

LANDLORDS OWNING TWO OR MORE RENTED FARMS; PERCENTAGE OF ALL LANDLORDS, AND PERCENTAGE OF ALL RENTED FARMS OWEND BY THEM, 1920.

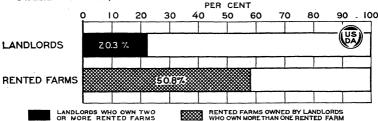


Fig. 29.—Landlords owning two or more rented farms each comprised a fifth of all landlords, but owned a little over half of all the rented farms in 1920. The graph is based on a special study of 275,000 rented farms in selected counties of 24 States made by the Bureau of Agricultural Economics, Division 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.

LANDLORDS OWNING FIVE OR MORE RENTED FARMS, PERCENTAGE OF ALL LANDLORDS, AND PERCENTAGE OF RENTED FARMS OWNED BY THEM, 1920.

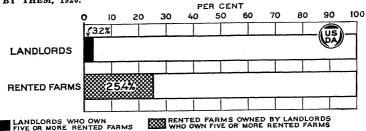


Fig. 30.—The special study of the ownership of 275.000 rented farms, mentioned in Figure 29, showed that in 1920 a little more than one-fourth of all the rented farms were owned by a little less than one-thirtieth of the landlords. Most of this concentration of ownership was in the southern plantation 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.

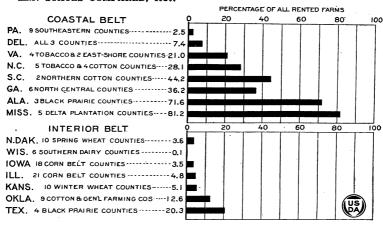


Fig. 31.—Outside of the South, rarely more than 5 per cent of the rented farms belong to landlords who own five or more rented farms each. In the South the concentration of ownership is much greater, ranging as high as 80 per cent in the Yazoo Delta. The source of the information is the same as for Figure 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

# PROPORTIONS OF RENTED FARMS OWNED BY LANDLORDS RESIDING IN THE SAME COUNTY, AN ADJOINING COUNTY, OR MORE REMOTE LOCATIONS, 1920.

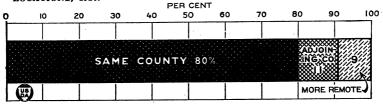


Fig. 32.—Only 9 per cent of 275,000 tenant farms in 24 States were owned by landlords who resided neither in the same county nor in an adjoining county. It is probable that this 9 per cent measures approximately what we may call absentee landlordism; that is, the cases where the owner's residence is 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 29.

farms were located.<sup>7</sup> 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

<sup>&</sup>lt;sup>7</sup>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, 4.5 per cent were owned by landlords of unreported residence. By prorating this 4.5 per cent, the total percentage is changed to 76.8.

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.

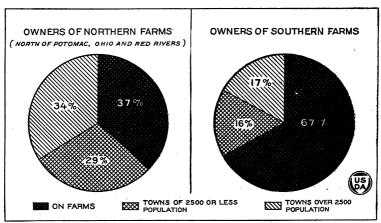


Fig. 33.—In the Northern States more than a third of the landlords reside on farms, while in the South the proportion is more than two-thirds. In the North about half of the landlords living in cities and villages are retired farmers (fig. 34). The graph is based on returns from 23,000 landlords in 24 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.

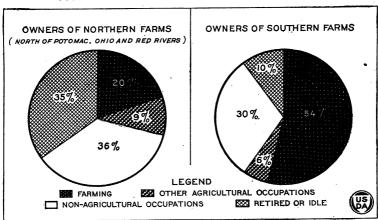


Fig. 34.—The proportion of landlords still classed as farmers is much larger in the South than in the North, but if retired farmers, many of whom exercise supervision over their rented farms, are considered farmers, the difference is not so great. About a third of the farm landlords of the two regions 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.<sup>8</sup>

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 owner-ship 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

<sup>&</sup>lt;sup>8</sup> 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.

### TENURE EXPERIENCE OF LANDLORDS OF RENTED FARMS, 1920.

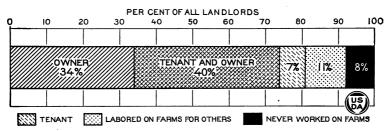


Fig. 35.—The figure shows the previous tenure experience of about 20,000 male landlords who replied on this point. Nearly three-fourths had been operating owners and two-fifths had been both tenants and owner-farmers. Source of data is the same as for Figure 33.

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.

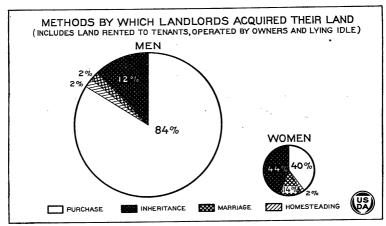


Fig. 36.—Fourteen per cent of the male owners and 58 per cent of the female owners of rented farms had acquired their lands by inheritance or marriage and 2 per cent of each class by homesteading, the remainder having purchased their lands. It should be noted, however, that these figures made no allowance 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-

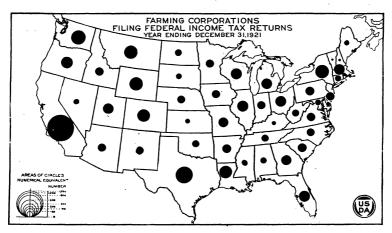


Fig. 37.—A classification of 1,689 of the 7,428 farming corporations is as follows: Cotton farming, 11, or 0.7 per cent; grain farming, 23, or 1.4 per ment; stock farming, 711, or 42.1 per cent; and fruit farming, 944, or 55.9 per cent. Of the 7,428 farming corporations, 2,684 reported net income the 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 native-born 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. 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 low-valued 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 farm 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-

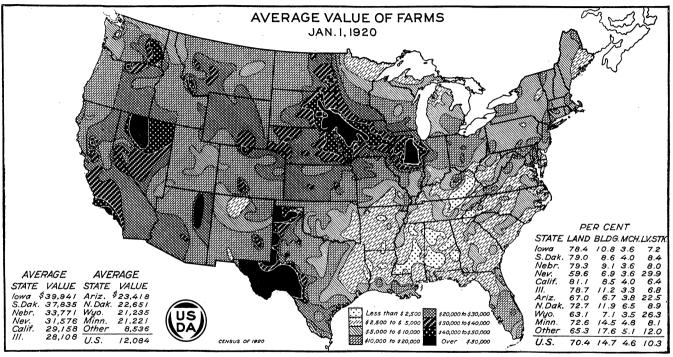


Fig. 38.—The average valuation of farms, including buildings, machinery, and livestock, in the prairie portion of the Corn Belt and the southern part of the spring wheat region was about \$40,000 in 1920. The high valuations shown in western Texas and northern Nevada are mostly of cattle ranches, which are few in number and large in area, often including thousands of acres of arid range and hundreds of cattle. In central and southern California, on the other hand, many of the high-priced farms are small, but consist of expensive orchards or of bean or sugar-beet land. The very low-priced farms shown in the eastern Cotton Belt are, in large part, small cropper or tenant holdings in plantations. The light areas in Kentucky and Tennessee represent poor mountain farms. In most parts of the United 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 centage of	and per-	Range of average total valuation of farm property per farm, by counties.	Number and percentage of counties.		
	Number.	Per cent.		Number.	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		1.8	
\$10,000 to \$14,999	435	14. 2	\$45,000 to \$49,999		1.7	
\$15,000 to \$19,999	329	10. 7			1.9	
\$20,000 to \$24,999	193	6.3	\$55,000 and over		1. 2	
\$25,000 to \$29,999	162	5. 3	, , , , , , , , , , , , , , , , , , , ,			
\$30,000 to \$34,999	102	3. 3	Total	3,071	100. 0	

<sup>&</sup>lt;sup>1</sup> 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.

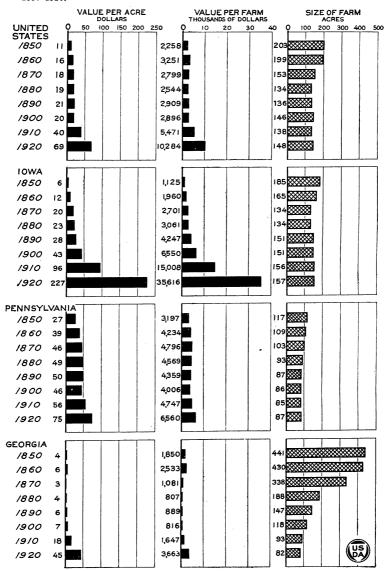


Fig. 39.—For the United States as a whole the average valuation of farm real estate increased from \$11 an acre in 1850 to \$20 an acre in 1900, but in the next 20 years it increased to \$69. During these two decades the increase in the valuation of land was closely related to the upward movement of general prices, which characterized the period and which was greatly accelerated in the last few years by the inflation that developed during the World War. Since 1920 land valuations have declined in most parts of the United States.

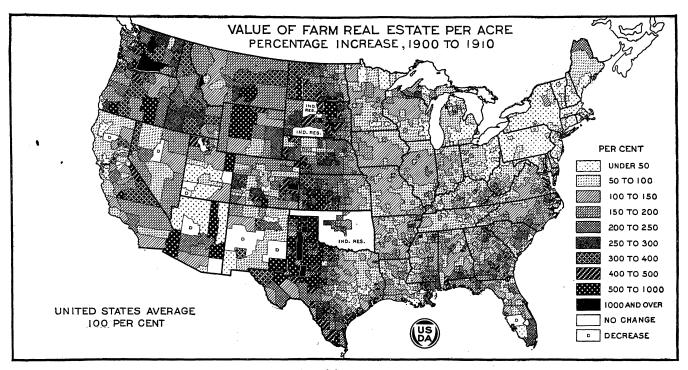


Fig. 40.—The percentage of increase in the census valuation of farm real estate per acre between 1900 and 1910 was large in the Great Plains region and in many of the irrigated areas of the West. In the East the greatest percentage increases in valuation were in the South Atlantic and Gulf coastal plain, 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 power 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. 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 <sup>10</sup>

(fig. 41).

<sup>&</sup>lt;sup>10</sup> 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 of buildings. However, it is the best statistical measure available.

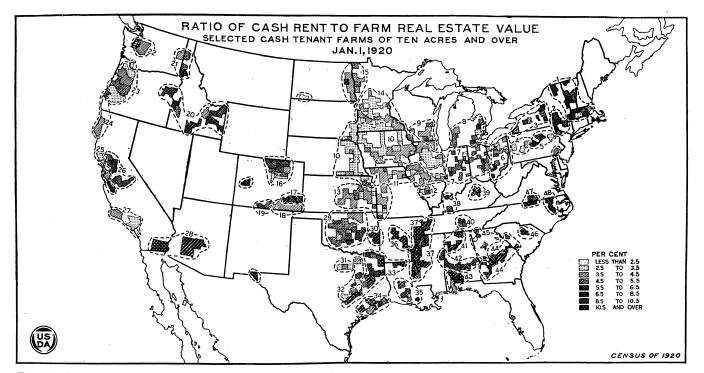


Fig. 41.—In many counties in the Corn Belt cash rents averaged about 3 per cent of the valuation of farm real estate on January 1, 1920. In most of the remainder of that region, as well as in parts of the winter wheat and spring wheat regions, it was under 4.5 per cent. The return was 6 to 8 per cent 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 shown.

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 rent to farm real estate valuations for selected cash-rented farms in groups of counties as shown in Figure 42.

Area number.	Ratio.	Area number.	Ratio.	Area number.	Ratio.	
79 10	Per cent. 3. 4 2. 8 2. 4	14 25 26	Per cent. 2. 2 2. 6 4. 7	37	Per cent. 6. 5 3. 8 5. 9	

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.

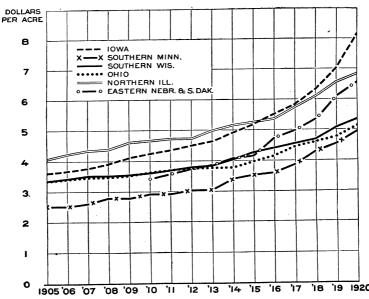
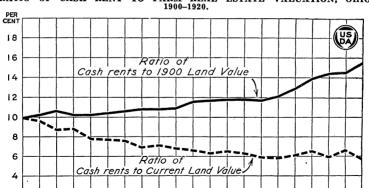


Fig. 42.—The upward trend of rentals on these farms in the Corn Belt and on the margins of the Corn Belt throughout the period shown is remarkable. Exactly comparable figures are not available for the years since 1920, but undoubtedly cash rents have declined in the past three years. Although rents advanced continuously and in several areas doubled in the 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,

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

1900'01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11

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. 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 land-owning 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.

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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.

<sup>&</sup>lt;sup>11</sup> Gray, L. C. "Accumulation of Wealth by Farmers," *Proceedings* of American Economic Association, March, 1923. The estimate, though made with care, is considered a rough one because of numerous gaps in available statistics.

## AVERAGE VALUATION PER FARM OF LAND AND BUILDINGS AND OF MACHINERY AND LIVESTOCK; UNITED STATES AND SELECTED STATES, CENSUS OF 1920.

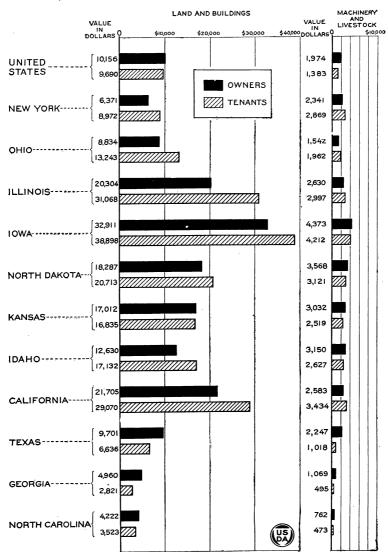


Fig. 44.—The average investment in machinery and livestock per farm required to become a tenant in Iowa is larger than the valuation of the entire farm in much of the South and in parts of New England and the upper Lakes region (fig. 38). The valuation of machinery and livestock per farm, much of which 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 class which shows the highest percentage).<sup>1</sup>

Age group.	Share and share- cash tenants.	Cash and unspeci- fied ten- ants.	Part owners.	Full owners mort- gaged.	Full owners not mort-gaged.	Total (exclud- ing man- agers).
Under 25 years	63.4	12. 4	5. 0	7. 6	10. 2	98. 6
	42.7	13.8	8. 9	17. 1	16. 2	98. 7
	28.7	11. 1	10.5	22.0	26. 6	98. 9
	21.1	9. 0	9. 8	21. 6	37. 6	99. 1
	14.2	6. 5	7. 7	19. 7	51. 2	99. 3
	10.8	5. 7	4. 7	14. 1	64. 1	99. 4

<sup>&</sup>lt;sup>1</sup> Based on census statistics.

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 TENURE STAGES TO AVAILABLE CAPITAL.

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, PER-CENTAGES IN SPECIFIED AGE GROUPS; UNITED STATES, CENSUS OF 1920.

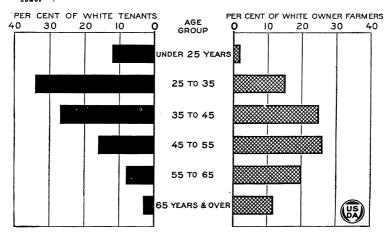


Fig. 45.—The graph shows a larger proportion of white tenants in the younger age groups and of owners in the older age groups. Nearly a third of the tenants are between 25 and 35 years of age and nearly nine-tenths are under 55 years of age. On the other hand, nearly a third of the owners are over 55 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.<sup>12</sup> Frequently, it is a

# COLORED TENANTS COMPARED WITH COLORED OWNER FARMERS, PERCENTAGES IN SPECIFIED AGE GROUPS; SOUTHERN STATES, CENSUS OF 1920.

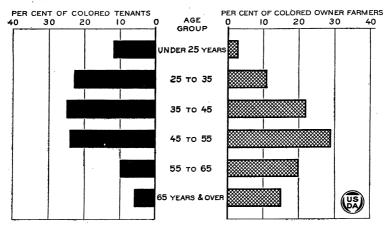


Fig. 46.—A much larger percentage of colored tenants are in the older age groups than of white tenants (see fig. 45). The percentage of owners in the older age groups is likewise somewhat larger. In other words, a relatively large proportion of colored tenants attain ownership at an advanced age or not at all.

<sup>&</sup>lt;sup>12</sup> 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 whole being calculated as a percentage on a much smaller base than in the case of owner farmers.

mistake for a farmer to buy a farm when he must assume a heavy burden 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.

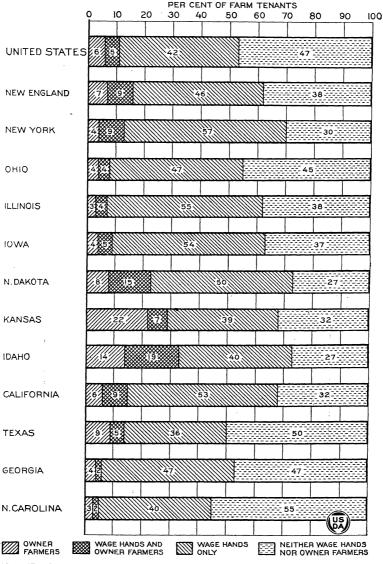


Fig. 47.—Nearly half of the tenant farmers (including croppers) in the United States have never had experience either as farm-wage laborers or as farm owners, although they may have worked without wages on their parents' farms. The class who become tenants directly without previous farm experience is 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.

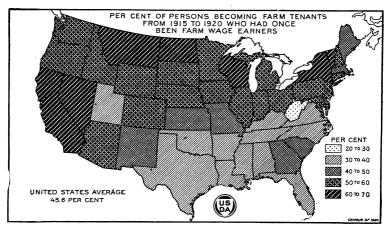


Fig. 48.—Forty-six per cent of the farmers who became tenants from 1915 to 1920 had previously been farm-wage hands. The percentage was much lower in the South than in the North and West, largely because of the small amounts of capital required in many parts of the South to become tenants or croppers, 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

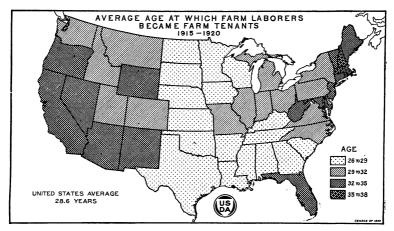


Fig. 49.—The average age at which farmers who were tenants in January, 1920, and who had been farm-wage earners during the preceding five years, became tenant farmers shows a range of about 10 years in the State averages. The averages for the States in the East and in the West are higher than for the 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. 47). 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.

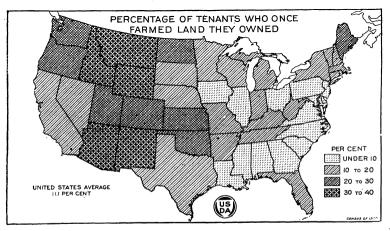


Fig. 50.—Although some of this group of tenants are persons who have been compelled through inefficiency or misfortune to revert to the tenant class, the heavy concentration in the West suggests that some are men who have sold their farms elsewhere and on migrating have become tenants for a season until 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 and

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 whole, 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-in-law of farm owners and most of them had worked on their parents' farms without wages <sup>13</sup>. The percentage is high in New England, where tenancy is an unimportant step in the tenure ladder, and is also

<sup>&</sup>lt;sup>13</sup> 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.

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 AS REPORTED IN THE CENSUS OF 1920.

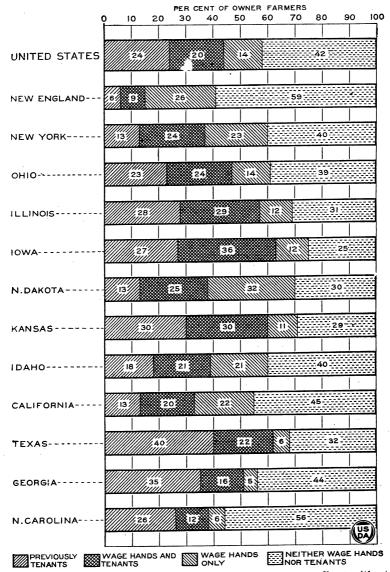


Fig. 51.—A large proportion of owner farmers became owners direct without having worked previously as farm-wage laborers or as tenants. Probably the majority of this group had worked without wages on parents' farms. Only a fifth of the farmers in the United States passed through both stages. The proportion 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.

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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

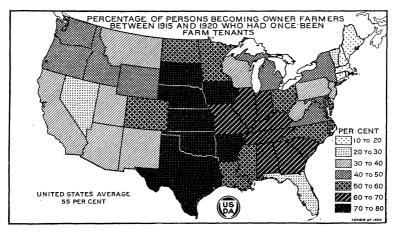


Fig. 52.—The percentage of owner farmers who had once been farm tenants is lowest in New England, only 15 per cent, and reaches a maximum, about 75 per cent, in the tier of States from South Dakota to Texas, inclusive, and in lowa and Arkansas. In practically all the other States of the Middle West, 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. might be due to a number of other causes which have little relation to the economic difficulty involved in acquiring the ownership of a 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 difficulty. 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

# TIME SPENT IN VARIOUS STAGES BY FARMERS WHO, HAVING HAD FARM EXPERIENCE BOTH AS TENANTS AND AS WAGE EARNERS, BECAME OWNER FARMERS BETWEEN 1915 AND 1920, CENSUS OF 1920.

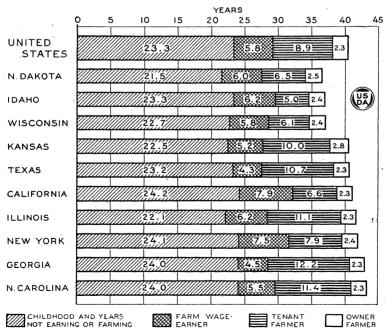


Fig. 53.—The average age of attaining ownership is shown to be 38 years, preceded by an average farm experience of about 15 years as wage laborer and tenant, but varying in different States. It should be noted that the years spent in childhood or nonagricultural work included in most cases work on parents' farms without wages.

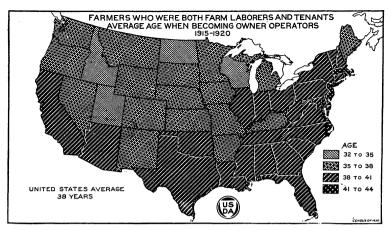


FIG. 54.—The map shows no wide range of difference in the averages for the several States, the lowest being 32 years for Utah and the highest 43 for Rhode Island. The average age of acquisition tends to be lowest in the group of States in the northwestern third of the United States. That this is partly 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

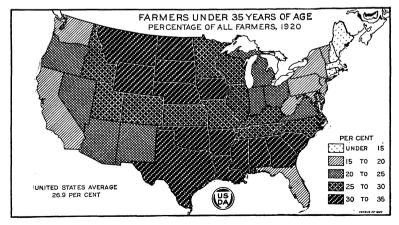


Fig. 55.—The influence of migration from the old-established regions of the Northeast to the newer regions of the Northwest is suggested in this map. In the South the practice of classing croppers as tenants and the small amount of capital required to become a tenant in many parts of the region are responsible 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.

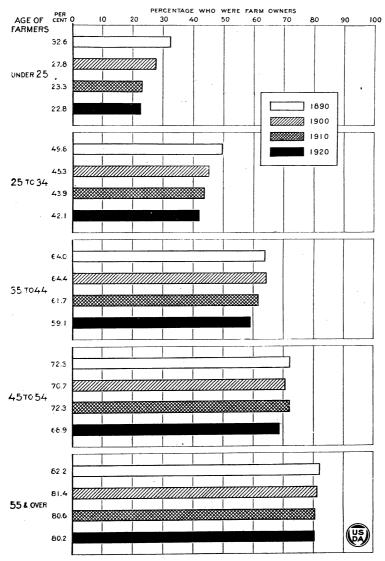


Fig. 56.—Apparently for every age group the percentage of owner farmers was less in 1920 than in any preceding decade. However, when it is recalled that the percentage of owner farmers (including part owners and those operating through managers) declined from 71.6 in 1890 to 61.9 in 1920, it is clear 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 average 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 SURVEY REPORTS FOR 269 OWNER FARMERS IN KENTUCKY, TENNESSEE, AND TEXAS, 1919.

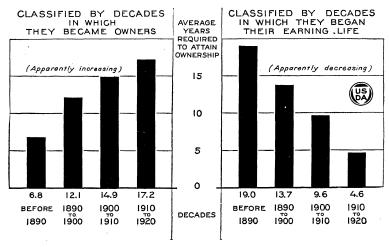


Fig. 57.—The graph shows that because of ignoring the influence of mortality, change to other occupations, and retirement, exactly opposite conclusions are obtained according as one groups the farmers in the order of the decades when ownership was acquired or in the order of the decades when they began the upward climb to ownership. The first system of grouping makes it appear that the period of acquiring ownership has increased nearly three-fold. 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 INFLUENCE THE RATE OF PROGRESS IN CLIMBING TO FARMOWNERSHIP.

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 homesteading. 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.

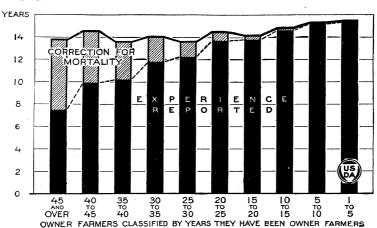


Fig. 58.—The black portion of the column is based on census statistics of the amount of preownership farm experience of owner farmers who before attaining this stage had been both farm-wage earners and farm tenants. Those who had become owner farmers in recent years reported longer terms of preownership 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 group were ascertained for at least one survey area in each of the three States and standard mortality statistics applied to the several groups.

<sup>&</sup>lt;sup>14</sup> This difficulty also applies to the otherwise interesting calculations in the Census monograph entitled "Farm Tenancy in the United States," 1924.

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.		Per cent acquired by—						
	Bases of computation.	Pur- chase. Inheri- tance.		Gift.	Gift. Marriage.			
I. Wisconsin <sup>1</sup> II. 24 States, 23,963 landlords <sup>2</sup> III. Kentucky and Tennessee: <sup>4</sup>	2,051 farms	80. 6	9. 0	3. 5	1. 4	5. 5		
	8,122,828 acres	79. 0	15. 3	( <sup>3</sup> )	3. 3	2. 4		
1. Owners, 845 transactions	71,495 acres	81. 2	12. 3	0. 6	5. 9	0		
2. Tenants, 123 transactions	17,999 acres	96. 8	2. 7	0	0. 5	0		
IV. Massachusetts 5	710 land transfers.	73. 2	22. 8	2. 5	1. 4	0		
V. Nebraska: <sup>6</sup> 1. Owned by tenant farmers  2. Rented farms owned by owner farmers.	60 farms	64. 9	12. 3	0	3. 5	19.3		
	384 farms	82. 6	11. 4	3. 4	0. 8	1.8		
VI. Texas: 7 1. 109 owners 2. 29 tenents VII. Five North. Central States 8	18,544 acres	88. 2 91. 6 64. 5	5. 7 7. 7 24. 8	0 0 0	6. 1 0. 7 8. 4	0 0 2.1		

<sup>1</sup> 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 unpub-

<sup>2</sup> From questionnaires answered by farm landlords, about three-fourths in the Northern States. Bureau of Agricultural Economics, Division Land Economics, 1920; data unpublished.

<sup>3</sup> Included under "Inheritance."

Todal surveys by Buteau of Agricultural Experiment Station cooperating, 1923; data unpublished.

The Local survey by United States Department of Agriculture, 1919. See Department Bulletin 1068, Farm Ownership and Tenancy in the Black Prairie of Texas.

Local surveys by United States Department of Agriculture, 1919. See Department Bulletin 1068, Farm Ownership and Tenancy in the Black Prairie of Texas.

Local Surveys by United States Department of Agriculture, summarized in American Economic Review, 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 farmers 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.

Included under "Innertance."
 Local surveys by Bureau of Agricultural Economics, Division Land Economics, in cooperation with agricultural experiment stations in respective States, 1919 and 1920; data unpublished.
 Local surveys by Massachusetts Agricultural College. Results published in Journal of Farm Economics, Vol. 5, No. 4, October, 1923.
 Local surveys by Bureau of Agricultural Economics, Divisions Land Economics and Farm Population, and States and Economics and Farm Population, and States and Economics and Farm Population,

<sup>&</sup>lt;sup>15</sup> These surveys are as fellows: One each in Illinois and Indiana by the Interchurch World Movement; a survey in Iowa, in Missouri, and in Georgia, by the Bureau of Λgricultural 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.

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.<sup>17</sup> Table 6 summarizes the results of a large number of local surveys. 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.<sup>18</sup> 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.

<sup>&</sup>lt;sup>16</sup> The importance of these aids to farm ownership would, of course, be different during a time when land valuations were not rapidly rising.
<sup>17</sup> See article by George Stewart, "Can Farms Pay for Themselves?" Journal of Farm Economics, Vol. III, No. 3.
<sup>18</sup> 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.

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.

Regions studied.	Date of	Average	capital Farm	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.					
Regions studied.	C11777037	capital per farm.			10 years.		20 years.		30 years.	
					\$300	\$600	\$300	\$600	\$300	\$600
New Hampshire, Hillsborough County_ New York, Tompkins County_ New Jersey, Monmouth County_ Pennsylvania, Chester County_ Maryland, Frederick County_ Ohio, Washington County_	1916 1916	\$8,054 5,527 19,165 10,486 27,885 5,652	\$879 757 1,699 1,313 3,049 443	5. 5 5. 6 5. 8 5. 8 6. 0 6. 1	\$3, 689 2, 115 8, 774 2, 964 7, 652 4, 607	\$5, 951 4, 365 11, 003 5, 193 9, 860 (2)	\$1, 134 107 2, 856 0 0 4, 027	\$4,720 3,661 6,253 2,180 0	\$1,092 0 0 0 0	\$3, 999 3, 275 3, 712 605 0
Indiana:	1920	11,049	778	6. 1	7, 546	9, 745	5, 611	9, 024	3, 716 4, 539	(2) 8, 625
Clinton and Tipton Counties. Clinton County. Illinois:	1914 1918	17, 535 25, 958	1, 187 1, 856	6. 2 6. 2	11, 233 14, 612	13, 419 15, 799	7, 535 8, 398	10, 919 11, 783	5, 588 4, 990	9, 627 9, 032
Case and Menard Counties Kane County Iowa:	1914 1918	51, 091 37, 896	3, 176 2, 766	6. 0 6. 0	29, 918 19, 747	32, 126 21, 955	18, 100 9, 578	21, 542 13, 019	11, 493 3, 950	15, 623 8, 080
Green and Guthrie Counties.  Tama, Blackhawk, and Grundy Counties.  Nebraska, Madison, Platte, Merrick, and Richardson Counties.  Kentucky, Blue Grass Counties	1916	23, 193 63, 926 26, 646	1, 450 4, 578 1, 717	5. 9 7. 5 7. 1	14, 686 34, 562 16, 749	16, 904 36, 621 18, 846	9, 897 18, 957 11, 781	13, 366 23, 350 14, 931	7, 192 13, 400 9, 283	11, 364 18, 277 12, 961
Mischigan, Lenawee County Wisconsin, Green County	1917 1918 1918 1918	37, 793 9, 033 11, 756 31, 036	2,576 822 1,068 1,940	7. 1 6. 8 6. 6	21, 892 5, 335 6, 322	23, 988 7, 461 8, 468	13, 902 3, 429 3, 374	17, 052 6, 653 6, 650	9, 884 2, 427 1, 845	13, 562 6, 218 5, 716
Georgia, Sumter County	1907 1917	14, 636 15, 781 27, 118	1, 940 1, 170 1, 712 3, 711	5, 8 6, 8 8, 7 8, 7	18, 848 8, 467 6, 605 4, 939	21, 077 10, 593 8, 555	11, 924 5, 288 2, 619	15, 421 8, 512 5, 415	7, 999 3, 640 946	12, 217 7, 432 4, 097
Georgia, Brooks County South Carolina, Anderson County	1918 1918	8, 992 5, 529	952 404	8. 7 8. 4	4, 752 4, 843	6, 889 6, 703 (²)	2, 917 4, 535	5, 713 (2)	2, 038 4, 402	5, 190 (2)
Hillsborough County	1921 1921 1918	7, 475 44, 813 16, 019	1, 221 5, 845 1, 457	9. 0 9. 0 9. 0	1, 562 9, 214 8, 596	3, 488 11, 140 10, 521	0 0 5,472	1, 806 0 8, 209	0 0 4, 208	1,095 0 7,273
Gallatin Valley Billings area Utah, Provo area	1914 1915	27, 173 14, 904	2, 185 1, 653	10. 0 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
Arizona, Salt River Valley Oregon, Willamette Valley Washington and Idaho, Palouse area	1918 1918 1918 1920	11, 688 20, 706 22, 699 45, 978	1, 312 2, 370 1, 322 1, 766	9. 0 9. 4 8. 0 8. 0	5, 196 7, 647 15, 842 36, 141	7, 121 9, 593 17, 855 38, 154	2, 453 2, 270 12, 667 31, 684	5, 354 4, 931 15, 613 34, 529	1,348 315 11,190 29,473	4, 413 3, 270 14, 567 32, 850

<sup>&</sup>lt;sup>1</sup> This table is reprinted from Farmers' Bulletin 1385, "Buying a Farm in an Undeveloped Region."

<sup>&</sup>lt;sup>2</sup> These farms yield less than \$600 annual income,

In a sense, the deduction of a fixed amount of income for family living places some of the low-valued 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 averaging \$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 in-

stead of approximately 9 per cent.

In the Îlînois 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 even 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

## OWNERSHIP OF CAPITAL OF FARMS CLASSIFIED BY TENURE, TWO IOWA COUNTIES, 1918.

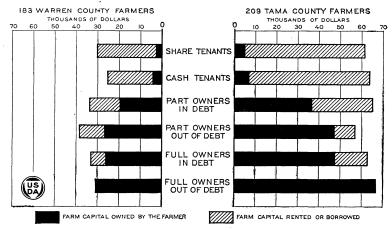


Fig. 59.—In both counties there is an increase in the average amount of operator's equity in farm capital in each successive stage of the tenure ladder with the exception that the equity of full owners in debt is no larger than that of part owners out of debt. The large difference between the average 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

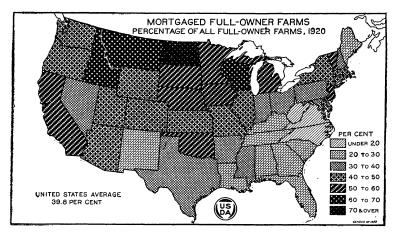


Fig. 60.—In 1920 about 40 per cent of the farms of full owners reporting were mortgaged. The mortgage indebtedness averaged \$3,356, or 29.1 per cent of the average valuation of these mortgaged farms. Mortgage indebtedness may be an indication either of adversity or of activity in climbing to ownership, 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.

\$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

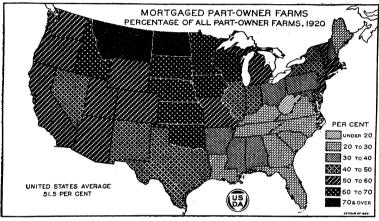


Fig. 61.—In 1920 about half of all part owners reporting were operating farms of which the parts owned by them were mortgaged. No information is available in the census as to the mortgages on the rented portion of such farms or concerning mortgages on farms operated by tenants. A comparison of the above 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, average 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 inter-

mediate 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-

<sup>&</sup>lt;sup>19</sup> It should be noted that most of the surveys do not reflect 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.

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 compared with owners (fig. 62). In the South, the average size

# AVERAGE IMPROVED AND UNIMPROVED ACREAGE OF FARMS, OWNERS, PART OWNERS, AND TENANTS; THE SOUTH COMPARED WITH THE NORTH AND WEST, CENSUS OF 1920.

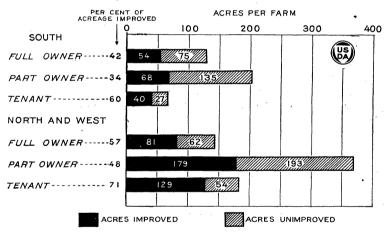


Fig. 62.—The larger average acreage both of improved and of unimproved land operated by owners in the South as compared with tenants is partly due to the practice of counting as farms the various subdivisions of plantations worked by croppers and partly to the continuance in the South of large farms 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 whole.

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

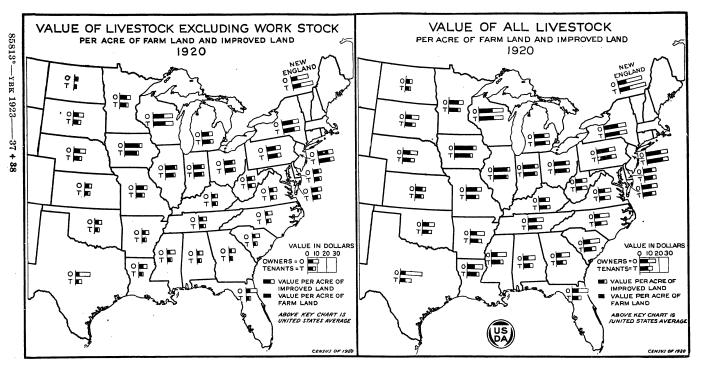


Fig. 63.—Eleven Western States are excluded from this graph because a large acreage of the pasture land is not in farms and is consequently not reported by the census. In the States shown here it is apparent that while owner farmers usually show higher average valuations of livestock per acre than do 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 factor 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.

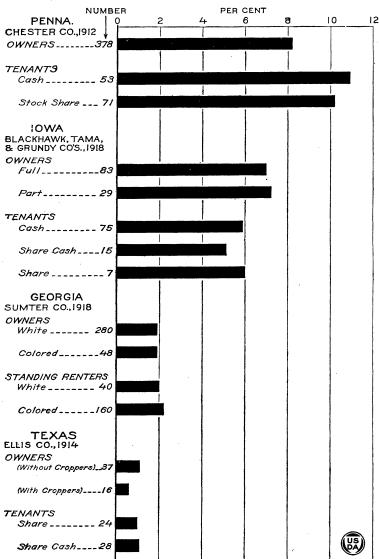


FIG. 64.—The relative place occupied by dairy cattle and meat animals is not always smaller in the case of farms operated by tenants than for farms operated by owners in the same localities. Moreover, tenants in some localities employ such livestock much more extensively than do owner farmers in other 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

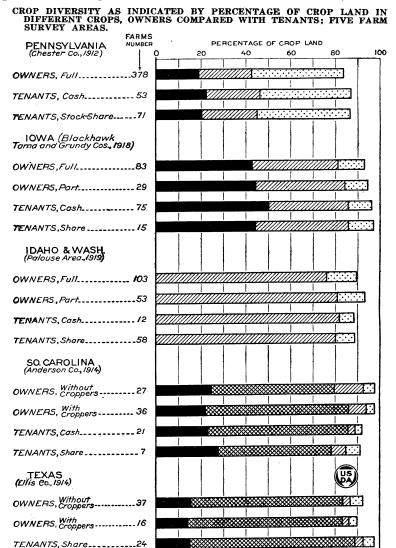


Fig. 65.—In the Pennsylvania and Iowa surveys no important differences are shown in crop selection as between tenants and owner farmers, except that cash tenants place a little more emphasis on corn than do other classes of operators. In the three regions characterized by the one-crop system—that is, 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.

COTTON

SMALL GRAINS

TENANTS, Share-Cash....../8

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.

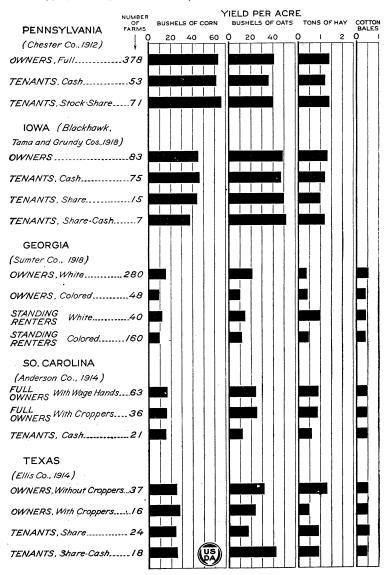


Fig. 66.—This graph shows the danger of generalizing as to yields per acre on rented as compared with owner-operated land even within the same localities. Just as tenants usually occupy a proportion of the highly productive land in a State or geographic division that is larger than their numbers alone 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 them selves 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.		grade in tained by ters.	school at	grade in tained by farmers.	A verage grade in school attained by children above 21 years.		
	Number.	Average grade.	Number.	Average grade.	Number.	Average grade.	
Croppers: Poorest	70 76 76 132	3. 3 3. 6 4. 6 5. 0	63 75 68	4. 2 4. 9 5. 2 5. 6	79 40 18	5. 6 4. 1 4. 3	
Poorest Medium Best	128 132	5. 0 6. 2	122 120	5. 4 7. 1	77 41	7. 1 8. 1	
Owners: Poorest	151 152 149	5. 7 6. 3 7, 4	137 143 139	6. 4 7. 0 8. 0	178 170 110	7. 9 8. 3 10. 7	

¹The survey in Texas was made in a number of Black Prairie counties. See United States Department of Agriculture Bulletin 1068. The surveys in middle and west Tennessee and the bluegrass district of Kentucky were made by the Bureau of Agricultural Economics, Division of Land Economics, in cooperation with the Experiment Stations of the respective States.

¹ This distinction is based on the average annual wealth saved, after excluding wealth received from inheritance, gift, and marriage, and wealth secured by net increases in the valuation oiland which had been owned by operators. The average annual accumulation for each farmer was also divided by the average index number of prices for the years during which the saving was made, thus partly, atleast, eliminating the effects of changes in purchasing power of the dollar as affecting accumulations made at different periods of time. periods of time.

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.

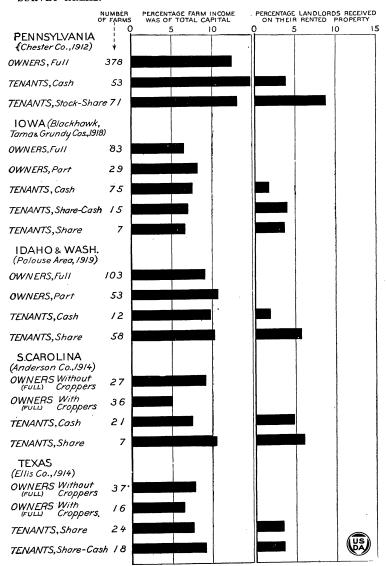


Fig. 67.—The percentage of farm income to farm capital in an area is a rough measure of the comparative efficiency of the several tenure classes. In the northern areas the percentages of farm income to farm capital for the various classes of tenants are higher than for full owners, but somewhat less 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.

Within each tenure class the average school grade of croppers. 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.

	Total.	Owi	ners.	Ten	ants.	Chan	Hired	Man-
	Total.	Full.	Part.	Re- lated.	Unre- lated.	Crop- pers.	men.	agers.
Farmers:								
Southern areas (5)	13. 0	20.0	13. 9	27. 8	9. 5	11. 1	4.5	50. 0 92. 3
Other areas (9)	22. 8	20. 2	34. 6	37. 0	14. 8		31. 3	92.3
Southern areas (5)	25, 6	40.8	31.8	43. 3	19. 5	10.0	5. 6	l
Other areas (9)	47. 0	48, 5	51. 5	35. 7	43. 7		33. 3	66. 7

'Surveys in 3 areas (Georgia, Iowa, and Missouri) 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.

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 en	d of table	for footi	notes ]	١.		
	Number	I	Percentage	of all farm	ers taking-	_
Survey and date. <sup>1</sup>	of farm- ers in survey.	Dailies.	Agricul- tural papers.	Week- lies. <sup>2</sup>	Maga- zines.	Others.
Southwestern Ohio, 1912	273	3 94. 9	57. 9	³ 13 <b>.</b> 2	{ 4 27. 1 5 13. 6	} 6 14.3
North Carolina, 1922	436	40. 1	45, 6	69. 0	48.1	7 2.8
Nebraska, 1920	406	84. 0	77.8	38. 9	<sup>4</sup> 21. 7 <sup>5</sup> 18. 2	} 73.2
· · · · · · · · · · · · · · · · · · ·		8 67. 9	59. 0	62, 1	53. 3	,
Texas, 1919 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	87 100	59. 8 70. 0	57. 5 66. 0	36. 8 72. 0	42. 5 37. 0	
Total or average	1, 593	70. 8	60. 9	59. 8	43. 2	5. 7
NEGR	O OWNE	R FARM	ERS.			1

North Carolina, 1922 Virginia, 1921	54 149	1. 9 8 16. 8		31. 5	5. 6 2. 0	7 3.7
Total or average		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.

•		1								
	Number	I	Percentage	of all farm	all farmers taking—					
Survey and date.	of farm- ers in survey.	Dallies.	Agricul- tural papers.	Week- lies.	Maga- zines.	Others.				
Southwestern Ohio, 1912	203	3 89. 7	42. 8	3 4. 9	{	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	$\left\{\begin{array}{c} 4 \ 19.8 \\ 5 \ 16.1 \end{array}\right.$	7 2. 1				
Texas, 1919 Kentucky, 1919 Montgomery County, Tenn., 1919 Madison County, Tenn., 1920 Williamson County, Tenn., 1919	148 77	8 52. 0 84. 2 9. 1 17. 9 38. 5	46. 3 43. 9 22. 1 41. 7 46. 2	54. 5 33. 1 18. 2 17. 9 44. 2	42. 4 12. 2 18. 2 11. 9 17. 3					
Total or average	1, 493	55. 1	46. 7	29. 9	28. 8	4.1				
NEGRO	TENAN	T FARM	ERS.							
North Carolina, 1922 Virginia, 1921	<b>22</b> 7 112	8 2. 2 8 2. 7	13. 7 36. 9	5. 7 11. 4	3. 1 1. 8					
Total or average	<b>3</b> 39	2. 4	21. 3	7. 9	2. 7					

¹ Sources as follows: Southwestern Ohio, A Rural Survey in Southwestern 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 Land 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. ²Including religious magazines. ³ Reported as "news" hence probably not all dailies, probably includes local weeklies. ⁴ Women's magazines. ⁵ Standard magazines. ⁵ Chaap advertising. ⁵ Children's papers ⁵ 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.

### 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

		Per cent		Per	A	verage a	mounts	spent for	_	
Survey and tenure.	Average of total family living values.	of all family living fur- nished by farm.	Value of food.	of all food values fur- nished by farm,	Cloth- ing	Health.	Ad- vance- ment.	Insur- ance.	Personal items.	Miscellane- ous.
New York, 1921:										
Tenant	\$2,098	35	\$839	47	\$293	\$102	\$327	<b>\$4</b> 6	\$25	\$466
Owner	1,983	37	778	51	273	76	318	41	23	474
Kentucky, 1919:						1				
Cropper	1, 290	31	666	42	<b>2</b> 30	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:										100
Cropper	1, 111	30	563	45	243	45	• 24	17	22	197
Tenant	1,332	34	631	58	264	70	37	41	21	268
Owner	1,809	34	750	64	381	69	113	. 48	21	427
Tennessee, 1919-										
1920:								_	_	***
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

<sup>&</sup>lt;sup>1</sup> 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.

In the southern districts the total average 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-

<sup>&</sup>lt;sup>20</sup> For 971 owner farmers and 1,065 tenants. For sources of statistics for first three States, see Table 7, footnote 1. The Nebraska data are from sources cited in Table 9, footnote 1.

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.<sup>1</sup>

Kinds of conveniences.	2,871 owner farmers.	1,973 tenant farmers.
Running water in houses Bath rooms Indoor tollets Electric or gas lighting systems Central heating systems Refrigerators Oil stoves for cooking Vacuum cleaners	19. 6 18. 0 12. 9 17. 7 8. 1 20. 7 41. 9 11. 7	7. 4 5. 7 4. 4 8. 0 4. 1 6. 7 28. 8 6. 7

<sup>&</sup>lt;sup>1</sup> 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 Landlords 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,

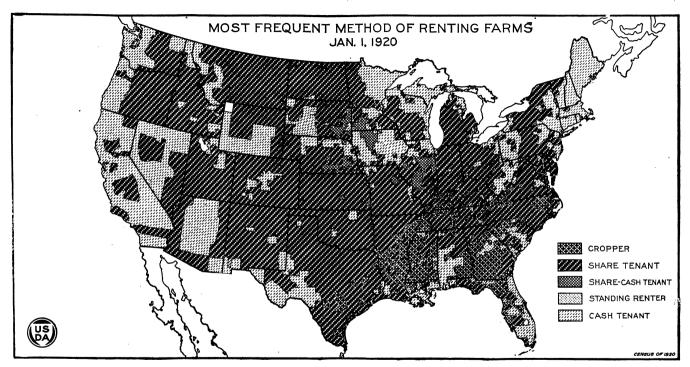


Fig. 68.—In 1920 share tenancy was the principal form of tenancy in four-fifths of the counties and five-sixths of the States. Cash tenancy predominated in New England, western Pennsylvania, and the northern parts of the Lake States, but in none of these areas was there a large percentage of tenants, 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, northeastern Louisiana, and western Mississippi, in southeastern Alabama, and southern Georgia. In several counties of Georgia and South Carolina standing renters are first in number.

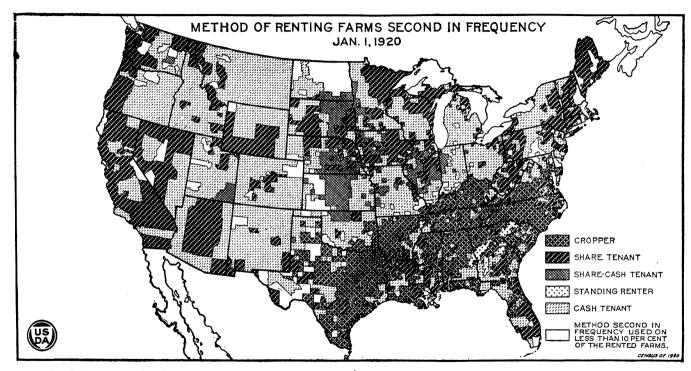


Fig. 69.—Cash tenancy is the system second in importance in New York, much of Pennsylvania, and in most portions of the North Central States, where it is not first in importance (see fig. 69). In parts of Illinois, Iowa, the Dakotas, Nebraska, and Kansas share-cash renting either predominates or is second 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.<sup>21</sup>

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

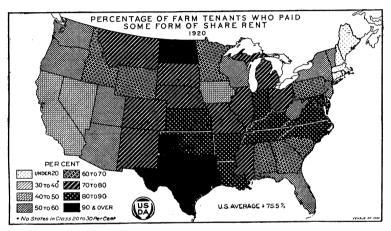


Fig. 70.—Only in five New England States and in Iowa, California, and Nevada are share tenants (including croppers) less than half of all tenants. In many States they are over three-fourths of all tenants, and they are also slightly over three-fourths for the Nation as a whole.

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

<sup>&</sup>lt;sup>21</sup> 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.

family during the months preceding harvest.<sup>22</sup> 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. 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-

<sup>&</sup>lt;sup>22</sup> 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.

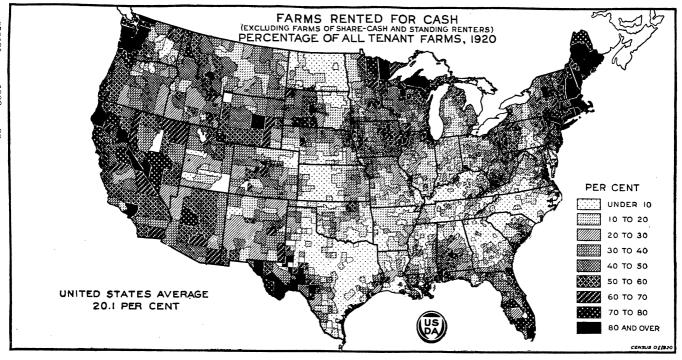


Fig. 71.—Cash tenants are relatively though not absolutely numerous in New England and eastern New York, in the cut-over areas of the Lake States, in western Pennsylvania and West Virginia, and in much of the West, especially along the Pacific coast. These are areas in which dairying or cattle ranching 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 one-third 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

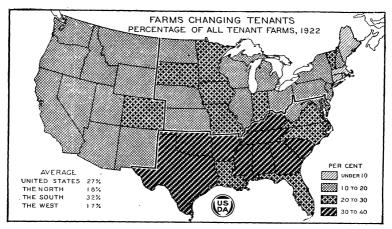


Fig. 72.—It is estimated that during the year ended December 1, 1922, 27 per cent of the tenant farms had changed tenants. It will be noted that the proportion was much larger in the South than in the North and was smallest in New England and the West. The proportion may have been somewhat higher than 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).

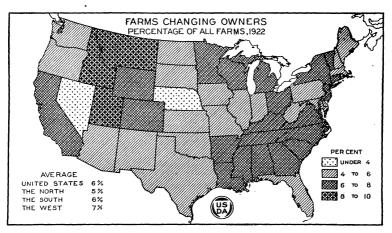


FIG. 73.—In the year ended December 1, 1922, less than one-fourth as many farms changed owners as changed tenants. Undoubtedly the agricultural depression, especially in the northern plains and Rocky Mountain States, caused more sales of farms than usual. Based on reports from about 11,000 crop reporters of the Bureau of Agricultural Economics.

25

Table 12.—Variations of the landlord-tenant contracts on farms rented on shares

(mostly half-share crop leases), 36	1		- Country,	1700., 10	10.
Products or sources of income.	Nur	nber of cas	es in whic	h tenants k	tept 1
1 roduces of sources of ricome.	None.	One- third.	One-half.	Two- thirds.	All.
Crops		2 3	26	3 1	
Livestock: Hogs	1	1	15	41	1
Hogs		i	3	i	i
Cattle	_!	1	10	4 2	1
Dairy products	-	1	2	4	1
Hides	-		. 2		
Breeding fees Poultry	-		4		2
Eggs	.		3	2	2
Sheep			1		
Wool	-		1		
	Numb	er of cases	in which t	enants fur	nished 1
Items of capital furnished.	None.	One- third.	One-half.	Two- thirds.	All.
Real estate:	. 30				
Land Silos	. 30				
Other buildings	30				
Machinery	·	1		11	18
Livestock: Hogs		1	15	41	13
Work		1	4	3	22
Other		1	4	1	14
Cattle		1	10	4 2	16
Poultry Feed and supplies Feed		3	10	5	25 12
Cash		í	5		23
	Nur	nber of cas		n tenants p	aid <sup>1</sup>
Costs other than unpaid labor.	None.	One-	One-half.	Two-	All.
	None.	third.	One-nan.	thirds.	ли.
Taxes:					
Real estate	30				30
PersonaltyInsurance	1	9	1	2	13
Repairs:	1		-	_	
Buildings					
Fences.					29
Machinery			1		1
Tractor					
Baling		1	2		4 3 2 7
Clover hulling			2	1	3
Corn shredding			2		2
Feed grinding Silo filling	1	1	3		1
Threshing		ī	5		22
Livestock fees, etc.:					
Breeding			. 2	1	. 26
Shoeing Transfer			1		20
Veterinary		1	6	1	18
Materials:					
Crates, etc			7	5 10	12
FeedFertilizers		1	11	° 10	
Fuel for farm		1	1	4	23 2
		6	16	6	2
Seed					
SeedSpray materials Twine			3		1 25

Labor:
Machine work.
Other work. 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 "Two-thirds." See subsequent footnotes for details of these cases.

¹ 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.

¹ Tenant kept half the corn and three-fifths of the other crops.

¹ Tenant furnished half the feeders and all of the other livestock designated.

¹ 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.

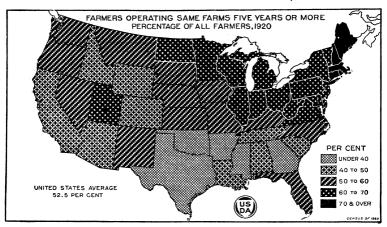


Fig. 74.—Both the census of 1910 and that of 1920 afford information indicating that both tenants and owner farmers in the South and West occupied their farms for shorter periods than was the case in the northeastern section of the country. In the West the process of settlement has much to do with explaining 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

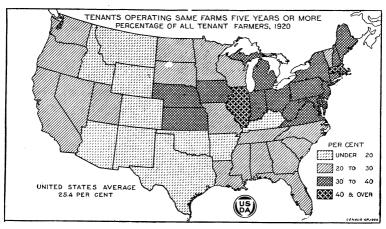


Fig. 75.—The map indicates that the percentage of tenants who had operated the same farms for five years or more was highest in the Corn Belt, the New England States, the Middle Atlantic States, Maryland, Virginia, West Virginia, and Michigan. In 1920, for the United States as a whole, 18.4 per cent 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.<sup>23</sup> 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. erators 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.<sup>24</sup>

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, 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.<sup>25</sup> 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-

<sup>&</sup>lt;sup>23</sup> 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.

<sup>24</sup> In the following references to differences between classes of operators and sections of the country, only the statistics of past occupancy are used.

<sup>25</sup> 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.

pared with those of European countries,<sup>26</sup> 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.

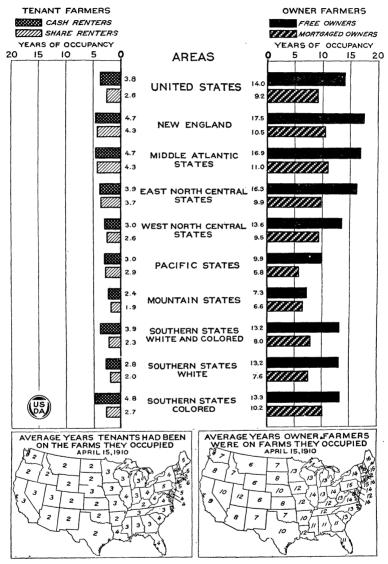


FIG. 76.—In the United States as a whole and in each of the 48 States the average period of occupancy for owner farmers is higher than for tenants. The period for cash tenants is longer than for share tenants, but the differences outside of the South are not very great. The period of occupancy of both owners and tenants is longer in the Northern and Eastern States than in the West.

 $<sup>^{26}\,\</sup>mathrm{In}$  some of the countries of central and eastern Europe 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 read-

justments.

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 mutually 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

<sup>&</sup>lt;sup>27</sup> Local tenure surveys in Kentucky, Tennessee, and Texas, referred to previously.

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 in-

stability.

nence.

(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 perma-

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

PERCENTAGES OF CASES IN WHICH ESTABLISHED COMMUNITY RELA-TIONSHIPS WERE BROKEN AS A RESULT OF REMOVALS TO OTHER FARMS BY TENANTS AND OWNER FARMERS; SELECTED AREAS IN KENTUCKY AND TENNESSEE, 1919-1920.

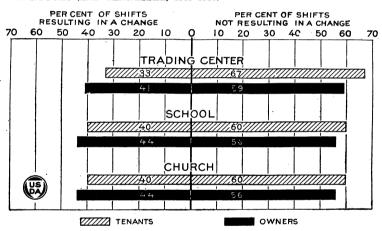


Fig. 77.—From 56 to 67 per cent of the moves made by farmers in the districts surveyed were within the same community. Owners appear to shift more widely than do tenants, and therefore a larger percentage of the moves by owners result in breaking their established community relations.

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 FACILITIES 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 LAND 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 recent 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.

<sup>&</sup>lt;sup>23</sup> 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.

### 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 so

stock in their vicinity. The farm value on January I 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 mast 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 logs 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.

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 exp

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.

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### BREAD GRAINS.

### WHEAT.

Table 1.—Wheat: Acreage, production, value, exports, etc., in the United States, 1869-1923.

					10	00 10	/NO.						
Magazini agrini a ta di sa	Acre-	Aver-		Aver-			pe	cago o r bush rther	iel No	0.2	Domestic exports.	Imports,	Per
Calen- dar year.		age yield per	Produc- tion.	farm price per	Farm value Dec. 1.	Value per acre.1		em-		owing ay.	exports, including flour, fis- cal year	including flour, fis- cal year beg <b>i</b> nni <b>n</b> g	of erop ex-
	ed.	acre.		bush- el Dec.1.			Low.	High.	Low.	High.	beginning July 1.8	July 1.3	port- ed.
1869 1870 1871 1872 1873 1874 1875 1876 1876 1876 1876 1886 1887 1886 1887 1886 1887 1889 1890 1891 1891 1891 1891 1895 1896 1897 1990 1991 _ 1990 1991 _ 1990 1991 _ 1990 1	7,000 acres. 19, 181 18, 993 19, 944 22, 172 24, 967 26, 382 27, 627 26, 278 32, 1090 37, 987 37, 709 37, 647 36, 456 36, 456 37, 436 38, 580 24, 048 43, 916 46, 046 651, 007 62, 589 51, 632 47, 825 47, 826	Bush, of 60 lbs. 13.6 (11.6 (12.7 (12.3 11.1 11.6 (12.7 (12.3 11.1 11.1 11.1 11.1 11.1 11.1 11.1	1,000 bushels. 260,147 235,885 230,722 249,977 281,255 308,103 292,136 289,356 421,989 504,185 421,086 434,383 378,007 584,504 527,987 447,523 516,485 554,419,803 516,610,224 772,163 636,051 660,274 672,163 637,981 7726,819 756,775 637,981 644,656	Cents. 76.5 94.4 114.5 111.4 106.9 86.3 89.5 97.7 77.6 110.6 95.1 119.2 88.4 91.1 164.5 77.1 168.7 68.7 77.8 80.9 83.3 83.4 62.2 62.6 63.0 69.5 84.9 62.2 62.6 63.0 69.5 92.4 66.2 92.2	385, 089 325, 814 552, 884 474, 202 4456, 880 445, 602 330, 862 275, 330, 862 275, 330, 862 310, 613 385, 248 301, 869 315, 112 487, 463 328, 315, 112 487, 463 328, 359 252, 709 252, 709 252, 709 252, 709 252, 709 254, 543 551, 785 551, 785 551, 785 551, 785 552, 785 552, 785	11. 73 13. 24 13. 356 10. 65 9. 91 10. 16 14. 65 10. 15 15. 60 12. 48 12. 12. 02 10. 52 8. 38 8. 05 8. 05 9. 25	Cts. 63 91 107 96 68 81 103 811 122 244 694 825 694 694 77 77 64 64 77 77 64 64 73 77 77 64 64 73 77 77 64 64 73 77 77 64 64 73 77 77 64 64 73 77 77 64 64 73 77 77 64 64 73 77 77 64 64 73 77 77 64 64 73 74 74 74 74 74 74 74 74 74 74 74 74 74	Cts. 76 98 111 108 106 83 91 117 108 84 118 129 94 129 94 129 94 105 29 105 20 20 20 20 20 20 20 20 20 20 20 20 20	Cts. 79 113 120 112 105 78 89 130 98 91 112 1123 108 85 85 87 28 88 81 117 89 88 68 68 68 68 68 68 68 68 68 68 68 68	943490499999999999999999999999999999999	Bushels. \$5, 900, 780 \$52, 574, 111 \$53, 900, 780 \$52, 574, 111 \$91, 510, 398 \$92, 147, 715 \$91, 510, 398 \$92, 141, 626 \$150, 502, 506 \$180, 304, 181 \$186, 321, 514, 626 \$180, 304, 181 \$186, 321, 514, 512 \$121, 892, 389 \$147, 811, 316 \$1421, 892, 389 \$147, 811, 316 \$145, 503 \$190, 625, 344, 969 \$119, 625, 344, 969 \$119, 625, 344, 969 \$119, 625, 344, 969 \$119, 625, 344, 969 \$119, 625, 344, 969 \$119, 625, 344, 969 \$120, 720, 618, 819 \$120, 720, 618, 420 \$121, 306, 605 \$222, 618, 420 \$215, 990, 673 \$234, 772, 516 \$222, 618, 420 \$215, 990, 673 \$234, 772, 516 \$222, 618, 420 \$215, 990, 673 \$244, 112, 910 \$97, 609, 007 \$146, 700, 425 \$3, 436, 669 \$114, 268, 468	32, 474 212, 312, 312, 312, 318, 415 282, 400 135, 851 162, 546 583, 826 2, 462, 365 968, 125 1, 182, 864 1, 438, 369 2, 116, 303 1, 544, 242 2, 058, 938 1, 875, 173 320, 194 120, 502 1, 080, 128 217, 682 217, 682 217, 683, 189 3, 286, 189 3, 286, 189 590, 092 519, 785 456, 940	31. 8 29. 3 26. 5 25. 9 26. 5 33. 6 26. 2 21. 3 25. 2 28. 1 38. 6 36. 3 38. 4 28. 0 22. 2 26. 7 35. 6 28. 2 29. 3 35. 8 29. 3 25. 8 29. 3 25. 8 29. 3 25. 8 29. 3 25. 8 29. 3 25. 8 29. 3 25. 8 29. 3 29. 3 20. 3 20. 3 20. 3 20. 3 20. 3 20. 3 20. 3 20. 3 20. 3
1909 1910 1911 1912 1913	44, 262 45, 681 49, 543 45, 814 50, 184	15. 8 13. 9 12. 5 15. 9 15. 2	700, 434 635, 121 621, 338 730, 267 763, 380	98. 4 88. 3 87. 4 76. 0 79. 9	689, 108 561, 051 543, 063 555, 280 610, 122	15. 57 12. 28 10. 96 12. 12 12. 16	106 104 105 85 89 <u>1</u>	1193 110 110 903 93	100 98 115 90½ 96	$   \begin{array}{c}     119\frac{1}{4} \\     106 \\     122 \\     96 \\     100 \\     \hline   \end{array} $	87, 364, 318 69, 311, 760 79, 689, 404 142, 879, 596 145, 590, 349		19. 1
Aver_	47, 097	14. 7	690, 108	85. 7	591, 725	12, 56	97. 9	104. 7	99. 9		104, 967, 085	1, 808, 275	15. 2
1914 1915 1916 1917 1918 1919 1920	53, 541 60, 469 52, 316 45, 089 59, 181 75, 694 61, 143	16. 6 17. 0 12. 2 14. 1 15. 6 12. 8 13. 6	891, 017 1, 025, 801 636, 318 636, 655 921, 438 967, 979 833, 027	200. 8 204. 2	878, 680 942, 303 1, 019, 968 1, 278, 112 1, 881, 826 2, 080, 056 1, 197, 263	16. 41 15. 58 19. 50 28. 35 31. 80 27. 48 19. 58	$   \begin{array}{c}     115 \\     106 \\     155\frac{1}{2} \\     220 \\     220 \\     280 \\     164   \end{array} $	$\begin{array}{c} 131 \\ 128\frac{1}{2} \\ 190 \\ 220 \\ 220 \\ 325 \\ 187 \\ \end{array}$	141 116 258 220 245 295 142	$\begin{array}{c} 164\frac{1}{2} \\ 126 \\ 340 \\ 220 \\ 280 \\ 345 \\ 178 \\ \end{array}$	332, 464, 975 243, 117, 026 203, 573, 928 132, 578, 633 287, 401, 579 219, 864, 548 366, 077, 439	31, 215, 213 11, 288, 591	32. 0 20. 8 31. 2
Aver_	58, 20 5	14. 5	844, 605	156. 9	1, 325, 458	22. 77	180. 1	200. 2	202. 4	236. 2	255, 011, 161	19, 746, 475	30. 2
1921 1922 1923 4 _	63, 696 62, 317 58, 308	12. 8 13. 9 13. 5	814, 905 867, 598 785, 741	92. 6 100. 7 92. 3	754, 834 873, 412 725, 501	11. 85 14. 02 12, 44	$118\frac{1}{2}$ $121$ $110$	$138$ $139\frac{3}{4}$ $119\frac{1}{2}$		1	279, 406, 799 221, 923, 184	17, 251, 482 19, 944, 934	34, <b>3</b> 25, <b>6</b>

Division of Crop and Livestock Estimates. Figures in italics are census returns.

Based on farm price Dec. 1.
 No. 1 Northern spring to 1915. Chicago Daily Trade Bulletin.
 Bureau of Foreign and Domestic Commerce.
 Preliminary.

Table 2.—Winter and spring wheat: Acreage sown and harvested, production, and farm value, United States, 1910-1923.

			Winte	er wheat.		-	1 :	s	pring whe	eat.	
Calendar year.	Acreage sown in pre- ceding fall.	Acreage har- vested.	Average yield per acre.	Production.	Average farm price Dec. 1.	Total farm value Dec. 1.	Acreage.	Average yield per acre.	Produc-	Average farm price Dec. 1.	Total farm value Dec. 1.
1910	1,000 acres. 31,659 32,648 33,229 33,124 37,248 42,431 39,245 38,359	1,000 acres. 27,329 29,162 26,571 31,699 36,008 41,308 34,709 27,257	Bush. 15. 9 14. 8 15. 1 16. 5 19. 0 16. 3 13. 8 15. 1	1,000 bushels. 434, 142 430, 656 399, 919 523, 561 684, 990 673, 947 480, 553 412, 901	Cents. 88. 1 88. 0 80. 9 82. 9 98. 6 94. 7 162. 7 202. 8	1,000 dollars. 382, 318 379, 151 323, 572 433, 995 675, 623 638, 149 781, 906 837, 237	1,000 acres. 18, 352 20, 381 19, 243 18, 485 17, 533 19, 161 17, 607 17, 832	Bush. 11. 0 9. 4 17. 2 13. 0 11. 8 18. 4 8. 8 12. 5	1,000 bushels. 200, 979 190, 682 330, 348 239, 819 206, 027 351, 854 155, 765 223, 754	Cents. 88. 9 86. 0 70. 1 73. 4 98. 6 86. 4 152. 8 197. 0	1,000 dollars. 178, 733 163, 912 231, 708 176, 127 203, 057 304, 154 238, 062 440, 875
1918 1919 1920 1921 1922 1923	43, 126 51, 051 44, 861 45, 625 49, 787 46, 100	37, 130 50, 494 40, 016 43, 414 42, 358 39, 522	15. 2 15. 1 15. 3 13. 8 13. 8 14. 5	565, 099 760, 377 610, 597 600, 316		1, 165, 995 1, 600, 805 907, 291 571, 044 614, 399 543, 825	22, 051 25, 200 21, 127 20, 282 19, 959 18, 786	16. 2 8. 2 10. 5 10. 6 14. 1 11. 4	356, 339 207, 602 222, 430 214, 589 280, 720 213, 401	200. 9 230. 9 130. 4 85. 6 92. 3 85. 1	715, 831 479, 251 289, 972 183, 799 259, 013 181, 676

Division of Crop and Livestock Estimates.

Table 3.—Wheat: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thou	sands of	acres.	Product	tion, thou bushels.	sands of		alue, basis , thousan dollars.	
	1921	1922	1923 1	1921	1922	1923 1	1921	1922	19231
Maine	11	4	6	187	100	156	327	170	184
Vermont		4	4	126	84	84	158	122	118
New York	475	463	403	9, 137	8,966	8, 159	9, 868	10, 580	8, 974
New Jersey		77	74	1,539	1,540	1,480	1,739	1,694	1,628
Pennsylvania	1,365	1, 339	1. 283	23, 850	24, 722	24, 338	24, 566	27, 194	24, 338
Pennsylvania Delaware	113	109	106	1, 300	1,766	1,908	1, 274	1,907	1,908
Maryland	590	578	543	8, 260	9, 537	10, 426	8,508	10, 681	10, 426
Virginia	847	830	838	8, 301	10, 375	11, 145	9, 629	12,658	12, 260
West Virginia	250	. 240	228	3, 125	2,760	2,964	3,656	3, 367	3, 438
North Carolina	600	600	544	4,500	5,400	6,038	6, 480	7,344	7,729
South Carolina	118	165	175	1, 298	1, 320	1,925	2,700	2,072	2, 964
Georgia	138	190	189	1,449	1,520	1, 739	2, 536	2, 280	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	2,076	24, 192	28, 928	34, 248	25, 644	32, 399	33, 56 <b>3</b>
Illinois	2,909	3, 196	3, 479	46, 822	55, 432	62, 506	46, 822	59, 312	58, 756
Michigan	945	1,023	976	14,840	14, 326	16, 576	15, 433	16, 475	15, 91 <b>3</b> 1, 931
Wisconsin	214	176	- 119	2,812	3,006	1,970	2, 727 22, 249	3, 096 27, 548	19,746
Minnesota	2, 371	1, 989	1,728	22, 938	27, 276	20, 785 14, 352	8, 751	16. 288	12, 773
Iowa	555	731	787	9, 944	16, 452 38, 818	37, 947	34, 602	40, 759	36, 809
Missouri	3, 206	3, 105	2,919	34, 952 80, 750	126, 618	58, 660	68, 638	113, 956	50, 448
North Dakota	9,500	8,980	8, 262	25, 980	40, 012	26, 906	22, 603	36, 811	21, 793
South Dakota	2,845	2, 989 4, 177	2,812 3,174	59, 875	59, 838	31. 388	49,696	57, 445	26, 052
Nebraska	3, 967	9,756	8, 299	128, 695	122, 861	83, 804	119,687	120, 404	76, 262
Kansas	10, 554 634	9, 750	620	6, 340	7.475	7, 688	7, 291	8, 820	8, 303
Kentucky	450	472	442	4, 500	4, 484	4. 508	5, 400	5, 515	5, 184
Tennessee	20	20	20	210	218	200	321	349	260
Alabama	6	20	4	84	60	60	109	87	66
Mississippi	2,081	1, 249	1, 559	20, 810	9, 992	16, 370	20, 810	10,991	16, 861
TexasOklahoma	3, 786	3, 300	3, 300	47, 325	31, 350	36, 300	40, 700	30, 723	33, 759
Arkansas	103	78	70	958	1,014	770	958	1,075	832
Montana	2,715	3,618	3, 531	33, 430	52,714	52, 486	28, 416	46, 916	43, 039
W yoming	193	179	175	3, 316	2,506	2, 785	2,620	2,055	2, 228
Colorado	1, 719	1,620	1, 390	23, 239	21,776	18, 000	17,662	19, 380	14, 940
New Mexico	227	105	108	3,088	885	1, 300	3, 242	1,062	1,404
Arizona	40	49	42	840	1, 274	1,092	1,050	1,465	1, 529
Utah	276	294	272	6, 299	5, 682	6, 566	4, 725	5, 113	5, 975
Nevada	21	21	20	493	550	507	641	660	583
Idaho	1, 123	1, 123	1,052	26, 952	24, 275	30, 115	19,405	21, 847	24, 092
Washington	2,550	2, 486	2,470	58, 245	32, 104	61, 743	50, 091	33, 388	52, 482
Oregon	1, 082	1,093	1, 111	25, 364	18,900	26, 807	21, 560	20, 412	23, 590 17, 450
California	557	712	748	8, 355	15, 308	16, 157	8,940	17, 604	17, 400
United States	63, 696	62, 317	58, 308	814, 905	867, 598	785, 741	754, 834	873, 412	725, 501

Division of Crop and Livestock Estimates.

<sup>1</sup> Preliminary.

Table 4.—Winter and spring wheat: Acreage sown and harvested, production, and farm value December 1, by States, in calendar year 1923.

		v	Vinter	wheat.1				$\mathbf{s}_{\mathbf{r}}$	oring wh	eat.1	
State.	Acreage sown in preceding fall.	Acre- age har- vested.	Average yield per acre.	Pro- duc- tion.	Average farm price Dec. 1.	Total farm value Dec. 1.	Acre-	A ver- age yield per acre	Pro- due- tion.	Average farm price Dec. 1.	Total farm value Dec. 1.
Maine Verment New York New Jersey	1,000 acres. 400 76	f,000 acres. 387 74	Bush.	1,000 bushels.  7,895 1,480	Cents.	1,000 dollars. 8,684 1,628	1,000 acres. 6 4 16	Bush. 26. 0 21. 0 16. 5	1,000 bushels. 156 84 264	Cents. 118 140 110	1,000 dollars. 18 110 290
Pennsylvania	1,305	1, 272	19. 0	24, 168	100	24, 168	11	15. 5	170	100	170
Delaware. Maryland Virginia. West Vinginia. North Carolina. South Carolina. Georgia. Ohio. Indiana. Illinois.	169 561 859 236 555 179 199 2,674 2,204 3,559	106 543 868 228 544 175 189 2, 340 2, 072 3, 363 968	18. 0 19. 2 13. 3 13. 0 11. 1 11. 0 9. 2 18. 2 16. 5 18. 0 17. 0	1, 908 10, 426 11, 145 2, 964 6, 038 1, 925 1, 739 42, 588 34, 188 60, 534 16, 456	100 100 110 116 128 154 147 99 98 94	1, 908 10, 426 12, 260 3, 438 7, 729 2, 964 2, 556 42, 162 33, 504 56, 902 15, 798	10 4 116 8	19. 5 15. 0 17. 0 15. 0	195 60 1, 972 120	99 98 94 96	198 58 1, 854
Michigan Wisconsin Minnesota Liowa Missouri North Dakota South Dakota	1, 014 69 111 780 2, 967	66 94 741 2,914	17. 0 16. 0 18. 5 13. 0	1, 122 1, 504 13, 708 37, 882	98 95 89 97 81 83	1, 100 1, 429 12, 200 36, 746	53 1, 634 46 5 8, 252 2, 735	16. 0 11. 8 14. 0 13. 0 7. 1 9. 5	848 19, 281 644 65 58, 660 25, 892 3, 168	98 95 89 97 86 81 83	83 18, 31 57; 66 50, 448 21, 048 2, 629
Nebraska Kansas Kentucky Tennessee Alabama Mississippi	3,763 11,507 642 453 22 4	2, 822 8, 285 620 442 20 4	10. 0 10. 1 12. 4 10. 2 10. 0 15. 0 10. 5	28, 220 83, 678 7, 688 4, 508 200 60	91 108 115 130 110 103	23, 423 76, 147 8, 303 5, 184 260 66 16, 861			126	91	11
Texas Oklahoma Arkansas Montana	1, 695 3, 626 73 900	1, 559 3, 300 70 738	11. 0 11. 0 17. 0	16, 370 36, 300 770 12, 546	93 108 82	33, 759 832 10, 288	2, 793	14. 3	39, 940	82	32, 75 2, 04
Wyoming Colorado New Mexico Arizona	18 1,582 94 46	1, 060 47 42	15. 0 12. 0 9. 5 26. 0	12, 720 446 1, 092	80 83 108 140	180 10, 558 482 1, 529	160 330 61	16. 0 16. 0 14. 0	2, 560 5, 280 854	80 83 108	4, 38 92
Utah  Nevada  Idaho  Washington  Oregon  California	152 3 409 1, 417 896 813	148 3 393 1,346 869 748	19. 9 25. 7 28. 0 27. 5 25. 0 21. 6	2, 945 77 11, 004 37, 615 21, 725 16, 157	91 115 80 85 88 108	2, 680 89 8, 803 31, 463 19, 118 17, 450	124 17 659 1, 124 242	29. 2 25. 3 29. 0 22. 0 21. 0	3, 621 430 19, 111 24, 728 5, 082	91 115 80 85 88	3, 29 49 15, 28 21, 04 4, 47
United States	46, 100	39, 522	14. 5	572, 340	95. 0	<b>543,</b> 825	18, 786	11. 4	213, 401	85. 1	181, 67

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Table 5.—Durum wheat 1: Estimated yield per acre and production in four States.

Calendar year.		Yie	eld per ac	ere.		Production.									
	Minne- sota.		South Dakota.	Mon- tana.	Four States.	Minne- sota.	North Dakota.	South Dakota.	Mon- tana.	Four States.					
	Bu.	Bu.	Bu.	Bu.	Bu.	1.000 bu.	1.000 bu.	1,000 bu.	1.000 bu.	1.000 bu.					
1917	15.5	9. 0	15. 6	9. 0	10. 9	1,557	14, 168	8,941	1, 343	26, 009					
1918	20.0	14.0	19. 5	12.9	15. 2	2,460	30, 856	12, 403	4,516	50, 235					
1919	11.9	7.9	9.8	4.5	8. 2	1,485	21, 720	6, 848	943	30, 996					
1920	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	14.7	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 Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>1</sup> Also included in spring wheat, table 4.

Table 6.—Wheat: Yield per acre, calendar years, 1908-1923.

		,																
State.	1908	1909	1910	1911	1912	<b>191</b> 3	Av. 1909- 1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920.	1921	1922	1923
MaineVermont	23. 5	25. 5	Bu. 29. 7 29. 3	21.0	23. 5	25, 5	Bu. 29. 7	Bu. 27. 0 29. 0	28. 0	27.0	14.0		18.8	22. 0		Bu. 17. 0 14. 0		26.0
New York	17 5	21 0	23 7	19 5	16 0	20 0	23 5	22. 5	25. 0	21. 0	21. 0	18. 2	21. 0	21. 8		19. 2		
New Jersey	17. 3	17. 9	18, 5	17. 4	18. 5	17. 6	21. 4	18. 0	20.0	20. 0	19. 0	17.0	18.0	16.0	18.3	19. 0	20.0	20.0
New Jersey Pennsylvania	18. 5	17. 0	17.8	13. 5	18.0	17. 0	20. 4	18. 1	18. 5	19.0	17. 5	17. 0	17. 5	16.6	17.7	17. 5	18.5	19. <b>0</b>
Delaware	115. 0	114.0	17. O	16.7	17. 5	14. 5	18.9	20. 5	15.0	15.0	16.5	13.0	12.0	17. 0	15.6	11. 5	16. 2	18. <b>0</b>
Maryland	116 4	114 5	117 4	115 5	115 (1)	13 31	18.4	21.5	16. 1	16.0	17.0	15. 5	13. 5	17. 0		14.0		
Virginia	11 4	11 2	12 8	12.0	11.6	13 6	14. 5	14. 5	<b>13</b> . 8	12. 7	13.0	12.0	11.8	12. 5		9.8		
West Virginia	13. 0	13.0	12. 5	11. 5	14. 5	13. 0	15. 5	15.0	15. 0	14. 5	14.0	14. 2	13. 5	12. 5		12. 5		
North Carolina	വര വ	105	11 4	110 6	l X Q	11 7	12 4	1 <b>2</b> . 0								7. 5		
South Carolina	9.0	10.0	11.0	11.4	9.2	<b>12.</b> 3	12.6	11. 5								11.0		
South Carolina Georgia Ohio	9. 2	10.0	10. 5	12.0	9.3	12.2	12.6	12.1	11. 0	11. 4	8.5	10. 2	10. 5	10. 0		10. 5		
Ohio	16. 0	15. 9	16. 2	16. 0	8.0	18.0	18.0	18. 5	20. 3	13. 5	22.0	19. 0	19. 9	12. 7		12. 4		
Indiana	16. 6	15. 3	15.6	14. 7	8.0	18. 5		17. 4							16. 1	12.0	14. 5	16. 5
Illinois	13. 0	17. 4	15. 0	16. 0	8.3	18. 7	17. 7	18. 5 19. 7	13. 0	11. 0	18. 7	ZZ. 0	17. 1	15. 2		16. 1 15. 7		
Michigan	18.0	18. 8	18. 0	18. 0	10. 0	15. 3	19. 0	19. 7	21. 3	10. 0	18. 0	14. 2	19. 4	15. 3	10.0	13. 1	17. 0	10.0
Wisconsin	18. 2	19. 5	19. 3	15. 9	19. 0	19. 3	22. 2	19. 1 10. 6	77 0	17.0	22. 3	24. 2	13. 3	10. 1	19. 4	9. 7	19 7	10. 0
Minnesota Iowa	17. 8	17.0	10.0	10. 1	10. 0	20. 2	20.4	18. 6	10.0	16 2	10. 0	19 0	14 0	17 5		17. 9		
Miggorai	10.0	14.7	12 8	15 7	19. 0	17 1	18 9	17.0	19. 0	2 5	15 9	17 9	13 5	12 5		10. 9		
Missouri North Dakota	11 6	12.7	5.0	8 0	18 0	10.5	13.4	11. 2								8. 5		
South Dakota	12 8	14 1	12.8	4.0	14 2	9 0	13 4	9. 1								9. 1		
Nebraska	17 2	18.8	16. 2	13 4	17.6	17. 9	20. 2	18. 6	18.3	19. 4	13. 8	11. 2	13. 8	16. 8		15. 1		
Kansas	12.6	14.4	14. 1	10.7	15, 5	13.0	16. 1	20. 5	12. 5	12.0	12. 2	14. 1	13. 8	15.4		12. 2		
Kentucky	11.6	11.8	12.8	12.7	10.0	13, 6	14. 5	16. 5	11. 0	9. 0	12. 0	13.0	11. 5	10. 2	11. 9	10.0	11.5	12.4
Tennessee	110. 0	10.4	11. 7	11. 5	10.5	12. 0	13. 2	15. 5	10. 5	9.5	9. 2	10.0	9.3	9. 5	10. 5	10.0	9. 5	10. 2
Alabama	111.5	10, 5	12.0	11. 5	10. 6	11. 71	13.6	13.0	12.0	9. 5	10. 0	9.0	9.0	9.6		10. 5		
Mississippi	14. 5	11.0	14.0	12.0	12.0	14. 0		13.0								14.0		
Texas	11 0	9 1	15.0	9 4	15.0	17. 5	15.4	13.0	15. 5	11.0	12.0	10.0	16.5	13.0		10.0		
Oklahoma	11.6	12.8	16.3	8.0	12.8	10.0	14.3	19.0	11.6	9. 7	11. 5	12.6	14.0	16.0		12. 5		
Arkansas	10.0	11. 4	13. 9	10. 5	10. 01	13.01		13.0								9.3		
Montana	24. 2	30. 8	22. 0	28. 7	24. 1	23. 81		20. 2								12. 3		
Wyoming	25. 4	28. 7	25. 0	26. 0	28. 7	25. 0		22. 9								17. 2 13. 5		
Colorado	21. 0	29. 5	22. 3	18. 9	24. 2	21.0	27.4	23. 8 24. 2	23. 8	19. 8	22. 0	12. 3	10. 7	18. 0		13. 6		
New Mexico	25. 0	24. 5	20. 0	22. 9	20. 9	18. 8		24. 2 28. 0								21. 0		
Arizona Utah	20. 1	25, 0	22. 3	29. 0	90. 7	24.0		25. 0								22. 8		
Nevada	20. 0	20. 9	22. 1	24. 0	20. 7	24. 2	24.0	29.6	20. (	21. 2	97 9	20. 4	21 9	20. 3		23. 5		
Idaho	90.0	27 8	20. 0	20. 0	28 6	27 6		26. 2								24. 0		
Washington	18 2	23 9	16 0	22 7	23 5	23 2	25.7	23. 5	25 2	23. 7	15. 8	13. 1	16 8	16. 9		22. 8		
Oregon	20. 8	20. 2	22 1	21. 0	25. 0	21. 0	26. 0	20. 8	22. 2	23. 0	14. 5	14. 7	19. 2	20. 9		23. 4		
California	14. 6	14. 0	18. 0	18. 0	17.0	14. 0		17. 0								15. 0		
United States								16. 6								12. 8	13. 9	13. 5

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Table 7.—Winter wheat: Yield per acre in States producing both winter and spring wheat, calendar years, 1908-1923.

			wh	eat,	cai	enae	ar ye	ars	, 19	08-	192	ð.						
State.	1908	1909	1910	1911	1912		Av. 1909– 1913	1914	1915	1916	1917	1918	<b>19</b> 19	1920	Av. 1914– 1920	1921	1922	19 <b>23</b>
Missouri South Dakota Nebraska Kansas Montana Wyoming Colorado New Mexico Utah Nevada Idaho Washington	17. 5 18. 5 16. 0 13. 0 19. 5 21. 0 10. 0 17. 8 12. 8 25. 0 23. 0 24. 5	21. 0 17. 0 15. 9 15. 3 17. 4 18. 8 20. 4 14. 7 19. 4 14. 5 32. 5 32. 5 29. 7 24. 0 25. 8	23. 7 17. 8 2 15. 6 15. 0 18. 0 20. 0 21. 22. 13. 8 22. 0 25. 0 20. 5 20	19. 5 16. 0 14. 7 16. 0 17. 5 19. 7 15. 7 15. 7 15. 7 26. 0 18. 0 25. 0 20. 0 23. 5 27. 3	16. 0 18. 0 8. 0 8. 3 10. 0 12. 5 23. 0 12. 5 24. 5 29. 0 27. 5 28. 7 27. 6	20. 0 17. 0 18. 0 18. 5 18. 7 15. 3 20. 1 16. 2 23. 4 17. 1 9. 0 18. 6 25. 6 25. 0 21. 1 23. 0 25. 6 27. 4	14. 8 14. 4 15. 1 16. 0 19. 5 21. 8 14. 8 17. 3 13. 6 27. 3 27. 3 23. 3	22. 5 18. 1 18. 5 17. 4 18. 5 21. 5 21. 5 21. 6 17. 0 19. 3 20. 5 24. 0 25. 0 25. 0 27. 5 26. 5	25. 0 18. 5 20. 3 17. 2 19. 0 21. 3 23. 0 19. 5 12. 5 12. 5 12. 5 27. 0 26. 0 26. 0 25. 0	21. 0 19. 0 11. 5 12. 0 11. 0 16. 6 19. 0 14. 0 18. 5 20. 0 12. 0 20. 0 16. 5 22. 0 24. 0 26. 5 24. 0 26. 5 26. 6 26. 5 26. 6 26. 6	21. 0 17. 5 22. 0 18. 5 18. 0 18. 0 17. 5 15. 3 14. 0 12. 0 20. 0 23. 0 14. 0 26. 0 26. 0 21. 5	18. 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	22. 0 0 17. 5 20. 0 15. 0 17. 5 20. 18. 0 19. 0	22. 3 16. 6 12. 7 12. 0 15. 1 15. 6 22. 0 19. 6 19. 7 12. 5 14. 5 17. 4 12. 0 20. 0 17. 5 18. 2 18. 7 20. 0 24. 0	21. 7 17. 7 18. 0 16. 2 17. 3 17. 9 21. 5 17. 7 19. 7 16. 2 14. 4 16. 3 21. 0 19. 3 17. 3 17. 3 24. 7 22. 7 24. 4	Bu. 19. 5 17. 5 12. 4 12. 0 0 16. 0 16. 0 14. 0 0 115. 3 12. 2 0 12. 0 12. 0 12. 0 12. 0 12. 0 12. 0 12. 0 12. 5 5 5	19. 5 14. 0 14. 5 17. 5 14. 0 18. 6 123. 2 12. 5 19. 0 14. 5 5 11. 0 113. 0 5. 5 5 11. 0 7 19. 5 6	20. 4 19. 0 18. 2 16. 5 18. 0 17. 0 16. 0 18. 5 13. 0 10. 0 11. 0 12. 0 10. 1 17. 0 12. 0 10. 1 17. 0 12. 0 10. 5 10. 5 10. 5 10. 5 10. 0 10. 0
United States	14. 4	15. 8	15. 9	14. 8	15. 1	16. 5	15. 6	19. 0	16. 3	13. 8	15. 1	15. 2	15. 1	15. 3	15. 7	13. 8	13.8	14. 5

Table 8.—Spring wheat: Yield per acre in States producing both winter and spring wheat, calendar years, 1908-1923.

spring wheat, catendar gears, 1000 1000																		
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914- 1920	1921	1922	1923
New York	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu. 21. 0	$\begin{array}{c} Bu  . \\ 20.0 \\ 17.0 \end{array}$	Bu. 15. 0 15. 0	Bu. 18. 0 16. 0	Bu.	Bu. 14. 5 15. 0	Bu. 16. 0 15. 0	Bu. 16. 5 15. 5
New York Pennsylvania Ohio Indiana Illinois Mishiran											20. 0	26. 5 23. 0 26. 9	16. 0 9. 0 14. 5	13. 0 12. 0 16. 5		12. 5 12. 0 14. 5	15. 0 11. 0 14. 5	19. 5 15. 0 17. 0
Michigan Wisconsin Minnesota	12272	120 0	10 1	1577	10 5	10 0	17:0	17 0	99 5	18 6	21 2	94 7	12 4	12 6	18.1	111. 1	115. 3	116. 0
Iowa	15. 5	14. 7	20. 9	13. 8	17. U	17. 0	10. /	13. 5	10. 7	13. 0	0 0	15 B	8 5	13 0	11.0	12.0	13. 5	13. 0
Missouri South Dakota Nebraska Kansas	13. 0 5. 5	14. (	13. 9 8. 4	10. 0 4. 2	14. 1 15. 0	8. 5	9.5	11. 0	10. 0	10.5	6.0	8 0	0.3	12.5	10. 5	8. 2	8. 3	9. 0
Montana	24. 2 25. 5	28. 8 27. 0	22. 0 25. 0	25. 2 26. 0	23. 5 29. 2 24. 0	21. 5 25. 0 21. 0	24. 2 26. 4 23. 2	22. 0	26. 0 27. 0	22. 0	22. 0 22. 0	26. 0	15. 0 15. 4	20. 0 19. 4	22. 0 19. 6	17. 0 19. 0	14. 0 15. 0	16. 0 16. 0
New Mexico	25. 0 27. 5	24. 5 28. 5 28. 7	20. 0 25. 3 29. 0	20. 5 27. 0	22. 0 29. 2 30. 2	19. 0 28. 0 31. 0	21. 2 27. 6 30. 3	25. 0	28. 0	25. 0	25. 0	23. 8	18. 7	23. 7 23. 0	20. 9 24. 2 27. 3	26. 3 24. 0	25. 6 27. 3	29. 2 25. 3
Washington	25. 4 15. 0	26. 0 20. 6	20. 4 14. 5	29. 0 19. 5	28. 3 20. 4	19. 0	18. 8 18. 7	20. 0 16. 5	22. 2 17. 0	21.5 $23.0$	13. 6 11. 0	9. 5 11. 0	13. 0 13. 0	11. 9 17. 0	22. 7 16. 6 15. 5	15. 0	11.5	22. 0 21. 0
United States	13. 2	15. 8	11. 0	9. 4	17. 2	13. 0	13. 3	11.8	18. 4	8.8	12. 5	16. 2	8. 2	10. 5	12. 3	10. 6	14. 1	11.4

Table 9.—Winter and spring wheat: Condition of crop, United States, 1st of month, yield per acre, and per cent of winter wheat area abandoned, calendar years, 1890-1923.

1890-1923			Win	ter whe	at.				Spr	ing whe	eat.	
Calendar year.	De- cem- ber of pre- vious year.	Apr.	Area aban- doned.	May.	June.	July.1	Yield per acre.	June.	July.	Aug.	Sept.1	Yield per acre.
1890	P. ct. 95.3 98.4 85.3 98.4 91.5 89.0 0 81.4 99.5 92.6 97.1 97.1 97.1 98.6 7 99.7 86.6 82.9 94.1 91.1 85.3 95.8 82.5 88.6 93.2 88.7 97.2 88.7 97.2 88.7 97.2 88.7 97.2	P. ct. 81. 0 96. 9 81. 2 77. 4 86. 7 81. 4 77. 1 81. 4 77. 1 81. 4 86. 7 77. 9 82. 1 91. 7 78. 7 97. 3 76. 5 91. 6 89. 1 91. 3 82. 2 80. 8 83. 3 80. 6 91. 6 83. 7 95. 6 88. 8 87. 8 3 63. 4	P. ct.  6.3 15.1 2.8 15.4 4.6 5.5 11.2 3.9 7.4 710.7 20.0 4.3 11.2 3.3 2.6 611.6 28.9	P. ct. 80. 0 97. 9 84. 0 81. 4 81. 4 82. 7 86. 5 76. 2 88. 9 94. 1 76. 5 90. 9 82. 9 82. 9 82. 9 83. 1 86. 1 79. 7 91. 9 84. 7 92. 6 93. 82. 1 84. 7 94. 0 85. 1 86. 1 86. 1 87. 0 87. 0 88. 1 88. 2 88. 2 88. 2 88. 3 88. 2 88. 3 88. 3 88. 4 88. 5 88. 9 88. 1 88. 1 88. 2 88. 3 88. 3 88. 3 88. 3 88. 3 88. 3 88. 4 88. 5 88. 9 88.	P. ct. 78. 1 1 96. 6 88. 3 75. 5 83. 2 71. 1 77. 9 78. 5 5 90. 8 67. 3 82. 2 77. 7 75. 5 82. 2 77. 7 77. 85. 5 82. 7 77. 80. 0 80. 4 74. 3 83. 5 79. 8 92. 7 85. 8 92. 7 85. 8 92. 7 85. 8 92. 7 95. 8 92. 7 95. 8 92. 7 95. 8 92. 7 95. 8 92. 7 95. 8 92. 7 95. 8 92. 7 95. 8 92. 7 95. 8 92. 7 95. 9 8 92. 7 95. 9 8 92. 7 95. 9 8 92. 7 95. 9	P. ct. 76. 2. 96. 2. 89. 6. 2. 89. 6. 2. 89. 6. 5. 75. 6. 81. 2. 85. 7 75. 6. 80. 8. 88. 3. 77. 0. 78. 8. 77. 82. 7. 82. 7. 82. 7. 82. 6. 82. 4. 81. 5. 76. 8. 82. 4. 81. 5. 76. 8. 73. 3. 81. 6. 79. 1. 94. 1. 4. 75. 7. 75. 7	Bush. 10.9 14.7 13.7 12.0 14.0 11.6 11.8 14.1 14.9 11.5 13.3 15.2 14.4 12.3 16.7 14.6 14.5 15.9 14.8 15.9 14.8 15.9 14.8 15.9 14.8 15.9 15.8 15.1 16.5	P. ct. 91. 3 92. 6 92. 3 86. 4 88. 0 97. 8 99. 6 100. 9 97. 8 99. 6 100. 9 95. 4 93. 7 95. 0 95. 2 92. 8 94. 6 95. 8 93. 5 94. 9 95. 5 94. 9 95. 5 94. 9 95. 6 95. 8 95. 5 94. 9 95. 6 95. 8 95. 5 94. 9 95. 6 95.	P. ct. 4 94. 1 94. 1 90. 9 74. 1 102. 2 93. 3 91. 2 95. 0 91. 7 91. 6 82. 4 82. 5 92. 4 87. 2 88. 4 92. 7 91. 6 73. 8 89. 3 73. 8 73. 8 89. 3 73. 8 89. 6	P. ct. 83. 2 95. 5 7 67. 0 1 67. 1 1 95. 9 78. 9 78. 9 79. 5 88. 7 77. 1 5 86. 9 78. 7 77. 5 86. 9 90. 4 74. 1 75. 5 5 93. 4 68. 7 68. 7	P. ct. 79. 7 97. 2 81. 2 68. 9 94. 9 94. 9 73. 8 80. 8 91. 7 77. 2 56. 1 78. 4 87. 2 78. 1 77. 6 63. 1 77. 6 63. 1 77. 6 63. 1 77. 6 63. 1 77. 90. 8 75. 3 74. 9 68. 0 94. 6 71. 2 1 87. 2 1 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	Bush. 11. 4 16. 7 12. 7 10. 2 11. 5 18. 0 13. 5 12. 5 18. 0 13. 3 10. 6 14. 7 14. 7 14. 7 14. 7 13. 2 15. 8 11. 0 9. 4 17. 2 13. 0 9. 4 17. 2 13. 2 15. 8 11. 6 18. 4 8. 8 8 12. 5 2 16. 5
1918 1919 1920	79. 3 98. 5 85. 2	78. 6 99. 8 75. 6	13. 9 1. 1 10. 8	86. 4 100. 5 79. 1	83. 8 94. 9 78. 2	79. 5 89. 0 79. 7	15. 2 15. 1 15. 3	95. 2 91. 2 89. 1	86. 1 80. 9 88. 0	79. 6 53. 9 73. 4	48. 5 64. 1	8. 2 10. 5
Av. 1914-1920	88. 8	82. 9	10.3	87. 2	82. 8	82. 6	15.7	92. 2	87. 6 80. 8	72. 6 66. 6	68. 2 62. 5	12. 3
1921 1922 1923	87. 9 76. 0 79. 5	91. 0 78. 4 75. 2	4. 8 14. 9 14. 3	88. 8 83. 5 80. 1	77. 9 81. 9 76. 3	77. 2 77. 0 76. 8	13. 8 13. 8 14. 5	93. 4 90. 7 90. 2	80. 8 83. 7 82. 4	80. 4 69. 6	80. 1 65. 1	14. 1
1924	88.0	<u> </u>			imates.		1 Co	ndition	at time	of harv	est.	

<sup>1</sup> Condition at time of harvest

Table 10.—Wheat: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1923.

Calendar year.	Deficient mois- ture.	Ex- cess- ive mois- ture.	Floods.	Frost or freeze.	Hail.	Hot winds	Storms.	Total cli- mat- ic.	Plant dis- ease.	Insect pests.	Ani- mal. pests.	De- fec- tive seed.	To- tal.1
1909	P. ct. 8. 5 18. 9 25. 5 8. 1 14. 2 6. 7 1. 3 6. 9 19. 1 14. 6	P. ct. 3. 2 . 9 . 8 1. 8 . 4 7. 3 3. 8 . 4	P. ct. 0. 7 . 2 (3) . 3 . 2 . 1 1. 0 . 6 . 1	P. ct. 2.4 6.6 1.5 9.5 1.9 1.1 1.2 5.1 11.8 3.8	P. ct. 2. 0 . 5 . 4 1. 5 . 7 1. 0 1. 6 1. 3 1. 0 1. 1	P. ct. 1. 2 2. 6 3. 8 1. 8 1. 7 2. 7 1. 6 2. 0	P. ct. 0. 6 . 2 . 1 . 4 . 3 . 2 . 4 . 2 . 2	P. ct. 18.9 30.0 32.3 24.0 20.0 13.4 13.0 21.2 34.4 22.4	P. ct. 1. 6 . 9 1. 9 1. 8 . 3 3. 0 2. 4 12. 6 . 7 1. 5	P. ct. 1.1 1.9 1.9 2.3 2.2 2.6 3.6 4.0	P. ct. 0. 2 . 4 . 2 . 3 . 1	P. ct. 0.3 .4 .2 .2 .1	P. ct. 22.8 33.8 37.8 29.5 23.5 19.8 19.7 38.7 36.3
1919 1920 1921 1922	12. 3 8. 1 13. 3 13. 1	6. 2 2. 3 2. 0 2. 0	. 4 . 2 . 2 . 4	1. 3 1. 0 1. 8	1. 1 . 8 1. 0 1. 4 2. 0	2. 9 1. 5 3. 6 1. 4	.3 .4 .3 1.2	24. 3 17. 6 23. 9 21. 4	10. 2 9. 5 5. 2 3. 4	2. 5 4. 4 3. 6 3. 4	.3 .1 .1 .1	.1 (2) .1 .1	25. 7 37. 6 32. 2 33. 1 28. 7

Table 11.—Winter wheat: Percentage of acreage abandoned,¹ calendar years, 1908-1923.

						100	0 10	~~0.										
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
New York New Jersey Pennsylvania Delaware Maryland Virginia West Virginia North Carolina South Carolina Georgia Hidiana Illinois Michigan Wisconsin Minnesota Ilowa Missouri South Dakota Nebraska Kansas Kansas Kansas Kansas Kantucky Tennessee Alabama Mississippi Texas Oklahoma Arkansas Wyoming Colorado New Mexico Arizona Utah Nevada Idaho Newada Idaho Oregon California	2.25 1.05 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.2	3.2 2.2.0 1.5 1.3 1.3 1.3 3.3 0.0 5.5 5.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3.43371.112.963.3.558.3.55.55.55.55.55.55.55.55.55.55.55.55.5	3.48.29.400 3.85.3.32.24.00 3.85.3.32.24.00 3.85.3.32.27.24.00 3.85.32.27.24.00 3.85.32.27.24.00 3.85.32.27.24.00 3.85.32.27.27.27.27.27.27.27.27.27.27.27.27.27	5.764.3.902.3.3.3.3.3.3.3.4.5.0.2.2.4.5.5.26.2.2.4.5.5.26.7.2.1.8.3.2.1.0.5.0.6.7.0.0.17.0.5.0.7.0.0.15.0.15.0.15.0.15.	4.00 2.18 3.32 4.00 3.33 2.40 4.51 4.00 3.33 2.00 4.51 4.00 3.23 2.00 4.51 4.00 4.51	3.3 3.7 7 2.1 3.3 2.2 2.2 3.3 8.8 4.1 5.5 6.8 8.5 5.1 13.6 6.8 8.5 5.5 12.0 8.1 2.0 8.1 2.0 8.1 3.5 3.9 12.0 8.1 3.5 3.9 13.5	2.000000000000000000000000000000000000	4. 09 4. 49 5. 3. 5. 5. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	2. 5 3 . 0 0 2	5. 0 4. 0 5 4. 2 2 5 5 0 6 2 2 0 0 3 5 0 0 2 2 2 0 0 3 5 0 0 2 2 2 0 0 3 5 0 0 2 2 2 0 0 2 2 3 0 0 0 2 2 0 0 0 2 2 0 0 0 2 2 0 0 0 0	5. 0 0 1. 0 0 2. 0 0 1. 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0	1. 55 0 0 . 10 1. 0 0 1. 0 0 1. 0 0 1. 0 0 0 1. 0 0 0 1. 0 0 0 1. 0 0 0 0	10. 0 3. 5 0 4. 0 0 3. 0 0 0 16. 0 0 16. 0 0 114. 0 0 114. 0 0 114. 0 0 115	15. 9 6. 9 9. 1 8. 1 10. 9 17. 4 3. 3 13. 6 6. 6 8. 4 14. 4 9. 5. 4 12. 8 3. 4 13. 0	1.8 1.05 2.20 2.15 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.	4.00 2.00 2.00 1.55 1.00 0.25 5.00 12.00 10.00 1	22.00 22.00 22.00 23.00 24.4.00 25.80 25.80 26.80
_		- 1	- 1	- 1		,		1						1				

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<sup>1</sup> Includes all other causes.

<sup>&</sup>lt;sup>2</sup> Less than 0.05 per cent.

<sup>&</sup>lt;sup>1</sup> Based on percentages reported abandoned to May 1 by crop reporters.

Table 12.—Wheat: Acreage and yield per acre in undermentioned countries.

NORTHERN HEMISPHERE.

	ountry. Aver- 1923, Aver-								acre.	
Country.	Average, 1909-1913.	1920	1921	1922	1923, pre- limi- nary	A ver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA.  Canada United States Mexico	47, 097	61, 14	<b>63,</b> 69	6 62, 31	58, 30		els. 14. 4 13. 6	els. 12.	els.	els. 20. 7 13. 5
Total comparable 1909- 1913	. 59, 216	79, 37	9e 05'	86, 159	90.00					ļ
Total comparable 1923.	57, 042	19, 37	86, 957	84, 740	80, 98					
United Kingdom: England and Wales_Scotland Ireland Norway Sweden_Denmark Netherlands Belgium Luxemburg France Spain Portugal Italy Switzerland Germany Austria. Czechoslovakia. Hungary Yugoslavia Greece Bulgaria Rumania Poland Lithuania Latvia Esthonia Frinland Russia, including Ukraine and Northern Caucasia.	57 57 12 255 23134 138 396 316, 547 41, 211 311, 722 11, 105 34, 768 33, 011 39, 089 46, 944 2868 32, 676 66, 377	358 180 152 306 27 12, 586 10, 254 1, 098	65 43 41 366 3222 180 29 13, 300 10, 386 1, 267 3 11,779 117 3, 561 2, 888 3, 699 988 2, 233 6, 149 2, 093	65 65 41 23 356 65 36 300 230 11, 123 11, 489 11, 123 3, 396 460 11, 527, 3, 522 43, 723 42, 544 1944 70 552	25 363 200 153 341 25 13, 656 10, 488 1, 123 11, 555 1, 559 3, 653 411 3, 606 1, 077 1, 2, 259	39. 1 37. 1 25. 6 31. 2 37. 7 36. 1 37. 6 22. 8 19. 8 15. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 6 31. 7 4 15. 6 17. 7 16. 6 17. 7 16. 6 17. 5 16. 17. 5	28.1 28.1 39.4 41.1 39.4 41.2 5 30.1 14.6 6 16.8 11.3 7 12.3 12.3 12.7 12.3 12.7 12.7 12.7 12.7 12.7 12.7 12.7 12.7	39. 8 39. 8 33. 7 34. 3 47. 6 42. 3 21. 4 24. 3 14. 0 30. 3 17. 3 24. 9 18. 3 18. 1 12. 8 17. 0 11. 3 18. 1 12. 8 17. 0 11. 3 18. 1 19. 1	38. 8. 6 34. 6 25. 7 26. 4 39. 0 41. 1 35. 4 7. 5 18. 7 14. 1 22. 8 20. 5 16. 1 22. 0 16. 1 16. 9 16. 9	40. 1  22. 0  32. 1  43. 6  36. 9  20. 9  21. 3  15. 0  11. 5  34. 2  28. 4  18. 6  24. 2  19. 8  17. 2  15. 5  21. 3  15. 7  19. 9
Total comparable 1909- 1913 Total comparable 1923	128, 745 71, 176	<b>60,</b> 175	63, 853	81, 027 64, 371	65, 253					
AFRICA. Moroeco Algeria Tunis Egypt	8 (1, 700) 3, 562 1, 310 1, 314	1, 995 3, 133 1, 319 1, 190	1, 960 2, 782 1, 492 1, 458	3, 103 882	2, 319 3, 157 1, 433 1, 537	10. 0 4. 8 25. 6	9. 0 2. 7 4. 0 26. 6	11. 9 12. 5 7. 1 25. 4	6. 2 5. 9 4. 2 24. 1	10. 2 11. 3 6. 9 26. 5
Total comparable 1923.	(7, 886)	7, 637	7, 692	7, 571	8, 446					
ASIA.  Cyprus	29, 224 16, 789 1, 179 574	147 29, 949  1, 308 871	198 25, 784  1, 264 871	193 28, 297 5, 820 1, 229	30, 835 1, 198	12. 0 9. 0 21. 3 12. 0	15. 4 12. 6  23. 1 12. 6	9. 7  22. 6 12. 3	13. 0 22. 5	12.0
Kwangtung	15	16	13			11. 3	8. 8 7. 5	8. 5 15. 5		
Total comparable 1909– 1913 Total comparable 1923	47, 785 30, 403	31, 257	27, 048	2 <b>9, 43</b> 6	32, 033					
Total Northern Hemisphere, comparable 1909-1913 Total Northern Hemisphere, comparable 1923	243, <b>632</b> 166, 507	178, 444	185, 550	186, 118	186, 713			-		

TABLE 12.—Wheat: Acreage and yield per acre in undermentioned countries—Con. SOUTHERN HEMISPHERE.

Country.	A ver- age 1909- 1913.	1920-21	1921-22	1922-23	1923–24	Aver- age 1909- 1913.	1920–21	1922-22	1 <b>922</b> –23	1923-24
Peru Chile Urugnay Argentina Union of South Africa Australia New Zealand	1 192 1, 003 6 791 16, 051 2 803 7, 603 241	1, 258 700 15, 014 875	1,314 812 13,927 839 9,719	663 16, 081 9, 781	1, 379 979 17, 216	114.9 20.0 8.2 9.2 27.5 11.9 28.7	18. 4 11. 1 10. 4 8. 4	18. 0 12. 2 13. 7	5. <b>5</b> 11. 8	14. 4
Total comparable 1909- 1943	270, 316	26, 264			29, 757					

Division of Statistical and Historical 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 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.

- <sup>1</sup> Two-year average.

- One year only.
  Old boundaries.
  Three-year average.
- 5 Territory of former Kingdom of Serbia.
- <sup>6</sup> Includes Bessarabia.
- 7 Preliminary estimate of former Russian territory within 1923 boundaries.
- 8 Estimate of U.S. Dept. of Agriculture.
- Four-year average.

Table 13.—Wheat: Production in undermentioned countries. NORTHERN HEMISPHERE.

·				Product	tion.			
Country.	Average 1909–1913.	1917	1918	1919 .	1920	1921	1922	1923, prelim- inary.
NORTH AMERICA.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.
Canada United States Mexico	197, 119	233, 743 636, 655	189, 075	193, 260	263, 189 833, 027	300, 858	867, 598	
Total comparable 1909– 1913 Total comparable 1923_	898, 708 887, 227	870, 398	1, 110, 518	1, 175, 478 1, 161, 239	1, 111, 167 1, <del>0</del> 96, 216	1, 115, 763	1, <b>28</b> 1, <b>0</b> 10 1, 267, 384	1, 255, 851
EUROPE.								•
United Kingdom: England and Wales Scotland Ireland Norway Sweden Donmark Netherlands Belgium Luxemburg France Spain Portugal Italy Switzerland. Germany Austria	2, 273 1, 597 307 8, 103 3 5, 117 4, 976 14, 894 317, 636 130, 446 511, 850 183, 334 3, 314 2 152, 118 60, 841	2, 432 4, 573 430 6, 929 4, 296 3, 949 5, 014 137, 996 142, 674 7, 429 8 139, 999 3, 031 7 81, 791	3, 216 5, 690 1, 087 1, 888 3 6, 330 5, 431 4, 919 4 228, 688 135, 709 9, 584 2 183, 294 5, 273 7 85, 265	3, 064 2, 452 1, 071 9, 351 5, 923 5, 856 10, 565 466 4187, 091 129, 250 8, 178 8 169, 769	2, 080 1, 403 999 10, 322 7, 390 5, 993 10, 274 451 236, 929 138, 605 16, 376 * 141, 337 3, 586 82, 583 5, 434	2, 568 1, 451 972 12, 335 11, 145 8, 562 14, 495 323, 467 145, 150 9, 418 6 194, 071 3, 574 107, 798 6, 530	2, 520 1, 417 9, 381 9, 249 6, 161 10, 615 125, 460 9, 782 161, 641 2, 348 69, 725 7, 422	2 2, 368 
Czechoslovakia Hungary Yugoslavia Greece					26, 3621	52, 715 51, 809	54, 729 44, 472	67, 677 61, 893

- <sup>1</sup>Four-year average.
- <sup>2</sup> Commercial estimate. <sup>3</sup> Old boundaries.
- 4 Includes production in Alsace-Lorraine.
  5 One year only.

- 6 Includes 1,235,000 bushels grown in Venezia Tridentina and Venezia Giulia.
- 7 Excludes Alsace-Lorraine.
  8 Three-year average.
  9 Territory of former Kingdom of Serbia.

Table 13.—Wheat: Production in undermentioned countries—Continued. NORTHERN HEMISPHERE-Continued.

				Product	tion.			
Country.	A verage 1909-1913.	1917	1918	1919	1920	1921	1922	1923, prelim- inary.
EUROPE—continued.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.
Bulgaria	8 42, 174	29, 067	23, 203	29,775		29, 239		38, 783
Rumania	10 108, 212		21, 460	66, 020				102, 514
Poland	11 (28, 629)				22, 741	37, 409	42, 378	53, 351
Lithuania	11 (2, 857)			2,646		2,840	3, 274	3, 166
Latvia	11 (1, 455)				389			
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	l			 		1, 199, 345	
Total comparable 1923.	1, 326, 950				938, 084	1, 202, 828	1,029,500	1, 269, 752
•								
AFRICA.	12 (17, 000)	15, 656	22, 697	16, 391	17, 947	23, 241	12, 894	23, 549
Morocco	35, 161					34, 906	18, 233	35, 611
Tunis	6, 224	7, 312		6, 981				
Egypt	33, 662				31, 710		36, 648	40, 654
Total comparable 1923_	92, 047	81, 781	116, 017	74, 512				109, 735
-	32, 011	01, 101	=====					
ASIA.					0.000	0.405	0.700	
Cyprus	2, 216			1,779				
India	351, 841	382, 144	370, 421	<b>280, 2</b> 61	377, 888	250, 357		369, 264
Russia (Asiatic)	151, 113						45, 359	
Japanese Empire:			00.000	00 501	00 155	00 575	07 017	00 400
Japan	25, 088			32, 561				26, 483
Chosen	6, 898	9, 153	9, 897	8, 553		10, 705 110		9, 204
Formosa	169	125	152	150				
Kwantung	40	27	52	31	30	- 02		
Total comparable 1909-								
1913	537, 365							<b>-</b>
Total comparable 1923	383, 827	426, 042	413, 250	321, 375	419, 027	289, 637	403, 526	404, 951
-	300, 021	120, 012				===		
Total Northern Hem-								
isphere, comparable								
1909–1913	3, 471, 206							
Total Northern Hem-								
isphere, comparable								
1923	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	191920	1920-21	1921-22	1922-23	1923-24
Peru Chile Urughay Argentina Union of South Africa <sup>18</sup> Australia New Zealand	\$ 2,866 20,062 1 6,519 147,059 \$ 6,034 90,497 6,925	23, 120 13, 061 223, 636	6, 890 180, 182 7, 979	2, 357 19, 920 5, 948 216, 954 5, 129 45, 975 4, 560	23, 190 7, 768 156, 133 7, 323 145, 874	9, 944 191, 012 8, 419 129, 089	23, 815 3, 674 189, 046 6, 696 109, 261	248, 752 120, 000
Total comparable 1909- 1913 Total comparable 1923_	l	393, 770	299, 819 255, 820	300, 843	<b>3</b> 50, 161			
World total, comparable 1909–1913 World total, comparable 1923	3, 751, 168 2, 927, 607				<b>2, 818,</b> 653	<b>3, 034,</b> 105	3, 070, 166	3, 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.

<sup>&</sup>lt;sup>1</sup> Four-year average.
<sup>3</sup> Old boundaries.

<sup>&</sup>lt;sup>5</sup> One year only. <sup>10</sup> Includes Bessarabia.

<sup>11</sup> Preliminary estimate of former Russian territory within 1923 boundaries.
12 Estimate U. S. Dept. of Agriculture.
13 Exclusive of native locations which produced 359,000 bushels in 1918 and 290,000 bushels in 1921.

Table 14.—Wheat: Area and production, prairie Provinces of Canada.

	Average						Per ce Canadia	
Province.	1909- 1913.	1919	1920	1921	1922	1923	6 28. 8 1 49. 2 9 12. 1	1923
	<del>-                                    </del>	,	AREA.		<u>'</u>			
Manitoba Saskatchewan Alberta Total	1,000 acres. 2,861 4,894 1,201	1,000 acres. 2,880 10,587 4,283	1,000 acres. 2,706 10,061 4,074	1,000 acres. 3,501 13,557 5,123	1,000 acres. 3,126 12,332 5,766	1,000 acres. 2,916 12,791 5,959	49. 2 12. 1	12. 9 56. 4 26. 3
	1.	PRO	DUCTIO	)N.	<u> </u>			
ManitobaSaskatchewanAlbertaTotal	97, 954	1,000° bushels. 40,975 89,994 34,575	1,000 bushels. 37,542 113,135 83,461 234,138	1,000 bushels. 39,054 188,000 53,044	1,000 bushels. 60,051 250,167 64,976	1,000 bushels. 36,481 252,622 157,467 446,570	27. 0 49. 7 12. 5	7. 8 53. 8 33. 5

Table 15.—Wheat: World production, 1894-1923.

	1 1	1					· · · · · · · · · · · · · · · · · · ·			<del></del>
	Produc- tion in countries	Produc-	Esti-			Select	ed countr	ries.		
Year.	report- ing all years 1894–1923.	tion as reported.	mated world totals.	Russia.1	Italy.	France.	India.	Argen- tina.	Aus- tralia.	Can- ada.
1894	1,000 bushels 1, 730, 605 1, 574, 080 1, 628, 012 1, 561, 792 2, 113, 124 1, 929, 387 1, 787, 154 2, 017, 031 1, 983, 191 2, 136, 988 2, 017, 180 2, 110, 003 2, 279, 413 2, 158, 965 2, 000, 044 2, 216, 491 2, 991, 735 2, 232, 327 2, 326, 048 2, 279, 113 2, 159, 924 1, 968, 624 2, 937, 924 1, 968, 634 2, 337, 914	1, 276, 811 2, 328, 627 2, 112, 010 2, 867, 2, 643, 177 2, 478, 739 2, 701, 163 2, 913, 652 3, 111, 3652 3, 113, 343 3, 102, 433 3, 102, 433 3, 102, 433 3, 102, 483 3, 551, 056 3, 477, 180 3, 522, 157 3, 782, 788 4, 011, 754 3, 588, 988 4, 267, 983 2, 515, 591 2, 426, 838 2, 774, 877	3, 144, 436 3, 309, 345 3, 493, 206 3, 189, 191 3, 171, 263 3, 625, 128 3, 575, 891 3, 577, 888 4, 087, 684 4, 087, 684 4, 289, 583 3, 288, 291 3, 133, 838 3, 147, 677	309, 660 412, 038 340, 170 459, 289 454, 145 422, 994 427, 730 621, 459 666, 752 636, 287 543, 481 570, 570 627, 698 846, 186 836, 242 563, 485 801, 497 1, 027, 662 2 827, 756 2 826, 784	117, 762 145, 238, 919 137, 345 137, 912 147, 341 181, 512 150, 648 203, 191 176, 735 167, 917 190, 378 153, 403 192, 393 165, 720 214, 772 169, 582 170, 541 176, 530 138, 999	339, 595 340, 288 242, 227 364, 968 345, 649 325, 542 310, 913 327, 898 362, 968 328, 697 381, 223 328, 697 381, 223 334, 333 319, 370 282, 689 222, 276 204, 908 137, 096	261, 293 200, 866 200, 229 269, 113 255, 273 200, 000 264, 825 227, 380 297, 601 359, 936 283, 076 319, 930 317, 061 359, 629 376, 629 376, 629 376, 329 376, 329 376, 392 376, 392 376, 392 376, 392 376, 392 376, 392 376, 392 376, 376 376, 376 376, 376	180, 182	20, 880 28, 241 41, 428 39, 978 48, 353 38, 562 112, 378 66, 421 44, 656 62, 591 90, 414 91, 981 113, 344 24, 892 179, 696 179, 696 179, 676 179, 676 176, 738	112, 434 166, 744 132, 049 230, 924 224, 159 231, 717 161, 280 393, 543 262, 781 233, 743 189, 074
1919 1920 1921 1922 1923	2, 190, 147 2, 202, 538 2, 296, 739 2, 242, 821	2, 668, 701 2, 892, 988 3, 105, 089 3, 345, 362	3, 033, 438 3, 258, 089 3, 348, 099		169, 769 141, 337 3 194, 071 3 161, 641 3 224, 839	3 236, 929 3 323, 467 3 243, 315	377, 888 250, 357 366, 987	191, 012 189, 046	145, 874 129, 989 109, 261	263, 189 300, 858 399, 786

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.

Includes all Russian territory reporting for years named. Further information of the territory included is given in Notes 3 and 6 on Table 16.
 Excludes Poland.
 New boundaries.

Table 16.—Wheat: Production in selected foreign countries, 1899-1923.

				·	···········		
Year.	Algeri	a. Austria.	Belgium	Bulgaria.	Chile.	Denmark	Egypt.
	1,000	1 000	1 000	1 000	1 000	4 2000	1 000
	bushe	ls. bushels.	1,000	1,000	1,000	1,000	1,000
1899	22 2	81 50, 208	bushels.	bushels. 21, 629	bushels.	bushels.	bushels.
1900	22, 2 33, 5 32, 2	93 40 929	11, 100 13, 788 14, 143 14, 521	21, 025		4, 056 4, 139	
1901	32. 2	93 40, 929 44 44, 027	14, 143			979	
1902	33.8	96 49,655	14, 521		10, 014	4, 534	
1903	34 0	34 46, 198	12, 350	35, 551	10, 014 17, 948	4, 462	
1904 1905	25, 4	84 53, 734	13, 817	42, 242 34, 949	12,089	4, 462 4, 282	
1905	25, 5	79 54, 531	12, 401 12, <b>963</b>	34, 949	12, 157	4,069	
1906 1907 1 <b>908</b>	34, 6	53 ( 58, 254	12, 963	39, 109		4, 163	
1907	31, 2 29, 7	60 53, 287	15, 835 13, 393	23, 545	18, 915 17, 671	4, 345 4, 321	
1909	29, 7	39 62, 129	13, 393	36, 495	17, 671	4, 321	
1909.	35, 7	22 58, 467	14, 603	32, 071	19, 682	3, 837 4, 328	31, 826 32, 580
1910	35, 8	74 57,589	14,005	42, 247	18, 184	4, 328	32, 580
1911	39. 3	75   58,886	15, 745	48, 295	22, 468	5, 678	35, 399
1912	27, 1	72 69,638	15, 745 15, 348	44,756	23, 575	5, 048	30, 738
1913	37, 6	61 59, 625	14, 769	43, 501	16, 403	6,695	37, 769
Average 1909-1913		61 60, 841	14, 894	42, 174	20, 062	5, 117	33, 662
1914				1 23, 206			
1915	33, 8		13, 972 7, 916	1 35, 527	19,000	5, 788	32, 850
1916	29, 1	51 27, 811	6 497	1 29, 600	20, 214 22, 498	7, 982 6, 044	39, 144
1917		79 1 5, 993	6, 487 5, 014	1 29, 067	23, 120	4, 296	36, 543 29, 834
1918.	49, 2		4, 919	1 23, 203	20, 280	6, 330	32, 140
1919_	21, 0		10, 565	1 29, 775	19, 920	5, 923	30, 137
1919 1920	8,4	33   15,434	10, 274	1 30, 003	23, 190	17,390	31, 710
Average 1914-1920							
A verage 1914-1920	29, 1	61	8, 450	28, 626	21, 175		33, 194
1921	34, 90	06 1 6, 530	14, 495	1 29, 239	23, 636	1 11, 145	37, 010
1922	18, 2	33 17,422	10, 615	1 37, 704	23, 815	1 9, 249	36, 648
1923	35, 6	1 1 8, 826	12, 590	1 38, 783	,	0,200	40, 654
	<del>-                                    </del>	1					
<b>37</b>	Ger-	Hungarian	T	Nether-	New	~-	Russia in
Year.	many.	Kingdom.2	Japan.	lands.	Zealand.	Norway.	Europe.3
				· · · · · · · · · · · · · · · · · · ·	zoaiaia.		Europe.
	1,000	1,000	1,000	1,000	1,000	1.000	1,000
	bushels.	bushels.	hughele	bushels.	bushels.	bushels.	bushels.
1899	141, 368 141, 137 91, 816	150, 298 152, 235 134, 628	21, 198 21, 785 22, 398 20, 243	5,096	8, 582		393 623
1900	141, 137	152, 235	21, 785	4, 670 4, 231	6, 527	326	395, 766 401, 534 560, 614
1901	91, 816	134, 628	22, 398	4, 231	4.047	319	401, 534
1902	143, 314	182, 899	20, 243	5, 105	7,458	265	560, 614
1903	130, 625	176, 621	9,600	4, 258	7,892	307	551, 7 <b>30</b>
1904	139, 802	146, 918	19,754	4, 423	9, 124	212	622, 257
1905	135, 946	170, 590	18, 436	5,078	6, 799	329	568, <b>276</b>
1906	144, 705	1207, 758	20, 282	4,942	5, 605	303	450, 965
1907 1908	144, 753 127, 842 138, 440	170, 590 207, 758 130, 677 165, 424	22, 795 22, 587	5, 325 5, 121	5, 567 8, 773	290 330	437, 774
	105, 110	100, 424	22, 007	0, 121	0,113	360	489, 162
1909	137, 999	125, 014	22, 966	4, 158	8,661	313	711, 478
1910	141, 884	181, 135	23, 556	4, 441	8, 290	293	699, 412
1911	149, 411	190, 077	25, 647	5, 511	7, 261	270	447, 039
1912	160, 224	184, 642	26, 514	5, 604	5, 180	331	623, 762
1913	171, 075	184, 642 167, 349	26, 757	5, 164	5, 232	324	837, 797
Average 1909-1913	152, 118	169, 643	25, 088	4, 976	6, 925	306	663, 898
11.01.000 1010 1010		200, 010	20,000	2,010	5, 520	500	000, BYB
1914	145, 944	117, 777	22,975	5,779	6, 664	269	4 573, <b>384</b>
1915	141, 676	117, 777 157, 647	26, 778	7,090	6, 664 7, 108	284	4 653, 305.
1916	113, 393		30, 137	4, 786	5,051	316	
1917	• 81. 791		34, 745	3,949	6,808	430	
1918	° 85, 865		32, 923	5, 431	6,568	1,087	
1919	9 79, 701		32, 561	5, 856	4, 560	1,071	
1920	<sup>1</sup> 82, 583	1 38, 294	30, 155	5, 993	6,872	999	
Average 1914-1920			30, 039	5, 555	6, 233	637	
1021	<sup>1</sup> 107, 798	1 52, 715	28, 575	8 569	10, 565	972	
1921 1922	1 69, 725	1 54, 729	28, 373	8, 562 6, 161	8, 395		
1923	1 103, 604	1 67, 677	26, 483	6, 678			
	100,000	- 01, 011	20, 200	Uy 040		(FE)	
	···············	<del></del>		<del></del>		<del>'</del> -	

<sup>&</sup>lt;sup>1</sup>New boundaries.

<sup>2</sup>Includes Hungary proper and Croatia Slavonia.

<sup>3</sup>Includes 50 governments in Europe, 10 governments of Poland, and 1 government and 2 provinces of Northern Cancasia.

<sup>4</sup> Excludes Poland.

<sup>6</sup> Excludes production in Alsace Lorraine.

Table 16.—Wheat: Production in selected foreign countries, 1899-1923—Contd.

	,						
Year.	Russia in Asia.	Russian Empire. <sup>7</sup>	Spain.	Sweden.	Switzer- land.	United Kingdom.	Urugua <b>y</b> .
	4 000	7.000	1	1 000	4 000		4 000
	1,000	I,000	1,000	1,000	1,000	1,000	1,000
	bushels.	bushels.	bushels.	bushels.	bushels.	bushels.	bushels.
1899	60, 522	454, 145	97, 707	4, 733		67, 261	6,891
1900		422, 994	100, 702	5, 510		54, 322	3,664
190i	26, 248	427, 782	136, 904	4,471	l	53, 928	7,601
1902 1903	46, 756	607, 370	133, 522	4,657			5, 240
1903	69, 729	621, 459	128, 978	5, 526			0,210
1904	44, 495	666, 752	95, 505	5, 249			7, 565
1905	68, 011	636, 287	92, 070	5, 526			4,605
1906	92, 516	543, 481	140, 655	6, 686			6, 867
1907	132, 796	570, 570	100, 330	6, 182			
1908.	138, 536					56, 531	7, 430
		627, 698	119, 968	7,049	3, 491	53, 929	8, 595
1909	134, 688	846, 166	144, 103	7, 414	3, 568	63, 197	
1910	136, 830	836, 242	137, 448	7,696	2, 756	56, 592	5, 972
1911	116, 446	563, 485	148, 495	8, 106	3, 524	64, 312	8, 757
1912	177, 735	801, 497	109, 783	7, 797	3, 178	57, 400	5, 461
1913	189, 865	1, 027, 662	112, 401	9, 502	3, 546	56, 696	5, 887
Average 1909–1913	151, 113	815, 010	130, 446	8, 103	3, 314	59, 639	
1914	254, 372	4 827, 756	116, 089	8,906	3, 278	62, 432	3, 596
1915		4 826, 784	139, 298	9,660	3, 957	73, 912	9, 867
1916		,	152, 329	9, 038	4,082	59, 776	5, 390
1917			142, 674	6, 929	3,031	64, 320	13, 060
1918			135, 709	8,888	5, 273	93, 144	6, 890
1010			129, 250	9, 351	3, 891	69, 320	
1919							5, 948
1920			138, 605	10, 322	3, 586	56, 832	7, 768
A verage 1914–1920			136, 279	9, 013	3, 871	68, 534	7, 503
1921			145, 150	12, 335	3, 574	73, 792	9, 944
1922			125, 469	9, 381	2, 348	65, 248	
						00, 240	3,674
1923			157, 110	11,648	3,593		
						·	_

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.

\*Excludes Poland.

\*Asiatic Russia during 1899 to 1905 included statistics from 4 governments of Siberia, 4 provinces in Central Asia, and the small government of the Black Sealn 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 of transcaucasia. Subsequently Asiatic Russia included 8 governments and provinces of Transcaucasia. Subsequently Asiatic Russia included 8 governments and provinces of the Steppes, 4 provinces of Turkestan, and Ural in Central Asia; and 11 governments and provinces of transcaucasia. The terrifory 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 Russia for which statistics are available.

TABLE 17.—Wheat: Monthly marketings by farmers, 1917-1923.

Voca basisming	P	ercente	ge of y	ear's r	<b>ec</b> eipts	as rep	orted.	b <b>y</b> abo	ut 3,50	0 mills	and el	evator	s.
Year beginning July 1.	July.	Aug.	Sept.	Oet.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Sea- son.
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	7. 4 17. 6 17. 1 12. 1 19. 1 14. 8	12. 4 19. 9 23. 2 14. 3 18. 2 17. 3	19. 3 18. 0 15. 6 15. 9 16. 4 14. 2	18. 0 13. 8 11. 1 10. 6 10. 6 12. 0	13. 7 8. 7 7. 5 6. 9 6. 8 8. 6	7. 6 7. 3 5. 7 6. 2 5. 4 7. 4	4. 7 4. 6 4. 2 5. 5 4. 4 5. 5	3. 9 3. 1 3. 0 5. 3 4. 9 5. 1	3. 7 2. 0 2. 9 4. 9 3. 9 4. 3	4.1 1.6 3.1 5.0 3.2 3.7	3. 1 1. 9 3. 4 6. 4 3. 5 3. 4	2. 1 1. 5 3. 2 6. 9 3. 6 3. 7	100. 0 100. 0 100. 0 100. 0 100. 0 100. 0

Division of Crop and Livestock Estimates.

Table 18.—Wheat: Farm stocks, shipments, and quality, 1895-1923.

					· 4		0,		
***************************************	Stocks in			Crop.		Total	Stocks on farms	Stocks in mills and	Shipped out of
Year begin-		stocks on		Weight		supplies	Mar. 1,	elevators	county
ning July 1.	elevators July 1.1	farms July 1.2	Quan-	per	Quai-	(except visible).	follow-	Mar. 1, follow-	where
	July 1.	July 1.2	tity.	bushel.3	Ity.	Visible).	ing.2	ing.1	grown.5
	1,000	1.000	1,000		Per	1,000	1,000	1,000	1,000
	bushels.	bushels.	bushels.	Pounds.	cent.	bushels.	bushels.	bushels.	bushels.
1895-96		29, 007	569, 456	58. 3	85.7	598, 463	151, 395		<b>334</b> , 557
1896-97	·	48, 524	544, 193	57. 6	84. 4	592, 717	113, 139		284, 315
1897-98		29, 239 20, 196	610, 254 772, 163	57. 1 57. 7	87. 9	639, 493 792, 359	138, 068		308, 298 453, 675
1898-99 1899-1900		71,861	636, 051	56. 9	83. 7	707, 912	224, 575 183, 286		351, 062
1900-1		58, 363	602, 708	56. 3	87.8	661, 071	147, 674		322, 982
1900-1		35, 140	788, 638	50. 5 57. 5	88.8	823, 778			389, 275
1902-3		54, 616	724, 808	57. 6	30.0	779, 424	174, 664		420, 279
1903-4		45, 262	663, 923	57. 3		709, 185	136, 811		386, 589
1901-2 1902-3 1903-4 1904-5		37, 422	596, 911	57.4		634, 333	111, 072		327, 960
1005-6	!	05 545	726, 819	57. 5		752, 364	163, 866		428, 000
1906-7		47, 393	756, 775	58. 3		804, 168	211, 910		447, 589
1907-8		55, 438	637, 981	58. 2 58. 3	89. 9 89. 4	693, 419 677, 844	148, 392 137, 628		377, 999 392, 441
1908-9		33, 188 14, 171	644, 656 700, 434	57. 9	90.4	714, 605	163, 371		428, 262
1906-7 1906-7 1907-8 1908-9 1909-10		90 705		58.5	93. 1		162, 705	98, 597	352, 906
1910-11		36, 725 34, 071	635, 121 621, 338	57. 8	93. 1 88. 3	671, 846 655, 409	122, 705	95, 710	348, 739
1912-13		23, 876	730, 267	58. 3	90. 0	754, 143	156, 471	118, 400	449, 881
1913-14		35, 515	763, 380	58. 7	93. 2	798, 895	151, 795	93, 627	411, 733
1911-12 1912-13 1913-14 1914-15		32, 236	891, 017	58. 0	89. 7	923, 253	152, 903	85, 955	541, 198
1915-16 1916-17 1917-18		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	10 670	8,063	921, 438 967, 979	58. 8 56. 3	93. 1 82. 1	929, 501 1, 006, 912	128, 703 169, 904	107, 037 123, 233	541, 666 591, 552
1919–20	1 1	19, 261	,				′ 1	· · · · · · · · · · · · · · · · · · ·	-
1920-21	37, 304	49, 546	833, 027 814, 905	57. 4 57. 0	88. 9 85. 8	919, 877 898, 779	217, 037 134, 253	87, 075 75, 071	491, 035 502, 470
1921-22 1922-23	27, 167 28, 756	56, 707 32, 359	814, 905	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
2020 MI	00, 100 (	30,001	,		00				

6 Preliminary.

TABLE 19.—Wheat: Supply and distribution and per capita disappearance in the

_:	United	States.				
			Year begin	ning July	1.	
Item.	Average 1899-1908.	A verage 1909–1913.	Average 1914–1920.	1921-22	1922-23	1923-24
Supply: Stocks on farms July 1 Stocks in country mills and elevators	1,000 bushels. · 43,608	1,000 bushels. 28,841	1,000 bushels. 32,631	1,000 bushels. 56,707	1,000 bushels. 32,359	1,000 bushels. 35,634
July 1Commercial visible (Bradstreet's)	27, 000	29, 000	24, 854	26, 767	28, 756	36, 458
July I Stocks of flour (in terms of wheat)	32, 194	24, 168	19, 290	9, 966	20, 342	29, 403
July 1	7, 114 677, 927	7, 960 690, 108	8, 251 844, 605	6, 808 814, 905	7, 461 867, 598	10, 049 785, 741
June 30	746	1,808	19, 746	17, 252	19, 945	1 19, 945
Total supply	788, 589	781, 885	949, 377	932, 405	976, 461	917, 230
Distribution: Exports July 1 to June 30 (flour in-						
cluded) Estimated seed requirements Carryover on June 30—	152, 623 68, 995	104, 967 72, 383	255, 011 88, 600	279, 407 93, 247	221, 923 89, 336	
On farms. In country mills and elevators. Commercial visible (Bradstreet's) Flour (in terms of wheat)	38, 709 25, 300 28, 476 6, 990	32, 276 31, 000 25, 041 8, 555	36, 127 24, 678 18, 265 7, 972	32, 359 28, 756 20, 342 7, 461	35, 634 36, 458 29, 403 10, 049	
Total distribution	321, 093	274, 222	430, 653	461, 572	422, 803	
Disappearance for food and feedPopulation	468, 403 82, 614	507, 663 94, 378	518, 724 102, 880	470, 833 108, 541	553, 658 109, 956	111, 371
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.

Based on percentage of crop as estimated by about 3,500 mill and elevator operators.
Based on percentage of crop on farms as estimated by crop reporters.
Based on estimates of crop reporters on Nov. 1.
Percentage of "a high medium grade" as estimated by crop reporters at time of harvest.
Based on percentage shipped out as estimated by crop reporters.

Table 20.—Wheat: Receipts and shipments, 11 primary markets, 1909-1922.

	).— VV		LUUUUUF		o.cop	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	P.			,	700:-16	
	Chic	cago.	Milw	aukee.	Minn	eapolis.	Dul	uth.	St. L	ouis.	Tol	edo.
Year beginning July 1.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts,	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.
1909-10 1910-11 1911-12 1912-13 1913-14	1,000 bush. 27, 542 27, 400 35, 563 44, 168 50, 884	1,000 bush. 20,586 17,259 30,003 43,325 47,905	1,000 bush. 8, 482 10, 062 8, 497 10, 337 6, 372	7,875	1,000 bush. 92, 833 90, 774 96, 889 126, 161 103, 679	1,000 bush. 20, 546 20, 866 52, 745 32, 761 28, 994	1,000 bush. 54, 687 28, 628 30, 598 83, 530 62, 799	1,000 bush. 50, 280 25, 352 25, 571 75, 435 64, 799	1,000 bush. 22,064 20,127 15,336 38,792 27,244	1,000 bush. 19, 622 20, 082 12, 790 27, 179 22, 242	1,000 bush. 4,426 4,122 6,930 4,734 5,802	1,000 bush. 1,474 1,556 4,644 2,475 3,704
Average 1909- 1913		31,816	8,750	4, 634	102, 067	81, 182	52, 048	48, 287	24, 713	20, 383	5, 203	2, 771
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	107 700	91, 112 61, 531 47, 342 8, 118 67, 122 57, 215	9, 550	7, 010 3, 505 8, 099 1, 336 12, 575	112, 716 163, 202 119, 701 82, 229 117, 787 119, 419 118, 579	39, 510 54, 932 39, 689 19, 072 38, 174 37, 468 50, 724	62, 268 95, 674 30, 978 16, 602 88, 383 18, 317 45, 083	59, 867 82, 540 36, 789 13, 646 86, 932 13, 664 43, 272	42, 547	13, 234 25, 621 32, 956	7, 089 9, 965 5, 719 4, 583 5, 940 8, 046 5, 052	4, 168 5, 571 2, 590 1, 379 1, 348 2, 285 1, 400
Average 1914- 1920	60, 469	51, 475	9, 655		119, 090	39, 938	51, 044	48, 101	38, 228	27, 761	6,628	2, 677
1921-22 1922-23	51, 548 51, 660	45, 803 44, 203	9, 676 3, 681	7, 464 3, 145	105, 343 133, 830	43, 237 48, 648	49, 226 65, 541	49, 843 55, 036	39, 009 40, 605	29, 404 33, 561	6, 753 10, 472	3, 622 5, 524
July	8, 780 16, 574 4, 743 4, 492 3, 203 2, 890	4, 794 18, 629 5, 078 2, 640 2, 623 1, 735	141 502 491 419 416 227	183 281 296 203 266 220	17, 002 13, 605	2, 481 4, 614 6, 808 4, 820 4, 942 4, 271	2, 266 3, 004 16, 225 9, 838 7, 451 6, 314	2, 926 1, 482 9, 689 9, 458 8, 626 6, 979	5, 013 7, 060 3, 461 3, 873 4, 279 3, 174	2 539	1, 470	222 114
JanuaryFebruaryMarchAprilMay	2, 844 2, 151 1, 629 1, 956 1, 320	1, 611 1, 576 1, 341 1, 197 1, 132	463 277 213 201 193	420 290 203 325 259	15, 971 6, 292 9, 568 7, 372 5, 135	5, 018 2, 632 3, 846 3, 748 2, 950	3, 929 3, 492 2, 206 3, 495 3, 044	8.391	3, 469 2, 301 2, 104 2, 024 2, 216 1, 631	2, 712 1, 772 1, 874 1, 994 2, 187	302 316	722 813
June	1, 078	1,847	138	199	5, 947	2, 950 2, 518	4, 277	6, 307	1, 631	2, 187 1, 760	415	365
June	1, 078	1,847	138	199	5, 947 Peo			6, 307 aha.		1, 760 apolis.	415 To	
June Year beginning July 1.	Det	1,847	Kansa Re-		Peo Re-		Om:	6, 307	Indian Re-		To Re-	
Year beginning July 1.	Re-ceipts.  1,000 bush. 1,821 2,003 2,861 977	1,847) roit. Shipments. 1,000 bush. 167 105 401 715	Re- ceipts. 1,000 bush. 34,092 40,537 23,627	199 s City. Ship- ments. 1,000 bush. 22,057 26,709 16,970	Receipts.  1,000 bush. 1,304 1,225 1,518 1,951	Ship- ments. 1,000 bush. 1,002 1,074 1,106 1,616	Om: Receipts.  1,000 bush. (1) (1) 11,030 20,193	6, 307  aha.  Shipments.  1,000  bush. (1) (1) 9, 690 13, 133	Receipts.  1,000 bush. (1) (1) 176 1.560	ship- ments. 1,000 bush. (1) (1) 173 462	To Re-	Ship- ments. 1,000 bush. 138, 491 120, 878 157, 504 236, 201
Year beginning July 1.  1909-10. 1910-11. 1911-12. 1912-13. 1913-14. Average 1909-	Re-ceipts.  1,000 bush. 1,821 2,003 2,861 977 1,442	1,847 roit. Shipments. 1,000 bush. 167 105 401 715 842	138 Kansa Re- ceipts. 1,000 bush. 34,092 40,537 23,627 48,374 32,152	199) s City. Ship- ments. 1,000 bush. 22,050 16,970 33,415 23,730	Re- ceipts. 1,000 bush. 1,304 1,225 1,518 1,951 1,629	Ship-ments.  1,000 bush. 1,002 1,074 1,106 1,616 1,424	Om:  Receipts.  1,000 bush. (1) 11,030 20,193 16,453	6, 307  aha.  Shipments.  1,000  bush. (1) 9, 690 13, 133 11, 958	Receipts.  1,000 bush. (1) (1) 176	apolis. Shipments. 1,000 bush. (1) (1) 173 462 812	To Re- ceipts. 1,000 bush. 247, 251 224, 878 233, 025 380, 777 310, 354 279, 257	Ship- ments. 1,000 bush. 138, 491 120, 878 157, 504 236, 201 209, 852 172, 585
Year beginning July 1.  1909-10. 1910-11. 1911-12. 1912-13. 1913-14.  Average 1909- 1913. 1914-15. 1915-16. 1916-17. 1917-18	Re-ceipts.  1,000 bush. 1,821 2,003 2,861 977 1,442 1,821 2,763 2,809 2,724 1,597 1,608 1,688	1,847 roit. Shipments. 1,000 bush. 167 105 401 715 842 2,012 1,580 1,082 260 306	138 Kansa Re- ceipts. 1,000 bush. 34,092 40,537 23,627 48,374 32,152 35,756 77,745 77,745 77,445 68,720 22,226 54,106	199 s City. Ship-ments. 1,000 bush. 22,057 26,709 33,415 23,730 24,576 65,650 65,650 62,878 8,255 35,696	Re- ceipts.  1,000 bush. 1,304 1,225 1,518 1,951 1,629 1,525 3,786	Ship- ments. 1,000 bush. 1,002 1,074 1,106 1,616	Om: Receipts.  1,000 bush. (1) (1) 11,030 20,193	6, 307  aha.  Shipments.  1,000  bush. (1) (2) (9,690  13, 133  11, 958  11, 594  11, 639  16, 215  29, 221	Re-ceipts.  1,000 bush. (1) (1) (1) 176 1,560 1,898	ship-ments.  1,000 bush. (1) (1) 173 462 812	To Re- ceipts. 1,000 bush. 247, 251 224, 878 233, 025 380, 777 310, 354 279, 257	Ship- ments. 1,000 bush. 138, 491 120, 878 157, 504 236, 201 209, 852
Year beginning July 1.  1909-10. 1910-11. 1911-12. 1912-13. 1913-14.  Average 1909- 1913. 1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.  Average 1914-	Re- ceipts.  1,000 bush. 1,821 2,003 2,861 977 1,442 2,763 2,809 2,724 1,597 1,608 1,688 1,656	1,847 roit. Shipments. 1,000 bush. 167 105 842 2,012 1,580 1,082 2,603 306 289 149	138 Kansa Re-ceipts. 1,000 bush. 34,092 40,537 23,627 48,374 32,152 35,756 77,745 70,442 68,720 22,226 54,106 92,215 87,148	199 s City. Ship-ments. 1,000 bush. 22,070 33,415 23,730 24,576 65,650 51,632 62,878 8,255 55,696 64,637	Re- celpts.  1,000 bush. 1, 304 1, 225 1, 518 1, 951 1, 629  1, 525 3, 786 4, 503 2, 195 2, 195 3, 405 3, 663 2, 199	ria. Shipments.  1,000 bush. 1,002 1,074 1,106 1,616 1,424 1,244 3,527 5,336 2,468 1,422 3,371 4,285 2,011	Om: Re-ceipts. 1,000 bush. (1) (1) 11,030 20,193 16,453 15,892 17,767 25,613 31,194 8,565 19,730 26,585	6, 307  aha.  Shipments.  1,000  bush. (1) (1) (9) 9, 690 13, 133 11, 958  11, 594  11, 639 16, 215 29, 221 6, 696 15, 115 21, 992	Indian  Re- ceipts.  1,000 bush. (1) (1) 1,560 1,560 1,898  1,211 3,028 4,851 2,890 2,990 6,477 7,471	apolis. Ship-ments. 1,000 bush. (1) (1) 173 462 812 916 1,967 929 1,192 2,080 1,340 458	To Receipts. 1,000 bush. 247, 251 224, 878 233, 025, 380, 777 310, 354 279, 257 438, 616 512, 441 373, 123 184, 883 410, 051 403, 843 372, 755	Ship-ments.  1,000 bush. 138, 491 1120, 878 157, 504 236, 201 209, 852  172, 585 312, 324 315, 855 264, 167 74, 010 288, 340 288, 340 247, 783
Year beginning July 1.  1909-10. 1910-11. 1911-12. 1912-13. 1913-14.  A verage 1909- 1913. 1914-15. 1915-16. 1916-17. 1918-19. 1918-19. 1919-20.	Re- ceipts. 1,000 bush. 1,821 2,003 2,861 977 1,442 1,821 2,763 2,809 2,724 1,597 1,608 1,688 1,656	1,847 roit. Shipments. 1,000 bush. 167 105 401 715 842 2,012 1,580 1,082 260 306	138 Kansa Re- ceipts. 1,000 bush. 34,092 40,537 23,627 48,374 32,152 35,756 77,745 77,745 77,445 68,720 22,226 54,106	199 s City. Shipments. 1,000 bush. 22,057 26,709 16,970 33,415 23,730 24,576 65,650 51,632 62,878 8,255 35,696 55,673 64,637 49,203	Re- ceipts.  1,000 bush. 1,304 1,225 1,518 1,951 1,629 1,525 3,786 4,503 2,870 2,195 3,663 3,663	Ship-ments. 1,000 bush. 1,002 1,074 1,106 1,616 1,424 1,244 3,527 5,368 1,422 3,371 4,285	Omerical Receipts.  1,000 bush. (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	6, 307 aha. Shipments. 1,000 bush. (1) (1) (2) 9, 690 13, 133 11, 958 11, 594 11, 639 16, 215 229, 221 16, 696 15, 115 21, 992 24, 372 17, 807	Indian  Re- ceipts.  1,000 bush. (1) (1) (1,560 1,898  1,211 3,028 4,851 2,890 6,477 7,471 4,491	apolis. Ship-ments. 1,000 bush. (1) (1) 173 462 812 916 1,967 929 1,192 2,080 1,340 458	Re-ceipts. 1,000 bush. 247, 251 224, 878 233, 025 380, 777 310, 354 279, 257 438, 616 512, 441 373, 123 184, 883 410, 051 403, 843 372, 755	Ship-ments.  1,000 bush. 138, 491 1120, 878 157, 504 236, 201 209, 852  172, 585 312, 324 315, 855 264, 167 74, 010 288, 340 288, 340 247, 783
Year beginning July 1.  1909-10. 1910-11. 1911-12. 1912-13. 1913-14.  Average 1909- 1913. 1914-15. 1915-16. 1916-17. 1918-19. 1918-19. 1918-19. 1919-20. 1920-21.  Average 1914- 1920. 1921-22.	Re- ceipts. 1,000 bush. 1,821 2,003 2,861 1,442 1,821 2,763 2,809 2,724 1,597 1,688 1,656 2,121 1,578 1,797 1599 226 1188 189	1,847/roit. Shipments. 1,000 bush. 167 105 401 715 842 2,012 1,580 1,082 260 306 289 149 811 234	138  Kansa  Re- ceipts.  1,000 bush. 34,092 40,537 23,627 48,374 32,152  35,756 77,745 70,442 68,720 22,226 67,7515 90,574 77,684  11,089 11,089 11,065 8,230 6,834	199 s City. Shipments. 1,000 bush. 22,057 26,709 16,970 33,415 23,730 24,576 65,650 51,632 62,878 8,255 55,673 64,637 49,203 69,085 52,464 5,156 10,686 6,419	Re- celpts.  1,000 bush. 1, 304 1, 225 1, 518 1, 951 1, 629 1, 525 3, 786 4, 503 2, 195 3, 663 2, 199 2, 232 2, 564	ria.  Shipments.  1,000 bush. 1,002 1,074 1,106 1,424 1,244 3,527 5,336 2,468 1,422 3,371 4,285 2,011 3,203 1,709	Omerical Receipts.  1,000 bush. (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	6, 307 aha. Shipments. 1,000 bush. (1) 9, 690 13, 133 11, 958 11, 594 11, 639 16, 215 29, 221 6, 696 15, 115 29, 221 17, 807 25, 559 19, 505 3, 512 1, 991	Indian Re-ceipts. 1,000 bush. (1) (1) 1,560 1,560 1,898 1,211 3,028 4,851 2,890 2,990 6,477 4,491 4,600 4,056	apolis. Ship-ments. 1,000 bush. (1) (1) 173 462 812 916 1,967 929 1,192 2,080 1,340 458	To Receipts. 1,000 bush. 247, 251 224, 878 233, 025 380, 777, 310, 354 279, 257 438, 616 512, 441 373, 123 184, 883 410, 051 403, 843 372, 755 385, 102 385, 637 420, 166 39, 449 57, 348 56, 441 47, 351 40, 290	Shipments.  1,000 bush. 138, 491 120, 878 157, 504 226, 201 209, 852  172, 585 312, 324 315, 856 264, 167 74, 010 288, 340 230, 841 248, 944 247, 783 276, 850 267, 145 21, 401 47, 351

Division of Statistical and Historical Research. Compiled from the Chicago Dally Trade Bulletin and the Annual Reports of the Chicago Board of Trade.

Table 21.-Wheat: Estimated requirements, surplus and deficiency, by States, 1923-24.

					720-2.	4.					
		per c	ump-	requir	od and	Esti-		require- ents.	Dec. 1.	deficie	s (+) or ncy (-) oort and
	Popula-	tic	m.	100	ed.	mated	1911	age,	1923,	increase	d feeding,
Geographic divi- sion and State.	tion Jan. 1, 1924.	19111	Aver age 1918- 1922. (²)	1911 per capita basis.	Average 1918- 1922 per capita basis.	seed re- quire- ments. (3)	food and feed	1918- 1922 food and feed basis. plus seed,	pro- duc- tion esti- mate.	1923 1911 per capita basis.	Average, 1918-1922 per capita basis.
				1,000	1,000	1,000	1.000	1,000	1,000	1,000	1,000
New England:		Bu.	Bu.	bush.	bush.	bush.	bush.	bush.	bush.	bushels.	bushels.
Maine	778, 579	4.7	4.2	3,659	3, 270	20	3,679	3, 290	156	$\begin{bmatrix} -3,523 \\ -2,241 \end{bmatrix}$	- 3, 134 - 2, 017 - 1, 647
New Hampshire. Vermont		5. 0 5. 4	4.5	2, 241 1, 930	2,017 1,715		2, 241 1, 946	2,017 1,731	84	- 2, 241 - 1, 862 - 20, 263	- 2,017
Massachusetts	4, 052, 572	5. 0	4.5	20, 263	18, 237	16	20, 263	18, 237	84	-20, 263	-1, 047 -18, 237
Rhode Island	629, 854	4. 3	3. 8	2,708	2, 393		2, 708	2, 393		<b>– 2,</b> 708	- 2,393
Connecticut		4.5	4.0	6,706	5, 961		6,706	5, 961		- 6,706	-5,961
Middle Atlantic:	10.000 170				•						
New York		54	4.8	58, 909	52, 364	845		53, 209	8, 159	<b>-51</b> , 595	-45,050
New Jersey Pennsylvania	3, 410, 829 9, 154, 657		4. 5 5. 2	17, 054 53, 097	15, 349 47, 604	126 2, 381		15, 475 49, 985	1, 480 24, 338	-15,700 $-31,140$	-13,995 -25,647
E. North Central:	1	J. 0	0. 2	35, 051	11,001	2, 551	00, 210	10,000	24, 000	-01, 140	-20,011
Ohio Indiana Illinois Michigan	6, 168, 227	6. 2	5. 5	38, 243	33, 925	4, 213	42, 456	38, 138	42, 783	+ 327	+4,645
Indiana	3, 024, 955	5.7	5. 1	17, 242 38, 271	15, 427	2,770	20,012	18, 197	34, 248	+14,236	+16,051
Michigan	6,834,129	5.6	5. 0 4. 5	38, 271	34, 171	3,814		37, 985	62, 506	+20,421	+24,521 $-3,171$
Wisconsin	6,834,129 4,022,021 2,754,932	5.0	4.6	20, 110 14, 326	18, 099 12, 673	1,648 237	21, 758 14, 563	19, 747 12, 910	16, 576 1, 970	- 5, 182 -12, 593	
W. North Central:	1 1			11,020	12, 0,0					12,000	
Minnesota		7. 2	5.4	18, 111	16, 099	2, 469	20, 580 14, 190	18, 568 12, 703	20, 785 14, 352	$+\  \   \begin{array}{rr} +\  \   205 \\ +\  \   162 \end{array}$	+2,217 $+1,649$
Iowa Missouri	2, 477, 874	5. 3	4.7	13, 133 17, 938	11,646	1,057	14, 190	12, 703	14, 352	+ 162	+1,649
North Dakota	3, 449, 673 675 627	5. 2 7. 2	4. 6 6. 4	17, 938 4, 865	15, 868 4, 324	3, 107 10, 737	21, 045 15, 602	18, 975 15, <b>06</b> 1	37, 947 58, 660	+16,902 $+43,058$	+18,972 +43,599
South Dakota	658, 244	6.5	5.8	4, 279	3, 818	3, 820	8, 099	7, 638	26, 906	+18, 807	+19,268
Nebraska		5.8	5. 2	4, 279 7, 768	6, 964	3, 928	11,696	10, 892	31, 388	+19,692	+20.496
Kansas			5. 2	10, 449	9, 368	11,712	22, 161	21,080	83, 804	+61,643	+62,724
South Atlantic:	001 504	- 0		1 150	1 040	000	1 000	1 050	1 000		1 650
Delaware Maryland	231, 524 1, 513, 242	5. 0 5. 0	4.5	1, 158 7, 566	1, 042 6, 810	208 815	1,366 8,381	1, 250 7, 625	1, 908 10, 426	+ 542 $+$ 2,045	+ 658 $+$ 2,801
District of Co-	1,010,212	0.0		.,,,,,,	0, 310	010	0,001		1		
lumbia	444, 017	5.3	4.7	2, 353	2, 087		2, 353	2, 087	11, 145	- 2,353 - 789	<b>- 2,087</b>
Virginia	2, 411, 192	4.5	4.0	10, 850	9, 645	1,084	11, 934	10, 729	.11, 145	- 789	+ 416
West Virginia North Carolina	1, 563, 650	5. 7 4. 5	5. 1 4. 0	8, 913	7, 975 10, 818	323 756	9, 236		2, 964 6, 038	- 6, 272 - 6, 888	- 5, 334 - 5, 536
South Carolina.	2, 704, 497 1, 753, 077	4.3	3.8	7, 538	6, 662	238	7, 776	6, 900	1, 925	<b>–</b> 5, 851	<b>- 4,</b> 975
Georgia	3, 013, 961	4.0	3. 6	12,056	10, 850	251	12, 307	11, 101 4, 230	1, 925 1, 7 <b>39</b>	-10,568	- 9, 360 - 4, 230
Florida	1,057,403	4.5	4.0	12, 170 7, 538 12, 056 4, 758	4, 230		12, 926 7, 776 12, 307 4, 758	4, 230		-10, 568 - 4, 758	<b>- 4, 230</b>
E. South Central:	0 400 040	4 - 1	4.0		- 1	77.47	11, 857	10, 622	7, 688	4 100	- 2,934
Kentucky Tennessee	2, 468, 843	4.5	3. 7	11, 110	9,875	747 454	10 208	9, 338	4, 508	- 4, 109 - 5 790	- 4 830
Alabama	2, 400, 962 2, 434, 731	4.0	3.6	9, 844 9, 739	8, 884 8, 765	56	10, 298 9, 795	8, 821	200	- 4, 169 - 5, 790 - 9, 595	- 4,830 - 8,621
Mississippi	1,816,021	4.0	3.6	7, 264	6, 538	10	7, 274	6, 548	60	- 7, 214	<b>- 6,488</b>
W. South Central:	7 007 441			# 000	0.550	00	F 403	0.071		0.001	
Arkansas	1, 825, 441 1, 857, 066	4.0	3. 6 4. 0	7, 302 8, 357	6, 572	99	7, 401 8, 357	6, 671 7, 428	770	- 6, 631 - 8, 357	- 5, 901 - 7, 428
Louisiana Oklahoma	2, 181, 194	6.0	5.4	13, 087	7, 428 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:				1							
Montana	620, 101	5.8	5.2	3, 597	3, 225	4,609	8, 206 4, 324	7, 834 3, 991	52 <b>, 486</b> 30 <b>,</b> 115	+44, 280	+44,652
Idaho	475, 651 214, 358	6.5	5.8	3,092 1,350	2, 759 1, 200	1, 232 276	1, 626	1, 476	2, 785	+25,791 +1,159	+26,124 $+1,309$
Colorado	997, 561	6. 0	5. 4	5, 985	5, 387	2, 530	8, 515	7.91/1	18,000	+ 1, 159 + 9, 485	+10,083
New Mexico	373, 967	7. 9	7. 1	2,954	2, 655	122	3, 076	2, 777 2, 538	1,300	- 1,776 - 1,756	- 1, 477 - 1, 446
Arizona	387, 645		6.4	2, 791 2, 932	2, 655 2, 481 2, 596	57	2,848	2, 538	1,092	<b>- 1,756</b>	- 1,446
Utah Nevada	480, 729 78, 544	6. 1 6. 1	5.4	2, 932 479	2, 596 424	433 32	3, 365 511	3, 029 456	6, 566 507	+ 3, 201	+ 3,537 + 51
Pacific:		٠. ١	~ <del>-</del>				1	- 1		3	1 01
Washington	1, 445, 054	6.0	5. 4	8,670	7, 803	2, 987	11,657	10, 790	61,743	+50,086 +20,048	+50,953
Oregon	828, 967	6. 1	5. 4	5, 057	4, 476	1, 702	11, 657 6, 759	6, 178	26, 807	+20,048	+20,629
Oregon California United States	3, 859, 194	5. 6	5. U	21,011	19, 290	79 440	22, 831	20, 310	10, 104	- 0,0/4	170,049
Onited States	111, 3/1, 056	<b>5.</b> 31	4. 74 5	90, 1126	21, 403	18, 440	909, Z1Zit	100, 893	50, /41 -	T110, 529 -	T119, 848

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in that State.

<sup>&</sup>lt;sup>1</sup>The consumption figures in this column were obtained by a survey in 1911 by the Bureau of Crop Estimates.

<sup>\*</sup>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.

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. The rate of seeding in each State was applied to the acreage in that State was applied to the acreage

Table 22.—Wheat: Visible supply in the United States, 1889-1923.

Year begin- ning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.
1889-90 1890-91 1891-92 1892-93 1893-94	20, 174 12, 583 24, 262		1,000 bush. 14,386 17,640 19,124 36,260 56,881	17, 059 27, 895 47, 901	36, 232 61, 694	24, 529 43, 265 72, 586	1,000 bush. 33,756 25,603 45,908 81,238 80,228	1,000 bush. 31, 489 23, 592 43, 118 81, 390 79, 893	22, 926 41, 111 79, 088	22, 484 41, 636 77, 654	1,000 bush. 23, 457 20, 980 37, 936 75, 027 66, 583	17, 493 27, 910 71, 080
1894-95 1895-96 1896-97 1897-98	44, 561 47, 199	38, 517 46, 754	66, 949 35, 438 45, 574 14, 817 7, 147	40, 768 50, 116 21, 104	52, 990 58, 680 26, 974	63, 903 58, 914 34, 845	69, 842 54, 651 38, 816	83, 376 66, 734 49, 591 36, 602 28, 984	64, 089 43, 797 34, 088	60, 322	62, 196 55, 519 34, 412 23, 263 28, 144	52, 229 50, 340 26, 897 22, 587 26, 185
1899-1960 1900-1 1901-2 1902-3 1903-4	46, 442 30, 793 19, 760	30,369 21,972	34, 768 50, 294 27, 790 20, 966 13, 203	55, 409 35, 304	60, 032 41, 192 32, 200	62, 179 52, 396 45, 082		57, 929 48, 447	54, 084 57, 234 54, 093 47, 807 35, 599	54, 749 49, 615 41, 958	52, 472 46, 668 38, 328 33, 456 30, 357	44, 704 36, 932 28, 604 24, 528 20, 603
1904-5. 1905-€. 1906-7. 1907-8. 1908-9.	14, 274 25, 892	13, 093 13, 354 29, 684 48, 318 16, 174	12, 814 12, 140 30, 054 49, 459 16, 297	17, 896 33, 352 43, 750		36, 943 41, 557 43, 477	40, 619 42, 951 44, 727 48, 481 51, 759	44, 857	47, 283 44, 884 42, 906	46, 468 47, 208 38, 798	28, 529 41, 221 51, 909 30, 318 29, 625	30, 811 49, 729 22, 818
1909-10 1910-11 1911-12 1912-13 1913-14	9, 756 12, 034 23, 863 23, 350 30, 163	7, 609 12, 375 41, 316 18, 841 37, 677	9, 166 26, 457 48, 057 19, 586 44, 530	34, 969 52, 709		42, 989 69, 948 55, 400	27, 738 44, 282 70, 489 65, 342 63, 743	26, 463 43, 251 60, 425 64, 913 60, 868	25, 515 39, 868 57, 080 63, 786 57, 021	29, 013 34, 152 51, 042 58, 996 51, 862	26, 228 27, 605 41, 722 47, 157 43, 378	18, 647 26, 838 30, 847 37, 940 29, 775
Av. 1909-1913	19, 833	23, 564	29, 559	38, 168	45, 827	51, 658	54, 319	51, 172	48, 654	45, 013	37, 218	28, 809
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	7, 948 42, 628 14, 209	29, 744 6, 582 40, 889 5, 819 17, 155 20, 903 17, 487	31, 534 7, 767 54, 660 5, 058 48, 821 56, 828 20, 758	57, 418 7, 789 90, 623	22, 639 60, 703 14, 908 122, 604 96, 352	48, 797 62, 026 21, 031 121, 561 89, 742	67, 311 59, 534 18, 936 119, 711 75, 363	60, 252 68, 458 48, 721 13, 869 130, 613 60, 359 34, 212	49, 686 63, 553 44, 916 9, 739 118, 219 50, 875 28, 159	39, 323 57, 387 39, 317 5, 381 92, 546 44, 787 18, 463	26, 439, 48, 864, 25, 756, 2, 194, 49, 502, 42, 784, 13, 448,	44, 463 28, 896 1, 146
Av. 1914-1920	15, 328	19, 797	32, 204	47, 945	59, 804	65, 767	65, 254	59, 498	52, 164	42, 458	29, 855	23, 246
1921-22 1922-23 1923-24	8, 061 17, 773 26, 312	24, 658 19, 667 36, 693	38, 741 27, 349 56, 541	52, 795 32, 354 63, 932	32, 278	47, 763 33, 428 71, 808	49, 468 37, 673	42, 280 46, 776	40, 055 47, 507		31, 281 44, 521	32, 981
	<u> </u>								<del></del>			

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. 

From 1889 to November 28, 1908 stocks at the principal points in Canada were included. The Chicago Board of Trade "visible" 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.

From the Chicago Daily Trade Bulletin.

1909-10	12, 771 16, 396 29, 639 27, 615 34, 420	17, 053 46, 389 23, 595	38, 352 54, 581 26, 862	48, 437 61, 500 40, 998	53, 420 73, 792 52, 494	57,002 81,215 67,575	37, 949 59, 369 81, 501 77, 471 74, 854	56, 357 70, 748 76, 131	50, 566 66, 982 73, 895	42, 697 59, 826	48, 022° 33 53, 508° 43	2, 769 5, 994 3, 697
Av. 1909–1913.	24, 168	28, 569	37, 458	48, 202	56, 838	63, 908	66, 229	62, 228	58, 419	53, 802	<b>43,</b> 857 34	4, 183
1914-15	17, 136 10, 734 50, 515 19, 901 2, 465 10, 873 23, 404	9, 361 49, 591 11, 692 20, 462 25, 968	12, 679 65, 754 10, 315 54, 236 65, 479	22, 498 70, 420 13, 072 98, 155 95,550	33, 338 75, 455 22, 855 131, 852 107, 783	60, 678 76, 191 29, 633 131, 584	73, 584 26, 476 129, 627 85, 117	77, 834 59, 477 20, 436 140, 607 68, 494	73, 748 54, 160 15, 484 127, 207 58, 632	66, 691 48, 525 10, 180 100, 505 51, 909	57, 658, 52 32, 831 34 6, 656, 4	2, 512 4, 876 4, 379 7, 626 1, 233
Av. 1914–1920_	19, 290	24, 822	38, 946	56,235	69,877	76, 250	75, 530	69, 586	60, 014	49, 475	35, 591 2	7, 728
1921-22 1922-23 1923-24	9, 966 20, 342 29, 403	23, 077	32,479	38, 025	39,023	53, 507 39, 764 82, 269	43, 856	48, 802 53, 823		42, 287 51, 862		1, 497 7, 203

Compiled from Bradstreet's. Includes grain stored at approximately fifty interior and seaboard points of accumulation and grain in transit by canals and lakes; also Pacific Coast stocks at Portland, Tacoma and Seattle. Reported on the Saturday nearest the first of the month.

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Table 23.—Wheat, flour included: "World" visible supply 1st of each month, 1892-1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.
	1,000 bush	1,000 bush.	1,000 bush.	1,000 bush	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1.000 bush.
1892-93			145 738	166 331	196 271	231 575	237 420	234, 223	220 383	221 606	215 500	205 020
	183 744	178 073	183 845	195 713	220 724	235 389	232 065	232 078	222, 301	216 545	200 014	195, 763
1894-95	173 012	174 492	189 549	205, 151	220, 788	218 857	202,000	223, 496	212, 001	100 047	100, 914	193, 703
1895-96	160 331	158 043	152 268	176 638	200, 858	218 787	224 708	200, 100	101 997	190, 017	160, 525	147, 563
1896-97	136, 456	124, 293	126, 487	152, 972	190, 761	202, 330	184, 618	173, 498	135. 505	139, 011	121, 490	107, 338
1897-98	88. 740	77, 900	87 073	110 635	130 313	156, 516	157, 009	152, 042	140 571	132 038	111 220	100 845
1898-99	86, 774	70, 103	66, 511	83, 090	106, 886	135, 852	147, 197	145, 629	151, 124	144, 928	139 909	136 952
	140, 300	134, 975	142, 577	162, 877	191, 191	203, 478	200, 306	189, 356	181, 607	184 141	175 766	157 709
19001	149, 841	150, 193	164, 629	188, 200	200, 715	203, 237	211.064	201, 161	204 353	197 013	135 436	160 408
1901-2	142, 417	138, 201	146, 030	165, 149	177, 395	210, 024	208, 598	210, 494	199, 700	183, 323	158, 732	133, 173
1902-3	105, 827	94, 973	103, 484	135, 540	174, 035	185, 729	175 <b>. 4</b> 82	173, 678	170, 558	155, 562	135, 126	120, 373
1903-4	103, 531	93, 266	103, 837	140, 934	164, 389	174, 085	178, 274	169, 718	163, 361	157, 453	154, 537	142, 706
1904-5	123, 327	111, 152	124, 977	156, 869	185, 161	199, 881	189, 216	179, 478	181, 576	172, 938	155, 655	135, 811
1905-6	126, 610	115, 534	122, 394	150, 015	170, 679	201, 855	205, 909	203, 769	208, 704	197, 495	172, 840	151, 119
1906-7	133, 702	131, 789	146, 473	182, 924 <sup>1</sup>	207, 959	219, 048	220, 457	208, 662	214, 710 <sup> </sup>	207, 620	209, 048	190, 351
1907-8	164, 849	155, 351	161, 038	163, 814	181, 549	181, 342	181, 938	186, 004	193, 837	189, 089	162, 620	128,899
1908-9	99, 331	97, 821	108, 430	149, 789	176, 246	182, 040	181, 147	177, 651	180, 377	1 <b>70, 5</b> 85	136, 844	116, 695
1909-10	90, 470	79, 383	93, 783	139, 286	176, 969	184, 689	177. 881	184, 193	201, 836	202, 430	179, 003	156, 841
								236, 025				
1911-12:	151, 664	164, 547!	172, 913	191, 474	227, 7 <b>8</b> 9	<b>240, 490</b>	243, 399	229, 099	<b>190, 189</b> ;	<b>234,</b> 157	214, 721	187. 416
1912-13	152, 266	129, 007	132, 385	165, 377 :	213, 026	<b>2</b> 39, 736	245, 099	251, 665	273, 077	<b>207, 5</b> 02:	224, 642	138, 773
1913–14	158, 376	148, 710	164, 764	162, 378	228, 792	242, 587	<b>2</b> 52. <b>6</b> 32	261, 961	259, 062	243, 976	159, 524	129, 219
Av., 1909-1913	134, 344	126, 532	144. 649	174, 608	216, 827	229, 022	230. 614	232, 589	231, 935	222, 990	<b>194, 3</b> 75	157. 018
1914-15 1	130, 878	144, 884	147, 713	204. 743	234, 041	242, 226	242 915	218, 723	216, 730	203 805	184 692	152 977
1915-16	118, 046	93, 401	93, 972	127, 207	200, 565	246, 005	291, 145	319, 341	281, 758	356, 797	326, 411	314.096
1916-17	280, 461	249, 909	249, 539	251, 204	276, 715	292, 596	315, 880	308, 490	288, 093	269, 031	291, 164	236, 985
								255, 882				
191819	252, 890	267, 097 <sup>1</sup> :	329, 364	383, 689 ·	190, 099	439, 052	442, 932	474. 609	153, 996	414, 270	363, 423	319, 115
1919-20												
1920-21												
Av.,1914-1920	210, 833	211, 126	222, 052	252, 385	294, 172	298, 734	301. 842	301, 220	93, 689	297, 866	274, 934	247, 779
1921-22	62 069	164 277	206 739	991 740	254 692	247 265	222 112	219 100	779 (191	260 240	202 400	100 122
1921-22	141 002	104 201	196 607	178 575 C	244 250	621,0001. 900 2261	201 120	212, 190.2	141 045	210 172	272 060	190, 133
1923-24	171, 900	161 9701	61 016	110,0154 914 511 0	712	212 996	301, 138	31, 339	71, 240	110, 1/3	213,002	200, 912
1040-44	111, 990	101, 210	101, 910	614, 011	. 11, 113	010, 220			· ·	•••••		
			J			1	1		- 1			

Division of Statistical and Historical Research. Compiled from Bartels Red Book and Chicago Daily Trade Bulletin. Includes "afloat" for United Kingdom, for Continent, and for orders; "in store" in United Kingdom, France, Germany, Belgium, Holland, Russia, Canada, and United States, 1892, through December, 1900. Argentina added in January, 1901; Australia in March, 1905. Beginning with March, 1916, France, Germany, Belgium, Holland, and Russia omitted.

Table 24.—Wheat crop classified by grades, crops of 1921-1923.

SPRING WHEAT.

State.		No.	t.		No.	2.		No.	3.		No. 4	1.	)	No. 5	5.		Belov No. 5	
	192	1922	1923	192	192	2 1923	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923
South Dakota Nebraska	5, 6 14, 0 15, 7 11, 2	49. 4 53. 5 51. 8	14. 7 10. 5 6. 2 4. 0	12. 3 22. 2 22. 3 29. 6	24. 26. 25.	2 22. 1 18. 9 2 17. 7 3 14. 4	30. 9 29. 7 30. 5 26. 9	14. 5 12. 9 15. 3 37. 7	P.ct 28. 0 29. 4 30. 9 19. 0 12. 1	28. 9 20. 5 17. 0 17. 4	7.7 4.8 5.6 9.9	18. 5 22. 7 23. 9 26. 8	17. 0 10. 0 9. 9 9. 4	3.1 1.9 1.7 3.0	11. 8 12. 1 14. 9 18. 7	5. 3 3. 6 4. 2 5. 5	1. 1 . 5 . 4 1. 5	4. 9 6. 4 6. 4 17. 1
Utah Idaho Washington Oregon	33. 6 37. 3 22. 0 50. 0	31. 0 35. 5 7. 2 27. 6	27, 2 37, 6 39, 2 60, 6	40. 1 41. 5 44. 2 37. 6	44. 9 49. 29. 6 38. 3	48. 2 43. 1 44. 2 26. 9	17. 1 13. 5 25. 9 9. 6	18. 3 10. 9 30. 7 23. 2	18. 0 17. 3 14. 3 12. 4 9. 3	5. 6 3. 8 5. 9 2. 3	4. 3 2. 0 20. 0 6. 2	5. 9 2. 3 3. 3 2. 1	3. 4 2. 7 1. 2 . 5	1.1 .9 9.2 2.5	1.0 1.0 .4 .5	1. 2 1. 2 . 8	1. 0 3. 3 2. 0	1.7 2.5

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<sup>&</sup>lt;sup>1</sup> Australia not included February, 1914, to January, 1915.

<sup>&</sup>lt;sup>1</sup> Based on percentage estimates of about 3,500 mill and elevator operators.

Table 24.—Wheat crop classified by grades, crops of 1921-1923—Continued. WINTER WHEAT.

State.		<b>N</b> o. 1	۱.	:	No. :	2.	]	No. 8	3.	1	No. 4	ł.	1	No. 5	<b>5.</b>		Belov No. 5	
, , , , , , , , , , , , , , , , , , ,	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923	1921	1922	1923	1 <b>9</b> 21	1922	1923
Pennsylvania Maryland Virginia North Carolina Ohio Indiana	13. 6 12. 3 12. 2 16. 2	16. 4	20. 0 14. 0 9. 0 32. 0 21. 0	48. 4 48. 6 39. 8 49. 8	53. 1 49. 5 31. 5 44. 7 50. 3	56. 0 55. 0 68. 0 49. 0 51. 0	25. 4 27. 5 25. 5 19. 3  33. 2	23. 2 26. 4 25. 9 31. 4 26. 0 25. 9	22. 0 21. 0 17. 0 15. 0 20. 0	7. 6 8. 1 14. 2 9. 8  13. 1 14. 4	3. 7 7. 7 17. 5 11. 2 6. 2 9. 2 9. 6	2. 0 7. 0 4. 0 2. 0 6. 0	2. 7 2. 3 5. 5 3. 3  4. 2 4. 9	1. 6 2. 3 9. 2 3. 7 . 5 3. 1 2. 6	1. 0 1. 0 1. 0 1. 0	2. 3 1. 2 2. 8 1. 6	1. 1 1. 6 13. 4 1. 3 5. 2 1. 3	1. 0 1. 0 1. 0 1. 0
Illinois Michigan Iowa	8.3 12.6	10.5 $22.7$	17. 0 25. 0	43. 9 49. 3	43. 2 54. 1	55. 0 59. 0	29. 4 26. 3	27.8 15.5	19. 0 11. 0	12. 9 8. 2	13. 0 4. 9	6. 0 3. 0	3. 5 2. 5	4. 1 1. 5	2. 0 1. 0	2. 0 1. 1	1.4 1.3	1. 0 1. 0
Missouri Nebraska Kansas Kentucky Tennessee	23. 4 24. 2	6. 2 13. 1 6. 4 3. 0 4. 2	6. 0 11. 0 8 0	47. 0 39. 9 35. 2	45. 7 29. 0	31. 0 30. 0 56. 0	21. 8 21. 5 35. 6	25. 4 34. 7 30. 5	34. 0 30. 0 23. 0	5. 9 9. 8 16. 9	10. 9 19. 0 23. 2	19. 0 18. 0 9. 0	1. 6 3. 3 6. 3	3.8 7.8 11.4	7. 0 8. 0 2. 0	. 3 1. 3 1. 7	1. 1 3. 1 7. 7	3. 0 3. 0 2. 0
Oklahoma	9. 2 68. 1	79. 1 26. 1	54. 0 81. 0 21. 0	34. 7 20. 6	21. 0 15. 6 40. 0	21. 0 15. 0 40. 0	34. 2 8. 7	27. 3 4. 1 21. 4	12. 0 3. 0 23. 0	14. 0 1. 6	23. 3 . 8 7. 1	7. 0 1. 0 8. 0	5. 7 . 5	11. 5 . 4 3. 6	4. 0 0 3. 0	2. 2 . 5	1.8	2. 0 0 5. 0
Idaho	36. 9	8. 9	$\frac{41.0}{47.0}$	45. 4	44. 5	41. 0	14. 3	31. 1 18. 0	15. 0 13. 0	3.0	11. 3 6. 0	2.0	. 9	2. 7 1. 0	1.0	. 1	1.0	0
United States	19. 7	13. 3	20.8	39. 9	38. 0	<b>42</b> . 8	25. 1	27. 6	21. 7	10. 2	13. 1	9. 2	3. 5	5. 2	3.7	1.6	2.8	1.8

Table 25.—Dockage assessed on wheat at Minnesota markets, 1899-1922.

Year beginning Sept. 1.	Number of cars on which dockage is as- sessed.	Amount of wheat in cars.1	Amount of dockage assessed. <sup>2</sup>	Per- cent- age of dock- age as- sessed.	Year beginning Sept. 1.	Number of cars on which dockage is as- sessed.	Amount of wheat in cars.1	Amount of dockage assessed.2	Per- cent- age of dock- age as- sessed.
1899-1900 1900-1 1901-2 1902-3 1903-4 1904-5 1906-7 1907-8 1908-9 1909-10 1910-11	Cars. 163, 824 111, 742 129, 154 111, 015 109, 160 140, 546 134, 298 95, 917 117, 909 91, 995	145, 264, 600 -167, 900, 200 144, 319, 500 141, 908, 000 182, 709, 800 174, 587, 400 124, 692, 100 153, 281, 700 195, 908, 700	3, 558, 982. 7	2. 4 	1911-12 - 1912-13 - 1913-14 - 1914-15 - 1915-16 - 1916-17 - 1917-18 - 1918-19 - 1920-21 - 1920-21 - 1921-22 -	182, 800 137, 483	178, 727, 900 164, 966, 100 284, 914, 500 123, 424, 600 115, 479, 000 204, 687, 600 111, 354, 100 166, 368, 800 139, 687, 600	6, 495, 493. 3 6, 553, 356. 3 5, 911, 285. 10, 826, 751. 0 5, 986, 093. 1 4, 041, 765. 0 4, 776, 044. 0 5, 010, 934. 5 7, 486, 596. 0 5, 343, 050. 7	2.7 3.7 3.6 3.8 4.8 3.5 2.3 4.5 4.5 3.8

Division of Statistical and Historical Research. Compiled from Minnesota State Grain Inspection Department data.

<sup>&</sup>lt;sup>1</sup> Based on percentage estimates of about 3,500 mill and elevator operators.

<sup>1</sup> Based on 1,300 bushels to the car.

<sup>&</sup>lt;sup>2</sup> Based on 60 pounds to bushel.

Table 26.—Wheat: Classification of cars graded by licensed inspectors, all inspection points.

				Total of a	ıll classes a	nd subclas	ses under e	each grade	, annual in	spections 1	917-1922.				
Year beginning July 1.	***************************************		I	Receipts.	***************************************				<del></del>		Shipments	3.			
	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 1918-19 1919-20 1920-21 1921-22 1921-22	Cars. 60, 848 300, 264 45, 427 153, 069 91, 844 138, 020	Cars. 91, 143 203, 965 192, 003 241, 339 269, 250 210, 527	Cars. 59, 421 63, 827 187, 533 124, 184 147, 537 131, 368	Cars. 23, 435 26, 660 101, 279 49, 703 51, 763 48, 466	Cars. 15, 766 10, 017 49, 423 38, 367 27, 690 15, 626	Cars. 15, 402 18, 247 28, 799 49, 675 59, 290 38, 998	Cars. 266, 015 622, 980 604, 464 656, 337 647, 374 583, 005	Cars. 17, 926 246, 577 16, 602 44, 837 21, 414 28, 387	Cars. 26, 559 87, 173 143, 770 268, 752 255, 512 226, 008	Cars. 17, 833 14, 106 86, 744 44, 407 34, 243 37, 610	Cars. 6, 503 4, 496 18, 460 9, 889 7, 864 6, 421	Cars. 4, 299 1, 519 6, 335 8, 930 4, 753 2, 823	Cars. 3, 625 3, 181 4, 648 7, 724 11, 662 6, 495	Cars. 76, 745 357, 052 276, 559 384, 539 335, 448 307, 744	
Class.		Total inspections, by grade and class, July 1, 1922, to June 30, 1923.													
Hard Red Spring Durum Hard Red Winter Soft Red Winter White Wheat Mixed	85, 187 9, 776 21, 302 2, 779 5, 695 13, 281	21, 703 28, 983 94, 155 22, 965 10, 860 31, 861	11, 584 9, 213 66, 412 22, 224 6, 416 15, 509	5, 380 4, 646 20, 271 9, 621 1, 786 6, 762	2, 276 1, 290 6, 282 2, 962 406 2, 410	1, 324 1, 016 19, 087 12, 231 353 4, 987	127, 454 54, 924 227, 509 72, 782 25, 516 74, 810	20, 067 2, 076 4, 189 608 319 1, 128	14, 753 26, 660 103, 827 28, 511 11, 319 40, 938	2, 189 1, 534 21, 673 8, 523 516 3, 175	641 710 2, 513 1, 413 4 1, 140	265 233 1, 021 698 2 604	288 162 3,077 1,434 2 1,532	38, 203 31, 375 136, 300 41, 187 12, 162 48, 517	
Year beginning July 1.				Total of a	ll classes a	nd subclas	ses under	each grade	, annual in	spections 1	1917-1922.	<b>'</b>	<u> </u>		
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	Per cent. 22. 9 48. 2 7. 5 23. 3 14. 2 23. 7	Per cent. 34. 3 32. 7 31. 8 36. 8 41. 6 36. 1	Per cent. 22. 3 10. 2 31. 0 18. 9 22. 8 22. 5	Per cent. 8.8 4.3 16.7 7.6 8.0 8.3	Per cent. 5. 9 1. 6 8. 2 5. 8 4. 3 2. 7	Per cent. 5.8 3.0 4.8 7.6 9.1 6.7	Per cent. 100 100 100 100 100 100 100	Per cent. 23. 4 69. 1 6. 0 11. 7 6. 4 9. 2	Per cent. 34. 6 24. 4 52. 0 69. 9 76. 2 73. 5	Per cent. 23. 2 3. 9 31. 3 11. 5 10. 2 12. 2	Per cent. 8.5 1.3 6.7 2.6 2.3 2.1	Per cent. 5.6 0.4 2.3 2.3 1.4 0.9	Per cent. 4.7 0.9 1.7 2.0 3.5 2.1	Per cent. 100 100 100 100 100 100 100	
Class.				Т	otal inspec	tions, by g	rade and c	lass, July 1	; 1922, to J	une 30, 192	3.		<u> </u>	<u> </u>	
Hard Red Spring. Durum. Hard Red Winter. Soft Red Winter White Wheat Mixed.	17.8	17. 0 52. 8 41. 4 31. 6 42. 6 42. 6	9. 1 16. 8 29. 2 30. 5 25. 1 20. 7	4. 2 8. 5 8. 9 13. 2 7. 0 9. 0	1. 8 2. 3 2. 7 4. 1 1. 6 3. 2	1. 1 1. 8 8. 4 16. 8 1. 4 6. 7	100 100 100 100 100 100	52. 5 6. 6 3. 1 1. 5 2. 6 2. 3	38. 6 85. 0 76. 2 69. 2 93. 1 84. 4	5. 7 4. 9 15. 9 20. 7 4. 3 6. 5	1.7 2.3 1.8 3.4	0. 7 0. 7 0. 7 1. 7	0.8 0.5 2.3 3.5	100 100 100 100 100 100	

Table 27.—Wheat: Exports from United States, 1910-1924. FLOUR INCLUDED.

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
1909–10	bush. 4, 629 3, 130 6, 275	bush. 8, 835 4, 948 10, 177	12, 472 6, 186 10, 700	bush. 13,898 7,450 8,820	bush. 12, 996 6, 753 6, 574	bush. 9, 126 8, 044 7, 980	bush. 4, 973 7, 000 5, 814	bush. 3, 527 5, 129 5, 033	3, 737 5, 618 5, 852	5, 330 5, 244 4, 923	bush. 4,977 5,853 4,388	bush. 2, 864 3, 960 3, 146	79, 682
	12, 968	8, 910 <b>28, 34</b> 6	17, 510	13, 113	9, 616	10, 6 <b>2</b> 3	9, 706	7,556	6, 954	10, 820 7, <b>04</b> 0			142, 867 145, 593
Average 1910-1914.													104, 964
1914-15 1915-16 1916-17 1917-18	11, 556 10, 585 8, 420	21, 612 14, 921 9, 738	25, 230 18, 162 7, 180	23, 768 16, 130 11, 522	19, 264 19, 004 10, 616	20, 418 18, 690 15, 3 <b>0</b> 0	20,895 24,004 12,448	21, 066 13, 561 10, 494	24, 071 12, 439 12, 209	22, 424 18, 504 12, 364	20, 592 16, 219 10, 914	12, 223 21, 357 11, 375	243, 119 203, 576 132, 580
1918-19 1919-20	11, 156	20, 212	25, 340 25, 028	24, 532 90 077	21, 991 23 308	35, 540 15 498	12 274	10 581	20, 315 16 880	31, 130 13, 720	26, 304 25, 890	32, 008 21, 752	207, 400
1920-21	34, 656	32, 676	34, 996	43, 034	30, 990	30, 187	27, 105	23, 077	20, 766	24, 800	31, 624	32, 192	366, 103
Average 1915-1921													
1921-22 1922-23 <sup>1</sup> 1923-24 <sup>1</sup>	19, 124	38, 964	31,839	25, 077	17, 579	16, 428	12, 519	12, 197	10, 725	10, 195	14, 267 14, 396	18, 200 12, 881	279, 169 221, 906
,			F	LOUI	RNOT	INC	LUDE	ED.					
1909-10 1910-11• 1911-12 1912-13 1913-14	862 3, 260 535	6, 157 2, 131 6, 253 5, 800 24, 346	2, 226 5, 088 13, 153	3, 261 3, 350 15, 255	2, 505 2, 299 10, 584	3, 469 3, 084 9, 490	2, 802 2, 043 8, 441	1, 244	1, 883 1, 352 4, 569	1,315 1,386	1, 371 603 7, 159	617 199	30, 161 91, 594
Average 1910-1914_	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
1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Average 1915-1921	7, 956 6, 355 5, 059 225 5, 834 23, 838 10, 803	16, 838 11, 060 5, 170 15, 120 12, 941 27, 694 16, 166 58, 537	21, 526 13, 108 2, 613 26, 848 17, 090 30, 771 19, 689 30, 842	18, 040 11, 985 5, 415 21, 319 13, 687 35, 803 17, 975 18, 206	13, 500 14, 279 4, 878 16, 087 15, 116 26, 035 15, 582 13, 955	12, 624 14, 473 4, 491 25, 084 9, 520 25, 903 17, 282 10, 451	13, 461 18, 906 1, 914 9, 943 8, 480 21, 345 14, 008	15, 054 10, 384 1, 048 5, 992 4, 938 18, 469 11, 474 5, 577	17, 294 7, 885 1, 688 10, 208 6, 939 14, 601 11, 308 7, 645	16, 506 14, 233 1, 024 17, 338 4, 176 17, 641 13, 382 4, 856	14, 571 11, 359 353 14, 028 10, 864 25, 932 13, 048 9, 366	5, 905 15, 804 467 16, 390 12, 846 25, 235 12, 292 14, 006	149, 831 34, 120 178, 582 122, 431 293, 267 173, 010 208, 321
1922-23 <sup>1</sup> 1923-24 <sup>1</sup>	14, 979 8, 843	33, 703 14, 198	25, 987 15, 408	18, 282 9, 239	10, 577 4, 148	9, 676 4, 941	7, 296	5, 991	4, 291	4, 943	9, 973	9, 252	154, 950

Division of Statistical and Historical Research. Compiled from Monthly Summary of Foreign Commerce, Bureau of Foreign and Domestic Commerce.

Preliminary.

Table 28.—Wheat: Production and exports; inspection for export, by classes, July 1, 1920-December 31, 1923; and production, 1920-1923.

	July 1, June 30	1920, to 0, 1921.	July 1, June 3	1921, to 0, 1922.	July 1, June 3	1922, to 0, 1923.	July 1, June 30	1920, to , 1923. <sup>1</sup>		1923, to 1, 1923.
Class.	Esti- mated produc- tion. 2	Ex- ports, gross.	Esti- mated produc- tion. <sup>2</sup>	Ex- ports, gross.	Esti- mated produc- tion. <sup>2</sup>	Ex- ports, gross.	Esti- mated produc- tion. <sup>2</sup>	Ex- ports, gross.	Esti- mated produc- tion. <sup>2</sup>	Ex- ports, six months.
Reported inspec- tions: Hard red spring Durum Hard red winter Soft red winter White Mixed Type-sample 4 Not classified Total	1,000 bushels. 153, 878 41, 954 294, 536 247, 102 95, 557		53, 324 276, 629 257, 818 107, 571	8, 697 78, 477 18, 998 758 18, 963 42, 894 90, 475	87, 023 206, 222 243, 438 89, 940	12, 271 51, 654 20, 846 13, 602 25, 047	158, 339 60, 767 278, 929 242, 786 97, 689	8, 613 87, 610 24, 708 5, 182 37, 542 23, 146 89, 352	46, 618 219, 785 264, 946 117, 419	2, 400 15, 568 8, 339 10, 054 3, 154 58, 725

Division of Statistical and Historical Research.

Three-year average.

<sup>2</sup>Based on estimate of percentage classification by States as reported in 1921, Division Crop and Live-

\*Based on estimate of percentage classification by states as reported in ray, by the crop stock Estimates.

\*From July 1, 1921, to June 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 Gulf 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.

				Year	ending Ju	ne 30.			
District.		Wheat.		v	Vheat flou	r.	Wheat	, includin	g flour.
·	1920-21	1921-22	1922-23	1920-21	1921-22	1922-23	1920-21	1921-22	1922-23
Canadian and Lake ports	1,000 bushels. 12,347 87,636 163,096 519 29,670	1,000 bushels. 31,359 45,294 86,091 1,111 44,466	1,000 bushels. 32,371 53,790 48,239 726 19,825 154,951	1,000 barrels. 16 10,353 2,717 141 2,953	1,000 barrels. 84 7,782 3,757 81 4,093	1,000 barrels. 45 6,935 3,439 92 4,372	1,000 bushels. 12,419 134,225 175,324 1,152 42,857 365,977	1,000 bushels. 31,737 80,314 102,999 1,474 62,883 279,407	1,000 bushels. 32,571 84,998 63,716 1,140 39,498

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, 1913-1923.

Year beginning July 1—	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
1913–14 1914–15 1915–16 1916–17 1917–18		69 441 394	bush. (2) 7 348 943	bush. 231 3 1,755 1,507	bush. 104 102 796 2,606	bush. 127 5 470 838	14 386 805	bush. 175 47 218 1, 337	bush. 235 35 194 2,993	bush. 13 13 258 3, 125	bush. 73 19 504 5,459	bush. 43 21 243 3, 574	270 5, 673 23, 709
1918-19 1919-20 1920-21 1920-22 1921-22 1922-23 1923-24	508 118 36 713 3, 070 1, 836	28 170 239 1, 152	1,842 81 782	564 9, 800 878 2, 566	404 9, 522 1, 184 3, 176	309 11, 185 2, 052 2, 616	753 4, 504 3, 120	534 4, 403 199	526 2, 671 2, 673	50 <b>4,</b> 564 483	410 1, 902 1, 231	124 89 1, 610	3, 963 50, 688 14, 463

Division of Statistical and Historical Research. Compiled from Monthly Summary of Foreign Commerce, Bureau of Foreign and Domestic Commerce.

Table 31.—Wheat, Canadian: Shipments through the United States in transit for export, 1908-1923.

Year ending June 30.	July.	August.	Septem- ber.	October.	Novem- ber.	Decem- ber.
1907-8	Bushels. 2, 008, 348 196, 948 149, 079 405, 777 1, 245, 123 4, 798, 849 3, 022, 204 1, 970, 116 1, 786, 025 17, 214, 550 4, 937, 699 206, 896	1, 196, 921 13, 420, 235 3, 238, 134 	Bushels. 1, 354, 539 293, 334 128, 461 169, 202 1, 843, 632 1, 103, 581 576, 187 2, 094, 792 7, 912, 271 45, 032	Bushels. 746, 356 1, 411, 966 2, 271, 026 2, 454, 251 2, 850, 293 822, 445 8, 394, 434 2, 587, 898 14, 156, 283 3, 382, 021 747, 333 351, 714	Bushels. 596, 582 4, 976, 070 3, 936, 849 4, 103, 756 6, 817, 884 5, 791, 397 12, 742, 195 2, 664, 700 24, 039, 780 6, 814, 761 3, 772, 431 61, 783 2, 532, 429 7, 384, 934 10, 745, 169	Bushels. 2, 323, 690 5, 661, 697 6, 815, 713, 2, 853, 058 5, 741, 686 6, 947, 147 10, 300, 988 3, 649, 473 22, 034, 619 4, 790, 585 5, 479, 905 3, 541, 148 2, 023, 286 11, 984, 856 14, 964, 184
1922-23	4, 680, 890	2, 994, 596	2, 299, 062	3, 911, 564	17, 618, 609	17, 895, 393

<sup>&</sup>lt;sup>1</sup> 37 bushels.

<sup>&</sup>lt;sup>2</sup> 297 bushels.

Table 31.—Wheat, Canadian: Shipments through the United States in transit for export, 1908-1923—Continued.

Year ending June 30.	January.	February.	March.	April.	Мау.	June.	Total.
1907-8	Bushels. 3, 388, 139 3, 569, 982 4, 114, 828 1, 380, 745 4, 962, 375 9, 224, 642 9, 618, 935 3, 493, 415 17, 440, 067 8, 474, 752	Bushels. 2, 292, 873 1, 923, 038 2, 260, 732 1, 847, 176 3, 766, 567 5, 134, 431 6, 675, 743 3, 615, 553 13, 483, 801 4, 557, 824	Bushels. 1, 432, 209 1, 849, 464 1, 539, 623 2, 932, 295 3, 606, 272 3, 660, 099 6, 499, 831 3, 654, 029 12, 426, 937 7, 512, 190	Bushels. 630, 401 1, 058, 552 1, 407, 327 1, 790, 647 5, 092, 380 3, 243, 337 3, 605, 203 3, 540, 711 9, 449, 951 5, 779, 174	Bushels. 1, 434, 751 1, 469, 758 3, 367, 419 3, 280, 249 7, 645, 257 5, 513, 141 5, 766, 809 2, 927, 745 18, 511, 435 8, 008, 279	Bushels. 1, 180, 066 701, 459 1, 091, 342 2, 425, 193 10, 290, 325 7, 243, 576 2, 832, 951 2, 513, 660 2, 095, 577 17, 087, 040	Bushels. 19, 762, 745 23, 487, 488 27, 129, 471 24, 192, 228 55, 417, 853 56, 749, 702 71, 643, 398 32, 158, 217 138, 716, 188 104, 953, 682
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	6, 372, 455 1, 862, 786 1, 552, 458 10, 423, 290 15, 439, 396 15, 552, 317	3, 239, 331 1, 587, 948 174, 000 6, 642, 019 6, 498, 342 13, 772, 838	4, 854, 521 2, 083, 199 2, 845, 382 5, 609, 961 9, 362, 172 8, 038, 450	3, 856, 696 4, 107, 282 1, 428, 718 3, 747, 239 4, 240, 705 11, 521, 340	1, 567, 991 3, 158, 907 10, 330 2, 180, 544 8, 113, 753 5, 498, 122	96, 248 	38, 207, 776 16, 961, 663 10, 566, 603 49, 507, 524 83, 187, 405 110, 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.

				Year endi	ng July 31.			
Country.	Average,	1910-1914.	1920	)21	1921	L- <b>22</b>	1 <b>922</b> –23, pre	elimin <b>ary</b> .
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.  Algeria	1,000 bushels. 639. 3	1,000 bushels. 5,936 95,243 49,732	1,000 bushels. 6,530 1 5	1,000 bushels. 985 193, 099 87, 340 14, 945	1,000 bushels. 1,698	1,000 bushels. 5,884 62,399 116,466 2,810	1,000 bushels. 1 4, 167	1,000 bushels. 2 2,542 141,930 49,625 28,852
British India Bulgaria Canada Chile <sup>3</sup> Hungary Yugoslavia	208 448 170 7, 214	49, 889 11, 182 95, 828 2, 593 49, 116	(5) 455 44 241	1, 758 167, 217 1, 368 235 3, 692	( <sup>(b)</sup> 372 6 5	4, 477 185, 768 2, 150 9, 097 2, 793	4 381 1 224	4 274, 886 5, 154
Rumania	196 556 1, 607	54, 630 164, 862 110, 076	16 45, 754	1, 400 361, 839	( <sup>6</sup> ) 19, 425	3, 494 267, 855	(5) 4 19, 945	1, 595 4 221, 923
Austria Austria Czechoslovakia Czechoslovakia Denmark Egypt Egypt	11, 402 73, 398 20, 495 7, 155 8, 244	871 23, 045 	14, 348 34, 056 15, 879 18, 027 362 11, 348 2, 394	1, 895 250 22 481	18, 739 45, 289 17, 230 11, 408 4, 191 6, 918 3, 268	70 4, 783 208 275 328 (5)	12, 986 4 41, 025 11, 947 4 6, 249 4 7, 326 4 4, 562	1 99 4 1, 766 
Finland France Germany Greece Italy Japan	44, 822 91, 338 56, 784 4, 116	1, 203 23, 264 3, 682 28	69, 449 60, 378 10, 673 99, 621 5, 887	1, 134 6 604 137 246 128	19, 779 70, 681 13, 233 101, 030 24, 815 721	2,632 1,176 5 512 51 (5)	4 44, 016 4 42, 676 4 18, 479 4 112, 003 14, 092 1 871	4 2, 779 4 623 4 1, 776 1 488 1 5
Latvia Netherlands Norway Poland Portugal	2, 630	58, 435 219	21, 533 3, 822	2, 728 6	22, 974 5, 090 1, 270	3, 286 3 94	4 25, 935 4 6, 433 7 2, 474	1 29
Spain Sweden Switzerland Tunis Union of South	6, 262 7, 080 16, 937 1, 746	70 23 14 960	20, 558 6, 863 12, 883 1, 930	754 299 1 618	8, 282 4, 547 13, 216 645	699 (5) 2, 266	4 8, 976 8 16, 017 1 2, 001	4 703 1 1 1 308
Africa 3 United Kingdom	6, 274 220, 570	253 3, 768	8, 533 201, 824	2, 843	1, 863 212, 186	5, 214	2, 920 4 209, 290	4 6, 465
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.

<sup>1</sup> Ten months ending May 31.
2 Twelve months for wheat, ten months for flour.
3 Calendar years, 1909–1922.
4 Years ending June 30.

\$ 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.

Table 33.—Wheat, including flour: Net imports and net exports of principal countries, 1907-1923.

			Impor	ts.					Exp	orts.		
Year ending July 31.	United King- dom.	Bel- gium.	France.	Ger- many.	Italy.	Neth- er- lands.	United States.1	Can- ada.1	Argen- tina.²	Aus- tralia.³	Brit- ish India.	Rus-
	1,000 bush. 208, 504 206, 300 189, 657 217, 317 209, 555 209, 531 237, 498 210, 115 204, 749 211, 983 1 207, 206 1 175, 486 1 166,869 211, 692 198, 981 206, 972 167, 543	49, 104 (4) (4) (4) (4) (4) (29, 786 32, 161	6, 850 18 4, 278 88, 046 26, 684 44, 800 54, 503 61, 779 100, 375 117, 649 74, 141 73, 189 87, 606 68, 316	74, 667 60, 178 75, 737 70, 276 58, 550 68, 950 66, 860 (4) (4) (4) (4) (4) (4) (59, 773 69, 505	91, 804 44, 933 40, 230 59, 541 47, 226 72, 760	17, 062 22, 010 22, 474 18, 942 23, 092 24, 818 30, 119 22, 848 1 24,783 1 1, 806 1 4, 198	162, 524 113, 812 86, 549 68, 165 76, 276 141, 598 143, 207 331, 750 235, 929 178, 649 101, 363 276, 113 214, 369 308, 679 262, 155	51, 274 56, 449 67, 797 61, 582 92, 800 114, 927 132, 291 93, 265 244, 299 192, 522 174, 105 88, 256 98, 051 168, 922	104, 955 139, 354 98, 273 75, 050 8103, 253 109, 634 39, 278 98, 155 91, 625 40, 043 119, 026 1137, 351 193, 098 62, 399	36, 270 20, 381 37, 514 54, 180 63, 213 40, 316 53, 099 5, 022 29, 737 68, 621 40, 158 66, 758 106, 243 87, 336 116, 464	20, 089 26, 819 34, 170 57, 502 56, 579 66, 922 33, 214 37, 053 8, 545 1 47, 305 1 47, 416 1 5, 885 2, 142 14, 942 5 13, 938	102, 78; 236, 87; 230, 12; 79, 46; 105, 95; 169, 11; 7, 57; 13, 77; (*)

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1915-16, 1922, and from official sources.

Table 34.—Wheat: Farm price per bushel, 1st of month, United States, 1908-1923.

Year begining July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Weight- ed av.
1908-9	Cts. 89. 5	Cts. 90. 4	Cts. 88. 7	Cts. 90. 4	Cts. 91. 5	Cts. 92. 8	Cts. 93, 5	Cts. 95. 2	Cts. 103. 9	Cts. 107. 0	Cts. 115. 9	Cts. 123. 5	Cts. 94. 8
1909-10 1910-11 1911-12 1912-13 1913-14	120. 8 95. 3 84. 3 99. 0 81. 4	98. 9 82. 7 89. 7	84. 8 85. 8	94. 6 93. 7 88. 4 83. 4 77. 9	90. 5 91. 5 83. 8	88. 3 87. 4 76. 0	88. 6 88. 6 70. 2	89. 8 90. 4 79. 9	85. 4 90. 7 80. 6	83. 8 92. 5 79. 1	84. 6 99. 7 80. 9	102. 8 82. 7	91. 6 88. 8 83. 2
Av. 1909-1914	96. 2	91. 1	87. 7	87. 6	88. 5	6.08	86. 4	89. 3	89. 0	<b>88</b> . 8	89. 8	90. 8	88. 8
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	220. 1 203. 2 222. 0 253. 6	106. 5 107. 1 228. 9 204. 5 217. 2 232. 2	95. 0 131. 2 209. 7 205. 6 205. 7 218. 7	90. 9 136. 3 200. 6 205. 8 209. 6 214. 3	93. 1 158. 4 200. 0 206. 0 213. 2 188. 0	91. 9 160. 3 200. 8 204. 2 214. 9 143. 7	102. 8 150. 3 201. 9 204. 8 231. 8 149. 2	113. 9 164. 8 201. 2 207. 5 235. 7 149. 3	102. 9 164. 4 202. 7 208. 0 226. 6 147. 2	98. 6 180. 0 202. 6 214. 2 234. 0 133. 5	102. 5 245. 9 203. 6 231. 1 251. 3 110. 7	100. 0 248. 5 202. 5 228. 4 258. 3 127. 4	98. 3 150. 8 206. 4 207. 8 222. 3 184. 5
Av. 1914-1921 1921-22 1922-23 1923-24	167. 4 112. 2 102. 6 95. 1	104.8	88. 1	105. 6	94. 2 97. 8	92. 6 100. 7	93. 3	97.0	116. 9	117.0	183. 5 121. 0 109. 8	116.5	102. 9

<sup>&</sup>lt;sup>4</sup> Not available. <sup>5</sup> Net imports.

<sup>&</sup>lt;sup>1</sup> Year ending June 30.

<sup>2</sup> Calendar years 1906–1922.

<sup>3</sup> Calendar years 1906–1913; years ending June 30, 1915–1923.

Table 35.—Wheat: Farm price per bushel, December 1, calendar years, 1908-1925, and value per acre 1923.

State.	1908	1 <b>909</b>	1910	1911	1912	1913	Av. 1909- 1913.	1914	1915	<b>19</b> 16	1917	1918	1919	1920	Av. 1914- 1920.	1921	1922	1923	Value per acre, 1923.1
Me Vt N. Y N. J Pa	99 99 101	Cts 110 120 111 109 109	Cts. 102 103 96 98 92	Cts. 110 99 95 96 92	Cts. 103 98 99 98 95	Cts. 101 100 93 96 91	9 <b>9</b>		Cts. 112 107 101 106 104	Cts. 187 165 168 164 162	Cts. 235 236 210 213 205	Cts. 237 231 215 215 214	Cts. 220 227 215 220 216	Cts. 230 200 175 205 170	Cts. 190 181 170 176 168	Cts. 175 125 108 113 103	110	Cts. 118 140 110 110 100	Dolls. 30. 68 29. 49 22. 22 22. 00 19. 00
Del Md Va W. Va N. C	98 101 103		90 92 97 102 110		96 95 101 101 111	88 89 96 100 106	95 101 104	109 106 108 108 117	109 105 108 108 108 120	162 171 165 160 176	208 207 216 217 234	222 219 219 221 230	213 215 224 220 233	171 165 180 190 210	171 170 174 175 189	98 103 116 117 144	108 112 122 122 136	100 100 110 116 128	18. 00 19. 20 14. 63 15. 08 14. 21
8. C Ga Ohio Ind	121 99				119 122 98 93	130 120 90 88	96	134 105	138 129 104 102	189 186 169 169	290 290 204 203	260 266 212 208	258 263 212 210	255 240 165 167	219 215 167 166	208 175 108 106	157 150 117 112	154 147 99 98	16. 94 13. 53 18. 02 16. 17
Ill Mich Wis Minn Iowa		104 112 96 96 98	88 89 92 94 85	89 88 90 92 88	88 96 83 73 78	86 89 82 76 76	95 89	101 103 100 102 96	100 101 95 90 87	165 167 160 162 156	201 204 202 202 199	208 209 205 204 200	210 • 210 215 250 200	161 168 154 130 140	164 166 162 163 154	100 104 97 97 88	107 115 103 101 99	94 96 98 95 89	16. 92 16. 32 16. 27 11. 40 16. 20
Mo N. Dak S. Dak Nebr Kans	93 92 92 84 88	105 92 90 89 96	87 90 89 80 84	88 89 91 87 91	90 69 69 69 74	84 73 71 71 79	91 83 82 79 85	98 101 94 95 95	98 87 86 84 89	165 152 150 160 164	195 200 196 195 198	205 203 199 197 199	209 241 240 202 215	160 130 115 131 130	161 159 154 152 156	99 85 87 83 93	90 92 96 98	97 86 81 83 91	12, 61 6, 11 7, 78 8, 22 9, 19
Ky Tenn Ala Miss Tex	99 107 103		116		99 100 113 97 93	96 98 115 95 94	101	$\frac{126}{125}$	105 108 125 105 107	166 169 185 175 173	212 222 270 300 210	214 214 245 250 215	211 222 245 250 200	191 195 230 213 172	204 203	115 120 153 130 100	160 145	108 115 130 110 103	13. 39 11. 73 13. 00 16. 50 10. 82
Okla Ark Mont Wyo Colo		101 110 87 99 93	87 94 86 95 82	92 90 77 94 84	75 94 64 80 73	82 90 66 72 78	87 96 76 88 82	92 99 91 89 87	89 101 78 78 80	167 163 161 145 150	194 201 192 200 193	201 207 1 <b>94</b> 189 195	205 202 235 212 202	135 190 128 135 135	155 166 1 <b>54</b> 150 140	86 100 85 79 76	98 106 89 82 89	93 108 82 80 83	10. 23 11. 88 12. 22 12. 72 10. 71
Utah	120 85	139 90	100 120 84 109	70	90 110 75 100	97 110 73 82	101 115 78 98	90 125 86 95	90 115 86 95	150 150 152 140	215 210 178 180	210 240 188 206	200 225 210 214	140 262 153 180	156 190 150 159	105 125 75 130	120 115 90 120	108 140 91 115	12. 96 36. 40 12. 93 29. 21
Idaho Wash Oreg Calif	74 82 84 102	87 93 93 111	72 78 84 94	66 71 75 88	66 68 72 93	63 73 75 95		87 100 102 104	80 82 84 95	146 143 145 152	182 193 182 200	192 196 201 216	205 214 212 204	125 135 130 180	145 152 151 164	72 86 85 107	90 104 108 115	80 85 88 108	22. 88 21. 25 21. 21 23. 33

Table 36.—Wheat: Weighted average price per bushel of reported cash sales.

NO. 1 DARK NORTHERN SPRING, MINNEAPOLIS, 1917-1928.1

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weight- ed aver- age.
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	\$2. 21 2. 72 2. 94 1. 81 1. 57 1. 18	\$2. 50 2. 29 2. 71 2. 59 1. 57 1. 22 1. 22	\$2, 21 2, 24 2, 77 2, 65 1, 56 1, 20 1, 26	\$2. 21 2. 23 2. 84 2. 21 1. 37 1. 21 1. 26	\$2, 21 2, 25 3, 00 1, 82 1, 30 1, 28 1, 19	\$2. 21 2. 25 3. 25 1. 72 1. 33 1. 31 1. 19	\$2. 21 2. 25 3. 34 1. 81 1. 39 1. 28	\$2, 21 2, 29 2, 90 1, 74 1, 58 1, 31	\$2, 21 2, 41 2, 97 1, 72 1, 50 1, 29	\$2: 21 2. 63 3. 23 1. 57 1. 66 1. 35	\$2, 21 2, 68 3, 26 1, 67 1, 71 1, 32	\$2, 21 2, 56 3, 01 1, 74 1, 53 1, 22	2. 36 3. 00 2. 02 1. 48 1. 30

<sup>&</sup>lt;sup>1</sup> Based upon farm price Dec. 1.

Table 36.—Wheat: Weighted average price per bushel of reported cash sales—Con.

NO. 1 NORTHERN SPRING, MINNEAPOLIS, 1899-1923.1

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weight- ed aver- age.
1899-1900 1900-1 1901-2 1902-3 1903-4 1904-5 1906-7 1907-8 1908-9	.78 .65 .78 .86	\$0. 70 . 74 . 69 . 72 . 93 1. 14 . 98 . 75 1. 00 1. 12	\$0. 69 . 76 . 68 . 67 . 85 1. 17 . 81 . 74 1. 08 1. 03	\$0. 69 . 76 . 62 . 70 . 82- 1. 15 . 86 . 76 1. 12 1. 04	\$0. 65 . 74 . 70 . 72 . 80 1. 07 . 84 . 80 1. 03 1. 06	\$0. 65 . 73 . 74 . 73 . 82 1. 09 . 85 . 80 1. 07 1. 10	\$0. 65 . 75 . 76 . 76 . 88 1. 14 . 83 . 80 1. 10 1. 09	\$0. 65 . 74 . 74 . 77 . 97 1. 13 . 81 . 82 1. 06 1. 13	\$0.65 .74 .72 .76 .97 1.11 .77 .80 1.07 1.15	\$0. 66 .72 .73 .76 .93 1. 02 .79 .84 1. 03 1. 24	\$0. 66 . 73 . 75 . 78 . 94 1. 13 . 83 . 96 1. 09 1. 31	\$0. 71 . 69 . 75 . 84 . 94 1. 10 . 84 1. 01 1. 08 1. 34	\$0. 67 . 74 . 71 . 75 . 89 1. 10 . 86 . 82 1. 06 1. 15
1909-10 1910-11 1911-12 1912-13 1913-14		1. 06 1. 13 1. 05 . 98 . 88	1. 04 1. 09 1. 09 . 89 . 87	1. 04 1. 08 1. 10 . 90 . 84	1. 05 1. 04 1. 05 . 84 . 85	1. 12 1. 03 1. 02 . 82 . 86	1. 14 1. 06 1. 06 . 89 . 87	1. 14 1. 02 1. 06 . 87 . 93	1. 15 . 98 1. 08 . 85 . 92	1. 11 . 96 1. 10 . 88 . 91	1. 10 . 99 . 1. 16 . 91 . 94	1. 09 . 97 1. 13 . 92 . 92	1. 09 1. 05 1. 07 . 87 . 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. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	. 92 1. 44 1. 21 2. 66 2. 17 2. 66 2. 89	1. 10 1. 18 1. 64 2. 47 2. 23 2. 59 2. 56	1. 12 . 97 1. 64 2. 17 2. 23 2. 56 2. 54	1. 11 1. 02 1. 79 2. 17 2. 19 2. 67 2. 16	1. 18 1. 02 1. 95 2. 17 2. 22 2. 85 1. 80	1. 20 1. 14 1. 79 2. 17 2. 22 3. 07 1. 68	1. 38 1. 29 1. 93 2. 17 2. 21 3. 01 1. 79	1. 52 1. 26 1. 86 2. 17 2. 24 2. 67 1. 72	1. 49 1. 14 2. 03 2. 17 2. 36 2. 84 1. 66	1. 58 1. 22 2. 38 2. 17 2. 56 3. 06 1. 53	1. 58 1. 22 2. 96 2. 17 2. 59 3. 09 1. 55	1. 35 1. 11 2. 73 2. 17 2. 48 2. 93 1. 69	1. 20 1. 09 1. 76 2. 20 2. 25 2. 72 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 1922–23 1923–24	1. 67 1. 49 1. 12	1. 48 1. 11 1. 18	1. 51 1. 10 1. 21	1. 34 1. 15 1. 20	1. 25 1. 23 1. 14	1. 30 1. 25 1. 16	1. 34 1. 23	1. 51 1. 26	1. 51 1. 24	1. 58 1. 30	1. 56 1. 28	1. 46 1. 17	1, 43 1, 20

# NO. 2 RED WINTER, CHICAGO, 1899-1923.2

								<del></del>					
		\$0.72		\$0.72	\$0.69		<b>\$0.</b> 67		\$0.69	\$0.70	\$0. 70	\$0.75	
1900-1		.77	.76	.77		\$0.74	.76	. 75	. 75	.75	.74	. 72	<b>\$0.</b> 76
1901-2		.71	.70	.72	.75	.82	.85	.83	.82	.82	.81	.79	. 72
1902-3		.71	.81	.82	.76	.75	.75	. 76	.74	. 78	. 78	. 80	.75
1903-4		.82	.82	.82	.84	. 88	. 94	1.04	1.03	1.05	1.07	1.05	. 83
1904-5		1.01	1.10	1.19	1.16		1. 20		1.15	1.07	. 92	1.04	
1905-6		.85	. 85	. 88	. 87		. 88	. 84	.82	.87	. 89	.86	
1906-7		.73	.72	.74	.74	.74	.74	.76	.77	. 79	. 93	. 95	.77
1907-8		.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	1 .88	. 93	. 92	. 92	. 94	. 97	. 97	. 95	. 95	. 99	. 82	.88
												<u> </u>	
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	1 24	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							
				ì									

Compiled from Minneapolis Daily Market Record. Prior to the promulgation of the Federal grades, August 1, 1917, the subclass Dark Northern did not exist.
 Compiled from the Chicago Daily Trade Bulletin.

Table 36.—Wheat: Weighted average price per bushel of reported cash sales—Con. NO. 2 RED WINTER, ST. LOUIS, 1899-1923.

Year beginning July.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Weight- ed aver- age.
1899-1900	. 66 . 71 . 80 . 97 . 89 . 75	\$0. 71 . 73 . 71 . 66 . 81 1. 01 . 85 . 70 . 87 . 95	\$0. 70 . 76 . 71 . 67 . 85 1. 15 . 86 . 72 . 95 1. 02	\$0. 72 . 74 . 72 . 70 . 87 1. 18 . 92 . 76 1. 03 1. 03	\$0. 70 . 73 . 74 . 69 . 87 1. 15 . 92 . 75 . 96 1. 07	\$0. 71 . 72 . 84 . 72 . 92 1. 15 . 93 . 76 1. 00 1. 08	\$0. 71 . 74 . 89 . 75 . 93 1. 18 . 94 . 77 1. 03 1. 11	\$0. 72 . 74 . 86 . 76 1. 04 1. 18 . 92 . 78 1. 12 1. 24	\$0. 72 . 75 . 82 . 73 1. 05 1. 15 . 91 . 77 1. 02 1. 30	\$0. 72 . 74 . 80 . 72 1. 06 1. 09 . 95 . 78 . 99 1. 36	\$0. 71 . 75 . 81 . 75 1. 08 1. 08 . 94 . 89 1. 02 1. 39	\$0. 77 . 69 . 78 . 79 1. 07 1. 05 . 88 . 94 . 96 1. 57	\$0. 72 . 74 . 73 . 71 . 86 1. 04 . 90 . 76 . 96 1. 04
1909-10 1910-11 1911-12 1912-13 1913-14	1. 07 . 84 1. 03 . 85	1. 12 1. 02 . 88 1. 04 . 88	1. 14 1. 02 . 94 1. 03 . 94	1. 23 1. 00 1. 00 1. 09 . 93	1. 22 . 96 . 96 1. 04 . 94	1. 28 . 98 . 97 1. 07 . 95	1. 30 1. 03 1. 02 1. 11 . 96	1. 27 . 96 1. 01 1. 09 . 95	1. 23 . 93 1. 04 1. 08 . 95	1. 12 . 90 1. 13 1. 09 . 94	1. 16 . 94 1. 21 1. 04 . 96	1. 02 . 88 1. 11 . 99 . 84	1. 13 . 99 . 94 1. 05 . 89
Av. 1909-1913	1. 25 2. 36	. 99 . 93 1. 14 1. 45 2. 32 2. 21 2. 20 2. 47	1. 01 1. 10 1. 14 1. 60 2. 15 2. 19 2. 21 2. 56	1. 05 1. 10 1. 21 1. 73 2. 15 2. 22 2. 24 2. 25	1. 02 1. 11 1. 16 1. 87 2. 15 2. 22 2. 29 2. 03	1. 05 1. 18 1. 23 1. 83 2. 15 2. 32 2. 48 1. 99	1. 40 1. 34 1. 96 2. 15 2. 41 2. 70 2. 02	1. 06 1. 57 1. 30 1. 88 2. 15 2. 38 2. 55 1. 90	1. 05 1. 50 1. 17 2. 05 2. 15 2. 55 2. 58 1. 66	1. 04 1. 54 1. 22 2. 66 2. 15 2. 71 2. 76 1. 41	1. 50 1. 20 3. 04 2. 15 2. 60 2. 99 1. 58	1. 19 1. 10 2. 65 2. 15 2. 41 2. 89 1. 50	1. 00 1. 20 1. 63 2. 23 2. 23 2. 30 2. 18
Av. 1914-1920 1921-22 1922-23 1923-24	1. 83 1. 23 1. 12 . 97	1. 82 1. 23 1. 08 . 99	1. 85 1. 36 1. 14 1. 09	1. 84 1. 26 1. 23 1. 16	1. 83 1. 20 1. 29 1. 12	1. 88 1. 21 1. 36 1. 14	2.00 1.16 1.36	1. 96 1. 32 1. 39	1. 95 1. 35 1. 36	2. 06 1. 44 1. 41	2. 15 1. 38 1. 33	1. 98 1. 18 1. 23	1. 84 1. 27 1. 28

#### NO. 2 HARD WINTER, KANSAS CITY, 1899-1923.4

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						,							7	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								\$0. 63	\$0.64	\$0.64	\$0.64	\$0.62	\$0. 66	\$0. 65
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1			1			79	75	72	72	74	70	5 73
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		70	66	67	67	67	67							68
1904-5			. 73											77
1905-6.         84         80         * 78         80         81         81         81         78         76         79         80         78         80           1906-7.         .71         .68         .66         .69         .69         .70         .71         .72         .71         .73         .90         .91         .72           1907-8.         .87         .86         .93         1.00         .96         .97         1.00         .95         .98         .97         1.00         .97         .93           1908-9.         .97         .95         .98         .99         1.02         1.03         1.06         1.10         1.15         1.30         1.38         1.37         .99           1909-10.         1.14         1.02         1.02         1.06         1.04         1.10         1.11         1.10         1.08         1.07         1.08         1.07           1910-11.         1.04         1.00         .99         .95         .91         .93         .95         .90         .88         .89         .98         .98           1911-12.         .87         .93         .95        91         .90         .81														.97
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1908-9												1.37	. 99
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$														
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1909-10	1.14	1.02	1.02	1.06	1.04	1.10	1. 11	1.11	1.10	1.08	1.07	1.08	1.07
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$											.88			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1911-12		. 93		1.04		1.00		1.03	1.05	1.09		1.09	. 97
1913-14       .82       .83       .87       .84       .83       .84       .85       .86       .88       .87       .90       .85       .84         Av. 1909-1913       .96       .93       .94       .95       .92       .94       .97       .95       .95       .96       .97       .96       .95         1914-15       .78       .91       1.04       1.02       1.08       1.13       1.34       1.54       1.49       1.54       1.50       1.21       1.05         1915-16       1.36       1.20       1.07       1.07       1.03       1.12       1.20       1.05       1.12       1.10       1.00       1.19         1916-17       1.14       1.41       1.57       1.67       1.85       1.72       1.89       1.82       1.97       2.43       3.01       2.74       1.71         1917-18       2.68       2.61       2.12	1912-13				. 88	.83	. 84		. 86	.86	. 88	.87	. 88	. 88
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1913-14				.84		. 84		.86	.88	.87	.90	.85	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$														
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Av. 1909-1913	.96	. 93	. 94	. 95	. 92	. 94	. 97	.95	. 95	.96	. 97	. 96	. 95
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			-	1 01	1 00	1 00	2 40	1 04		1 10	7 74	1 50	- 01	1.05
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$														
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$														
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													2. 74	
1919-20. 2.25 2.18 2.24 2.30 2.46 2.63 2.82 2.42 2.49 2.75 2.93 2.76 2.42 1920-21. 2.67 2.44 2.43 2.06 1.78 1.71 1.72 1.62 1.55 1.33 1.47 1.38 1.86 Av. 1914-1920. 1.87 1.85 1.80 1.77 1.78 1.81 1.91 1.85 1.87 1.99 2.10 1.85 1921-22. 1.14 1.15 1.22 1.10 1.10 1.09 1.13 1.29 1.34 1.35 1.34 1.17 1.19 1922-23. 1.13 1.04 1.04 1.13 1.17 1.17 1.17 1.14 1.15 1.20 1.16 1.00 1.18														2. 52
1920-21														
Av. 1914–1920 1.87 1.85 1.80 1.77 1.78 1.81 1.91 1.85 1.87 1.99 2.10 1.85 1921–22 1.10 1.10 1.09 1.13 1.22 1.10 1.10 1.09 1.13 1.29 1.34 1.35 1.34 1.17 1.19 1922–23 1.13 1.04 1.04 1.13 1.17 1.17 1.17 1.17 1.18 1.19 1.16 1.20 1.16 1.10 1.18														
1921-22	1920-21	2. 67	2.44	2.43	2.06	1.78	1.71	1. 72	1.62	1.55	1. 33	1.47	1.38	1.80
1921-22	A v. 1914-1920	1.87	1. 85	1.80	1.77	1. 78	1. 81	1. 91	1. 85	1.87	1.99	2, 10		1. 85
1. 13   1. 04   1. 13   1. 17   1. 17   1. 14   1. 15   1. 16   1. 20   1. 16   1. 04   1. 13	121111111111111111111111111111111111111						-							
1922-23 1. 13   1. 04   1. 04   1. 13   1. 17   1. 14   1. 15   1. 16   1. 20   1. 16   1. 04   1. 13	1921-22	1.14	1. 15	1. 22	1. 10	1. 10	1.09	1. 13	1. 29	1.34	1.35	1.34	1.17	
								1. 14	1. 15	1. 16	1. 20	1. 16	1.04	1. 13
					1. 12	1.09	1.09							
							_						1 1	

Compiled from St. Louis Daily Market Reporter.
 Compiled from Kansas City Daily Price Current.
 Six months' average. No record for 1901.

TABLE 36.—Wheat: Weighted average price per bushel of reported cash sales—Con. NO. 2 HARD WINTER, NEW YORK, 1909-1923.6

Year beginning July.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	Weighted average.
1909-10 1910-11 1911-12 1912-13 1913-14	1. 14 . 98 1. 10	\$1.12 1.10 .98 1.03 .97	\$1.12 1.06 1.04 1.01 .98	\$1. 20 1. 04 1. 10 1. 02 . 95	\$1. 19 1. 02 1. 05 . 98 . 98	\$1. 24 1. 02 1. 07 . 99 1. 00	\$1. 26 1. 08 1. 11 1. 06 . 93	\$1.33 1.03 1.13 1.04 1.02	\$1. 27 1. 00 1. 13 1. 00 1. 02	\$1. 19 . 99 1. 19 1. 03 1. 02	\$1. 14 1. 03 1. 24 1. 02 1. 05	\$1, 05 . 97 1. 20 1. 04 1. 00	\$1. 20 1. 04 1. 10 1. 03 . 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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	1. 36 1. 26 2. 44 2. 31	1. 01 1. 22 1. 57 2. 46 2. 38 2. 38 2. 62	1. 13 1. 20 1. 68 2. 28 2. 38 2. 38 2. 65	1. 12 1. 24 1. 84 2. 64 2. 38 2. 38 2. 33	1. 23 (7) 2. 00 2. 81 2. 38 2. 38 2. 06	1. 31 (7) 1. 87 2. 62 2. 38 2. 38 1. 95	1, 52 1, 40 2, 09 2, 26 2, 38 2, 37 2, 00	1. 72 1. 42 2. 00 2. 26 2. 38 2. 37 1. 90	1. 66 1. 25 2. 16 2. 26 2. 38 2. 51 1. 81	1. 67 1. 29 2. 63 2. 26 2. 38 3. 02 1. 59	1. 65 1. 24 3. 07 2. 26 2. 38 3. 09 1. 75	1. 37 1. 15 (7) 2. 26 2. 38 2. 98 1. 67	1. 36 1. 28 2. 02 2. 40 2. 37 2. 55 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
1921-22 1922-23 1923-24	1. 46 1. 32 1. 16	1. 36 1. 23 1. 14	1. 38 1. 19 1. 16	1. 20 1. 33 1. 22	1. 16 1. 36 1. 19	1. 25 1. 37 1. 22	1. 23 1. 32	1. 43 1. 30	1. 45 1. 33	1. 5i 1. 37	1. 49 1. 34	1. 30 1. 25	1. 35 1. 31
	NO	). 1 N	овтн	ERN	SPR	ing, v	WINN	IPEG	, 1909–	1923.8			-
1909-10 1910-11 1911-12 1912-13 1913-14	\$1. 31 1. 08 . 95 1. 07 . 97	\$1. 19 1. 07 1. 01 1. 06 . 95	\$1.00 1.03 1.01 1.00 .89	\$0. 97 . 98 1. 00 . 91 . 81	\$0. 97 . 92 . 99 . 85 . 83	\$0. 98 . 90 . 95 . 80 . 84	\$1.03 .94 .95 .82 .85	\$1.03 93 ,97 .84 .88	\$1.04 90 .98 .85 .90	\$1.03 .90 1.01 .89 .90	\$0. 98 . 95 1. 04 . 93 . 93	\$0. 93 . 97 1. 06 . 96 . 94	\$0. 96 . 96 . 99 . 92 . 89
Av. 1909-1913	1.08	1.06	. 99	. 93	. 91	. 89	.92	. 93	. 93	. 95	. 97	. 97	. 94
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	. 90 1. 35 1. 14 2. 34 2. 21 2. 24 2. 15	1. 04 1. 25 1. 42 2. 40 2. 21 2. 24 2. 15	1. 13 . 95 1. 59 2. 25 2. 24 2. 15 2. 72	1. 11 . 96 1. 68 2. 21 2. 24 2. 15 2. 32	1. 18 1. 02 1. 93 2. 21 2. 24 2. 16 2. 03	1. 18 1. 07 1. 76 2. 21 2. 24 2. 15 1. 94	1. 32 1. 18 1. 80 2. 21 2. 24 2. 15 1. 94	1. 51 1. 26 1. 68 2. 21 2. 24 2. 15 1. 88	1. 49 1. 10 1. 85 2. 21 2. 24 2. 15 1. 91	1. 54 1. 04 2. 11 2. 21 2. 24 2. 15 1. 76	1. 61 1. 17 2. 75 2. 21 2. 24 2. 15 1. 86	1. 32 1. 11 2. 49 2. 21 2. 24 2. 15 1. 89	1. 28 1. 12 1. 85 2. 24 2. 24 2. 17 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

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1. 86 1. 35 1. 05 1. 74 1. 17 1. 10 1. 46 . 99 1. 04

1921-22.

1923-24

1. 11 1. 10

1. 13 1. 14 1. 07

1. 08

. 91

1. 14 1. 01

\$. 41 1. 10

1. 43 1. 19

1.46

1. 15 | 1. 12

1. 38 1. 12

1.36

1. 10

<sup>6</sup> Compiled from New York Journal of Commerce; not weighted; average of daily quotations.

<sup>7</sup> 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.	Weight- ed aver- age.
1918-19	212.8 248.9	221. 3 230. 1 247. 1 132. 2 114. 2	234. 0 244. 9 138. 6 111. 0	218. 6 249. 9 203. 9 121. 5 113. 8	220. 5 261. 6 172. 4 117. 3 122. 3	220. 0 278. 5 163. 0 117. 7 123. 1	218. 9 276. 5 167. 8 120. 2 119. 2	221. 2 245. 6 156. 3	230.5	245. 3 285. 3 135. 1	251.8 297.0 144.5	239.8 278.7 146.0	
				К	ANSA	s cr	ΓY.		<u> </u>		·		
1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	219.3	264. 4 245. 6 115. 0 103. 2	215. 9 246. 0 120. 4	221. 2 206. 6 109. 8 111. 1	176. 3	170. 2 108. 2 116. 3	266. 3 173. 0	233. 4 164. 6 127. 4	241. 5 154. 6	133. 5 132. 3	286. 3 147. 5 125. 9	273. 5 139. 7	2!8. 1 244. 9 190. 2 118. 2 110. 8
	•,				СНІС	CAGO.	•						
1918–19 1919–20 1990–21 1921–22 1922–23 1923–24	225. 0 223. 9 264. 9 124. 1 113. 4 99. 1	222. 2 248. 8 119. 8 107. 0	221. 9 249. 8 124. 4 104. 5	112. 0 113. 4	119.0	123. 6	112. 7 117. 6	235. 5 171. 9 128. 6	242. 0 157. 3 129. 7	132. 4	295. 8 156. 5 132. 7	280. 5 142. 7 115. 9	223. 0 226. 1 216. 3 121. 6 112. 2
					ST. I	ouis	•						
1918-19	221. 6 220. 7 273. 3 120. 3 107. 4 96. 6	218. 6 249. 9 116. 3 103. 4	253. 1 122. 6 107. 2	116. 7	107. 7 121. 6	191. 2 109. 0 126. 0	252. 5 194. 7 115. 3 124. 5	247. 4	253. 5 163. 8 133. 1	133. 3	293. 1 155. 0	283. 0 148. 2 113. 1	223. 6 225. 2 210. 1 120. 4 115. 8
			FOU	R MA	RKE	TS C	омві	NED.					
1918–19 1919–20 1920–21 1921–22 1922–23 1923–24	221. 2 223. 1 270. 6 122. 9 117. 1 99. 8	235. 9 247. 3 121. 7 107. 6	223. 6 246. 6 128. 5 108. 6	229. 8 205. 8 117. 3 113. 4	246. 5 175. 1 113. 1 120. 0 107. 3	256. 8 167. 2 113. 8 121. 3 106. 4	267. 9 172. 4 115. 8 118. 3	240. 1 163. 2 131. 4 120. 0	248. 6 154. 3 136. 1 120. 4	278. 2 135. 3 138. 5 125. 0	292. 3 147. 6 135. 0 122. 2	122. 5 112. 6	221. 7 241. 8 193. 3 123. 7 116. 0

Division of Statistical and Historical Research. Compiled from daily trade papers of markets named.

<sup>&</sup>lt;sup>1</sup> The prices in this table are comparable with the farm prices. The farm prices are averages of the several prices reported which covered all classes 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.

Jan.	Feb.	Mar	Apr.	Мау	June.	July.	Aug	. Sept.	Oct.	Nov.	Dec.	Aver	High	Low.
1. 57 1. 41 1. 59	1. 59 1. 37 1. 58	1.63 1.42	1. 53	1. 35 1. 43 1. 38 1. 52 1. 32	1. 32 1. 38 1. 42 1. 52 1. 31	1. 38 1. 35 1. 44 1. 52 1. 30	1. 35 1. 31 1. 55 1. 37 1. 36	1. 28 1. 64 1. 25	1.34	1. 64 1. 40 1. 61 1. 26 1. 28	1. 69 1. 40 1. 57 1. 29 1. 28	1. 43 1. 43 1. 49 1. 43 1. 32	1. 75 1. 64 1. 68 1. 61 1. 40	1. 64 1. 26 1. 35 1. 20 1. 26
1. 08 1. 07 1. 09	1. 24 1. 03 1. 06 1. 07 . 98	1. 24 1. 06 1. 01 1. 06 . 98	1. 14 1. 16 1. 03 1. 03 . 99	1. 14 1. 12 1. 03 1. 06 1. 00	1. 16 1. 06 . 97 1. 02 . 99	1. 14 1. 06 . 97 . 95 1. 00	1. 15 1. 07 . 99 . 90 1. 10	1.00 1.06 .99 .88 1.15	. 97 1. 09 . 98 . 94 1. 22	. 97 1. 06 1. 02 . 98 1. 25	1. 02 1. 05 1. 08 1. 00 1. 21	1. 12 1. 08 1. 02 1. 00 1. 07	1. 26 1. 20 1. 09 1. 13 1. 26	. 95 1. 02 . 95 . 86 . 97
$\begin{bmatrix} 1.12 \\ 1.16 \end{bmatrix}$	1. 14 1. 03 1. 12 1. 14 . 85	1. 12 1. 03 1. 19 1. 14 .81	1. 04 1. 05 1. 24 1. 09 . 81	. 95 1. 06 1. 25 1. 02 . 84	. 94 1. 03 1. 19 1. 04 . 82	1.00 1.04 1.14 1.02 .82	1. 03 1. 05 1. 23 . 91 . 79	1. 02 1. 04 1. 19 . 86 . 80	1. 03 1. 04 1. 20 . 88 . 78	1. 02 1. 03 1. 26 . 86 . 76	1. 02 1. 03 1. 23 . 83 . 78	1. 04 1. 04 1. 20 1. 00 . 81	1. 17 1. 07 1. 30 1. 20 . 89	. 93 1. 02 1. 11 . 80 . 73
. 67 . 80 . 96	.74 .64 .83 .91 1.18	.71 .68 .80 .89 1.14	.70 .73 .80 .86 1.28	. 67 . 81 . 81 . 86 1. 57	. 64 . 82 . 79 . 83 1. 28	.65 .77 .76 .90 .96	.61 .79 .75 1.10 .89	.61 .72 .81 1.15 .84	. 60 . 74 . 95 1. 10 . 89	. 67 . 75 . 99 1. 09 . 89	.73 .75 .99 1.09 .87	.67 .74 .84 .98 1.07	. 78 . 86 1. 03 1. 22 1. 71	. 58 . 63 . 73 . 81 . 78
.86 .89 .90	. 83 . 87 . 87 . 89 . 91	. 79 . 86 . 87 . 89 . 90	.81 .93 .86 .90 .89	.86 .95 .86 .92 .90	.87 .91 .84 .89 .91	.82 .91 .82 .91 .89	.80 .86 .83 .91 .91	.84 .91 .81 .86 .90	. 86 . 86 . 83 . 85 . 89	.83 .87 .84 .85	.81 .86 .90 .88	.83 .89 .85 .89	. 89 . 95 . 94 . 94 . 94	. 77 . 84 . 78 . 83 . 86
1. 03	. 90 1. 03 . 92 1. 07	. 95 1. 01 1. 04 . 92 1. 04	. 95 . 99 . 99 . 92 1. 11	. 92 . 97 . 95 . 98 1. 09	. 95 1. 04 1. 08	. 89 . 96 1. 04 1. 09	. 90 . 92 1. 05 1. 08	.94 .91 1.11 1.11	. 96 . 91 1. 14 1. 12	. 97 . 90 1. 12 1. 15	.96 .90 1.13 1.16	. 91 . 97 . 96 1. 02 1. 10	. 98 1. 01 1. 04 1. 23 1. 20	. 85 . 93 . 89 . 87 1. 02
1. 16 1. 24 1. 07 1. 11 1. 11	1. 21 1. 23 1. 07 1. 15 1. 12	1. 23 1. 21 1. 20 1. 12	1. 32 1. 18 1. 23 1. 13	1. 38 1. 10 1. 03 1. 23 1. 12	1. 34 1. 04 1. 04 1. 22 1. 11	1. 37 1. 08 1. 04 1. 24 1. 10	1. 30 1. 15 1. 04 1. 15 1. 07	1. 10 1. 12 1. 07 1. 16 1. 04	1. 15 1. 08 1. 08 1. 16 1. 02	1. 21 1. 04 1. 05 1. 11 1. 04	1. 21 1. 04 1. 07 1. 09 1. 05	1. 25 1. 13 1. 06 1. 17 1. 09	1. 42 1. 25 1. 10 1. 27 1. 15	1. 07 . 98 1. 03 1. 07 1. 02
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		
1. 02 1. 67 1. 94 2. 39	1. 04 1. 95 1. 90 2. 43	1. 07 1. 91 2. 00 2. 42	1. 07 1. 94 1. 93 2. 46	1. 11 1. 98 1. 71 2. 46	1. 09 1. 65 1. 55 2. 46	1. 05 1. 63 1. 58 2. 50	1. 28 1. 61 1. 96 2. 50	1. 29 1. 67 2. 00 2. 38	1. 28 1. 71 2. 15 2. 26	1. 38 1. 59 2. 22 2. 26	1. 47 1. 73 2. 39 2. 26	1. 18 1. 75 1. 94 2. 40		
2. 32 2. 46 1. 90	2. 32 2. 46 1. 75	2. 39 2. 43 2. 11	2. 32 2. 41 2. 37	2. 32 2. 41 2. 34	2. 32 2. 39 2. 40	2. 32 2. 29 2. 34	2. 32 2. 21 2. 20	.2. 32 .2. 16 2. 13	2. 39 2. 16 2. 34	2. 46 2. 11 2. 53	2. 46 1. 95 2. 39			
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		
2. 33 1. 37 1. 42	2. 14	2. 14 1. 58 1. 40	2. 13 1. 58 1. 46	2. 18 1. 59	1. 96 1. 44	1. 71 1. 49	1. 59 1. 35 1. 26	1. 56 1. 29 1. 22	1. 31 1. 44 1. 23	1. 26 1. 52 1. 25	1. 37 1. 54	1. 81 1. 47		
	1. 29 2 3 3 3 3 4 1 4 2 4 3 9 9 0 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Jan. Feb.  1.29 1.29 1.57 1.59 1.41 1.59 1.58 1.33 1.39 1.24 1.24 1.08 1.03 1.07 1.06 1.09 1.09 1.09 1.09 1.16 1.14 1.16 1.16 1.14 1.08 1.08 1.18 1.85 1.85 1.85 1.66 1.87 1.89 1.89 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10	Jan. Feb. Mar  1.29 1.29 1.36 1.67 1.59 1.63 1.41 1.37 1.42 1.59 1.58 1.50 1.33 1.39 1.35 1.24 1.24 1.24 1.08 1.03 1.06 1.07 1.06 1.01 1.09 1.07 1.06 1.09 9.98 .98 1.16 1.14 1.12 1.03 1.03 1.03 1.12 1.12 1.19 1.16 1.14 1.14 1.85 85 85 .81 -76 -74 -71 -67 -64 -68 .80 .83 80 .96 .91 .89 1.08 1.18 1.14 -86 8.87 .86 .89 .87 .86 .89 .87 .86 .89 .87 .86 .89 .87 .86 .89 .90 .91 1.03 1.03 1.04 -89 .90 .95 1.04 1.07 1.06 1.07 1.07 1.16 1.11 1.23 1.24 1.23 1.21 1.07 1.07 1.16 1.21 1.23 1.24 1.23 1.21 1.17 1.15 1.20 1.11 1.15 1.20 1.11 1.15 1.20 1.11 1.12 1.12  1.14 1.16 1.19 1.02 1.04 1.07 1.67 1.95 1.91 1.94 1.90 2.00 2.39 2.43 2.42 2.32 2.32 2.39 2.46 2.46 2.43 1.90 1.75 2.11  1.96 1.98 2.05	Jan. Feb. Mar. Apr.  1.29 1.29 1.36 1.32 1.57 1.59 1.63 1.53 1.41 1.37 1.42 1.43 1.59 1.58 1.50 1.55 1.33 1.39 1.35 1.32 1.24 1.24 1.24 1.14 1.08 1.03 1.06 1.16 1.07 1.06 1.01 1.03 1.09 1.07 1.06 1.01 1.09 1.07 1.06 1.03 1.09 1.07 1.06 1.03 1.09 1.07 1.06 1.03 1.09 1.08 1.03 1.05 1.12 1.12 1.19 1.24 1.16 1.14 1.12 1.04 1.16 1.14 1.14 1.09 1.85 85 81 81 1.76 .74 .71 .70 67 .64 .68 .73 80 .83 .80 .83 80 .83 .80 96 .91 .89 .86 1.08 1.18 1.14 1.28 86 .83 .80 8.80 .83 .80 9.90 .91 .89 .86 1.08 1.18 1.14 1.28 8.86 .83 .80 9.90 .91 .89 .86 1.08 1.18 1.14 1.28 1.10 1.03 1.03 1.03 1.04 1.15 1.15 1.15 1.10 1.15 1.15 1.15 1.11 1.15 1.20 1.31 1.11 1.15 1.20 1.33 1.11 1.12 1.12 1.13 1.14 1.16 1.19 1.22 1.02 1.04 1.07 1.07 1.67 1.95 1.91 1.94 1.94 1.90 2.00 1.93 2.39 2.43 2.42 2.46 2.32 2.32 2.32 2.39 2.31 1.90 1.75 2.11 2.37 1.96 1.98 2.05 2.07	Jan. Feb. Mar. Apr. May  1.29 1.29 1.36 1.32 1.35 1.57 1.59 1.63 1.53 1.43 1.41 1.37 1.42 1.43 1.38 1.59 1.58 1.50 1.55 1.52 1.33 1.39 1.35 1.32 1.32 1.24 1.24 1.24 1.14 1.14 1.08 1.03 1.06 1.16 1.12 1.07 1.06 1.01 1.03 1.03 1.09 1.07 1.06 1.03 1.06 1.99 9.98 98 99 1.00  1.16 1.14 1.12 1.04 95 1.03 1.03 1.03 1.05 1.06 1.12 1.12 1.19 1.24 1.25 1.16 1.14 1.14 1.09 1.02 1.85 85 81 81 81 84 -76 -74 -71 -70 -67 -67 -64 -68 -73 -81 80 -83 -80 -80 1.08 1.18 1.14 1.28 1.57 86 8 8 .79 81 .86 1.08 1.18 1.14 1.28 1.57 86 8.87 86 93 .95 1.08 1.18 1.14 1.28 1.57 86 8.80 87 86 .86 1.08 1.18 1.14 1.28 1.57 88 9 91 90 99 90 91 90 89 90 90 91 90 91 90 99 1.00 91 90 99 1.00 91 90 90 99 1.00 91 90 90 90 1.00 91 90 90 90 1.00 91 90 90 90 1.00 91 90 90 90 1.00 91 90 90 90 1.00 1.00 90 90 1.00 1.00 1.00 1.00 1.00 1.16 1.21 1.23 1.32 1.38 1.24 1.23 1.21 1.8 1.10 1.07 1.04 1.11 1.09 1.16 1.21 1.23 1.32 1.38 1.24 1.23 1.21 1.8 1.10 1.07 1.04 1.11 1.90 1.16 1.21 1.20 1.23 1.23 1.11 1.12 1.12 1.13 1.12 1.14 1.16 1.19 1.22 1.17 1.02 1.04 1.07 1.07 1.11 1.67 1.95 1.91 1.94 1.98 1.94 1.90 2.00 1.93 1.71 2.39 2.43 2.42 2.46 2.46 2.46 2.46 2.43 2.41 2.41 1.90 1.75 2.11 2.37 2.34	Jan.         Feb.         Mar.         Apr.         May.         June.           1.29         1.29         1.36         1.32         1.35         1.32         1.35         1.32         1.35         1.32         1.38         1.42         1.38         1.42         1.38         1.42         1.38         1.42         1.38         1.42         1.38         1.42         1.55         1.55         1.52         1.60         1.07         1.06         1.06         1.03         1.03         .97         1.06         1.07         1.06         1.03         1.	Jan.         Feb.         Mar.         Apr.         May.         June.         July.           1.29         1.29         1.36         1.32         1.35         1.32         1.38         1.32         1.38         1.32         1.38         1.32         1.38         1.32         1.38         1.32         1.38         1.32         1.41         1.38         1.42         1.44         1.13         1.32         1.31         1.30           1.33         1.39         1.35         1.32         1.32         1.31         1.30           1.24         1.24         1.24         1.14         1.16         1.12         1.06         1.06         1.01         1.03         1.03         97         .97         .97         .97         .99         .98         .99         1.00         .99         1.00         1.01         1.03         1.03         .97         .97         .97         .97         .97         .97         .97         .97         .97         .99         .98         .99         1.00         .99         1.00         .99         1.00         .99         1.00         .99         1.00         .99         1.00         .99         1.00         .99         1.00	Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.	Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.   Sept.	Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.   Sept.   Oct.	Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.   Sept.   Oct.   Nov.	Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.   Sept.   Oct.   Nov.   Dec.	Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.   Sept.   Oct.   Nov.   Dec.   Aver.	Jan.   Feb.   Mar.   Apr.   May.   June.   July.   Aug.   Sept.   Oct.   Nov.   Dec.   Aver.   High

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: 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 1913	\$1.01 .91	\$1.00 1.00	\$1.00 .93	\$1.03 .99	\$0. 96 . 95	\$0. 99 1. 02	\$0. 99 1. 02		\$1. 02 2 1. 07		\$0. 96 3 1. 08	\$0. 92 . 95	\$0.99 1.00
1914 1915 1916 1917 1918 1919	. 95 1. 26 1. 05 1. 65 1. 56 1. 31 1. 65	. 99 1. 42 1. 06 1. 64 1. 55 1. 31 1. 75	. 98 1. 39 . 96 1. 67 1. 58 1. 27 2. 02	. 95 1. 44 . 95 1. 72 1. 59 1. 27 2. 55	1. 01 1. 48 . 85 2. 00 1. 57 1. 33 2. 79	. 99 1. 35 . 83 2. 21 1. 56 1. 34 2. 58	1. 01 1. 33 . 84 2. 23 1. 50 1. 82 2. 85	1. 22 1. 29 1. 06 2. 02 1. 41 1. 94 2. 43	1. 23 1. 31 1. 19 2. 00 1. 42 1. 85 2. 48	1. 36 1. 49 2. 02 1. 41 1. 66	11. 24 1. 31 1. 74 2. 10 1. 46 1. 71 32. 75	41. 22 1. 20 1. 48 1. 79 1. 49 1. 63 1. 86	1. 08 1. 34 1. 12 1. 92 1. 51 1. 54 2. 36
Av. 1914-1920 1921 1922 1923	1. 35 1. 76 1. 04 1. 20	1. 39 1. 58 1. 26 1. 22	1. 41 1. 62 1. 32 1. 20	1. 50 1. 46 1. 30 1. 21	1. 58 1. 48 1. 32 1. 17	1. 55 1. 50 1. 22 1. 13	1. 65 1. 45 1. 27 1. 05	1. 62 1. 43 1. 20 1. 00	1. 64 1. 50 1. 16 1. 05	1. 66 1. 22 1. 22 1. 09	1. 76 1. 05 1. 20 1. 13	1. 52 1. 05 1. 22 1. 04	1. 55 1. 42 1. 23 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.

<sup>1</sup>Barletta is a semihard wheat. <sup>2</sup> No. 1 Rosario wheat. <sup>3</sup> Description "Pan." <sup>4</sup> 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	1 1. 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.

<sup>1</sup> First week of month, from Review of the Trade of India.

<sup>2</sup> Not quoted.

Table 41.—Wheat: Average price per bushel of 60 pounds at Port Adelaide, Australia, 1912-1922.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver-
1912	\$0.88	\$0.87	\$0. 88	<b>\$0.</b> 96 89	\$0.96	\$0. 98	\$0.96	\$0.96	\$0. 99	\$1.00	\$0.96	\$0.86	\$0. 94
1913	.85	.86	. 86		.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
	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
	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
	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
	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
	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
	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 <sup>1</sup>	1. 69	1. 74	1.76	1. 77	1. 79	1.70	1. 63	1. 64	1. 68	1. 74	<sup>2</sup> 1. 7 <b>9</b>	<sup>2</sup> 1. 87	1. 73
1922		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.

<sup>1</sup>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.

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.

MINISTER POTTS SPRING DATENTS!

		MII	NEA	POLI	S—SP	RING	PAT	ENTS	.1				
Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Aver- age.
1909-10 1910-11 1911-12 1912-13 1913-14	\$6. 21 6. 20 4. 88 5. 43 4. 66	\$5. 89 5. 79 4. 88 5. 24 4. 57	\$5. 14 5. 75 4. 98 4. 68 4. 45	\$5. 29 5. 21 5. 25 4. 63 4. 33	\$5. 22 5. 03 5. 05 4. 59 4. 18	\$5. 48 5. 01 5. 05 4. 13 4. 15	\$5. 58 5. 28 5. 00 4. 26 4. 26	\$5. 45 4. 91 5. 10 4. 43 4. 52	\$5. 52 4. 75 5. 10 4. 43 4. 54	\$5. 38 4. 64 5. 10 4. 43 4. 51	\$5. 42 4. 89 5. 43 4. 43 4. 51	\$5. 33 4. 81 5. 60 4. 63 4. 51	\$5. 49 5. 19 5. 12 4. 61 4. 43
Av. 1909–1913	5. 48	5. 27	5. 00	4. 94	4. 81	<b>4.</b> 76	4. 88	4. 88	4.87	4. 81	4. 94	4. 98	4. 97
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	4. 62 6. 78 5. 68 12. 86 10. 45 12. 15 14. 12	5. 78 6. 42 7. 69 13. 22 10. 53 12. 13 13. 33	10. 49 11. 54	5. 58 5. 23 9. 08 10. 84 10. 44 12. 03 11. 45	5. 79 5. 28 9. 56 10. 24 10. 41 13. 20 9. 74	6. 01 5. 98 8. 60 10. 07 10. 44 14. 48 9. 28	6. 86 6. 23 9. 00 9. 85 10. 42 14 97 9. 94	7. 54 6. 13 8. 45 10. 05 10. 69 13. 73 9. 38	7. 16 5. 70 9. 44 9. 89 11. 22 13. 41 9. 10	7. 61 5. 90 11. 33 9. 90 . 12. 09 14. 69 8. 30	9. 42 12. 52	6. 78 5. 29 13. 08 9. 89 12. 00 14. 64 9. 40	6, 43 5, 82 9, 52 10, 62 10, 98 13, 54 10, 51
Av. 1914-1920	9. 52	9. 87	9. 37	9. 24	9. 17	9. 27	9. 61	9. 42	9. 42	9.97	10. 54	10. 15	9. 63
1921 <b>-2</b> 2 1922-23 1923-24	9. 27 7. 95 6. 21	8. 34 7. 22 6. 37	8. 62 6. 68 6. 45	7. 67 6. 76 6. 43	7. 39 6. 88 6. 21	7. 26 6. 86 6. 30	7. 33 6. 71	8. 17 6. 72	8. 27 6. 72	8. 46 7. 00	8. 32 6. 80	7. 71 6. 35	8. 07 6. 89
	·	ST.	Louis	–soi	T W	INTE	R PA	TENT	rs.2				
1909-10 1910-11 1911-12 1912-13	\$5. 80 5. 20 4. 17 5. 26 4. 12	\$4. 92 4. 85 4. 25 4. 49 3. 88	\$5. 14 4. 76 4. 40 4. 54 3. 98	\$5. 75 4. 68 4. 69 4. 70 3. 95	\$5. 68 4. 58 4. 68 4. 67 4. 08	\$5. 82 4. 58 4. 62 4. 70 4. 14	\$5. 77 4. 86 4. 74 4. 84 4. 20	\$5. 80 4. 64 4. 70 4. 86 4. 11	4.52	\$5. 40 4. 38 5. 07 4. 59 3. 85	\$5. 29 4. 39 5. 54 4. 52 3. 92	\$5. 11 4. 36 5. 43 4. 45 3. 74	\$5. 52 4. 65 4. 75 4. 69 4. 00
Av. 1909-1913	4. 91	4. 48	4. 56	4. 75	4. 74	4. 77	4. 88	4. 82	4. 74	4. 66	4. 73	4. 62	4. 72
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	3. 47 5. 56 5. 24 10. 64 10. 25 10. 80 11. 98	4. 16 4. 87 6. 85 10. 78 10. 25 10. 13 11. 99	4. 83 7. 31 10. 36 10. 25 9. 90	4. 86 5. 08 7. 84 10. 33 10. 25 9. 95 11. 38	10. 25 10. 12	10.25	6. 18 5. 60 8. 67 10. 46 11. 22 12. 08 9. 73	8. 44 10. 74 11. 65	11. 40 10. 71	11.45	13. 91 10. 94 11. 41	10. 72 10. 28	5. 51 5. 25 9. 00 10. 69 10. 68 11. 40 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 1922-23 1923-24	6. 61 5. 94 5. 59	6. 63 5. 75 5. 71	6. 94 5. 86 5. 39	6. 60 6. 29 5. 71		6. 25 6. 62 5. 75	5. 99 6. 50	6. 69 6. 62	7. 05 6. 50	6. 79 6. 66	7. 07 6. 53	6. 48 6. 05	6. 61 6. 32
			CHIC	AGO-	-WIN	TER	PATE	NTS.	3				
1909-10 1910-11 1911-12 1912-13 1913-14	\$6. 08 4. 92 4. 08 4. 86 4. 25	\$5. 07 4. 87 4. 12 4. 52 4. 12	4. 72 4. 32 4. 69	4. \$5. 28 4. 57 4. 64 4. 52 4. 21	\$5. 41 4. 40 4. 61 4. 56 4. 21	4.85	4. 53 4. 40 4. 62	4. 31 4. 58	\$5, 48 4, 09 4, 58 4, 50 4, 25	4. 06 4. 76 4. 48	4. 20 5. 21 4. 48	4. 16 5. 17	4. 44 4. 61 4. 58
Av. 1909-1913	4.84	4. 54	4. 52	4. 64	4. 64	4. 69	4. 66	4. 65	4. 58	4. 56	4, 63	4. 55	4. 63
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	3. 80 5. 16 5. 23 11. 77 10. 88 11. 02 12. 98	5. 24 6. 55 12. 25 10. 68 10. 54	5. 10 7. 30 11. 74 10. 20 10. 80	5. 26 7. 78 10. 68 10. 08 11. 35	5. 23 8. 82 10. 38 9. 58 11. 91	8. 20 10. 44 10. 22 13. 00	9. 92 10. 55 13. 68	10. 42 12. 88		5. 76 11. 20 10. 95 11. 44 12. 30	5. 54 14. 91 10. 82 12. 99 13. 68	5. 37 13. 80 10. 88 11. 82 13. 42	5. 46 9. 20 10. 94 10. 77 12. 22
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 1922-23 1923-24	7. 12 6. 76 5. 31	7. 00 6. 10 5. 39	6. 24	6. 95 6. 48 5. 74	6.44		6.39	6. 97 6. 20	6. 81 6. 26	6. 95 6. 19			

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<sup>1</sup> Compiled from the Minneapolis Daily Market Record.
2 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 1923—Continued.

#### CHICAGO-SPRING PATENTS.3

		(	CHICA	700-	SPRU	NG P.	ATEN	TS.3					
Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Average.
1909-10 1910-11 1911-12 1912-13 1913-14	\$6. 17 6. 76 5. 53 6. 10 4. 89	\$5. S1 6. 65 5. 83 5. 79 4. 80	6. 37 5. 89 5. 65	\$5. 92 6. 31 6. 12 5. 36 4. 62	\$6. 13 6. 18 5. 95 5. 14 4. 58	\$6. 45 6. 28 5. 80 4. 84 4. 65	\$6. 41 6. 42 5. 82 4. 60 4. 68	\$6. 35 6. 05 5. 86 4. 66 4. 80	\$6. 46 5. 56 5. 80 4. 64 4. 86	\$6. 28 5. 36 5. 88 4. 71 4. 71	\$6. 27 5. 62 6. 38 4. 88 4. 74	\$6. 18 5. 44 6. 40 4. 81 4. 72	\$6. 21 6. 08 5. 94 5. 10 4. 73
Av. 1909-1913	5. 89	5. 78	5. 74	<b>5</b> . 67	5. 60	5. 60	5. 59	5. 54	5. 46	<b>5</b> . 39	5. 58	5. 51	5. 61
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	5.96	5. 62 6. 76 7. 63 13. 03 11. 00 12. 25 13. 10	5. 40 8. 15 11. 46 10. 62 11. 40	5. 71 5. 60 9. 84 10. 89 10. 40 11. 52 11. 75	5. 79 5. 69 9. 79 10. 55 9. 58 13. 00 10. 75	5. 90 5. 84 9. 02 10. 45 10. 50 13. 95 8. 32	10. 42 13. 88	7. 62 6. 74 9. 01 10. 75 10. 28 14. 42 8. 82	7. 41 5. 87 9. 75 11. 25 10. 20 13. 18 8. 75	7. 62 6. 16 12. 02 11. 50 11. 45 13. 75 8. 48	7. 85 6. 11 15. 34 11. 15 13. 10 15. 40 8. 42	10. 88 11. 25 14. 50	6. 49 6. 11 10. 29 . 11. 21 10. 79 13. 24 10. 31
Av. 1914-1920	9.34	9. 91	9. 38	9. 39	9. 31	9.14	9. 63	9.66	9. 49	10. 14	11.05	10. 90	9. 78
1921-22 1922-23 1923-24	8. 82 7. 73 5. 80	9. 00 7. 25 5. 97	8. 10 6. 99 6. 15	7. 75 6. 86 6. 18	7. 38 6. 78 5. 99	7. 32 7. 00 5. 95		7. 84 6. 68	7. 55 6. 68	7. 60 6. 64			7. 82 6. 86
		NI	EW Y	ORK-	-WIN	TER	PATE	NTS.					
1909-10 1910-11 1911-12 1912-13 1913-14	\$6. 52 5. 44 4. 68 5. 79 5. 58	\$6. 28 5. 36 4. 67 5. 28 5. 42	\$5. 43 5. 07 4. 71 5. 34 4. 89	\$5. 77 4. 92 4. 90 5. 33 4. 91	\$5. 78 4. 81 4. 90 5. 33 4. 90	\$5. 74 4. 88 4. 90 5. 33 4. 90	\$5. 96 5. 02 4. 96 5. 55 4. 92	\$5. 95 4. 92 5. 06 5. 75 4. 97	\$5. 96 4. 78 5. 08 5. 44 5. 00	\$5. 82 4. 63 5. 32 5. 50 4. 88	4. 67 6. 00	4.65 6.00 5.54	4.93
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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	4. 90 6. 48 5. 63 11. 72 11. 35 11. 11 12. 46	5. 22 6. 62 7. 34 11. 12 10. 71 10. 53 11. 20	5. 68 7. 86 10. 94 10. 40 10. 52	5. 80 5. 89 8. 30 10. 64 10. 28 10. 22 10. 14	5. 80 5. 90 8. 90 10. 51 10. 25 10. 18 9. 38	10. 45 10. 53	6. 79 6. 70 9. 09 10. 44 10. 48 10. 99 8. 87	7. 88 6. 62 8. 87 10. 43 10. 25 10. 98 8. 36	6. 28 9. 53	7. 39 6. 24 11. 41 11. 00 11. 40 11. 47 7. 00	5. 91 14. 57 10. 98 11. 38 12. 90	11.19	6. 1 <b>7</b> 9. 42
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 1922-23 1923-24	6. 50 7. 10 5. 69	6. 24 6. 49 5. 93	6. 57	6. 02 6. 76 6. 33	5. 73 6. 98 6. 20	6.79	<b>6</b> . 67	6. 66 6. 63		6. 57 6. 72	6. 32 6. 45		6. 25 6. 67
		N	EW Y	ork-	-SPR	ING I	PATE	NTS.4					
1909-10 1910-11 1911-12 1912-13 1913-14	\$6. 45 6. 05 5. 13 5. 51 4. 98	\$6. 31 5. 78 5. 36 5. 37 4. 98	5. 71 5. 44 5. 11		\$5. 56 5. 33 5. 45 4. 80 4. 52	5. 40 5. 22 4. 60	5. 46 5. 42 4. 66	5. 25 5. 43	5. 08 5. 40 4. 80	\$5. 66 5. 02 5. 54 4. 66 4. 66	5. 23 5. 88 4. 89	5. 10 5. 73 4. 95	
Av. 1909-1913	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
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	4. 59 6. 82 6. 09 12. 32 11. 41 12. 12 13. 93	5. 78 6. 91 7. 80 12. 46 11. 26 12. 35 13. 06	6. 44 8. 36 11. 69 11. 07 11. 73	5. 78 5. 58 8. 94 11. 31 10. 92 12. 20 11. 34	9. 69 10. <b>93</b> 10. 82 13. 11	6. 10 . 8. 99 10. 86	6. 69 9. 49 10. 63 10. 64 14. 49	6. 64 9. 06 10. 63 10. 69 13. 25	5. 99 9. 80 10. 94 11. 27 13. 07		6. 27 14. 99 10. 98 12. 51 14. 83	5. 78 13. 68 10. 98 11. 93	9. 88 11. 23
Av. 1914–1920	9. 61	<b>9</b> . 95	9. 74	9. 44	9. 40	9. 46	<b>9</b> . 79	9. 58	9. 61	10. 10	10. 85	10. 31	9. 82
1921-22 1922-23 1923-24	9. 03 7. 69 6. 07	8. 48 7. 00 6. 38	6.64	7. 50 6. 85 6. 36	6. 97 6. 99 6. 17	6. 94 6. 93 6. 20	6. 85 6. 68	8. 05 6. 62	7. 95 6. 56	7. 96 6. 79			7. 82 6. 82

Division of Statistical and Historical Research.

Compiled from Chicago Board of Trade and Daily Trade Bulletin.
 Compiled from New York Journal of Commerce.

Table 42.—Flour, wheat: Average wholesale price per barrel at markets named, 1909 to 1923.—Continued.

# KANSAS CITY-HARD WINTER PATENTS.5

Year beginning July i	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Aver- age.
1909-10	\$5. 42									\$4. 84	\$4. 84	\$4.60	\$4. 82
1910-11	4.85									4.05			4.44
1911-12	4.06			4. 65						4. 79			
1912-13	4. 50		4. 10							3. 99			
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		5. 18				5. 20			
1916-17	5. 14	6. 90	7.40	8.08	9. 07	8. 02				11.91			
1917-18	11. 95	12.41		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. 49	11.94	12.99	12.01	10.72
1919-20	11. 11	10. 70				13. 52		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.

Table 43.—Bread: Average retail price per pound (baked weight), 1913-1923.

NEW YORK.

Calendar year.	Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.	Aug.	Sept.	Oct. 15.	Nov. 15.	Dec. 15.	Aver- age.
1913	Cents. 6. 0	Cents. 6. 0	Cents. 6. 0	Cents. 6. 0	Cents. 6. 0	Cents. 6. 2	Cents. 6. 4	Cents. 6. 1	Cents. 6. 0	Cents. 6. 0	Cents. 6. 0	Cents. 6. 1	Cents. 6. 1
1914 1915 1916 1917 1918 1919	6. 1 6. 4 6. 6 8. 0 9. 1 10. 0 10. 5	6. 1 7. 2 6. 8 8. 1 8. 9 10. 0 11. 1	6. 2 6. 6 6. 6 8. 7 8. 9 10. 0 11. 1	6. 1 6. 6 6. 6 8. 9 10. 0 10. 0 11. 6	6. 1 6. 6 6. 6 9. 8 10. 0 10. 0 11. 8	6. 1 6. 8 6. 6 9. 9 9. 9 10. 0 11. 9	6. 1 6. 9 6. 6 9. 9 10. 0 10. 0 11. 9	6. 4 6. 9 6. 6 9. 9 9. 9 10. 0 11. 9	6. 2 6. 6 7. 1 9. 9 9. 9 10. 0 11. 9	6. 2 6. 6 7. 7 9. 9 10. 0 10. 0 11. 9	6. 3 6. 6 7. 8 9. 9 9. 9 10. 0 11. 9	6. 3 6. 6 8. 1 8. 8 9. 9 10. 0 11. 6	6. 2 6. 7 7. 0 9. 3 9. 7 10. 0 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 1922 1923	11. 0 9. 8 9. 7	10. 7 9. 0 9. 7	10. 8 8. 9 9. 7	10. 6 8. 9 9. 6	9. 9 8. 9 9. 6	10. 0 9. 7 9. 6	10. 1 9. 7 9. 6	10. 2 9. 7 9. 6	10. 1 9. 8 9. 6	10. 1 9. 8 9. 6	10. 0 9. 8 9. 6	9. 9 9. 7 9. 6	10. 3 9. 5 9. 6
				(	CHICA	AGO.							
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. 4 6. 5 8. 1 9. 2 10. 2 10. 6	6. 1 7. 2 6. 5 8. 2 9. 6 10. 2 11. 6	6. 1 7. 2 6. 5 8. 2 10. 1 10. 2 11. 6	6. 1 6. 5 6. 5 8. 6 10. 2 10. 0 11. 6	6. 1 6. 5 6. 6 9. 6 10. 2 10. 0 12. 3	6. 1 6. 5 6. 6 10. 5 10. 2 10. 0 12. 4	6. 1 6. 5 6. 6 10. 5 10. 2 10. 0 12. 4	6. 1 6. 5 6. 6 10. 5 10. 2 10. 0 12. 4	6. 2 6. 5 6. 6 10. 5 10. 2 10. 0 12. 4	6. 2 6. 5 7. 3 10. 5 10. 2 10. 7 12. 4	6. 2 6. 5 7. 9 10. 1 10. 2 10. 6 12. 4	6. 3 6. 5 8. 0 9. 0 10. 2 10. 7 11. 5	6. 1 6. 6 6. 8 9. 5 10. 1 10. 2 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	91	8.9	8.8
1921 1922 1923	11. 3 9. 9 9. 7	11. 3 8. 9 9. 7	11. 3 9. 7 9. 7	11. 2 9. 7 9. 7	9. 9 9. 7 9. 7	9. 9 9. 7 9. 7	9. 8 9. 7 9. 8	9. 8 9. 7 9. 8	9. 8 9. 7 9. 7	10. 3 9. 6 9. 7			
				MII	NEA	POLI	s.						
1913	5. 7	5. 7	5. 6	5. 6	5. 6	5. 6	5. 6	5. 6	5. 6	5. 6	5. 6	5.6	5. <b>6</b>
1914 1915 1916 1917 1918 1919 1920 Av. 1914–1920	5. 6 6. 1 6. 3 8. 0 8. 8 9. 2 10. 6	5. 6 6. 4 6. 4 8. 0 8. 8 9. 2 10. 5	5. 6 6. 4 6. 4 8. 0 9. 1 9. 2 10. 4	5. 6 6. 5 6. 4 8. 0 9. 1 9. 2 10. 4	5. 6 6. 5 6. 4 9. 3 9. 0 9. 2 10. 4	5. 6 6. 5 6. 4 10. 5 9. 0 9. 6 11. 1	5. 6 6. 5 6. 5 10. 5 8. 8 9. 6 11. 1	5. 6 6. 5 6. 5 10. 6 8. 8 9. 6 11. 1	5. 6 6. 5 7. 4 10. 5 8. 8 9. 6 11. 1	5. 9 6. 3 7. 4 10. 4 8. 8 9. 6 11. 1	6. 0 6. 3 7. 5 10. 5 8. 8 9. 6 10. 3	6. 0 6. 3 7. 9 9. 7 8. 8 9. 8 10. 3	5. 7 6. 4 6. 8 9. 5 8. 9 9. 4 10. 7
1921 1922 1923	10. 3 8. 4 9. 0	10. 3 8. 4 9. 0	10. 3 8. 4 9. 0	10. 3 8. 8 9. 0	9. 6 8. 9 9. 0	9. 6 9. 0 9. 0	9. 6 9. 0 9. 0	9. 6 9. 0 9. 0	8. 6 9. 0 9. 0	8. 6 9. 0 9. 0	8. 4 9. 0 9. 0	8. 4 9. 0 9. 0	9. 5 8. 8 9. 0

 $<sup>^{5}</sup>$  Compiled from Northwestern Miller, Kansas City Daily Price Current, and Kansas City Grain Market Review.

Table 43.—Bread: Average retail price per pound (baked weight), 1913-1923—Continued. UNITED STATES (AVERAGE OF LEADING CITIES).

Calendar year.	Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Aver- age.
1913	5.6	Cents. 5. 6	Cents. 5. 6	Cents. 5. 6	5.6	5.6	Cents. 5. 6	Cents. 5. 6	5. 6	Cents. 5. 6	Cents. 5. 6	Cents. 5. 6	Cents. 5. 6
1914 1915	6. 2	6. 2 7. 1	6. 2 7. 1	6. 2 7. 1	6. 2 7. 2	6. 2 7. 2	6. 2 7. 1	6. 3 7. 1	6. 4 7. 0	6. 4 7. 0	6. 4 6. 9	6. 5 6. 9	6. 3 7. 0
1916 1917	6.9	7. 0 8. 0	7. 0 8. 1	7. 0 8. 4	7. 0 9. 5	7. 0 9. 6	7. 0 9. 9	7. 1 10. 2	7. 7 9. 9	8. 1 9. 9	8. 4 9. 9	7. 8 9. 3	7.3 9.2
1918 1919	9. 4 9. 8	9. 5 9. 8	9. 6 9. 8	9.8 9.8	9. 9 9. 8	10. 0 9. 9	10. 0 10. 0	9. 9 10. 1	9. 9 10. 1	9. 8 10. 1	9. 8 10. 2	9.8 10.2	9. 8 10. 0
1920 Av. 1914–1920	10. 9 8. 3	11. 1 8. 4	11. 2 8. 4	11. 2 8. 5	11.5	11. 8 8. 8	11. 9 8. 9	11. 9 8. 9	9.0	9.0	9.0	10. 8 8. 8	11. 5 8. 7
1921 1922	10. 8 8. 8	10.6 8.6	10. 5 8. 7	10. 3 8. 7	9. 9 8. 8	9. 8 8. 8	9. 7 8. 8	9.7	9. 6 8. 7	9. 5 8. 7	9. 3 8. 7	9. 1 8. 6	9. <b>9</b> 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.

			••••	, by Di						
State.	Daily capacity.  Jan. 1, Jan. 1, 1923		Out	put.²	Wheat	ground.2		produc- n.³	grou a per ag wh pro	neat nd as cent- e of leat duc- on.
	Jan. 1, 1920.	Jan. 1, 1923.	1919	1921	1919	1921	1919	1921	1919	1921
Alabama Arizona Arkansas California Colorado	Barrels. 1, 235 925 7, 235 17, 525 11, 975	Barrels. 600 825 7, 200 16, 475 12, 300	1,000 barrels. 48 150 355 3,383 1,481	1,000 barrels. 3 132 180 1,974 1,481	1,000 bushels. 210 669 1,644 15,701 6,943	1,000 bushels. 16 619 887 9,582 6,645	1,000 bushels. 306 950 2,432 16,848 18,196	1,000 bushels. 210 840 958 8,355 23,239	P. ct. 69 70 68 93 38	74 93 115 29
Delaware Georgia Idaho Illinois Indiana	1, 975	1,700	111	90	576	455	1, 512	1, 300	38	35
	5, 575	5,550	491	542	2, 209	2, 468	1, 480	1, 449	149	179
	9, 625	9,850	1, 105	787	5, 119	3, 676	20, 775	26, 952	25	14
	55, 250	49,300	7, 262	5, 215	33, 430	23, 992	70, 170	46, 822	48	51
	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	54
Michigan	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, 875	26	19
Nevada	725	900	88	17	397	83	466	493	85	17
New Jersey New Mexico New York North Carolina North Dakota	2, 925	2, 925	123	145	594	727	1, 530	1, 539	39	47
	1, 625	1, 175	94	72	454	357	2, 676	3, 088	17	12
	60, 900	59, 875	9, 053	8, 394	43, 337	37,880	9, 753	9, 137	444	415
	12, 425	15, 100	1, 315	1, 341	6, 228	6,580	5, 570	4, 500	112	146
	17, 375	17, 425	2, 225	1, 994	10, 089	9,427	62, 776	80, 750	16	12
OhioOklahomaOregonPennsylvaniaSouth Carolina	64, 875	60, 150	5, 790	3, 844	27, 348	18, 514	58, 196	30, 185	47	61
	20, 850	22, 250	3, 464	2, 781	15, 787	12, 705	66, 052	47, 325	24	27
	26, 100	28, 400	3, 342	2, 528	14, 991	11, 538	20, 739	25, 364	72	45
	37, 825	38, 950	3, 313	3, 007	15, 947	14, 801	24, 898	23, 850	64	62
	1, 125	1, 000	50	62	299	313	1, 250	1, 298	22	42
South Dakota	9, 865	6, 500	630	354	3, 005	1, 764	31, 793	25, 980	9	7
Tennessee	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, 687	3, 478	4, 130	6, 299	65	55
Virginia	21, 700	24, 025	2, 208	1, 761	10, 468	8, 373	11, 694	8, 301	90	101
Washington West Virginia Wisconsin Wyoming Other Total U. S	36, 475 10, 000 26, 100 2, 800 200	36, 800 10, 725 27, 850 2, 575 1, 150	5, 911 586 2, 809 104 213 132, 466	4, 470 376 1, 702 217 178	26, 836 2, 928 13, 337 487 1, 015 612, 562	21, 021 1, 678 7, 988 1, 003 880 521, 234	41, 888 4, 023 7, 568 2, 613 943 967, 979	58, 245 3, 125 2, 812 3, 316 397 814, 905	64 73 176 19 108	36 54 284 30 222 64

Division of Statistical and Historical Research.

<sup>1</sup> Miller's Almanack, 1923, page 192. Does not include a few minor States.
2 Census of Manufactures, 1921.—Flour-Mill Products and Bread and Other Bakery Products. Includes merchant mills only. Calendar years.
3 Division of Crop and Livestock Estimates. Department of Agriculture Yearbooks, 1921 and 1922.

Table 45.—Rye: Acreage, production, value, exports, etc., in the United States, 1869-1923.

				100	9-1925.						
	A amograp	Average		Aver- age farm	Farm	Value	Chic	ago ca bushel	sh pric	e per	Domestic exports including
Calendar year.	Acreage harvest- ed.	yield per acre.	Produc- tion	price per bushel Dec. 1.	value Dec. 1.	per acre.1	Dece	mber.		owing ay.	rye flour, fiscal year beginning July 1.3
				200.21			Low.	High.	Low.	High.	
1869	1,000 acres. 1,658 1,176 1,070 1,049	Bush.of 56 lbs. 13. 6 13. 2 14. 4 14. 2	1,000 bushels. 22,528 15,474 15,366 14,889	Cents. 77. 0 73. 2 71. 1 67. 6	1,000 dollars. 17, 342 11, 327 10, 928 10, 071	Dollars. 10. 46 9. 63 10. 21 9. 60	Cts. 66 67 62 571 2	Cts. 77½ 74 63¾	Cts. 78 81 75 68½	Cts. 83½ 91 93 70	Bushels, 199, 450 87, 174 832, 689 611, 749
1873 1874 1875 1876 1877 1878	1, 117 1, 360 1, 468 1, 413	13. 2 13. 4 13. 0 13. 9 15. 0 15. 9	15, 142 14, 991 17, 722 20, 375 21, 170 25, 843	70. 3 77. 4 67. 1 61. 4 57. 6 52. 5	10, 638 11, 610 11, 894 12, 505 12, 202 13, 566	9. 25 10. 39 8. 75 8. 52 8. 64 8. 36	70 <sup>2</sup> 93 67 65½ 55½ 44	81 991 681 73 561 441	91 103 61½ 70 54 47	102 107½ 70½ 92½ 60 52	1, 923, 404 267, 058 589, 159 2, 234, 856 4, 249, 684 4, 877, 821
1879 1880 1881 1882 1883	1, 842 1, 768 1, 789	13. 7 13. 9 11. 6 13. 4 12. 1	25, 201 24, 541 20, 705 29, 960 28, 059	67. 6 75. 6 93. 3 61. 5 58. 1	17, 040 18, 565 19, 327 18, 439 16, 301	9. 25 10. 50 10. 80 8. 28 7. 04	73½ 82 96½ 57 56½	81 91½ 98 58½ 60	73½ 115 77 62 60½	85 118 83 67 62½	2, 943, 894 1, 955, 155 1, 003, 609 2, 206, 212 6, 247, 590
1884 1885 1886 1887 1888	2, 344 2, 129 2, 130 2, 053 2, 365	12. 2 10. 2 11. 5 10. 1 12. 0	28, 640 21, 756 24, 489 20, 693 28, 415	51. 9 57. 9 53. 8 54. 5 58. 8	14, 857 12, 595 13, 181 11, 283 16, 722	6. 34 5. 92 6. 19 5. 50 7. 07	51 58½ 53 55½ 50	52 61 541 611 52	68 58 54½ 63 39	73 61 56½ 68 41½	2, 974, 390 216, 699 377, 302 94, 827 309, 266
1889	2, 172 2, 184 2, 234 2, 251 2, 178	13. 1 12. 1 14. 7 13. 0 13. 1	28, 378 26, 414 32, 761 29, 253 28, 592	42. 3 62. 6 77. 1 53. 6 50. 2	11, 991 16, 536 25, 264 15, 674 14, 360	5. 52 7. 57 11. 31 6. 96 6. 59	44 64½ 86 46 45	45½ 68½ 92 51 47½	49½ 83 70½ 50½ 44½	54 92 79 62 48	2, 280, 975 358, 263 12, 068, 628 1, 493, 924 249, 152
1894 1895 1896 1897 1898	2, 164 2, 153 2, 126 2, 077 2, 071	13. 7 14. 5 13. 6 16. 1 15. 9	29, 613 31, 139 28, 913 33, 433 32, 888	49. 4 42. 2 38. 8 43. 2 44. 5	14, 622 13, 151 11, 231 14, 454 14, 640	6. 76 6. 11 5. 28 6. 96 7. 07	47½ 32 37 45¾ 52½	49 35 <del>4</del> 42 <del>1</del> 47 55 <del>1</del>	62½ 33 32¾ 48 56½	67 36½ 35½ 75 62	32, 045 1, 011, 128 8, 575, 663 15, 562, 035 10, 169, 822
1899 1900 1901 1902 1903	£, 054 2, 042 2, 033 2, 051 2, 074	14. 8 15. 1 15. 3 17. 2 15. 4	30, 334 30, 791 31, 103 35, 255 31, 990	49. 6 49. 8 55. 4 50. 5 54. 0	15, 046 15, 341 17, 220 17, 798 17, 272	7. 33 7. 51 8. 47 8. 68 8. 33	49 453 59 48 501	52 493 653 493 523	53 51½ 54½ 48 69¾	561 54 58 501 78	2, 382, 012 2, 345, 512 2, 712, 077 5, 445, 273 784, 068
1904 1905 1906 1907 1908	2, 085 2, 141 2, 186 2, 167 2, 175	15. 3 16. 4 16. 7 16. 4 16. 4	31, 805 35, 168 36, 559 35, 455 35, 768	68. 9 60. 4 58. 5 72. 5 72. 8	21, 923 21, 241 21, 381 25, 709 26, 023	10. 51 9. 92 9. 78 11. 86 11. 96	73 64 61 75 75	75 68 65 82 771	70 58 69 79 83	84 62 87½ 86 90	29, 749 1, 387, 826 769, 717 2, 444, 588 1, 295, 701
1909 1910 1911 1912 1913	2, 196 2, 185 2, 127 2, 117 2, 557	16. 1 16. 0 15. 6 16. 8 16. 2	35, 406 34, 897 33, 119 35, 664 41, 381	72. 2 71. 5 83. 2 66. 3 63. 4	25, 548 24, 953 27, 557 23, 636 26, 220	11. 63 11. 42 12. 96 11. 16 10. 25	72 80 91 58 61	80 82 94 64 65	74 90 90 60 62	80 113 95 <u>1</u> 64 67	242, 262 40, 123 31, 384 1, 854, 738 2, 272, 492
Av. 1909-1913	2, 236	16. 1	36, 093	70. 9	25, 583	11. 44	72. 4	77. 0	75. 2	83. 9	888, 290
1914 1915 1916	2, 541 3, 129 3, 213	16. 8 17. 3 15. 2	42, 779 54, 050 48, 862	86. 5 83. 4 122. 1	37, 018 45, 083 59, 676	14. 57 14. 41 18. 57	1071 941 130	112 <del>1</del> 98 <del>1</del> 151	115 96½ 200	122 991 240	13, 026, 778 15, 250, 151 13, 703, 499
1917 1918 1919 1920	4, 317 6, 391 6, 307 4, 409	14. 6 14. 2 12. 0 13. 7	62, 933 91, 041 75, 483 60, 490	166. 0 151. 6 133. 2 126. 8	104, 447 138, 038 100, 573 76, 693	24. 19 21. 60 15. 95 17. 39	179 154 150 144	185 164 182 167	180 145½ 198 135½	260 173 229 167	17, 186, 417 36, 467, 450 41, 530, 961 47, 337, 466
Av.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 1922 1923 <sup>4</sup>	4, 528 6, 672 5, 157	13. 6 15. 5 12. 2	61, 675 103, 362 63, 023	69. 7 68: 5 64. 7	43, 014 70, 841 40, 804	9. 50 10. 62 7. 91	84 83 <del>1</del> 69 <del>1</del>	90 92 <del>1</del> 72 <del>1</del>	97½ 72	111 83	29, 943, 852 51, 662, 968
		<del></del>						-aturn	_		

Division of Crop and Livestock Estimates; figures in italics are census returns.

<sup>1</sup> Based on farm price December 1.
2 Chicago Daily Trade Bulletin.
3 Compiled from reports of Bureau of Foreign and Domestic Commerce.
4 Preliminary.

Table 46.—Rye: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thou	sands of	acres.		tion, the		Total v	alue, bas , thousa dollars.	is Dec. 1 ads of
	1921	1922	1923 ¹	1921	1922	1923 1	1921	1922	19231
Massachusetts Connecticut New York New Jersey Pennsylvania	2	3	3	30	57.	54	52	80	73
	5	5	5	95	100	90	142	150	112
	52	55	58	806	880	945	798	854	860
	57	61	65	998	1, 159	1, 157	1, 018	985	1,088
	200	220	215	3, 200	3, 740	3, 655	3, 040	3, 254	3,326
Delaware	17 38 10 39	6: 17: 40: 10: 60:	6 17 42 10 58	44 238 418 120 273	85 258 460 120 480	86. 269 504 100 603	219 397 114 341	89 284 414 114 576	83 261 539 103 814
South Carolina Georgia Ghio Indiana Hinois	12 83 306 197	6 18 87 350 256	7 20 84 299 230	50 108 1,079 3,978 3,349	60 171 1, 235 4, 200 4, 096	74 180 1, 302 4, 186 3, 450	125 189 906 2, 904 2, 679	108 231 1, 025 3, 318 3, 072	128 342 1, 016 3, 056 2, 588
Michigan Wisconsin Minnesota Lowa Missouri	642	642	467	8, 346	8, 218	6, 538	5, 842	6, 246	4, 054
	371	489	342	5, 046	7, 139	5, 062	3, 583	5, 140	3, 290
	640	1, 154	912	11, 200	21, 926	12, 312	6, 944	14, 910	6, 525
	35	55	54	564	1, 084	923	412	759	609
	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
	191	506	304	3, 056	9, 108	3, 496	1, 772	5, 283	1, 713
	151	188	132	1, 918	2, 106	1, 584	1, 151	1, 369	887
	101	71	41	1, 141	788	348	776	552	261
	18	20	20	180	230	234	202	253	241
Tennessee Alabama. Texas Oidshoma Arkansas	19	20	20	152	180	200	205	214	232
	1	1	1	12	5	12	19	8	19
	13	13	17	156	117	204	156	146	200
	34	35	37	408	350	444	269	280	400
	1	1	1	9	12	9	12	12	11
Montana	116	240	192	1, 299	3, 360	2, 112	688	1, 814	1, 077
	24	35	24	504	490	312	292	255	206
	92	97	73.	1, 058	873	876	635	576	491
	5	2	2	70	19	24	49	10	22
Utah	15	12	11	140	120	125	98	72	112
Idaho	12	13	14	216	195	266	151	131	181
Washington	21	19	23	294	190	361	191	180	260
Oregon	39	37	37	554	444	555	377	377	516
United States	4, 528	6, 672	5, 157	61, 675	103, 362	63, 023	43, 014	70, 841	40, 804

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 47.—Rye: Yield per acre, by States, calendar years, 1908-1923.

										<del></del>		,						
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	19 <b>23</b>
Massachusetts	16. 5	Bu. 16. 2	17.0	16.0	18. 5	18. 5	10.0	19. 0 19. 0	20.0 $21.5$	18. 5 19. 6	19. 0 20. 5	20. 0 22. 0	23. 0 20. 0	18. 0 18. 0	19. 6 20. 1	15.0 19.0	20.0	18. 0 18. 0
New York New Jersey Pennsylvania	16. 5 16. 2	17. 0 16. 3	18. 3 18. 0	16. 7 16. 4	16. 5 17. 5	17. 2 18. 0	17. 1 17. 2	18. 5	20. 0	19.0	18. 5	18. 5	16. 0	17. 5	18.3	17.5	19.0	16. 3 17. 8 17. 0
Delaware	15. 5 15. 0 12. 5 13. 0	14. 0 14. 1 12. 3	15. 5 16. 1 13. 5 12. 9	15. 0 14. 5 11. 5	14. 0 15. 5 12. 5 13. 0	14. 0 14. 4 12. 3 13. 5	14. 5 14. 9 12. 4 12. 8	17. 0 13. 0 14. 5	16. 5 14. 5 14. 0	15. 5 12. 5 16. 0	16. 0 16. 0 15. 0 13. 5 10. 0	15. 0 12. 0 13. 7	14. 0 11. 5 13. 0	15. 4 12. 0 11. 0	15. 6 12. 9 13. 7	14.0 11.0 12.0	15. 2 11. 5 12. 0	14. 4 15. 8 12. 0 10. 0 10. 4
South Carolina Georgia Ohio Indiana Illinois	16. 5 15. 0	9. 0 17. 2 16. 5	10. 4 16. 5 15. 8	9. 5 15. 5 13. 7	9. 2 15. 5 14. 5	9. 5 16. 5 15. 2	9. 5 16. 2 15. 1	9.3 17.0 16.3	9. 2 17. 5 16. 0	9. 5 14. 5 14. 0	10. 0 8. 3 18. 0 15. 0 17. 5	8.8 17.0 16.5	8. 9 16. 0 14. 0	10. 0 14. 4 14. 0	9. 1 16. 3 15. 1	9. 0 13. 0 13. 0	9. 5 14. 2 12. 0	10. 5 9. 0 15. 5 14. 0 15. 0
Michigan	15. 5 19. 0 18. 5	5 15. 5 16. 3 5 19. 0	15. 3 16. 0 17. 0	14. 6 17. 0 18. 7	13. 3 18. 3 23. 0	14. 3 17. 5 19. 0	14. 6 17. 0 19. 3 18. 3	16. 5 18. 8 19. 0	18. 5 19. 5	16. 2 15. 0	14. 0 18. 5 18. 5 18. 6 14. 7	17. 6 20. 0 19. 0	15. 8 15. 0 15. 9	16. 0 17. 0 17. 0	17. 0 17. 7 17. 8	13. 6 17. 5 16. 1	14. 6 19. 0 19. 7	14. 0 14. 8 13. 5 17. 1 12. 5
North Dakota South Dakota Nebraska Kansas Kentucky	18. 0 17. 8 16. 0	18. 4 5 17. 5 16. 5	8. 5 17. 0 16. 0	16. 6 10. 6 13. 6	18. 0 19. 5 16. 0	14. 4 13. 2 14. 5	15. 2 15. 4 15. 2 13. 8	17. 0 16. 0 20. 0	19. 5 17. 5 16. 0	18. ( 16. ( 14. 5	9. 5 16. 0 15. 6 14. 0 12. 5	18. 0 12. 9 14. 3	13. C 16. 3 11. C	13. 5 14. 1 13. 0	16. 4 15. 5 14. 7	16. 0 12. 7 11. 3	18. 0 11. 2 11. 1	7. 8 11. 5 12. 0 8. 5 11. 7
TennesseeAlabamaTexasOklahomaArkansas	12. 8 10. 0 15. 8	5 10. 7 11. 3 5 11. 2	11. 0 12. 0 11. 5	11. 9 10. 0 10. 0	11. 8 11. 8 16. 6	12. 0 11. 0 15. 0 9. 8	11. 4 11. 2 12. 9	13. 0 14. 8 16. 0	10. 0 17. 0 13. 8	13. ( 10. ( 10. (	9. 8 9. 8 10. 0 10. 0 13. 8	5. 4 5. 4 11. 0	9. 5 17. ( 14. (	10. 9 16. 0 15. 0	11. 0 12. 9 12. 8	12. 0 12. 0 12. 0	5. 0 9. 0 10. 0	10. 0 12. 0 12. 0 12. 0 9. 0
Montana	20. 0 22. 0 15.	29. 0 26. 0 5 22. 0	20. ( 18. 5 14. (	23. ( 20. ( 12. (	23. 8 19. 0 19. 8	21. ( 19. ( 5 17. (	23. 3 20. 5 16. 9	5 17 C	ນາກທ	115.	5114. (	1118. (	H 9. (	)II8. (	14. 2 15. 9 13. 2	21. 0	9.0	// 13. U
Utah Idaho Washington Oregon	15. 20. 19.	5 22. 0 0 21. 5 5 21. 0	18. 5 20. 6 20. 5	5 15. 0 22. 5 22.	5 15. 0 5 22. 0 0 20. 0	17. 6 22. 6 21. 6	17. 6 21. 6 20. 9 5 17. 0	20. (	20. (	) 17. ( 2 14	0 15. 5 5 12. 7	5 15. ( 7 10. (	14. ( 12. (	) 14. ( ) 9. <i>l</i>	11. 6 16. 8 13. 8 13. 6	18.0	10.0	15.7
United States	1	_	-					1	L	_ [	_		-1		7 14. 8	-	-1	

Table 48.—Rye: Condition of crop, United States, 1st of month, and yield per acre, calendar years, 1866-1923.

Year.	De- cem- ber of pre- vious year.	Apr.	Мау	June.	July.i	Yield per acre.	Year.	De- cem- ber of pre- vious year.	Apr.	Мау.	June.	July.1	Yield per acre.
1866 1867 1868 1869 1870	P. ct. 103. 5 97. 8 100. 2 99. 4		P. ct.		P. ct. 93. 7 115. 6 104. 1 103. 9 91. 8	Bush. 13. 5 13. 7 13. 6 13. 6 13. 2	1901 1902 1903 1904 1905	P. ct. 99. 1 89. 9 98. 1 92. 7 90. 5	P. ct. 93. 1 85. 4 97. 9 82. 3 92. 1	P. ct. 94. 6 83. 4 93. 3 81. 2 93. 5	P. ct. 93. 9 88. 1 90. 6 86. 3 94. 0	P. ct. 93. 0 90. 2 89. 5 88. 9 93. 2	Bush. 15. 3 17. 2 15. 4 15. 3 16. 4
1871 1872 1873 1874	102. 2 94. 7 99. 5 99. 9			102. 7 88. 0 95. 6 97. 6	102. 3 95. 0 95. 2 99. 3	14. 4 14. 2 13. 2 13. 4	1906 1907 1908	95. 4 96. 2 91. 4	90. 9 92. 0 89. 1	92. 9 88. 0 90. 3	89. 9 88. 1 91. 3	91. 3 89. 7 91. 2	16. 7 16. 4 16. 4
1878	101. 9 99. 0			94. 8 101. 1 102. 0	92. 2 97. 6 103. 3 101. 0	13. 0 13. 9 15. 0 15. 9	1909 1910 1911 1912 1913	87. 6 94. 1 92. 6 93. 3 93. 5	87. 2 92. 3 89. 3 87. 9 89. 3	88. 1 91. 3 90. 0 87. 5 91. 0	89. 6 90. 6 88. 6 87. 7 90. 9	91. 4 87. 5 85. 0 88. 2 88. 6	16. 1 16. 0 15. 6 16. 8 16. 2
1879 1880	99. 3	96. 0 97. 6		91. 0 95. 0	92. 3 93. 4	13. 7 13. 9	Aver.	92. 2	89. 2	89. 6	89. 5	88. 1	16. 1
1881 1882 1883 1884 1885	98. 5 99. 5 100. 3 94. 9	97. 0 100. 0 93. 1 98. 0 86. 5	96. 0 95. 3 96. 0 86. 0	93. 0 99. 8 95. 2 97. 0 83. 0	95. 2 99. 9 97. 3 97. 0 87. 0	11. 6 13. 4 12. 1 12. 2 10. 2	1914 1915 1916 1917	95. 3 93. 6 91. 5 88. 8	91. 3 89. 5 87. 8 86. 0	93. 4 93. 3 88. 7 88. 8	93. 6 92. 0 86. 9 84. 3 83. 6	92. 9 92. 0 87. 0 79. 4 80. 8	16.8 17.3 15.2 14.6 14.2
1886 1887 1888	95. 1 96. 0	96. 0 . 92. 0 93. 5	95. 7 90. 8 92. 9	94. 4 88. 9 93. 9	95. 6 88. 0 95. 1	11. 5 10. 1 12. 0	1918 1919 1920	84. 1 89. 0 89. 8	85. 8 90. 6 86. 8	85. 8 95. 4 85. 1	93. 5 84. 4	85. 7 83. 5	14. 2 12. 0 13. 7
1889 1890	97. 2 96. 4	93. 9 92. 8	96. 5 93. 5	95. 2 92. 3	96. 7 92. 0	13. 1 12. 1	Aver.	90. 3	88. 3	90. 1	88. 3	85. 9	14. 8
1891 1892 1893 1894 1895	99. 0 88. 8 89. 4 94. 6 96. 2	95. 4 87. 0 85. 7 94. 4 87. 0	97. 2 88. 9 82. 7 90. 7 88. 7	95. 4 91. 0 84. 6 93. 2 85. 7	97. 0 92. 9 83. 8 93. 9 82. 2	14. 7 13. 0 13. 1 13. 7 14. 5	1921 1922 1923 1924	90. 5 92. 2 84. 3 89. 9	90. 3 89. 0 81. 8	92. 5 91. 7 85. 1	90. 3 92. 5 81. 1	86. 9 89. 9 75. 0	13. 6 15. 5 12. 2
1896 1897 1898 1899 1900	94. 9 99. 8 91. 0 98. 9 98. 2	82. 9 88. 9 92. 1 84. 9 84. 8	87. 7 88. 0 94. 5 85. 2 88. 5	85. 2 89. 9 97. 1 84. 5 87. 6	83. 8 95. 0 93. 8 85. 6 80. 4	13. 6 16. 1 15. 9 14. 8 15. 1		-					

Division of Crop and Livestock Estimates.

<sup>1</sup> Condition at time of harvest.

Table 49.—Rye: Acreage and yield per acre in undermentioned countries.

111111111111111111111111111111111111111		NOR	HERN	HEMI	SPHER	Е				
			Acreage			1	Y	ield per	acre.	
Country.	A ver- age 1909- 1913.	1920	1921	1922	1923, pre- lim- inary.	Aver- age 1909- 1913.	1920	1921	1922	1923, pre- lim- inary
NORTH AMERICA.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	Bush-	Bush-	Bush- els. 11. 6	Bush- els. 15. 4	Bush- els. 18. 6
Canada United States	2, 236	650 4, 409	1, 842 4, 528	2, 105 6, 672	1, 448 5, 157	17. 9 16. 1	17. 4 13. 7	13. 6	15. 5	12. 2
Total comparable	2, 353	5, 059	6, 370	8,777	6,605					
EUROPE. Ireland	8 37 977 1,2 607 557 648 22,960 1,988 5 271 2 303 60 215,387 2 5,019 	6 36 914 560 492 523 19 2,148 1,799 5532 2282 50 10,589 774 2,238 1,475 489 78 351 576	6 36 36 36 36 36 36 36 36 36 36 36 36 36	30 872 547 500 531 20 2, 195 1, 757 665 320 498 10, 236 498 	30 869 574 515 558 20 2,171 1,801 665 311 48 10,785 1,650 395 457 650 11,380 1,482 665 395	29. 9 26. 3 25. 5 1 27. 1 29. 5 35. 3 25. 0 16. 6 13. 9 22. 0 18. 6 3 13. 0 16. 8 15. 9 14. 7 15. 6 14. 6 15. 5 18. 4 17. 8	22. 7 26. 9 24. 5 30. 1 34. 7 17. 8 16. 1 15. 5 9. 7 16. 1 14. 7 13. 9 14. 1 14. 7 13. 5 14. 2 13. 5 14. 1 10. 2 13. 6 17. 6 17. 6 17. 6	23. 5 29. 0 29. 1 21. 8 36. 0 38. 1 21. 0 19. 9 15. 7 27. 4 25. 4 24. 6 17. 3 12. 6 17. 3 12. 6 17. 5 16. 7	25. 6 28. 7 25. 9 26. 1 34. 3 34. 6 12. 5 17. 5 8. 0 17. 4 31. 0 20. 5 16. 3 23. 5 15. 1 9. 1 17. 6 17. 6 11. 6 11. 6 14. 8 13. 5	27. 7 29. 2 29. 9 35. 0 20. 4 17. 0 17. 0 17. 0 24. 4 19. 5 15. 0 18. 6 17. 0 24. 4 19. 5 15. 0 17. 0 17. 0 18. 6 19. 6
Russia, including Ukraine and Northern Caucasia	<sup>6</sup> (59, 396)			44, 482		12. 1		<b>-</b> -	10. 6	<sub>(</sub>
Total comparable 1909-1913 Total comparable	103, 546									·'
1923	44, 129	33, 980	35, 704	38, 145	38,998			<u></u>		=====
AFRICA AND ASIA.	3, 309	(7)	(7)	(7): 1,649	1		- <b></b> -			·
Total Northern Hemisphere, comparable 1909 1913 Total Northern	109, 211									
Hemisphere, comparable 1923	46, 482	<del></del>	42, 074	46, 922	45, 603					
		SOUT.	HERN	HEMIS	PHERE					
Country.	Average 1909- 1913.	1920-21	1921-22	1922-23	1923-24	Aver- age 1909- 1913.	1920- 21	1921- 22	1922- 23	1923- 24
Chile	5	4	3	3	3	22. 2	18. 5	19. 3	21.0	
Uruguay Argentina	( <sup>7</sup> ) 85	(7) 218	(7) 242	(7) 215	( <sup>7</sup> ) 315	8 14. 1	3. 8	7. 0	10. 0	11.7
Union of South Africa Australia New Zealand	1 108 9 1 4	133 6 1	4 1	1		1 6. 7 12. 7 1 28. 5	5. 9 13. 5 16. 0	12. 5 32. 0	18. 0	
Total comparable	211									
Total comparable 1923 World total com-	90	222	245	218	318	<u>!</u>				<b></b>
parable 1909–1913 World total com- parable 1923	109, 422 46, 572	39, 261	42, 319	47, 140	45, 921					
						d Teston	nationa	1 Inctite	sto of A	grigul.

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.

<sup>10</sup>ne year only. 10ld boundaries. 1 Three-year average. 1 Former Kingdom of Serbia. 1 Includes Bessarabia. 1 Preliminary estimate for former Russian territory within 1923 boundaries. 1 Rour-year average.

Table 50.—Rye: Production in undermentioned countries. NORTHERN HEMISPHERE.

				Produ	iction.			
Country.	A verage 1909- 1913.	1917	1918	1919	1920	1921	1922	1923, prelimi- nary.
NORTH AMERICA.	1,000 bushels.	1,000 bushels.						
Canada United States	2, 094 36, 093		8,504 91,041	10, 207 75, 483				
Total comparable 1923		66, 790	99, 545			83, 130	135, 735	89, 960
EUROPE.			<del></del>	<u> </u>			-	
IrelandNorway	239 974	223	242	143	136	141		
Sweden	24.900	1, 159 13, 904	1,012	983 22, 607	970 22, 434	1,043 26,558	862 22, 628	832 25, 353
Denmark	1 17, 772	1 8, 870	19, 292 112, 726	114, 908	13, 242	12, 204	14, 284	20,000
Netherlands	16, 422	13, 261	13,022	14, 714	14, 795	17, 987	17, 140	15,393
Belgium Luxemburg	22, 847 651	5, 050 266	5, 445 387	14, 505 368	18, 168 338	21, 273	18, 384	19, 538
France		225, 669	230, 100	230, 577	34, 492	441 44, 392	250 38, 412	36, 914
Spain	27, 636	24, 203	30, 445	23, 296	27, 830	28, 118	26, 252	28, 075
Portugal		3, 548	4, 838	3,856	5, 154	4, 564	5, 294	5, 372
Italy Switzerland	1 5, 329 1, 783	1, 283	1 5, 232 1, 627	1 4, 571 1, 747	1 4, 539	8 6, 519 1, 559	5, 563	6, 449
Germany.	1 445, 222	1274,677	262,832	240,161	1, 622 194, 255	267, 648	1, 488 209, 519	1, 646 282, 452
Austria. Czechoslovakia.	1 110, 213	10, 922	10, 604	9, 035	10, 098	13, 161	13, 589	15, 634
Czechoslovakia					32, 941	53, 735	51,097	51, 813
Hungary Yugoslavia	551,001				20, 564 6, 091	23, 177 5, 816	25, 147	32, 111
Greece		695	1,012	1, 123	1,035	0, 810	4, 523	5, 913
Bulgaria	18.290	5.379	4,318	6, 141	6, 277	6, 095	7, 453	8, 480
Rumania	8 12, 277 9 (125, 700)		1, 694	10, 046	9, 445	9, 081	9, 206 197, 372	10, 196 257, 545
Poland Lithuania	(125, 700)			17, 273	73, 659 16, 688	167, 558 21, 047	197, 372 24, 249	257, 545 24, 924
Latvia	(11, 897)			11, 210	4, 689	9, 806	6, 845	10.992
Esthonia	(6, 732)		_	5, 058	6, 165	5, 908	5,797	6, 847
Finland	10, 490	8, 914	8, 648	8, 656	7,098	10, 385	7, 775	9, 446
Russia, including Ukraine and Northern Cancasia	9 (718, 905)						473, 382	
Total comparable 1909-1913	1, 688, 569							
Total comparable 1923					51 <b>8, 312</b>	745, 871	698, 845	856, 33 <b>4</b>
AFRICA AND ASIA.	~~			-	4			
Algeria Russia, Asiatie	39 32, 677	3	6	5	4	5	16, 634	17
Tetal comparable 1909-1913							16, 638	
Total comparable 1923	39	3	6	5	4	5	10,000	17
Total Northern Hemisphere		-	- 1				_	
comparable 1909–1913 Total Northern Hemisphere,	1, 759, 472							
comparable 1923					590, 112	829, <b>006</b>	834, 584	946, 311
					,	, , , , ,	,	
	SOUTHE	RN HE.	MISPH.	ERE.				
Country.	Average, 1909- 1913.	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24
Chile	111	176	53	53	74	58	63	
Jruguay	10 2	1/0	1	( <sup>11</sup> )	(11)	(11)	00	
Argentina	10 1, 399			868	821	1, 692	2, 147	3, 701
Union of South Africa	7 724 114	931	35-	<b>596</b> 35	788 81	677 50		
Australia Vew Zealand	7 114	49	30	30	16	32	. 18	
						1		

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.

2, 464 1, 399

1, 761, 936

Old boundaries.
 Includes production in Alsace-Lorraine.
 Includes 886,000 bushels grown in Venezia Tridentina and Venezia Guilia.

4 Excludes production in Alsace-Lorraine.

Three-year average.
Former Kingdom of Serbia.

Total comparable 1909-1913.
Total comparable 1923.
World total comparable 19091913.
World total comparable 1923.

One year only.
 Includes Bessarabia.

Preliminary estimate for former Russian territory within 1923 boundaries.

821

1, 692

590, 933 830, 698 836, 731

2, 147

3, 701

Four-year average.
 Less than 500 bushels.

868

TABLE 51.—Rye: World production, 1894-1923.

	Production in countries	Production	Estimated		Selected	countries.	
Year.	reporting all years 1894-1923.	as reported.	prelimi- nary.	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
1897 1898	623, 328	1, 437, 887	1, 450, 476	737, 501	355, 577	79, 686	66, 921
1899		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		8 274, 677	8 10, 922	<sup>3</sup> 25, 669
1918	471, 435	513, 509			<sup>3</sup> 262, 832	<sup>3</sup> 10, 604	<sup>3</sup> 30, 100
1919	439, 039	517, 015	1, 057, 894		<sup>3</sup> 240, 161	8 9, 035	<sup>3</sup> 30, 577
1920	389, 664	615, 305			8 194, 255	<sup>3</sup> 10, 098	8 34, 492
1921	491, 202	847, 011			8 267, 648	<sup>3</sup> 13, 161	<sup>3</sup> 44, 392
1922	457, 065	1, 343, 653			<sup>3</sup> 209, 519	<sup>3</sup> 13, 589	<sup>3</sup> 38, 412
1923	495, 845	952, 674	1, 431, 748		8 282, 452	<sup>3</sup> 15, 634	<sup>3</sup> 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.

Table 52.—Rye: Monthly marketings by farmers, 1917-1923.

Yh-air-i	P	ercenta	ige of y	ear's r	eceipts	as rep	orted 1	by abo	ut 3,50	0 mills	and e	levator	s.
Year beginning July 1	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Sea- son.
1917-18 1918-19	2.8	14. 8	20. 5	17. 1		7. 6	5. 8	6. 4	7. 6	3. 4	1.7	1. 0	100.0
1919-20 1920-21 1921-22 1922-23	8. 2 7. 3 13. 9 10. 7	15. 0 20. 7 20. 8 20. 5	13. 3 18. 1 17. 6 14. 8	12. 4 12. 2 10. 6 12. 3	7. 8 8. 8 6. 3 10. 2	9. 1 7. 0 5. 9 8. 7	8. 5 6. 6 4. 5 6. 5	4.7 4.7 4.8 5.3	6. 2 4. 3 4. 9 4. 0	6. 4 3. 7 4. 0 2. 9	4. 3 3. 3 4. 2 2. 2	4. 1 3. 3 2. 5 1. 9	100. 0 100. 0 100. 0 100. 0

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup>Includes all Russian territory reporting for years named. Further information of the territory included is given in notes 3 and 6 on Table 16.

<sup>2</sup> Excludes Poland.

<sup>3</sup> New boundaries.

Table 53.—Rye: Receipts at markets named, 1909-1922.

Year beginning July 1.	Minne- apolis.	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.
1000 10		902	1,362	965	1,000 bash.	1,000 basn.
1909-10 1910-11		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		
	l	<del></del>				
Average 1909-1913	3, 579	1,099	2, 213	1,950		
1914–15	5, 737	4, 323	3, 274	3, 608		
1915–16	6, 774	4, 216	5,651	3, 872		
1916–17		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	17, 027	6, 119	4,094	1,630	1, 172
1920-21	5, 428	14, 631	4, 132	3, 607	1,409	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.	598	368	353	38	25	
July		9, 813	1,068	263	263	
August	1,711		272	194	186	3,064
September	1, 174	9, 882 4, 611	410	327	251	2, 124
October	1, 875 1, 168	3, 688	1, 392	406	279	1, 766
November	2, 071	3, 412	567	488	215	1, 106
December	2,011	0, 412	501	100	. 210	1, 100
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
	724	2,069	545	229	64	463
April May	416	1, 224	153	78	35	593
June	598	1, 133	475	74	24	278
July						347
August						552
					ļ	

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record Chicago Daily Trade Bulletin, Grain Dealers Journal, and Canadian statistics.

Table 54.—Rye, including flour: Net imports and net exports of principal countries, 1907-1922.

			0,00	5, 1007						
			Imports.		•			Exports.		
Year ending July 31.	Bel- gium.	Den- mark.	France.	Nether- lands.	Nor- way.	Ger- many.	Ru- mania.	Russia.	Can- ada.	United States
1906-7 1907-8 1908-9 1909-10 1910-11	1,000 bushels. 1,725 97 1,371 2,399 6,467	1,000 bushels. 5,941 5,781 6,751 8,624 7,910	1,000 bushels. 925 41,574 4182 86 6,806	1,000 bushels. 8,509 6,416 9,288 8,760 13,802	1,000 bushels. 10, 427 8, 799 10, 379 10, 934 10, 879	1,000 bushels. 9, 426 4, 912 29, 282 22, 988 13, 136	1,000 bushels. (1) (1) (1) (1) (1)	1,000 bushels. 36, 954 35, 999 16, 042 25, 322 51, 179	1,000 bushels. 2 38 2 49 246 30 51	1,000 bushels. 770 2,445 1,296 242 40
1911–12 1912–13 1913–14 1914–15	4, 241 4, 944 6, 630	7, 274 7, 676 8, 443 2, 988	2, 372 4, 625 2, 696 25	11, 914 10, 835 13, 029 1, 380	9, 897 10, 758 10, 699 7, 414	28, 180 37, 496 36, 209 (¹)	4, 132 2, 472 2, 296 734	17, 080 22, 458 26, 950 9, 430	3 37 3 100 5 179	31 1, 855 2, 273 13, 027
1915-16 1916-17 1917-18 1918-19	(1) (1) (1)	2,302 1,038 49 4 160	4 7 4 16 1, 286 712	2, 126 763 20 956	7, 699 7, 400 2, 152 4, 865	(E) (E) (E)	(1) (1) (1) (1)	13, 442 2, 655 (1) (1)	782 3 1, 047 3 1, 045 3 586	15, 250 13, 703 17, 186 36, 457
1919-20	5, 135 753 251 275	4 1, 086 4 318 2, 297 4, 641	8, 347 9, 615 4 1, 275 627	4 1, 087 67 125 3, 729	5, 802 6, 293 7, 110 6, 866	(1) 223, 668 5, 967 243, 430	5, 211 1, 212 20	(1)	2, 524 3, 205 4, 279 9, 811	41, 531 47, 337 29, 944 51, 663

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural, Statistics 1915–16, 1922 and from official sources.

<sup>&</sup>lt;sup>1</sup> Crop year begins in September.

<sup>1</sup> Not available.

<sup>&</sup>lt;sup>2</sup> Net imports.

<sup>3</sup> Years ending June 30.

<sup>4</sup> Net exports.

Table 55.—Rye, including flour: International trade, 1910-1923.

Company of the second s				Years endi	ng July 31	•	-	
Country.	Average	1910-1914.	192	0–21	192	1-22	1922–23, pr	eliminary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Algeria	bushels. (1) (1)	1,000 bushels.	1,000 bushels. 143	1,000 bushels. 2 485	1,000 bushels	1,000 bushels. 5 669	1,000 bushels. (1) (2)	1,000 bushels. 23 1,013
Bulgaria Canada Hungary	68 140	1, 925 58 14, 150	(1) 22	193 3, 227	(1) 14 7	4, 293 34	4 26 2 2	4 9, 138 20
Rumania Russia Spain	5, 381	2, 992 33, 979	2	5, 213	1	1, 213 2		20
Union of South Africa 3 United States Yugoslavia	1	(¹) 942	(1)	26 40, 383 31	(1)	32, 023 66	(1)	(1) 4 51, 663
PRINCIPAL IMPORTING COUNTRIES.								
Austria Belgium Czechoslovakia Denmark	1, 469 6 5, 335 8, 753	2 837 288	1, 645 934 3, 117 90	1 181 2 407	2, 139 364 782 3, 060 3, 563	3 112 153 · 763 43	1, 680 231 146 4 5, 405 4 6, 596	41, 168 41, 168 4186 4420 48
Finland France Germany Greece	3, 328 16, 416	19 44, 018	2, 599 9, 641 24, 398 4	(1) 26 7 730 (1) (1)	7, 086 4	1, 303 1, 119	4 620 4 42, 765 2 704	4 679 4 651
Italy	29, 557 10, 644	17, 889 9 51	4, 153 147 1, 412 6, 307	1, 345 14	10 576 1, 496 7, 123 482	(1) 61 1,371 13 386	4 227 8 739 4 3, 179 4 6, 856	4 3 2 73 4 1, 266
Poland Portugal Sweden Switzerland	6 174 3, 940 728	(1) 59 1	518 (¹)	2, 152 (¹)	31 40	1, 914 (¹)	* 809 * 2	4 439 (1) (2)
Total countries reported	86, 609	117, 485	55, 132	<b>54</b> , <b>42</b> 1	26, 806	45, 875	69, 994	66, 757

Division of Statistical and Historical Research. Compiled from International Institute of Agriculture, except figures with foot-notes (3) and (4), which are compiled from official sources.

- Less than 500 bushels.
   Ten months ending May 31.
   Calendar years 1909-1922.
   Years ending June 30.
   Three-year average, 1912-1914.

- The month of July, 1914, is not comprised in the average.
  Eight months, August-December, 1920, and May-July, 1921.
  Eleven months.
  1914 only.

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.	Мау.	June.	Weight- ed av.
1908-9	Cts. 75. 4	Cts. 74. 2	Cts. 72.8	Cts. 74. 1	Cts73. 7	Cts. 73. 6	Cts. 73. 4	Cts. 73. 8					
1909-10 1910-11	81. 7 74. 6	74.4	72. 4 74. 1	72. 8 72. 8	71.6	71. 5	73. 3	73. 1	76. 5 71. 9	75. 4	75.8		
1911-12 1912-13 1913-14	76. 9 83. 6 63. 2	77. 9			68.8				63. 2	62. 9			68. 5 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 1915-16 1916-17	63, 1 93, 7 83, 3		85. 5	79. 0 81. 7 104. 1	85.7	86. 5 83. 4 122. 1	90. 2 85. 3 118. 5	88.3	85.6	83.6	83.7	83, 8	85. 0
1917-18 1918-19	177. 1 169. 9	178.1	161.9	169. 8	168. 8 152. 6	166. 0 151. 6	170. 3 150. 7	174. 8 140. 4	201.0 132.2	235. 1 145. 8	221. 1 155. 5	187. 6 143. 7	175. 6 152. 0
1919–20 1920–21	138. 6 189. 0					126. 8	124.7	131.5	126. 1	118.7	183. 1 105. 3	112. 2	
Av, 1914-1920	130. 7		127. 0 89. 9			69. 7	69. 6.		83. 5	84. 2	87. 6	88. 0	81. 8
1922–23 1923–24	77. 6 58. 2	70. 5	63. 3 56. 2				72. 2	71. 2	70.8	69. 4	72. 1	66. 3	67. 8

Division of Crop and Livestock Estimates.

Table 5/.—Rye: Farm price per bushel, December 1, calendar years, 1908-1923, and value per acre, 1923.

						a	na v	uiuc	Pe	r aci	0, 1	020.							
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	<b>192</b> 1	1922	1923	Value per acre, 1923.1
Mass Conn N. Y N. J	Cts. 95 90 81 81 77		Cts. 94 86 74 77 73	89 83	Cts. 100 92 76 79	Cts. 98 92 75 80 74	Cts. 98 91 79 80 77	Cts. 101 98 89 82 83	Cts. 102 102 93 92 84	Cts. 127 125 128 117 109	Cts. 200 210 184 175 170	Cts, 227 205 172 173 165		174 158	Cts. 161 159 139 138 130	99 102	97 85		14.83
Del Md Va W. Va N. C	82 77 82 85 98	78 84 90	75 80 90	. 86 89 90	85 84	79 76 81 87 98	80 79 84 88 101	92 86 90 99 105	99 88 93 93 105	123 110 107 119 130	178 168 175 169 <b>20</b> 0		160 163 170 165 210	156 155 160	137 134 138 139 163	95 95 125	110 90 95 120	107 103 135	15. 38 12. 84 10. 30 14. 04
S. C Ga Ohio Ind Ill	137 125 76 74 73	141 150 76 74 74		138 85	140 75 68	150 135 69 62 65	145 142 75 70 72	150 150 81 85 85	151 140 83 82 83	185 160 120 119 122	285 270 161 160 165	295 210 150 152 150	272 145 140 130	130	237 202 125 124 124	84 73 80	83 79 75	190 78 73 75	17. 10 12. 09 10. 22 11. 25
Mich Wis Minn Iowa Mo.	71 71 63 64 76	63	71 64 64	84 78 77	65 61 50 62 80	62 57 48 60 75	70 68 60 65 79	91 91 89 77 87	85 87 81 80 86	130 132 127 115 123	165 169 167 155 165	150 150 150 147 163	133 130 132 150	117 125		86	70 93	66 88	9. 62 7. 16 11. 29 11. 00
N. Dak S. Dak Nebr Kans Ky		59 61: 75	61 60 73	76 75 81	47 52 56 68 88	45 50 60 75 87	58 60 62 74 88	84 78 74 80 95	79. 76. 73. 76. 94.	125 118 116 110 129	164 155 155 167 175	145 141 135 170 161	141	100	121 140	60 68 112	r I		5. 64 6. 72 6. 38 12. 05
Tenn	90 123 98 80 94	136	120 103 81	125 107 104	110 87	140 101 86	97 131 109 90 99	98 110 99 95 105	135 103 77	135 175 120 125 115	195 268 196 170 150	192 261 235 187 210	260 167 150	250 150 100		160 100 66 130	153 125 80	160 98 90 120	19. 20 11. 76 10. 80 10: 80
Mont Wyo Celo N. Mex Utah	68 71 70 65	90 73	67	90 70	60 65 55 68	64	78	70 81 65	65 90 70	96, 108 105 	165 155 146 	144 152 140 	185 180 130 200	115	119 126 109 131	58 60 70 70	100 60	51 66 56 90 90	6.72 10.80
Idaho Wash Oreg	I.	70 94	66 89	67 80	60	58 <b>60</b>	64 78 87	67 85 100	68 75 90	95 111 115	135 175 170		185 190	160 125		65 68		68 72 93	11. 30 13. 95
v. s	72.8	72. 2	71. 5	83. 2	66. 3	63. 4	85. 9	86. 5	83. 4	1 <b>22</b> . 1	166. 0	151. 6	133. 2	126.8	124. 2	69. 7	<b>68.</b> 5	<b>64.</b> 7	7. 91

Division of Crop and Livestock Estimates.

Table 58.—Rye No. 2: Weighted average price per bushel, Chicago, 1909-1923.

Year beginning July 1—	July.	Aug.	Sept.	Oct.	No <b>v.</b>	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Weight- ed av- erage.
1930-11 1931-12 1912-13 1913-14 Av. 1909-1913 1914-15 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1930	.77 .84 .74 .63 .75 .64 1.08 .98 2.27 1.73 1.55 2.04 1.47	\$0. 71 . 75 . 85 . 72 . 66 . 74 . 84 1. 00 1. 13 1. 90 1. 64 1. 90 1. 48	\$0. 72 .74 .91 .69 .67 .75 .96 1. 20 1. 83 1. 40 1. 99 1. 43	\$0. 73 . 76 . 97 . 69 . 65 . 76 . 92 1. 01 1. 33 1. 84 1. 69 1. 40 . 86 . 78	\$0. 74 .79 .95 .64 .75 1. 02 1. 47 1. 78 1. 48 1. 42 1. 59 1. 42	\$0. 77 .81 .93 .61 .63 .75 1. 10 .97 1. 41 1. 82 1. 59 1. 66 1. 61 1. 45	\$0. 81 . 84 . 94 . 64 . 61 . 77 1. 19 1. 01 1. 43 2. 01 1. 61 1. 76 1. 63 1. 52 . 81 . 87	\$0. 81 .82 .92 .62 .62 .76 1. 23 .97 1. 46 2. 39 1. 38 1. 56 1. 47 1. 49	\$0. 79 .89 .91 .60 .61 .76 1. 17 .93 1. 61 2. 84 1. 61 1. 72 1. 46 1. 62 1. 02 .83	\$0. 79 .95 .94 .62 .62 .78 1. 17 .96 1. 87 2. 64 1. 73 1. 99 1. 35 1. 67	\$0. 77 1. 62 .93 .93 .62 .65 .80 1. 19 .98 2. 20 2. 20 1. 53 1. 47 1. 68 1. 06 .78	\$0. 76 .90 .83 .62 .63 .75 1. 17 .98 2. 40 1. 80 1. 46 2. 27 1. 32 1. 63	\$0.76 .84 .91 .63 .64 .76 .99 1.54 2.11 1.61 1.70 1.62 1.52
1922-23	. 82 . 65	.67	.70	.72	.71	.70							<u> </u>

Division of Statistical and Historical Research. Compiled from Chicago Daily Trade Bulletin.

<sup>1</sup> Based upon farm price Dec. 1.

## 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 representative counties of high and low crop risk in Kansas, 1912–1923.

	For	d County	(area high o	erop risk	).	McPl	nerson Cou	nty (area lo	w erop r	isk).
Year.	Area seeded.	Area har- vested.	Total produc- tion.	Average yield per seeded acre.	Per- centage of seeded acreage aban- doned.	Area	Area har- vested.	Total produc- tion.	Average yield per seeded acre.	Per- centage of seeded acreage aban- doned.
	Acres.	Acres.	Bushels.	Ruehele	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	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 11.0
1920	320, 239	237, 043	1, 896, 344	5. 9	26.0	204, 236	181, 770	2, 544, 780	12. 5 12. 2	6.0
1921	306, 398	240, 737	2, 648, 107	8.6	21. 4	223, 774	210, 348 245, 000	2, 734, 524 4, 410, 000	18.0	0.0
1922	320, 100	192,000	1,728,000	5.4	40. 0 80. 0	245, 000 232, 500	225, 500	2, 255, 000	9.7	3.0
1923	314, 200	62, 800	251, 200	0	30.0	202, 000	220,000	2, 200, 000		
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.

		r prior to vest.		or prior to vest.	Se	ed.
Year.	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).
912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 922.	. 25 13. 44	Hours. 1.01 34 20 47 .57 .53 .28 .38 .40 .39 .25 .48	Hours. 0.96 6.21 .63 1.38 1.07 57.60 76.00 1.09 2.56 1.69 3.11 27.00	Hours. 4. 22 1. 42 2. 82 1. 97 2. 39 2. 23 1. 15 1. 57 1. 67 1. 63 1. 04 2. 00	Bushels. 0.06 .40 .04 .09 .07 3.70 4.88 .07 .16 .11 .20 1.73	Bushels. 0.2 0.0 0.1 0.0 .

Division of Cost of Production.

Table 61.—Cost of producing wheat, 1902-1921.1

	1	Cost p	er acre.		Cost pe	r bushel.	Average
Region.	Year.	Excluding land rent.	Includ- ing land rent.	Yield per acre.	Exclud- ing land rent.	Including land rent.	farm price per bushel.3
Minnesota:	1000 1007	Dollars.	Dollars.	Bushel.	Dollars.	Dollars.	Dollars.
Rice County * Lyon County * Lyon County * Norman County * Rice County 4 Lyon County 4 Norman County 4 Wisconsin 5 North Dokes 5 North Dokes 5	1902-1907	6.36 5.39	9.86 8.39	15.0 12.6	0.42	0.66	0.7
Norman County 8	. 1902-1907	4.88	6.98	12. 4	. 39	.56	.7
Rice County 4	. 1908-1912	8.54	13.04	15.9	. 54	.82	.9
Norman County 4	1908-1912	8.59 7.37	12.60 10.37	22.0 16.6	.39	.57	.9
Wisconsin 5	1909-1918	8.62	12.10	17.0	.51	.62 .71	1.3
TUL MI DUBUM "	11011-1010	8.89	11. 22	13. 2	.67	.85	.8
North Dakota 6 New York 6	. 1917 1913	13. 40 24. 92	15.75 28.88	13. 2 27. 4	1.02 .91	1.19 1.05	2.0
New York 6	1914	18. 20	23. 19	23.0	.79	1.01	.9 1.0
Missouri 7	. 1910-13	7.28	12.30				.8
1919 Winter wheat: 8 Kansas—							
Ford County.	. 1919	18.03	24.30	13. 3 13. 9	1.36	1.82	1.9
Pawnee County McPherson County	. 1919 . 1919	15.11 21.55	23.06 30.20	13.9	1.09 1.70	1.65 2.38	2.0 1.9
Missouri—	1	`					
Saline County		20.93	35.28	16.3 19.2	1. 28 1. 26	2.17 1.80	2.01 1.89
Jasper County St. Charles County		24. 10 22. 49	34.64 34.13	19. 2	1.15	1.74	2.10
Nebraska—							
Phelps County		16.72 25.66	23.84	10.8	1.55	2.20	1.89
Saline County Keith County	1919 1919	25.66 18.83	39. 54 28. 52	18. 1 18. 1	1.42 1.04	2. 19 1. 57	2,00 1.98
		18.99	27.80	14. 9	1. 27	1.87	1.99
Average	1919	18.99	21.00	14. 9	1.21	1.01	1.87
919 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	2.2
North Dakota— Grand Forks County	1919	17.37	21.88	9.8	1.77	2.24	2, 17
Morton County		16.47	18.83	4.4	3.74	4. 26	2. 47
South Dakota— Spink County	]	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
920 Winter wheat: 9							
Missouri-	1 1						
Pike County		24.46	32.56	13.5 17.6	1.81	2. 42 2. 01	2. 46 2. 3!
Carroll County Nebraska—	1920	24, 30	35.37	17.0	1.38	2.01	<i>4.</i> 00
Gage County	1920	22.28	37. 24	21.5	1.04	1.73	2. 17
Clay County	1920	19.76	33.60	13. 1	1.51	2.57	1.95
Cheyenne County Kansas—	1920	18.87	27. 25	19.0	.99	1.43	1.90
Thomas County	1920	12.85	17.83	14.1	. 91	1.26	1.95
McPherson County	1920	18.59	29.62	14.6	1. 27	2.03	2. 22
Pawnee County	1920	17.87	24.62	12.1	1.48	2.03	2. 10
Oklahoma— Garfield County	1920	21. 14	30.55	18.4	1, 15	1.66	2. 19
Woodward County		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
daho: Latah County	1919	34.69	53.72	31.6	1.10	1.70 1.48	2.09 1.29
Washington: Whitman County	1920 1921	34. 42 29. 65	54.32 47.29	36.6 31.6	.94	1.48	.90
_	1920	23. 26	32.92	20.9	1.11	1.58	1.65
Oregon: 9 Sherman County	1921	21.13	30.55	27.8	.76	1.10	1.00

Division of Cost of Production.

<sup>1</sup> 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 received on farms studied.

2 United States Department of Agriculture, Bureau of Statistics, Bulletin No. 73.

4 Minnesota Agricultural Experiment Station, Bulletin No. 145.

5 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. 143.

9 Preliminary reports on cost of producing wheat, United States Department of Agriculture. Winter wheat after summer fallow.

Table 62.—Cost of producing wheat, 1922.

					C	ros	s cos	t per	acre.			
	Num-	ŀ		Labor.		T						
Region.	ber of re- ports.	Yield per acre.1	Pre- par- ing land and plant- ing.	Har- vest- ing and thresh- ing.	Mar- ket- ing.	a a	er- ili- zer nd na- ure.	Sec	d. la	scel- ne- us sts.	Land rent.	Total.
United States <sup>1</sup>	2,417	Bush.	Dolls. 3. 94	Dolls. 4. 27	Dolls. 1. 40		olls. 2. 47	Dol 1.		olls. . 87	Dolls 5. 41	
Eastern States <sup>3</sup> . Corn Belt States <sup>4</sup> . Spring wheat States <sup>5</sup> . Winter wheat States <sup>6</sup> . Pacific Northwest wheat States <sup>7</sup> .	507 436 421	19 18 15 14 22	6. 10 3. 73 3. 09 3. 02 4. 39	73   4.15   1.21   1.94   1.92   1.94		3	3. 47 3. 00 . 36 . 60	2. 2. 1. 1.	06   1 49   1 33   1	. 24 . 61 . 67 . 53	5. 60 6. 63 3. 66 4. 47 9. 89	22, 39 15, 22 15, 87
Region.	Num- ber of	Yield per acre.	Deductions for by-products	Ex	cludi <del>n</del> d rent	<u> </u>	cost.	nclu	ding rent.	1	Vali prod	
	reports.	ucro	per acre.	Per acre.	bus		P ac		Per bushe	ı.	Per acre.	Per bushel.
United States 1	2,417	Bush. 16	Dollars 1. 52	Dollar 14. 2		ars. 89		ars. 68	Dollar 1. 2		ollars. 17. 79	Dollars. 1.11
Eastern States <sup>2</sup> . Corn Belt States <sup>4</sup> . Spring wheat States <sup>5</sup> . Winter wheat States <sup>6</sup> . Pacific Northwest wheat	331 507 436 421	19 18 15 14	3. 83 1. 80 . 50 . 57	20. 7 13. 9 11. 0 10. 8	6	09 78 74 77	20 14	31 59 72 30	1. 3 1. 1 . 9 1. 0	8	22. 19 19. 72 13. 63 13. 33	1. 17 1. 10 . 91 . 95
States 7	104	22	. 92	15. 8	ι .	72	25.	70	1.1	7	22.98	1.04

Division of Cost of Production. Based on returns to mail questionnaires sent to crop reporters.

Table 63.—Cost of production, excluding land rent, and farm price of spring wheat, 1913-1923.

	North Dakota, South Dakota, Minnesota.										
Year.	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 improve- ments.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.				
1913 1914 1915 1916 1917 1918 1919 1920 1921 1922	Dollars.  8. 44 8. 31 10. 42 8. 76 13: 25 16. 77 17. 12 18. 92 12. 36 11. 64 10. 76	Dollars. 8.89 10.60 16.54 8.87 23.60 33.46 17.94 15.65 8.94 11.54 8.10	## Dollars.  +0.45 +2.29 +6.12 +111 +10.35 +16.69 +82 -3.27 -3.4210 -2.66	Dollars. 49 52 54 57 62 65 72 95 94	Bushels. 11.7 10.5 17.6 6.2 11.8 16.4 7.8 9.1 8.6	Dollars. 0.72 .79 .59 1.41 1.12 1.02 2.19 2.08 1.44 .84	Dollars. 0.76 1.01 .94 1.43 2.00 2.04 2.30 1.72 1.04				

Division of Cost of Production.

<sup>1</sup> Average yields on farms reporting.
2 Average for all farms reporting.
3 Average for all farms reporting.
3 New York, Pennsylvania, Maryland, Virginia, and West Virginia.
4 Ohio, Indiana, Illinois, and Iowa.
5 Minsesota, North Dakota, South Dakota, and Montana.
6 Minsesota, North Dakota, South Dakota, and Texas.
7 Idaho, Washington, and Oregon.

Costs computed from basic requirements as shown in Bulletin No. 943; 1913-1921 prices are averages of prices from July to June; 1922-23 prices are for Oct. 1.
 2 1923 figures subject to revision.

Table 64.—Cost of production, excluding land rent, and farm price of winter wheat, 1913-1923.

			Kansas,	Nebraska, M	issouri. 1		
)13	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 improve- ments.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Dollars.	Dollars.	Dollars.	Dollars.	Bushels.	Dollars.	Dollars.
1913	9.62	11.70	+2.08	60	15. 2	0.68	0.77
1914		18.03	+7.85	61	19.6	. 52	. 92
	9.98	13.34	+3.36	61	13.9	.72	.96
1936	10. 19	18. <b>36</b>	+8.17	66	13. 4	. 76	1.37
	13.50	27.72	+14.22	70	13.2	1.02	2. 10
	17. 12	28.34	+11.22	77	14.1	1.21	2.01
	19.47	28.76	+9.29	85	13.5	1.44	2. 13
	20.48	26. 93	+6.45	106	15. 3	1.34	1.78
	15.02	12.85	-2.17	99	12.6	1.19	1.02
	12.01	11.31	70	79	13.0	.92	. 87
923 *	12.09	9.49	-2.60	77	10. 1	1.20	. 94

Division of Cost of Production.

Table 65.—Index numbers of cost of production, excluding land rent, and farm price of spring wheat, 1913-1925.

	North Daketa, South Daketa, Minnesota.									
Year.	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Value per acre of all land with improve- ments.	Yield per acre.	Net cost per bushel (excluding land rent).	per bushel.				
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.				
1913	100	100	100	100	100	100				
1914	98	119	106	90	110	133				
1915	123	186	110	150	82	124				
1916	104	100	116	53	196	188				
1917	157	265	126	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 east of production, excluding land rent, and farm price of winter wheat, 1913-1923.

		K	ansas, Nebra	ska, Missou	ri.	
Year.	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Value per acre of land with improve- ments.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
1913 1914 1915 1916 1918 1918 1919 1919 1920	Per cent. 190 106 104 106 140 178 202 213 156 125	Per cent. 100 154 114 157 237 242 246 230 110 97	Per cent. 199 102 102 110 117 128 142 177 165	Per cent. 100 129 91 88 87 93 89 101 83	Per cent. 100 83 114 121 162 192 220 213 189	Per cent. 100 120 125 178 273 281 277 229 134
1922 1923	126	81	128	66	190	121

Division of Cost of Production.

<sup>&</sup>lt;sup>1</sup> Costs computed from basic requirements as shown in Bulletin No. 943; 1913-1921 prices are averages of prices from July to June; 1922-1923 prices are for Oct. 1.

<sup>2</sup> 1923 figures subject to revision.

Table 67 .- Value of farm land per acre, United States and Canada, 1914-1922.

Country and sub- division.	1914	1915	1916	1917	1918	1919	1920	1921	1922
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
United States 1	64	64	69	68	75	81	99	94	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	105 100
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	l šĭ	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
	24	24	23	26	29	32	32	29	28
Saskatchewan	21	23	23	27	28	29	32	28	24
Alberta	21	23	22	. 21	20	29	1 02	40	

Division of Statistical and Historical Research.

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.

Year.	Average farm price of wheat 1 per bushel.	rm wages of farm labor without		Binder twine.	Value of all land per acre with improve- ments.	Freight rates.
1010	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1913		99	100	100	105	99
1914	121	99	101	105	105	100
1915	122			132	113	101
1916	172	108	110			101
1917	260	133	131	193	111	
1918	258	155	178	232	122	117
1919	274	186	188.	226	133	131
1920	236	214	196	175	161	147
1921	131	143	185	140	153	177
1922	112	138	152	114	129	160
1923	116	(1)	154	123	122	

Division of Cost of Production.

Implement prices from International Harvester Co. of America.

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.

		Winter wheat (Kansas).										
Year.	Average farm price of wheat.	Monthly wages of farm labor without board.	Wholesale prices 13 represent- ative farm imple- ments.	Binder twine average, United States prices.	Threshing rate (shock threshing bundle grain).	Value of all land with im- prove- ments.	Freight rates from McPherson, to Kansas City, Mo.					
1913 1914 1915 1916 1917 1918 1919 1919 1920 1921 1922	177 - 273 256 276	Per cent. 100 104 107 113 136 167 194 230 150 139	Per cent. 100 101 105 110 131 178 188 196 185 152	Per cent. 100 102 105 132 193 232 226 175 140 114 123	Per cent. 100 100 100 100 150 150 200 200 160 150	Per cent. 100 102 106 116 120 128 138 160 160 138 138	Per cent. 100 100 100 100 100 100 125 125 169 169					

Division of Cost of Production.

<sup>&</sup>lt;sup>1</sup> Based on estimated value per acre of "all land with improvements" as reported by crop reporters to Division of Crop and Livestock Estimates.

<sup>2</sup> "All occupied farm land with improvements" as reported by Dominion Bureau of Statistics.

<sup>1 1913-1921:</sup> Average of prices from July to June: 1922-23 prices for October 1.
2 1923 wage index: January 133, April 140, July 159, October 154.

<sup>1 1913-1921</sup> indices are averages of prices from July to June; 1922-1923 are for Oct. 1.
2 1923 wage index, Kansas: January, 132; April, 142; July, 146; October, 151. North Dakota: January, 101; April, 125; July, 144; October, 147.

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.

			Spring w	heat (North	Dakota).		
Year.	Year. Average farm price of wheat. I		Wholesale prices 13 represent- ative farm imple- ments.	Binder twine average United States prices.	Threshing rate (shock threshing bundle grain).	Value of all land with im- prove- ments.	Freight rates from Larimore, N. Dak., to Minne- apolis, Minn.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1913	100	100	100	100	100	100	100
1914	136	106	101	102	100	106	100
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	160	161	171
1922	111	131	152	114	150	148	146
1923	121	(2)	154	123	150	135	

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, 10t; April, 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	Duluth	Minne- apolis	Margins An Canadia	nerican over n prices.
i ear and month.	No. 2 Northern. <sup>2</sup>	No. 1 Dark Northern.	No. 1 Dark Northern.	Duluth.	Minne- apolis.
1921.	Cents.	Cents.	Cents.	Cents.	Cents.
January	168	178	179	10	11
February	163	170	170	7	7
March	165	169	166	4	1.
April	152	151	148	-1	-4
May	164	158	156	-6	-8
June	165	162	161	-3	-4
July	159	154	165	-5	6
August	135	148	148	13	13
September	128	154	152	26	24
October	103	134	134	31	31
November	99	128	128	29	29
December	. 99	130	130	31	31
1922.			1		
	104	ĺ 131	133	27	20
January	124	153	152	29	28
February	132	157	155	25	23
	135	164	161	29	26
April	137	162	161	25	24
May		147	146	19	18
June	130	130	147		17
A	112	122	124	10	12
August	99	1113	113	14	14
October	100	115	116	15	16
November	108	123	123	15	15
December	106	128	127	22	23
	100	1	1		
1923.	100	100	104	10	10
January	106	122	124 126	16 15	18 18
February		123		13	16
March		123	125	11	12
April	118	129	130 126	12	12
May	114	126			8
June		114	115	3 5	š
July		108	109 116	10	10
August		116		24	19
September	. 99	123	118 126	. 30	32
October	94	124	119	27	26
November	93	120		30	31
December	. 88	118	] · 119	30	91

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record. Prices 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.

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.

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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, per bushel.
1921.	Cents.	Cents.	Cents.
June	210. 5	201.6	9.9
October.	136.4	126.4	10.0
November.	134.6	124.8	
			9.8
December	146.8	135.2	11.6
1922.		l	
January	145.1	Í	ĺ
February.	169. 9		
March	179.1		
April	171.1	157.4	13.7
Мау	170.9	158. 3	12.6
	157.7	143.3	14.4
June			
July	165.5	148.9	16.6
August	159.3	141.3	18.0
September	148. 3	130.0	18.3
October	154. 2	140. 2	14.0
November	144.9	152.4	-7.5
December	148.1	154.3	-6.2
1923.			
	143.6	141.8	1.8
JanuaryFebruary.	143.7	142.0	1.7
March	142.0	140.3	1.7
April	146.0	145.3	1.7
		140.0	
May	150. 4	• • • • • • • • • • •	
June	142. 1		
July	138. 9	- <b></b>	. <b></b>
August	135.4	126.0	9.4
September	141.8		
October	140. 1		
November	131. 5		
December	128. 0		
	22010		

Division of Statistical and Historical Research. Compiled from Broomhall's Corn Trade News.

<sup>1</sup>Monthly averages for days on which prices for both classes of wheat were quoted. Quotations converted at exchange for the month.

Table 72.—Chicago prices to dealers for five representative farm implements, 1913-1923.

Implement.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Grain binder (6-foot with bundle carrier)	Dol- lars. 95. 43	Dol- lars. 95. 43	Dol- lars. 95. 43	Dol- lars. 100.09	Dol- lars. 120. 25	Dol- lars. 166, 25	Dol- lars. 166, 25	Dol- lars. 156. 75	Dol- lars. 163. 40	Dol- lars. 138. 70	Dol- lars. 138.70
Grain drill (12 bý 7, single disk)	54.40	54.40	<b>54.</b> 40	55 <b>. 33</b>	68. 40	92.15	<b>92.</b> 15	92.15	94. 05	<b>79.80</b>	79. 56
wire)	<b>31.</b> 62	31.62	31.15	33.72	42.75	55. 57	55. 57	55. 57	54.86	49.40	49.64
carrier)	95. 43 33. 52	95. 43 34. 45	95. 43 <b>34. 4</b> 5			166, 25 61, 75					

Bureau of Agricultural Economics. Implement prices from International Harvester Co. of America. <sup>1</sup>F. o. b.

Table 73.—Index numbers of Chicago prices to dealers for representative form implements, 1913–1923.<sup>1</sup>

Implement.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Group of 13 representative farm implements? Grain binder (6-foot with bundle carrier).	Per cent. 100	Per cent. 101	Per cent. 105	Per cent. 110	Per cent. 131	Per cent. 178	Per cent. 188	Per cent. 196	Per cent. 185	Per cent. 152	Per cent. 154
Grain drill (12 by 7, single disk) Corn planter (with 80 rods wire) Corn binder (with bundle carrier). Mowers (5-foot, plain lift)	100 100 . 100	100 100 100 103	100 99 100 103	102 107 105 108	126 135 126 132	169 176 174 184	169 176 174 184	169 176 164 176	173 173 171 186	147. 156 145 159	146 157 145 159

Bureau of Agricultural Economics. Price data furnished by International Harvester Co. of America. 1 F. o. b.

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-tooth harrow, spike-tooth harrow, cream separator, standard 3\frac{1}{2}-inch wagon.

Table 74.—Some factors influencing the price of wheat (hard winter wheat at Kansas City).

## AUGUST 26, 1922.

Grade.	Price.	Description.
Note that the second se	Dollars.	
Dark hardNo. 1	1.10	
No. 2	1.14-1.17	Nebraska.
	1. 08-1. 11	12 to over 13 per cent protein, northwest Kansas, Nebraska, and Colorado.
No. 3	1. 15-1. 17 1. 10-1. 12	Higher protein; southern Kansas wheat. Good strength from fair producing sections.
No. 4	1.15	14 per cent protein or under.
No. 5. HardNo. 1. No. 2	1.08-1.13	Good to high test.
HardNo.1	1.09	Near dark, good protein.
No. 2	1.08-1.10	13 per cent protein or more; near dark.
	1. 05-1. 08 1. 01-1. 05 1. 00	12-13 per cent protein; 50-70 per cent dark. Medium. Ordinary.
No. 3	1. 08-1. 10	13 per cent protein or over; 70 per cent or more dark.
110.0	1. 05-1. 07	12-13 per cent protein; 50-65 per cent dark.
	1.00-1.02	Medium.
i i	1.00	Ordinary.
. No. 4	1.07-1.10	
.	1.03-1.06	12-13 per cent protein; 50 per cent and more dark.
37. 7	. 97	Medium.
No. 5	. 97-1. 00	Average strength, medium quality.
	OC	TOBER 29, 1923.
Dark hardNo. 4	1.18	13.72 per cent protein; Colorado.
	1.12	12.60 per cent protein; Colorado.
HardNo.1	1.18	12.64 per cent protein; Kansas; 613 pounds.
No. 2	1. 20-1. 22	12.90-13.50 per cent protein; near dark.
1	1. 18 1. 12-1. 15	12.42-12.58 per cent protein; good territory, Kansas. 12.30-12.60 per cent protein; intermediate character.
	1. 05-1. 09	12.35 per cent or less protein; medium to ordinary quality.
3		
No 3	1 19-1 21	12.90-13.75 per cent protein: choice
No. 3	1. 19-1. 21	12.90-13.75 per cent protein; choice.
No. 3	1.12-1.16	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character.
No. 3	1. 12-1. 16 1. 05-1. 09	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality.
No. 3 No. 4	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good.
	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16 1. 08-1. 11	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate.
	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16 1. 08-1. 11 1. 03-1. 07	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate. 12-12.40 per cent protein.
	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16 1. 08-1. 11 1. 03-1. 07	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate. 12-12.40 per cent protein. Under 12 per cent protein.
No. 4	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16 1. 08-1. 11 1. 03-1. 07 . 98-1. 03 . 98-1. 00	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate. 12-12.40 per cent protein. Under 12 per cent protein. Extremely common.
	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16 1. 08-1. 11 1. 03-1. 07 . 98-1. 03 . 98-1. 00	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate. 12-12.40 per cent protein. Under 12 per cent protein. Extremely common. 14 per cent protein; fancy; 53½ pounds.
No. 4	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16 1. 08-1. 11 1. 03-1. 07 1. 98-1. 03 98-1. 00 1. 19 1. 12	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate. 12-12.40 per cent protein. Under 12 per cent protein. Extremely common. 14 per cent protein; fancy; 53½ pounds. 13.12 per cent protein.
No. 4	1.12-1.16 1.05-1.09 1.03-1.05 1.14-1.16 1.08-1.11 1.03-1.07 .98-1.03 .98-1.00 1.19 1.12 1.07	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate. 12-12.40 per cent protein. Under 12 per cent protein. Extremely common. 14 per cent protein; fancy; 53½ pounds. 13.12 per cent protein. Near 13 per cent protein.
No. 4	1. 12-1. 16 1. 05-1. 09 1. 03-1. 05 1. 14-1. 16 1. 08-1. 11 1. 03-1. 07 1. 98-1. 03 98-1. 00 1. 19 1. 12	12.90-13.75 per cent protein; choice. 12.50-13 per cent protein; medium to fair character. 12-12.40 per cent protein; medium quality. 12 per cent or less protein; ordinary. 12.90-13.73 per cent protein; fair to good. 12.45-12.85 per cent protein; intermediate. 12-12.40 per cent protein. Under 12 per cent protein. Extremely common. 14 per cent protein; fancy; 53½ pounds. 13.12 per cent protein.

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.	all co reau	wholesale mmodit Labor St 1913—100	ies, Bu- atistics,	Minne- apolis prices per bushel.2	bush inde	el raise	Prices received per bushel.4			
•	1921	1922	1923	1909- 1913	1921	1922	1923	1921	1922	1923
January	Per ct. 177. 5	Per ct. 144. 1	Per ct. 162. 8	Dollars. 1.048	Dollars. 1.860	1.510	1.706	1.81	Dollars.	Dollars. 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. 597	1.81 1.57	1. 57 1. 22	1. 18 1. 22
August	148. 2 147. 2	161. 8 159. 7	156. 6 160. 8	1.020 .996	1, 512 1, 466	1.650 1.595	1.602	1.56	1. 22	1. 22
SeptemberOctober	148. 2	160.8	159.7	. 990	1.470	1. 591	1.584	1.37	1. 20	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.

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, Bu- reau Labor Statistics, 1909-1913=100.1			Kansas City prices per bushel. <sup>2</sup>	bush i n d e	el raise	Prices received per bushel.4			
	1921	1922	1923	1909- 1913	1921	1922	1923	1921	1922	1923
January. February. March. April. May. June. July. August. September. October. November. December. Year.	161. 8 154. 5 151. 4 148. 2 147. 2 148. 2 147. 2 148. 2	Per ct. 144.1 147.2 148.2 149.3 154.5 156.6 161.8 161.8 169.7 160.8 162.8 162.8	Per ct. 162. 8 163. 9 166. 0 166. 0 162. 8 159. 7 157. 6 166. 6 160. 8	Dollars. 1.008 1.008 1.046 1.066 1.060 958 934 942 954 922 942	Dollars. 1. 789 1. 670 1. 631 1. 616 1. 614 1. 571 1. 410 1. 384 1. 387 1. 414 1. 357 1. 376	Dollars. 1. 453 1. 472 1. 494 1. 562 1. 647 1. 660 1. 550 1. 511 1. 504 1. 534 1. 501 1. 534	Dollars. 1. 641 1. 639 1. 673 1. 735 1. 693 1. 510 1. 463 1. 515 1. 524 1. 463 1. 485	Dollars. 1.72 1.62 1.55 1.33 1.47 1.38 1.14 1.15 1.22 1.10 1.10 1.09	Dollars. 1.13 1.29 1.34 1.35 1.34 1.17 1.13 1.04 1.13 1.17 1.17	Dollars. 1.14 1.15 1.16 1.20 1.16 1.04 .96 1.01 1.09 1.12 1.09 1.109

Division of Statistical and Historical Research.

<sup>&</sup>lt;sup>1</sup> Bureau of Labor Statistics index converted to 1909-1913 base.

Average cash price.

The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.

Average of reported sales No. 1 Dark Northern, Minneapolis.

<sup>&</sup>lt;sup>1</sup> Bureau of Labor Statistics index converted to 1909-1913 base.

Average cash price.
 The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.
 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.	all co	wholesale mmodit of Labor 1909–1913	les, Bu- Statis-	Chicago prices per bushel.	bush	13 pric el raised vholesale	Prices received per bushel.4			
	1921	1922	1923	1909– 1913	1921	1922	1923	1921	1922	1923
January February March April May June July August September October November	167. 0 161. 8 154. 5 151. 4 148. 2 147. 2 148. 2	Per ct. 144.1 147.2 148.2 149.3 154.5 156.6 161.8 161.8 159.7 160.8 162.8	Per ct. 162. 8 163. 9 166. 0 166. 0 162. 8 159. 7 157. 6 160. 8 159. 7 158. 7	Dollars. 1.074 1.068 1.056 1.090 1.148 1.124 .990 .974 .990 1.028 .996	Dollars. 1. 906 1. 784 1. 709 1. 684 1. 738 1. 666 1. 4457 1. 443 1. 457 1. 523 1. 466 1. 446	Dollars. 1. 548 1. 572 1. 565 1. 627 1. 774 1. 760 1. 602 1. 576 1. 581 1. 653 1. 621 1. 612	Dollars. 1.748 1.750 1.753 1.809 1.869 1.795 1.560 1.525 1.592 1.642 1.581 1.560	Dollars. 1. 94 1. 85 1. 65 1. 41 1. 67 1. 47 1. 24 1. 22 1. 29 1. 18 1. 23 1. 18	Dollars. 1, 21 1, 34 1, 38 1, 40 1, 34 1, 18 1, 14 1, 07 1, 06 1, 18 1, 27 1, 33	Dollars. 1. 30 1. 35 1. 31 1. 32 1. 28 1. 16 1. 00 1. 00 1. 05 1. 11 1. 06 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.

<sup>1</sup>Bureau of Labor Statistics index converted to 1909-1913 base.

A verage cash price.

The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.

Average 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.	all commodities, Bu- reau of Labor Statis-			Chicago prices per bushel.2	with	13 prices index prices.*	Prices received per bushel.4			
	1921	1922	1923	1909- 1913	1921	1922	1923	1921	1922	1923
January. February March. April. May. June July. August. September October November Decomber	161.8 154.5 151.4 148.2 147.2 148.2 147.2	Per ct. 144. 1 147. 2 148. 2 149. 3 154. 5 156. 6 161. 8 161. 8 169. 8 162. 8 162. 8	Per ct. 162.8 163.9 166.0 166.0 162.8 159.7 157.6 156.6 150.8 159.7 157.6	Dollars. 0. 574 577 590 622 652 645 664 692 678 634 625 600	Dollars. 1.019 .964 .955 .961 .987 .956 .977 1.026 .998 .940 .920 .877	Dollars. 0.827 .849 .874 .929 1.007 1.010 1.074 1.120 1.083 1.019 1.018 .977	Dollars. 0.934 .946 .979 1.033 1.061 1.030 1.046 1.084 1.090 1.012 .992 .946	Dollars. 0. 682 665 649 578 616 614 614 570 539 470 482 482	Dollars. 0. 484 .572 .575 .588 .618 .609 .643 .622 .635 .691 .722 .734	Dollars. 0.711 737 .740 .793 .899 .839 .857 .876 .884 1.011 .842 .730

Division of Statistical and Historical Research.

<sup>1</sup>Bureau of Labor Statistics index converted to 1909-1913 base.

<sup>2</sup>Bureau of Labor Statistics. 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, Bu- reau of Labor Statis- tics, 1909-1913=100.1			Chicago prices per hun- dred- weight. <sup>2</sup>	1909-19 h u n raised whole	13 price dredw 1 with esale pric	Prices received per hun- dredweight.4			
	1921	1922	1923	1909- 1913	1921	1922	1923	1921	1922	1923
January. February. March. April. May. June. July. August. September October November December.	167. 0 161. 8 154. 5 151. 4 148. 2 147. 2 148. 2 147. 2	Per ct. 144. 1 147. 2 148. 2 149. 3 154. 5 156. 6 161. 8 159. 7 160. 8 162. 8 162. 8	Per ct. 162.8 163.9 166.0 162.8 159.7 157.6 156.8 159.7 158.7 157.6	Dollars. 7. 26 7. 43 8. 02 8. 04 7. 81 7. 90 8. 00 8. 15 7. 93 7. 48 7. 50	Dollars. 12. 89 12. 41 12. 98 12. 42 11. 82 11. 71 11. 78 11. 86 12. 00 11. 75 11. 01 10. 96	Dollars. 10. 46 10. 94 11. 89 12. 00 12. 07 12. 37 12. 94 13. 02 12. 75 12. 18 12. 21	Dollars. 11. 82 12. 18 13. 31 13. 35 12. 71 12. 62 12. 61 12. 53 13. 11 12. 66 11. 87 11. 82	Dollars. 9. 41 9. 42 10. 00 8. 50 8. 35 8. 19 9. 69 9. 26 7. 61 7. 72 7. 01 6. 92	Dollars. 8, 02 9, 90 10, 43 10, 31 10, 48 10, 33 9, 70 8, 01 8, 75 8, 80 8, 07 8, 18	Dollars. 8. 29 8. 02 8. 18 8. 08 7. 53 6. 92 7. 04 7. 65 8. 35 7. 42 6. 85 6. 87
Year	153. 4	155.5	160.8	7.77	11.92	12.08	11.49	8.51	9. 22	7.5

Division of Statistical and Historical Research.

Average 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.	all co reau	wholesale mmodit of Labor 1909–191	es, Bu- Statis-	Chicago prices per hun- dred- weight.2	per hundredweight hun-raised with index dred-wholesale prices.3				Prices received per hun- dredweight.2			
	1921	1922	1923	1909- 1913	1921	1922	1923	1921	1922	1923		
January. February. March. April. May. June. July. August. September. October. November. December.	167. 0 161. 8 154. 5 151. 4 148. 2 147. 2 148. 2 147. 2 148. 2 147. 2 146. 1	Per ct. 144.1 147.2 148.2 149.3 154.5 156.6 161.8 161.8 169.8 162.8 162.8	Per ct. 162.8 163.9 166.0 166.0 162.8 159.7 157.6 160.8	Dollars. 10.29 10.18 10.60 10.33 10.68 10.77 10.75 10.89 11.24 11.20 10.92 10.71	Dollars. 18.26 17.00 17.15 15.96 16.17 15.96 15.82 16.14 16.55 16.60 16.07 15.65	Dollars. 14. 83 14. 98 15. 71 15. 42 16. 50 16. 87 17. 39 17. 62 17. 95 18. 01 17. 78 17. 44	Dollars. 16. 75 16. 69 17. 60 17. 15 17. 39 17. 20 16. 94 17. 05 18. 07 17. 88 17. 33 16. 88	Dollars. 16.03 14.91 14.48 13.07 11.88 12.03 13.94 13.65 13.51 12.16 11.62 11.25	Dollars. 11. 19 12. 59 13. 50 12. 62 13. 15 13. 22 13. 06 13. 30 14. 12 13. 78 13. 31	Dollars. 13. 20 13. 25 13. 87 13. 42 13. 18 12. 84 12. 83 15. 06 15. 22 15. 72 15. 04		

Division of Statistical and Historical Research.

<sup>&</sup>lt;sup>1</sup> Bureau of Labor Statistics index converted to 1909-1913 base.

A verage cash price.

The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for corresponding month.

<sup>&</sup>lt;sup>1</sup> Bureau of Labor Statistics index converted to 1909-1913 base.

<sup>&</sup>lt;sup>2</sup> Average price of pure lard, Chicago.

<sup>3</sup> The average price for the month in 1909-1913 multiplied by the index number of wholesale prices for the corresponding month.

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.	T	ax per acre	.1	Increase.			
	1913	1919	1921	1913–1919	1913–1921	1919–1921	
37 eastern counties <sup>2</sup> . 32 western counties <sup>3</sup> . All counties.	Dollars. 0.30 .15 .24	Dollars. 0. 79 . 33 . 54	Dollars. 0. 77 . 33 . 55	Per cent. 163 120 125	Per cent. 156 120 129	Per cent3 0 2	

Division of Agricultural Finance. Compiled from 1914 State Auditor's Report, vol. 2, and the Annual Reports of State Tax Commission for the years 1914, 1920, and 1921-22.

Table 82.—Analysis of taxes levied on agricultural land outside incorporated places in South Dakota, 1913, 1919, and 1921. (General property tax.)

•				Distri	bution.		
Area.	Year.	State.	County.	Town-ship.	School.	Miscella- neous.	Total.
37 eastern counties	\$\begin{cases} 1913 \\ 1919 \\ 1921 \\ 1919 \\ 1919 \\ 1921 \\ 1913 \\ 1919 \\ 1921 \\	Per cent. 13.4 16.9 12.9 8.1 11.2 7.6 11.8 15.3 11.3	Per cent. 33.0 37.0 27.0 43.3 41.5 38.9 36.2 38.3 30.7	Per cent. 14.2 11.1 10.4 7.0 5.7 5.6 12.0 9.6 9.0	Per cent. 38. 4 35. 0 49. 7 40. 6 41. 6 47. 9 39. 0 36. 8 49. 0	Per cent. 1.0 .0 .0 1.0 .0 1.0 .0 1.0 .0 .0 1.0 .0 1.0	Per cent. 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0

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 districts, 1914 and 1921. (General property tax.)

	Тах ре	Increase,	
Areas.	1914	1921	1914–1921.
Big Bend (5 counties) <sup>2</sup> .  Northeast counties (4 counties) <sup>3</sup> .  Palouse area (6 counties) <sup>4</sup> .  Central counties (5 counties) <sup>5</sup> .  Average east-side (20 counties).	Dollars. 0. 19 . 49 . 37 . 92 . 35	Dollars. 0. 63 1. 36 1. 24 3. 88 1. 18	Per cent. 232 178 235 322 237

Division of Agricultural Finance. Compiled from Third Biennial Report of State Tax Commission of Washington.

<sup>&</sup>lt;sup>1</sup> Tax levies of 1913, 1919, and 1921 for payment in 1914, 1920, and 1922, respectively.

<sup>2</sup> 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, Hutchinson, Jerauld, Kingsbury, Lake, Lincoln, McCook, McPherson, Marshall, Miner, Minnehaha, Moody, Roberts, Sanborn, Spink, Turner, Union, and Yankton.

<sup>3</sup> All counties not listed in note 2 are included in the western division.

<sup>1</sup> Owing to the lack of complete data, the assessed value of improved agricultural land reported in 1920 Ounties of Lincoln, Adams, Franklin, Grant, and Douglas.
 Counties of Lincoln, Adams, Franklin, Grant, and Douglas.
 Counties of Pend Oreille, Stevens, Ferry, and Okanogan.
 Counties of Spokane, Whitman, Garfield, Asotin, Columbia, and Walla Walla.
 Counties of Chelan, Kittitas, Yakima, Klickitat, and Benton.

Table 84.—Increase in delinquent taxes, Kansas, 1917-1922. [1917 delinquent taxes=100 per cent.]

Divisions of the State.	1917	1918	1919	9 1920	1921	1922	Number of counties or parts of coun- ties.	
	1917 19	1313	1919				In division.	Report- ing in table.
Northeastern, general farming Southeastern, general farming Flint Hills, grazing Central, wheat farming Western, grazing	100 100 100 100 100	122 113 120 153 133	141 68 121 161 215	222 82 126 219 275	343 98 433 489 417	264 271 742 570 468	19 20 10 54 16	7 3 2 10 5

Division of Agricultural Finance. Data supplied by Professor Englund, Kansas State Agricultural

Table 85.—Tax per acre and percentage increase on farm land in Kansas for 1913, 1919, and 1921. (General property tax.)

<b>.</b>	Т	ax per acr	ə.¹	Increase.			
Area.	1913	1919	1921	1913–1919	1913–1921	1919-1921	
84 eastern counties <sup>2</sup>	Dollars. 0. 24 . 04 . 17 . 22 . 08	Dollars. 0.39 .12 .33 .55 .14	Dollars. 0.54 .21 .46 .57	Per cent. 63 200 94 150 75	Per cent. 125 425 171 159 113	Per cent. 39 75 39 4 21	

Division of Agricultural Finance. Compiled from the Fourth, Seventh, and Eighth Biennial Reports of the State Tax Commission of Kansas.

Table 86.—Analysis of taxes levied on farm land in Kansas for 1913, 1919, and 1921. (General property tax.)

		Distribution.									
Area.	Year.	State.	County.	Town- ship.	School.	Drain- age.	Total.				
84 eastern counties	1913 1919 1921 1913 1919 1921 1913 1919 1921	Per cent. 17.2 16.8 18.0 13.4 12.1 12.5 16.9 16.5 17.6	Per cent. 35.0 41.6 88.5 40.1 45.0 35.9 35.3 41.8 38.3	Per cent. 18.7 16.0 14.4 8.5 9.1 18.1 15.5 14.0	Per cent. 28. 3 25. 0 28. 6 38. 0 34. 4 42. 5 28. 9 25. 6 29. 6	Per cent. 0.8 .6 .5 .0 .0 .0 .8 .6 .5 .5 .5	Per cent. 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0				

Division of Agricultural Finance. (See notes to Table 85.)

Tax levies of 1913, 1919, and 1921 for payment in 1914, 1920, and 1922; respectively.
 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 87.—Financial condition of farmers in 15 States of the Middle West, January, 1920, to March, 1923.

	1.			Perce	entage	of farn	iers wl	no lost	farms	or pro	perty.				
		Ow	ner fari	ners.		r	'enant	farme	ers.	Ow	Owner and tenant farmers.				
State and Division.	Lost farms through foreclosure or bankruptcy.	Lost farms without foreclosure or bankruptcy.	All farmers who lost farms.	Retained farms through leniency of creditors	Lost farms because of land purchased during years 1918–1920.	Lost property through foreclosure or bankruptcy.	Lost property without foreclosure or bankruptcy.	All farmers who lost property.	Retained property through leniency of creditors.	Lost farms or property through foreclosure or bankruptcy.	Lost farms or property without foreclosure or bankruptcy.	All farmers who lost farms or property.	Retained farms or property through leniency of creditors.	Lost farms or property through unwise investments in business enterprises other than farming.	
Ohio Indiana Illinois Michigan Wisconsin	P. ct. 2. 29 2. 20 2. 34 2. 60 2. 13	P. ct. 2. 97 3. 26 3. 16 4. 07 3. 42	5. 50 6. 67	13. 42 13. 12	2. 01 1. 64 1. 37	3. 73 5. 44 4. 30 7. 74	6. 29 5. 22 15. 47		11. 36 18. 90 21. 38 15. 28	3. 25 3. 19 3. 52	4.05	7. 49 7. 24 9. 63	13. 26 16. 87 13. 51	P. ct. 0. 60 . 36 . 38 . 19 . 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 Iowa Missouri North Dakota South Dakota Nebraska Kansas	4. 43 3. 84 2. 90 9. 78 6. 20 5. 06 2. 94	3. 69 5. 30 4. 69 5. 80 6. 42 4. 17 2. 89	8. 12 9. 14 7. 59 15. 58 12. 62 9. 23 5. 83	13. 12 12. 18 16. 76 32. 50 20. 78 14. 86 12. 22	4. 35 5. 71 3. 12 1. 82 4. 72 3. 48 1. 79	12. 37 6. 24 6. 02 12. 01 10. 65 7. 19 5. 91	6. 79 9. 04 10. 63 10. 95 5. 80	19. 53 13. 03 15. 06 22. 64 21. 60 12. 99 13. 38	24, 47 18, 69 28, 13 34, 94 29, 10 20, 28 18, 23	6. 41 4. 85 3. 81 10. 36 7. 77 5. 98 4. 15	4. 56 5. 93 5. 95 7. 05 8. 02 4. 88 4. 76	10.78	15. 95 14. 93 20. 06 33. 13 23. 71 17. 21 14. 67	. 28 . 62 . 41 . 60 . 52 . 87 . 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 Wyoming Colorado	16. 71 4. 39 7. 11	11. 07 6. 95 7. 42	27. 78 11. 34 14. 53	33. 86 37. 92 25. 90	2. 13 2. 05 5. 76	17. 07 16. 09 9. 55	14. 90 12. 41 11. 66	31. 97 28. 51 21. 22	29. 09 33. 33 26. 92	16. 75 5. 89 7. 68	11. 51 7. 65 8. 41	28. 26 13. 54 16. 09	33. 31 37. 33 26. 14	22 2.05 1.06	
Mountain (3 States) 1 Total (15	11. 20	9. 05	20. 25	31. 05	3. 62	12. 33	12. 68	25. 01	<b>28</b> . 12	11. 39	9. 66	21. 06	30. 55	. 81	
States 1)	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.

<sup>&</sup>lt;sup>1</sup> Based on number of farms reported by the Census, January 1, 1920.

Table 88.—Wheat: Disposition of crop in principal States.

TABLE 66. Wheat. Desposation of orop in princepas assess												
	Usu	al disposit	ion of the o	erop.	Intended disposition of the 1923 crop.							
State.	Used for seed.	Fed to live- stock.1	Milled in county.	Shipped out of county.	Used for seed.	Fed to live- stock.1	Milled in county.	Shipped out of county.				
New York Pennsylvania Maryland Virginia North Carolina	Per cent. 10 9 9 10 10	Per cent. 24 18 9 8 7	Per cent. 35 40 29 64 80	Per cent. 31 33 53 18	Per cent. 9 9 9 10 10	Per cent. 29 23 13 10 7	Per cent. 33 41 30 61 80	Per cent. 29 27 48 19				
Ohio	10	9	30	51	9	16	29	46				
	9	6	27	58	8	10	28	54				
	7	6	18	69	7	10	16	67				
	9	11	32	48	9	17	31	43				
	10	7	20	63	10	9	20	61				
Iowa	9	8	18	65	8	10	17	65				
Missouri	8	8	26	58	7	14	25	54				
North Dakota	11	1	6	82	13	4	6	77				
South Dakota	10	4	7	79	11	6	5	78				
Nebraska	8	4	14	74	9	8	15	68				
Kansas	10	4	16	70	17	9	17	57				
Kentucky	10	5	70	15	9	8	69	14				
Tennessee	10	7	64	19	10	10	64	16				
Texas	9	4	26	61	10	12	26	52				
Oklahoma	10	8	12	70	9	13	12	66				
Montana	8	5	8	79	8	7	8	77				
Colorado	7	8	17	68	8	15	17	60				
Utah	6	22	40	32	7	25	38	30				
Idaho	5	18	9	68	6	18	8	68				
Washington	6	10	14	70	5	8	17	70				
Oregon	5	12	11	72	5	14	11	70				
California	8	18	19	55	8	21	18	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.

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.

Year ending June 30.	Total imports from Canada.	Imports for consumption (duty paid).	Imports on which draw- back was allowed.	Imports for milling in bond and export.
June-Sept	Bushels.  1 1, 123, 947 4, 115, 128 5, 992, 151 3, 323, 971	Bushels.  1 676, 585 2, 897, 579 2, 206, 737 2, 674, 677	Bushels. } 4,638	Bushels. 2, 190, 180 2, 323, 332 1, 659, 325
Total	14, 555, 197	8, 455, 578	4, 638	6, 172, 837
1922-23. July-Sept	5, 003, 783 8, 322, 154 806, 785 3, 879, 745	2, 513, 575 3, 165, 026 1, 045, 155 684, 394		2, 444, 891 3, 998, 888 1, 501, 964 1, 335, 044
Total	18, 012, 467	7, 408, 150		9, 280, 787
1923-24.  July-SeptOctDec	3, 666, 420 11, 146, 796	1, 052, 563 5, 945, 148	3, <b>20</b> 1 9, 594	2, 711, 185 4, 440, 299
Total	14, 813, 216	6, 997, 711	12, 795	7, 151, 484

Division of Statistical and Historical Research. Compiled from records of the Bureau of Foreign and Domestic Commerce.

<sup>&</sup>lt;sup>1</sup> 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 existed in November. The degree to which these expressed intentions materialized was probably affected by subsequent price changes.

<sup>&</sup>lt;sup>1</sup> Four months; Emergency tariff became effective May 28, 1921.

Table 90.—Canadian freight rates on wheat, 1913, 1920, and 1923.

To Fort William and Port Artbur—	1913, per bushel. <sup>1</sup>	Sept. 13, 1920, per bushel. <sup>2</sup>	1923, per bushel. <sup>3</sup>
From points in:  Manitoba— Brandon Portage la Prairie. Winnipeg. Virden Saskatchewan— Broadview Shelbrook Regina Saskatoon Yorkton Alberta— Athabasea Calgary Edmonton Medicine Hat Lethbridge	7. 2 6. 0 9. 0 9. 6 4 14. 4 10. 8	Cents. 14. 1 12. 9 11. 4 15. 9 17. 4 24. 3 19. 5 22. 8 18. 3 26. 7 24. 3 24. 3 22. 8 23. 4	Cents.  9.6 9.0 8.4 10.8 15.6 12.0 14.4 11.4 17.4 15.6 15.6 14.4 15.0

Division of Statistical and Historical Research. Compiled from data of Dominion Bureau of Statistics.

Effective July 6, 1922.January 1, 1916.

<sup>1</sup> Effective October 7, 1963. <sup>2</sup> This rate continued in effect until January 1, 1921.

Table 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.  Regina via Port Arthur to Buffalo:  1. Regina to Port Arthur 2. Port Arthur to Buffalo.	794	Cents. 12. 0	Cents.
2. For Archite to New York  Total rate to seaboard		9. 1	
4. New York to Liverpool		2 4. 8	28. 9
Scobey, Mont., via Duluth to Buffalo:  1. Scobey to Duluth		22. 5 3. 0 9. 1	
Total rate to seaboard		34. 6 2 4. 8	39. 4
McPherson via Gulf:  1. McPherson to Galveston  2. Galveston to Liverpool	974	27. 0 2 8. 6	35. 6
McPherson to New Orleans     New Orleans to Liverpool		27. 0 2 8. 6	35. 6
FROM ARGENTINA.  1. Corral de Bustos to Rosario	111	9. 5 <sup>2</sup> 14. 8	24. 3
Average haul to Buenos Aires:  1. Southern Ry  2. Buenos Aires & Pacific Ry	194.00		
3. Central Argentine Ry 4. Central of Cordoba Ry 5. Buenos Aires & Western Ry	121, 00 122, 00 186, 0	8, 68 9, 53 11, 24	
Average to Buenos Aires  Average for Argentina  6. Buenos Aires to Liverpool		10. 05 9. 96 <sup>2</sup> 13. 8	23.8

Division of Statistical and Historical Research. Interstate Commerce Commission, United States Shipping Board, Consular Reports, Dominion Bureau of Statistics, International Institute of Agriculture.

Rate in effect on November 19, 1923.
 Average rate for nine months, January to September, 1923; all conversions on the basis of average rate of exchange prevailing during these months.

# GRAINS OTHER THAN BREAD GRAINS.

## CORN.

Table 92.—Corn: Acreage, production, value, exports, etc., United States, 1869-1923.

-		1		Aver-			Chi	cago (	ash p	rice			
		Average		age farm	_	Value	per	bush mix	el,No	.2	Domestic exports	Imports,	Per cent
Cal- endar	Acre- age.	yield per	Produc-	price per	Farm value	per acre. 1	Dec	em-	Follo	wing	including corn meal,	fiscal year beginning	of crop
year.	uge.	acre.	vion.	bush- el	Dec. 1.	acro.	be		M		fiscal year beginning	July 1.3	ex- por-
				Dec.			Low.	High	Low.	High	July 1.3		ted.
	1,000	Bu. of 56 lbs.	1,000		1,000	Dol-	·						Ρ.
1869	acres. 37, 103	shelled. 23. 6	bushels. 874, 320	Cents. 59. 8	dollars. 522, 551	lars. 14.08	Cts. 56	Cts. 67	Cts. 73	Cts. 85	Bushels. 2, 140, 487	Bushels. 88, 980	ct. 0. 2
1870 1871	38, 647 34, 091	28. 3 29. 1	1, 094, 255 991, 898	49. 4 43. 4	540, 520	13. 99 12. 62	41 36	59 39	46 38	52 43	10, 673, 553 35, 727, 010	111,080 58,568	1.0 3.6
1872	35, 527 39, 197	30. 8 23. 8	1, 092, 719 932, 274	35. 3 44. 2	430, 356 385, 736 411, 961	10.86 10.51	27 40	28 49	34 49	39 59	40, 154, 374 35, 985, 834	61, 536	3.7
1874	41,037	20.7	850, 148	58. 4	496, 271	12.09	64	76	53	67	30, 025, 036	38,098	3. 5
1875 1876	44, 841 49, 033	29. 5 26. 2	1, 321, 069 1, 283, 828	36. 7 34. 0	484, 675 436, 109	10. 81 8. 89	40 40	47 43	41 43	45 56	50, 910, 532 72, 652, 611	51, 796 30, 902	3. 9 5. 7
1877 1878	50, 369 51, 585	26.7	1, 342, 558 1, 388, 219	34. 8 31. 7	467, 635 440, 281	9. 28 8. 54	41 30	49 32	35 33	41 36	87, 192, 110 87, 884, 892	13, 423 33, 869	6. 5 6. 3
1879	62, 369	29. 2	1, 823, 163	37. 1	676, 251 679, 714	10. 84 10. 91	39 35≸	43½ 42	32 <sup>3</sup> / <sub>5</sub> 41 <sup>1</sup> / <sub>2</sub>	36½ 45	99, 572, 329 93, 648, 147	58, 876 75, 155	5. 5 5. 5
1880 1881	62, 318 64, 262	18.6	1, 717, 435 1, 194, 916	39. 6 63. 6	759, 482	11.82	58½ 49¼	$63\frac{1}{2}$	69 53½	767 567	44, 340, 683 41, 655, 653	69, 621 25, 989	3. 7 2. 6
1882 1883	65, 660 68, 302	24. 6 22. 7	1, 617, 025 1, 551, 067	48. 5 42. 4	783, 867 658, 051	11. 94 9. 63	541	61 631	$52\frac{1}{2}$	57	46, 258, 606	4, 894	3.0
1884 1885	69, 684 73, 130		1, 795, 528 1, 936, 176	35. 7 32. 8	640, 736 635, 675	9. 19 8. 69	$\frac{34\frac{1}{2}}{36}$	40½ 42¾	443 341	49 363	52, 876, 456 64, 829, 617	4, 507 16, 104	2. 9 3. 3
1886	75, 694 72, 393	22. 0	1, 665, 441 1, 456, 161	36. 6 44. 4	610, 311 646, 107	8.06 8.92	35 <sup>3</sup> 47	38 511	$\frac{36^{\frac{7}{8}}}{54}$	39 <sup>3</sup> 60	41, 368, 584 25, 360, 869	30, 536 37, 493	2. 5 1. 7
1888	75, 673	26.3	1, 987, 790	34. 1	677, 562	8. 95	$33\frac{1}{2}$	51½ 35¾	331	35≩	70, 841, 673	2, 401	3.6
1889 1890	72, 088 70, 390	20.7	1, 998, 648 1, 460, 406	27. 4 50. 0	546, 984 729, 647	7. 59 10. 37	$\frac{29\frac{1}{4}}{47\frac{3}{4}}$	35 53	32 <del>1</del> 55	35 69½	103, 418, 709 32, 041, 529	1,626 2,111	5. 2 2. 2
1891 1892	74, 496 72, 610	27. 6 23. 6	2, 055, 823 1, 713, 688	39. 7 38. 8	816, 917 664, 390	10. 97 9. 15	39 <sup>3</sup> / <sub>8</sub>	59 427	$\frac{40^{3}}{39^{1}_{2}}$	4100 44½	76, 602, 285 47, 121, 894	15, 290 1, 881	2.7
1893	74, 434	22. 9	1, 707, 572 1, 339, 680	35. 9	612, 998 604, 523	8. 24 8. 71	34½ 44¾	36½ 47⅓	36 <sup>3</sup> 47 <sup>3</sup>	38½ 55½	66, 489, 529 28, 585, 405	2, 199 16, 575	3.9 2.1
1894 1895	69, 396 85, 567	27. 0	2, 310, 952	45. 1 25. 0	578, 408	6.76	25 221	263	$\frac{27\frac{1}{2}}{23}$	29 3	101, 100, 375 178, 817, 417	4, 338 6, 284	4.4 7.1
1896 1897	86, 560 88, 127	28. 9 24. 3	2, 503, 484 2, 144, 553	21. 3 26. 0	532, 884 558, 309	6. 16 6. 34	25 331	23 <sup>3</sup> / <sub>2</sub> 27 <sup>1</sup> / <sub>2</sub> 38	$\frac{32\frac{3}{8}}{32\frac{1}{2}}$	37	212, 055, 543 177, 255, 046	3, 417 4, 171	9. 9 7. 8
1898	88, 304 94, 914		2, 261, 119 2, 454, 628	28. 4 29. 9	642, 747 734, 916	7. 28 7. 74	30	$31\frac{1}{2}$	36	40½	213, 123, 412	2, 480	8.7
1900	95, 042 94, 636	26. 4	2, 505, 148 1, 613, 528	35.1	878, 243	9. 24 10. 24	$35\frac{1}{4}$ $62\frac{1}{2}$	40½ 67½	42% 59%	643	181, 405, 473 28, 028, 688	5, 169 18, 278	7. 2 1. 7
1902	95, 517 90, 661	27.4	2, 619, 499 <b>2, 34</b> 6, 897	40. 1 42. 1	969, 285 1, 049, 791 987, 882	10. 99 10. 90	43 <sup>3</sup> / <sub>4</sub>	57½ 43¾	44 471	46 50	76, 639, 261 58, 222, 061	40, 919 16, 633	2.9 2.5
1904	93, 340	27.1	2, 528, 662	43.7	1, 105, 690	11.85	431	49	48	641	90, 293, 483 119, 893, 833	15, 443 10, 127	3.6 4.4
1905 1906	93, 573 93, 643	30.9	2, 748, 949 2, 897, 662	39.3	1, 120, 513 1, 138, 053	11. 97 12. 15	42 40	50½ 46	47½ 49½	50 56	86, 368, 228	10,818	3. 0 2. 2
1907 1908	94, 971 95, 603	26. 5 26. 6	2, 512, 065 2, 544, 957	50. 9 60. 0	1, 277, 607 1, 527, 679	13. 45 15. 98	57½ 56¾	$\frac{61\frac{1}{2}}{62\frac{1}{4}}$	67 <del>1</del> 721	82 76	55, 063, 860 37, 665, 040	20, 312 258, 065	1.5
1909	98, 583 104, 035	26.1	2, 572, 336 2, 886, 260	58.6	1, 507, 185 1, 384, 817	15. 32 13. 31	62½ 45\	66 50	56 521	63 55½	38, 128, 498 65, 614, 522		1. 5 2. 3
1910	105, 825	23.9	2, 531, 488	61.8	1, 565, 258	14. 79 14. 20	68 47½	70 54	761 551	82½ 60	41, 797, 291 50, 780, 143	53, 425 903, 062	1.7 1.6
1912 1913	107, 083 105, 820	29. 2 23. 1	3, 124, 746 2, 446, 988	69. 1	1, 520, 454 1, 692, 092	15. 99	64	$73\frac{1}{2}$	67	$72\frac{1}{2}$	10, 725, 819	<b>12, 3</b> 67, 369	.4
Aver	104, 229		2, 712, 364		1,533,961	14.72	$\frac{57.5}{621}$	$\frac{62.7}{681}$	61.4	66. 6 56	41, 409, 255 50, 668, 303	2, 664, 771 9, 897, 939	$\frac{1.5}{1.3}$
1914 1915	103, 435 106, 197	28. 2	2, 672, 804 2, 994, 793	57. 5	1, 722, 070 1, 722, 680	16. 65 16. 22	691	75	69	78½	39, 896, 928	5, 208, 497 2, 267, 299	2. 6 1. 6
1916	105, 296 116, 730	ŀ	2, 566, 927 3, 065, 233		2, 280, 729 3, 920, 228	21.66 33.58	88 160	96 190	152 150	174 170	66, 753, 294 49, 073, 263	3, 196, 420	.9
1918	104, 467	24.0	2, 502, 665 2, 811, 302	136.5	3, 416, 240 3, 780, 597	32. 70 38. 91	135	155 160	160½ 189	185 217	23 018 822	3, 311, 211 10, 229, 249	.6 2.2
1919 1920	97, 170 101, 699	31. 5	3, 208, 584	67.0	2, 150, 332	21. 14	701	86	59	66	70, 905, 781	5, 743, 384	5.9
Aver	104, 999		2, 831, 758 3, 068, 569		2, 713, 268 1, 297, 213	25. 84 12. 50	103. 9 46 <sup>3</sup>	118. 6	118. 6 591	135. 2	45, 289, 120 179, 490, 442	5, 693, 428 124, 591	$\frac{1.6}{5.8}$
1921	103, 740 102, 846	28. 3	2, 906, 020	65.8	1, 910, 775	18.58	691	77 2	78	872		137, 529	3. 3
19235	104, 158	29.3	3, 054, 395	72.7	2, 222, 013	21. 33	697	01	1		1		

Division of Crop and Livestock Estimates. Figures in italics are Census returns.

4 Coincident with "corner."
5 Preliminary.

Based upon farm price Dec. 1.
 Chicago Daily Trade Bulletin. No. 2 to 1908. Contract to 1915.
 Compiled from reports of Bureau of Foreign and Domestic Commerce.

Table 93.—Corn: Acreage, production, and farm value in six leading States, 1866-1923.

Calendar dar year.	Acreage.	Yield per acre.	Production.	Farm price per bu. Dec. 1.	Farm value Dec. 1.	Calendar year.	Acre- age.	Yield per acre.	Produc-	Farm price per bu. Dec 1.	Farm value Dec. 1.
1866 1867 1868 1869 1870	1,000 acres. 14,307 13,077 12,696 15,806 16,953	Bush. 33. 9 27. 5 33. 8 27. 1 35. 1	1,000 bushels. 484, 490 359, 943 428, 719 428, 500 595, 847	Cents. 32.8 48.5 36.5 48.0 34.8	1,000 dollars. 159.007 174, 496 156, 663 205, 659 207, 374	1901 1902 1903 1904 1905	1,000 acres. 44,000 44,100 40,150 42,750 42,350	Bush. 19. 4 36. 0 30. 2 32. 4 36. 4	1,000 bushels. 854,700 1,586,655 1,211,020 1,385,135 1,540,860	Cents. 55. 8 34. 5 36. 0 38. 0 36. 5	1,000 dollars. 476, 642 547, 853 435, 987 526, 365 562, 287
1871 1872 1873 1874	14, 658 15, 815 18, 859 19, 832 22, 479	38. 6 39. 1 25. 6 23. 3 35. 0	565, 739 617, 839 482, 942 461, 894 786, 000	29. 6 23. 6 32. 7 48. 9 28. 7	167, 573 145, 596 158, 130 225, 914 225, 536	1906 1907 1908	41, 900 42, 350 41, 850 42, 472	36. 9 31. 5 30. 5	1, 546, 895 1, 335, 330 1, 277, 785 1, 370, 094	34. 6 44. 8 56. 0 52. 2	534, 941 598, 742 715, 100 715, 537
1876 1877 1878 1879 1880	24, 641 24, 610 25, 194 29, 814 29, 877	28. 7 30. 5 31. 6 36. 1 31. 5	707, 500 750, 500 795, 369 1, 076, 944 939, 786	28. 2 28. 6 23. 9 28. 8 33. 6	199, 542 214, 572 190, 196 309, 992 315, 724	1910 1911 1912 1913	43, 405 43, 575 44, 958 44, 185	34. 9 30. 1 36. 9 26. 8	1, 516, 781 1, 313, 765 1, 658, 635 1, 186, 312	39. 3 55. 5 40. 3 63. 1	595, 855 728, 854 667, 979 748, 416
1881 1882 1883 1884 1885		21. 8 27. 7 26. 7 32. 3 33. 1	661, 382 811, 143 805, 529 1, 007, 244 1, 081, 640	54. 2 43. 8 36. 1 27. 6 26. 0	358, 648 355, 365 290, 459 277, 954 281, 399	Aver 1914 1915 1916 1917	43, 719 43, 493 42, 675 43, 162 47, 656	32. 2 30. 5 33. 3 29. 7 35. 0	1, 409, 117 1, 327, 840 1, 422, 150 1, 280, 295 1, 666, 556 1, 248, 606	58. 7 52. 5 83. 1 115. 7 124. 7	778, 890 747, 191 1,063,962 1,928,148 1,557,436
1886 1887 1888 1889	33, 557 31, 192 32, 661 33, 777 33, 400	26. 0 22. 6 34. 3 34. 0 24. 5	873, 502 703, 878 1, 121, 588 1, 147, 578 816, 710	30. 0 38. 3 27. 8 22. 2 44. 4	262, 159 269, 718 311, 370 254, 208 362, 914	1918 1919 1920 Aver		29. 9 35. 2 38. 3 33. 1	1, 248, 696 1, 418, 481 1, 623, 991 1, 426, 858	125. 2 54. 3 87. 4	1,776,447 881, 423 1,247,642
1891 1892 1893 1894 1895	35, 700 34, 200 35, 075 30, 500 40, 440	33. 7 27. 9 27. 5 21. 7 31. 9	1, 204, 090 954, 930 965, 700 661, 150 1, 290, 754	34. 0 34. 9 30. 2 40. 6 20. 8	409, 267 333, 532 292, 014 268, 468 268, 360	1921 1922 1923 <sup>2</sup>	41, 267 41, 317 43, 274	35. 2 35. 5 36. 7	1, 452, 111 1, 465, 381 1, 588, 939	34. 5 59. 6 63. 8	501, 127 873, 069 1,013,584
1896 1897 1898 1899	41, 280 41, 780 41, 000 43, 154 43, 950	36. 8 29. 9 30. 2 32. 0 34. 0	1, 519, 740 1, 248, 975 1, 236, 900 1, 380, 602 1, 493, 100	16. 8 20. 3 24. 7 26. 0 30. 8	255, 317 253, 620 304, 897 358, 618 459, 374	-				-	

Division of Crop and Livestock Estimates.

 $<sup>^{1}</sup>$ 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.	Thou	sands of	acres.	Produ	etion, thou bushels.	isands of		value, bas ousands of	
	1921	1922	1923 1	1921	1922	1923 1	1921	1922	1923 1
Maine	30	19	18	1, 500	779	684	1, 155	779	766
	24	27	26	1, 272	1, 161	1, 092	954	871	1, 212
	81	85	84	4, 455	3, 570	3, 276	3, 386	3, 249	3, 604
	65	61	59	3, 120	2, 440	2, 537	2, 402	2, 294	2, 918
	14	13	12	644	520	456	708	624	524
Connecticut New York New Jersey Pennsylvania Delaware	74	77	76	3, 848	3, 465	3, 116	3, 463	3, 326	3, 334
	798	798	758	36, 708	28, 329	24, 559	24, 594	23, 513	24, 559
	241	231	236	11, 327	9, 702	9, 440	6, 003	6, 791	8, 968
	1,589	1, 573	1,541	76, 272	69, 212	61, 640	41, 950	49, 833	56, 092
	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
	1, 904	1,866	1,847	47, 600	52, 248	53, 563	32, 844	41, 276	50, 349
	592	604	592	20, 128	20, 536	20, 128	15, 096	17, 250	19, 927
	2, 552	2,577	2,603	49, 254	51, 540	58, 568	38, 418	45, 871	59, 739
	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
	2, 110	2, 209	2, 253	97, 482	98, 300	83, 361	44, 842	61, 929	66, 689
	3, 820	3, 979	4, 297	156, 620	131, 307	154, 692	48, 552	73, 532	94, 362
	10, 250	10, 364	10, 571	439, 590	466, 380	430, 240	129, 150	261, 173	266, 749
	6, 096	6, 250	6, 562	182, 880	178, 125	196, 860	73, 152	121, 125	145, 676
North Dakota South Dakota Nebraska Kansas Kentucky	620	780	842	17, 360	21, 450	28, 207	5, 902	11, 368	15, 232
	3, 926	3, 861	4, 208	125, 632	110, 038	145, 176	32, 664	55, 019	75, 492
	7, 419	7, 296	8, 244	207, 732	182, 400	272, 052	56, 088	105, 792	144, 188
	4, 358	5, 098	5, 629	96, 748	98, 391	122, 149	29, 992	60, 019	78, 175
	3, 209	3, 145	3, 083	82, 150	88, 060	87, 866	45, 182	60, 761	74, 686
TennesseeAlabama Mississippi Louisiana Texas	3, 516 4, 042 3, 172 1, 796 6, 227	3, 280 3, 636 2, 855 1, 706 5, 729	3, 018 3, 310 2, 327 1, 604 5, 213	90, 713 58, 609 57, 096 35, 022 156, 920	75, 440 50, 904 49, 962 29, 002 114, 580	73, 941 48, 988 33, 742 24, 702 96, 440	47, 171 36, 338 31, 974 22, 764 84, 737	59, 598 45, 814 42, 468 24, 072 95, 101	69, 505 52, 907 36, 104 25, 937 96, 440
OklahomaArkansas Montana Wyoming Colorado	3, 077 2, 640 190 56 1, 102	3, 200 2, 250 228 112 1, 145	3, 264 2, 002 365 150 1, 490	76, 925 58, 080 3, 800 1, 232 15, 979	57, 600 43, 875 5, 540 2, 688 18, 320	37, 536 39, 039 9, 490 4, 050 37, 250	24, 616 33, 106 2, 546 616 4, 953	40, 320 37, 294 2, 936 1, 613 12, 091	32, 656 39, 429 6, 168 2, 835 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	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

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 95.—Corn: Yield per acre, by States, calendar years, 1908-1923.

-																		
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
Maine New Hampshire Vermont Massachusetts Rhode Island	40. 5 39. 0 40. 3	38. 0 35. 1 37. 0	Bu. 46. 0 46. 0 43. 0 45. 5 40. 0	44. 0 45. 0 41. 0	40. 0 46. 0 40. 0	38. 0 37. 0 37. 0	41. 2 41. 8 39. 6	47. 0 47. 0	41. 0 45. 0 46. 0 47. 0	43. 0 46. 0 43. 0 42. 0	37. 0 40. 0 45. 0 45. 0	45. 0 45. 0 38. 0 52. 0	55. 0 46. 5 46. 5 52. 3	Bu. 45. 0 45. 0 47. 0 40. 0 40. 0	44. 6 46. 5	50. 0 53. 0 55. 0 48. 0	41. 0 43. 0 42. 0 40. 0	42. 0 39. 0 43. 0
Connecticut New York New Jersey Pennsylvania Delaware								46. 0 41. 0 38. 5 42. 5 36. 0	40. 0 38. 0 38. 5	30. 0 40. 0 39. 0	31. 0 42. 0 39. 0	36. 0 41. 0 40. 0	43. 0 40. 0 47. 0	40. 0 44. 0 45. 0	47. 0 37. 3 40. 5 41. 6 33. 4	46. 0 47. 0 48. 0	42. 0 44. 0	32.4
Maryland	18. 0 14. 1	16. 7	18. 5	18, 2	17. 9	19. 5	18. 2	20.3	28, 5 31, 5 21, 0	28. 0 30. 5 18. 5	27. 0 30. 0 20. 0	28. 0 31. 0 21. 0	28. 0 34. 0 19. 0	30. 0 34. 0	20.3	25. 0 34. 0 19. 3	28. 0 34. 0 20. 0	34. 0 22. 5
Georgia Florida Ohio Indiana Illinois	30. 3 31. 6	40. 0 35. 9	39. 3 39. 1	36. 0 3 <b>3.</b> 0	40. 3 40. 0	36. 0 27. 0	38. 3 35. 0	14. 0 16. 0 39. 1 33. 0 29. 0	15. 0 41. 5 38. 0	15. 0 31. 5 <b>34.</b> 0	15. 0 38. 0 36. 0	16. 0 36. 0 33. 0	15. 0 43. 0 37. 0	13. 5 43. 4 40. 5		14. 0 41. 0 36. 0	14. 0 39. 0 37. 0	12. 2 12. 5 41. 0 38. 5 37. 5
Michigan Wisconsin Minnesota Iowa Missouri	31. 8 33. 7 29. 0 31. 7 27. 0	35. 4 33. 0 34. 8 31. 5 26. 4	32. 4 32. 5 32. 7 36. 3 33. 0	33. 0 36. 3 33. 7 31. 0 26. 0	34. 0 35. 7 34. 5 43. 0 32. 0	33. 5 40. 5 40. 0 34. 0 17. 5	33. 7 35. 6 35. 1 35. 2 27. 0	40, 5 35, 0 38, 0	23. 0 23. 0 30. 0	36. 0 33. 5 36. 5	22. 0 30. 0 37. 0	40, 2 40, 0 36, 0	45. 0 40. 0 41. 6	43. 2 37. 5 46. 0	31. 9 35. 7 34. 1 37. 9 26. 4	46. 2 41. 0 42. 0	44, 5 33, 0 45, 0	34. 5 37. 0 36. 0 40. 7 30. 0
North Dakota South Dakota Nebraska Kansas Kentucky	23. 8 29. 7 27. 0 22. 0 25. 2	31. 0 31. 7 24. 8 19. 9 29. 0	14. 0 25. 0 25. 8 19. 0 29. 0	25. 0 22. 0 21. 0 14. 5 26. 0	26. 7 30. 6 24. 0 23. 0 30. 4	28. 8 25. 5 15. 0 3. 2 20. 5	25. 1 27. 0 22. 1 15. 9 27. 0	26. 0 24. 5 18. 5	29. 0 30. 0 31. 0	28. 5 26. 0 10. 0	28. 0 27. 0 13. 0	34. 0 17. 7 7. 1	28. 5 26. 2 15. 2	30. 0 33. 8 26. 5	21. 9 29. 1 26. 5 17. 3 27. 9	32. 0 28. 0 22. 2	28. 5 25. 0 19. 3	34. 5 33. 0 21. 7
TennesseeAlabama Mississippi Louisiana Texas	17. 3 19. 8	14. 5 23. 0	29. 5 23. 6	19. 0 18. 5	18. 3 18. 0	20. 0 22. 0	24. 3 16. 8 18. 5 21. 0 18. 0	17. 0 18. 5 19. 3	17. 0 19. 0 20. 5	12. 5 14. 0 21. 0	16. 0 20. 5 18. 0	14. 6 17. 0 16. 0	14. 5 15. 0 17. 5	15. 7 16. 0 19. 2	25. 6 15. 3 17. 1 18. 8 19. 9	14. 5 18. 0 19. 5	14. 0 17. 5 17. 0	14. 8 14. 5 15. 4
Oklahoma Arkansas Montana Wyoming Colorado	20 2	18 0	24 N	200 Ri	20 4	19 Al	13. 8 20. 4 28. 3 21. 0 18. 8	17. 5 28. 0 25. 0	23. 0 28. 0 25. 0	17. 7 25. 0 22. 0	24, 0 12, 5 20, 0	13. 0 21. 0 25. 0	18. 0 4. 0 16. 0	23. 4 12. 1 24. 0	17. 6 19. 5 18. 7 22. 4 19. 4	22. 0 20. 0 22. 0	19. 5 24. 3 24. 0	11. 5 19. 5 26. 0 27. 0 25. 0
New Mexico Arizona Utah Nevada	33. 2 29. 4	32, 1	32, 5 30, 3 <b>30,</b> 0	35. 0 35. 0 30. 5	33. 0 30. 0 30. 0	28. 0 34. 0 34. 0	24. 0 31. 7 32. 1 31. 1	32. 0 35. 0 36. 0	30. 0 34. 0 35. 0	35. 0 33. 0 3 <b>4.</b> 0	27. 0 25. 0 30. 0	28. 0 28. 0 32. 0	29. 0 19. 2 26. 9	22, 0 21, 9 32, 0	23. 3 29. 0 28. 0 32. 3	29. 0 24. 6 29. 1	30. 0 24. 4 21. 1	16. 4 30. 0 24. 9 23. 3
Idaho	25. 5 27. 8 32. 0	27. 8 30. 7 34. 8	28. 0 25. 5 37. 5	28. 5 28. 5 36. 0	27. 3 31. 5 37. 0	28. 0 28. 5 33. 0	31. 5 27. 9 28. 9 35. 7	27. 0 30. 0 36. 0	27. 0 35. 0 41. 0	37. 0 33. 5 32. 0	37. 0 30. 0 32. 0	38. 0 31. 0 35. 0	36. 0 26. 5 32. 0	36, 0 31, 0 33, 0	34. 3 34. 0 31. 0 34. 4	40. 0 30. 0 35. 0	41. 0 33. 0 36. 0	42. 0 37. 0 35. 0 35. 0 29. 3
United States	20. 0	20. 1	21.1	ص. ع	40. 2	س. 1	20.0	ه. ه	20. 2	vi. 7	50. 5	. U	20. 0	٠ ن	21.9		~. 4	-0.0

Division of Crop and Livestock Estimates.

Table 96.—Corn: Condition of crop, first of month, and yield per acre, United States, 1866-1923.

		,	<del></del>		,		,				
Calendar year.	July.	Aug.	Sept.	Oct.1	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.1	Yield per acre.
1866 1867 1868 1869 1870	P. ct. 93. 5 100. 1 101. 6 89. 7 104. 1	P. ct. 102. 4 113. 3 113. 4 87. 5 104. 7	P. ct. 107. 5 104. 3 80. 5 111. 2	P. ct. 90. 4 105. 8 103. 8 88. 0 111. 2	Bush. 25. 3 23. 6 26. 0 23. 6 28. 3	1896 1897 1898 1899 1900	P. ct. 92. 4 82. 9 90. 5 86. 5 89. 5	P. ct. 96. 0 84. 2 87. 0 89. 9 87. 5	P. ct. 91. 0 79. 3 84. 1 85. 2 80. 6	P. ct. 90. 5 77. 1 82. 0 82. 7 78. 2	Bush. 28. 9 24. 3 25. 6 25. 9 26. 4
1871 1872 1873 1874 1875	105. 9 96. 8 90. 2 99. 2 96. 0	100. 6 105. 2 90. 8 90. 0 96. 0	97. 3 106. 2 82. 8 83. 0 97. 0	99. 1 108. 0 84. 0 86. 0 99. 9	29. 1 30. 8 23. 8 20. 7 29. 5	1901 1902 1903 1904	81. 3 87. 5 79. 4 86. 4	54. 0 86. 5 78. 7 87. 3	51. 7 84. 3 80. 1 84. 6	52. 1 79. 6 80. 8 83. 9	17. 0 27. 4 25. 9 27. 1
1876 1877 1878 1879	97. 0 85. 0 95. 0 93. 0	100. 0 92. 0 96. 0 93. 0	99. 0 91. 0 92. 0 95. 0	96. 0 88. 0	26. 2 26. 7 26. 9 29. 2	1905 1906 1907 1908	87. 3 87. 5 80. 2 82. 8	89. 0 88. 0 82. 8 82. 5	89. 5 90. 2 80. 2 79. 4	89. 2 90. 1 78. 0 77. 8	29. 4 30. 9 26. 5 26. 6
1880 1881 1882 1883	90. 0 85. 0 88. 0 96. 0	98. 0 77. 0 83. 0 89. 0 96. 0	91. 0 60. 0 83. 0 84. 0 94. 0	66. 0 81. 0 78. 0 93. 0	27. 6 18. 6 24. 6 22. 7 25. 8	1909 1910 1911 1912 1913	89. 3 85. 4 80. 1 81. 5 86. 9	84. 4 79. 3 69. 6 80. 0 75. 8	74. 6 78. 2 70. 3 82. 1 65. 1	73. 8 80. 3 70. 4 82. 2 65. 3	26. 1 27. 7 23. 9 29. 2 23. 1
1885	94. 0 95. 2 97. 7 93. 0 90. 3 93. 1	96. 0 80. 7 80. 5 95. 5 94. 8 73. 3	95. 0 76. 6 72. 3 94. 2 90. 9 70. 1	95. 0 80. 0 72. 8 92. 0 91. 7 70. 6	26. 5 22. 0 20. 1 26. 3 27. 7 20. 7	1914 1915 1916 1917 1918	85. 8 81. 2 82. 0 81. 1 87. 1	77. 8 74. 8 79. 5 75. 3 78. 8 78. 5	74. 1 71. 7 78. 8 71. 3 76. 7 67. 4	74. 4 72. 9 79. 7 71. 5 75. 9 68. 6	25. 8 28. 2 24. 4 26. 3 24. 0
1891 1892 1893 1894 1895	92. 8 81. 1 93. 2 95. 0 99. 3	90. 8 82. 5 87. 0 69. 1 102. 5	91. 1 79. 6 76. 7 63. 4 96. 4	92. 5 79. 8 75. 1 64. 2 95. 5	27. 6 23. 6 22. 9 19. 3 27. 0	1919 1920 Av. 1914–1920	86. 7 84. 6 84. 1	81. 7 86. 7 79. 3	80. 0 86. 4 76. 0	81. 3 89. 1 77. 0	28. 9 31. 5 27. 0
	55.0				20	1922 1923	85. 1 84. 9	85. 6 84. 0	78. 6 83. 3	78. 4 82. 0	28. 3 29. 3

Division of Crop and Livestock Estimates.

Table 97.—Corn: Percentage reduction from full yield per acre, from stated causes, as estimated by crop reporters, 1909-1922.

Cal- endar year.	Deficient mois- ture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms	Total cli- matic.	Plant dis- ease.	Insect pests.	Ani- mal pests.	Defec- tive seed.	Total.
1909 1910 1911 1912 1913	P. ct. 13. 0 13. 9 23. 4 8. 7 27. 1	P. ct. 7. 3 3. 0 1. 6 4. 6 1. 2	P. ct. 1. 5 .8 (2) .9 .4	P. ct. 1. 0 . 9 . 4 1. 7 1. 0	P. ct. 0. 5 . 4 . 2 . 5 . 3	P. ct 1. 6 1. 6 3. 4 1. 0 3. 1	P. ct. 0. 7 . 5 . 1 . 3 . 4	P. ct. 25. 8 21. 3 29. 6 18. 1 33. 7	P. ct. 0. 2 .2 .2 .3 .1	P. ct. 2. 3 2. 3 2. 3 4. 8 3. 7	P. ct. 0. 4 . 4 . 2 . 3 . 2	P. ct. 0.3 1.2 .4 2.3	P. ct. 29. 6 26. 0 33. 7 26. 3 38. 9
1914 1915 1916 1917 1918	20. 8 3. 0 18. 5 12. 1 22. 1	1.3 11.9 5.8 2.9	.4 2.1 1.7 .6 .5	. 4 6. 9 1. 7 13. 5 2. 0	.5 .6 .4 .6	2. 1 . 2 1. 7 1. 2 6. 3	.4 1.1 1.1 .3 3.2	26. 1 26. 5 31. 3 31. 6 32. 8	.1 .3 .3 .3	3. 6 2. 1 2. 0 1. 4 2. 6	.1 .1 .1 .1	.2 .6 .2 1.5	30. 6 29. 9 34. 7 33. 8 37. 7
1919 1920 1921 1922	10. 8 5. 4 10. 6 14. 2	7. 3 3. 3 1. 1 2. 3	1.4 .6 .3 .5	.1 .7 .2 .2	.3 .5 .4 1.0	1. 0 . 3 1. 0 1. 0	.4 .4 .6 .2	21. 4 11. 3 14. 1 19. 3	.4 .3 .8 .4	3. 1 3. 6 3. 4 3. 0	.1	.2 .3 .1 .2	25. 4 15. 9 18. 7 23. 0

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Condition at time of harvest.

<sup>&</sup>lt;sup>1</sup> Includes all other causes. <sup>2</sup> Less than 0.05 per cent.

Table 98.—Corn: Area and yield per acre in undermentioned countries. NORTHERN HEMISPHERE.

	Τ									
			Acreage	•			Yie	eld per a	cre.1	
Country.	Aver- age 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.	Aver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA. Canada United States Mexico	1,000 acres. 309 104,229 2 6,093	101, 699	2, 545	4, 284	104, 158	26. 0 13. 5	31. 5	29. 6 24. 0	Bush. 43. 4 28. 3 15. 9	29. 3
Guatemala		553	310	455	457		7. 3	18. 3	11.9	17. 2
Total comparable with 1909-1913 Total comparable with 1923	110, 631	102, 544	1	107, 448 103, 619	l					
EUROPE.										
France Spain Portugal Italy Switzerland	3 1, 155 1, 134 3, 973	1, 168 734	814 1, 178 714 3, 717	790 1, 159 3, 811	760 1, 166 3, 707	19. 3 23. 4 25. 2	18. 4 23. 7 16. 0 24. 1	21. 1	16. 0 23. 2 20. 2	15. 6 20. 5
Switzerland Australia Czechoslovakia Hungary	3 192 3 7, 089	6 102 376	5 112 385 2, 167	4 148 392 2, 445	145 397	23. 4 27. 4	20. 9 25. 7 24. 9	22. 5 24. 5	23. 5 25. 2 19. 9	25. 3 26. 3 22. 4
Yugoslavia Greece Bulgaria Rumania	<sup>2</sup> 273 <sup>3</sup> 1, 519 <sup>4</sup> 7, 042	4, 486 519 1, 407	4, 646 494 1, 421 8, 510	1, 313 8, 411		21. 8 18. 0 19. 1	22. 5 17. 6 14. 8 22. 4	15. 9 15. 9 11. 5	18. 9 11. 8 13. 1	20. 5 21. 6
Poland Russia, including Ukra- ine and Northern Cau- casia		108	132	5, 410	189		10. 0	17. 2	15, 2	21. 6
Total comparable	- 2,001			3, 410		11. 5			12, 0	
with 1909-1913 Total comparable with 1923	24, 411	17, 866	18, 441	18, 656	17, 967					
AFRICA.	-									
Morocco, WesternAlgeriaTunisEgypt	34 43 1,778	486 22 25 1, 938	612 24 55 2,086	535 19 2, 027	22 44	17. 6 5. 3 36. 1	8. 0 11. 5 4. 4 33. 0	9. 6 14. 8 6. 4 33. 8	8. 5 14. 5 36. 3	7. <b>0</b> 6. 5
Total comparable with 1909–1913 Total comparable	1,855	1, 985	2, 165							
with 1923	77	47	79		66					
ASIA. India, British Russia (Asiatic) Japanese Empire:	6 5, 8 <b>9</b> 8 1, 215	6, 620	6, 164 	6, 186 11		14. 0 13. 0	15. 6	13. 5	15. 6 2. 3	 
Japan Chosen Philippines	133 156 7 812	$150 \\ 223 \\ 1,327$	153 1,344	227 1, 359	1, 378	25. 5 14. 3 9. 2	26. 3 11. 1 12. 8	27. 7 11. 8	12. 8 10. 9	12. 1
Total comparable with 1909-1913 Total comparable with 1923	8, 214 812	1, 327	1, 344	1, 359	1, 378					
Total Northern Hemisphere com- parable with 1909-1913	145, 111	-,	-7,1		,					
Total Northern Hemisphere com- parable with 1923		121, 784	124, 211		124, 344					

Yield per acre not computed when acreage is less than 12,000 acres.
 One year only.
 Old boundaries.
 Includes Bessarabia.
 Freliminary estimate of former Russian territory within 1923 boundaries.
 Two-year average.
 Four-year average.

<sup>85813°---</sup> чвк 1923------ 43

Table 98.—Corn: Area and yield per acre in undermentioned countries—Con. SOUTHERN HEMISPHERE.

			Acreage.				Yie	ld per a	cre.1	
Country.	Aver- age 1909- 1913.	1920	1921	1922	1923, pre- limi- nary	A ver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.
Chile	1,000 acres. 56 551 8,710 2 2,290 2 161	552 8, 184 4, 003 173 4, 785	8, 090 3, 815 186 4, 885	7, 344	7, 851 220	10. 9 22. 0 14. 6 11. 4	11. 9 31. 6 8. 4 23. 1 12. 8	Bush. 24. 4 9. 3 28. 5 9. 1 23. 4 12. 2 25. 6	8. 6 24. 0	11, 2 19, 5
Total comparable with 1909-1913 Total comparable with 1923 World total comparable of 1909-1913 Worlds total comparable with 1923	12, 126 8, 710 157, 237	,	12, 950 13, 736 		12, 950 137, 294					

Division of Statistical and Historical Research. culture unless otherwise stated. Calendar years. Official sources and International Institute of Agri-

Table 99.—Corn: Production in undermentioned countries. NORTHERN HEMISPHERE.

09- 1917	Country. Average, 1909-1913 1917	1918 1919	1920	1921	1922	1923, prelimi- nary.
hels. bushels. 7, 297 7, 763 2, 364 3, 065, 233 2, 519	bushels. bus	7,000 1,000 bushels 16, 941 02, 665 7, 641 4, 939	1,000 bushels. 14, 335 3, 208, 584 4, 062	1,000 . bushels 14, 904 3, 068, 569 61, 020 5, 674	1,000 bushels. 13, 798 2, 906, 920 68, 260 5, 412	1,000 bushels. 16, 376 3, 054, 395
	Total comparable with 1909-1913	00, 496 24, 511 2, 833, 182		3, 150, 167 3, 089, 147		3, 078, 645
3, 548 29, 369 9, 907 113 277 1, 488 2, 810 1, 063	al 9,907 rland 113 3 276 3 24, 488 2, 810 sslovakia 194, 663 avia 15,952 6,112 tan 227,375 17,423 tan 314,447	9, 760 9, 976 24, 141 25, 555 9, 345 9, 763 76, 590 85, 246 358 247 2, 291 2, 115 6, 466 7, 551 8, 463 25, 457 11, 318 141, 352	15, 267 27, 692 11, 721 89, 298 2, 129 9, 648 50, 156 101, 136 9, 133 20, 851 182, 031	10, 393 24, 897 11, 374 92, 325 2, 521 9, 432 31, 703 73, 788 7, 874 16, 380 110, 933	12, 676 26, 832 76, 830 185 3, 477 9, 884 48, 725 89, 136 15, 479 110, 552	11, 857 23, 925 83, 995 165 3, 671 10, 455 55, 158 
	4 2		1, 082	2, 286	2, 776 67, 427	385,357
<u></u>	Fotal comparable with				86	886

Yield per acre not computed when acreage is less than 12,000 acres.
 One year only.
 Two-year average.

One year only.
 Old boundaries.
 Includes Bessarabia.
 Preliminary estimate of former Russian territory within 1923 boundaries.

Table 99.—Corn: Production in undermentioned countries—Continued.

## NORTHERN HEMISPHERE-Continued.

Country.	Average, 1909- 1913.	1917	1918	1919	1920	1921	1922	1923, prelimi- nary.
AFRICA, Morocco-Western Algeria Tunis Egypt	1,000 bushels. 598 228 64,273	1,000 bushels. 4,793 302 354 63,955	1,000 bushels. 4,605 194 307 65,483	1,000 bushels. 3,114 236 256 67,604	1,000 bushels 3,904 254 110 63,976	1,000 bushels. 5,900 354 354 70,568	1,000 bushels. 4,564 276	1,00 <b>0</b> bushels.  155 284
Total compar- able with 1909-1913 Total compar- able with 1923_	65, 099 826	64, 611 656	65, 984 501	68, 096 492	64, 340 364	71, 276 708		439
ASIA.  India-British Russia (Asiatic) Japanese Empire:	<sup>5</sup> 82, 620 <sup>4</sup> 15, 793	93, 800	96, 640	71, 292	103, 440	83, 320	96, 240 25	
Japan Chosen Philippines	3, 391 2, 236 6 7, 461	3, 791 2, 993 14, 545	3, 320 3, 145 12, 196	3, 996 2, 002 13, 095	3, 947 2, 465 16, 978	4, 241 15, 854	2, 902 14, 777	16, 663
Total comparable with 1909-1913 Total comparable with 1923 Total Northern Hemi-	111, 501 7, 461	14, 545	12, 196	13, 095	16, 978	15, 854	14,777	16 <b>, 663</b>
sphere com- parable with 1909-1913 Total North- ern Hemi- sphere com- parable with	3, 545, 856							<b>-</b>
1923					3, 641, 675	3, 404, 511		<b>3, 4</b> 81, 104

#### SOUTHERN HEMISPHERE.

		<del>,</del>		<del></del>			<del></del>	
Chile	1,000 bushels. 1, 455 6, 026 191, 698 6 33, 517 1 1, 834 10, 057 5 265	1,900 bushels. 1,338 4,604 58,839 34,964 3,359 51,166 8,527 274	1,000 bushels. 1,446 6,815 170,660 45,143 2,113 49,862 8,843 368	1,000 bushels. 1, 284 7, 526 224, 239 30, 966 3, 178 49, 595 6, 912 414	1,000 buskels. 1,446 6,574 258,686 33,461 4,002 61,251 6,764 406	1,000 bushels. 1,685 4,600 230,426 34,906 4,360 59,619 7,259 501	1,000 bushels. 1,777 4,722 176,171 35,195 2,367 47,501 7,840 506	1,000 bushels. 1,832 8,628 153,141 50,390 5,178 50,116
Total South- ern Hemi- sphere com- parable with 1909-1913 Total South- ern Hemi- sphere com- parable with	244, 852	111, 896	235, 388	274, 519	311, 339	283, 731	228, 578	
1923 World total comparable with 1909 1913 World total comparable	3, 790, 708	154, 535	276, 407	317, 202	365, 826	336, 091	268, 239	269, 791
with 1923					4, 007, 501	3, 740, 602		3, 750, 895

Division of Statistical and Historical Reserach. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

One year only.
 Preliminary estimate of former Russian territory within 1923 boundaries.
 Two-year average.
 Four-year average.

Table 100.—Corn: World production, 1900-1923.

Calendar year.	Production in countries reporting	Production	Estimated world totals		selected cou	ntries.
Calendar year.	all years 1900-1923.	as reported.	(prelimi- nary).	United States.	Italy.	Argentina.
1900. 1901. 1902. 1903. 1904. 1905. 1906.	2, 640, 948 2, 673, 669 2, 920, 433 3, 042, 894 2, 667, 113	1,000 bush. 3, 145, 539 2, 328, 687 3, 274, 417 3, 133, 418 3, 066, 601 3, 464, 564 3, 703, 932 3, 354, 363	1,000 bush. 3,445,529 2,637,787 3,552,137 3,417,243 3,339,736 3,743,794 3,980,577 3,628,813	1,000 bush. 2,505,148 1,613,528 2,619,499 2,346,897 2,528,662 2,748,949 2,897,662 2,512,065	1,000 bush. 87, 969 100, 455 71, 028 88, 990 90, 545 97, 265 92, 904 88, 412	1,000 bush. 55, 611 98, 841 84, 018 148, 946 175, 187 140, 707 194, 910 71, 768
1908 1909 1910 1911 1912	2, 740, 791 3, 056, 689 2, 683, 121 3, 287, 886	3, 266, 956 3, 390, 685 3, 709, 655 3, 547, 596 4, 220, 154 3, 557, 132	3, 705, 956 3, 703, 585 3, 951, 255 3, 790, 396 4, 329, 454 3, 743, 632	2, 544, 957 2, 572, 336 2, 886, 260 2, 531, 488 3, 124, 746 2, 446, 988	95, 845 99, 289 101, 722 93, 518 98, 668	136, 055 177, 155 175, 187 27, 676 295, 849
1913 1914 1915 1916 1917 1918	3, 174, 515 2, 699, 694	3, 939, 799 3, 990, 557 3, 176, 062 3, 719, 215 3, 279, 232 3, 671, 630	4, 041, 799 4, 142, 557 3, 475, 462 4, 049, 715 3, 469, 832 3, 962, 630	2, 994, 793 2, 566, 927 3, 065, 233 2, 502, 665 2, 811, 302	. 108, 388 104, 967 121, 824 81, 547 82, 771 76, 590 85, 846	196, 642 263, 135 325, 178 161, 133 58, 839 170, 660 224, 239
1920. 1921. 1922. 1923.	3, 343, 224 3, 199, 059 3, 026, 111 3, 177, 990	4, 292, 421 3, 995, 272 3, 941, 909 3, 531, 212	4, 437, 421 4, 075, 772 3, 972, 028 4, 201, 912	3, 208, 584 3, 068, 569 2, 906, 020 3, 054, 395	89, 298 92, 325 76, 830 83, 995	258, 686 230, 420 176, 171 153, 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.

	Old stocks		Cr	op.		m	Stocks on	Shipped out
Year.	on farms Nov. 1. <sup>1</sup>	Quantity.	Quality.		portion antable. <sup>1</sup>	Total supplies.	farms Mar. 1 following. 1	of county where grown.1
1897-98	1,000 bush. 320,488	1,000 bush.	Per cent.		1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.
1898-99	156, 330	2, 144, 553 2, 261, 119	86. 3 83. 8	86, 8 82, 2	1, 861, 838 1, 858, 027	2, 465, 041 2, 417, 449	878, 063 937, 016	472, 426
1899-1900	134, 995	2, 454, 628	87. 2	86. 7	2, 127, 460	2, 589, 623	904, 586	478, 991 420, 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, 596	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 1910–11	77, 403 113, 919	2, 572, 336 2, 886, 260	84. 2	82.7	2, 126, 965	2, 649, 739	980, 848	620, 057
1910-11	123, 824	2, 531, 488	87. 2 80. 6	86. 4 80. 1	2, 492, 763 2, 027, 922	3, 000, 179 2, 655, 312	1, 165, 378	661, 777
	,				2,021,922	2,000,012	884, 059	517, 766
912-13	64, 764	3, 124, 746	85. 5	85. 0	2, 654, 907	3, 189, 510	1, 290, 642	680, 831
913-14	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
915-16	96, 009	2, 994, 793	77. 2	71. 1	2, 127, 965	3, 090, 802	1, 116, 559	560, 824
916-17	87, 908	2, 566, 927	83.8	83. 9	2, 154, 487	2, 654, 835	782, 303	450, 589
917-18	34, 448	3, 065, 233	75. 2	60.0	1, 837, 728	3, 099, 681	1, 253, 290	678, 027
918-19	114, 678	2, 502, 665	85. 6	82. 4	2, 062, 041	2, 617, 343	<b>855, 2</b> 69	<b>3</b> 62, 589
919-20	69, 835	2, 811, 302	89.1	87.1	2, 448, 204	2, 881, 137	1, 045, 575	470, 328
920-21	139, 083	3, 208, 584	89. 6	86. 9	2, 789, 720	3, 347, 667	1, 564, 832	705, 481
921-22	285, 769	3, 068, 569	84.0	87. 5	2, 684. 634	3, 354, 338	1, 305, 559	587, 893
922-23	177, 287	2, 906, 020	85. 0	88.3	2, 567, 044	3, 083, 307	1, 093, 306	518, 779
923-24 2	83, 856	3, 054, 395	79. 4			3, 138, 251		

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup>Based on reported percentage of entire crop on farms, merchantable, and shipped out of county where own.
Preliminary.

Table 102.—Corn: Receipts and shipments, 11 primary markets, 1909-1922.

			•			,	•					
Voca books	Chic	ago.	Milwa	ukee.	Minne	apolis.	Dul	uth.	St. L	ouis.	Tole	edo.
Year begin- ning Nov. 1.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.
1909–10	1,000 bush. 88, 428 113, 808 108, 431 131, 792 84, 838	1,000 bush. 66, 011 92, 652 73, 940 94, 311 57, 528	1,000 bush. 6,535 7,895 9,410 11,613 15,804	1,000 bush. 5,893 7,625 6,506 7,887 10,727	1,000 bush. 6,564 8,948 5,423 6,258 10,710	1,000 bush. 5,047 5,370 3,264 4,374 8,776	1,000 bush. 883 1,697 12 492 878	1,000 bush. 943 1,697 12 492 362	1,000 bush. 22, 913 23, 766 25, 176 22, 762 16, 961	1,000 bush. 16, 383 15, 422 15, 492 12, 257 10, 119	1,000 bush. 4,001 6,236 4,121 2,996 4,560	1,000 bush. 1,840 3,290 2,037 1,885 2,314
Av. 1909–1913.  1914–15.  1915–16.  1916–17.  1917–18.  1918–19.  1919–20.  1920–21.	110 240	76, 888 80, 256 62, 148 40, 497 34, 540 32, 019 37, 236 113, 374	10, 251 19, 609 9, 887 12, 755 12, 374 6, 784 14, 652 27, 455	7,728 16,985 6,943 8,681 7,006 3,697 7,079 21,823	7, 581 14, 699 5, 661 9, 550 16, 715 6, 621 9, 192 12, 066	5, 366 11, 997 3, 927 7, 779 9, 636 4, 773 6, 384 8, 483	792 3, 036 (1) 32 177 6 5 4, 834	(1) 6 170 (1) (1)	22, 316 18, 626 17, 974 21, 312 25, 354 19, 219 27, 595 25, 924	8, 678 13, 191 16, 130	4, 383 4, 582 4, 656 2, 882 2, 609 1, 127 2, 122 3, 194	2, 273 2, 594 1, 422 1, 190 1, 160 549 1, 298 1, 349
Av. 1914-1920. 1921-22	101, 633	57, 153 115, 700	14, 788 25, 630 15, 280	10, 316 22, 168 11, 748	10, 643 15, 920 7, 531	7, 568 12, 048 4, 828	14, 111 688	14, 034	22, 286 33, 809 29, 856	13, 311	3, 025	1, 366 1, 795 1, 118
November December	20,972	5, 121	631 1, 494	577 492	436 1, 124	246 448	16 194	123 25	2, 162 2, 332	1, 426 1, 154	378 368	135 135
1923. January February March April May June July August September October	15, 714 15, 258 11, 406 5, 290 2, 844 3, 554 6, 465 8, 894 7, 890 7, 293	10, 153 5, 965 5, 147 4, 437 8, 969 4, 513 3, 520 4, 253 4, 506 3, 101	2, 488 2, 305 1, 327 1, 071 268 858 1, 514 1, 287 1, 526 511	1, 869 1, 448 1, 385 937 1, 031 242 876 1, 025 1, 455 411	466 439 287	722 444 506 531 300 444 532 237 133 285	22 139 69 69 3 6 140 23 4	287 2 129 42	3, 820 3, 122 2, 670 2, 184 1, 620 2, 345 2, 615 2, 582 2, 405 1, 999	2, 148 2, 169 1, 760 1, 164 1, 685 1, 809 1, 987 1, 474	234 196 139 209 218 159	160 136 130 64 75 53 88 102 12 28
	1	roit.	Kansa	s City.	Pec	ria.	Om	aha.	Indiar	apolis.	То	tal.
Year begin- ning Nov. 1.	Re-	Ship- ments.	Re-	Ship- ments.	Re-	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship ments.
1909–10 1910–11 1911–12 1912–13 1913–14	3,860		19, 646	14, 971	1 19,041	1,000 bush. 11,009 11,141 14,292 11,202 6,651	1,000 bush. (1) (1) 20,817 22,618 37,108	1,000 bush. (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	1,000 bush. (1) (1) 13,687 15,974 14,118	1,000 bush. (1) (1) 1,947 3,637 5,183	1,000 bush. 162, 290 198, 713 228, 621 252, 177 230, 029	1,000 bush. 121, 411 152, 522 149, 753 166, 006 155, 528
Av. 1919–1913- 1914–15- 1915–16- 1916–17- 1917–18- 1918–19- 1919–20- 1920–21-	2, 957 4, 058 4, 726 3, 192	1,696 3,021 3,139 2,425 717 626 481	19, 052 16, 396 25, 837 12, 743 31, 366 16, 146 11, 218	14, 209 11, 914 22, 459 8, 469 24, 481 10, 345 5, 034	16, 710 16, 736 35, 948 31, 533 36, 176 18, 511 22, 449	10, 859 6, 831 13, 722 11, 870 17, 062 10, 530 17, 660	24, 599 21, 496 29, 820 46, 159 21, 809 23, 22	23, 117 3 15, 948 0 25, 179 9 36, 355 5 21, 197 7 18, 604	15, 087 22, 790 24, 421 20, 583	6, 498 11, 073 14, 801	214, 366 253, 776 250, 300 226, 963 294, 660	149, 044 176, 455 149, 459 134, 088 156, 463 102, 822 116, 921 209, 385
Av. 1914–1920- 1921–22 1922–23	3, 043	1, 524	18, 263 16, 063	13, 206	25, 349	12, 500	26, 73	22, 537	19, 469	8, 890	246, 387 374, 160	149, 370 250, 998 154, 699
November December	241 279					2, 112 2, 362	2, 28- 2, 410	979 5 1, 927		986 986		13, 014 12, 923
1923. January February March A pril May June July August September October	255 156 180 135 123 65 66 105 180	36 45 36 21 37 5 38 19 5 30 5	1, 887 1, 452 1, 773 1, 169 7 1, 226 1, 135 991 7 718	508 854 1, 223 796 618 439 694	1, 730 1, 608 1, 151 952 1, 314 1, 480 1, 852 1, 499	1, 244 1, 515 1, 515 2, 494 4, 894 1, 023 1, 023 1, 349	2,44 1,53 1,79 1,26 1,97 3 1,41 1,87 2 1,05	1 1,936 4 2,100 0 2,754 5 1,200 6 1,758 2 1,624 7 1,443 2 1,185	1, 671 1, 387 1, 207 3 1, 057 4 1, 366 3 1, 131 3 1, 246	539 634 7 543 7 406 7 274 6 324 1 376 6 311	29, 556 1 22, 987 3 15, 602 5 10, 002 1 13, 263 1 16, 868 5 19, 399 1 16, 966	5 14, 408 7 14, 476 2 13, 215 2 14, 741 8 10, 490 8 10, 369 9 11, 517 5 10, 575

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Table 103-Corn: Monthly marketings by farmers, United States, 1917-1922.

Year beginning	Pe	ercenta	ige of y	ear's r	eccipts	as rep	orted	by abo	ut 3,50	0 mill	s and e	levato	rs.
July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Sea- son.
1917–18 1918–19 1919–20 1920–21 1921–22 1922–23	5.3 6.7 4.5 5.4 4.9 6.8	4. 0 6. 9 5. 6 5. 6 7. 3 7. 5	3. 4 8. 4 4. 9 6. 9 8. 6 9. 1	3. 8 6. 7 5. 6 5. 3 6. 7 8. 2	8. 8 7. 3 9. 2 7. 1 6. 6 8. 7	12. 2 12. 0 15. 0 11. 3 12. 4 13. 6	14. 2 15. 0 12. 9 14. 3 13. 8 10. 7	16. 1 7. 2 9. 5 11. 7 12. 4 11. 0	13. 7 7. 5 8. 7 8. 9 7. 5 6. 6	7.1 8.2 5.9 5.6 4.7 5.3	5. 6 8. 0 7. 6 8. 5 7. 6 6. 1	5. 8 6. 1 10. 6 9. 4 7. 5 6. 4	100. 0 100. 0 100. 0 100. 0 100. 0 100. 0

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Table 104.—Corn: Visible supply in United States, first of month, 1909-1923.

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.
	1,000 bush.	1,000 bush.	1,000 bush.	1,000 bush.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1909-10	2, 653	3, 289	8, 465		bush. 13, 480	bush. 13, 778	bush. 10, 603	bush. 5, 940	bush. 5, 146	bush. 3,770	bush. 2, 750	bush. 5,011
1910-11	3, 510	1, 545										6, 339
1911-12	1,703	2, 054	5, 140	6,900							1, 823	3, 101
1912-13	<b>2, 6</b> 89	1, 525	5, 879								2, 612	7, 308
1913-14	6, 206	<b>2, 0</b> 26	12, 126	16, 505	18, 374	18, 812	9, 380	4, 409	7, 589	3, 203	3, 923	5, 461
Av. 19 <b>09</b> -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	<b>20</b> , 203	12, 795	5, 225	2, 306	2, 382	3, 444
1 <b>9</b> 15–16	3, 288	4, 387									3, 330	5. 093
1916-17	2, 361	2, 677	5, 838	10, 671	<b>12</b> , 931					2, 841	2, 371	1, 163
1 <b>91</b> 7–18	1, 277	1, 932	3, 155					13, 038	11, 487	9, 466	5, 232	5, 503
1918-19	4, 733	2, 216			4, 483	2, 514				2, 461	956	2, 163
1919-20	1, 484	1, 477	2, 921	3, 575	4, 951	5, 669				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, 765
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	46, 889	35, 564	27, 046	29, 337	19, 509	7, 314	12, 206
1922-23	8, 806	11, 072	16, 760								1, 587	2, 052
1923-24	809	2, 690	,	, 000		,	, 000	5, 102	J, 000	-, 010	1,001	<b>2,</b> 002

Division of Statistical and Historical Research.
Compiled from the Chicago Daily Trade Bulletin. Reported on Saturday nearest the first of each ments.

Table 105.—Corn: Classification of cars graded by licensed inspectors, all inspection points.

	Total of all classes and subclasses under each grade, annual i											, 1917–192	2.			•
Year beginning Nov. 1.				Receip	ts.				Shipments.							
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	Sample.	Total.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6	Sample.	Total.
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	Oars. 2, 281 12, 661 28, 517 68, 550 30, 970 21, 580	Cars. 18, 714 34, 727 47, 961 88, 875 197, 254 141, 563	Cars. 58, 562 40, 872 38, 774 64, 237 115, 207 98, 932	Cars. 56, 240 41, 491 56, 647 63, 081 42, 880 24, 261	Cars. 45, 610 28, 832 27, 313 21, 176 21, 963 4, 270	Cars. 44, 621 16, 061 9, 188 9, 420 15, 979 3, 526	Cars. 98, 844 19, 638 13, 058 8, 738 4, 951 .3, 711	Cars. 324, 872 194, 282 221, 458 324, 077 429, 204 297, 843	Cars. 510 2, 339 5, 966 34, 785 9, 854 3, 338	Cars. 11, 589 29, 368 39, 323 141, 483 229, 539 131, 026	Cars. 54, 975 39, 532 30, 781 49, 905 48, 887 38, 408	Cars. 31, 687 15, 985 15, 381 10, 774 7, 270 2, 767	Cars. 13, 037 5, 670 4, 908 1, 774 5, 321 666	Cars. 16, 141 5, 616 2, 351 2, 449 4, 992 933	Cars. 32, 218 7, 425 3, 419 3, 172 1, 436 639	Cars. 160, 15; 105, 93; 102, 12; 244, 34; 307, 299 177, 77;
Class.				Т	otal inspe	ections b	y grade a	nd class,	Novemb	er 1, 1922	, to Octol	ber 31, 19	23.		1	· · · · · · · · · · · · · · · · · · ·
White Yellow Mixed	8, 747 13, 406 4, 427	33, 699 74, 393 33, 471	16, 292 62, 441 20, 199	3, 212 15, 019 6, 030	610 2, 774 886	476 2,020 1,030	532 1, 581 1, 598	58, 568 171, 634 67, 641	922 1, 829 587	25, 096 61, 102 44, 828	4, 762 26, 565 7, 081	191 1,715 861	52 457 157	54 359 520	29 113 497	31, 106 92, 140 54, 531
Year beginning Nov. 1.			:	Total	of all clas	ses and s	ubclasses	under ea	ch grade	, annual	inspection	ns, 1917-1	922.		<u> </u>	<u> </u>
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	Per cent. 0.7 6.5 12.9 21.2 7.2 7.2	Per cent. 5.8 17.9 21.7 27.4 46.0 47.5	Per cent. 18. 0 21. 0 17. 5 19. 8 26. 8 33. 2	Per cent. 17. 3 21. 4 25. 6 19. 5 10. 0 8. 2	Per cent. 14. 1 14. 8 12. 3 6. 5 5. 1 1. 4	Per cent. 13. 7 8. 3 4. 1 2. 9 3. 7 1. 2	Per cent. 30. 4 10. 1 5. 9 2. 7 1. 2 1. 3	Per cent. 100 100 100 100 100 100 100	Per cent. 0.3 2.2 5.8 14.3 3.2 1.9	Per cent. 7. 2 27. 7 38. 5 57. 9 74. 7 73. 7	Per cent. 34. 3 37. 3 30. 1 20. 4 16. 0 21. 6	Per cent. 19.8 15.1 15.1 4.4 2.3 1.5	Per cent. 8.2 5.4 4.8 .7 1.7 .4	Per cent. 10.1 5.3 2.3 1.0 1.6 .5	Per cent. 20. 1 7. 0 3. 4 1. 3 . 5 . 4	Per cent. 100 100 100 100 100 100
Class		Total inspections by grade and class, November 1, 1922, to October 31, 1923.														
White Yellow Mixed	6. 4 7. 8 6. 5	57. 5 43. 3 49. 5	27. 8 36. 4 29. 9	5, 5 8, 8 8, 9	1. 1 1. 6 1. 3	0. <b>8</b> 1. <b>2</b> 1. <b>5</b>	0.9 .9 2.4	100 100 100	2. 9 2. 0 1. 1	80. 7 66. 3 82. 2	15. 3 28. 8 13. 0	0. 6 1. 9 1. 6	0. 2 . 5 . 3	0. 2 . 4 . 9	0, 1 . 1 . 9	100 100 100

Table 106.—Corn, including meal: International trade, calendar years, 1909-1922.

Country.	Aver 1909	age, -1913.	19	20	19	921		22, ninary.
country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Argentina. Bulgaria. China. Rumania. Union South Africa. United States. Yugoslavia.	3 38 176 335 143	1,000 bushels. 115,749 9,307 3 148 38,966 30,034 3,952 45,054	1,000 bushels. 2 (1) 79 429 	1,000 bushels. 176,159 4,185 686 17,329 2,899 21,230 25,003	1,000 bushels. (1) 356 (1) 18 164 2 96	1,000 bushels. 111, 603 2 2, 195 119 30, 280 18, 325 132, 186 2 12, 490	1,000 bushels. (1) 69 2 3, 168 18 113	1,000 bushels. 109, 101 2 1,634 487 11,482 
PRINCIPAL IMPORTING COUNTRIES.  Austria. Austria-Hungary. Belgium Canada Czechoslovakia.		268 8, 130 25	5, 124 10, 513 10, 793 2 314 3, 217	2 38 2, 327 113 2 1	6, 699 19, 386 12, 455 4, 794	<sup>2</sup> 34 7, 157 110 (1)	<sup>2</sup> 3, 447 16, 513 13, 358 3, 868	25 480 122 2 21
Cuba Denmark Egypt. France Germany Greece Hungary Ltaly	2,746 11,440 471 18,708 32,160	(1) 6 61 82 1	3, 217 9, 822 948 17, 609 16, 099 342 (1) 12, 599	4 1 858 (1) 2 10 2 12 4	18, 181 2, 261 13, 355 273, 639 1, 027 2 42 17, 965	9 396 600 4 46 2 10 2 1, 134 11	17, 182 81 21, 170 42, 731 191 2 235 19, 859	104 145 5 2 17 22
Mexico Netherlands Norway Poland Portugal Spain Sweden Switzerland Tunis United Kingdom Uruguay	1,674 9,775 1,476 3,987 446 82,976	82 8,750 5 44 26 1 11 96 201	15, 566 2, 623 2 1, 257 7, 719 1, 505 963 1, 219 71, 057 2 1, 203	(1) 188 41 (1) 5 67	35, 643 3, 558 2 1, 776 11, 906 4, 158 5, 107 772 78, 194 2 266	355 (1) 576 66 21 65 2 209	34, 831 3, 483 2 524 17, 595 1, 986 5, 007 396 79, 048 2 81	294 2 19 1 (1) 11 2 124
Other countries	2, 898	9, 821	3, 620 202, 765	5, 546 236, 743	2, 045 314, 043	8, 118 326, 115	1,924 286,878	7, 231 309, 798

Division of Statistical and Historical Research. Official sources except where otherwise noted. Maicena or maizena is included as "Corn and corn meal."

Table 107.—Corn: Farm price per bushel, 1st 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.
	Cts.    Cts.												
1908-9	63. 5	60.6	60. 7	61.4	64. 7	_67. 5	71.9	76. 3	_77.0	75. 2	71.0	67.1	66. 2
1909-10	62. 2	57. 9	62. 3	65. 2	65. 9	65. 5	63. 5	65. 2	66. 2	67. 2		61. 1	63. 7
1910-11	52. 6	48.0		49.0		49.7	51.8		60.0			65. 7	53. 1
1911-12	64. 7	61. 8		64. 6	66. 6	71. 1	79. 4	82. 5		79. 3		70. 2	69. 4
1912-13	58.4	48.7	48. 9	50. 6			56.8					75.3	56. 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. 2	71.9
Av. 1909-1913	61. 7	57. 1	58. 2	59. 5	60. 5	62. 1	64. 7	67. 7	69. 2	70. 9		70. 1	62.9
1914-15	70.6	64. 4	66. 2	72.8	75. 1	75. 1	77. 7	77. 9		78. 9	77. 3	70. 5	72.4
1915–16	61. 9			66. 7	68. 2		72. 3	74. 1	75. 4	79. 4			69.0
1916-17	85. 0			95.8	100.9	113.4		160.1	164. 6				121. 2
1917-18	146.0	127.9		138.8				152. 5		159. 7	165. 7		146. 7
1918-19	140.3	136. 5	144.7	138. 1	137. 2			171. 2					152. 1
1919-20	133. 4	134. 5	140. 4	146.8								121.3	150. 6
1920-21	87. 3	67.0	66.7	62. 4	64. 5	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					
1921-22	41. 1	42.3	43. 4	45.8	54.8	56. 9	59. 7	61.6				61.6	
1922-23	62. 9				74. 3		83. 0	85. 0	86. 5	87.4	86.6	85.7	75.6
1923-24	83. 9												

Less than 500 bushels.
 International Institute of Agriculture.

Four-year average.
 Eight months, May-December.

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	Av. 1909– 1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920.	1921	1922	1923	Value per acre 1923. <sup>1</sup>
Me N. H Vt Mass R. I	Cts. 84 79 78 81 90	Cts. 80 76 73 81 97	Cts. 71 69 66 70 83	80 83	75 72 77	81 81 85	Cts. 81 77 74 79 92	82 81 85	76 84 80	115 110 120	217 213 215	150 170 170	Cts. 195 170 175 172 186	145 126 125	Cts. 144 136 137 138 160	Cts. 77 75 76 77 110	Cts. 100 75 91 94 120	Cts. 112 111 110 115 115	46. 62 42. 90
Conn N. Y N. J Pa Del	80 80 69 73 59		63 60	83 77 71 68 61	70 68 63	81 75 72	78 73 69 66 56	83 76 73	78 75	110 100 97	215 198 170 153 140	175 150 155	180 166 153 147 145	140 116 85 100 75	143 132 116 114 101	90 67 53 55 45	96 83 70 72 70	107 100 95 91 81	43. 87 32. 40 38. 00 36. 40 26. 81
Md	62 71 77 79 91	65 74 74 85 90	58 65 68 76 82	63 73 77 82 91	55 71 65 83 85	76 80 88	61 72 73 83 89	68 81 83 86 92	77	89 93 101 110 113	140 153 170 170 192	160 180	140 169 164 185 197	81 100 116 113 116	102 118 127 131 142	49 69 75 78 74	68 79 84 89 87	82 94 99 102 105	
Ga Fla Ohio Ind Ill	82 82 63 60 57	86 83 56 50 52	78 85 46 <b>40</b> 38	83 80 58 54 55	85 79 45 42 41	63	85 82 54 49 50	85 80 61 58 61	56	100 90 90 84 84	160 140 136 125 110	130 119	160 140 121 125 130	105 100 68 59 59	122 109 95 89 88	53 53 41 37 38	86 87 66 56 60	107 100 74 62 65	13. 05 12. 50 30. 34 23. 87 24. 38
Mich Wis Minn Iowa Mo	64 61 55 52 57	61 60 49 49 59	53 52 45 36 44	65 60 53 53 60	57 51 37 35 46		61 57 47 47 57	67 65 52 55 68	68 68 62 51 57	95 92 80 80 90	182 163 110 108 114		138 125 120 120 138	82 77 51 47 64	109 103 84 83 96	48 46 31 30 40	67 63 56 56 68	78 80 61 62 74	
N. Dak S. Dak Nebr Kans Ky	60 50 51 55 65	55 50 50 54 62	58 40 36 45 53	53 55 63 63	43 37 37 40 55	52 56 65 78 76	54 47 49 56 62	58 50 53 63 64	67 49 47 51 56	84 77 78 90 87	151 120 120 125 121	130 110 128 149 146	140 119 122 140 155	72 42 41 44 82	100 81 84 95 102	34 26 27 31 55	53 50 58 61 69	54 52 53 64 85	18, 09 17, 94 17, 49 13, 89 24, 22
TennAlaMissLaTex	64 83 83 70 59	70 85 81 69 76	56 71 63 55 63	61 78 72 70 80	61 79 71 68 64	77 89 77 77 82	65 80 73 68 73	68 80 73 75 74	58 69 65 64 58	94 102 98 94 104	120 125 138 146 167	145 148 151 161 176	157 159 160 150 118	87 98 102 85 84	104 112 112 111 111	52 62 56 65 54	79 90 85 83 83	94 108 107 105 100	23. 03 15. 98 15. 52 16. 17 18. 50
OklaArkMontWyoColo	51 66 90 76 71	55 72 86 78 70	51 58 95 66 60	70 72 80 76 78	41 67 70 64 50	72 78 77 80 73	58 69 82 73 66	64 80 76 70 60	46 64 69 67 55	93 98 93 90 90	147 140 175 175 125	164 180 135 140 135	127 164 165 165 142	54 97 80 56 70	99 118 113 109 97	32 57 67 50 31	70 85 53 60 66	87 101 65 70 65	10. 00 19. 70 16. 90 18. 90 16. 25
N: Mex Ariz Utah Nev	80 105 72	90 100 87 87	90 110 84 100	84 97 81 90	75 100 75 98	70 118	83 103 79 99	80 120 75 110	73 115 80 93	113 140 115 125	188 190 170 150	180 210 181 210	151 200 150 140	110 170 150 160	128 164 132 141	90 100 76 120	82 115 85 105	95 120 95 125	15. 58 36. 00 23. 66 29. 12
Idaho	70 76 77 88	75 86 80 91	71 75 80 80 48. 0	85 79 80 90	70 77 75 85	68 80 70 88	74 79 77 87	72 73 82 87 64 4	65 77 82 88 57 5	100 100 95 124	155 162 150 185	183 170 155 193 136. 5	165 185 155 179	100 125 130 120	120 127 121 139	50 86 84 77	79 105 91 100 85. 8	77 95 90 108	32. 34 35. 15 31. 50 37. 80 21. 33
. D. D	00.0	36. 0	20. 0	01.0			31. 2	UZ. Z	٠ ٥	اد مد		-30.0	-320	9	30. 1				

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup>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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Weighte average.
1918-19	Cts. 118. 6 143. 8 78. 8 46. 7 71. 1 76. 1		Cts. 131. 4 144. 9 62. 1 47. 3 70. 1	139. 5 59. 9 54. 0	Cts. 144. 2 155. 1 60. 7 57. 1 72. 8	159. 7 54. 5 58. 2	197. 4 61. 2 61. 4	183. 3 59. 1 60. 0	59. 4 63. 7	Cts. 193. 2 154. 9 56. 2 62. 0 88. 2	132. 2 53. 2 63. 0	95. 9 46. 2 69. 0	144. 56.
				·	ST.	Lou	is.				1		
1918-19 1919-20 1920-21 1921-22 1921-22 1922-23 1923-24	126. 5 146. 4 82. 1 46. 0 71. 4 76. 9	139. 7 144. 5 71. 9 47. 8 72. 6 69. 4	134. 5 147. 4 62. 1 47. 5 71. 0	142. 5 61. 2 54. 7	143. 5 155. 3 60. 7 57. 7 74. 3	171. 8 56. 2 57. 9		179. 1 186. 8 60. 5 60. 0 86. 1	193. 0 160. 6 60. 7 64. 0 87. 4		129. 3 51. 6	141. 9 93. 5 45. 4 69. 9 101. 5	151. 4 155. 4 57. 6 79. 6
					Ol	MAHA	١.						
1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	131. 6 139. 3 70. 7 39. 4 68. 4 68. 8	142. 8 135. 6 60. 7 39. 2 66. 8 62. 5	136. 0 135. 9 54. 7 40. 8 65. 8	131. 9 52. 2 49. 5	142. 4 146. 3 53. 1 51. 2 68. 9	159. 3 161. 7 47. 6 51. 9 77. 2	167. 6 181. 4 52. 6 54. 2 80. 1	170. 7 175. 5 53. 6 54. 4 80. 5	186. 1 149. 3 50. 3 57. 1 80. 0	184. 0 150. 3 45. 3 53. 7 79. 6		136. 1 81. 4 36. 2 64. 0 94. 3	151. 2 147. 6 50. 9 . 73. 3
	···········		······································	]	KANS	SAS C	ITY.						,
918-19	139. 5 138. 3 67. 1 41. 8 72. 5 73. 9	148. 8 141. 0 63. 3 42. 1 70. 5 65. 1	136. 5 142. 1 58. 5 43. 7 69. 8	127. 9 136. 5 57. 1 52. 9 71. 4	147. 9 149. 1 56. 8 54. 0 72. 7	165. 1 166. 9 51. 1 55. 0 81. 9	172. 6 185. 1 57. 0 57. 4 84. 0	176. 7 171. 1 55. 5 57. 0 84. 2	189. 5 149. 5 52. 4 56. 0 83. 0	189. 0 146. 2 45. 6 55. 2 81. 5	155. 2 126. 8 45. 3 58. 9 86. 6	141. 7 86. 1 39. 0 68. 9 95. 3	152. 0 147. 5 53. 8 53. 2 77. 7
		· · · · · · · · · · · · · · · · · · ·		N	IINN	EAPC	LIS.				·	···········	
918-19 919-20 920-21 921-22 922-23 923-24			128. 1 135. 5 53. 6 41. 2 63. 3		131. 2 146. 3 52. 1 50. 5 66. 7	155. 8 161. 1 47. 4 51. 4 72. 6	162. 5 179. 4 51. 2 54. 9 77. 9	160. 0 172. 3 51. 8 54. 5 76. 3		184. 0 129. 0 50. 7 56. 6 81. 9	152. 6 123. 1 47. 0 58. 2 82. 9	138. 1 89. 5 40. 3 65. 3 90. 4	140. 8 141. 2 50. 5 50. 1 71. 7
		•	·	(	CINC	INNA	TI.1	· '·				· · · · · ·	
919-20	80. 3 49. 5 69. 9 73. 5	69. 7 49. 2 74. 0 67. 6	147. 5 65. 7 49. 1 73. 8	145. 9 65. 5 55. 8 76. 3	159. 3 63. 9 60. 8 77. 3	173. 8 57. 8 60. 5 85. 7	196. 0 63. 9 64. 5 87. 0	191. 5 63. 4 62. 2 88. 9	164. 4 65. 3 68. 2 92. 1	159. 0 63. 6 65. 4 92. 5	137. 9 55. 4 65. 6 93. 6	102. 7 50. 8 73. 1 99. 5	61. 8 59. 7 82. 7
			SI	X MA	RKE'	rs co	MBI	VED.2					
918-19		140. 4 140. 4 68. 6 45. 7 71. 6 67. 5				160. 6 163. 8 52. 9 56. 5 79. 0					130. 1 51. 9 62. 3	139. 9 94. 3 45. 2 69. 4 100. 3	150. 3 146. 5 55. 5 55. 7 77. 4

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.

<sup>&</sup>lt;sup>1</sup> No reports until January, 1920. <sup>2</sup> From 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.	Weight- ed aver- age.
1899-1900	.37	\$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		.35	.36	.37	.39	.42	.43	.42	.48	.56	.56	.56	. 43
1901-2		.64	.62	.59	.59	.62	.62	.63	.65	.60	.59	.60	. 62
1902-3		.46	.43	.43	.41	.41	.46	.49	.51	.53	.51	.45	. 47
1903-4		.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	. 53	. 54	. 57	. 64	. 65	. 50
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	. 53
1913-14	. 72	. 66	. 62	. 62	.64	. 67	. 70	. 72	. 71	. 82	. 79	.73	. 70
Av., 1909-1913	. 60	. 55	. 56	. 56	. 57	. 61	. 64	. 64	. 65	. 73	.71	. 66	. 61
1914-15	. 63	. 64	.71	.74	.72	.75	.77	.74	.78	.81	.74	. 65	. 70
1915-16		. 69	.74	.74	.73	.76	.75	.74	.81	.85	.86	. 96	. 79
1916-17		. 92	.98	1.00	1.09	1.40	1.59	1.70	1.99	2.06	2.10	2. 03	1. 11
1917-18		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. 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. 47	1.51	1.46	1.58	1.69	2.02	1.89	1.58	1.58	1.31	. 91	1. 59
1920-21		. 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 1922–23 1923–24	. 47 . 71 . 82	.47 .73 .71	.48	.55	.57	.58 .79	. 62	. 61	. 64	. 62	. 64 . 89	. 69 1. 04	.55

Compiled from Chicago Daily Trade Bulletin.

#### KANSAS CITY.1

1899-1900 1940-1 2 1901-2 2 1902-3 1903-4	. 34	\$0. 28 . 34 . 68 . 38 . 37	\$0. 29 . 35 . 64 . 39 . 40	\$0.31 .36 .61 .39 .43	\$0.32 .37 .61 .38 .42	\$0.38 .42 .63 .36 .47	\$9. 38 . 41 . 64 . 41 . 50	\$0. 37 . 41 . 60 . 54 . 49	\$0.38 .48 .63 .48 .51	\$0.37 .59 .53 .46 .49	\$0. 38 . 57 . 56 . 45 . 49	\$0.38 .59 .52 .40 .49	\$0.33 .41 .63 .40 .45
1904-5 1905-6 1906-7 1907-8 1908-9		.42 .41 .38 .50 .57	.42 .40 .39 .53 .57	. 46 . 39 . 40 . 55 . 60	.46 .40 .41 .59 .63	.46 .44 .40 .63 .67	.47 .47 .51 .69 .73	.50 .48 .50 .71 .72	.53 .50 .51 .75 .67	.50 .46 .50 .72 .63	.50 .44 .57 .74 .65	48 . 42 . 58 . 69 . 60	. 46 . 43 . 43 . 54 . 62
1909-10 1910-11 1911-12 1912-13 1913-14	.47	. 62 . 43 . 62 . 45 . 66	. 65 . 44 . 66 . 47 . 65	. 61 . 42 . 65 . 47 . 63	. 59 . 44 . 71 . 50 . 66	. 55 . 47 . 81 . 56 . 69	. 62 . 52 . 80 . 58 . 73	.60 .55 .75 .59 .71	.62 .67 .75 .62 .70	.62 .62 .76 .75 .81	.55 .66 .71 .75 .78	.49 .71 64 .72 .70	. 59 . 49 . 69 . 55 . 67
Av. 1909-1913	58	. 56	. 57	. 56	. 58	. 62	. 65	. 64	. 67	. 71	. 69	. 65	. 60
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	. 95 2. 02 1. 47 1. 51	. 65 . 67 . 89 1. 66 1. 52 1. 51 . 69	.73 .70 .95 1.65 1.42 1.49	.73 .71 .99 1.74 1.34 1.45 .58	.71 .68 1.16 1.66 1.48 1.56	.75 .72 1.41 1.59 1.66 1.71 .52	. 75 . 72 1. 58 1. 61 1. 74 1. 91 . 56	. 74 . 72 1. 68 1. 54 1. 79 1. 82 . 56	. 76 . 78 2. 01 1. 63 1. 92 1. 58 . 51	. 76 . 82 1. 78 1. 76 1. 93 1. 57 . 46	.70 .84 1.96 1.66 1.64 1.28 .49	. 59 . 91 1. 91 1. 45 1. 42 . 88 . 38	. 72 . 69 1. 06 1. 63 1. 56 1. 60
Av. 1914-1920	1. 13	1.08	1.08	1.08	1. 12	1. 19	1. 27	1. 26	1, 31	1. 30	1. 22	1.08	1. 12
1921–22 1922–23 1923–24		. 42 . 71 . 67	.45	. 53	. 54	. 57	. 59	. 59	. 60 . 84	. 58	. 59	. 64 . 95	. 54 . 74

Compiled from the Kansas City Daily Price Current.

Division of Statistical and Historical Research.

<sup>1</sup> Prior to May 11, 1903, the prices were obtained under mixed corn.
<sup>2</sup> 1901, compiled from the Kansas City Star.

Table 110A.—Corn, No. 3, 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.	Weight- ed aver- age./
1909-10 1910-11 1911-12 1912-13 1913-14 A v. 1909-1913	\$0. 58 . 47 . 65 . 48 . 73	\$0. 61 . 44 . 61 . 46 . 67	\$0. 65 . 45 . 60 . 48 . 63	\$0. 63 . 44 . 64 . 48 . 62	\$0. 60 . 45 . 70 . 50 . 66	\$0. 58 . 48 . 80 . 57 . 68	\$0. 62 . 53 . 79 . 58 . 71	\$0. 59 . 55 . 74 . 60 . 71	\$0. 63 . 65 . 74 . 64 . 73	\$0. 62 . 63 . 76 . 73 . 83	\$0. 55 . 66 . 73 . 75 . 79	\$0. 49 . 72 . 64 . 71 . 72	\$0. 61 . 48 . 70 . 52 . 68
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920	. 66 . 64 . 96 2. 00 1. 40 1. 49 . 79	. 65 . 68 . 91 1. 75 1. 50 1. 49 . 74	. 72 . 75 . 98 1. 76 1. 44 1. 51 . 64	. 74 . 75 . 99 1. 82 1. 33 1. 48 . 63	. 72 . 73 1. 12 1. 68 1. 54 1. 60 . 62 1. 14	. 76 . 75 1. 45 1. 66 1. 62 1. 73 . 57	. 77 . 74 1. 63 1. 62 1. 74 2. 00 . 62 1. 30	. 74 . 74 1. 67 1. 60 1. 78 1. 87 . 61	.78 .81 1.94 1.69 1.99 1.62 .59	. 78 . 86 1. 75 1. 75 1. 93 1. 57 . 54	. 74 . 86 2. 04 1. 63 1. 52 1. 30 . 52	. 64 . 93 1. 91 1. 45 1. 42 . 92 . 46	72 . 75 1. 11 1. 67 1. 59 1. 64 . 60
1921–22 1922–23 1923-24	. 47 . 71 . 82	. 48 . 72 . 71	. 48	. 54	. 58	. 57	.61	. 60	. 65	.61	.63	. 69 1. 00	. 57

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 1913 1914 1915	\$0. 92 . 82 . 91 1. 04 1. 40	\$0.95 .82 .91 1.11 1.47	\$0. 94 . 81 . 91 1. 10 1. 43	\$0, 95 . 82 . 91 1. 09 1. 43	\$0. 95 . 82 . 91 1. 13 1. 47	\$0. 95 . 82 . 92 1. 08 1. 28	\$0. 93 . 82 . 93 1. 10 1. 37	\$0.99 .90 1.13 1.18 1.44	\$0. 99 . 95 1. 11 1. 16 1. 41	\$0. 99 . 89 1. 04 1. 16 1. 48	\$0. 91 . 90 1. 00 (1) 1. 71	\$0.86 .91 .98 1.23 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	(1)	(1)	(1)	(1)	(1)
1920	(1)	1. 93	2. 14	2. 16	2. 04	2. 06	(1)	(1)	(1)	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	(1)	(1)	(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.

Table 112.—Corn: Spot price per bushel of 56 pounds at Buenos Aires, 1912-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
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

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural 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.

<sup>&</sup>lt;sup>1</sup> No quotations.

<sup>&</sup>lt;sup>1</sup>No quotations.

<sup>&</sup>lt;sup>2</sup> Interpolation, no quotation.

Table 113.—Corn, yellow, La Plata: Spot price per bushel of 56 pounds at Liverpool, 1912-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1912 1913 1914 1915 1916 1917 1918	(i) \$0. 71 . 65 . 98 1. 40 <sup>2</sup> 1. 89 2. 23 2. 04	(1) \$0.75 .66 1.06 1.44 1.92 2.23 2.04	(1) \$0. 76 . 68 1. 02 1. 42 2. 00 2. 23 1. 75	(1) \$0. 74 . 68 1. 06 1. 43 2. 16 2. 23 1. 74	\$0. 97 . 72 . 74 1. 11 1. 47 (1) 2. 23 1. 74	\$0. 87 . 69 . 76 . 97 1. 33 2. 17 2. 23 1. 72	\$0. 71 . 67 . 78 . 92 1. 45 2. 17 2. 42 1. 65	\$0. 75 . 67 . 97 . 90 1. 54 2. 17 2. 61 1. 66	\$0. 78 . 70 . 93 . 85 1. 39 2. 17 2. 61 1. 69	\$0. 72 . 66 . 83 . 94 1. 48 2. 17 2. 61 1. 68	\$0. 68 . 63 . 78 1. 06 1. 69 2. 17 2. 61 1. 65	. 67 . 83 1. 19 1. 81 2. 17 2. 61	\$0.77 .70 .77 1.00 1.49 2.11 2.40
	31. 49 1. 28 . 92 . 99		1. 75 41. 96 1. 30 1. 08 1. 05	1. 97 1. 28 1. 03 1. 09	1. 81 1. 18 1. 06 1. 14	1. 72 1. 67 1. 09 1. 01 1. 10	1. 53 1. 53 1. 05 1. 10 1. 02	1. 43 . 93 1. 10 . 94	1. 69 1. 60 . 83 1. 09 . 98	1. 08 1. 49 . 72 1. 08 . 97	1. 65 1. 15 . 78 . 96 . 96	1. 52 1. 25 . 88 1. 00 1. 02	1. 74 1. 59 1. 04 1. 04 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.

## OATS.

Table 114.—Oats: Acreage, production, value, exports, etc., United States, 1869-1923.

Calendar year.	Acreage harvested.	Average yield per acre.	Produc-	Average farm price per bushel Dec.	Farm value Dec. 1.	Value per acre.1	prie N D ce	ce pe	iı	shel,	Domestic exports, in- cluding oatmeal, fiscal year beginning	Imports, fiscal year be- ginning July 1.4
				1.		٠,	Low.	High.	Low.	Hign.	July 1.3	
1869	1,000 acres. 9,461 8,792 8,366 9,001 19,752 10,897 11,915 13,359 12,826 13,176 16,188 16,832	28. 1 30. 6 30. 2 27. 7 22. 1 29. 7 24. 0 31. 7	1,000 bushels. 288, 334 247, 277 255, 743 271, 747 270, 340 240, 369 354, 318 320, 884 406, 394 413, 579 450, 745 417, 885 416, 481	39. 0 36. 2 29. 9	113, 134 113, 441 103, 845 115, 546 101, 752 150, 178 150, 244	Dol- lars. 11. 58 10. 97 11. 07 9. 03 9. 59 10. 38 9. 52 7. 77 9. 30 9. 28 9. 30 9. 28 11. 48	373 304 234 34 31 324 31 324 329 4 3	443 41 33 253 408 543 303 342 27 208 363 334	46½ 47½ 34¾ 30	Cts. 531 51 421 34 481 27 301 347 391 568	Bushels. 121, 517 147, 572 262, 975 714, 072 812, 873 504, 770 1, 466, 228 2, 854, 128 3, 715, 41, 128 766, 366 402, 904 625, 690	Bushels. 2, 266, 785 599, 514 535, 250 225, 555 191, 802 1, 500, 040 121, 547 41, 597 21, 391 13, 395 489, 576 64, 412 1, 850, 983
1882 1883	18, 495 20, 325	24. 7 26. 4 28. 1	416, 481 488, 251 571, 302	37. 5 32. 7	182, 978 187, 040	9, 89 9, 20	343	413	383 303	423 341	461, 496 3, 274, 622	815, 017 121, 069
1884 1885 1886 1887 1888	21, 301 22, 784 23, 658 25, 921 26, 998	27. 4 27. 6 26. 4 25. 4 26. 0	583, 628 629, 409 624, 134 659, 618 701, 735	27. 7 28. 5 29. 8 30. 4 27. 8	186, 138 200, 700	7. 58 7. 88 7. 87 7. 74 7. 24	25 <del>1</del> 28	29 271 301	324	37 291 271 38 231	6, 203, 104 7, 311, 306 1, 374, 635 573, 080 1, 191, 471	94, 310 149, 480 139, 575 123, 817 131, 501

Division of Crop and Livestock Estimates. Figures in italics are census returns. Exports and imports from Bureau of Foreign and Domestic Commerce.

<sup>1</sup> Not quoteá. <sup>2</sup> Trading in maize controlled January 5, 1917. 3 Afloat price. 4 Nominal.

Based on Dec. 1 price.
 Chicago Daily Trade Bulletin. Quotations are for No. 2 to 1906; for contract 1906–1915.
 Oatmeal not included until 1882.
 Oatmeal not included 1869–1882, and 1909.

Table 114.—Oats: Acreage, production, value, exports, etc., United States, 1869-1923—Continued.

							C	hica	go, c	ash	<u> </u>	
	Acre-	Acre-		Aver- age farm				ce pe lo 2			Domestic exports, in-	Imports,
Calendar year,	age har- vest- ed.	yield per acre.	Produc- tion.	price per bush- el Dec.	Farm value Dec. 1.	Value per acre.1	CE	De- em- er.	i	llow- ng [ay.	cluding oatmeal, fiscal year beginning July 1.3	fiscal year be- ginning July 1.4
				1.			High.	Low.	High.	Low.		
	1,000 acres.	Bush.of.	1,000 bushets.	Cents.	1,000 dollars.	Dol- lars.	Cts.	Cts			Bushels.	Bushels.
1889 1890	28, 321 28, 102	28. 3 20. 4	801, 586 572, 671	21. 9 41. 7	175, 801 239, 047	6. 21 8. 51	20 397	21 43	24 45	54	15, 107, 238 1, 382, 836	41,848
1891 1892 1893	27, 604 28, 023 28, 452	30. 4 24. 8 23. 8	839, 995 695, 277 676, 151	30. 6 31. 5 29. 1	257, 251 218, 983 196, 437	9. 32 7. 81 6. 90	25	311	28	32	10, 586, 644 2, 700, 793 6, 290, 229	47, 782 49, 433 31, 759
1894 1895	28, 362 29, 379	25. 2 30. 2	715, 535 885, 959	32. 1 19. 4	229, 451 172, 198	8. <b>09</b> 5. 86	28 <del>3</del> 16	293 174	274 18	301 191	1, 708, 824 15, 156, 618	330, 318 66, 602
1896 1897	29, 645 28, 353	26. 3 27. 9	780, 124	18. 3 20. 8	142, 772 164, 836	4. 82 5. 81	16½ 21		16			131, 204 25, 093
1898	28, 769	29. 3	791, 442 842, 747	25. 2	212, 482	7. 39	26	27	24	273	33, 534, 362	
1899 1900	<b>29</b> , 540 30, 290	31. 3 30. 2	925, 555 913, 800	24. 5 25. 4	226, 588 232, 074	7. 67 7. 66	22½ 21¾	223	21½ 27¾	31	42, 268, 931	32.107
1901 1902 1903	29, 894 30, 578	26. 0 34. 5	778, 392 1, 053, 489	39. 7 30. 6	308, 796 322, 423	10. 33 10. 54	42 291	48½ 32	333		8, 381, 805	38, 978 150, 065
4	30, 866	28. 2	869, 350	34. 0	295, 232	9. 56	341	1	39		1, 960, 740	. 183, 983
1904 1905	31, 353 32, 072	32. 2 34. 0	1, 008, 931 1, 090, 236	31. 1 28. 9	313, 488 314, 868	10.00 9.82	281 291	32 323 353	28 5 32 5	343	8, 394, 692 48, 434, 541	55, 699 40, 025
1906	33, 353 33, 641	31. 0 23. 9	1, 035, 576 805, 108	31. 9 44. 5	329, 853 358, 421	9. 89 10. 65	33 46½	50%	523	567	6, 386, 334 2, 518, 855	91, 289 383, 418
1908	34, 006	25. 0	850, 5 <b>40</b>	47. 3	402, 010	11.82	483	503	-		2, 333, 817	6, 691, 700
190 <b>9</b> 1910	35, 159 37, 548	30. 4 31. 6	1, 186, 341	40. 6 34. 4	433, 869 408, 388	12. 34 10. 88	40 31	45 321 478	361	36	2, 548, 726 3, 845, 850	1, 034, 511 107, 318
1911 1912	37, 763 37, 917	24. 4 37. 4	922, 298 1, 418, 337	45. 0 31. 9	414, 663 452, 469	10. 98 11. 93	461 31	313	35	43	2, 677, 749 36, 455, 474	2, 622, 357 723, 899
1913	38, 399	29. 2	1, 121, 768	39. 2	439, 596	11. 45	375	401	37	421	2, 748, 743	22, 273, 624
Av. 1909- 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 1915	38, 442 40, 996	29. 7 37. 8	1, 141, 060 1, 549, 030	43. 8 36. 1	499, 431 559, 506	12. 99 13. 65	46% 40%	44	501 391	56 493	100, 609, 272 98, 960, 481	630, 722 665, 314
1916 1917	41, 527 43, 553	30. 1 36. 6	1, 251, 837	52. 4 66. 6	655, 928 1, 061, 474	15. 80 24. 37	463 701	54 80%	59∄		95, 105, 698 125, 090, 611	761, 644 2, 591, 077
1918	44, 349	34. 7 29. 3	1, 538, 124	70. 9	1,090,322	24.59	68	744	671	745	109,004,734	551, 355
1919 1920	40, 359 42, 491	29. 3 35. 2	1, 184, 030 1, 496, 281	70. 4 46. 0	833, 922 688, 311	20.66 16.20	783 47	89° 52	100± 36±	431	43, 435, 994 9, 391, 096	6, 043, 834 3, 795, 638
Av. 1914- 1920	41, 674	33. 4	1, 393, 300	55. 3	769, 842	18. 47	56. 7	<b>6</b> 3. 4	60. <b>9</b> .	<b>70</b> . 5	83, 085, 412	2, 148, 512
1921	45, 495 40, 790	23.7	1, 078, 341	30. 2 39. 4	325, 954 478, 048	7. 16 11. 74	341 431	423	37½ 43	45	21, 236, 742 25, 413, 343	
1922 1923 <sup>5</sup>	40, 790 40, 833	31. 8	1, 215, 803 1, 299, 823	39. 4 41. 5	478, 948 539, 253	13. 21	202	50	****	743	29, 313, 343	293, 208
		!				1			<u>ـــــن</u>	<u> </u>	]	

Division of Crop and Livestock Estimates Figures in italics are census returns. Exports and imports from Bureau of Foreign and Domestic Commerce.

<sup>&</sup>lt;sup>1</sup> Based on Dec. 1 price.

<sup>2</sup> Chicago Daily Trade Bulletin. Quotations are for No. 2 to 1906; for contract 1906–1915.

<sup>3</sup> Oatmeal not included until 1882.

<sup>4</sup> Oatmeal not included 1869–1882, and 1969.

<sup>5</sup> Preliminary.

Table 115.—Oats: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thous	sands of	acres.	Produc	tion, thous bushels.	sands of	Total va price, lars.	lue, <b>bas</b> is thousands	Dec. 1 s of dol-
	1921	1922	1923 ¹	1921	1922	1923 1	1921	1922	1923 1
Maine New Hampshire Vermont Massachusetts Rhode Island	124 18 81 9	120 18 90 10	125 18 88 9	4, 340 630 2, 673 279 28	4, 560 684 3, 060 340 31	4, 625 675 3, 080 315 32	2, 387 378 1, 577 165	2, 143 410 1, 714 214 19	2, 590 432 1, 946 198
Connecticut	11	11	10	330	398	290	198	200	180
New York	1,038	1,059	1, 017	24, 912	31, 770	32, 747	11, 709	16, 293	18, 011
New Jersey	72	72	68	1, 728	2, 232	1, 632	778	1, 228	898
Pennsylvania	1,238	1,170	1, 170	35, 283	39, 780	33, 930	15, 877	19, 094	17, 644
Delaware	6	7	7	168	161	182	77	92	109
Maryland	60	58	59	1, 620	1,740	1, 758	729	887	946
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, 960	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, 790
Georgia	412	474	521	8, 652	8, 532	9, 378	5, 537	6, 399	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, 885	23, 536
Indiana	1,912	1,506	1, 739	45, 888	31, 626	48, 692	13, 308	12, 650	18, 996
Illinois	4,594	3,860	3, 860	121, 741	110, 010	135, 100	35, 305	42, 904	52, 685
Michigan	1, 544	1, 498	1, 528	28, 101	50, 932	48, 896	10, 116	20, 882	21, 02,
Wisconsin	2, 632	2, 465	2, 539	63, 958	101, 558	92, 166	21, 106	39, 608	39, 63
Minnesota	4, 145	4, 021	4, 142	99, 480	142, 746	153, 254	22, 880	45, 679	52, 10,
Iowa	6, 340	5, 874	5, 639	164, 840	217, 925	203, 004	37, 913	76, 274	75, 11
Missouri	2, 148	1, 200	1, 380	42, 960	19, 200	34, 500	12, 888	8, 448	15, 52
North Dakota	2, 568	2, 388	2, 388	48, 792	78, 804	54, 924	10, 246	20, 489	15, 379
South Dakota	2, 650	2, 400	2, 304	58, 300	74, 400	78, 336	11, 660	23, 808	24, 28-
Nebraska	2, 585	2, 408	2, 456	70, 054	56, 106	81, 048	14, 711	19, 076	27, 559
Kansas	1, 894	1, 494	1, 338	38, 827	27, 639	34, 922	10, 483	11, 332	15, 010
Kentucky	293	234	225	5, 567	4, 282	4, 725	2, 672	2, 398	2, 640
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, 265	1, 249	1, 232	886	862	833
Texas	1,865	1,455	1,470	33, 570	33, 465	47, 040	13, 092	18, 406	26, 813
Oklahoma	1, 765	1, 500	1, 200	35, 300	30,000	24, 900	9, 531	13, 500	12, 486
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, 438
Wyoming	150	158	175	4, 500	4,898	5, 950	1, 710	1, 959	2, 796
Colorado	217	185	198	6, 727	4,625	<b>6,</b> 336	2, 220	2, 081	2, 918
New MexicoArizonaUtahNevada	61	53	58	1,690	827	1, 160	811	480	815
	18	20	19	630	620	570	410	422	456
	79	86	81	2,876	3,354	3, 062	1,064	1, 576	1,776
	3	2	3	113	74	106	85	56	8
Ideho	180	162	170	7, 749	6, 156	7, 820	2, 477	2, 832	3, 44
Washington	210	202	210	10, 500	7, 918	11, 970	4, 410	4, 592	5, 98
Oregon	272	267	270	8, 704	6, 675	10, 530	3, 308	3, 805	4, 73
California	140	150	162	3, 780	5, 250	5, 265	1, 928	3, 360	3, 15
United States	45, 495	40, 790	40, 833	1, 078, 341	1, 215, 803	1, 299, 823	325, 954	478, 948	<b>539, 2</b> 5

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 116.—Oats: Yield per acre, by States, calendar years, 1908-1923.

	1		ı	Ι		1		ı ——	l	ı —	1	Ι.		[	ſ.	1	I	
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	A v. 1914– 1920	1921	1922	1923
	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.
Maine New Hampshire Vermont Massachusetts	34. 0	37. 0	42. 4	38. 5	34. 6	40.0	38. 5	41.0	40.0	36.0	<b>29</b> . 0	40.0	34.0	41.8	37.4			37. 0
Vermont	33 3	32. 2	42.8	35.0	43 0	39. U	38.1							39. 0 35. 0	37.4	33. 0	34. 0	37. <b>5</b> 35. <b>0</b>
Massachusetts	33. 0	31. 0	35. 5	35. 0	34. 0	35. 0	34. 1	37.0	36. 0	32.0	37.0	40.0	38.0	34.0	36.3	31.0	34.0	35.0
Rhode Island	31. 0	25. 0	35. 0	29.0	28.6	26.0	28.7	27.5	33. 0	27.0	31.0	42.0	30. 0	28.0	31. 2	28.0	31.0	32. 0
Connecticut	32. 6	27. 5	36. 8	35. 1	30. 7	28. 0	31. 6							38. 0			28.0	
New York New Jersey	30. 1	28. 2 195. 5	34. 5	29. 5	30. 8	33. 5 90. 0	31.3	20 0	32 5	20. 0	35. 0	40.0	25. 5 30. 0	38. 5 32. 0	34.0	24. 0	30. 0 31. 0	32. Z
Pennsylvania	27. 3	26. 0	35. 2	28. 3	33. 1	31. 0	30. 7							39. 0			34.0	
Delaware	29. 8	<b>25.</b> 5	33.8	30.0	30. 5	30. 5	30. 1	27.0	33. 5	30. 0	32.0	35. 0	23.0	33. 0	30. 5		23.0	
MarylandVirginia	25. 5	25. 4	30. 0	27. 0	30. 0	28. 0	28. 1	27. 0	34. 0	29. 5	31. 0	33. 0	28.0	32. 5	30. 7	27. 0	30. 0 20. 0	29.8
West Virginia	19. 1	19. 0	22. 0	20.0	22. 2	21. 5	20. 9 24. 2	20.0	20.0	23. 5	24. 5 27. 0	23. 0	22. 0 25. 0	21. 9	22. 2		20. 0 23. 0	
North Carolina	16. 5	16. 5	18. 2	16. 5	18. 6	19. 5	17. 9	17. 5	23. 0	17. 5	16. 0	17. 0	16. 7	22. 0	18. 5		21.0	
South Carolina	20. 0	21. 0	21. 0	20. 4	21. 5	23. 5								24.0			<b>24</b> . 0	
GeorgiaFlorida	17. 2	19. 0	18. 2	21. 5	20.8	22.0	20. 3	20.0	19. 5	19. 5	16.0	20.0	<b>20</b> . 0	21.0	19.4		18.0	
Florida Ohio	26 4	32 5	27 9	13. 5	44 0	18. U	35.9	18. U	41 0	28 0	44 0	44 0	19. U	17. 0 44. 2	37.9		13.0 $27.0$	
Indiana	21. 2	30, 5	35. 4	28.7	40. 1	21.4								41. 0			21. 0	
Illinois	23. 0	36. 6	38. 0	28.8	<b>4</b> 3. 3	23.8	34.1	29.3	45. 0	38. 5	<b>52.</b> 0	44. 0	30. 0	39. 5	39. 8	26. 5	28. 5	3 <b>5. 0</b>
Michigan	29. 7	30. 5	34.0	28.6	34. 9	30. 0	31.6	33. 5	42.0	30. 0	36. 0 44. 0	40.0	25. 0	39. 6	35. 2	18. 2	34. 0 41. 2	32.0
Wisconsin Minnesota	22 0	33. O	28. 7	29. 8	41 7	37.8	32. 8	28. 0	43.0	36.5	37. 0	41. 0	28. 0	37. 5	35. 9	24. 0	35. 5	37. O
Iowa	24. 3	27. 0	37. 8	25. 5	44. 2	34. 5	33. 8	33.0	40.0	37. 0	47.0	42.0	34. 6	39. 0	38. 9	26.0	37. 1	<b>36.0</b>
Missouri	19. 3	27. 0	33. 6	14.8	33.0	21. 2	<b>2</b> 5. 9	21. 5	26.0	25.0	<b>40</b> . 0	29. 0	27.0	30. 5	28, 4	20.0	16.0	25.0
North Dakota	23. 4	32. 0	7. 0	23. 5	41.4	25. 7	25. 9 24. 1				15. 0					19. 0	33.0	23.0
South Dakota Nebraska	23. 0	30. U	23. U	13 0	24 4	26. 5	23. 6									27. 1	23. 3	33. 0
Kansas	22.0	28. 2	33. 3	15. 0	32.0	19. 5	25. 6	33. 5	26. 5	23. 5	31. 0	22. 0	28. 1	30. 7	27. 9			
Kentucky	16. 2	22. 3	25. 0	18. 4	26. 9	19.8	22. 5	21.0	26.0	21.0	26.0	24.0	22. 5	23. 5	23. 4	19.0	18. 3	21. 0
TennesseeAlabama	21.0	20. 0	23. 0	19. 5	21.7	21. 0	21. 0 18. 9	23.0	<b>24.</b> 5	21. 0	25. 0	25. 0	22. 0	19. 8	22. 9 18. 8		18. 0	
Mississippi	17.5	16.0	10. 0	19. 2	17 4	20. 0	18. 9								19. 2	20. 0	19. 0	19.0
Louisiana	20. 0	20. 0	21. 5	21. 0	20. 8	22. 0	21. 1	23.0	25.0	19.0	22.3	25.0	22.0	23.0	22.8	23.0	22. 3	22. <b>0</b>
Louisiana Texas	28. 9	18. 7	35. 0	25. 1	36.0	32. 5	29. 5	25.0	<b>3</b> 5. 5	28. 5	26. 0	14. 7	42.0	22.0	27. 7	18. 0	23.0	22. 0
Oklahoma	25. 0	29. 0	36. 5	9.0	<b>25.</b> 1	18. 0	23. 5 23. 3	27. 5	27. 0	12. 5	23. 0	24. 0	33. 0	33. 0	25. 7 24. 6			
Arkansas Montana	21. 4 41 6	22. 8 51. 3	27. 5 38. 0	∠U. U 49. 8	19. 9 48. 0	43 5	23. 3 46. 1	24. U 35. O	△1. 0 52. 0	21. U 38. ∩	20. U	20. 0	9.4	20. U 22. O	29. 5	24. 0	20. U	∡o. ∪ 33. 0
Wyoming	36. 4	35. 0	32. 0	34. 5	41. 8	38. 0.	36. 3								35. 0			
Wyoming Colorado	39. 5	38. 0	39. 1	35. 0	42.8	35. 0	38.0	40.0	39. 0	33.0	38. 0	30. 0	26. 2	31. 5	34.0	31.0	25.0	32. 0
New Mexico	33. 5	40.0	27. 4	38. 8	34. 7	30. 0	34. 2	38. 0	36. 0	29. 0	30.0	28. 0	36. 0	27. 4	32. 1	27. 7	15. 6	20.0
Arizona	36. 0	37.0	40.1	42.0	44. 7	43. 0	41. 4 45. 2	42. 0	37. 0	37. 5	40.0	40. 0	38. U 34. O	27.0	37. 4 42. 5			
Utah Nevada	45. 0	40.0	44. 7	45. 0	<b>40.</b> 0	43. 0	<b>42</b> . 5								41.0			
Idaho	44. 0	44. 5	38. 5	44. 0	<b>48.</b> 9	46. 5	44.5								40. 7	43. 0	38. 0	46. 0
Washington	144 5	49 N	42 XI	51. 7	48 2	47. 5l	47.8	47. 0	50. 0	52.0	38. 5	27.0	40.0	46. 6	43. 0	50.0	39, 2	57. 0
OregonCalifornia	33. 4 33. 5	37. 8 31. <b>4</b>	34. 5 37. 0	34. 7 34. 0	38, 2 39, 0	42. 3 31. 6	37. 5 34. 6	35. 0 35. 0	44. 0 33. 0	48. 0 3 <b>2.</b> 5	25. 0 35. 0	25. 0 3 <b>2.</b> 0	30. 0	ან. 5 30. 0	35.0 32.5			
United States	25. 0	30. <b>4</b>	31. 6	24. 4	37. 4	29. 2	30. 6	29. 7	37. 8	30. 1	<b>36.</b> 6	34.7	29. 4	35. 2	33. 4	23. 7	29. 8	31. 8
		-	l		- 1		1						- 1					

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.
1866 1867 1868 1869	P. ct. 90. 3 96. 3 102. 6 100. 5 95. 2	P. ct. 105. 6 101. 9 109. 6 114. 5 93. 4	P. ct. 113. 3 109. 0 104. 0 108. 5 94. 5	P. ct. 106. 7 92. 2 111. 6 96. 1	Bush. 30. 2 27. 6 26. 4 30. 5 28. 1	1901 1902 1903 1904 1905	P. ct. 85. 3 90. 6 85. 5 89. 2 92. 9	P. ct. 83. 7 92. 1 84. 3 89. 8 92. 1	P. ct. 73. 6 89. 4 79. 5 86. 6 90. 8	P. ct. 72. 1 87. 2 75. 7 85. 6 90. 3	Bush. 26. 0 34. 5 28. 2 32. 2 34. 0
1871 1872 1873	96. 0 99. 3 96. 7 94. 2	93. 8 103. 2 90. 3 90. 0	95. 1 99. 6 93. 7 72. 5	97. 6 97. 4 92. 0 86. 0	30. 6 30. 2 27. 7 22. 1	1906 1907 1908	85. 9 81. 6 92. 9	84. 0 81. 0 85. 7	82. 8 75. 6 76. 8	81. 9 65. 5 69. 7	31. 0 23. 9 25. 0
1874 1875 1876 1877 1878	93. 5 98. 9 95. 1	100. 7 100. 0 101. 7 101. 0	90. 0 86. 0 98. 0 100. 0	87. 0 81. 0 106. 0 97. 0	29. 7 24. 0 31. 7 31. 4	1909 1910 1911 1912 1913	88. 7 91. 0 85. 7 91. 1 87. 0	88. 3 82. 2 68. 8 89. 2 76. 3	85. 5 81. 5 65. 7 90. 3 73. 8	83. 8 83. 3 64. 5 92. 3 74. 0	30. 4 31. 6 24. 4 37. 4 29. 2
1879 1880	81. 0 93. 0	87. 0 96. 0	91. 0 90. 6	91. 7 88. 0	27. 9 25. 8	Av.1909-1913	88. 7	81. 0	79. 4	79. 6	. 30.6
1881 1882 1883 1884 1885	92. 0 101. 0 96. 0 98. 0 94. 0 95. 9	98. 0 103. 0 99. 0 98. 0 97. 0	97. 0 102. 0 100. 0 94. 0 96. 0 87. 4	92. 3 100. 0 99. 0 95. 0 93. 0	24. 7 26. 4 28. 1 27. 4 27. 6	1914 1915 1916 1917 1918 1919 1920	89. 5 92. 2 86. 9 88. 8 93. 2 93. 2 87. 8	84. 7 93. 9 86. 3 89. 4 85. 5 .87. 0 84. 7	79. 4 91. 6 81. 5 87. 2 82. 8 76. 5 87. 2	75. 8 91. 1 78. 0 90. 4 84. 4 73. 0 88. 3	29. 7 37. 8 30. 1 36. 6 34. 7 29. 4 35. 2
1887 1888	91. 0 95. 4	85. 9 95. 2	85. 6 91. 7	83. 4 87: 2	25. 4 26. 0	Av.1914-1920	90. 2	87. 4	83. 7	83. 0	33. 4
1890 1890 1891 1892 1893 1894 1895	93. 8 89. 8 85. 1 88. 5 88. 9 87. 0 84. 3	94. 1 81. 6 87. 6 87. 2 88. 8 77. 7 83. 2	92. 3 70. 1 89. 5 86. 2 78. 3 76. 5 84. 5	90. 0 64. 4 90. 7 78. 9 74. 9 77. 8 86. 0	28. 3 20. 4 30. 4 24. 8 23. 8 25. 2 30. 2	1921 1922 1923	85. 7 85. 5 85. 6	77. 6 74. 4 83. 5	64. 5 75. 6 81. 9	61. 1 74. 9 80. 3	23. 7 29. 8 31. 8
1896 1897 1898 1899 1900	98. 8 89. 0 98. 0 88. 7 91. 7	96. 3 87. 5 92. 8 90. 0 85. 5	77. 3 86. 0 84. 2 90. 8 85. 0	74. 0 84. 6 79. 0 87. 2 82. 9	26. 3 27. 9 29. 3 31. 3 30. 2				-	-	

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 moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total cli- matic.	Plant dis- ease.	Insect pests.	Ani- mal pests.	Defective seed.	Total.1
1909 1910 1911 1912 1913	P. ct. 7. 9 17. 0 27. 6 7. 2 22. 7	P. ct. 5. 2 . 8 1. 0 3. 1 . 7	P. ct. 0. 6 .2 (2) .3 .2	P. ct. 0. 8 . 7 . 5 . 5	P. ct. 1. 1 . 4 . 3 1. 0 . 6	P. ct. 0. 9 1. 7 5. 1 1. 1 1. 8	P. ct. 0. 8 .3 .1 .5	P. ct. 17. 7 21. 4 35. 4 14. 1 27. 2	P. ct. 2. 4 .9 .7 1. 6	P. ct. 0. 5 . 6 1. 5 . 7 1. 1	P. ct. 0. 1 .2 .1 .1	P. ct. 0.4 .2 .2 .2 .2	P. ct. 22. 2 24. 0 39. 5 17. 7 30. 3
1914 1915 1916 1917 1918	10.1	2. 2 8. 5 4. 0 1. 2	.2 .9 .4 .2 .2	.3 .4 .6 2.7 1.3	.8 1.0 .8 .8	2.6 .1 2.8 1.0 1.8	.4 .8 .5 .3	22. 7 13. 2 19. 7 18. 2 18. 1	2. 0 2. 1 5. 1 . 8 1. 1	1.7 .3 1.3 .4	(2)	(2) (2) (2)	27. 5 16. 3 27. 2 19. 8 20. 7
1919 1920 1921 1922	11. 5 6. 4 18. 3 14. 6	5. 7 2. 7 2. 3 3. 8	.4 .3 .2 .4	.4 .4 2.6 .4	.7 .8 .8 1.2	2. 8 . 9 5. 9 1. 4	.4 .4 .6	22. 3 12. 1 31. 0 22. 0	4. 9 2. 3 5. 2 3. 2	2.2 1.4 2.1 1.8	.1	.1 .1 .1	29. 9 16. 3 38. 9 27. 6

<sup>1</sup> Condition at time of harvest.

<sup>&</sup>lt;sup>1</sup> Includes all other causes.

<sup>&</sup>lt;sup>2</sup> Less than 0.05 per cent.

Table 119.—Oats: Area and yield per acre in undermentioned countries. NORTHERN HEMISPHERE.

		1N	ORIM	KN HI	CMISPE	ene.				
			Area.				Yi	eld per a	cre.	
Country.	A ver- age 1909- 1913.	1920	1921	1922	1923, prelim- inary.	Aver- age 1909- 1913.	1920	1921	1922	1923, prelim- inary.
NORTH AMERICA.	1,000 acres. 9 597	1,000 acres.	1,000 acres. 16,949	1,000 ocres. 14,541	1,000 acres. 13, 274	Bush- els. 36. 6	Bush- els. 33. 5	Bush- els. 25. 2	Bush- els. 33. 8	Bush- els. 40.0
United States Total comparable	9, 597 37, 357	15, 850 42, 491	45, 495	40, 790	40, 833	30. 6	35. 2	23. 7	29. 8	31.8
with 1923EUROPE.	46, 954	58, 341	62, 444	55, 331	54, 107					
United Kingdom: E n g l a n d and Wales Scotland Ireland Norway Sweden Denmark Netherlands Belgium Luxemburg France Spain Portugal Italy Switzerland Germany Austria Czechoslovakia Hungary Yugoslavia Greece Bulgaria Rumania Rumania Esthonia Finland Littuania Letvia Esthonia Finland Russia, including Ukraine a n d Northern Caucasia	2, 039 952 1, 049 264 1, 961 1 21, 059 346 644 2 9, 800 1, 276 	2, 266 1, 032 1, 332 3, 352 1, 091 395 586 6, 278 1, 159 2 1, 159 7, 940 1, 029 1, 029 1, 029 1, 029 1, 029 1, 035 1, 981 1, 981	2, 148 1, 012 1, 254 342 1, 757 1, 112 383 603 64 8, 421 1, 575 1, 199 2 1, 199 2 1, 199 31 3, 062 4, 753 1, 003 331 3, 062 4, 753 1, 038	2, 157 988 1, 214 301 1, 799 1, 118 394 717 718, 491 1, 514 482 1, 214 482 1, 214 2, 916 811 983 3, 295 5, 879 988	1, 976 968 301 1, 800 1, 118 379 652 64 8, 545 1, 595 1, 263 2, 881 2, 881 2, 881 344 3, 350 6, 114 3, 350 6, 114 3, 399 1, 638	47. 5 48. 8 62. 1 38. 9 43. 9 1 51. 7 52. 2 66. 1 43. 9 36. 3 22. 8 -29. 5 59. 1 55. 1 7 31. 1 6 1 30. 1 21. 5 25. 8 25. 1 25. 6 25. 6 20. 4 23. 0 1	46. 2 48. 7 49. 1 44. 1 39. 9 46. 6 51. 8 57. 8 535. 2 23. 8 13. 6 20. 9 25. 7 41. 9 25. 7 41. 9 25. 3 21. 6 26. 2 20. 3 21. 6 26. 2 20. 2 21. 5 21. 5	45. 5 46. 2 44. 8 37. 9 42. 7 46. 0 52. 2 58. 4 29. 0 22. 6 13. 9 32. 0 32. 0 32. 0 32. 0 32. 0 32. 7 24. 8 37. 7 24. 8 37. 7 24. 8 37. 7 24. 8 25. 4 26. 10 27. 0 27. 0 27. 0	42. 0 47. 5 50. 7 44. 5 52. 2 45. 2 45. 2 49. 9 20. 6 26. 3 25. 1 48. 4 36. 0 26. 0 35. 5 27. 8 18. 6 27. 9 29. 4 37. 6 26. 2 25. 2 28. 5	47. 0 47. 4 
Total comparable with 1909-1913 Total comparable	84, 035									
with 1923		89, 985			44, 159					
MoroccoAlgeriaTunis	449 133	21 555 150	22 553 159	28 583 112	33 596 121	30. 0 27. 4	10. 9 12. 4 9. 9	25. 2 18. 7 26. 0	6. 4 9. 4 7. 1	34. 9 26. 8 22. 8
Total comparable with 1909-1913 Total comparable with 1923	582	705 726	712 734	695 723	717 750					
ASIA.  Cyprus  Russia (Asiatic)  Japanese Empire	5,742	10	17	15 <b>2,</b> 044		18.8	24. 0	15. 0	17. <b>6</b> 17. <b>7</b>	
(Chosen) Total comparable with 1909-1913	4 141 5, 883	229		272 2, 316		4 15. 16	18. 2		18. 9	
Total Northern Hemisphere comparable	137, 454									
Hemisphere comparable with 1923		99, 052			99, 016					

One year only.
 Old boundaries.

<sup>3</sup> Former Kingdom of Serbia.

<sup>&</sup>lt;sup>4</sup> Three-year average.

Includes Bessarabia.
 Preliminary estimate of Russian territory within 1923 boundaries.

Table 119.—Oats: Area and yield per acre in undermentioned countries—Con. SOUTHERN HEMISPHERE.

	-		Area.				Yie	eld per a	cre.	
Country.	A ver- age 1909- 1913.	1920–21	1921-22	1 <del>922-2</del> 3	1923-24	Aver- age 1909- 1913.	1920-21	1921- <b>2</b> 2	1922-23	1923-24
Chile Uruguay Argentina Union of South	1,000 excres. 78 7 65 2,396	1,900 acres. 79 128 2,061	1,000 acres. 60 107 2,105	1,000 acres. 75 87 2,618	1,000 acres. 68 161 2,747	Bush- els. 42.7 7 19.8 22.6	Bush- els. 39. 9 19. 5 23. 1	Bush- els. 48. 2 19. 3 15. 7	Bush- els. 40.4 11.5 20.9	Bush- els. 21. 3
Africa Australia New Zealand	1 810 545 366	609 937 148	530 733 171	143	141	1 11. 9 49. 1	9. 7 24. 7 44. 1	9.8 20.7 49.6	.29. 7	
Total comparable with 1909-1913 Total comparable with 1923 World total com-	4, 260	3, 962 2, 416	3,706 2,443	2, 923	3, 117					
parable with 1909-1913 World total com- parable with 1923	141, 714	101, 468			10 <b>2,</b> 133					

Division of Statistical and Historical Research. Official 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

<sup>7</sup> Four-year average.

Table 120.—Oats: Production in undermentioned countries.

		NORT	HERN B	EMISPH	ERE.			
Country.	Average, 1909- 1913.	1917	1918	1919	1920	1921	1922	1923, prelimi- nary.
NORTH AMERICA.  Canada United States	1,000 bushels. 351, 690 1, 143, 407	1,000 bushels. 403,010 1,592,740	1,000 bushels. 426, 312 1, 538, 124	1,000 bushels. 394, 387 1, 184, 030	1,000 bushels. 530,710 1,496,281	1,000 bushels. 426, 233 1, 078, 341	1,000 bushels. 491, 239 1, 215, 803	1,000 bushels. 531,378 1,299,823
Total compar- able with 1923	1, 495, 097	1, <del>9</del> 95, 750	1, 964, 436	1, 578, 417	2, <b>026, 9</b> 91	1, 504, 574	1, 707, 042	1, 831, 201
EUROFE.  United Kingdom: England and Wales. Scotland Ireland. Norway: Sweden Denmark Netherlands. Belgium Luxemburg France Spain Portugal Italy Switzerland Germany Austria Czechosłovakia Hungary Yugoslavia Greece	2 53, 576 18, 070 42, 595 3, 382 2 355, 278 29, 110 2 36, 945 4, 784 2 591, 996 2 164, 469 2 90, 896 6 7 3, 079	105, 934 53, 108 94, 662 17, 004 61, 400 37, 653 17, 858 12, 834 1, 616 3 220, 336 33, 061 4, 541 23, 889 4, 209 5 249, 964 10, 901	139, 805 62, 956 101, 399 16, 582 56, 084 41, 571 18, 617 -1, 550 3 180, 553 3 180, 553 5, 009 6 301, 339 12, 933		2 24, 223 3, 121 332, 490 16, 008 59, 654 22, 307 22, 244	97, 822 46, 732 56, 238 12, 960 75, 070 52, 158 20, 001 35, 225 1, 243 244, 455 3, 616 5, 616 5, 616 4, 38, 415 3, 035 344, 812 19, 900 74, 987 4, 134 18, 907 4, 134		92, 898 1 45, 864 10, 002 66, 758 23, 943 36, 356 2, 503 377, 479 40, 431 39, 800 3, 059 411, 659 411, 679 419, 353 5, 547 19, 353 5, 964
Bulgaria	2 9, 595	5, 991			7,005		9, 144	• .

<sup>1</sup> Commercial estimate.

<sup>2</sup> Old boundaries.

Figure 13 Includes production in Alsace Lorraine.
Includes 627,000 bushels grown in Venezia
Tridentina and Venezia Giulia.

Excludes production in Alsace Lorraine.
 Former Kingdom of Serbia.
 Three-year average.

8 One year only.

Table 120.—Oats: Production in undermentioned countries—Continued. NORTHERN HEMISPHERE-Continued.

	NO.	RTHERN	HEMIS	PHERE-	-Continue	a.		
Country.	Average, 1909- 1913.	1917	1918	1919	1920	1921	1922	1923, prelimi- nary.
EUROPE—continued. RumaniaPoland	1,000 bushels. 9 33, 097 10(105,755)	1,000 bushels.	1,000 bushels. 5,890	1,000 bushels. 22,824	1,000 bushels. 68, 349 129, 061	1,000 bushels. 66, 356 150, 286	1,000 bushels. 92, 074 172, 621	1,000 bushels. 63, 701 259, 867
Lithuania	10(18, 203)			15, 315	14, 223	18, 154	172, 621 28, 943 18, 171	23, 324
Latvia	10 (18, 203) 10 (18, 205)				14, 223 7, 790	16, 843	18, 171	20, 518
EsthoniaFinlandRussia, including Ukraine and	10 (8, 695) 20, 391	18, 802	19, 228	7, 702 20, 286	8, 022 11, 247	18, 154 16, 843 8, 840 28, 029	10, 058 28, 199	9, 800 21, 288
Northern Caucasia_	10( <b>824</b> , 615)						319, 570	
Total comparable with 1909-1913 Total compara-	2, 737, 879		<u>-</u>					1 700 400
ble with 1923.	1, 794, 519				1, 355, 293	1, 388, 643		1, 722, 466
AFRICA.					1			
Moroeco	<u></u>	165	267	201	228	555	1, 180	1, 151 15, 949
Algeria Tunis	13, 489	18,601	21, 564 4, 271	10, 743 3, 100	6, 855 1, 481	10, 334 4, 134	5, 570 792	2,756
	3,642	3, 996	4, 2/1	3, 100	1, 401	3, 101		
Total comparable with	17, 131	22, 597	25, 835	13, 843	8, 336	14, 468	6, 362	18, 705
Total compara- ble with 1923_		22, 762	26, 102	14, 044	8, 564	15, 023	6, 542	19, 856
ASIA. Cyprus Russia (Asiatic)	515 107, 687	371	407	210	240	255	264 36, 094	
Japanese Empire:	7 2, 202	3, 610	4, 730	2, 432	4, 184		5, 136	
Chosen	2, 202	3, 010	4,730	2, 402				
Total compar- able with 1909-1913 Total North- ern Hemis-	110, 404						41, 494	- <b></b>
phere, com- parable with 1909–1913 Total Northern	4, 360, 511						·	
Hemisphere, comparable with 1923					3, 390, 848	2, 908, 240		3, 573, 523
		SOUT	HERN H	EMISPH	ERE.			
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, 502	2, 893	3, 029	
Uruguay	3, 333 11 1, 284 54, 246	3, 697 75, 783	2, 020 1, 288 33, 762	1, 479 57, 113	2, 502	2, 069 32, 973	999	58, 560
Argentina	54, 246	75, 783	33, 762	57, 113	47, 619	32, 9/3	54, 666	98, 900
Union of South Af- rica 12	8 0 881	10 475	6. 389	4, 686	5, 909	5, 186		
Australia	8 9, 661 17, 768 17, 977	10, 475 12, 984	6, 389 13, 051	15, 695	23, 151	15, 184		
New Zealand	17, 977	6, 178	8,606	8, 710	6, 531	8, 441	7, 110	
Total compar- able with 1909-1913	104, 269	112, 294	65, 116	90, 273	88, 867	66, 746		
Total compara- ble with 1923. World total	54, 246	75, 783	33, 762	57, 113	47, 619	32, 973	54, 666	58, 560
comparable with 1909-1913 World total	4, 464, 780		ļ					
comparable with 1923						2, 941, 213		
				Official ac	here popular	Internatio	nal Institu	te of Agri-

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture 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 1909-1914 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.

Three-year average.

One year only.
Includes Bessarabia.

<sup>10</sup> Preliminary estimate of former Russian territory within 1923 boundaries.

<sup>11</sup> Four-year average.
12 Exclusive of production in native locations which produced 299,644 bushels in 1917-18 and 67,270 bushels in 1920-21.

Table 121.—Oats: World production, 1894-1923.

~	1	ı	[						
	Production in countries	Production	Estimated world totals	Thre	e selected cour	ntries.			
Year.	reporting all years 1894–1923.	as reported.	(prelimi- nary).	Russia.1	Germany.	France.			
1894	1,000 bushels. 1,885,275 2,039,081 1,868,604 1,810,951 2,045,803	1,000 bushels. 2, 872, 863 3, 026, 778 2, 894, 896 2, 680, 919 2, 995, 851	1,000 bushels. 3, 039, 717 3, 213, 431 3, 113, 148 2, 889, 281 3, 181, 262	1,000 bushels. 743, 953 717, 314 799, 833 663, 714 687, 534	1,000 bushels. 453, 328 430, 205 411, 259 393, 979 465, 317	1,000 bushels. 294, 344 305, 742 296, 205 253, 257 321, 562			
1899 1900 1901 1902 1903	2, 099, 348 2, 086, 228 1, 902, 240 2, 304, 423 2, 178, 550	3, 333, 003 3, 226, 625 2, 810, 028 3, 557, 569 3, 326, 743	3, 620, 889 3, 470, 581 2, 960, 683 3, 812, 029 3, 621, 951	995, 307 853, 697 624, 098 930, 679 799, 785	474, 174 488, 590 485, 711 514, 447 542, 427	307, 914 285, 313 254, 900 319, 691 344, 329			
1904	2, 162, 947 2, 248, 847 2, 374, 494 2, 264, 041 2, 165, 982	3, 561, 205 3, 474, 967 3, 430, 518 3, 526, 136 3, 729, 862	3, 832, 755 3, 752, 142 3, 713, 918 3, 775, 336 3, 783, 767	1, 124, 266 936, 665 714, 272 921, 175 959, 414	477, 847 451, 013 580, 869 630, 318 530, 126	290, 902 305, 736 295, 110 352, 712 327, 159			
1909	2, 520, 718 2, 257, 513	4, 530, 467 4, 252, 783 3, 964, 808 4, 738, 090 4, 781, 258	4, 546, 147 4, 257, 893 3, 978, 991 4, 756, 725 4, 798, 558	1, 163, 076 1, 064, 516 876, 013 1, 089, 365 1, 250, 590	628, 712 544, 287 530, 764 586, 987 669, 231	383, 139 331, 866 349, 247 355, 089 357, 049			
1914 1915 1916 1917 1918	2, 604, 450	4, 131, 958 4, 513, 559 3, 126, 676 3, 122, 116 3, 113, 316	4, 148, 447 4, 581, 429 4, 023, 526 3, 882, 136 3, 777, 336	<sup>2</sup> 914, 913 <sup>2</sup> 1, 022, 107	622, 674 412, 400 484, 007 3 249, 964 3 301, 839	318, 333 238, 551 277, 117 8 220, 336 8 180, 553			
1919	2, 006, 599 2, 437, 471 2, 000, 212 2, 106, 189 2, 422, 121	2, 772, 076 3, 606, 466 3, 089, 253 3, 684, 938 3, 632, 083	3, 283, 092 3, 836, 484 3, 323, 268 3, 709, 954 4, 142, 849		3 309, 587 3 332, 490 3 344, 812 3 284, 567 3 411, 676	\$ 179, 823 \$ 291, 406 \$ 244, 455 \$ 288, 264 \$ 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.

IIncludes 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 from 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 or Franscaucasia. Subsequently Asiatic Russia included 8 governments and provinces of Transcaucasia. Subsequently Asiatic Russia included 8 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.

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\*\*Permitted Report

New boundaries.

Table 122.—Oats: Monthly marketings by farmers, United States, 1917-1922.

V bad d	P	ercents	ge of y	ear's r	eceipts	as rep	orted	by abo	ut 3,50	0 mills	and el	evator	s.
Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Sea- son.
1917–18 1918–19 1919–20 1920–21 1921–22 1922–28	4. 7 8. 0 14. 4 8. 3 15. 1 8. 9	16. 4 19. 6 18. 4 18. 7 16. 5 15. 7	13. 5 11. 9 10. 1 13. 8 11. 8 11. 9	11. 1 9. 9 9. 2 9. 5 7. 9 10. 1	7. 7 7. 2 5. 8 5. 5 5. 3 7. 8	7. 8 6. 7 8. 3 5. 8 6. 1 8. 6	8.3 6.7 8.2 6.6 7.3 7.4	8. 0 4. 5 6. 6 6. 6 6. 9 7. 1	7. 1 5. 5 4. 9 6. 0 5. 6 6. 5	6. 5 6. 3 4. 3 4. 6 4. 3 4. 7	4. 0 7. 0 5. 2 6. 8 7. 2 5. 4	4. 9 6. 7 4. 6 7. 8 6. 0 5. 9	100. 0 100. 0 100. 0 100. 0 100. 0 100. 0

Table 123.—Oats: Farm stocks, shipments, and quality, United States, 1897-1923.

	011 -+ -1		Crop.			Stocks on	Shipped
Year.	Old stocks on farms Aug	Quantity.	Weight per bushel.2	Quality.3	Total supplies.	farms Mar. 1 following.	out of county where grown.1
1897-98 1898-99 1890-1960 1900-1 1901-2	59, 060 64, 420	1,000 bush. 791, 442 842, 747 925, 555 913, 800 778, 392	Pounds. 30. 5 29. 7 31. 3 31. 1 30. 7	Per cent. 87. 6 84. 5 89. 5 89. 2 83. 7	1,000 bush. 871, 595 894, 099 984, 615 978, 220 833, 520	1,000 bush. 309, 043 328, 684 338, 383 332, 364 241, 506	1,000 bush. 245, 469 233, 096 274, 146 288, 997 152, 962
1902–3 1903–4 1904–5 1905–6 1906–7	78, 598 46, 394 62, 872 77, 573	1, 053, 489 869, 350 1, 008, 931 1, 090, 236 1, 035, 576	31. 0 29. 7 31. 5 32. 7 32. 0	86. 7 79. 9 91. 4 92. 4 88. 2	1, 085, 938 947, 948 1, 055, 325 1, 153, 108 1, 113, 149	390, 872 304, 128 392, 861 437, 300 413, 480	286, 233 250, 192 300, 534 319, 871 229, 441
1907-8	40, 528	805, 108	29. 4	77. 0	878, 304	258, 104	221, 147
1908-9		850, 540	29. 8	81. 3	891, 068	294, 082	253, 929
1900-10		1, 068, 289	32. 7	91. 4	1, 095, 767	385, 705	343, 968
1910-11		1, 186, 341	32. 7	93. 8	1, 253, 007	442, 665	363, 103
1911-12		922, 298	31. 1	84. 6	990, 099	289, 989	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
1915-16	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
1919-20	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, 100	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

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.
1909-10	1,000 bush- els. 3,800 2,761 11,203 1,031 17,131	12, 551 20, 742 4, 160	18, 802 21, 044 9, 260	17, 022 22, 600 10, 552	15, 505 20, 315 10, 774	16, 129 18, 754 8, 457	15, 997 15, 431 9, 646	15, 769 14, 366 12, 343	13, 129 13, 429 13, 115	10, 559 11, 991 8, 704	8, 125 8, 052 8, 105	9,570 3,690 14,756
Av. 1909-1913	<u> </u>						14, 857		<u> </u>			
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920.	6, 482 1, 309 8, 537 6, 679 7, 876 20, 481 3, 786 7, 879	2, 924 27, 691 7, 277 19, 309 19, 411		15, 730 45, 580 17, 453 22, 050 19, 196 34, 414	20, 928 47, 467 18, 595 29, 143 16, 922 33, 961	21, 081 48, 823 17, 657 34, 828 13, 080 32, 194	20, 175 42, 675 13, 879 30, 505 11, 550 33, 632	20, 265 36, 740 13, 947 27, 666 10, 401 34, 142	17, 892 34, 191 18, 098 22, 882 9, 576	12, 096 28, 933 21, 911 21, 507 6, 813 30, 740	16, 192 17, 454 20, 822 15, 827 8, 642 28, 426	12, 452 9, 741 13, 227 18, 094 3, 623 34, 401
1921–22 1922–23 1923–24	37, 562 36, 667 5, 477	60, 455 38, 355 10, 111	35, 968	69, 998 34, 077 20, 488	32, 940			68, 529	64, 644 24, 044	55, 837	47, 950	42, 743

Compiled from the Chicago Daily Trade Bulletin. Division of Statistical and Historical Research. Reported on the Saturday nearest the first of each month.

<sup>Based on percentage of crop as reported by crop reporters.
Average weight per measured bushel as reported by crop reporters.
Per cent of a "high medium grade" as reported by crop reporters.
Preliminary.</sup> 

Table 125.—Oats: Receipts and shipments, 11 primary markets, 1909-1922.

TABLE 12.	o.— <i>Ua</i>	us: at	есегри	s ana	surpr	neuis,	II p	rımarı	y mar	wets,	1909-	1000.
Voor beginning	Chic	eago.	Milwa	ukee.	Minne	apolis.	Dul	uth.	St. L	ouis.	Tole	edo.
Year beginning Aug. 1.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.
	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.	1,000 bush- els.
1909-10 1910-11	85, 999	72, 501 89, 705	9, 496 14, 844	7, 433 14, 873	15, 599 18, 419	14, 531 13, 845	7,806	7, 432 2, 824	20, 048 20, 517	14, 765 15, 323	3, 670 3, 700	3, 162 3, 435
1911-12	87, 623	70, 090	10.863	8, 194	10, 555	10, 043	2, 434 4, 529	4, 639	16, 879 23, 785	11, 280 16, 592	2,872	2,611
1911–12 1912–13 1913–14	117, 103	116, 275	16, 252 18, 434	20, 180 17, 172	19, 081 22, 995	16, 397	9, 350	8, 351	23, 785	16, 592	3, 637	4, 365
1913-14 Av. 1909-1913_		98, 141 89, 342	13, 978	13, 570	17, 320	24, 272 15, 818	5, 795 5, 983	6, 761	25, 967 21, 439	$\frac{19,497}{15,491}$	3, 655 3, 507	$\frac{2,819}{3,278}$
1014-15	143 813	130 038	29, 962	$\frac{13,370}{31,179}$	23, 042	23, 147	9, 005	8, 325	$\frac{21,419}{21,419}$	16, 240	6,066	5, 089
1915-16 1916-17 1917-18 1918-19	151, 1 <b>68</b>	122, 280	35 252	34, 389	45, 778	45, 024	4,844	4, 528	17, 518	11,636	4, 707	3, 501
1916-17	145, 075	108, 152	32, 707 31, 766	28, 649 20, 128	31, 322 42, 017	23, 075 42, 181	3, 184 766	, 493 680	24, 616 37, 431	18, 940 32, 129	4, 926 5, 303	2, 642 3, 194
1918-19	115, 714	83, 719	31, 766 34, 727	30, 548	37, 031	33, 019	2,663	2. 3781	30 812	23.836	1 - 9.0101	8 820
1919–20 1920–21	82, 141	00. 192	26, 572	17, 766	17, 054	19,033	1,035	1,084	<b>3</b> 1, 391	22, 772 21, 387	3, 221	1,601
		54, 598	19, 065	13, 297	26, 003 31, 750	14,600 28,583	6, 241	$\frac{455}{2,992}$	30, 103 27, 613	20, 991	5, 848	$\frac{2,339}{3,884}$
Av. 1914–1920 1921–22	77,828	$\frac{92,458}{63,418}$	30, 007 23, 241	25, 137	31, 750	28, 583	3, 963 6, 065	10, 129		20, 160		2,348
1922-23	84, 451	65, 055	21, 057	17, 869 17, 162	24, 870	38, 320	1, 372	2, 130	25, 949 32, 220	26, 664	3, 786	2, 230
1922 August	10, 533	7 759	1, 569	1,061	4 006	2, 727	207	459	2, 580	2,368	398	74
September	9.493	7, 759 6, 907	1,833	1, 290	4, 006 3, 733	3, 973	417	232	1, 760	1, 309	230	87
October	9, 235 8, 200	5 045	2, 236 1, 936	1 1 540	3, 421 2, 203	4, 307 3, 013	175 79	131 280	2, 810 2, 986	2, 001 2, 403	390 242	$\frac{249}{122}$
November	8, 435	4, 847	2, 121	1,902	2, 430	3, 809	4	19	2,636	1,656		24
1923	,		ŕ	,								
January	6, 447	5, 389	1, 945	1,843	2, 298 1, 467	3, 208 2, 242	26 53	19 41	4, 058 1, 908	3, 141 1, 906	130 167	59 C?
March	5, 677 6, 367	4, 404 6, 167	1, 947 1, 690	1, 413 1, 465	1, 697	2, 437	32	39	2, 926	2, 426	247	224
April	4, 737	4, 109	1. 251	1, 439	1, 284 730	3, 080	17	6	2,824	2,818	193	572
February March April May June	4, 696 4, 477	5, 107 4, 465	1, 132 1, 623	1, 501 996	730 930	3, 167 3, 359	37 41	318	2,532 2,748	2, 079 2, 283	238 370	117 253
July	6, 154	3, 564	1, 774	1, 145	671	2, 998		582	2, 452	2, 274	439	
	Det	roit.	Kansa	s City.	Pec	ria.	Om	aha.	Indiar	apolis.	То	tal.
Vear heginning	Det			·			ļ	1		1	<del> </del>	
Year beginning Aug. 1.	Re-	roit. Ship- ments.	Kansa Re- ceipts.	Ship-	Re- ceipts.	Ship-	Om Re- ceipts.	Ship-	Re-	Ship- ments.	Re-	Ship-
	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.
	Receipts.	Ship- ments. 1,000 bush-	Receipts.	Shipments.	Receipts.	Ship-ments.	Receipts.	Ship-ments.  1,000 bush-	Receipts.	Ship- ments. 1,000 bush-	Receipts.	Ship-ments.  1,000 bush-
Aug. 1.	Re- ceipts. 1,000 bush- els.	Ship-ments.  1,000 bush-	Receipts.	Shipments.  1,000 bush- els. 4.508	Receipts.  1,000 bush- els. 10,875	Ship-ments.  1,000 bush-els. 11,705	Receipts.	Shipments.  1,000 bush- els.	Receipts.  1,000 bush-els.	Ship-ments.  1,000 bush-els. (1)	Receipts.  1,000 bush-els.	Ship-ments.  1,000 bush-els.
Aug. 1.	Re- ceipts. 1,000 bush- els. 2,488 3,073	Ship-ments.  1,000 bush-els. 383 265	Re- ceipts. 1,000 bush- els. 5,165	Ship-ments.  1,000 bush- els. 4,508	Re- ceipts. 1,000 bush- els. 10,875	Ship-ments.  1,000 bush-els. 11,705 10,895	Re-ceipts.  1,000 busk-els. (1) (1)	Shipments.  1,000 bush- els. (1) (1)	Receipts.  1,000 bush-els.	Ship-ments.  1,000 bush-els. (1) (1)	Re- ceipts. 1,000 bush- els. 161, 146 187, 299	Ship- ments. 1,000 bush- els. 136,420 155,231
Aug. 1.  1909-10	Re- ceipts. 1,000 bush- els. 2,488 3,073 2,752	Ship-ments.  1,000 bush- els. 383 265 348	Re- ceipts. 1,000 bush- els. 5,165	Ship-ments.  1,000 bush- els. 4,508	Re- ceipts. 1,000 bush- els. 10,875 10,130 6,658	Ship-ments.  1,000 bush-els. 11,705 10,895 8,737	Re- ceipts. 1,000 bush- els. (1) (1) 8,868	Ship-ments.  1,000 bush- els. (1) (1) 9,258	Re- ceipts. 1,000 bush- els. (1) (1)	Ship-ments.  1,000 bush-els. (1) (1) 394	Receipts.  1,000 bushels. 161,146 187,299 158,593	Ship- ments. 1,000 bush- els. 136,420 155,231 130,665
Aug. 1.	Re- ceipts. 1,000 bush- els. 2,488 3,073 2,752	Ship-ments.  1,000 bush- els. 383 265 348	Re- ceipts.  1,000 bush- els. 5,165 6,280 6,018 7,704	Ship-ments.  1,000 bush- els. 4,508	Re- ceipts. 1,000 bush- els. 10,875 10,130 6,658	Ship-ments.  1,000 bush-els. 11,705 10,895 8,737	Receipts.  1,000 bush- els. (1) (1) 8,868 14,958	Ship-ments.  1,000 bush-els. (1) (1) 9, 258 14, 802	Re- ceipts. 1,000 bush- els. (1) (1)	Ship-ments.  1,000 bush-els. (1) (1) 394	Re- ceipts. 1,000 bush- els. 161, 146 187, 299	Ship- ments. 1,000 bush- els. 136,420 155,231 130,665
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807	Ship-ments.  1,000 bush- els. 383 265 348 514	Re- ceipts. 1,000 bush- els. 5,165	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032	Re- ceipts. 1,000 bush- els. 10,875 10,130 6,658	Ship-ments.  1,000 bush-els. 11,705 10,895 8,737 13,188 13,804	Receipts.  1,000 bush- els. (1) (1) 8,868 14,958 15,977	Ship-ments.  1,000 bush-els. (1) (1) 9, 258 14, 802	Re- ceipts. 1,000 bush- els. (1) (1) 976 8,136	Ship-ments.  1,000 bush-els. (1) (1) 394 2,876 1,808	Receipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 214, 530 171, 582
Aug. 1.  1909-10	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028	Ship-ments.  1,000 bush-els. 383 265 348 514 649 432	Re- ceipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338	Shipments.  1,000 bushels. 4,508 4,066 5,071 7,523 11,032 6,440 6,107	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189	Ship-ments.  1,000 bush-els. 11,705 10,895 8,737 13,188 13,804 11,666	Receipts.  1,000 bushels. (1) (1) 8,868 14,958 15,977	Ship-ments.  1,000 bush-els. (1) (1) 9,258 14,802 18,575	Re-ceipts.  1,000 bush-els. (1) 976 8,136 5,392	Ship-ments.  1,000 bush-els. (1) 394 2,876 1,808	Receipts.  1,000 bush- els. 161, 146 187, 299 158, 593 234, 938 231, 237 194, 643	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 214, 530 171, 582 252, 139
Aug. 1.  1909-10	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028	Ship-ments.  1,000 bush-els. 383 265 348 514 649 432 1,123 2,292	Re- ceipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882	Shipments.  1,000 bushels. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364	Shipments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,720 11,838	Receipts.  1,000 bush-els. (1) (1) 8,868 14,958 15,977	Shipments.  1,000 bush- els. (1) (1) 9,258 14,802 18,575 13,916	Re- ceipts.  1,000 bush- els. (1) (1) (2) (1) (3) (4) (5,392 (5,828 (13,797	Shipments.  1,000 bush-els. (1) (1) 394 2,876 1,808	Re-ceipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643	Ship- ments. 1,000 bush- els. 136, 420 155, 231 130, 665 221, 663 214, 530 171, 582 252, 139 257, 708
Aug. 1.  1909-10	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677	Shipments.  1,000 bush-els. 383 2055 348 514 649 432 1,123 2,292 934	Re- ceipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882 10,059	Shipments.  1,000 bush-els. 4,506 5,071 7,523 11,032 6,440 6,107 2,582	Re- eeipts.  1,000 bush- els. 10, 175 6,658 11,447 12,152 10,252 11,189 11,364 13,562	Shipments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,726 11,838	Re-ceipts.  1,000 bush-els. (1) 8,868 14,958 15,977 13,648 11,421 18,216	Shipments.  1,000 bush-els. (1) 9,258 14,802 18,575 13,916 10,961 17,392	Re- ceipts.  1,000 bush-els. (1) 976 8,136 5,392 5,828 13,797 14,895	Shipments.  1,000 bush-els. (1) (1) 394 2,876 1,808	Re-ceipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643	Ship-ments.  1,000 bush-els. 136,420 155,231 130,665 221,063 214,530 171,582 252,139 257,708
Aug. 1.  1909-10	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677	Shipments.  1,000 bush- els. 383 265 348 514 649 432 1,123 2,292 934 6,756	Re- ceipts.  1,000 bush-els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882 10,059 18,344 16,688	Shipments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,130 12,820 11,343	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 13,562 20,170 8,535	Shipments.  1,000 bush-els. 11,705 10,895 8,737 13,188 13,804 11,666 11,726 11,838 11,046 17,541 8,212 8,212	Re-ceipts.  1,000 bush-els. (1) 8,866 14,958 15,977 13,648 11,421 23,673 20,661	Shipments.  1,000 bush-els. (1) 9,258 14,802 18,575	Re- ceipts. 1,000 bush- els. (1) 976 8,136 5,392 	Shipments.  1,000 bush-els. (1) 394 2,876 1,808 4,349 8,677 10,891 13,709 4,516	Receipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643 275,338 305,904 302,473 337,279 298,840	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 214, 530 171, 582 252, 139 257, 708 235, 347 251, 661 228, 706
Aug. 1.  1909-10 1910-11 1910-12 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20	Re- ceipts.  1,000 bush- els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418	Ship-ments.  1,000 bush-els. 383 265 3488 514 649 432 1,123 2,299 934 607 1,756	Receipts.  1,000 bush-els. 5,165 6,280 6,018 7,704 11,325 7,338 4,882 10,059 18,344 16,688 7,615	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,130 11,343 5,186	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 13,562 20,170 8,535 10,636	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,720 11,838 11,048 11,541 8,212 13,099	Receipts.  1,000 bush-els. (1) (1) (8) 8,868 14,958 15,977  13,648 11,421 18,216 23,675 20,661 13,018	Ship-ments.  1,000 bush-els. (1) (1) 9, 258 14, 802 18, 575  13, 916 10, 961 17, 392 21, 945 20, 559 12, 110	Re- ceipts. 1,000 bush- els. (1) 976 8,136 5,392 5,828 13,797 14,895 19,822 14,820 13,982	Shipments.  1,000 bush-els. (1) 394 2,876 1,808	Receipts.  1,000 bushels, 161,146 187,299 158,593 234,938 231,237 194,643 275,338 305,904 302,473 337,279 5298,840	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 214, 530 171, 582 257, 708 235, 347 251, 661 228, 706 158, 008
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418 3,345	Ship-ments.  1,000 bush-els. 383 265 3488 514 649 432 1,123 2,292 934 607 1,756 551 750	Receipts.  1,000 bush-els. 5,165 6,280 6,018 7,704 11,325 7,338 4,882 10,059 18,344 16,6815 7,137	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,136 11,343 5,188 5,182	Receipts.  1,000 bush-els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 13,562 20,170 8,533 10,636 9,176	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,726 11,838 11,048 11,541 8,212 13,096 7,906	Receipts.  1,000 bush-els. (1) (1) (8) 8,868 14,958 15,977  13,648 11,421 18,216 23,676 20,661 13,018 11,322	Ship-ments.  1,000 bush-els. (1) (1) (9,258 14,802 18,575	Receipts.  1,000 bush-els. (1) (1) 976 8,136 5,392  5,828 13,797 14,895 19,822 14,820 13,968 16,508	Ship-ments.  1,000 bush-els. (1) (1) (394 2,876 1,808 4,348 8,677 10,891 13,705 4,516 4,022 6,096	Receipts.  1,000 bush-els. 161,146 187,299 158,503 234,938 231,237 194,643 275,338 305,904 302,473 337,279 239,840 329,907 213,080	Ship- ments.  1,000 bush- els. 136, 4231 130, 665 221, 063 2214, 530 171, 582 252, 139 257, 708 235, 347 251, 661 228, 706 158, 008 134, 986
Aug. 1.  1909-10	Re- ceipts.  1, 000 bush-els. 2, 483 3, 073 3, 535 3, 807 3, 131 4, 028 5, 173 3, 911 3, 677 8, 179 2, 418 3, 345 4, 390	Ship-ments.  1,000 bush-els. 383 265 348 514 649 432 1,123 2,292 934 607 1,756 5750 1,145	Receipts.  1,000 bush-els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882 10,059 18,344 16,688 7,615 7,137	Ship-ments.  1,000 bush-els. 4,508 5,071 7,523 11,032 6,440 6,107 2,582 10,138 12,826 11,343 5,188 5,132 7,614	Re- eeipts.  1,000 bush- els. 10, 875 10, 130 6, 658 11, 447 12, 152 10, 252 11, 189 11, 364 13, 562 20, 170 8, 533 10, 638 9, 176 12, 090	Ship-ments.  1,000 bush-els. 11,705 10,895 8,737 13,188 13,804 11,666 11,726 11,838 11,048 17,541 8,212 13,096 7,996 11,624	Re-ceipts.  1,000 bush-els. (1) (1) 8,868 14,988 15,977	Shipments.  1,000 bush-els. (1) 9,258 14,802 18,575  13,916 10,961 17,392 21,945 20,559 12,110 8,423 15,044	Receipts.  1,000 bush-els. (1) (1) 976 8,136 5,392  5,828 13,797 14,895 19,822 14,820 13,968 16,500 14,234	Ship-ments.  1,000 bush-els. (1) (1) (394 2,876 1,808 4,348 8,677 10,891 13,705 4,516 4,022 6,098 7,466	Re-ceipts.  1,000 bush-els. 161,146 187, 299 158, 593 234, 938 231, 237 194, 643 275, 338 205, 904 3337, 279 298, 840 213, 080 277, 426	Ship-ments.  1,000 bush-els. 136, 420 155, 221, 063 221, 063 214, 530 171, 582 252, 139 257, 708 235, 347 251, 661 128, 706 118, 008 134, 986 216, 936
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23	Re- ceipts.  1, 000 bush- ets. 2, 483 3, 075 3, 535 3, 807 3, 131 4, 028 5, 173 3, 911 3, 677 8, 179 2, 418 3, 348 4, 390 2, 285	Ship-ments.  1,000 bush-els. 383 205 348 514 649 432 2,292 934 607 1,756 551 756 1,145	Re- eeipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882 10,059 18,344 16,688 7,615 7,127 10,295 7,262	Shipments.  1,000 bushels. 4,5084,06665,0717,523 11,032 6,440 6,107 2,582 10,130 11,343 5,180 5,132 7,614	Re- eeipts.  1,000 bush- els. 10, 875 10, 190 6, 658 11, 447 12, 152 10, 252 11, 189 11, 364 13, 562 20, 170 8, 535 10, 638 9, 176 12, 090 14, 210	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,722 11,838 11,046 17,541 8,212 13,096 7,900 11,622	Receipts.  1,000 bushels. (1) (1) 8,868 14,988 15,977 13,648 11,421 18,216 23,672 20,661 13,018 10,222 15,837	Shipments.  1,000 bush-els. (1) (1) 9,258 14,802 18,575	Re-ceipts.  1,000 bush-els. (1) (1) (2) 8,136 5,392 5,828 13,797 14,895 13,968 16,509 14,234 13,052	Ship-ments.  1,000 bush-els. (1) (1) 394 2,876 1,808 4,348 8,677 10,881 13,700 4,516 4,023 6,099 7,466 6,247	Receipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643 275,338 305,904 302,473 337,279 298,840 209,070 213,080 277,426	Ship- ments.  1,000 bush- els. 136, 420 155, 221, 063 221, 063 221, 530 171, 582 252, 139 257, 708 235, 347 251, 661 228, 706 158, 008 134, 986
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913 1914-15 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23	Receipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418 3,345 4,390 2,285 3,444	Ship-ments.  1,000 bush-els. 383 2655 348 514 549 432 1,123 2,292 934 607 1,756 551 750 1,145	Re- eeipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882 10,059 18,344 16,688 7,615 7,137 10,295 7,262 10,568	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,136 12,826 11,343 5,186 5,132 7,614 5,043 6,147	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 13,562 20,170 8,535 10,636 9,176 12,090 14,210 15,555	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,726 11,838 11,048 17,541 8,212 13,096 7,906 11,622 12,254	Receipts.  1,000 bush-els. (1) 8,868 14,958 15,977 13,648 11,421 23,672 20,661 13,018 10,222 15,831 10,666 14,777	Ship-ments.   1,000   bush-els.   (1)   9,258   14,802   18,575     13,916   10,961   17,392   12,1945   20,559   12,110   8,423   15,044     9,768   16,174	Re- ceipts.  1,000 bush- els. (1) 976 8,136 5,392  5,828 13,797 14,895 19,822 14,823 13,968 16,500 14,234 13,052 10,585	Ship-ments.  1,000 bush-els. (1) (1) 394 2,876 1,808 8,677 10,899 13,705 4,516 4,022 6,090 7,466 6,247 3,471	Receipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643 275,338 305,904 302,473 337,279 298,840 3213,080 277,426 213,080	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 566 221, 560 257, 708 235, 347 257, 708 235, 347 251, 661 228, 706 158, 008 134, 986 216, 936 175, 826
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 August	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 4,028 4,390 2,285 3,444 316 316	Ship-ments.  1,000 bush-els. 383 265 3488 514 649 432 2,292 934 607 1,756 5515 756 1,145 330 322	Re- eeipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 4,882 10,059 18,344 16,688 7,615 7,137 10,295 7,262 10,568	Ship-ments.  1,000 bush-els. 4,5098 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,138 12,826 11,343 5,188 5,182 7,614 5,043 6,147	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,362 20,170 8,533 10,636 9,176 12,090 14,210 15,555	Ship-ments.  1,000 bush-els. 11,705 10,895 8,737 13,188 13,804 11,666 11,726 11,835 11,835 11,835 11,646 17,541 8,212 13,096 11,624 15,147 1,076	Receipts.  1,000 bush-els. (1) (1) (8,868 14,988 15,977  13,648 11,421 23,673 20,661 13,018 10,222 15,833 10,666 14,773	Ship-ments.  1,000 bush-els. (1) (1) (2) (1) (2) (3) (4) (4) (5) (5) (1) (6) (7) (7) (8) (8) (8) (1) (9) (1) (17) (17) (19) (19) (19) (19) (19) (19) (19) (19	Re-ceipts.  1,000 bush-els. (1) (2) (3) (4) (5,392	Ship-ments.  1,000 bush-els. (1) (1) (2) 876 1,808  8,677 10,891 13,706 4,022 6,099 7,466 6,247 3,471 3,471 3,471 3,471	Receipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643 275,338 205,904 3302,473 337,279 298,840 213,080 277,426 217,468 222,680 224,482	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 221, 530 257, 708 235, 347 251, 631 128, 706 175, 826 192, 826 192, 826 175, 826 192, 826 175, 502 16, 792
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 1922-23 August September October	Re- ceipts.  1, 000 bush- els. 2, 488 3, 073 2, 752 3, 535 3, 807 3, 131 4, 028 5, 173 3, 911 3, 677 8, 179 2, 418 3, 345 4, 390 2, 285 3, 444	Ship-ments.  1,000 bush-els. 383 265 348 514 649 432 1,123 934 607 1,756 551 756 1,145 336 326	Re- eipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882 10,059 18,344 16,688 7,137 10,295 7,262 10,568	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,138 12,826 11,343 5,182 5,184 5,182 7,614 5,043 6,147	Re- eeipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 13,562 20,170 8,535 10,636 9,176 12,090 14,210 15,555 1,379 1,245 1,762	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,766 11,726 11,838 11,049 12,254 15,147 1,076 1,388 1,389	Receipts.  1,000 bush-els. (1) (1) 8,868 14,988 15,977  13,648 11,421 23,672 20,661 13,018 10,222 15,837 10,666 14,772	Ship-ments.  1,000 bush-els. (1) 9,258 14,802 18,575  13,916 10,961 17,392 21,945 20,559 12,110 8,423 15,044 9,768 16,174 1,322 1,322 1,088	Re-ceipts.  1,000 bush-ets. (1) (2) (3) (4) (5,392  5,828 13,797 14,895 14,820 14,234 13,052 10,585 1,586 936 988	Ship-ments.  1,000 bush-els. (1) 394 2,876 1,808  4,348 8,677 10,891 13,706 4,516 4,023 6,099 7,466 6,247 3,471 232 322 268	Receipts.  1,000 bush-els. 161,146 187,299 158,593 234,938 231,237 194,643 275,338 305,904 302,473 337,279 5298,840 209,070 213,080 6277,426 222,680	Ship-ments.   1,000   bush-els.   136, 420   155, 231   130, 665   221, 063   214, 530   171, 582   252, 139   257, 708   235, 347   251, 661   228, 706   158, 008   134, 986   175, 826   192, 826   17, 502   16, 792   16, 615   16, 6
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 1922 August September October November	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418 3,345 4,390 2,285 3,444 316 302	Ship-ments.  1,000 bush-els. 3883 265 3484 5144 649 432 1,123 2,292 1,756 551 756 1,145 3326 44 44 46 42 44	Re- eeipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,238 4,882 10,059 18,344 16,688 7,615 7,137 10,295 7,262 10,568 6506 1,488	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,183 12,826 11,343 5,186 5,182 7,614 5,043 6,147 377 306 406	Re- eeipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 20,170 8,533 10,636 9,176 12,090 14,210 15,555 1,379 1,244 -1,762	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,894 11,662 11,722 11,838 11,754 18,212 13,096 7,906 11,624 12,254 15,141 1,076 1,388 2,1,559	Receipts.  1,000 bush-els. (1) (1) (8) 8,868 14,988 15,977 13,648 11,421 23,677 20,661 13,018 10,222 15,837 10,666 14,772 1,744 1,744 1,744 1,744 1,744 1,744 1,744	Ship-ments.  1,000 bush-els. (1) 9,258 14,802 18,575  13,916 10,961 17,392 21,945 20,559 12,110 8,423 15,044 9,768 16,174 1,322 1,322 1,088	Re-ceipts.  1,000 bush-ets. (1) (2) (3) (4) (5,392  5,828 13,797 14,895 14,820 14,234 13,052 10,585 1,586 936 988	Ship-ments.  1,000 bush-els. (1) (1) (2) 394 2,876 1,808 8,677 10,899 13,709 4,516 4,022 6,099 7,466 6,244 3,471 233 228 268	Receipts.  1,000 bush-els. 161,146 187,299 1158,593 234,938 231,237 194,643 275,338 305,904 337,279 298,840 209,070 213,080 277,426 2122,680 24,482 21,710 3 23,403 3 21,648	Ship-ments.  1,000 bush-els. 136, 420 155, 231 136, 665 221, 063 214, 530 217, 530 257, 708 223, 347 251, 661 228, 706 1158, 008 134, 986 216, 936 192, 826 17, 502 16, 792 16, 615 18, 293
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 1922 August September October November December 1923	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 8,179 2,418 3,345 4,390 2,285 3,444 316 302 270 270 354 356	Ship-ments.  1,000 bush-els. 383 265 348 514 649 432 1,123 934 607 1,756 515 551 750 1,148 336 326 49 46 42 41	Re- eeipts.  1,000 bush- els. 5,165 6, 280 6,018 7,704 11,325 7,298 7,338 4,382 10,059 18,344 16,688 7,613 7,137 10,295 7,262 10,568 656 599 7833 1,468 1,043	Ship-ments.  1,000 bush-els. 4,5098 4,066 5,071 7,523 11,032 6,440 6,100 2,582 10,136 11,843 5,186 5,132 7,614 5,042 6,147	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 13,562 20,170 8,533 10,636 9,176 12,099 14,210 15,555 1,379 1,245 1,762 1,590 1,457	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,726 11,838 11,048 17,541 8,212 13,096 7,906 11,622 12,254 15,147 1,076 1,388 1,555 1,607 1,374	Receipts.  1,000 bush-els. (1) (1) (8,866 14,956 15,977 13,648 11,421 18,216 23,676 20,666 13,018 10,225 15,833 10,666 14,773	Ship-ments.  1,000 bush-els. (1) (1) 9,258 14,802 18,575  13,916 10,961 17,392 20,598 12,110 8,423 1,5044 9,768 16,174 31,322 932 1,068 1,308 1,221	Re-ceipts.  1,000 bush-els. (1) (1) 976 8,136 5,392  5,828 13,797 14,895 19,822 14,822 14,822 14,822 15,968 16,506 14,234 13,052 10,588	Ship-ments.  1,000 bush-els. (1) (1) 394 2,876 1,808 4,348 8,677 10,899 13,706 4,022 6,099 7,466 6,247 3,471 322 266 5 218	Receipts.  1,000 bush-els. 161,148 187,299 158,593 234,938 231,237 194,643 275,338 305,904 302,473,337,279 213,080 5277,426 227,468 222,680	Shipments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 214, 530 171, 582 252, 139 257, 708 235, 347 251, 661 228, 706 158, 008 134, 986 216, 936 175, 826 192, 826 17, 502 16, 792 16, 615 3, 18, 293 15, 514
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 1922 August September October November December 1923	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 8,179 2,418 3,345 4,390 2,285 3,444 316 302 270 270 354 356	Ship-ments.  1,000 bush-els. 3883 265 3484 5144 649 432 1,123 2,292 1,756 551 756 1,145 330 326 46 46 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Re- eipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,298 7,338 4,882 10,059 18,344 16,688 7,615 7,137 10,295 10,568 1,468 1,043 1,163	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,522 11,032 6,440 6,107 2,582 10,183 11,843 5,182 7,614 5,184 6,147 375 305 400 488 488	Re- eeipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 20,170 8,533 10,636 9,176 12,090 14,210 15,555 1,379 1,244 -1,762 1,590 1,457	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,804 11,666 11,726 11,838 11,048 17,541 8,212 13,096 7,906 11,622 12,254 15,147 1,076 1,388 1,555 1,607 1,374	Receipts.  1,000 bush-els. (1) (1) (8,866 14,956 15,977 13,648 11,421 18,216 23,676 20,661 13,018 10,225 15,833 10,666 14,773	Ship-ments.  1,000 bush-els. (1) (1) (2) (3) (4) (4) (5) (5) (1) (6) (6) (7) (8) (8) (8) (8) (8) (8) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Re-ceipts.  1,000 bush-els. (1) (2) (3) (4) (5,392	Ship-ments.  1,000 bush-els. (1) (1) 394 2,876 1,808 8,677 10,899 13,706 4,516 4,022 6,099 7,466 6,244 3,471 233 322 268 218 218 2190	Receipts.  1,000 bush-els. 161,148 187,299 158,593 234,938 231,237 194,643 275,338 305,904 302,473,337,279 213,080 5277,426 227,468 222,680	Ship-ments.  1,000 bush-els 136, 420 155, 231 130, 665 221, 063 214, 530 171, 582 252, 139 257, 708 235, 347 251, 661 228, 706 158, 008 134, 986 216, 936 175, 826 175, 826 175, 826 175, 502 16, 615 3, 18, 293 3, 15, 514
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 August September October November December 1923 January February	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418 3,345 4,390 2,285 3,444 356 356 433 240	Ship-ments.  1,000 bush-els. 383 265 3488 5144 6499 432 1,123 2,292 934 607 1,756 551 750 1,145 3330 46 46 32 41 12	Re- eeipts.  1,000 bush- els. 5,165. 6,280 6,018 7,704 11,325 7,338 4,882 10,059 18,344 16,688 7,615 7,137 10,295 7,262 10,568 1,043 1,168 861 1,163 861	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,446 6,107 2,582 10,138 12,826 11,348 5,182 7,614 5,043 6,147	Re- eeipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 11,189 11,364 13,562 20,170 8,535 10,638 9,176 12,090 14,210 15,555 1,379 1,457 1,457	Ship-ments.  1,000 bush-els. 11,708,895 8,737 13,188 13,804 11,666 11,726 11,838 11,046 17,541 8,212 13,096 7,906 11,622 15,147 1,383 1,583 1,593 1,607 1,374	Receipts.  1,000 bush-els. (1) (1) (2) (1) (2) (3) (4) (4) (4) (5) (5) (7) (7) (7) (8) (8) (14) (7) (13) (14) (14) (15) (15) (16) (16) (17) (17) (17) (17) (17) (17) (17) (17	Ship-ments.  1,000 bush-els. (1) (1) 9, 258 14, 802 18, 575  13, 916 10, 961 17, 392 21, 945 20, 559 12, 110 8, 423 1, 504 48 1, 308 1, 221 1, 668 1, 1, 668 1, 1, 664 1, 748 1,	Re- eeipts.  1,000 bush- els. (1) (1) 976 8,136 5,392  5,828 13,797 14,899 19,822 14,922 13,969 16,506 14,234 13,055 1,586 936 983 983 1,308 1,308	Ship-ments.  1,000 bush-els. (1) (1) 3944 2,876 1,808	Receipts.  1,000 bush-els. 161,146 187,299 158,503 234,938 3234,938 3231,237 194,643 327,538 305,904 300,473 337,279 213,080 5277,426 5277,426 5277,426 527,42	Ship-ments.  1,000 bush-els. 136, 420 155, 231 136, 625 221, 663 214, 530 257, 708 235, 347 251, 661 228, 706 134, 986 216, 336 1192, 826 16, 792 16, 615 3 18, 293 3 15, 514 18, 075 12, 899
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 August September October November December 1923 January February	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418 3,345 4,390 2,285 3,444 356 356 433 240	Ship-ments.  1,000 bush-els. 3883 265 3488 514 649 432 1,123 2,292 934 607 1,756 1,145 330 322 46 42 41 41 41 42 52 61 66 61	Re- eeipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,338 4,882 10,059 18,344 16,688 7,615 7,137 10,295 7,262 10,568 1,468 1,043 2,1,163 861 936 1,504	Ship-ments.  1,000 bush-els. 4,5098 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,130 11,832 7,614 5,183 7,614 375 305 406 408 488 466 658 668 668	Re- eeipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,188 11,364 13,562 20,170 8,535 10,636 9,176 12,090 14,210 15,555 1,744 1,762 1,762 1,457 1,786 1,457 1,447 1,762 1,457 1,448 1,488 1,488 1,488	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,894 11,666 11,722 11,838 11,049 11,641 17,541 8,212 13,099 7,900 11,624 12,254 15,143 15,147 1,076 1,388 21,555 1,600 1,374 1,765 1,489 1,122 1,765 1,499 1,122	Receipts.  1,000 bush-els. (1) (1) (2) (1) (2) (3) (4) (4) (5) (5) (1) (6) (1) (4) (5) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (8) (8) (9) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Ship-ments.  1,000 bush-els. (1) (1) (2) (1) (2) (3) (1) (2) (4) (4) (5) (5) (6) (7) (7) (8) (8) (8) (8) (8) (8) (9) (8) (8) (9) (8) (8) (9) (8) (8) (9) (8) (9) (8) (9) (8) (9) (8) (9) (8) (9) (8) (9) (9) (9) (9) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Re- ceipts.  1,000 bush- els. (1) (2) (3) (4) (5,392	Ship-ments.  1,000 bush-els. (1) (1) (3) 4,344 8,677 10,891 13,700 4,516 4,022 6,099 7,466 6,247 3,471 3,471 3,226 268 218 199 313 322 455 434 524 5318	Receipts.  1,000 bush-els. 161,146 187,299 158,503 234,938 231,237 194,643 275,338 305,904 3302,473 337,279 298,840 309,970 213,080 277,488 222,688 222,688 224,648 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,747 21,488 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 214, 530 217, 582 252, 139 257, 708 235, 347 251, 661 175, 826 192, 826 175, 826 192, 826 175, 528 18, 293 17, 502 18, 075 12, 899 17, 246 16, 16, 15 18, 075 12, 899 17, 246 16, 16, 16, 16, 16, 16, 16, 16, 16, 16,
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 1922 1922-23 1923 1923 1923	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418 3,345 4,390 2,285 3,444 356 356 433 240	Ship-ments.  1,000 bush-els. 3883 265 3488 514 649 432 1,123 2,292 934 607 1,756 1,145 330 322 46 42 41 41 41 42 52 61 66 61	Re- eeipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,338 4,882 10,059 18,344 16,688 7,615 7,137 10,295 7,262 10,568 1,468 1,043 2,1,163 861 936 1,504	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,523 11,032 6,440 6,107 2,582 10,138 12,826 11,343 5,186 5,132 7,614 5,043 6,147 375 305 486 486 658 618 676 672	Re- ceipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 10,252 11,189 11,364 13,562 20,170 8,535 10,636 9,176 12,090 14,210 15,555 1,379 1,245 1,765 1,590 1,457	Ship-ments.  1,000 bush-els. 11,705,896 8,737 13,188 13,804 11,666 11,726 11,838 11,044 17,541 8,212 13,096 11,622 12,254 15,147 1,076 1,388 1,555 1,607 1,374	Receipts.  1,000 bush- els. (1) (1) (8) 8,868 14,958 15,977 13,648 11,421 623,677 20,661 13,018 10,225 15,833 10,666 14,773 1,744 1,744 1,744 1,744 1,744 1,744 1,744 1,744 1,744 1,744 1,744 1,766	Ship-ments.  1,000 bush-els. (1) (1) (2) (1) (2) (3) (1) (2) (4) (4) (5) (5) (6) (7) (7) (8) (8) (8) (8) (8) (8) (9) (8) (8) (9) (8) (8) (9) (8) (8) (9) (8) (9) (8) (9) (8) (9) (8) (9) (8) (9) (8) (9) (9) (9) (9) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Re- ceipts.  1,000 bush- els. (1) (2) (3) (4) (5,392	Ship-ments.  1,000 bush-els. (1) (1) 3944 2,876 1,808	Receipts.  1,000 bush-els. 161,146 187,299 158,503 234,938 231,237 194,643 275,338 305,904 3302,473 337,279 298,840 309,970 213,080 277,488 222,688 222,688 224,648 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,7468 21,747 21,488 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747 21,648 21,747	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 221, 063 214, 530 217, 582 252, 139 257, 708 235, 347 251, 661 175, 826 192, 826 175, 826 192, 826 175, 528 18, 293 17, 502 18, 075 12, 899 17, 246 16, 16, 15 18, 075 12, 899 17, 246 16, 16, 16, 16, 16, 16, 16, 16, 16, 16,
Aug. 1.  1909-10 1910-11 1911-12 1912-13 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23 1922 August September October November December 1923	Re-ceipts.  1,000 bush-els. 2,488 3,073 2,752 3,535 3,807 3,131 4,028 5,173 3,911 3,677 8,179 2,418 3,345 4,390 2,285 3,444 356 356 433 240	Ship-ments.  1,000 bush-els. 3883 265 3484 5144 432 1,123 2,292 934 944 12 49 49 49 49 49 49 49 49 49 49 49 49 49	Re- eeipts.  1,000 bush- els. 5,165 6,280 6,018 7,704 11,325 7,338 4,882 10,059 18,344 16,688 7,615 7,137 10,295 7,262 10,568 1,468 1,043 2,1,163 861 936 1,504	Ship-ments.  1,000 bush-els. 4,508 4,066 5,071 7,522 11,032 6,440 6,107 2,582 10,183 11,843 5,182 7,614 5,184 6,147 375 305 400 488 488 460	Re- eeipts.  1,000 bush- els. 10,875 10,130 6,658 11,447 12,152 11,189 11,364 220,170 8,533 10,636 9,176 12,090 14,210 15,555 1,379 1,244 -1,762 1,590 1,457 1,348 1,348 1,348 1,348 1,148	Ship-ments.  1,000 bush-els. 11,705 10,896 8,737 13,188 13,884 11,662 11,754 18,212 13,096 7,900 11,624 12,254 15,147 1,976 1,388 1,588 1,598 1,104 1,1768 1,1768 1,188 1,198	Receipts.  1,000 bush-els. (1) (1) (2) (1) (2) (3) (4) (4) (5) (5) (1) (6) (1) (6) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Ship-ments.  1,000 bush-els. (1) (1) (2) (3) (4) (4) (5) (5) (1) (6) (1) (8) (1) (1) (8) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Re-ceipts.  1,000 bush-els. (1) (2) (3) (4) (5,392	Ship-ments.  1,000 bush-els. (1) (1) 394 2,876 1,808 4,348 8,677 10,899 13,706 4,022 6,099 7,466 6,247 3,471	Receipts.  1,000 bush-els. 161,146 187,299 1158,593 234,938 231,237 194,643 275,338 275,338 275,338 209,070 213,080 277,426 21,468 222,680 224,481 3 23,405 8 21,648 0 20,656 4 21,044 8 14,706 4 17,968 4 17,968 4 17,968 4 17,968	Ship-ments.  1,000 bush-els. 136, 420 155, 231 130, 665 224, 063 214, 530 171, 582 252, 139 257, 708 235, 347 251, 661 228, 706 118, 936 1175, 826 1192, 826 116, 792 116, 615 118, 075

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the annual reports of the Chicago Board of Trade.

 ${\bf TABLE~126.} \hbox{$-O$ ats: Classification of cars graded by licensed inspectors, all inspection points.}$ 

	Tot	al of all	classes	and sub	classes	under e	ach gra	de, anni	ıal inst	ections,	1919–19	22.
Year begin- ning Aug. 1.			Rece							nents.		
mag mag. 1.	No. 1.	No. 2.	No. 3.	No. 4.	Sam- ple.	Total.	No. 1	No. 2.	No. 3.	No. 4.	Sam- ple.	Total.
1919–20	Cars. 5, 662 8, 803 2, 519 2, 548	60, 169 31, 643	73, 072 105, 103	14, 766 31, 774	6, 831 6, 664	Cars. 173, 271 163, 641 177, 703 167, 523	Cars. 3, 167 3, 600 2, 384 1, 738	45,099 49,117	31, 811 72, 955	2, 821	2, 220 1, 675	Cars. 111, 817 85, 551 130, 436 117, 249
Class.		Tota	al inspe	ctions b	y grade	and ela	ass, Au	gust 1, 1	922, to	July 31,	1923.	
White	2, 101 329 46 72	45, 333 1, 531 31 452	1, 272 27	16, 559 340 25 80		162, 394 3, 596 136 1, 397	116 1	934 2	62, 157 409 35		970 8 257	115, <b>244</b> 1, 501 3 501
	Tot	al of all			oclasses	under	each gra	nde, ann		pections	, 1919–1	922.
Year begin- ning Aug. 1.			Rece	ipts.					Shipn	nents.		~
	No. 1.	No. 2.	No. 3.	No. 4.	Sam- ple.	Total.	No. 1.	No. 2.	No. 3.	No. 4.	Sam- ple.	Total.
1919–20 1920–21 1921–22 1922–23	Per cent. 3. 3 5. 4 1. 4 1. 5	Per cent. 30. 0 36. 8 17. 8 28. 3	Per cent. 55. 4 44. 6 59. 1 57. 3	Per cent. 9. 2 9. 0 17. 9 10. 1	Per cent. 2. 1 4. 2 3. 8 2. 8	Per cent. 100 100 100 100	4. 2	Per cent. 36. 8 52. 7 37. 7 38. 9	Per cent. 56. 1 37. 2 55. 9 53. 4	Per cent. 3.7 3.3 3.3 5.2	Per cent. 0.6 2.6 1.3 1.0	Per cent. 100 100 100 100
Class.		Tota	ıl inspe	ctions b	y grade	and cla	ass, Aug	ust 1, 1	922, to	July 31,	1923.	
White Red Gray Mixed	1. 3 9. 1 33. 8 5, 1	27. 9 42. 6 22. 8 32. 4		10. 2 9. 5 18. 4 5. 7	2. 5 3. 4 5. 1 35. 7	100 100 100 100	7. 7 33. 3	38. 6 62. 2 66. 7 33. 9	53. 9 27. 3 7. 0	5. 3 2. 3 3. 8	0. 8 0. 5 51. 3	100 100 100 100

Grain Division.

Table 127.—Oats, including oatmeal: International trade, 1910-1923.

				Year endi	ng July 31.			
Country.	Average,	1910–1914.	1920	0-21	192	1-22		2–23, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.  Algeria	1,000 bushels. 79 55 898 4 87	1,000 bushels. 4, 102 42, 569 270 4 43 178 14, 771 2, 469	1,000 bushels. 4, 190 20 186 1	1,000 bushels. 773 28, 425 1, 205 51 2 25, 606 196	1,000 bushels. 286 25 1 (5) 354 7	1,000 bushels. 10, 123 26, 907 428 37 20 31, 544 1, 832	1,000 bushels. 1 509 	1,000 bushels. 2,081 19,511 3 67 3 26,115
Finland	1, 420 8, 212 4 72 1, 206	12, 416 65 4 10, 493 70, 466 2, 875	9, 018 18 4	7, 310	6 4, 688 33	572 10 218 12, 592	<sup>1</sup> 12 <sup>3</sup> 12, 243 <sup>1</sup> 79 ( <sup>1</sup> ) ( <sup>5</sup> )	1 1, 344 3 6 1 1, 473 20, 800
Tunis	366 5, 184	434 8, 312	389 3, 104	114 4, 133 914	183 1, 738	283 19, 685	173 3 293	143 8 25, 413
COUNTRIES.  Austria Belgium Brazil <sup>2</sup> Czechoslovakia Denmark France Germany Greece	2, 295 8, 486 6 26 4, 687 29, 972 36, 977	114 52 	521 7, 293 42 280 226 5, 828 104 413	1 4 559 94 8,991 7 50	937 10, 205 22 1, 807 765 26, 317 7, 269 136	4 20 (*) 10 148 656 564	1 3, 102 3 8, 656 1 538 3 1, 048 3 17, 599 3 7, 126 1 87	1 182 3 119 1 65 8 326 8 1, 031 3 117
Japan	38, 862 8 497 6, 468	30, 771 8 27 1, 899 13	2, 821 290 1, 525 2, 419 30, 230	26 405 182 191 6 441	3 4, 485 981 440 2, 169 7, 917 30, 777	611 3 14 3, 851 1 882	1 31 3 5, 191 3 588 1 43 3 1, 436 9 9, 541 3 36, 610	<sup>3</sup> 683 <sup>3</sup> 20 <sup>1</sup> 8 <sup>3</sup> 1,763 <sup>1</sup> 1 <sup>3</sup> 339
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 (\*) and (\*), which are compiled from official sources.

<sup>&</sup>lt;sup>1</sup>Ten months ending May 31.
<sup>2</sup>Calendar years, 1909–1922.
<sup>3</sup>Years ending June 30.
<sup>4</sup>Average for the seasons 1911–12 to 1913–14
<sup>5</sup>Less than 500 bushels.
<sup>6</sup>1913 only.
<sup>7</sup>Eight months, Aug.—Dec. 1920, and May-July, 1921.
<sup>6</sup>Season 1913–1914.
<sup>6</sup>Eleven months.

Table 128.—Oats, including autment: Net imports and net exports, principal countries 1907-1923.

			Imp	orts.					Export	s.	
Year ending July 31.	Bel- gium.	France.	Italy.	Neth- er- lands.	Swit- zer- land.	United King- dom.	Ruma- uia.	Rus- sia.	Cana- da.	United States. <sup>1</sup>	Alger-
1906-7 1907-8 1908-9	3, 172 3, 529	27, 792 7, 631 16, <b>6</b> 02	3,816 4,216 5,124	1, 758 3, 457 3, 955	9, 206 9, 661 9, 542	43, 437 40, 879 55, 746	(2) (2)	34, 772 28, 590 59, 617	11, 340 4, 674 7, 381	6, 295 2, 135 34, 358	3, 942 4, 343
1900-10 1910-11 1911-12 1912-13 1913-14	6, 930 8, 433 6, 186 12, 426 7, 778	18, 470 40, 841 18, 674 29, 957 41, 249	11, 239 6, 844 11, 711 4, 371	4, 951 8, 283 8, 998 8, 593	12, 795 11, 824 13, 387 11, 963	61,771 68,998 78,432 59,000	(2) 11, 891 1, 101 18, 271	53, 772 37, 034	8, 063 11, 755 15, 524 38, 537	1, 514 3, 739 55 35, 732 3 19, 525	5, 170 4, 637 1, 691 5, 377
1914-15 1915-16 1916-17 1917-18 1916-19	(2) (2) (2) 1, 954	33, 998 35, 843	34, 203 130, 275 122, 187 120, 940	4, 412 1 5, 563 1 167 1 893	5, 397 1 5, 682 1 2, 402 1 2, 387	49, 960 137, 300 150, 280 142, 666	6, 437 (2) (2) (2) 3 210	3 37 (2) (2) (2)	12, 265 57, 159 157, 985 145, 238 115, 729	99, 979 98, 295 94, 344 122, 500 108, 453	6, 371 1 7, 572 1 5, 596 1 7, 014
1919-29 1920-21 1921-22 1922-23	4, 549 7, 289 10, 185 18, 538	29, 923 5 3, 164 25, 661 16, 567	1, 086 9, 016 4, 679 112, 236	2, 417 3, 874	6, 564 2, 414 7, 916 4 9, 540	22, 569 29, 789 29, 895 136, 271	7, 306		14, 673 24, 619 31, 190 1 25, 151	37, 392 5, 595 19, 503 25, 120	<sup>3</sup> 3, 418 9, 837

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics 1915-16, 1922, and official sources.

Table 129 .- Oats: 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., crop year.
1908-9	Cts.	Cts. 47. 2	Cts. 47. 2	Cts. 46. 5	C's. 47. 2	Cts. 48. 1	Cts. 48. 1	Cts. 51. 1	C78. 53. 2	Cis. 55. 3	Cts. 57. 4	Cts. 56. 2	Cts. 49. 3
1909-10 1910-11 1911-12 1912-13 1913-14	50. 0 41. 7 40. 2 44. 3 37. 6	42. 3 38. 4 40. 4 35. 0 39. 3	41. 0 36. 2 42. 5 33. 6 39. 6	41. 0 34. 9 43. 8 33. 6 37. 9	40. 2 34. 4 45. 0 31. 9 39. 2	42. 8 33. 2 45. 1 32. 2 39. 1	45. 0 33. 1 47. 5 32. 4 39. 3	46. 0 32. 8 49. 8 33. 1 38. 9	45. 6 32. 3 52. 0 33. 1 39. 5	43. 3 33. 2 56. 0 34. 2 39. 5	43. 0 34. 7 55. 3 36. 0 40. 0	42, 1 87, 5 52, 5 37, 7 38, 8	43. 1 35. 7 45. 5 34. 7 39. 0
Av. 1909-1913	42. 8	39. 1	38. 6	38. 2	38. 1	38. 5	39. 5	40. 1	40. 5	41. 2	41.8	41. 7	39. 6
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	36. 7 45. 4 40. 1 73. 7 73. 0 75. 3 81. 9	42. 3 38. 5 43. 1 61. 7 70. 3 71. 7 70. 2	43. 3 34. 5 44. 5 62. 3 71. 0 68. 4 60. 7	42. 9 34. 9 49. 0 61. 7 68. 2 68. 7 54. 5	43. 8 36. 1 52. 4 66. 6 70. 9 70. 4 46. 0	45. 0 39. 1 51. 4 73. 9 70. 8 78. 2 45. 6	50. 1 44. 6 55. 2 78. 7 64. 3 82. 7 41. 8	52. 1 42. 7 56. 9 86. 2 62. 6 84. 5 41. 9	53. 4 42. 0 61. 5 88. 9 65. 8 90. 7 39. 3	53. 4 42. 6 71. 0 86. 0 70. 9 98. 3 36. 8	51. 3 42. 1 69. 9 78. 1 71. 2 102. 9 37. 9	46. 7 40. 4 68. 9 76. 3 70. 9 104. 5 35. 6	45. 3 39. 3 51. 7 70. 9 69. 4 78. 5 53. 8
Av. 1914-1920	60. 9	56. 8	55. 0	54. 3	55. 2	57. 7	59. 6	61. 0	63. 1	65. 6	64.8	63. 8	58. 4
1921–22 1922–23 1923–24	33. 8 35. 0 37. 8	30. 1 32. 2 37. 3	31. 0 34. 5 38. 6	29. 2 38. 2 40. 2	30. 2 39. 4 41. 5	31. 0 41. 2	32. 8 41. 8	36. 6 43. 1	36. 5 43. 9	37. 9 45. 7	38. 4 44. 9	37. 3 42. 5	33. 5 38. 5

Year ending June 30.
 Not available.
 Net import.

<sup>&</sup>lt;sup>4</sup> Ten months ending May 31. <sup>5</sup> Net export.

Table 130.—Oats: Farm price per bushel, December 1, calendar years, 1908-1923, and value per acre, 1923.

State.	1908	1909	1910	1911	1912	9113	Av. 1909– 1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 19 <b>2</b> 0.	1921	1922	1923	Value per acre, 1923.1
Maine	Cts.	Cts. 58	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts. 92	Cis.	Cts.	Cts.	Cts.	Cts.	Dolls.
New Hampshire	60 59	64	48 51	54 61	51 48	55 56	53 56	57 58	45 54	67 69	85 84	90 87	85	85 75	74 73	55 60	47 60	56 64	17.86 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	<b>5</b> 5	69	79	90	88	75	73	60	65	52	18. 20
New York	56	49	42	51	42	47	46		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
Pennsylvania	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
Maryland	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		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		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		71	98	115		60	86	65	77	80	8.84
Ohio	49	41	35	45	33	40	39	45		53	64	70	72	50	56	33		45	
Indiana	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	4 36	44	<b>3</b> 5	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
Minnesota	43	35	32	40	26 27	32	33	40	32	47	63	63	64	36	49		32	34	11.36
Iowa	42	35	27	41	27	34	33	41	32	48	63	64	64	36	50		35		12. 98
Missouri	45	43	32	45	<b>3</b> 5	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	8.58
South Dakota	41	34	30	43	25	34	33		28	46	61	59	63	33	47	20	32		9.92
Nebraska	41	35	28	43	30	38	<b>3</b> 5	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
Tennessee	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		105	88	87	65	75	80	
Mississippi	67	68	55	65	60	63	62	65	60	74	94	107	105	87	85		66	76	12.54
Louisana	64	62 62	49	65	51 43	57	57	63 48	55	68	94	99	100	82	80		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
Oklahoma	45	46	37	48	34	45	42	41	35	57	75	84	70	44	58	27	45	52	9.00
Arkansas	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		37	38	11.84
W yoming	50	50	50	50	37	40	45	48		-60	80		112	62	69		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 Mexico	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		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
Washington	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
		<del>4</del> 0. в										ļ							

<sup>&</sup>lt;sup>1</sup>Based upon farm price Dec. 1.

Table 131.—Oats, No. 3 white: Weighted average price per bushel of reported cash sales, 1899-1923.

## CHICAGO.

					СП	CAGC	,.						
Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Weight- ed average.
1899-1900 1900-1901 1901-2 1902-3 1903-4	. 23	\$0. 23 . 24 . 37 . 33 . 37	\$0. 25 . 24 . 38 . 32 . 36	\$0. 25 . 25 . 42 . 31 . 36	\$0. 24 . 25 . 47 . 32 . 36	\$0. 24 . 26 . 47 . 34 . 39	\$0. 25 . 27 . 44 . 35 . 43	\$0. 26 . 27 . 44 . 34 . 40	\$0. 26 . 28 . 44 . 34 . 41	\$0. 25 . 29 . 44 . 35 . 42	\$0. 25 . 29 . 48 . 39 . 42	\$0. 25 . 35 . 49 . 38 . 40	\$0. 24 . 26 . 43 . 34 . 38
1904–5 1905–6 1906–7 1907–8 1908–9	. 34 . 27 . 31 . 46 . 49	. 32 . 28 . 32 . 49 . 49	. 30 . 29 . 33 . 49 . 48	.31 .31 .33 .47 .49	.30 .31 .35 .50 .50	.31 .31 .36 .50	.31 .30 .40 .51	. 32 . 30 . 42 . 52 . 54	·.31 .32 .42 .52 .55	. 32 . 34 . 45 . 53 . 59	.32 .38 .45 .51	. 32 . 37 . 45 . 55 . 48	. 32 . 31 . 37 . 50 . 52
1909-10	.38 .35 .41 .33 .42	. 39 . 34 . 45 . 33 . 43	. 40 . 32 . 47 . 33 . 40	. 40 . 32 . 48 . 32 . 40	. 44 . 32 . 47 . 33 . 40	. 48 . 33 . 50 . 33 . 39	. 47 . 31 . 52 . 33 . 39	. 44 . 31 . 53 . 32 . 39	. 42 . 32 . 57 . 35 . 39	. 40 . 34 . 55 . 38 . 40	.38 .39 .53 .40 .40	. 41 . 44 . 49 . 40 . 37	. 42 . 33 . 50 . 35 . 40
Av. 1909–1913	. 38	. 39	. 38	. 38	. 39	. 41	. 40	. 40	. 41	. 41	. 42	. 42	.40
1914-1915 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920	. 42 . 41 . 44 . 61 . 70 . 73 . 70	. 48 . 34 . 46 . 60 . 72 . 68 . 62	. 46 . 36 . 49 . 60 . 69 . 70 . 54	. 48 . 36 . 55 . 65 . 72 . 73 . 51	. 49 . 42 . 53 . 77 . 72 . 82 . 48	. 53 . 48 . 57 . 82 . 65 . 86 . 44	. 58 . 45 . 56 . 89 . 58 . 86 . 42	. 57 . 42 . 61 . 93 . 63 . 93 . 42	. 57 . 44 . 69 . 89 . 70 1. 01 . 36	. 54 . 43 . 70 . 77 . 69 1. 09 . 39	. 49 . 39 . 67 . 77 . 70 1. 13 . 37	. 53 . 41 . 78 . 77 . 78 . 91 . 34	. 50 . 41 . 54 . 71 . 70 . 80 . 51
1921–22 1922–23 1923–24	.32	.35 .38 .40	. 31 . 42 . 43	. 33	. 34	. 34	. 36	.36	.38	.38	. 37	.36	.35

Compiled from the Chicago Daily Trade Bulletin.

## KANSAS CITY.

					AINOE	10 01	11.						
1899-1900 1900-1 1		\$0. 22 . 23	\$0. 23 . 24	\$0. 24 . 24	\$0. 24 . 24	\$0. 24 . 25	\$0. 24 . 26	\$0. 24 . 27	\$0. 26 . 29	\$0. 24 . 30	\$0. 24 . 29	\$0. 25 . 38	\$0. 24 . 26
1900-11	.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
1905-6	. 26	. 27	. 28	. 30	. 31	.31	. 31	. 31	.32	. 34	. 37	.37	.31
1906-7	. 30	. 32	. 33	. 33	. 34	. 36	.40	. 41	. 42	. 51	51	.50	. 49
1907-8	. 48	.48	. 48	. 44	. 49	. 49	. 49	. 51	. 54	.56	. 56	50	.51
1908-9	. 48	. 48	. 47	. 48	. 49	. 50	. 51	. 53	. 54	. 30	. 55	. 50	. 31
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		. 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					}			
		<u> </u>	<u> </u>	1	1	<u> </u>	<u> </u>	<u>!</u>	<u> </u>		<u> </u>	<u> </u>	

Compiled from Kansas City Daily Price Current.

Division of Statistical and Historical Research.

<sup>1 1901</sup> 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.	Мау.	June.	July.	Weight ed average.
1909-10 1910-11 1911-12 1912-13 1913-14	\$0.36 .35 .41 .34 .40	\$0.37 .36 .44 .31 .40	\$0.36 .30 .46 .31 .37	\$0.38 .31 .46 .29 .37	\$0. 41 . 30 . 46 . 30 . 37	\$0. 46 . 31 . 48 . 31 . 36	\$0. 45 . 29 . 50 . 31 . 36	\$0. 43 . 29 . 52 . 30 . 37	\$0.40 .32 .54 .32 .36	\$0.39 .33 .54 .35 .38	\$0. 36 . 37 . 50 . 38 . 38	\$0. 42 . 42 . 47 . 38 . 35	\$0. 39 . 33 . 47 . 33 . 38
Av. 1909-1913	. 37	. 38	. 36	. 36	. 37	. 38	. 38	. 38	. 39	. 40	. 40	. 41	. 38
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	. 42 . 37 . 44 . 55 . 68 . 70 . 66	. 46 . 33 . 44 . 58 . 69 . 65 . 58	. 44 . 34 . 47 . 58 . 65 . 67 . 51	. 46 . 35 . 53 . 62 . 69 . 69 . 47	. 46 . 40 . 49 . 76 . 69 . 80 . 44	. 52 . 46 . 55 . 81 . 64 . 83 . 41	. 56 . 45 . 56 . 88 . 56 . 82 . 39	. 56 . 41 . 60 . 92 . 60 . 89 . 39	. 55 .42 . 67 . 88 . 68 . 1. 08 . 33	. 52 . 42 . 69 . 74 . 66 1. 05 . 36	. 46 . 38 . 66 . 75 . 66 1. 15 . 34	. 50 . 38 . 75 . 74 . 74 . 94 . 34	. 48 . 38 . 52 . 71 . 66 . 80 . 48
Av. 1914-1920	. 55	. 53	. 52	. 54	. 58	. 60	. 60	. 62	. 66	. 63	. 63	. 63	. 58
1921-22 1922-23 1923-24	. 31 . 29 . 35	. 33 . 33 . 37	. 28 . 38 . 40	. 29 . 39 . 39	. 30 . 41 . 40	.32	. 35	.34	. 35	.36	. 33	.32	. 32

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.	Aver- age.
1909-10	P. ct. 95 96	P. ct. 99 103 118	P. ct. 119 112 113	P. ct. 119 114 124	P. ct. 130 124 135	P. ct. 131 128 141	P. ct. 131 121 142	P. ct. 126 121 136	P. ct. 129 112 128	P. ct. 117 110 122	P. ct. 113 124 124	P. ct. 116 122 126	P. ct. 119 116 127
1911–12 1912–13 1913–14	110 73 99	78 100	89 100	108 97	126 106	126 110	120 110	114 107	111 102	117 100	117 97	113 91	108 102
Av. 1909-1913	95	100	107	112	124	127	125	121	116	113	115	114	114
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	90 89 91 52 71 66 78	106 80 94 50 80 77 83	110 97 89 52 86 . 87 104	125 100 98 51 95 87 116	134 106 101 76 87 98 114	131 114 102 81 80 100 118	137 106 98 86 80 103 117	138 101 98 96 72 103 119	133 101 86 94 76 105 111	123 100 77 84 69 94 114	116 92 69 83 69 105 103	119 89 69 79 71 101 99	122 98 89 74 78 94 106
Av. 1914-1920	77	81	89	96	102	104	104	104	101	94	91	90	94
1921-22 1922-23 1923-24	100 82 76	116 90 79	121 96 72	123 96 92	127 98 98	124 100	115 96	111 108	115 102	107 96	106 90	98 80	114 94

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.

					1868	9-192	3.				• •	
Calendar	Acre-	Aver-	Pro-	Aver- age farm	Farm	Value	bus	ago, cas shel, lo ancy.2	sh prie	e per llting	Domestic exports,	Imports,
year.	har- vested.	yield per acre.	duc- tion.	price per bushel	value Dec. 1.	per acre.1	Dece	mber.	Follo Ma	wing ay.	fiscal year beginning July 1.3	beginning July 1.3
				Dec. 1.			Low.	High.	Low.	High.		
1869 1870 1871 1872 1873	1, 114	Bushels of 48 lbs. 27. 9 23. 7 24. 0 19. 2 23. 1	1,000 bushels. 28, 652 26, 295 26, 718 26, 846 32, 044	Cents. 70. 8 79. 1 75. 8 68. 6 86. 7	1,000 dollars. 20, 298 20, 792 20, 264 18, 416 27, 794	18. 19 13. 18	$Cts.$ 74 68 55 $\frac{1}{2}$ 60 132	Cts. 85 80 64 70 158	Cts. 50 72 55 71 130	Cts. 62 95 71 85 155	Bushels, 255, 490 340, 093 86, 891 482, 410 320, 399	Bushels. 6, 727, 597 4, 866, 700 5, 565, 591 4, 244, 751 4, 891, 189
1874 1875 1876 1877 1877	1, 581 1, 790	21. 4	32, 552 36, 909 38, 710 35, 638 42, 246	86. 0 74. 1 63. 0 62. 5 57. 9	27, 368 24, 403	15. 29 13. 81 13. 35	120 81 633 561 91	129½ 88 68½ 64 100	$     \begin{array}{r}       115 \\       62\frac{1}{2} \\       80 \\       46\frac{1}{2} \\       64    \end{array} $	137 72½ 85 52½ 73	91, 118 317, 781 1, 186, 129 3, 921, 501 715, 536	6, 255, 063 10, 285, 957 6, 702, 965 6, 764, 228 5, 720, 979
1879 1880 1881 1882 1883	1, 843 1, 968 2, 272 2, 379	21. 1	48, 721 45, 165 41, 161 48, 954 50, 136	59. 4 66. 6 82. 3 62. 9 58. 7	28, 939 30, 091 33, 863 30, 768 29, 420	16. 33 17. 21 13. 54 12. 37	86 100 101 79 62	92 120 107 82 67	75 95 100 80 65	80 105 100 80 74	1, 128, 923 885, 246 205, 930 433, 005 724, 955	8, 596, 122
1884 1885 1886 1887 1888	2, 729 2, 653 2, 902 2, 996	23. 5 21. 4 22. 4 19. 6 21. 3	61, 203 58, 360 59, 428 56, 812 63, 884	48. 7 56. 3 53. 6 51. 9 59. 0		12. 04 12. 00 10. 15 12. 57	53 62 51 80	58 65 54 80	65 58 57 69	65 60 57 77	629, 130 252, 183 1, 305, 300 550, 884 1, 440, 321	9, 986, 507 10, 197, 115 10, 355, 594 10, 831, 461 11, 368, 414
1889 1890 1891 1892 1893	5, 800	24. 3 21. 4 26. 1 23. 6 21. 7	78, 213 73, 017 96, 589 92, 037 83, 700	41. 6 62. 6 51. 8 46. 5 40. 5	32, 574 45, 719 50, 051 42, 790 33, 922	13, 42 13, 51 10, 99 8, 80	58  65 52	58  67 54	65 55	65 60	1, 408, 311 973, 062 2, 800, 075 3, 035, 267 5, 219, 405	11, 332, 545 5, 078, 733 3, 146, 328 1, 970, 129 791, 061
1894 1895 1896 1897 1898	4, 005 4, 263 4, 172 4, 150 4, 237	19. 5 26. 9 23. 8 24. 9 23. 5	99, 394	43. 5. 32. 0 30. 0 35. 2 38. 9	33, 924 36, 678 29, 814 36, 346 39, 003	7. 15 8. 76 9. 21	53½ 33 22 25½ 40	55½ 40 37 42 50½	51 25 24 <sub>2</sub> 36 36	52 36 35 53 42	1, 563, 754 7, 680, 331 20, 630, 301 11, 237, 077 .2, 267, 403	2, 116, 816 837, 384 1, 271, 787 124, 864 110, 475
1899 1960 1901 1902 1903	4, 545 4, 742 5, 126 5, 568	26. 1 21. 1 25. 7 29. 1 26. 4	116, 552 96, 041 121, 784 149, 389 146, 864	39. 0 40. 5 45. 2 45. 5 45. 4	45, 479 38, <del>8</del> 96 55, <del>0</del> 68 67, 944 66, 7 <del>0</del> 0	8. 56 11. 61 13. 25	35 37 56 36 42	45 61 63 70 61½	36 37 64 48 38	44 57 72 56 59	23, 661, 662 6, 293, 207 8, 714, 268 8, 429, 141 10, 881, 627	189, 757 171, 004 57, 406 56, 462 90, 708
1904 1905 1906 1907 1908	6, 250 6, 730 6, 941 7, 294	28. 6 24. 5 25. 3	192, 270 170, 008 184, 857	41. 6 39. 4 41. 6 66. 3 55. 2	66, 959 80, 069 112, 675 102, <b>03</b> 7	11. 90 16. 23 13. 99	38 37 44 78 57	52 53 56 102 64½	40 42 66 60 66	50 55½ 85 75 75	10, 661, 655 17, 729, 360 8, 238, 842 4, 349, 078 6, 580, 393	81, 020 18, 049 38, 319 199, 741 2, 644
1909 1910 1911 1912 1913	7, 743 7, 627 7, 530	24. 4 22. 5 21. 0 29. 7 23. 8	<b>223</b> , 324	54. 8 57. 8 86. 9 50. 5 53. 7	139, 182	18. 25	55 72 102 43 50	72 90 130 77 79	50 75 68 45 51	68 115 132 68 66	4, 311, 566 9, 399, 346 1, 585, 242 17, 536, 703 6, 644, 747	
Av. 1909- 1913		24. 3		59. 7	110, 249		64. 4	89. 6	57.8	89.8		. <u>=======</u>
1914 1915 1916 1917 1918	7, 148 7, 757 8, 933 9, 740	23. 5 23. 7 26. 3	228, 851 182, 309 211, 759 256, 225	54. 3 51. 6 88. 1 113. 7 91. 7 120. 6	118, 172 160, 646 240, 758 234, 942	16. 53 20. 71 26. 95 24. 12	62 95 125 88	75 77 125 163 105 168	$74\frac{1}{2}$ $70$ $128$ $105$ $110$ $140$	82 83 165 176 130 190	26, 754, 522 27, 473, 160 16, 381, 077 26, 285, 378 20, 457, 781	
1919 1920 <b>A</b> v. 1914-	6,720	24. 9		71.3		17. 77	50	98	56	75	20, 457, 198	
1920		25. 4 20. 9	$\frac{201,577}{154,946}$	83. 2 41. 9	167, 655 64, 934	21, 16 8, 76	86. 4	115. 9 64	97.6	128. 7 75	23, 497, 200 27, 540, 570	
1922 1923 4	7, 414 7, 317 7, 905	24. 9 25. 1		52. 5 54. 0	95, 560 106, 955	13.06	66	75	63	72	21, 910, 495	
						<u> </u>		i				

Based on farm price Dec. 1.
 Chicago Daily Trade Bulletin. Prices, 1895–1908, for No. 3 grade.

Compiled from reports of Bureau of Foreign and Domestic Commerce.
 Preliminary.

Table 134.—Barley: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thou	sands of	acres.		tion, the			alue, bas thousers.	
en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	1921	1922	1923 1	1921	1922	1923 1	1921	1922	1923 1
Maine	1 9 158 13	3 1 9 158 12	3 1 9 190 12	104 23 225 3, 318 280	84 28 261 4, 108 306	90 26 261 5, 092 269	89 25 180 2, 057 174	84 27 253 3, 040 199	90 22 248 3, 819 194
Maryland Virginia Ohio Indiana Illinois	4	4	4	120	128	132	80	96	106
	9	9	10	207	248	270	149	198	216
	97	73	74	2, 522	1, 424	1, 998	1, 286	926	1, 259
	65	30	30	1, 235	510	690	593	296	448
	173	190	228	4, 550	5, 605	6, 612	2, 093	3, 251	3, 835
Michigan Wisconsin Mimesota Lowa Missouri	200	140	150	3, 500	3, 598	3,600	1, 995	2, 339	2, 304
	473	443	465	10, 642	14, 220	13,252	5, 427	8, 105	8, 084
	935	908	962	18, 700	24, 062	24,050	6, 358	11, 309	10, 582
	136	161	161	3, 196	4, 605	4,572	1, 342	2, 256	2, 377
	7	5	6	154	115	162	100	83	126
North Dakota South Dakota Nebraska Kansas Kentucky	1, 096 1, 120 199 728 6	1,008 881 242 1,074 6	1, 361 890 339 967	16, 988 19, 040 4, 915 14, 560 144	25, 704 20, 263 4, 356 18, 580 168	23, 818 20, 025 9, 492 21, 467 189	4, 927 5, 522 1, 376 4, 222 88	10, 025 8, 510 2, 047 8, 361 143	9, 051 8, 010 4, 176 10, 519 159
Tennessee	9	14	17	189	315	391	189	252	391
	78	93	108	1, 872	1,767	2, 592	842	1, 149	1, 763
	122	129	129	2, 684	2,193	2, 838	1, 208	1, 206	1, 987
	75	92	97	1, 538	2,390	2, 474	923	1, 150	1, 188
	9	20	28	261	560	868	170	336	564
Colorado New Mexico Arizona Utah Nevada	202	186	221	4, 444	3, 534	6,409	1, 644	2, 085	3, 461
	10	9	11	240	135	209	146	128	167
	29	25	36	928	825	1,260	742	701	1, 197
	16	18	22	512	630	893	246	346	625
	6	6	6	187	176	152	150	176	126
Idaho	87	85	93	2, 784	2,890	3, 999	1,308	1, 878	2, 319
Washington	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

Table 135.—Barley: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

Calen- dar year	Deficient mois- ture.	Excessive moisture.	Floods	Frost or freeze.	Hail.	Hot winds.	Storms	Total cli- matic.	Plant dis- ease.	Insect pests.	Ani- mal pests.	Defective seed.	Total.1
1909 1910 1911 1912 1913	P. ct. 8. 9 34. 0 30. 0 8. 4 24. 5	P. ct. 3. 6 . 2 1. 2 1. 8 . 7	P. ct. 0. 3 . 1	P. ct. 1.0 .9 .8 .9	P. ct. 2. 1 . 9 . 4 1. 9 1. 0	P. ct. 2. 3 4. 3 5. 7 1. 7 3. 2	P. ct. 0. 8 .1 .1 .5 .3	P. ct. 19.0 40.7 38.1 15.9 31.1	P. ct. 1.4 .4 .9 .9	P. ct. 0.4 .8 .9 .5 1.2	P. ct. 0.5 .5 .3 .5 .2	$P.\ ct. \ 0.2 \ .1 \ .2 \ .3 \ .2$	P. ct. 22.8 43.1 41.3 19.6 34.3
1914 1915 1916 1917	8. 2 1. 3 8. 0 26. 6 20. 7	2. 3 3. 2 3. 4 . 8 . 4	.2 .3 .3 (2) .1	.6 .7 .7 1.0	1. 5 1. 7 1. 5 1. 1 1. 1	4. 6 . 3 5. 0 2. 3 2. 3	.4 .5 .5 .2 .3	18. 4 8. 0 20. 2 32. 1 25. 9	2. 3 . 9 8. 5 . 5	.6 .2 .7 .4 1.6	.2 .1 .1 .2	.1 .1 .1 .1 (²)	22. 7 10. 0 30. 6 33. 6 28. 8
1919 1920 1921 1922	18. 0 10. 4 20. 2 13. 5	3. 4 2. 2 1. 4 1. 3	.5 .2 .1 .1	.2 .4 1.3 .3	1. 8 1. 1 1. 2 1. 6	3.8 2.0 6.6 1.6	.3 .2 .1 .2	28. 2 16. 7 31. 4 19. 0	5. 3 3. 0 2. 9 1. 3	4.3 1.3 1.3 1.4	.1 .2 .1 .1	.1	38. 5 21. 7 36. 0 22. 2

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>1</sup> Includes all other causes.

<sup>&</sup>lt;sup>2</sup> Less than 0.05 per cent.

Table 136.—Barley: Yield per acre, by States, calendar years, 1908-1923.

State.	TABLE 100.					· P·		,	<i>J</i>				•						
Maine         28. 0 28. 5 31. 0 28. 0 26. 2 28. 0 28. 0 28. 0 38. 0 0 26. 5 28. 0 0 21. 0 25. 0 28. 0 26. 0 28. 0 28. 0 23. 0 0 28. 0 28	State.	1908	1909	1910	1911	1912	1913	1909- 1913								1914- 1920	1921		
New Hampshire 24, 0 25, 0 26, 0 24, 0 25, 0 28, 0 24, 0 25, 0 28, 0 31, 0 25, 0 25, 0 32, 0 31, 0 25, 0 28, 0 31, 0 32, 0 33,		$\overline{Bu}$ .	Bu.	$\overline{Bu}$ .	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.				
New Hampshire 24, 0 25, 0 26, 0 24, 0 25, 0 28, 0 24, 0 25, 0 28, 0 31, 0 25, 0 25, 0 32, 0 31, 0 25, 0 28, 0 31, 0 32, 0 33,	Maine	28. 0	28. 5	31. 0	28. 0	26. 2	28. 0												
New York 26, 024, 8   28, 3   25, 0   26, 0   26, 7   26, 2   28, 0   32, 0   20, 3   28, 0   31, 5   22, 0   29, 0   27, 7   21, 0   26, 0   26, 8   28, 5   20, 3   28, 0   24, 5   24, 0	New Hampshire	24. 0	25. 0	26. 0	24.0	28.0	28. 0	26. 2											
New York	T/auma am t	122 0	ION N	21 A	20 5	25 0	39 A	1217	34. 5	35. 0	27. 5	29.0	31. 0	25. 0	28. 0	30.0			
Maryland 30. 032. 031. 023. 027. 029. 02. 026. 026. 026. 026. 029. 027. 030. 027. 025. 027. 03. 031. 032. 036. 027. 030. 027. 025. 026. 026. 026. 026. 026. 026. 026. 026	New York	26. 0	24.8	28. 3	25. 0	26. 0	26. 7	26. 2	28.0	32. 0	<b>23.</b> 3	28. 0	31. 5	22. 0	<b>2</b> 9. 0	27.7			
Maryland 30. 032. 031. 023. 027. 029. 02. 026. 026. 026. 026. 029. 027. 030. 027. 025. 027. 03. 031. 032. 036. 027. 030. 027. 025. 026. 026. 026. 026. 026. 026. 026. 026	Pennsylvania	26. 0	21.8	26. 5	25. 0	27. 5	26. 0	25. 4											
Hillinois	Maryland	30.0	32 0	31. 0	23. 0	27. 0	29. 0	28.4	33. 0	34. 0	32, 0	25. 0	31. 0	33. 0	27. 5	30.8	30. 0	3 <b>2</b> . 0	33. 0
Hillinois	Virginia	28 0	28 5	29. 3	23. 0	25. 0	26. 0	26. 4	26, 0	29, 0	27. 5	30. 0	27. 0	25.0	27.0	27.4	23.0	27. 5	27.0
Hillinois	Ohio	27. 5	25. 9	28. 5	27. 2	31, 0	24. 0	27. 3	25. 0	31.0	27.8	33. 0	31.5	23. 0	27. 7				
Michigan 25, 5124, 725, 024, 019, 024, 019, 024, 019, 025, 025, 025, 025, 025, 025, 025, 025	Indiana	23. 0	23. 5	27. 0	26. 5	29. 5	25. 0	26.3	25. 0	28.0	27. 0	30. 5	37.0	25. 0	27.0				
Michigan 25, 5124, 725, 024, 019, 024, 019, 024, 019, 025, 025, 025, 025, 025, 025, 025, 025	Illinois	28 5	28. 0	30. 2	28. 0	31. 5	26. 0	28.7	29. 5	34. 0	32. 0	37. 5	36. 0	27. 0	30, 4	32.3	26. 3	29. 5	29. 0
Wissouri	Michigan	25 5	24 7	26 0	24 0	26 0	24 8	25 1	26 0	29 5	24 5	24 4	30 0	17. 0	26. 0	25. 3	17. 5	25. 7	24. 0
Minnesota	Wissensin	20. 0	28 0	25 0	25 5	20. 4	25.0	26.8											
Towa	Minnogoto	25 6	N93 6	21 0	10 0	28 2	24 0	23 2									20. 0	26. 5	25. 0
North Dakota. 19, 521, 01, 5, 19, 5129, 920, 01, 19, 219, 332, 0110, 312, 321, 313, 01, 60, 125, 125, 215, 125, 125, 125, 125, 125	Town	27.0	120. 0	20 5	21 0	31 0	25. 0	25 9	26.0	31. 0	29 5	35. 0	31. 5	25. 5	27. 5				
North Dakota. 19, 521, 01, 519, 529, 920, 01, 19, 219, 532, 0120, 532, 0131, 512, 525, 512, 025, 0125,	Miggorri	22 0	25 0	27 0	20. 0	24 8	22 0	23 8											
South Dakota 28. 5 19. 5 18. 2 5. 4 26. 0 17. 5 17. 3 23. 0 32. 0 22. 7 27. 0 29. 5 22. 0 25. 0 25. 0 25. 9 17. 0 22. 0 22. 5 Nebraska 23. 5 22. 0 18. 5 11. 0 22. 0 16. 0 17. 9 123. 5 31. 0 18. 0 26. 5 16. 5 25. 7 29. 0 125. 0 125. 0 128. 0 18. 0 16. 0 18. 0 16. 5 23. 5 18. 1 14. 8 124. 5 31. 0 16. 0 18. 0 10. 0 127. 0 125. 4 20. 3 20. 0 17. 3 122. 2 Kentucky 25. 0 124. 0 124. 0 128. 7 126. 0 126. 0 125. 0 14. 8 124. 5 126. 0 126. 0 127. 0 124. 0 128. 7 128. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0 127. 0 128. 0 127. 0	Wissouri	20. 0	20. 0		10. 5	20.0	20. 0	10.0											
Nebraska 23, 5   22, 0   18, 5   11, 0   22, 0   16, 0   17, 9   23, 5   31, 0   28, 0   26, 5   16, 5   15, 2   729, 0   25, 7   24, 7   18, 0   28,	North Dakota	19. 0	21. 0	10.0	19. 0	29. 9	20. 0	19. 4	19. 0	22. 0	99 7	27 0	20.5	22 0	25 0				
Kansas	South Dakota	20. 0	119. 5	18. 2	0. 4	20. 0	17. 0	17. 0	20. 0	21 0	28 0	26 5	16 5	25. 7	20. 0				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Nebraska	23. 0	122. 0	18. 0	11. 0	22, 0	10. 0	17.9	24.5	21.0	16 0	20. 0	10. 0	27 0	25. 4				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Kansas	10. 0	10. 0	10. 0	0. 0	20. 0	20. 1	95 0											
Texas 23 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Kentucky	20. 0	24. 0	24. 0	20. 1	20. 0	20. 0	25. 8											
Texas 23 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Tennessee	25. 0	24. 0	23.0	28.0	26. 0	25. 0	25. 2	27. 0	24. 0	23. (	15. 0	23. 0	20. 0	23. 0				
Oklahoma 23. 0 23. 0 23. 0 30. 0 10. 0 20. 0 9. 0 18. 4 25. 0 20. 3 15. 0 23. 0 15.	Texas	24. 0	19. 4	30. 0	18. 0	29. 3	24. 0	24. 1	25. 0	28. 0	17. 0	20. 0	17. 0	30. 0	23. 0				
Colorado 33. 036. 032. 029. 039. 032. 5 33. 738. 535. 036. 032. 033. 036. 024. 036. 086. 086. 086. 086. 086. 086. 086. 08	Oklahoma	23. 0	23.0	30. 0	10. 0	20. 0	9. 0	18.4	25. 0	26. 5	12. 5	18. 0	17. 0	30. 0	19.0				
Colorado 33. 036. 032. 029. 039. 032. 5 33. 738. 535. 036. 032. 033. 036. 024. 036. 086. 086. 086. 086. 086. 086. 086. 08	Montana	35. 0	38. 0	28.0	34. 5	36. 5	31. 0	33.6	30. 5	34. 0	28. 0	15. 0	22. 0	3. 0	10. 0				
Colorado 33. 036. 092. 029. 039. 032. 5 33. 738. 5 36. 032. 033. 0 18. 0	Wyoming	35. 0	<b> 31.</b> 0	30. 0	34. 0	34. U	30. 5	31.9											
New Mexico 42, 040, 025, 033, 035, 024, 031, 343, 033, 035, 035, 035, 035, 035, 034, 035, 035, 035, 035, 035, 035, 035, 035	Colorado	133 O	N36 O	32 0	29 ()	:39. U	.32. b	1 33.7	38. 5	36. 0	32. 0	33. 0	18. 0	19. 0	24. 5				
Nevada 30. 038. 040. 040. 041. 041. 041. 040. 040. 051. 041. 040. 040. 051. 040. 051. 053. 053. 053. 053. 053. 053. 053. 053	New Mexico	42.0	40.0	25. 0	33. 0	35. 0	24. 0	31.4	34. 0	33. 0	28. 0	28. 0,	28. 0	23. 8	23. 6				
Nevada 30. 038. 040. 040. 041. 041. 041. 040. 040. 051. 041. 040. 040. 051. 040. 051. 053. 053. 053. 053. 053. 053. 053. 053	Arizona	38. 0	40.0	36. 0	36. 5	40.0	39. 0	38.3	36. 0	37. 0	35. 0	35. 0,	34. 0	35. 0	34. 0	35. 1			
Nevada 30. 038. 040. 040. 041. 041. 041. 040. 040. 051. 041. 040. 040. 051. 040. 051. 053. 053. 053. 053. 053. 053. 053. 053	Utah	45. 0	40.0	36. 0	<b> 43.</b> 0	45. 0	38. 5	40.5	45. 0	42. 5	36. 0	37. 0	35. 0	22, 9	31. 2				
Idaho	Nevada	130. U	1138. U	14U. U	14U. U	41. U	41. U	40.0											
Washington 30. 539. 625. 037. 043. 040. 5 37. 638. 638. 529. 025. 025. 032. 132. 2 30. 532. 027. 035. 0 California 23. 5 26. 5 31. 0 28. 0 30. 0 26. 0 28. 3 30. 0 29. 0 28. 0 29. 0 26. 0 27. 0 23. 0 27. 4 25. 0 30. 5 30. 2	Idoho	41 N	40 O	33 O	42 0	43.5	42.0	40.1								33. 6	32.0	<b>34.</b> 0	43.0
	Washington	30. 5	39. 5	29, 0	37. 0	43.0	40. 5	37.8	39. 0	41. 5	41.3	29.0	15. 2	30.0	35. 3				
	Oregon	29. 0	31. 5	31. 5	34. 0	36. 0	35. 0	33. 6	30.0	36. 0	38. 5	<b>29</b> . 0	25. 0	23. 1	3 <b>2</b> . 2				
	California	23. 5	26, 5	31. 0	28. 0	30. 0	26.0	<b>28.</b> 3	30.0	29.0	28.0	29.0	26. 0	<b>27.</b> 0	23.0	27. 4	25. 0	30. 5	30. 2
United States 25, 3 24, 4 22, 5 21, 0 29, 7 23, 8  24, 3 25, 8 32, 0 23, 5 23, 7 26, 3 22, 0 24, 9  25, 5 20, 9 24, 9  25, 1																	-		
	United States	25. 3	24. 4	22. 5	21.0	29.7	23.8	24. 3	25. 8	32. 0	23. 5	23. 7	26. 3	22.0	24. 9	25. 5	20. 9	24. 9	25. 1

Table 137.—Barley: Condition of crop, 1st of month, and yield per acre, United States, 1866-1923.

				Chick	i Diano	, 1000 1000	•				
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	P. ct.	Bush		P. ct.	P. ct.	P. ct	P. ct.	Bush.
1866	100.0	109. 5	1.11	1	22. 9	1898	78. 8	85. 7	79. 3	79. 2	23. 5
	98. 3	99. 6	104. 0	105. 5	22. 7	1899	91. 4	92. 0	93. 6	86. 7	26. 1
1867	103. 1	105. 8	98. 5	95. 2	24. 4	1900	86. 2	76. 3	71.6	70. 7	21.1
1868 1869		100.7	102. 2	103. 6	27. 9	1			86. 9	83. 8	25. 7
1870	91.4	90. 0	92. 2	94.6	23.7	1901	91.0	91. 3	90. 2	89.7	29.1
			92. 6	92. 7	24.0	1902	93. 6	93. 7	90. 2 83. 4	82. 1	26.4
1871		96. 4	92. 6	96. 9	19. 2	1903	91. 5	86. 8	88. 1	87.4	27.4
1872	97.7	98. 7		90. 9	23. 1	1904	90. 5	88. 5	89. 5	87.8	27.2
1873	93. 4	88. 1	90. 3 96. 7	92.0	20.6	1905	93. 7	91. 5			
1874	99. 2	98. 9			20.6	1906	93. 5	92. 5	90. 3	89.4	28.6
1875	85. 7	94. 5	87 9	85.0		1907	84. 9	84. 4	84. 5	78. 5	24.5
1876	100. 3	98. 2	92. 3	90.0	21. 9	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. <del>0</del>	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	<b>7</b> 3. 7	<b>70</b> . 0	69.8	22. 5
1880	99.0	99.0	97.7	96. 9	24. 5	1911	90. 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	97.0	95.0	100.0	21. 1						
1884	98.0	98.0	98.0	97.0	23. 5	Av. 1909-1913	89.7	80. 2	77.1	75.6	24. 3
1885	89.7	92. 0	92. 0	88.0	21.4	1			<del></del>		
1886	100.0	89. 7	90.9	92.7	22.4	1914	95. 5	92. 6	85. 3	82.4	25.8
1887		82. 8	86. 2	83.0	19.6	1915	94. 6	94. 1	93. 8	94. 2	32.0
1888		91.0	89.4	86. 9	21.3	1916	86. 3	87. 9	80. 0	74.6	23. 5
1889		91. 9	90.6	88. 9	24.3	1917	89.3	85.4	77.9	76.3	23.7
1890		88. 3	82. 8	78.6	21.4	1918	90. 5	84. 7	82. 0	81. 5	26. 3
1891		90. 9	93. 8	94.3	26. 1	1919	91. 7	87. 4	73. 6	69. 2	22.0
		92.0	91.1	87. 4	23. 6	1920	87.6	87. 6	84. 9	82. 5	24. 9
1892		88. 8	84. 6	83. 8	21. 7			00. 5	00 5	80. 1	25. 5
1893 1894	82. 2	76.8	69. 8	71.5	19. 5	Av. 1914-20	90. 8	88. 5	82. 5	00.1	40. 0
1895	90. 3	91. 9.	87. 2	87. 6	26. 9	1921	87. 1	81. 4	71. 4	68. 4	20.9
	1		82. 9	83. 1	23. 8	1921	90. 1	82. 6	82. 0	81. 2	24. 9
1896		88. 1							82. 6	79. 5	25. 1
1897	87.4	88. 5	87. 5	86.4	24.9	1920	00.0	00.1	02.0	,	

<sup>1</sup> Condition at time of harvest.

TABLE 138.—Barley: Area and yield per acre in undermentioned countries. NORTHERN HEMISPHERE.

			Area.				Yi	eld per a	cre.	
Country.	Aver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.	Aver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA.  Canada United States Mexico	1,000 acres. 1,574 7,620 1,436	1,000 acres. 2,552 7,600	1,000 acres. 2,796 7,414	1,000 acres. 2,600 7,317 697	1,000 acres. 2,784 7,905	Bush. 28. 8 24. 3 1 4. 9	Bush. 24.8 24.9	Bush. 21. 4 20. 9	Bush. 27. 6 24. 9	Bush. 28, 9 25, 1
Total comparable with 1909-1913 Total comparable with 1923	10, 630 9, 194	10, 152	10, 210	9, 917	10, 689					
EUROPE.  United Kingdom: England and Wales. Scotland. Ireland. Norway. Sweden. Denmark Netherlands Belgium. Luxemburg France. Spain. Portugal Italy. Switzerland. Germany (summer). Austria. Czechoslovakia. Hungary. Yugoslavia. Greece. Bulgaria. Rumania. Poland. Lithuania. Latvia. Esthonia. Finland. Russia, including Ukraine and Northern Caucasia.	* 3, 976 * 2, 712	1, 637 204 207 156 398 626 56 90 5 1, 641 4, 319 2, 949 240 1, 716 1, 266 386 554 3, 460 1, 948 398 308 308 3273 2287	1, 436 171 175 156 400 628 61 96 96 96 1, 679 14335 1, 184 2, 286 1, 613 1, 184 910 2, 287 2, 451 414 3, 451 414 3, 451 414 3, 451 414 3, 451 414 3, 451 414 414 414 415 414 415 415 415 416 417 417 417 417 417 417 417 417 417 417	1, 364 157 170 132 427 667 61 80 9 1, 712 4, 082 157 16 2, 343 31, 420 1, 1420 1, 1420 2, 253 417 391 391 391 391 391 7, 508	1, 327 159 132 410 6889 93 5 1, 745 4, 539 16 2, 947 334 1, 696 1, 176 488 400 501 1, 953 432 432 437 331 2, 777	38. 1 37. 6 45. 2 32. 2 33. 6 241. 8 47. 4 51. 1 27. 3 25. 8 21. 3 33. 9 38. 6 28. 0 24. 8 1 18. 6 2 18. 9 17. 9 17. 6 19. 3 17. 8	32. 2 39. 7 36. 4 34. 5 48. 3 39. 5 48. 3 20. 8 20. 9 12. 2 11. 9 18. 4 21. 7 17. 17. 19. 5 19. 5 10. 0 11. 5	30. 8 36. 0 34. 0 27. 4 30. 6 43. 9 54. 1 53. 3 14. 8 20. 6 31. 7 20. 6 34. 6 31. 7 20. 6 29. 4 114. 7	31. 0 39. 1 42. 2 34. 0 32. 4 45. 6 51. 5 43. 0 19. 7 23. 9 19. 0 16. 4 11. 8 22. 4 22. 0 21. 1 25. 7 17. 3 20. 2 21. 5 3 20. 2 15. 3	31. 4 39. 0 28. 8 28. 6 29. 6 20. 9 24. 6 20. 9 24. 6 22. 5 21. 0 29. 3 11. 2 27. 7 18. 3 15. 9 11. 6 13. 7
Total comparable with 1909-1913 Total comparable with 1923	49, 461	24, 496	5.5		26, 776					
AFRICA.  Moroceo Algeria Tunis Egypt	3, 395 1, 228 7 398	2, 341 2, 725 927 340	2, 472 2, 521 1, 228 394	2, 548 2, 868 603 375	2, 866 2, 826 1, 206 400	13. 5 6. 4 7 29. 9	14. 3 4. 5 2. 8 26. 3	15. 1 17. 5 9. 4 26. 0	10. 7 6. 9 3. 5 30. 1	11. 4 16. 5 9. 5 30. 0
Total comparable with 1909-1913 Total comparable with	5, 021	3, 992	4, 143	3, 846	4, 432					
1923		6, 333	6, 615	6, 394	7, 298					

4 Former Kingdom of Serbia.

85813°---твк 1923----- 45

Three-year average.
 Includes Bessarabia.
 Preliminary estimate of former Russian territory within 1923 boundaries.
 Two-year average.

Table 138.—Barley: Area and yield per acre in undermentioned countries— Continued.

### NORTHERN HEMISPHERE-Continued.

			Area.	•			Yi	eld per a	cre.	
Country	Aver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.	Aver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.
ASIA. Cyprus India Russia	1,000 acres. 77,842 2,912	1,000 acres. 110 7,419	1,000 acres. 130 6, 203	1,000 acres. 118 7,356 454	1,000 acres.	Bush.	Bush. 18. 5 20. 2	Bush. 14. 7 18. 9	Bush. 16. 7 19. 8 9. 8	Bush.
Japanese Empire: Japan Chosen Formosa Kwantung	3, 042 1, 662	2, 987 2, 150 5 1	2, 929 1, 979 4 2	2,746	2, 515	29. 4 20. 7 12. 6 1 8. 0	28. 4 18. 4 11. 2 12. 0	28. 1 16. 7 9. 2 13. 0	31. 7	32. 4
Total comparable with 1909-1913	15, 464 3, 042	2, 987	2, 929	2, 7 <del>4</del> 6	2, 515					
ern Hemi- sphere, com- parable with 1969-1913_ Total North- ern Hemis-	80, 576									<del>-</del>
sphere, com- parable with 1923		43, 968			47, 278					<b>-</b>

#### SOUTHERN HEMISPHERE.

Country.	Aver- age 1909- 1913.	1920-21	1921-22	1932-2 <del>3</del>	1923-24	Aver- age 1909- 1913	1920-21	1921–22	1922-23	1923-24
Chile Uruguay Argentina Union of South Africa Australia New Zealand	111 * 7 230 2 109 154 35	143 5 617 97 335 47	128 3 620 87 298 33	147 3 600	136 10 637	36. 8 8 11. 1 8 17. 6 2 11. 7 19. 6 36. 1	35. 2 16. 4 6. 0 10. 8 22. 3 35. 2	35. 6 14. 0 9. 6 14. 7 21. 3 36. 4	36. 6 9. 3 12. 8	14.4
Total comparable with 1909-1913	646	1, 244 765	1, 169 751	750	783					
with 1909- 1913 World total comparable with 1923	81, 222	44, 733			48, 061					

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.

<sup>&</sup>lt;sup>1</sup> Three year average.

<sup>2</sup> One year only.

<sup>&</sup>lt;sup>7</sup> Two-year average. <sup>8</sup> Four-year average.

Table 139.—Barley: Production in undermentioned countries.

## NORTHERN HEMISPHERE.

Country.	Average 1909-1913.	1917	1918	1 <b>9</b> 19	1920	1921	1922	1923, pre- liminary.
NORTH AMERICA.  Canada United States Mexico	1,000 bushels. 45, 275 184, 812 7, 021	1,000 bushels. 55, 058 211, 759	1,000 bushels. 77, 287 256, 225	1,000 bushels. 56, 389 147, 608	1,000 bushels. 63, 311 189, 332	1,000 bushels. 59, 709 154, 946	1,000 bushels. 71,865 182,068 3,887	1,000 bushels. 80, 357 198, 185
Total compar- able with 1909-1913 Total compar- able with	237, 108						257, 820	077.10
1923	230, 087	266, 817	333, 512	203, 997	252, 643	214, 655	253, 933	278, 542
EUROPE.  United Kingdom: England and Wales. Scotland. Ireland. Norway. Sweden. Denmark. Netherlands. Belgium. Luxemburg. France. Spain. Portugal. Italy. Switzerland. Germany (summer). Austria. Czechoslovakia. Hungary. Yugoslavia. Grece. Bulgaria. Rumania. Poland. Lithuania. Latvia. Esthonia. Finland. Russia, including Uk-	56, 658 7, 173 7, 510 2, 867 15, 035 2 24, 980 3, 270 4, 342 2 48, 183 74, 689 2 10, 104 2 153, 529 2 72, 250 6, 74, 997 8 3, 692 2 11, 944 9 58, 445 10 (35, 031) 10 (7, 330) 10 (7, 523) 10 (5, 838) 4, 947	46, 125 5, 875 7, 873 4, 021 11, 369 217, 881 2, 158 39, 377 77, 957 1, 481 27, 429 5, 89, 886 3, 291 5, 796 10, 073	50, 667 5, 642 8, 359 5, 622 11, 552 2 21, 465 2, 615 142 3 29, 237 90, 496 1, 490 2 9, 686 4, 233 	45, 617 6, 367, 8, 125 5, 274 12, 718 224, 523 23, 360 3, 449 26, 285 81, 808 1, 422 28, 327 631 5 87, 741 3, 822 	52, 792 8, 108 7, 527 5, 382 11, 175 24, 707 2, 660 4, 350 90, 462 1, 797 25, 870 82, 344 4, 424 37, 238 22, 585 13, 199 6, 205 38, 567 5, 418 3, 057 4, 081 3, 302	44, 242 6, 158 5, 952 4, 279 12, 238 27, 548 3, 302 5, 117 74 38, 318 89, 320 1, 600 4 11, 119 553 89, 056 5, 481 47, 471 21, 408 13, 373 6, 430 8, 489 44, 254 6, 675 6, 496 4, 690 5, 345	42, 233 6, 133 7, 170 4, 483 13, 830 30, 433 3, 143 3, 143 3, 143 3, 141 8, 253 3, 141 8, 253 491 73, 013 5, 599 46, 352 22, 169 11, 969 11, 941 93, 780 56, 559 10, 725 6, 670 4, 557	41, 717 1 6, 208 3, 800 11, 712 2, 922 4, 223 41, 384 46, 993 111, 861 10, 477 7, 501 55, 176 24, 649 14, 327 7, 101 12, 281 68, 951 81, 938 7, 918 6, 936 4, 831 3, 791
raine and Northern Caucasia	10 (383,448)			<b></b>			111, 610	
Total compar- able with 1909-1913	1, 075, 340 659, 402				517, 382	530, 090		635, 167
APRICA.	1 1/14				-			
Morocce Algeria Tunis Egypt	45, 974 7, 826 11, 906	31, 649 31, 461 7, 808 13, 598	35, 217 58, 422 13, 090 9, 871	26, 394 28, 073 5, 511 10, 087	33, 497 12, 378 2, 618 8, 956	37, 264 44, 092 11, 482 10, 235	27, 230 19, 805 1, 837 11, 306	32, 736 46, 527 11, 482 11, 989
Total compar- able with 1909-1913 Total compar- able with	65, 706	52, 867	81, 383	43, 671	23, 952	65, 809	32, 948	69, 998
1923		84, 516	116, 600	70, 065	57, 449	103, 073	60, 178	102, 734

<sup>1</sup> Commercial estimate.
2 Old boundaries.
3 Includes production in Alsace-Lorraine.
4 Includes 758,000 bushels produced in Venezia Tridentina and Venezia Giulia.
5 Excludes production in Alsace-Lorraine.
6 Three-year average.
7 Former Kingdom of Serbia.
6 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.

Country.	A verage 1909–1913.	1917	1918	1919	1920	1921	1922	1923, pre- liminary.
ASIA.  Cyprus India Russia (Asiatic)	1,000 bushels. 2,183 11 43,307 36,795	1,000 bushels. 2,597 155,680	1,000 bushels. 3,402 155,587	1,000 bushels. 2,301 129,827	1,000 bushels. 2,031 149,567	1,000 bushels. 1,915 117,087	1,000 bushels. 1,976 145,973 4,459	1,000 bushels.
Japanese Empire: Japan Chosen Formosa Kwangtung	89, 531 34, 455 63 8	88, 896 37, 475 50 5	87, 769 41, 696 56 16	89, 356 39, 067 52 14	84, 909 39, 494 56 12	82, 323 33, 054 37 26	87, 139 32, 889	81, 371 30, 721
Total comparable with	206, 342							
Total comparable with 1923 Total Northern Hemisphere, comparable with	123, 986	126, 371	129, 465	128, 423	124, 403	115, 377	120, 028	112, 092
Total Northern Hemisphere, comparable with	1, 584, 496				951,877	963, 195		1, 128, 535

#### SOUTHERN HEMISPHERE.

Country.	Average, 1909–1913.	1917–18	1918–19	1919–20	1920-21	1921–22	1922-23	1923-24
Chile UruguayArgentina Union of South	4, 090 12 78 12 4, 395	3,304 108	3, 664 72	3, 691 76 2, 555	5, 035 82 3, 682	4, 556 42 5, 982	5, 380 28 7, 656	9, 186
Africa 18 Australia New Zealand	8 1, 274 3, 021 1, 264	2, 025 4, 163 592	1, 029 4, 962 741	720 4, 467 850	1, 046 7, 454 1, 653	1, 282 6, 339 1, 200	623	
Total comparable with 1909-1913 Total comparable with 1923 World total, com-	14, 122 4, 395			12, 359 2, 555	18, 952 3, 682	19, 401 5, 982	7, 656	9, 186
parable with 1909-1913 World total, com- parable with 1923.	1, 598, 618				955 <b>,</b> 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 crops 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.

<sup>&</sup>lt;sup>6</sup>Three-year average.
<sup>8</sup>One year only.

<sup>11</sup>Two-year average.

<sup>12</sup>Four-year average.

<sup>18</sup>Excludes native locations which produced 38,550 bushels in 1917–18 and 29,057 in 1920–21

TABLE 140.—Barley: World production, 1894-1923.

	Production in countries		Estimated world totals		selected cou	ntries.
Year.	reporting all years, 1894–1923.	as reported.		Russian Empire. <sup>1</sup>	Germany.	Japan.
1894	1,000 bush. 607, 282 616, 057 564, 927 551, 097 635, 270	1,000 bush. 1, 031, 839 970, 564 961, 353 909, 157 1, 090, 672	1,000 bush. 1, 209, 725 1, 125, 471 1, 127, 085 1, 045, 892 1, 327, 512	1,000 bush. 277, 464 226, 134 253, 630 238, 651 306, 922	1,000 bush. 130, 858 128, 325 125, 254 117, 783 129, 939	1,000 bush. 81, 133 79, 646 70, 545 72, 662 83, 338
1899 1900 1901 1901 1902 1903	628, 739 620, 639 679, 376 702, 761 666, 922	973, 216 984, 210 1, 046, 723 1, 182, 478 1, 195, 298	1, 143, 901 1, 168, 630 1, 222, 624 1, 365, 344 1, 356, 104	226, 909 236, 981 239, 917 338, 251 357, 471	137, 047 137, 888 152, 535 142, 391 152, 652	77, 309 82, 420 83, 352 74, 078 59, 737
1904 1905 1906 1907 1908	657, 150 651, 638 758, 275 725, 374 709, 335	1, 140, 319 1, 158, 453 1, 262, 809 1, 261, 256 1, 293, 613	1, 313, 769 1, 313, 903 1, 456, 706 1, 438, 416 1, 434, 561	346, 255 346, 966 330, 962 377, 031 402, 258	135, 408 134, 203 142, 900 160, 649 140, 538	80, 794 77, 473 83, 967 90, 480 87, 138
1909	778, 074 707, 237 728, 017 772, 145 783, 690	1, 522, 309 1, 396, 972 1, 449, 535 1, 575, 130 1, 726, 095	1, 648, 697 1, 518, 917 1, 541, 983 1, 619, 575 1, 778, 842	501, 869 487, 919 436, 569 496, 352 600, 232	160, 551 133, 330 145, 133 159, 924 168, 709	87, 185 81, 953 86, 480 90, 559 101, 477
1914	718, 089 691, 862 669, 754 612, 658 694, 950	1, 514, 983 1, 563, 397 1, 048, 089 982, 142 1, 128, 067	1, 557, 233 1, 585, 154 1, 514, 614 1, 434, 642 1, 488, 567	<sup>2</sup> 432, 615 <sup>2</sup> 429, 161	144, 125 114, 077 128, 450 8 89, 886 8 93, 504	85, 774 94, 959 89, 335 88, 896 87, 769
1919 1920 1921 1921 1922	536, 432 580, 268 574, 819 555, 961 657, 950	927, 303 1, 156, 526 1, 136, 761 1, 305, 414 1, 137, 721	1, 244, 526 1, 224, 261 1, 327, 674		3 87, 741 3 82, 344 3 89, 056 3 73, 013 3 99, 162	89, 356 84, 909 82, 323 87, 139 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.

Table 141.—Barley: Farm stocks, shipments, and quality, United States, 1910-19**23**.

			10.00.				
	014 -4 - 1-		Crop.			Stocks on	Shipped
Year.	Old stocks on farms Aug. 1.1	Quantity.	Weight per bushel.2	Quality.3	Total. supplies.	farms Mar. 1 fol- lowing. <sup>1</sup>	out of county where grown.1
	1,000	1,000			1,000	1,000	1,000
	bushels.	bushels.	Pounds.	Per cent.	bushels.	bushels.	bushels.
1910-11	8, 075	173, 832	46. 9	88.1	181, 907	33, 498	86, 955
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	<b>228,</b> 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
	3,000	200, 200	10.0	30.0		-4,011	

<sup>&</sup>lt;sup>1</sup>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.

Based on percentage of entire crop as reported by crop reporters. Average weight per measured bushel as reported by crop reporters. Percent of a "high medium grade" as reported by crop reporters. Preliminary.

Table 142.—Barley: Monthly marketings by farmers, United States, 1917-1928.

Year	Per	centag	e of ye	ar's r	eceipts	as rej	ported	by ab	out 3,	500 mi	lls and	eleva	tors.
beginning July 1	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Sea- son.
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	2. 2 2 4 18. 5 7. 0 35. 0 17. 4	15. 0 9. 7 19. 2 16. 5 14. 0 22. 9	23. 4 8. 4 14. 3 15. 0 10. 5 14. 6	16. 5 4. 4 9. 9 9. 9 7. 8 10. 8	8. 5 7. 8 6. 4 9. 9 4. 4 5. 2	8. 6 3. 3 7. 5 7. 2 4. 2 6. 0	6. 5 1. 3 5. 4 6. 7 3. 9 4. 8	7. 5 .7 3. 1 5. 5 4. 3 3. 2	6. 1 2. 9 3. 7 6. 5 4. 2 3. 5	2. 9 27. 5 3. 4 4. 2 3. 0 1. 9	1. 8 30. 7 3. 0 5. 7 4. 4 2. 7	1. 0 . 9 5. 6 5. 9 4. 3 7. 0	100. 0 100. 0 100. 0 100. 0 100. 0 100. 0

Table 143.—Barley: Receipts at markets named, 1909-1922.

Year beginning Aug. 1.	Minne- apolis	Duluth.	Chicago.	Milwaukee.	Omaha.	Fort William and Port Arthur. <sup>1</sup>
	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels,	1,000
1909-10	22, 828	12, 177	26, 658	15, 143	ousnets.	bushels.
1910-11	1, 518	7, 157	20, 740	12, 915		1, 537
1911-12	19, 134	6,019	20, 929	12, 797		3, 483
1912-13	35, 682	14, 504	30, 083	19, 824		9, 859
1913-14	29, 796	10,895	26, 201	17, 499		
		10,000	20, 201	17, 499		10, 667
Average, 1909–1913	21, 792	10, 150	24, 922	15, 636		5, 769
1914-15	29, 465	11, 122	25, 073	7,096		2, 884
1915–16	45, 143	15, 396	32, 085	19, 850		10.356
1916-17	26, 301	8, 633	28, 075	19, 619	1, 236	
1917-18	35, 423	7, 470	21, 473	14, 675	2, 089	7,688
1918-19	43, 172	8, 427	26, 871	18, 458		7, 470
1919-20	13, 194	2, 322	13, 694		3, 991	7, 741
1920-21	17, 774	4, 043	10, 192	10, 208 9, 813	831 1,325	8, 194 12, 326
Average, 1914-1920	30, 067					
H v Clage, 1914-1920	30,007	8, 202	22, 495	14, 246	<sup>2</sup> 1, 894	8,094
1921-22	11, 945	5, 154	7, 597	9, 341	1,075	11, 597
1922-23	14, 259	3, 835	10, 073	9, 446	801	11, 597
1922-23.	,	,	,	0,110	001	10, 100
August	1, 203	601	1, 175	812	53	
September	1, 397	1, 164	1, 260	890	53	2, 483
October	1,581	722	1,017	1, 123	88	2, 483 4, 098
November	1, 424	439	949	1, 389	138	
December	1, 724	42	1,089	894	69	2, 093
January	1,702	39	998	869	104	1, 443
February	845	120	685	659		1, 150
March	1, 196	81	987	781	43 77	337
April	832	255	651	488	102	609
May	625	69	502	502		754
June	884	191	359	502 528	13	946
July	846	112	359 401	528 511	34	589
August		112	401	911	27	835
4145400						419

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record, Chicago Daily Trade Bulletin, Grain Dealers Journal, and Canadian Statistics.

Crop year begins in September.
 Five-year average.

Table 144.—Barley: Net imports and net exports of principal countries, 1907-1923.

			Imports	•				Exports		
Year ending July 31.	Bel- gium.	France.	Ger- many.	Nether- lands.	United King- dom.	Ru- mania.	Russia.	Can- ada.	United States.1	Algeria.
1906-7. 1907-8. 1908-9. 1909-10. 1910-11. 1911-12. 1912-13. 1913-14. 1914-15.	13, 847 15, 353 17, 380 14, 306	1,000 bushels. 8,415 2,011 2,597 3,983 8,823 6,945 2,779 7,771 1,412	1,000 bushels. 96, 725 92, 675 103, 736 124, 928 161, 627 152, 771 132, 333 173, 713 (2)	1,000 bushels. 7, 509 6, 812 9, 215 11, 120 15, 739 8, 319 8, 474 13, 321 4, 172	1,000 bushels. 46, 063 40, 237 50, 897 47, 613 44, 615 48, 861 53, 654 46, 917 31, 737	1,000 bushels. (2) (2) (2) (2) (2) (2) (2) 19, 435 11, 847 18, 941 4, 680	1,000 bushels. 95, 704 104, 674 152, 723 172, 096 199, 423 139, 910 154, 519 199, 632 215	1,000 bushels. 1,656 2,051 2,800 1,915 1,040 2,641 9,430 12,294 2,808	1,000 bushels. 8, 201 4, 149 6, 578 4, 312 9, 399 1, 585 17, 537 6, 645 26, 755	1,000 bushels. 5,335 3,704 2,304 4,888 7,289 7,552 476 6,138 1,502
1915-16 1916-17 1917-18 1918-19	(2) (2) (2) (2)	8, 587 3 9, 920 3 8, 745 3 12,248	(2) (2) (2) (2)	5, 474 4 4, 989 4 46 4 2, 327	40, 396 <sup>5</sup> 26,686 <sup>5</sup> 20,770 <sup>5</sup> 9, 264	24, 344 (2) (2) (2) (2)	878 (3) (2) (2)	8, 851 6 8, 675 6 6, 607 6 5, 398	27, 473 16, 381 26, 285 20, 458	5, 268 <sup>7</sup> 5, 268 <sup>7</sup> 1, 770 <sup>7</sup> 13, 549
1919-20 1920-21 1921-22 1922-23	2, 862 5, 452 10, 398 9, 799	10, 365 § 1, 423 4, 118 446	(3) 8, 935 11, 846 15, 789	1, 965 4, 551 6, 261 6, 955	37, 509 32, 368 33, 111 34, 571	98 28, 918 15, 422 35, 141	(2) (2) (3) (2)	11, 891 10, 404 12, 861 10, 902	26, 571 20, 457 22, 400 18, 193	6, 395 4, 712 5, 267 3, 919

Compiled from International Yearbook of Agricultural Division of Statistical and Historical Research. Statistics, 1915-16, 1922, and from official sources.

<sup>1</sup>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.

<sup>2</sup> Not available.

Not available.
 Year ending June 30—Documents Statistiques sur le Commerce de la France.
 Year ending June 30—Maandcijfers Netherlands.
 Year ending June 30—Trade and Navigation of the United Kingdom.
 Year ending June 36—Monthly Reports of the Trade of Canada.
 Year ending June 30—International Crop Reports and Crop Statistics.

Net exports.
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.	Мау.	June.	July.	Weight- ed av.
1908-9	Cts. 57. 1	Cts. 56. 1	Cts. 55, 3	Cts. 53. 7	Cts. 55. 4	Cts. 56. 5	Cts. 58. 3	Cts. 59. 4	Cts. 61. 2	Cts. 63. 8	Cts. 67. 0	Cts. 67. 0	Cts. 57. 0
1909-10	61. 2 54. 7 69. 3 66. 8 50. 8	54. 6 57. 2 77. 0 53. 5 55. 2	53. 4 56. 1 81. 7 54. 8 56. 8	53. 3 55. 3 84. 9 53. 8 54. 7	54. 0 57. 8 86. 9 50. 5 53. 7	57. 6 59. 8 86. 4 49. 9 52. 2	59. 3 64. 1 91. 2 51. 4 52. 4	60. 2 63. 0 91. 0 49. 0 51. 1	59. 7 69. 1 92. 3 48. 5 51. 7	56. 5 74. 0 96. 2 48. 3 49. 3	55. 7 73. 8 91. 1 52. 7 49. 1	53. 9 70. 1 81. 9 53. 7 47. 5	55. 7 59. 5 83. 6 53. 1 53. 6
Av. 1909-1913	60. 6	59. 5	60. 6	60. 4	60. 6	61. 2	63. 7	62. 9	64. 3	64. 9	64.5	61.4	61.1
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	110. 0 118. 7	100. 9	95. 5	51. 7 50. 1 83. 2 111. 3 94. 9 117. 1 81. 7	54. 3 51. <del>6</del> 88. 1 113. 7 91. 7 120. 6 71. 3	54. 3 54. 9 87. 1 126. 5 91. 3 130. 2 64. 4	62. 9 61. 7 92. 7 131. 9 86. 8 137. 1 57. 2	67. 7 59. 6 96. 9 161. 1 85. 4 129. 3 56. 8	92. 7		135. 4 109. 2	55.8 59.3 106.6 118.4 108.4 142.0 50.6	55. 0 53. 2 85. 2 122. 6 95. 9 123. 8 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. 6	87. 8
1921–22 1922–23 1923–24	49. 4 49. 7 53. 7	47. 0 45. 7 50. 7	45. 4 46. 7 53. 1	41. 7 51. 6 56. 3	41. 9 52. 5 54. 0	43. 7 58. 6	44. 3 55. 0	49. 6 57. 4	52. 8 58. 6	56. 3 60. 7	57. 7 60. 9	52. 2 55. 7	46. 1 52. 1

Table 146.—Barley: International trade, 1910-1923.

				Year endi	ng July 31	•		
Country.	Average	1910-1914.	192	0-21	192	1-22	1922–23, pi	reliminary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.  Algeria Argentina 2 Australia 3 British India. Bulgaria Canada. Chile 2 Czechoslovakia. Hungary Latvia. Poland. Rumania. Russia. Sweden. Tunis. United States.	1,000 bushels. 213 3 159 5 23 57 88 229 7 63 124 28 328	1,000 bushels. 5,482 764 51 10,640 1,876 5,522 1,062 	1,000 bushels. 5,567 26 (4) (4) (5) 1 3 5 5 7 1 1 317 294	1,000 bushels. 856 2,354 3,343 524 411 10,405 1,358 44 	1,000 bushels. 699 7 15 (4) 3 3 552 8 1 271 1	1,000 bushels. 5,965 2,230 2,016 184 819 12,864 2,826 1,941 188 10 258 15,424 75 6,524 22,812	1,000 bushels. 14,014 	1,000 bushels. 533 1,024 2,319 1,579 \$12,474 5,681 1,55 6 275 1,833 40,106 \$782 1,098 \$18,198
Yugoslavia PRINCIPAL IMPORTING COUNTRIES.  Austria Belgium Brazil  Denmark Egypt. Finland France. Germany Greece Italy. Japan Netherlands Norway. Portugal Spain Spain Switzerland. Union of South Africa  United Kingdom.	716 8 18, 401 1 3, 024 6, 846 149, 209 810 15 38, 039 4, 550 8 24 690 1, 140	8, 123 8 3, 180 2, 906 9 42 784 134 20 26, 975 8 5 113 1	1, 028 6, 607 672 1, 957 42 833 8, 962 1, 186 1, 973 12 4, 728 847 2, 269 908 152 32, 368	963  26 1, 154  753 192  2, 257 10 27 1 177  605 1 (4)	1, 452 11, 355 9 1, 655 33 22 4, 389 12, 037 3, 079 1, 603 20 0, 6, 692 1, 500 5, 838 2, 229 (4) 33, 111	6 957 2,906 593 1 271 191 44	3, 179 11, 335 36,098 406 567 1, 431 1313, 128 528 110 29,067 1, 363	1 81 3 63 3 1, 190 8 179 8 735 3 122 447 8 404
Total countries reported	274, 112	281, 013	70, 770	76, 531	83, 519	80, 028	94, 236	87, 736

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1922, except figures with footnotes (2) and (3) which are compiled from official sources.

<sup>1</sup> Ten months ending May 31.
2 Calendar years, 1909-1922.
3 Years ending June 30.
4 Less than 500 bushels.
5 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, 1908–1923, and value per acre, 1923.

,						-, .													
State.	1908	1909	1910	1911	1912	1913	Av. 1909 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923	Value per acre, 1923.1
Me	Cts. 81 80 70 70 63	Cts. 77 80 77 69 67	Cts. 76 77 68 70 63	Cts. 90 86 82 97 65	Cts. 77 84 80 68 68	Cts. 80 80 80 69 71	Cts. 80 81 77 75 67	Cts. 81 82 75 71 70	75	90 100 101	Cts. 130 175 140 130 140	150 153 126	Cts. 170 188 150 136 128	Cts. 138 146 120 99 90	Cts. 121 130 116 105 100	80 62	Cts. 100 98 97 74 65	Cts. 100 85 95 75 72	Dolls. 30, 00 22, 52 27, 55 20, 10 16, 13
MdVaOhioIndIll:	65 69 64 65 65	71 61 63	67 60 56		75 55	64 70 58 50 57	63 71 64 61 62	80 59 67	70 75 54 65 57	73 85 80 75 103	130 139 118 104 121	160 93	123 130 125 118 121	110 100 82 87 82	99 110 87 89 91	67 72 51 48 46	75 80 65 58 58	80 63 65 58	26. 40 21. 60 17. 01 14. 95 16. 82
Mich Wis Minn Iowa Mo	62 58 49 51 63	61 56 47 46 68		86 99 96 93 75	65 55 41 52 66	60 60 48 55 60	66 67 58 60 66			91 105 87 91 93	119 124 111 117 94	92 80 85	118 121 116 112 130	87 84 62 63 98	92 92 80 82 94	57 51 34 42 65	65 57 47 49 72	64 61 44 52 78	15, 36 17, 38 11, 00 14, 77 21, 06
N. Dak S. Dak Nebr Kans Ky	46 47 46 54 72	43 45 43 53 76	45 45		35 42 42 40 75	40 46 49 55 78	52 56 48 51 75	47 47	44 46 42 42 77	80 83 75 77 90	100 110 98 115 115	73 78 85 95 140	108 115 100 100 157	56 52 50 45 115	72 76 71 74 110	29 29 28 29 61	39 42 47 45 85	38 40 44 49 84	6. 65 9. 00 12. 32 10. 88 22. 68
Tenn Tex Okla Mont	73 78 58 61	79 100 65 63	90 54	90 93 61 68	80 78 50 53	70 81 80 48	80 88 62 59	70 53	75 68 50 48	100 80 100 76	144 137 148 103	130 124	180 112 122 140	110 75 72 65	120 96 96 84	100 45 45 60	65 55	100 68 70 48	23, 00 16, 32 15, 40 12, 24
Wyo Colo N. Mex Ariz Utah	65 65 79 85 54	74 66 100 88 66	80 90	75 69 70 87 66	62 50 71 87 59	61 56 72 73 55	68 60 79 85 61	64 55 75 60 50	56	87 82 100 108 76	130 104 139 150 120	113 110 130	175 120 110 140 141	110 75 75 140 100	107 85 97 112 97	65 37 61 80 48	59 95 85 55	65 54 80 95 70	20, 15 15, 66 15, 20 33, 25 28, 42
Nev Idaho Wash Oreg Calif	77 53 58 59 74	64 66	70 50 57 62 55		55	90 48 52 55 68	81 56 59 61 70	61	52 56 62	95 82 84 80 95	119 105 115 115 120	130 115 136	150 140 135 150 141	165 75 100 100 100	117 91 94 101 99	80 47 52 50 56	100 65 74 74 63	83 58 60 67 70	21. 08 24. 94 27. 42 23. 45 21. 14
			57. 8	<u></u>		53. 7	60. 7	54.3	51. 6	88. 1	113. 7	91. 7	120. 6	71. 3	84. 5	41.9	52. <del>5</del>	54. 0	13. 53

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.	Weight- ed aver- age.
1909-10	\$0. 45 . 61 . 85 . 46 . 58	\$0. 48 . 63 . 94 . 49 . 61	\$0. 49 . 63 . 95 . 50 . 56	\$0. 52 . 66 . 98 . 47 . 53	\$0. 57 . 70 . 91 . 45 . 50	\$0. 61 . 77 1. 05 . 49 . 52	\$0.60 .74 1.00 .48 .50	\$0. 58 . 81 . 95 . 46 . 48	\$0. 54 . 88 1. 01 . 46 . 47	\$0. 54 . 75 . 99 . 50 . 48	\$0. 53 . 77 . 76 . 52 . 47	\$0.60 .87 .60 .48 .45	\$0. 54 . 74 . 92 . 48 . 51
Av. 1909-1913	. 59	. 63	. 63	. 63	. 63	. 69	. 66	. 66	. 67	. 65	. 61	. 60	. 64
1914-15	. 59 . 59 . 81 1. 31 1. 02 1. 33 1. 02	. 58 . 48 . 81 1. 33 . 95 1. 27 . 99	. 55 . 51 1. 03 1. 28 . 91 1. 29 . 92	. 59 . 56 1. 11 1. 27 . 94 1. 33 . 82	.57 .61 1.07 1.49 .92 1.52 .74	. 68 . 70 1. 17 1. 56 . 90 1. 52 . 69	.75 .66 1.17 1.88 .87 1.37 .65	.70 .65 1.21 2.12 .93 1.51 .67	.70 .68 1.36 1.82 1.09 1.60 .61	.70 .70 1.48 1.46 1.13 1.74 .59	. 66 . 68 1. 38 1. 23 1. 12 1. 49 . 57	. 68 . 69 1. 49 1. 18 1. 21 1. 16 . 62	. 65 . 63 1. 17 1. 49 1. 00 1. 43 . 74
Av. 1914-1920	. 95	. 92	. 93	. 95	. 99	1. 03	1, 05	1.11	1.12				
1921-22 1922-23 1923-24	. 58 . 49 . 56	. 55 . 54 . 58	. 50 . 57 . 60	. 54 . 60 . 61	. 47 . 61 . 62	. 51 . 57	. 60	. 58	.61	. 62	.56	. 56	. 55

Division of Statistical and Historical Research. Compiled from Minneapolis Market Record.

<sup>1</sup> Based on farm price Dec. 1.

# 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
1849 1859 1869 1879			Bushels. 562,000 567,000 1,730,000 7,171,000 10,250,000	l	Dollars.		Bushels. 2, 501 2, 715 35	Bushels. 667, 369 3 3, 000, 000 5 5, 000, 000 1, 464, 195 2, 391, 175
1899 1902 1903 1904 1905	2, 111, 000 3, 740, 000 3, 233, 000 2, 264, 000 2, 535, 000	9. 5 7. 8 8. 4 10. 3 11. 2	19, 979, 000 29, 285, 000 27, 301, 000 23, 401, 000 28, 478, 000	105. 2 81. 7 99. 3 84. 4	30, 815, 000 22, 292, 009 23, 229, 000 24, 049, 000	8. 24 6. 90 10. 26 9. 49	2, 830, 991 4, 128, 130 758, 379 1, 338 5, 988, 519	67, 379 129, 089 213, 270 296, 184 52, 240
1906 1907 1908	2, 506, 000 2, 864, 000 2, 679, 000	10. 2 9. 0 9. 6	25, 576, 000 25, 851, 000 25, 805, 000	101. 3 95. 6 118. 4	25, 899, 000 24, 713, 000 30, 577, 000	10. 33 8. 63 11. 41	6, 336, 310 4, 277, 313 882, 889	90, 356 57, 419 593, 66
1909 1910 1911 1912 1913	2, 083, 000 2, 467, 000 2, 757, 000 2, 851, 000 2, 291, 000	9. 5 5. 2 7. 0 9. 8 7. 8	19, 699, 000 12, 718, 000 19, 370, 000 28, 073, 000 17, 853, 000	152. 8 231. 7 182. 1 114. 7 119. 9	30, 093, 000 29, 472, 000 35, 272, 000 32, 202, 009 21, 399, 000	14. 45 11. 95 12. 79 11. 29 9. 34	65, 193 976 4, 323 16, 894 305, 546	5, 002, 496 10, 499, 227 6, 841, 806 5, 294, 296 8, 653, 235
Av. 1909-1913	2, 490, 000	7. 9	19, 543, 000	151. 9	29, 688, 000	11. 92	78, 586	7, 258, 212
1914 1915 1916 1917 1918 1919	1, 645, 000 1, 387, 000 1, 474, 000 1, 984, 000 1, 910, 000 1, 503, 000 1, 757, 000	8. 4 10. 1 9. 7 4. 6 7. 0 4. 8 6. 1	13, 749, 000 14, 030, 000 14, 296, 000 9, 164, 000 13, 369, 000 7, 256, 000 10, 774, 000	126. 0 174. 0 248. 6 296. 6 340. 1 438. 3 176. 7	17, 318, 000 24, 410, 000 35, 541, 000 27, 182, 000 45, 470, 000 31, 802, 000 19, 039, 000	10. 53 17. 60 24. 11 13. 70 23. 81 21. 16 10. 84	, 4, 145 2, 614 1, 017 21, 481 15, 574 24, 044 1, 481	10, 666, 215 14, 679, 233 12, 393, 988 13, 366, 529 8, 426, 886 23, 391, 934 16, 170, 415
Av. 1914-1920	1, 666, 000	7. 1	11, 805, 000	242. 9	28, 680, 000	17. 21	10, 051	14, 156, 457
1921 1922 1923 4	1, 108, 000 1, 113, 000 2, 061, 000	7. 2 9. 3 8. 5	8, 029, 000 10, 375, 000 17, 429, 000	145. 1 211. 5 210. 8	11, 648, 000 21, 941, 000 36, 733, 000	10. 51 19. 71 17. 82	2, 267	13, 632, 073 25, 005, 936

Division of Crop and Livestock Estimates. Figures in italics are census returns.

Table 150.—Flaxseed: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thou	sands of	acres.	Produc	tion, the	ousands s.	Total v price dolla	alue, bas , thouse rs.	is Dec. 1 ands of
	1921	1922	1923 1	1921	1922	1923 1	1921	1922	19231
Wisconsin Minnesota Iowa North Dakota South Dakota Kansas Montana Wyoming	6 314 8 430 216 3 20 110	310 8 521 162 3 20 84	8 527 9 1,094 284 4 24 110	63 2, 983 70 2, 795 1, 404 24 134 550 6	3, 100 83 4, 845 1, 539 24 120 605	97 5, 270 86 8, 424 2, 414 44 182 902 10	94 4, 504 107 3, 997 1, 952 36 181 770 7	94 6, 758 154 10, 368 3, 093 46 223 1, 092 13	204 11, 225 181 17, 859 5, 021 92 391 1, 741
-	1, 108	1, 113	2, 061	8, 029	10, 375	17, 429	11, 648	21,941	36, 733

Division of Crop and Livestock Estimates.

Based on farm price Dec. 1.
 Compiled from reports of Bureau of Foreign and Domestic Commerce.

Approximate.
Preliminary.

<sup>1</sup> Preliminary.

TABLE 151.—Flaxseed: Yield per acre, by States, calendar years, 1908-1923.

State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
Iowa North Dakota South Dakota Nebraska Kansas	16. 0 10. 6 10. 9 9. 0 10. 7 11. 0	14. 5 10. 0 9. 8 9. 3 9. 4 8. 5 7. 0	10. 0 7. 5 12. 2 3. 6 5. 0 8. 0 8. 2	12. 0 8. 0 7. 6 5. 3 5. 0 3. 0		14. 0 9. 0 9. 4 7. 2 7. 2 6. 0 6. 0	12. 6 8. 9 10. 2 7. 5 7. 1 7. 4 6. 0	13. 5 9. 3 9. 5 8. 3 7. 5 7. 0 6. 0 8. 0	13. 5 10. 5 9. 0 9. 9 11. 0	12. 0 8. 5 10. 0 10. 3 9. 3 8. 0 5. 8 9. 5	9. 5 11. 0 3. 9 7. 0 5. 5 7. 0 3. 0	11. 0 10. 4 11. 0 7. 8 9. 5 9. 5 5. 0 3. 0	10. 5 8. 0 16. 0 4. 6 7. 0 5. 0 6. 3 1. 3	11. 0 9. 5 12. 0 5. 3 10. 9 9. 0 6. 9 2. 6	9. 4 11. 2 7. 2 8. 8 7. 9 6. 1 5. 4	10. 5 9. 5 8. 7 6. 5 6. 5 8. 0 6. 7 5. 0	13. 0 10. 0 10. 4 9. 3 9. 5 8. 0 6. 0 7. 2	12. 1 10. 0 9. 5 7. 7 8. 5 11. 0 7. 6
United States	9. 6	9. 5	5. 2	7. 0	9. 8	7.8	7. 9	8. 4	10. 1	9. 7	4. 6	7. 0	4.8	6. 1	7. 2	7. 2	9. 3	8. 5

Table 152.—Flaxseed: Condition of crop, 1st of month, and yield per acre, United States, 1903-1923.

Calendar year.	July.	Aug.	Sept.	Oct.1	Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.1	Yield per acre.
1903 1904 1905 1906 1907 1908	P. ct. 86. 2 86. 6 92. 7 93. 2 91. 2 92. 5	P. ct. 80. 3 78. 9 96. 7 92. 2 91. 9 86. 1	P. ct. 80. 5 85. 8 94. 2 89. 0 85. 4 82. 5	P. ct. 74. 0 87. 0 91. 5 87. 4 78. 0 81. 2	Bush. 8.4 10.3 11.2 10.2 9.0 9.6	1914 1915. 1916. 1917. 1918. 1919.	P. ct. 90. 5 88. 5 90. 3 84. 0 79. 8 73. 5 89. 1	P. ct. 82. 1 91. 2 84. 0 60. 6 70. 6 52. 7 80. 1	P. ct. 72. 9 87. 6 84. 8 50. 2 72. 6 50. 5 63. 8	P. ct. 77. 4 84. 5 86. 2 51. 3 70. 8 52. 6 62. 8	Bush. 8.4 10.1 9.7 4.6 7.0 4.8 6.1
1909 1910	95. 1 65. 0	92. 7 51. 7	88. 9 48. 3	84. 9 47. 2	9. 5 5. 2	Av. 1914-1926	85.1	74.5	68.9	69.4	7.2
1911 1912 1913	80, 9 88, 9 82, 0	71. 0 87. 5 77. 4	68. 4 86. 3 74. 9	69. 6 83. 8 74. 7	7. 0 9. 8 7. 8	1921 1922 1923	82. 7 87. 6 85. 0	70. 0 84. 7 82. 4	62. 3 82. 7 79. 0	66. 8 82. 6 80. 4	7. 2 9. 3 8. 5
Av. 1909-1913	82.4	76.1	73.4	72.0	7.9						

Division of Crop and Livestock Estimates.

Table 153.—Flaxseed: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1910-1922.

Cal- endar year.	Defi- cient mois- ture.	Ex- ces- sive mois- ture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total cli- matic.	Plant dis- ease.	Insect pests.	Ani- mal pests.	De- fect- ive seed.	Total.1
1910 1911 1912 1913 1914 1915 1916 1917 1918	P. ct. 49. 4 16. 4 5. 1 24. 3 11. 4 2. 1 3. 3 51. 3 26. 2	P. ct. (2) 1.1 2.9 .7 1.7 2.0 2.3 .3 .2	P. ct.	P. ct. 2. 5 8. 4 5. 9 1. 0 2. 0 8. 5 1. 4 2. 9 3. 3	P. ct. 0. 9 9 2. 8 1. 7 1. 9 2. 1 1. 7 1. 2 2. 3	P. ct. 6. 2 2. 8 1. 1 2. 2 6. 6	P. ct. 0.1 .8 .2 .3 .2 .3	P. ct. 59. 3 30. 5 19. 0 30. 6 24. 1 16. 1 12. 4 59. 3 34. 8	P. ct. 1.3 2.2 3.7 1.6 2.2 2.6 3.9 1.2 1.0	P. ct. 1.7 1.7 2.2 5 1.1 1.2 2.6	P. ct. (2) (2) 0.4 (2) (2) (2) (2) (2) (2) (2) (2)	P. ct. 0.1 .2 1.4 .4 (2) .1 .1	P. ct. 63. 1 36. 3 26. 6 34. 5 29. 1 20. 0 17. 2 62. 3 39. 3
1919 1920 1921 1922	38. 0 23. 2 25. 2 9. 6	.7 1.2 .9	.1	.5 .6 .4 .3	2.0 1.7 1.9 2.4	4. 1 4. 2 6. 6 1, 7	.2: .1 .2	45. 5 31. 7 35. 3 14. 8	3.7 4.5 4.3 2.6	10.6 3.7 3.1 3.9	.1 (4)	(2) .1 .1 .1	60. 2 41. 4 43. 5 21. 4

<sup>1</sup> Condition at time of barvest.

<sup>1</sup> Includes all other causes.

<sup>2</sup> Less than 0.05 per cent.

Table 154.—Flax: Area in undermentioned countries, 1909-1923. NORTHERN HEMISPHERE.

			Area.		
Country.	Average, 1909-1913.	1920	1921	1922	1923
NORTH AMERICA. Canada United States EUROPE.	Acres. 1, 035, 000 2, 489, 800	Acres. 1, 428, 164 1, 757, 000	Acres. 533, 147 1, 108, 000	Acres. 565, 479 1, 113, 000	Acres. 629, 938 2, 061, 000
United Kingdom: England and Wales Ireland Sweden Netherlands Belgium France Spain Italy Germany Austria. Czechoslovakia. Hungary Yugoslavia Serbia, Croatia-Slavonia, and Bosnia- Herzegovina Bulgaria. Rumania Poland Lithuania Latvia Esthonia Finland Russia, including Ukraine and Northern Caucasia	53, 000 3, 841 33, 000 48, 930 1 61, 540 2 7, 349 3 41, 513 41 41, 266 1 96, 525 	22, 300 127, 198 6, 726 60, 179 125, 344 86, 048 2, 978 49, 914 139, 458 7, 554 54, 406 38, 967 34, 886 1, 290 24, 582 120, 825 166, 076 75, 363 50, 048 15, 985 1, 538, 000	7, 800 39, 845 6, 726 21, 510 37, 164 43, 163 4, 097 52, 632 117, 795 8, 357 58, 409 10, 366 35, 661	9, 360 34, 032 5, 600 23, 954 40, 700 45, 429 4, 200 52, 385 114, 580 9, 200 56, 151 6, 600 34, 100 26, 800 251, 500 93, 300 59, 200 136, 600 1, 862, 000	24, 300 45, 200 4, 200 49, 400 55, 059 4, 700 1, 300 30, 600 225, 600 128, 700 139, 500 59, 200 10, 600
AFRICA.  Morocco (French, Western) Algeria Tunis Egypt Kenya	1, 366	96, 147 988 8, 317 5, 765 26, 474	43, 663 741 9, 180 1, 384 14, 584	31, 700 700 3, 800 1, 400	39, 500 800 7, 400 1, 700
ASIA. India	3, 818, 080 1 376, 000 12, 139	3, 103, 000 213, 000 103, 201	2, 269, 000 76, 428	3, 011, 000 298, 000 39, 100	3, 358, 000

### SOUTHERN HEMISPHERE.

	Area.									
Country.	A verage, 1909–1913	1920-21	1921-22	1922-23	1923-24					
Chile	Acres. 3, 149 126, 528 4, 004, 058 2 1, 056 4 2, 565	Acres. 897 78, 867 4, 769, 030 1, 072 9, 662	Acres. 500 60, 935 3, 891, 825 954 5, 881	Acres. 800 84, 500 4, 194, 028	Acres. 102, 500 5, 254, 695					
World total comparable with 1909- 1913 World total comparable with 1923.	15, 777, 409	14, 183, 008 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.

<sup>&</sup>lt;sup>1</sup>Pre-war boundaries. <sup>2</sup>Two years. <sup>3</sup>Three-year average.

<sup>One year.
Pre-war Poland included in Russia, Austria, and Germany.
From an unofficial source.</sup> 

Table 155.—Flax: Production in undermentioned countries, 1909-1923. NORTHERN HEMISPHERE.

		Sec	ed.			Fibe	r.	
Country.	Average 1909–1913.	1921	1922	1923	Average 1909–1913.	1921	1922	1923
NORTH AMERICA.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
Canada United States	12, 040 19, 543	4, 112 8, 029	5, 009 10, 375	6, 942 17, 429				
EUROPE.	1	]		ĺ			1	
United Kingdom: England and Wales								
Ireland					23, 701	10, 725	12, 390	
Sweden	1 14	17	11		1 1, 128	1, 512	1,098	
Netherlands		249	250		17, 276	10, 853	9, 691	
Belgium	1 472	328	356	396	2 51, 888	20, 027	33, 480	40,370
France		288	223		3 40, 623	23, 333	30, 185	
Spain	2 26	46	51	51	<sup>2</sup> 1, 995	1, 157	1, 420	1, 170
Italy	329	516	413	433	6, 289	5, 930	4, 982	5, 510
Austria Czechoslovakia	₹ 694	45	48		<sup>3</sup> 53, 116	6,739	7, 130	
Czechoslovakia	3 196	300	312	427		28, 693	27, 731	30,078
Hungary	, 190	73	41		<sup>3</sup> 20, 547	7,618	5, 190	
Yugoslavia						16, 680	15, 270	
Serbia, Croatia-Slavo-				l. '			1	i
nia and Bosnia- Herzegovina	3 21				3 10, 564		l	
Bulgaria		. 3	15	11	1 8 447	169	650	550
Rumania	8 467	128	194		<sup>3</sup> 4, 864	2, 670	3, 110	550
Poland		1, 287	1, 995		(4)	92, 614	113, 770	
Lithuania		909	1, 108	1,026		41, 470	45, 190	45, 970
Latvia		625	563	982		30, 675	37, 560	54, 180
Esthonia		275	328	304		15, 906	20, 750	19, 800
Finland		2.0	023	001		3, 486	3, 527	20,000
Russia, including   Ukraine and North-						. 1	ŕ	
ern Caucasia	3 4 21, 338		7, 866		3,41,255,973		429, 995	<b></b> -
AFRICA.								
Morocco (French)		418	267					
Algeria	13	11	6	10	° 188			<b>-</b>
Tunis Kenya	37	59 35	4 33	47		2, 545		
•						,		,
ASIA.	10.050	10.000	اميرور	01 000		,		
India	19, 870	10, 800	17, 440	21, 280	3 127, 613		61, 392	<b></b>
Asiatic Russia	<sup>3</sup> 2, 123 1 98	634	1, 532 275		5, 174	24, 980	10, 710	
Japan	. 98	034	215		0, 174	21, 500	10, 110	

## SOUTHERN HEMISPHERE.

		Se	ed.		Fiber.					
Country.	Average 1909–1913.	1921-22	1922-23	1923-24	Average 1909–1913.	1921-22	1922–23	1923-24		
ChileUruguay	1,000 bushels. 35 976	1,000 bushels. 8 519	1,000 bushels.	1,000 bushels.	1,000 pounds. 43	1,000 pounds. 210	1,000 pounds.	1,000 pounds.		
Argentina Australia New Zealand	31, 117 5 9	36, 046 10 113	44, 280 205	63, 225	<sup>5</sup> 128	49				
World total com- parable with 1909-1913 World total com-	110, 331				1, 624, 557					
parable with		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.

<sup>4</sup> Pre-war Poland included in Russia, Austria, and Germany.
<sup>5</sup> Two years.

<sup>1</sup> Four-year average.2 Three-year average.3 Pre-war boundaries.

TABLE 156.—Flaxseed: Monthly marketings by farmers, United States, 1917-1922.

Year beginning	P	ercents	ige of 3	ear's r	eceipts	as rep	orted	by abo	ut 3,50	0 mills	and e	levator	s.
July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Λpr.	Мау.	June.	Sea- son.
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	1. 8 1. 8 3. 6 2. 1 6. 4 2. 5	3. 6 2. 9 8. 0 4. 7 10. 9 13. 4	21. 5 14. 8 20. 6 23. 6 20. 7 27. 6	28. 1 21. 5 22. 2 28. 6 25. 7 23. 3	17. 6 15. 0 11. 1 13. 0 12. 0 11. 4	7. 6 10. 9 7. 4 6. 2 6. 9 5. 9	4. 7 5. 2 5. 0 5. 0 4. 3 4. 7	4. 0 4. 4 6. 3 3. 3 2. 8 3. 0	4.8 5.8 3.1 3.1 3.0 2.7	1.8 4.3 3.1 2.1 2.4 2.3	1. 6 5. 0 2. 6 3. 4 2. 1 1. 6	2. 9 8. 4 7. 0 4. 9. 2. 8 1. 6	100. 0 100. 0 100. 0 100. 0 100. 0 100. 0

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.
1910-11 1911-12 1912-13 1913-14	1,000 bush. 854 563 700 756	1,000 bush. -1,530 1,212 1,657 1,686	1,000 bush. 1, 292 1, 570 1, 520 1, 505	1,000 bush. 535 1,716 2,245 1,131	1,000 bush. 338 531 1,450 711	1,000 bush. 300 459 1,146 478	1,000 bush. 232 397 1,057 592	1,000 bush. 112 468 742 <b>2</b> 70	1,000 bush. 118 571 518 139	1,000 bush. 122 440 514 165	1,000 bush. 133 487 432 233	1,000 bush. 191 160 281 117	1,000 bush. 5,757 8,574 12,362 7,783
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920	901 347 316 265 536 753 580	1, 890 1, 038 2, 380 980 915 570 1, 444	1, 247 1, 506 1, 694 1, 112 857 568 861	1, 016 1, 113 1, 045 614 788 492 699	599 319 544 533 558 344 298	443 399 442 553 473 368 269	384 810 441 527 829 409 364	142 486 384 283 439 159 434	77 440 263 349 436 295 578	146 363 565 648 942 522 572	239 441 325 208 642 554 338	115 199 92 94 196 297 289	7, 199 7, 461 8, 491 6, 166 7, 611 5, 331 6, 726
1921-22 1922-23 1923-24	500 909 2, 553	1, 144 1, 121 2, 025	375 580 1,360	354 577 865	308 494	200 238	254 316	196 456	300 393	220 458	157 382	288 884	4, 296 6, 808

Division of Statistical and Historical Research. Compiled from Minneapolis Chamber of Commerce reports and Daily Market Record.

Table 158.—Flaxseed; including linseed oil: Production, imports, exports, and net supply in the United States, 1911-1922.

Year beginning July 1.	Produc- tion.	Imports of seed.	Imports of oil.1	Exports of seed (do- mestic and foreign).	Exports of oil (do- mestic and foreign).1	Net supply.
1911-12 1912-13 1913-14 1914-15 1915-16 1916-17 1917-18 1918-19	Bushels. 19, 370, 000 28, 073, 000 17, 853, 000 13, 749, 000 14, 296, 000 14, 296, 000 13, 369, 000 7, 256, 000	Bushels. 6, 841, 806 5, 294, 296 8, 653, 235 10, 666, 215 14, 679, 233 12, 393, 988 13, 366, 529 8, 426, 886 23, 391, 934	Bushels. 234, 902 69, 476 76, 913 214, 116 20, 059 44, 323 20, 331 395, 925 1, 820, 156	Bushels. 26, 242 17, 062 305, 796 67, 173 2, 631 1, 017 22, 332 15, 618 48, 980	Bushels. 99, 085 693, 579 95, 775 484, 857 285, 648 480, 622 476, 216 439, 173 456, 806	Bushels. 26, 381, 381 32, 726, 131 25, 181, 577 24, 677, 301 28, 441, 013 26, 252, 672 22, 052, 312 21, 737, 020 31, 962, 304
1920-21 1920-21 1921-22 1922-23	10, 774, 000 8, 029, 000 10, 375, 000	16, 170, 415 13, 632, 973 25, 905, 936	798, 634 8, 997, 620 3, 027, 399	1, 486 2, 281 2 216	224, 514 148, 605 165, 605	27, 517, 049 30, 507, 807 38, 242, 514

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce and Division of Crop and Live Stock Estimates.

1 Stated as seed equivalent, 2½ gallons of oil equal 1 bushled of seed.

2 Six months beginning July 1, not separately reported in 1923.

Table 159 .- Flaxseed used in the production of oil, United States, 1919-1923.

Year.	July-Sept.	OctDec.	JanMar.	AprJune	Year end- ing June 30.	
1918-19	1,000 bushels.	1,000 bushels.	1,000 bushels. 1,041	1,000 bushels. 4,785	1,000 bushels.	
1919-20 1920-21 1921-22 1922-23 1922-24	6, 899 6, 542 5, 812 5, 583 8, 223	7, 684 6, 341 7, 539 8, 602 8, 970	6, 336 6, 343 6, 713 8, 292	6, 407 6, 332 3, 441 8, 689	27, 326 25, 558 23, 505 31, 166	

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.	Argen- tina.	Canada.	British India.	Other coun- tries.	Total.
1909-10 1910-11 1911-12 1912-13 1913-14	5, 021 1, 211 429	1,000 bush. 1,410 2,251 3,511 4,732 8,647	1,000 bush. 194 2,334 1,525 129	1,000 bush. 369 893 595 4 6	1,000 bush. 5,002 10,499 6,842 5,294 8,653
1914-15 1915-16 1916-17 1917-18	3, 928 11, 468 5, 009 7, 432 6, 977	6, 630 3, 695 7, 015 5, 501 1, 304	123 11	68 116 247 434 135	•10, 666 14, 679 12, 394 13, 367 8, 427
1919-20 1920-21 1921-22 1922-23	22, 242 13, 145 10, 409 22, 331	816 2, 635 3, 013 2, 191	12	334 390 198 484	23, 392 16, 170 13, <b>6</b> 32 25, 006

Division of Statistical and Historical Research.

<sup>1</sup> Less than 500 bushels.

Table 161.—Flaxseed: International trade, calendar years, 1911-1922.

TABLE 101.	.—r taxs	eea: 1711	ernation	ui iraae,	caienaar	years,	1011-10	····
Country.	Average 1911-1913.		1920		1921		1922, preliminary.	
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	1,000 bushels.	1,000 bushels. 25, 562	1,000 bushels.	1,000 bushels. 41,829	1,000 bushels.	1,000 bushels. 53,549	1,000 bushels.	1,000 bushels. 36,453
Argentina British India Canada		1 14, 409 10, 645 648	280 617 3	7, 839 1, 519 242	283 270	4, 264 3, 728 184	260 45	12, 404 2, 073 1, 331
China Latvia Morocco (French) Rumania	19	338 120	2 6	<sup>2</sup> 9 706	3 47	<sup>2</sup> 191 590	174	499 225
Russia Tunis Uruguay	(3)	5,739 39 994	1	36 784	1 248 (*)	79 3 887	(8)	22 3 500
PRINCIPAL IMPORTING COUNTRIES. Australia	103	, <b>(3</b> )	552 2 24	(3) (3)	712	(3) (8)	<sup>2</sup> 818	(3) (3)
Austria	1, 913 9, 313	41 5, 965	1, 586 102	111	6, 273 2 350	2, 516	2, 934 1 402	102 (3) (3)
Denmark Finland France	110 6, 304	(³) 60 210	1,049 104 1,284 2,089	(3) (3) 67 13	1, 106 139 4, 280 5, 908	(3) (3) 12 4 45	602 142 5, 288 4, 061	21
Germany Hungary Italy	1, 698	210 1 5 27	871 114	(3) 74	749 162	(³) 103	1, 217 1, 217	2 14
Japan Netherlands Norway Sweden	8, 741 445 911	2, 488	3, 826 332 1, 085	(3)	10, 788 438 1, 061	210 i	9,862 353 1,042	201
United Kingdom United States Other countries	15,908 7,298 575	101 139	15, 520 24, 641 32	16 74	18, 528 12, 326 32	(³) 212	14, 093 14, 913 25	2 209
Total	69, 171	67, 533	54, 121	53, 498	63, 705	66, 571	56, 272	54, 087

Division of Statistical and Historical Research. Official sources except where otherwise noted.

<sup>5</sup> One year only.

<sup>&</sup>lt;sup>1</sup> Two-year average.
<sup>2</sup> International Institute of Agriculture.

<sup>Less than 500 bushels.
Eight months, May-December.</sup> 

## 714 Yearbook of the Department of Agriculture, 1923.

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	Cts. 109. 6	Cts. 107. 0	Cts. 108. 3	Cts. 118.4	Cts. 123. 2	Cts. 129. 8	Cts. 141. 3	Cts. 145. 6	Cts. 148. 7	Cts. 153. 4	Cts. 153. 2	Cts. 137. 0	Cts. 118. 4
1909-10 1910-11 1911-12 1912-13 1913-14	123. 1 220. 0 203. 6 162. 6 127. 8	205. 0 147. 7	229. 4 210. 6 133. 4	231.7 182.1	221. 1 187. 1 106. 2	233. 9 190. 8 109. 3	183. 9 119. 0	234. 6 191. 3 113. 6	241.9 181.0 114.3	225. 0 205. 0 115. 8	205. 6 198. 4 113. 4	199. 2 175. 2 118. 6	
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. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	139. 3 143. 5 190. 2 302. 8 381. 2 517. 5 290. 3	148. 1 199. 2 308. 5 380. 9 438. 2	162. 9 234. 7 295. 9 333. 8	248. 6 296. 6 340. 1	185. 9 250. 7 310. 8 327. 7	210. 9 253. 7 326. 7 310. 1	202. 5 253. 1 349. 8 327. 4 472. 7	202. 1 266. 1 379. 7 348. 7 455. 7	191.8 300.6 373.3 361.4 448.2	298. 8 363. 6 389. 3 421. 1	163. 2 278. 0 349. 3 444. 1	178. 1 271. 6 410. 5 540. 6	132. 0 170. 6 239. 4 311. 0 349. 2 421. 4 208. 4
Av. 1914-1920	280. 7	268. 9	252. 6	257. 2	258. 2	268. 3	273. 4	280. 4	281. 5	<b>2</b> 80. 6	270.4	287.3	261. 7
1921-22 1922-23 1923-24	164. 8 190. 1 204. 8	162. 9 188. 1 212. 1	145. 0 210. 7 212. 1			173. 1 235. 6							161. <b>2</b> 216. 0

Division of Crop and Livestock Estimates.

Table 163.—Flaxseed: Farm price per bushel, December 1, calendar years, 1908–1923, and value per acre, 1923.

State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916
Wisconsin Minnesota Lowa North Dakota South Dakota Nebraska Kansas Montana Wyoming	Cts. 115 120 110 119 119 112 102 100	Cts. 135 150 130 157 151 122 110 160	135 220 150 230 130 220 157 235 151 229 122 225 110 210		Cts. 127 120 124 114 113 128 130 112	123 123 121 120 110 116	Cts. 158 161 156 162 158 154 151	Cts. 125 128 120 128 123 119 125 120	Cts. 180 176 150 178 167 147 145 170 145	240 215 252 247 230 234 248
	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. 1914– 1920	1921	1922	1923	Value per acre, 1923,1
Wisconsin Minnesota Lowa North Dakota South Dakota Nebraska Kansas Montana Wyoming		295 275 300 299 250 290 295 261	Cts. 330 341 320 345 325 330 330 338 325	Cts. 430 445 420 441 425 400 380 440 350	Cts. 212 183 180 178 165 155 180 175 135	258 240 260 250 233 241 255 240	Cts. 150 151 153 143 139 150 135 140 118	Cts. 180 218 185 214 201 190 186 197	Cts. 210 213 210 212 208 210 215 193	Dollars. 25. 41 21. 30 19. 95 16. 32 17. 68 23. 10 16. 34 15. 83 19. 00
		296. 6	340. 1	438. 3	176. 7	257. 2	145. 1	211. 5	210. 8	17. 82

<sup>&</sup>lt;sup>1</sup> Based upon farm price Dec. 1.

Table 164.—Flaxseed: Average closing price per bushel, Minneapolis, 1899-1923.

			-			•				<u>r</u>	, -		-0.00
Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Aver- age.
1899-1900	\$1. 49 1. 50 1. 31 1. 00 1. 22 1. 04 1. 10 1. 22 1. 23 1. 41 2. 66	\$1.70 1.45 1.20 .98 1.14 .97 1.11 1.27 1.22 1.57 2.62	1. 42 1. 18 . 94 1. 16 . 98 1. 17 1. 13 1. 38 1. 75 2. 61	\$1. 62 1. 47 1. 19 . 97 1. 23 1. 04 1. 19 1. 12 1. 45	1. 65 1. 65 1. 19 1. 06 1. 23 1. 16 1. 20 1. 17 1. 56 2. 18 2. 60	1. 60 1. 70 1. 15 1. 15 1. 27 1. 14 1. 22 1. 16 1. 64 2. 18 2. 68	1. 54 1. 72 1. 12 1. 14 1. 39 1. 13 1. 19 1. 16 1. 64 2. 25 2. 60	1. 68 1. 75 1. 10 1. 12 1. 39 1. 15 1. 16 1. 17 1. 65 2. 38 2. 56	1. 75 1. 75 1. 14 1. 06 1. 42 1. 14 1. 23 1. 23 1. 72 2. 22 2. 47	1. 75 1. 74 1. 07 1. 07 1. 47 1. 11 1. 25 1. 23 1. 77 2. 04 2. 24	\$1. 63 1. 85 1. 52 . 97 1. 19 1. 47 1. 10 1. 18 1. 21 1. 59 2. 34 2. 10	\$1. 35 1. 60 1. 42 . 97 1. 24 1. 42 1. 11 1. 14 1. 29 1. 42 2. 47 2. 34	\$1. 66 1. 59 1. 13 1. 08 1. 32 1. 09 1. 18 1. 20 1. 52 2. 06 2. 49
1911-12 1912-13 1913-14	2. 47 1. 76 1. 45	2. 35 1. 60 1. 38	2. 04 1. 35 1. 35	2.06 1.25 1.44	2. 15 1. 29 1. 49	2. 06 1. 34 1. 53	2.06 1.26 1.58	2. 15 1. 29 1. 54	2. 23 1. 30 1. 56	2. 25 1. 31 1. 59	1. 97 1. 38 1. 68	1.86 1.47 1.64	2. 14 1. 38 1. 52
Av. 1909-1913	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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	1. 51 1. 70 2. 11 3. 38 4. 09 4. 92 3. 23	1. 33 1. 86 2. 54 3. 16 3. 59 4. 32 2. 83	1. 45 1. 99 2. 78 3. 29 3. 77 4. 83 2. 27	1. 54 2. 07 2. 84 3. 40 3. 54 4. 99 2. 06	1.83 2.31 2.89 3.60 3.41 5.12 1.96	1. 86 2. 32 2. 81 3. 74 3. 45 5. 09 1. 82	1. 91 2. 27 2. 90 4. 08 3. 75 5. 02 1. 78	1. 93 2. 13 3. 18 4. 09 3. 88 4. 68 1. 58	1. 95 1. 96 3. 33 3. 93 4. 12 4. 53 1. 84	1.76 1.80 3.11 3.86 4.86 3.92 1.86	1. 67 1. 96 3. 01 4. 40 5. 94 3. 48 1. 89	1. 67 2. 15 3. 46 4. 39 5. 87 3. 28 2. 01	1. 70 2. 04 2. 91 3. 78 4. 19 4. 52 2. 09
Av. 1914–1920	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 1922–23 1923–24	2. 03 2. 28 2. 38	1. 81 2. 38 2. 48	1. 81 2. 48 2. 41	1. 89 2. 62 2. 46	2. 13 2. 80	2. 46 3. 04	2. 57 3. 07	2. 70 3. 40	2. 80 2. 94	2. 50 2. 80	2. 59 2. 70	2. 29 2. 34	2. 19 2. 58

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.

	Average 1	1909-1913.1	19	20	, 19	921	1922, pre	liminary.
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORT-	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
ING COUNTEIES.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.
Argentina	886	2 2	522	3, 013		747		2, 108
Belgium	10, 233	26, 790	7, 795	16, 117	11, 205	25, 623	1,272	
Denmark	(3)	(3)	845	5,777	865	2, 281		391
Netherlands	457	73, 634	2, 137	59, 239	2, 124	145, 569	62	157, 926
United Kingdom	58, 018	58, 013	3, 358	108, 463	110	123, 764	9, 103	133, 388
PRINCIPAL IMPORT- ING COUNTRIES.	-				·			
Australia	12, 252		3, 487	320	5, 737	55	l	
Austria			1 2, 847		1 6, 863	- <b></b>		
Austria-Hungary	16, 367	6, 542			. <b></b>	l	l	<b>-</b>
Brazil	8,726		8, 769		4, 617			
British India	3, 430	1,967	2, 594	3, 125	1, 953	399	2, 792	299
Canada	2, 279	li	8, 323		254	58	1,058	94
Chile	2,854	15	3, 112		777			<b></b>
Czechoslovakia	- <b></b>		1 5, 557	17	7,070	1 320		
Dutch East Indies	43,199	l	6, 643		3,307		5 2, 220	
Egypt	3, 467		2,034	6	2,615		3, 134	
Finland	812	- <b></b>	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			177,016	1 4, 325	64, 458	3, 394
Greece	246		1,006		1, 267		915	
Italy	1,042	165	9, 220	395	7, 564	474	6,617	196
Hungary			í 450		1 2, 484			
Japan	1,023		150			275		
New Zealand	4, 188		4,783		3,318		2, 701	
Norway	1,609	6 53	2, 303	49	8, 104	19	5,666	
Philippine Islands	809		1, 653		1,037		852	
Sweden	933	5	1, 148	- 75	1, 301	7		
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		1,460	7, 182	191	4, 513	145	2, 142	144
Total		188, 075	156, 300	207, 841	256, 846	311,004		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).

International Institute of Agriculture, for Oleganous Products and Vegetable Oils, 1923.
Four-year average.
Not separately stated.

International Institute of Agriculture, for Oleganous Products and Vegetable Oils, 1923.
Includes re-exports.
June 1988 August

<sup>85813°---</sup> чвк 1923---

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.	Мау.	June.	July.	Aug.	Aver- age.
1910-11 1911-12 1912-13 1913-14	\$0. 90 . 87 . 66 . 50	\$0. 90 . 88 . 62 . 47	\$0.95 .84 .56 .46	\$0. 95 . 71 . 43 . 48	\$0. 95 . 74 . 42 . 48	\$0.96 .71 .46 .48	\$0.96 .70 .45 .50	\$0. 91 . 73 . 44 . 51	\$0. 91 .73 .46 .50	\$0.89 .76 .45 .50	\$0. 87 . 77 . 47 52	\$0.80 .66 .49 .59	\$0. 91 . 76 . 49 . 50
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	. 57 . 52 . 70 1. 25 1. 90 2. 04 1. 22	. 49 . 55 . 82 1. 18 1. 83 1. 79 1. 20	. 44 . 60 . 90 1. 15 1. 55 1. 75 . 98	. 45 . 61 . 92 1. 21 1. 58 1. 82 . 82	. 48 . 66 . 94 1. 29 1. 50 1. 77 . 78	. 56 . 72 . 95 1. 29 1. 45 1. 77 . 66	. 55 . 77 . 94 1. 41 1. 48 1. 80 . 66	. 58 . 76 1. 07 1. 57 1. 54 1. 83 . 61	. 62 . 75 1. 21 1. 57 1. 61 1. 69 . 70	. 63 . 67 1. 21 1. 57 1. 81 1. 65 . 75	. 54 . 63 1. 12 1. 64 2. 10 1. 52 . 75	.50 .71 1.18 1.88 2.22 1.41 .74	. 53 . 66 1. 00 1. 42 1. 71 1. 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- 1922-23- 1923-24	. 74 . 88 . 90	. 68 . 89 . 94	. 67 . 88 . 92	. 67 . 89 . 92	. 72 . 89	.82	. 82 1. 02	.84 1.16	.90 1.15	. 84 1. 12	. 89 1. 04	.87	. 79

Division of Statistical and Historical Research. Figures for 1910-1915 from Monthly Labor Review; 1916-1918 from War 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.	Produc- tion.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Value per aere.1	Domestic exports, fiscal year beginning July 1.2	Net imports, fiscal year beginning July 1.2
1904	Acres. 662, 000 482, 000 575, 000 627, 000 655, 000	Bush. of 45 lbs. 31. 9 28. 2 31. 1 29. 9 33. 4	Bushels. 21, 096, 000 13, 607, 000 17, 855, 000 18, 738, 000 21, 890, 000	Cents. 65. 8 95. 2 90. 3 85. 8 81. 2	Dollars. 13, 892, 000 12, 956, 000 16, 121, 000 16, 081, 000 17, 771, 000	Dolls. 20. 98 26. 88 28. 04 25. 65 27. 13	Bushels. 5, 964, 814 3, 612, 289 3, 790, 080 3, 033, 788 3, 406, 070	Bushels. 3, 501, 337 5, 593, 750 7, 264, 859 7, 333, 910 7, 760, 164
1969	610,000 723,000 696,000 723,000 827,000	33. 8 33. 9 32. 9 34. 7 31. 1	20, 607, 000 24, 510, 000 22, 934, 000 25, 054, 000 25, 744, 000	79. 5 67. 8 79. 7 93. 5 85. 8	16, 392, 000 16, 624, 000 18, 274, 000 23, 423, 000 22, 090, 000	26. 87 22. 99 26. 26 32. 40 26. 71	4, 487, 287 5, 134, 355 5, 824, 598 5, 672, 996 5, 871, 289	7, 820, 643 7, 292, 960 6, 467, 505 7, 539, 206 9, 806, 684
Av. 1909-1913	716, 000	33. 2	23, 770, 000	81. 5	19, 361, 000	27. 04	5, 398, 105	7, 785, 400
1914 1915 1916 1917 1918 1918 1919	694, 000 803, 000 869, 000 981, 000 1, 119, 000 1, 063, 060 1, 336, 060	34. 1 36. 1 47. 0 35. 4 34. 5 39. 5 39. 0	23, 649, 000 28, 947, 000 40, 861, 000 34, 739, 000 38, 606, 000 41, 985, 000 52, 066, 000	92. 4 90. 6 88. 9 189. 6 191. 8 266. 6 119. 1	21, 849, 000 26, 212, 000 36, 311, 000 65, 879, 000 74, 042, 000 111, 913, 000 62, 036, 600	31. 48 32. 64 41. 78 67. 16 66. 17 195. 28 46. 43	7, 334, 389 9, 506, 099 12, 315, 486 11, 885, 265 12, 892, 196 22, 899, 774 22, 449, 930	7, 848, 181 6, 931, 061 6, 180, 934 13, 095, 243 5, 309, 014 3, 001, 362 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 1922 1923 <sup>3</sup>	921, 000 1, 055, 000 892, 000	40. 8 39. 2 37. 3	37, 612, 000 41, 405, 000 33, 256, 000	5. 92 93. 1 110. 3	35, 802, 000 38, 562, 000 36, 686, 000	38. 87 36. 55 41. 13	33, 834, 616 21, 583, 818	721, 411 1, 332, 360

Division of Crop and Livestock Estimates. Figures in italics are census returns.

<sup>&</sup>lt;sup>1</sup> Based upon farm price Dec. 1.
<sup>2</sup> 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 rough rice to yield 27% pounds of cleaned rice.

<sup>3</sup> Preliminary.

Table 168.—Rice, rough: Acreage, production, and total farm value, by States, colendar years, 1921-1923.

State	Theu	sands of	acres.		tion, tho bushels.		Total value, basis Dec. 1 price, thousands of dollars.				
	1921	1922	1923 1	1921	1922	1923 1	1921	1922.	1923 1		
South Carolina Georgia Florida Mississippi Louisiana Texas Arkansas California	7 3 4 1 480 166 125 135	8 3 3 1 555 191 154 140	8 3 2 1 480 159 138 106	175 78 88 20 17, 280 5, 993 6, 688 7, 290 37, 612	208 72 75 19 19, 980 5, 959 7, 392 7, 700 41, 405	200 68 46 18 15,840 6,360 5,254 5,470 33,256	170 72 85 24 14,861 6,053 6,153 8,384 35,802	239 84 98 21 17, 782 5, 363 6, 505 8, 470 38, 562	240 90 62 21 16, 949 7, 314 5, 884 6, 126 36, 686		

Table 169.—Rice, rough: Yield per acre, by States, calendar years, 1908-1923.

State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	19 <b>2</b> 2	1923
Georgia Florida Mississippi Louisiana Texas Arkansas California	24. 0 25. 0 25. 0 31. 0 33. 0 34. 5 41. 0	25. 6 23. 9 25. 0 30. 0 33. 8 34. 0 40. 0	21. 0 22. 0 21. 0 30. 0 34. 4 33. 0 40. 0 33. 0	11. 7 26. 8 25. 0 36. 0 31. 5 34. 3 39. 0 40. 0	25. 0 30. 0 25. 0 35. 0 35. 5 37. 5 50. 0	30. 0 32. 0 25. 0 28. 0 29. 0 36. 0 48. 0	33.8	26. 0 28. 0 25. 0 30. 0 32. 1 33. 8 39. 8 53. 3	24. 3 29. 3 25. 0 25. 0 34. 2 30. 5 48. 4 66. 7	14. 0 20. 0 25. 0 28. 0 46. 0 45. 0 50. 5	25. 0 30. 0 26. 0 30. 0 31. 0 41. 0 68. 0	23. 0 26. 0 24. 0 23. 0 28. 8 32. 0 37. 9 65. 5	24. 0 26. 0 29. 1 35. 2 32. 0 46. 0	25. 0 26. 0 24. 0 31. 0 36. 0 34. 0 49. 0	23. 0 26. 2 25. 0 28. 0 34. 8 33. 9 44. 7 60. 5	25. 0 26. 0 22. 0 20. 0 36. 0 36. 1 53. 5 54. 0	26. 0 24. 1 25. 0 19. 0 36. 0 31. 2 48. 0 55. 0	25. 0 22. 7 23. 0 18. 0 33. 0 40. 0 39. 5 51. 6

Division of Crop and Livestock Estimates.

Table 170.—Rice, rough: Condition of crop, 1st of month, and yield per acre, United States, 1894–1923.

Calendar year. July. Aug. Sept. Oct. Yield per acre.	Calendar year.	July.	Aug.	Sept.	Oct.1	Yield per acre.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1912 1913. Av. 1909-1913. 1914. 1915. 1916. 1917. 1918. 1919. 1919. Av. 1914-1920. Av. 1914-1920. 1921. 1922. 1923.	P. ct. 86.3 88.4 87.9 86.5 90.5 92.7 85.1 89.5 90.0 89.3 88.6 86.4	P. ct. 86.3 88.7 87.1 87.6 90.0 92.2 85.0 7 90.4 88.7 88.5 86.5 86.9 84.8	P. ct. 88. 8 88. 0 87. 5 88. 9 82. 3 91. 2 78. 4 85. 7 91. 9 88. 3 86. 7 83. 8 85. 5 82. 9	P. ct. 89. 2 80. 3 84. 8 88. 0 91. 5 79. 7 85. 4 91. 3 88. 1 86. 4 84. 6 85. 3 83. 0	8ush. 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 37.3

Preliminary.

<sup>&</sup>lt;sup>1</sup> 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.	Defi- cient mois- ture.	Ex- cessive mois- ture.	Floods	Frost and freeze.	Hail.	Hot winds.	Storms	Total cli- matic.	Plant dis- ease.	Insect pests.	Ani- mal pests.	De- fective seed.	Total.1
1909	P. ct. 4. 6 7. 2 6. 5 3. 1 3. 9	P. ct. 0. 1 1. 7 3. 2 1. 1 14. 3	P. ct.	P. ct.	P. ct.	P. ct. 1. 1 . 1 . 7 . 6	P. ct. 6. 6 1. 0	P. ct. 12. 4 10. 1 10. 6 11. 6 24. 1	P. ct. 2. 7 3. 4 . 7 2. 5	P. ct. 0. 9 . 4 . 6 2. 0	P. ct. 0. 2 1. 2 . 5 . 5	P. ct. 0. 1 . 3 . 1 . 6	P. ct. 17. 0 17. 3 14. 5 19. 6 28. 5
1914 1915 1916 1917 1918	5. 3 7. 0 4. 8 17. 3 7. 2	2. 3 . 6 . 2 . 7 7. 2	.1 .1 .1 2.5	. 3 . 4 1. 5 . 2	(2)  0. 1	.6 .4 .3 .1	.6 8.1 .2 .1 1.5	10. 1 16. 7 6. 2 20. 0 18. 8	.1 .4 1.1 .5	1. 3 . 2 . 3 . 2 1. 0	(2) 5 (2)	.3 (2) .2 .1	17. 5 19. 4 9. 5 25. 4 21. 7
1919 1920 1921 1922	1. 0 . 5 4. 5 3. 8	12. 8 8. 0 . 2 4. 2	1.1	. 3 1. 2 . 3 . 1	. 2	.1	2.6	18. 4 10. 3 5. 3 8. 2	3. 2 1. 6 3. 4	. 5 1. 6 2. 7 1. 0	.7	.1	20. 0 16. 7 11. 8 14. 4

Table 172.—Rice: Area and yield per acre in undermentioned countries. NORTHERN HEMISPHERE.

			Area.				Yie	eld per a	cre.	
Country.	Av. 1909– 1913.	1920	1921	1922	1923, pre- limi- nary.	Av. 1909– 1913.	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA. United States Mexico Hawaii	1,000 acres. 716 1 162 3 9	1,000 acres. 1,336	1,000 acres. 921	1,000 acres. 1,055 54	1,000 acres. 892	Pounds. 922 2 605	1, 083			Pounds. 1, 036
CENTRAL AND SOUTH AMERICA AND WEST INDIES.										
Guatemala Salvador Costa Rica		7	8	8	8 14					
British Guiana Dutch Guiana	36	66	56	15 49		1, 496	848	1, 198	916	
Porto Rico Trinidad and To- bago	<sup>3</sup> 16					³ 269				
EUROPE.						<u> </u>				
France Spain Portugal Litaly Yugoslavia Bulgaria Russia (northern Caucasia)	358 	120 277 4 6	( <sup>5</sup> ) 113 14 286 5 7	114 15 294 6 7	302 6	3, 188	3, 281	3, 150 1, 046 2, 243	3, 275 1, 851 2, 151	2, 896 2, 253
AFRICA.	-									
French Guinea French Senegal		173		<b></b>						
Sierre Leone Egypt	257	400 165	400 324	400 7 30	7 200	2, 132	622 1,714	605 1, 456	588	

<sup>&</sup>lt;sup>1</sup> Three years only.
<sup>2</sup> Two years only.

<sup>1</sup> Includes all other causes.

<sup>2</sup> Less than 0.05 per cent.

One year only.
Four years only.

Less than 500 acres.
 Old boundaries.

Table 172 .- Rice: Area and yield per acre in undermentioned countries -- Contd. NORTHERN HEMISPHERE-Continued.

			Area.				Yi	eld per a	cre.	
Country.	Av. 1909– 1913.	1920	1921	1922	1923, prelimi- nary.	Av. 1909- 1913.	1920	1921	1922	1923, prelimi- nary.
ASIA.	1,000 acres. 8 151	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	Pounds. 3 1, 099	Pounds.	Pounds.	Pounds.	Pounds.
IndiaAndaman and Nico-	67, 004	78, 952	81,662	81, 533	<sup>8</sup> 75, 455	957	785	912	911	
bar British North Borneo-		2	3 54	58				438		
French establish- ments in India Russia (Asiatic)	40 572	43	43	46		657 584	934	610	704	
Japanese Empire: Japan Chosen (Kor ea Formosa (Tai-	7, 300 2, 905	7, 662 3, 812	7, 680 3, 753	7, 697 3, 818	9 3, 582	2, 163 · 1, 133	2, 591 1, 227	2, 257 1, 202	2, 477 1, 239	1, 363
wan) Kwangtung	1, 193	1, 236	1,860	1, 253		1, 183	1, 231	840	1, 459	
French Indo-China_Siam_Federated Malay	<sup>2</sup> 8, 550 11 <b>4</b> , 666	11, 761 11 5, 890	11, 984 11 6, 000	1012,000 12 7,000	1011,000 12 6, 000	<sup>2</sup> 858 1, 167	534 1, 130	662 1, 038		
StatesUnfederated Malay	1 118	197	200	196		² 637	626	593	655	
StatesStraits Settlements	8 153 93	157	202	236			64	163	144	
Philippine Islands Ceylon	2, 753 695	3, 669 757	4, 135 799	4, 105 850	800	423 686	612 635	620 618	653 615	370

#### SOUTHERN HEMISPHERE.

			Area.				Yie	eld per a	cre.	
Country	Av. 1909- 1913.	1920-21	1921–22	1922-23	1923–24, prelimi- nary.		1920–21	1921–22	1922-23	1923-24, prelimi- nary.
Peru	1,000 acres. 2 131	1,000 acres.	1,000 acres.	1,000 acres. 70	1,000 acres.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Brazil	4 11	905		599			1, 446			
Argentina Belgian Congo Madagascar Madagascar	4 979	8	7			1 916				
Java and Madura Irrigated Non-irrigated	5, 953	6, 835 1, 129	6, 472 751			1, 206	1, 129 559	1, 073 556		
Total Java and Madura Australia Fiji Islands	5, 953 ( <sup>5</sup> ) 11	7, 954 (5) 10	7, <b>223</b> ( <sup>5</sup> ) 11	11 8, 236	<sup>11</sup> 8, <b>402</b>					
Total comparable with 1909-1913 Total com-	104, 956									
parable with 1923	91, 205	111, 030	113, 072	114, 937	106, 753	,				<b></b>

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture. 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.

- We years only.
   One year only.
   Four years only.
   Less than 500 acres.
   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 Second forecast compared with 78,455,000 acres at the same time last year.
- Unofficial source.
- u Unofficial source.
  10 Total area estimated from that reported for Annam, Cochin-China, Laos, and the first crop of Tonking
  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
  depoted to rice in Sign. devoted to rice in Siam.

Table 173 .- Rice: Production in undermentioned countries (in terms of cleaned rice).

#### NORTHERN HEMISPHERE.

NORTHEAN REMISTREAS.													
Country.	Average 1909-13.	1917	1918	1919	1920	1921:	1922	1923, prelim- inary.					
NORTH AMERICA. United States Mexico Hawaii	1 98, 016	1,000 lbs. 964, 972	1, 072, 389 24, 787	1, 166, 250	1,000 lbs. 1,446,278	1, 044, 778 9, 796	1, 150, 139	1,000 lbs. 923,778					
CENTRAL AND SOUTH AMERICA AND WEST INDIES.								-					
Guatemala Salvador		20, 733	16, 997 8, 328	5, 180 8, 895	2, 226	2, 651	3, 882	4, 080					
British Guiana Dutch Guiana Porto Rico Trinidad and Tobago	53, 865 2, 254 2 4, 298	108, 864 5, 449	49, 616 3, 832	1 100: 330	55, 999 10, 000	12, 041	44, 957 13, 202						
EUROPE.													
France Spain Portugal Italy	299, 703 646, 465	22, 835	31, 656	27, 955	393, 752 32, 251 614, 022	41 355, 967 14, 650 641, 375	373, 339 27, 771 631, 985	330, 099 680, 438					
Yugoslavia Bulgaria Russia (northern Caucasia)	4 8, 215	14, 513		' '	3, 640 6, 776	3, 414 7, 403	2, 944	8, 290					
AFRICA.							-						
French Guinea French Senegal Sierra Leone Egypt Kenya Colony 6	547, 972	487, 163	691, 966	138, 270 243, 604	762, 084 56, 426 248, 886 282, 667	241, 973 471, 903	235, 059 5 40, 000	5 300, 000					
ASIA.				578	842	464							
Turkey	<sup>2</sup> <sup>4</sup> 165, 846												
India	1			i									
bar Islands French establishments in India British North Borneo.	1	1 1	.,	,	′	,							
ments in India British North Borneo. Russia (Asiatic) China	4 334, 061	23, 280	24, 399	12, 230	40, 100	23, 587	52, 318						
Japan Chosen (Korea) 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) Kwantung French Indo-China Siam Federated Malay	1, 412, 504 1, 074 27,332, 350 85,447, 671	1, 518, 569 1, 563 6, 313, 430 8 6,823, 374	1, 455, 232 3, 193 6, 301, 999 8 6,413, 745	1, 546, 663 2, 496 6, 532, 000 8 6,859, 588	1, 521, 250 2, 911 6, 283, 684 8 6,658, 107	1, 563, 330 3, 131 7, 931, 009 6, 225, 000	1, 827, 711 7, 777, 000 ° 7,000, 000	77,000,000					
States Unfederated Malay	,		ŕ	82, 605		118, 665	· '						
StatesStraits Settlements	1- 1:65 969		9 912 428	0.000.00	10, 138	33, 005							
Philippine Islands Ceylon	476, 536	1, 745, 489 484, 108	2, 213, 435 449, 869	2, 088, 934 487, 914	2, 247, 368 480, 388	2, 564, 881 493, 792	2, 681, 303 522, 706	2, 702, 835 296, <b>296</b>					
			!										

<sup>&</sup>lt;sup>1</sup>Three years only.

<sup>2</sup> One year only.

<sup>3</sup> Two years only. 4 Old boundaries.

<sup>&</sup>lt;sup>4</sup>Old boundaries.

<sup>5</sup>Total production estimated from production reported for the summer or main crop which amounted to 286,012,000 pounds in 1923, compared with 33,469,000 in 1922.

<sup>6</sup>Cultivated by natives only.

<sup>7</sup>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.

mately 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.

Country.	Average 1909- 1913.	1917–18	1918-19	1 <del>9</del> 19 <b>-2</b> 0	1920-21	1921-22	1922-23	1923–24, prelim- inary.
Peru Brazil	1,000 lbs. 83,700 3 89,798	92, 679		68, 640 1, 131, 552		68, 343	1,000 lbs.	
Argentina	3 8, 302 1, 191 1 896, 300	3, 674 1, 21 <b>0</b>		2, 787 21 <b>2</b>		548		
Java and Madura: Irrigated Non-irrigated	7, 180, 998	8, 323, 123 570, 165	8, 433, 155 544, 951	9, 178, 654 619, 426	7, 716, 400 631, 024	<b>6, 942,</b> 768 418, 133		
Total Java and Madura	7, 180, 998	8, 893, 288	8, 978, 106	9, 798, 080	8, 347, 424	7, 360, 901	6, 450, 586	6, 904, 438
Australia Fiji Islands	<sup>3</sup> 19 1 <b>23</b> , 377			8	7, 969	4, 728	8, 520	
Total compar- able with 1909-13 Total compar- able with								
1923	38, 812, 312	42, 923, 740	44, 172, 040	46, 046, 774	46, 150, 406	<b>44, 28</b> 5, 611	45, 263, 305	43, 969, 552

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 Three years only.

2 One year only.

3 Two years only.

Table 174.—Rice: World production, 1900-1922 (in terms of cleaned rice).

	Production for countries	Production	Estimated world totals	Production	n in the chief countries.2	producing
Years.	reporting all years, 1900–1922.1	as reported.	exclusive of China.	India.	Japan.	Java and Madura.
1900-1901 1901-2 1902-3 1903-4 1904-5 1906-7 1907-8 1908-9 1909-10 1910-11 1911-12 1912-13 1913-14 1914-15	1,000 pounds. 68, 249, 828 65, 336, 796 71, 319, 301 72, 177, 655 75, 101, 790 67, 519, 575 71, 298, 387 67, 049, 878 69, 553, 467 89, 793, 800 88, 437, 400 90, 164, 338 88, 972, 299 90, 948, 842 89, 373, 481	1,000 pounds. 68, 456, 675 65, 363, 899 74, 174, 773 75, 548, 201 79, 117, 049 72, 528, 630 75, 988, 426 72, 523, 092 74, 895, 930 99, 328, 460 99, 935, 172 103, 527, 182 109, 162, 633 113, 686, 746 114, 376, 495	1,000 pounds. 79,000,000 77,000,000 85,000,000 87,000,000 84,000,000 84,000,000 87,000,000 108,000,000 108,000,000 111,000,000 115,000,000 116,000,000	1,000 pounds. 46, 312, 750 43, 040, 939 52, 582, 298 49, 199, 438 50, 227, 520 48, 511, 680 47, 906, 880 42, 598, 080 42, 598, 080 43, 877, 120 63, 869, 120 64, 552, 320 64, 554, 560 61, 109, 440	1,000 pounds. 13,026,905 14,738,427 11,602,474 14,599,842 16,157,087 10,421,342 14,546,194 15,409,976 16,315,318 16,473,579 14,650,132 16,245,745 15,777,677 15,787,969	1,000 pounds. 6, 570, 318 5, 680, 805 5, 372, 666 6, 229, 076 6, 430, 781 6, 267, 897 6, 630, 066 6, 532, 938 6, 902, 968 7, 084, 033 7, 616, 955 7, 187, 203 7, 826, 022
1915–16 1916–17 1917–18 1918–19	107, 298, 131 109, 236, 413	124, 876, 819 129, 146, 272 3 201, 777, 415 106, 431, 570	126, 000, 000 131, 000, 000 134, 000, 000 109, 000, 000	73, 315, 200 78, 520, 960 80, 637, 760 54, 526, 080	17, 569, 018 18, 359, 997 17, 142, 858 17, 184, 019	7, 963, 749 7, 911, 997 4 8, 893, 288 4 8, 978, 100
1919-20	92, 698, 525 101, 715, 810	126, 278, 366 3 170, 217, 972 127, 576, 151 127, 097, 797	128, 000, 000 118, 000, 000 129, 000, 000 131, 000, 000	71, 742, 720 61, 962, 880 74, 446, 400 74, 294, 080	19, 106, 360 19, 849, 197 17, 335, 796 19, 066, 742	4 9, 798, 086 4 8, 347, 424 4 7, 360, 901 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.

<sup>1</sup> India, Japan, Java and Madura, Formosa, Dutch Guiana, Spain, and Italy.
<sup>2</sup> China would rank among the three chief rice producing countries, but owing to lack of official statistics has been omitted.

<sup>3</sup> 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, 1909-1922.

0	Average	1909–1913.	19	<b>2</b> 0	19	21	1922, pre	liminary.
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Brazil	278, 272 2 17, 830	5, 337, 516 2 130, 446 2 288 040	14 176, 082 2 17, 882 2 643 3 5	296, 758 2, 390, 397 2 526, 615 2, 604, 906 1, 325 621, 398 119, 323	16 280, 334 2 5, 919 17, 511 186 15	2,740,866 2 906,407 2 3,393,428	302, 760 2 54, 919	83, 477 4, 836, 325 2 827, 989
PRINCIPAL IMPORTING COUNTRIES.  Austria. Austria-Hungary. Belgium British Malaya Canada Ceylon China. Cuba Cuba Ozechoslovakia Dutch East Indies Egypt. France. Germany Hongkong.	183, 411 180, 830 21, 999, 672 32, 109 821, 654 704, 992 262, 207 1, 178, 111 98, 690 517, 861 913, 772	21, 299, 475 2, 354 	116, 777 21, 153, 262 52, 623 678, 555 153, 567 482, 279 2 53, 371 491, 783 272 197, 119 280, 041	10, 067 36, 991 2, 207	166, 289 1, 008, 640 38, 174 719, 017 874, 835 116, 213 1, 685, 518 59, 923 383, 746 2 688, 588	60, 069 470, 360 1, 997 (3) 2, 857 107 4, 961 43, 977 62, 804 5 65, 860	90, 352 4883, 593 90, 352 4883, 593 86, 511 372, 002 4 883, 593 2 614, 836	10, 487 2 937, 127 335 9 3, 713 124 4 43, 285 2 38, 375 71, 558 33, 399 2, 316, 167
Hungary Japan. Mauritius Netherlands Philippine Islands Russia United Kingdom Other countries Total	655, 676 132, 543 778, 682 412, 781 250, 461 768, 853 1, 007, 053	61, 936 6 1, 446 476, 276 7 4 5, 746 90, 564 159, 692	157, 028 142, 047 49, 618 170, 491 2 2, 219 422, 231 917, 117	2, 490 69 32, 263 136, 490	101, 044 189, 948 131, 235 2 32, 385 759, 058 1, 066, 177	101, 457	145, 635 162, 152 93, 243 2 52, 327 77, 345 846, 338	29, 249 892 19, 041 124, 253

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.

Three-year average.
 International Institute of Agriculture.

Less than 500 pounds.
Java and Madura only.

Eight months, May-December.
 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	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	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.
S. C	106		75		93	90		92	90		195	195	300	290	179	97	115	120	30.00
Ga	109		75	77	90	83		89	88	87	195	175	275	225	162	92	117	132	29.96
Fla	92	80	72	75		60	75		75	75	195			175	142	97	130	135	31.05
Miss	83	80	70	77		70	77	85	88	80	190	150	190	200	140	118	110	115	20. 70
La	78		67	79		84	80	93	90	190				110	148		89	107	35. 31
Tex	83	78	68	80	94	86	81	92	89	86			280	125	153		90	115	46.00
Ark	92	90		82		90	85		95	96	190			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	<b>93</b> . 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.

<sup>1</sup> 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.	Мау.	June.	July.
1900-1901 1901-2 1902-3 1903-4 1904-5		\$2. 75 2. 70 2. 80 1. 62	\$2. 75 2. 58 2. 68 1. 55	\$2. 75 2. 60 2. 42 1. 55	\$2.50 2.52 2.25 1.50	\$2. 48 2. 38 2. 58 2. 25 1. 50	\$2. 48 2. 38 2. 58 2. 12 1. 50	\$2. 58 1. 88 1. 68	\$1.75 1.62	\$1.62 1.75	\$1. 62 1. 75	\$1. 62 1. 75
1905-6 1906-7 1907-8 1908-9 1909-10	3. 18	2. 62 3. 18 2. 98 2. 80 2. 38	2. 62 3. 05 3. 22 2. 75 2. 75	2. 88 2. 88 3. 25 2. 92 2. 50	2. 92 2. 62 2. 95 2. 58 2. 40	3. 05 2. 75 3. 00 2. 75 2. 50	3. 05 2. 75 3. 12 2. 82 2. 50	3. 05 2. 88 3. 29 2. 94 2. 30	2. 38 2. 92 2. 10	2. 70 2. 05	2. 38 2. 18	2. 12
1910-11 1911-12 1912-13 1913-14	2. 45	2. 42 2. 45 2. 65	2. 28 2. 58 2. 98	2. 45 2. 62 2. 88	2. 25 2. 82 2. 82	2. 25 3. 16 2. 90	2. 18 3. 10 2. 40	2. 18	2. 25  2. 75	2. 25 3. 02	3. 22	3. 28
1914-15 1915-16 1916-17 1917-18 1918-19	3. 26	4. 02 3. 26 2. 99 6. 00	3. 50 3. 08 3. 02 6. 72	3. 41 3. 50 6. 52	2. 78 3. 32 3. 42 6. 27	3. 48 3. 00 3. 05	3. 75 3. 28 3. 38	3. 81 3. 32 3. 72	3. 51 4. 90	3. 64 5. 55	4, 00	5. 75
1918–191 1919–20 1920–21 1921–22 1922–23	13. 00 2. 75 4. 25	11. 00 4. 00 3. 30	4. 25 3. 30	2. 75 3. 25	3. 50 3. 25	7. 00 3. 05 3. 25	2. 00 3. 50 3. 20	1. 75 3. 90 3. 50	1. 50 4. 00 3. 40	2. 50 3. 75 3. 10	2. 00 3. 85 3. 40	7. 50 2. 50 4. 00 3. 35

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.	Мау.	June.	July.	Average.
1900-1901 1901-2 1502-3 1508-4 1904-5 1565-6 1906-7 1507-8 1908-9	Cents. 4. 8 5. 0 4. 9 5. 2 3. 5 3. 8 5. 2 5. 9 6. 4	Cents. 4. 8 5. 0 4. 9 5. 0 3. 4 3. 9 5. 2 5. 9	Cents. 4. 8 5. 0 4. 9 4. 7 3. 4 4. 1 5. 4 5. 6 5. 4	Cents. 4. 9 4. 9 4. 9 4. 4 3. 4 4. 1 5. 3 5. 4 5. 1	Cents. 5. 0 4. 8 5. 0 4. 2 3. 4 4. 5 5. 1 5. 1	Cents. 5. 0 4. 8 4. 9 4. 2 3. 4 5. 1 5. 1 5. 2	Cents. 4. 9 4. 8 5. 0 4. 0 3. 4 5. 1 5. 1 5. 6	Cents. 4. 9 4. 8 5. 2 4. 0 3. 4 5. 0 5. 1 5. 7 5. 8	Cents. 4. 9 4. 8 5. 2 4. 0 3. 4 4. 9 5. 2 5. 8	Cents. 4. 9 4. 9 5. 2 3. 9 3. 4 4. 9 5. 4 5. 8	Cents. 4. 9 5. 1 5. 2 3. 7 3. 6 5. 1 5. 6 6. 1 5. 8	Cents. 4. 9 5. 1 5. 2 3. 6 3. 8 5. 4 5. 9 6. 2 5. 6	Cents. 4. 9 4. 9 5. 0 4. 2 3. 5 4. 7 5. 3 5. 7 5. 6
1909-10 1910-11 1911-12 1912-13 1913-14	5. 9 4. 4 3. 9 5. 0 5. 1	5. 2 4. 6 4. 2 4. 9 5. 1	5. 1 4. 4 4. 3 4. 9 5. 1	4. 9 4. 1 4. 2 4. 9 5. 1	4. 8 4. 1 4. 2 4. 9 5. 0	5. 0 4. 2 4. 4 4. 9 4. 9	4. 8 4. 0 4. 7 4. 9 4. 9	4. 6 3. 9 4. 9 4. 9 4. 9	4. 1 3. 8 4. 9 4. 9 4. 9	4. 4 3. 8 5. 1 4. 9 4. 9	4. 4 3. 7 5. 1 4. 9 4. 9	4. 4 3. 8 5. 1 5. 0 4. 9	4. 8 4. 1 4. 6 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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	5. 3 5. 2 5. 2 7. 9 10. 1 14. 3 14. 0	5. 7 4. 9 5. 2 7. 8 10. 1 14. 1 13. 2	5. 6 4. 9 5. 2 8. 2 10. 2 13. 6 11. 1	5. 6 5. 1 5. 2 9. 0 10. 5 13. 8 7. 4	5. 4 5. 1 5. 4 8. 9 10. 5 14. 2 8. 5	5. 2 5. 1 5. 4 8. 9 10. 4 14. 8 7. 5	5. 4 5. 1 5. 4 8. 9 10. 4 14. 8 6. 9	5. 4 5. 1 5. 6 9. 4 10. 4 14. 8 6. 9	5. 4 5. 1 7. 1 9. 6 10. 4 14. 8 6. 5	5. 4 5. 1 8. 8 9. 9 10. 7 14. 8 6. 1	5. 4 5. 1 8. 6 10. 0 11. 7 14. 8 6. 5	5. 4 5. 1 8. 4 10. 1 13. 7 14. 4 6. 5	5. 4 5. 1 6. 3 9. 0 10. 8 14. 4 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 1922–23 1923–24	6. 7 7. 5 7. 9	7. 0 7. 5 7. 7	7. 0 7. 6 7. 6	7. 0 7. 4 7. 6	7. 0 7. 4 7. 6	7. 0 7. 8	7. 0 7. 8	7. 0 7. 7	7. 0 7. 6	7. 1 7. 9	7. 5 7. 9	7. 5 7. 9	7. 1 7. 7

Division of Statistical and Historical Research. Compiled from daily quotations in the New York Journal of Commerce.

Table 178.—Rice: Wholesale price per pound, 1900-1923—Continued.

NEW ORLEANS (HONDURAS, CLEAN, FANCY).

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aver- age.
1900-1901 1901-2 1902-3 1903-4 1904-5	Cents. 5. 4 4. 4 3. 8 4. 1 3. 4	Cents. 5. 2 4. 3 3. 8 4. 0 3. 0	Cents. 5. 1 4. 0 3. 7 3. 6 3. 1	Cents. 5. 1 3. 9 3. 8 3. 3 3. 1	Cents 5. 1 3. 9 3. 8 3. 1 3. 2	Cents. 4. 1 4. 0 3. 9 3. 2 3. 1	Cents. 4. 1 4. 0 4. 0 3. 1 2. 9	Cents. 4. 4 4. 0 4. 1 2. 9 2. 9	Cents. 4. 1 3. 9 4. 2 2. 7 2. 6	Cents. 4.5 3.9 4.1 2.9 2.9	Cents. 4. 4 3. 8 4. 2 2. 8 3. 6	Cents. 4.8 4.2 4.5 3.0 3.4	Cents. 4.7 4.0 4.9 3.2 3.1
1905–6 1906–7 1907–8 1908–9	3. 5 4. 2 4. 2 4. 8	3. 7 4. 0 4. 2 3. 9	3. 9 3. 9 4. 1 3. 9	3. 9 3. 8 3. 9 3. 8	3. 6 3. 8 3. 9 3. 8	4. 0 3. 9 4. 0 3. 6	3. 9 3. 9 4. 1 4. 0	3. 8 3. 5 4. 2 4. 1	4. 1 3. 6 4. 4 4. 1	3. 6 3. 8 4. 4 4. 2	3. 9 4. 1 4. 2 4. 0	3. 9 4. 3 5. 1 4. 2	3. 8 3. 9 4. 2 4. 0
1909-10 1910-11 1911-12 1912-13 1913-14	4. 1 3. 8 3. 6 4. 1 4. 4	3.6 3.6 3.5 4.1 3.8	3. 8 3. 4 3. 3 3. 5 3. 8	3. 7 3. 1 3. 4 3. 8 3. 6	3. 7 3. 2 3. 4 4. 1 3. 7	3.8 2.9 3.8 4.1 3.9	3. 8 3. 1 3. 9 4. 0 3. 8	3. 4 2. 9 4. 0 3. 9 3. 7	3. 2 3. 0 3. 9 4. 0 3. 6	3. 6 2. 9 4. 6 4. 1 3. 9	3. 5 2. 9 4. 2 4. 1 3. 8	3. 7 3. 6 4. 6 4. 4 3. 7	3. 7 3. 2 3. 8 4. 0 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
1914–15 1915–16 1916–17 1917–18 1918–19 1919–20 1920–21	4. 1 3. 6 3. 8 6. 1 7. 6 10. 9 10. 6	4. 2 3. 3 3. 5 6. 4 7. 6 12. 2 9. 6	3. 6 3. 8 3. 8 6. 7 7. 5 11. 8 7. 9	3. 4 3. 8 3. 9 6. 6 7. 3 11. 9 6. 9	3. 6 3. 8 3. 9 6. 8 7. 5 12. 3 6. 6	3. 9 3. 5 3. 9 6. 8 7. 8 12. 7 4. 6	4. 1 3. 6 3. 9 7. 0 7. 7 12. 8 4. 7	4. 1 3. 9 4. 1 7. 6 8. 0 12. 5 5. 4	4. 0 3. 8 5. 2 8. 2 7. 9 12. 3 5. 3	4. 1 4. 0 5. 9 8. 3 7. 0 12. 2 5. 5	4. 2 4. 2 6. 3 8. 3 9. 2 12. 3 5. 8	4. 2 3. 9 6. 3 8. 4 10. 1 12. 5 5. 6	4. 0 3. 8 4. 5 7. 3 7. 9 12. 2 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 1922–23 1923–24	5. 7 6. 6 6. 5	5. 4 6. 6 6. 4	5. 3 6. 5 6. 3	5. 4 6. 5 6. 3	5. 7 6. 5 6. 4	5. 7 6. <b>6</b>	5. 7 6. 6	5. 9 6. 3	6. 4 6. 4	6. 4 6. 4	6. 4 6. 5	6. 4 6. 5	5. 9 6. 5

Compiled from the New Orleans Times-Picayune.

#### HOUSTON (HEAD, CLEANED).

1900-1901 1901-2 1902-3 1903-4 1904-5 1905-6 1906-7 1907-8	4. 0 4. 8 5. 4 3. 5 3. 6 4. 5 6. 2	4. 0 5. 1 5. 5 3. 5 3. 8 4. 5 5. 7	4. 0 5. 1 5. 5 3. 4 3. 9 5. 0 5. 4	4. 0 5. 1 4. 9 3. 4 4. 0 5. 1 5. 0	4. 0 5. 1 4. 5 3. 4 4. 2 4. 6 5. 0	4. 0 4. 4 5. 2 4. 1 3. 4 4. 8 5. 1 5. 0	4. 0 4. 5 5. 2 4. 1 3. 4 4. 8 5. 2 5. 2	4. 0 4. 8 5. 2 4. 0 3. 4 4. 8 5. 2	4. 0 4. 8 5. 1 3. 8 3. 2 4. 2 5. 2	4. 0 4. 8 5. 1 3. 6 3. 2 4. 2 5. 7	4. 0 4. 8 5. 2 3. 6 3. 4 4. 5 6. 0	4. 0 4. 8 5. 4 3. 5 4. 5 6. 2	4. 0 4. 4 5. 1 4. 4 3. 4 4. 3 5. 2
1908-9	5. 8	5. 5	5. 2	5. 0	5. 0	4. 9	5. 1	5. 2 5. 1	5. 4 5. 2	5. 6 5. 3	5. 7 5. 5	5. 9 5. 8	5. 4 5. 3
1909-10	5. 6 5. 2 4. 1 5. 1 5. 5	5. 4 4. 1 4. 1 4. 9 5. 2	5. 2 4. 2 4. 1 4. 2 4. 9	4. 9 3. 9 4. 1 4. 6 4. 8	4. 9 3. 5 4. 1 4. 9 4. 7	4. 1 3. 8 4. 4 4. 8 4. 9	4. 4 3. 5 4. 7 4. 8 4. 9	3. 9 3. 2 4. 8 4. 8 4. 8	3. 8 3. 4 5. 0 4. 8 4. 1	4. 0 3. 5 5. 0 4. 8 4. 5	3. 9 3. 4 4. 8 5. 0 4. 4	4. 0 3. 3 5. 0 5. 2 3. 5	4. 5 3. 8 4. 5 4. 8 4. 7
Av. 1909–1913	5. 1	4.7	4. 5	4. 5	4. 4	4.4	4. 5	4. 3	4. 2	4. 4	4. 3	4. 2	4. 5
1914-15 1915-16 1916-17 1917-18	4. 7 5. 1 4. 0 7. 2	4. 9 5. 0 4. 1 7. 1	5. 0 4. 9 4. 5 7. 8	4. 6 4. 9 4. 6 8. 0	4. 8 4. 9 4. 6 8. 0	4. 6 4. 2 4. 9	4. 6 4. 4 4. 9	4. 6 4. 4 5. 2	4. 7 4. 2 6. 5	4. 8 4. 0 7. 9	4. 9 4. 0 7. 6	5. 0 4. 0 7. 5	4.8 4.5 5.5 17.6
1918-19 1919-20 1920-21	13. 0 10. 0	13. 1 7. 8	10. 6 6. 9	10. 5 6. 2	11. 2 6. 1	9. 1 12. 8 4. 6	9. 1 12. 5 4. 2	9. 1 12. 8 3. 5	9. 1 12. 5 3. 2	9. 1 12. 0 3. 4	11. 1 11. 6 3. 5	13. 2 11. 2 3. 8	<sup>2</sup> 10. 0 12. 0 5. 3
Av. 1914-1920	3 7. 3	3 7. 0	3 6. 6	<sup>3</sup> 6. 5	<sup>3</sup> 6. 6	3 6. 7	8 6. 6	<sup>8</sup> 6. 6	<sup>3</sup> 6. 7	3.6. 9	<sup>3</sup> 7. 1	3 7.4	7. 1
1921–22 1922-23 1923–24	4. 2 4. 6	4. 6 4. 5	4. 8 4. 1	4. 8 4. 1	4. 4 4. 1	4. 2	4. 4	4. 5	4. 9	4. 8	4.5	4.5	4.6

Houston Cotton Exchange. Division of Statistical and Historical Research.

<sup>&</sup>lt;sup>1</sup> Average for 5 months.

<sup>&</sup>lt;sup>2</sup> Average for 7 months.

Average for 6 years.

#### BUCKWHEAT.

Table 179.—Buckwheat: Acreage, production, value, exports, etc., in the United States, 1849-1923.

C alendar year.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Farm value Dec. 1.	Value per acre. 1	Calendar dar year.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Farm value Dec. 1.	Value per acre.	Domestic exports, fiscal year beginning July 1.2
1849 1859 1866 1867 1868	1,000 acres. 1,046 1,238 1,114	Bush. of 48 lbs.  21.8 17.4 17.8	1,000 bush. 8,957 17,572 22,792 21,359 19,864	78.7	1,000 dolls.  15, 413 16, 812 15, 490	13. 69	1896 1897 1898 1899 1900	1,000 acres. 853 838 811 807 795	20. 6 17. 2 16. 1	1,000 bush. 15, 805 17, 260 13, 96F 13, 00F 11, 810	Cts. 39. 3 42. 1 45. 0 55. 9 55. 8	7, 259 6, 278 7, 263	8. 66 7. 74 9. 00	Bush. 1, 677, 102 1, 370, 402 1, 533, 980 426, 823 123, 540
1869 1870 1871 1872 1873	1, 029 537 414 448 454	16. 9 18. 3 20. 1 18. 1 17. 3	17, <b>4</b> 31 9, 842 8, 329 8, 134 7, 838	71. 9 70. 5 74. 5 73. 5 75. 0	5, 979	12. 18 12. 92 15. 00 13. 35 12. 95	1901 1902 1903 1904 1905	852 856 870 876 840	17. 9 17. 5 18. 6	15, 693 15, 286 15, 248 16, 327 15, 797	56. 4 59. 6 60. 8 62. 5 58. 6	9, 277 10, 208	10. 40 10. 64 10. 66 11. 65 11. 02	719, 615 117, 953 31, 006 316, 399 696, 513
1874 1875 1876 1877 1878	453 576 666 650 673	17. 7 17. 5 14. 5 15. 7 18. 2	8, 017 10, 082 9, 669 10, 177 12, 247	72. 9 62. 0 66. 6 66. 9 52. 6	6, 244 6, 436 6, 808	12. 90 10. 86 9. 66 10. 47 9. 57	1906 1907 1908	865 838 853 878 878	17. 7 19. 4 20. 5	15, 734 14, 858 16, 541 17, 983 17, 598	75. 7	10, 397 12, 518 	10. 85 12. 41 14. 68 14. 38 13. 53	199, 429 116, 127 186, 702 158, 160 223
1879 1880 1881 1882 1883	848 823 829 847 857	20. 7 17. 8 11. 4 13. 0 8. 9	9, 486		8, 039	9. 90 9. 49	1910 1911 1912 1913	833 841 805	21, 1 22, 9 17, 2	17, 549 19, 249 13, 833	72. 6 66. 1 75. 5	11, 636 12, 735 12, 720 10, 445	15. 29 15. 12 12. 98	1,347 586
1884 1885 1886 1887	879 914 918 911	12. 6 13. 8 12. 9 11. 9	12, 626 11, 869	58. 9 55. 9 54. 5 56. 5	7, 057 6, 465	7. 45 7. 72 7. 04 6. 72	1909-13_ 1914 1915 1916 1917	792 769 828 924	21. 3 19. 6 14. 1	17, 242 16, 881 15, 056 11, 662 16, 022	76. 4 78. 71 112. 7	12, 033 12, 892 1, 843 13, 147 25, 631	14. 27 16. 28 15. 40 15. 88 27. 74	32, 089 413, 643 515, 304 260, 102 5, 567
1888 1889 1890 1891	913 837 863 867	13. 2 14. 5 14. 7 15. 0	12, 109 12, 678 13, 013		6, 115 7, 264 7, 423	8. 36 7. 31 8. 42 8. 56	1918 1919 1920 Av.	1, 027 700 701	16. 5 20. 6 18. 7	16, 905 14, 399 13, 142	166. 5 146. 1 128. 3	28, 142 21, 032 16, 863	27. 40 30. 05 24. 06	119, 516 244, 785 399, 437
1892 1893 1894 1895	899 873 864 842	14. 1 14. 7 15. 9 19. 9	12, 866	52. 0 58. 3 55. 7 45. 3	7, 503	7. 31 8. 59 8. 84 9. 01	1914-20 1921 1922 1923 <sup>3</sup>	820 680 764 737	20. 9 19. 1	14, 867 14, 207 14, 564 13, 920	81. 2 88. 5	18, 507 11, 540 12, 889 12, 984	16. 97 16. 87	279, 765 2 484, 763 171, 545

Division of Crop and Livestock Estimates. Figures in italics are census returns.

<sup>&</sup>lt;sup>1</sup> Based on farm price Dec. 1.

<sup>2</sup> Compiled from reports of Bureau of Foreign and Domestic Commerce. Including buckwheat flour Jan. 1 to June 30, 1922.

<sup>3</sup> Preliminary.

Table 180.—Buckwheat: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thou	sands of	acres.	Produc	ction, the	ousands s.	Total 1 pri dolla	value, ba ce, thou rs.	sis Dec. sands of
	1921	1922	1923 1	1921	1922	1923 1	1921	1922	19231
Maine	13	8	9	351	216	207	351	238	197
	1	1	1	21	25	22	18	31	22
	4	4	4	88	96	72	79	88	72
	1	1	1	18	21	20	22	29	23
	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	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
Wisconsin	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

Table 181.—Buckwheat: Yield per acre, by States, calendar years, 1908-1923.

State.	1908	1909	1910	1911	1912	1913	Av. 1909 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
Maine	30. 0 21. 5 22. 0	28. 0 22. 0 22. 0 19. 3	Bu. 32. 5 31. 0 24. 0 22. 0 19. 5	30. 0 27. 3 24. 3 21. 0	29. 4 31. 0 30. 0 21. 0	32. 0 31. 0 25. 0 17. 0	30. 4 28. 5 25. 1 20. 1	Bu. 29. 0 25. 0 28. 0 18. 5 18. 5	26. 0 30. 0 27. 0 16. 0	24. 0 20. 0 17. 5 16. 0	21. 5 16. 0 20. 0 15. 0	20. 0 17. 0 21. 0 16. 0	24. 0 18. 0 22. 0 20. 0	27. 0 20. 0 21. 0 19. 0	24. 5 20. 9 22. 4 17. 2	27. 0 21. 0 22. 0 18. 0	Bu. 27. 0 25. 0 24. 0 21. 0 18. 0	23. 0 22. 0 18. 0 20. 0
New Jeresy Pennsylvania	19. 2 30. 0	21. 8 19. 5 19. 8	21. 5 19. 5 20. 5	20. 0 21. 9 19. 0	22. 0 24. 2 16. 0	22. 0 18. 5 17. 0	21. 5	23. 0 21. 0 20. 5 19. 0 18. 5	21. 0 21. 0 18. 5	19. 0 14. 0 19. 0	18. 0 18. 0 20. 0	18. 0 18. 0 20. 5	18. 0 21. 6 18. 0	18. 0 18. 0 18. 0	19. 0 18. 7 19. 0	21. 0 23. 0 14. 0	21. 0 22. 0 21. 0 19. 1 20. 6	21. 0 21. 5 18. 0
West Virginia North Carolina Ohio	18. 0 18. 0 16. 4 18. 5 17. 0	22. 7 19. 8 21. 2	23. 0 19. 0 18. 0	24. 0 19. 0 21. 0	24. 0 17. 5 19. 5	21. 0 19. 3 18. 0	22. 9 18. 9 19. 5	19. 4 21. 5 19. 0 24. 0 17. 5	22. 0 17. 5 23. 0	18. 3 17. 5 17. 7	20. 0 20. 0 17. 2	19. 5 20. 0 16. 0	21. 0 17. 0 23. 2	19. 5 20. 0 20. 9	20.3 18.7 20.3	22. 0 17. 0 25. 0	19. 5 21. 0 20. 0 20. 0 15. 0	20. 0 22. 0 20. 0
MichiganWisconsinMinnesota	13. 5 15. 2 18. 2	14. 3 12. 3 15. 2	15. 3 14. 0 16. 0	18. 0 17. 5 18. 0	17. 0 17. 0 21. 0	15. 0 16. 5 16. 5	19. 1 15. 9 15. 5 17. 3 16. 1	18. 5 17. 5 17. 0	14. 5 13. 0 17. 5	11. 0 14. 0 15. 0	9. 0 12. 2 14. 0	10. 0 15. 9 17. 0	13. 8 16. 2 19. 0	14. 5 16. 0 16. 0	13. 0 15. 0 16. 5	16. 0 14. 9 16. 0	14. 4 14. 0	14. 2 14. 0 13. 0
South Dakota Nebraska Kentucky	ĩã. Ō	ī6. ō	20. 0	16. Ō	18. 0	20. õ	14. 7 18. 0 15. 8	18. 5	20. 0	1 <del>7.</del> 0	16. 0	14. 0	16. 0 13. 0	16. 0 15. 0	16.8	14. 0 16. 0 20. 0	8. 0 16. 0 16. 0	14. 0 18. 0 18. 0
United States	19. 4	20. 5	20. 5	21. 1	22. 9	17. 2	20. 4	21. 3	19. 6	14. 1	17. 3	16. 5	20. 6	18. 7	18. 3	20. 9	19. 1	18. 9

<sup>&</sup>lt;sup>1</sup> Preliminary.

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
1868	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	1				
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
			l. 1		1911	82. 9	83. 8	81. 4	21. 1
1882	99. 0	92. 4		13.0	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					
1885	94. 0	96. 1	92.0	13. 8	Av. 1909-1913	86. 2	82. 8	79. 5	20.4
1886	94. 1	89. 8	86.5	12. 9	111. 1000 1010	00.2			20. 1
	V 2	00.0	00.0		1914	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
1890	90. 1	90. 5	90. 7	14. 7	1918	88. 6	83. 3	75. 6	16.5
1891	97. 3	96. 6	92. 7	15. 0	1919	88. 2	90. 1	88. 0	20.6
7.	1			i	1920	90. 5	91. 1	85. 6	18. <b>7</b>
1892	92.9	89. 0	85.6	14.1					
1893	88. 8	77. 5	73. 5	14. 7	Av. 1914-1920	89. 8	87. 0	79.4	18. <b>3</b>
1894	82. 3	69. 2	72.0	15. 9					
1895	85. 2	87. 5	84.8	19. 9	1921	87. 2	85. 6	87. 4	20. 9
1896	96. 0	93. 2	86.0	18. 5	1922	89. 7	85. 7	83. 8	19.1
i			i 1	ļ	1923	82. 7	80. 5	77. 6	18.9

Table 183.—Buckwheat: Farm price per bushel, first 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	Cts. 80. 0	Cts. 77. 2	Cts. 77. 1	Cts. 75. 6	Cts. 74. 3	Cts. 74. 2	Cts. 75. 5	Cts. 76. 2	Cts. 78. 8	Cts. 83. 4	Cts. 86. 9	Cts. 82. 9	Cis. 77. 6
1909-10 1910-11 1911-12 1912-13 1913-14	76. 9 72. 6 74. 0 76. 6 70. 0	75. 0 71. 3 69. 6 69. 7 74. 1	71. 6 65. 9 73. 0 65. 5 75. 5	70. 1 66. 1 72. 6 66. 1 75. 5	70. 0 65. 8 73. 7 66. 8 76. 6	72. 0 64. 4 73. 6 69. 4 75. 6	70. 6 64. 1 76. 9 67. 0 75. 1	73. 4 65. 3 76. 9 68. 3 76. 9	71. 0 65. 8 79. 9 71. 4 77. 3	73. 7 70. 1 84. 8 70. 8 79. 0	78. 0 72. 4 86. 2 72. 9 85. 5	74. 8 76. 0 83. 6 72. 4 81. 2	72.4 67.6 75.2 68.4 76.3
Av. 1909-1913	74.0	71. 9	70. 3	70. 1	70. 6	71.0	70. 7	72. 2	73. 1	<b>7</b> 5. 7	79. 0	77. 6	72.0
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	159. 8	154. 4 180. 0 162. 0	151. 0	76. 4 78. 7 112. 7 160. 0 166. 5 146. 1 128. 3	162. 9 150. 7	161. 9 158. 1 154. 9	168. <b>2</b> 148. <b>4</b> 155. <b>7</b>	170, 1 149, 6 163, 1	84. 6 84. 9 150. 6 176. 0 147. 3 168. 8 115. 9	191. 0 165. 6 180. 2	200. 8 160. 8 202. 7	89. 2 89. 0 189. 3 192. 7 165. 9 181. 3 119. 7	80. 9 81. 1 123. 2 165. 8 166. 5 159. 0 129. 7
Av. 1914-1920	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 1922-23 1923-24	114. 4 86. 3 98. 5	106. 0 84. 1 94. 7	83. 9 80. 3 93. 6	81. 2 88. 5 93. 3	83. 5 89. 5	85. 4 87. 5	85. 8 89. 8	92. 6 95. 4	93. 3 94. 5	97. 5 102. 2	102. 6 102. 4	95. 7 100. 3	90. 3 89. 0

<sup>1</sup> Condition at time of harvest.

Table 184.—Buckwheat: Farm price per bushel, December 1, calendar years, 1908—1923, and value per acre, 1923.

State.	1908	1909	1910	1911	1912	1913	Av. 1909- 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914- 1920	1921	1922	1923	Value per acre, 1923.1
Me N. H Vt Mass Conn	Cts. 75 80 70 80 80	76 76 75	70 85	81 85 89	85	80	Cts. 67 71 77 83 92	82 84	81 82 95	100 105 140	183 150 166	206 160 196	156 170 168	122 135 140	130 126 140	88 90 125	92 138	95 100 100 115	
N. Y N. J Pa Del Md	76 75 75 72 76	74 68 69	69 62 65	75 69 65	72 64 66	81 76 73 69 75	70 73 67 65 71	83 76 76	83 78	108 111 118	158 163 148	170 160 143	150 140 160	150 120 120	129 121 120	100 75 75	115 89 80	95 91 91	18, 24 19, 95 19, 56 16, 38 22, 10
Va W. Va N. C Ohio Ind	72 81 78 82 78	76 76 80 78 77	77	78	75 85 70	80 78 78 76 75	76 78 81 75 74	83 83 76	77	95 101 85 110 112	170 130	173 150 156	140 155	140 110 105	131 111 119	82 85 105	85 97 80	108 94	18. 34 19. 20 23. 76 18. 89 16. 15
Ill Mich Wis Minn Iowa	90 71 76 73 78	80 66 78 71 85		71 75	65	80 70 69 64 81	85 67 73 70 83	95 71 78 70 77	90 72 83 75 80	130 115 116 112 125	147	170 165 170	137	136 109 120 106 134	117 126	78 75	80	101 84 89 90 94	15. 15 11. 93 12. 46 11. 70 14. 10
MoS Dak S Dak Nebr Ky Tenu	85 83 	99 99 79	87 - 90 - 86		90	85 79 75	92 	93 84 78		133 	144 150 145 150		184 180 150	100 100 100 130	140 126 118	80	125 . 70 . 85 . 90 . 80	118 86 85 100 109	15. 34 12. 04 15. 30 18. 00 20. 71
U.S	75. 7	70. 2	66. 1	72. 6	66. 1	75. 5	70. 1	76. 4	78. 7	112. 7	160, 0	166. 5	146. 1	128. 3	124. 1	81. 2	88. 5	93. 3	17. 62

Table 185.—Buckwheat: Average price per 100 pounds.

#### BUFFALO.1

Year beginning Oct. 1.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Average.
191415 191516. 1916-17. 191718. 191819. 191820.	\$1. 60 1. 50 1. 86 3. 22 3. 84 2. 98 2. 73	\$1. 55 1. 81 2. 92 3. 50 3. 70 2. 84 2. 52	\$1, 75 1, 81 3, 15 3, 52 3, 32 3, 16 2, 51	\$1. 85 1. 85 2. 86 3. 60 2. 93 3. 25 2-48	\$2. 21 11.80 3. 00 5. 73 2. 50 3. 45 2. 40	\$2. 07 1. 70 3. 03 4. 50 2. 35 3. 47 2. 60	\$1. 84 1. 74 2. 86 3. 68 3. 11 3. 12 2. 54
Average, 1914-1920	2. 53	2.69	2.75	2. 69	2. 73	2. 82	2.7
1921-22 1922-23 1923-24	1, 75 1, 79 2, 20	1. 64 2. 04 2. 12	1. 78 2. 13 2. 06	1. 94 2. 95	2 08 2 10	2. 59 2. 12	1.96 2.04

#### MINNEAPOLIS.

1922-23 1923-24	9 Ozt 1	\$2.12 2.17	\$2: 20: 198:	\$2.05	\$22.07	\$2.03	\$2.03

Division of Statistical and Historical Research.

<sup>1</sup> Based on farm price Dec. 1.

<sup>&</sup>lt;sup>1</sup> From the Weekly Northwestern Miller. Average of weekly quotations. 1922–23 and after from Commercial Bulletin, Buffalo Corn Exchange.
\*From 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.		Averag in bush ac	els per	thouse	etion, ands of hels.	A verag price, N cents bus	lov 15, s per	Farm thousa doll	nds of
1915 1916 1917 1918 1919 1920	5, 153 6, 036 5, 060 5, 120 4, 635		13 11 12 25 26	. 6 . 7 . 9 . 1 . 8 . 8	61,	858 409 241 734 408	44 105 161 150 127 92 39	.9 .0 .4	57, 99, 109, 166, 127,	510
Leading States.	1922 1923 2		1922	1923	1922	1923 2	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 Missouri Nebraska Kansas Texas Oklahoma Colorado New Mexico Arizona California	6 15 19 1, 039 1, 970 1, 450 247 158 30 130	6 13 26 1, 598 1, 891 1, 523 336 205 35 143	24. 0 20. 0 18. 0 19. 5 20. 0 13. 5 15. 0 11. 0 30. 0 32. 0	33. 0 21. 0 25. 6 17. 7 22. 0 12. 0 20. 0 18. 0 34. 0 33. 0	144 300 342 20, 260 39, 400 19, 575 3, 705 1, 738 900 4, 160	198 273 666 28, 285 41, 602 18, 276 6, 720 3, 690 1, 190 4, 719	55 85 74 74 190 80 70 80 80 80	100 100 88 82 105 92 80 90 100	79 255 253 14, 992 39, 400 15, 660 2, 594 1, 390 720 4, 160	198 273 586 23, 194 43, 682 16, 814 5, 376 3, 321 1, 190 4, 719

Division of Crop and Livestock Estimates.

<sup>1</sup> Kafirs, milo maize, feterita.

<sup>2</sup> 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.
1906	P. ct. 90. 2 84. 8 85. 3 89. 4 82. 7 64. 5 89. 4 84. 7	P. ct. 91.3 85.6 86.5 85.0 71.1 72.9 85.0 73.1	P. ct. 92. 4 83. 1 85. 1 72. 8 79. 2 74. 4 85. 4 57. 9	P. ct.	Bush.	1914 1915 1916 1917 1918 1919 1920 Av. 1914–1920 1921 1922 1922	P. ct. 90. 5 87. 1 83. 2 69. 8 78. 7 91. 1 89. 5 84. 3 88. 9 87. 2 85. 3	P. ct. 84. 4 89. 1 73. 1 58. 2 65. 8 90. 4 87. 5 78. 4 88. 5 79. 3 74. 7	P. ct. 84. 5 90. 8 62. 3 70. 8 50. 1 88. 0 91. 0 76. 8	P. ct.  90. 5 65. 2 67. 8 49. 0 86. 3 94. 7  75. 6  85. 3 64. 9 67. 5	Bush.  27. 6 13. 7 11. 9 12. 1 25. 8 26. 8  19. 6  24. 6 17. 9 18. 3

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.

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Weight- ed average.
1909-10 1910-11 1911-12 1912-13 1913-14	\$1. 20 1. 12 1. 06 . 98 1. 57	\$1. 31 . 96 . 99 . 86 1. 63	\$1. 53 . 96 1. 19 . 85 1. 72	\$1. 42 . 93 (¹) . 83 1. 72	\$1. 37 . 94 1. 29 . 81 1. 76	\$1. 32 . 94 1. 43 . 82 (1)	\$1. 46 1. 06 1. 44 . 88 2. 00	\$1. 50 1. 24 1. 25 1. 11 (1)	\$1. 53 1. 42 1. 63 1. 09 (1)	\$1. 81 1. 34 1. 68 1. 41 (1)		\$1. 19 1. 21 1. 13 1. 51 (1)	\$1. 45 1. 12 1. 31 1. 06
Av. 1909-1913	1. 19	1. 15	1. 25		1. 23		1. 37						
1914-15. 1915-16. 1918-17. 1917-18. 1918-19. 1919-20. 1920-21.	1. 04 . 91 2. 34 3. 40 2. 96 2. 67 1. 39	1. 14 . 99 2. 11 3. 25 2. 61 2. 93 1. 17	1. 33 . 99 2. 43 3. 33 2. 60 2. 49 . 98	1. 38 . 96 2. 48 3. 69 2. 70 2. 17 . 91	1. 28 . 93 2. 66 3. 84 2. 56 2. 31 . 85	1. 18 1. 06 3. 17 3. 37 2. 67 2. 38 . 80	1. 14 1. 05 3. 79 2. 93 2. 97 2. 65 1. 03	1. 20 1. 11 3. 36 2. 65 3. 42 2. 52 1. 12	1. 16 1. 22 4. 00 3. 03 3. 51 2. 36 1. 21	1. 09 1. 58 4. 48 3. 40 3. 61 2. 43 1. 13	1. 04 1. 71 4. 34 3. 40 2. 41 2. 24 1. 13	1. 06 1. 84 3. 69 3. 27 2. 34 1. 81 1. 02	1. 17 1. 19 3. 24 3. 28 2. 86 2. 41 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 1922-23 1923-24	. 85 1. 78 (¹)	. 90 1. 63 1. 27	. 90 1. 59	1. 29 1. 60	1. 32 1. 66	1. 20 1. 72	1. 28 1. 76	1. 38 1. 67	1. 66 1. 50	1. 72 1. 48	1. 98 (¹)	1. 83 (¹)	1.36

Division of Statistical and Historical Research. Compiled from Kansas City Price Current and Market Review.

Table 189.—Kafir: Farm price per bushel, 15th of month, United States, 1916-1923.

Year begining Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.		Weight- ed average.
1916–17 1917–18 1918–19 1919–20	160. 6 150. 5	166. 7 154. 8	170. 8 153. 7	156. 9	193. 5 150. 9	204. 0 162. 1	211.0	174. 1	165. 6 175. 9	177. 2	181. 0	Cts. 174. 1 175. 9 139: 7 95. 5	Cts. 152. 6 182. 3 160. 4 140. 4
1920-21 1921-22 1922-23 1923-24	95. 5 35. 8 89. 2 95. 4	81. 7 33. 8 89. 3	65. 6 41. 4 89. 0	57. 8 48. 0 92. 1	67. 3 60. 5 98. 6	53. 8 63. 2 108. 2	51. 5 61. 2 96. 4	62. 0 63. 8 100. 2	51. 0 68. 7 109. 8	58. 0 87. 7 102. 2	54. 9 77. 1 94. 1	48. 3 85. 6 100. 8	63. 6 54. 8 96. 6

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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Yearly total.
	1,000	1,000			1,000		1,000			1,000			1,000
1000 10	lbs.	lbs.											
1909-10		2,820											
1910-11		16,050											68, 050
1911-12		18, 100											121, 644
		36, 098					7, 207	12, 505	5,051				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., 1909-1913	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, 595	27, 227	14, 106	10, 410	11,519	11.396	6, 283	7, 269	28, 165
1915-161													319, 530
1916-171		5, 432											43, 719
1917-181	4, 928	15, 585	25, 995	21, 560	28, 336	18, 049	5, 482	5, 975	2. 218	1,602	493		130, 593
1918-191	2, 834	9, 117	8, 562	9, 425	21, 498	18, 418	21,006	5, 298	8, 932	3, 634	4.866		118, 087
1919-201	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 1													272, 519
Av., 1914-1920	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
1921-221	14 722	10 589	26 365	30 061	21 930	17 494	11 149	11 889	8 378	4 682	1 971	6 714	174, 944
1922-23													109, 306
	1,	, 000	-0, 0.0	,	,	,		.,,					

Division of Statistical and Historical Research. Compiled from Kansas City Annual Statistical Report, Board of Trade, and Minneapolis Daily Market Record.

<sup>&</sup>lt;sup>1</sup> Kafir, milo maize, and feterita included from January, 1915-December, 1921.

#### FRUITS AND VEGETABLES.

#### APPLES.

Table 191.—Apples: Production in the United States, 1889-1923.

Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production
1889	Bushels. 143, 105, 000 80, 142, 000 198, 907, 000 120, 536, 000 114, 773, 000 134, 648, 000 219, 600, 000 232, 600, 000 163, 728, 000	1898	Bushels. 118, 061, 000 175, 297, 000 205, 930, 000 135, 500, 000 212, 330, 000 195, 680, 000 233, 630, 000 136, 220, 000 216, 720, 000	1907	Bushels. 119, 560, 000 148, 940, 000 146, 122, 000 141, 640, 000 234, 020, 000 235, 220, 000 145, 410, 000 230, 011, 000	1916	Bushels. 193, 905, 000 166, 749, 000 169, 625, 000 142, 086, 000 223, 677, 000 99, 002, 000 202, 702, 000 196, 770, 000

Division of Crop and Livestock Estimates. Census figures are in italics.

Table 192.—Apples: Production and farm prices December 1, by States, calendar years, 1919-1923.

State	То	tal crop,	thousan	ds of bus	hels.	Farm	price per	bushel	Dec. 1	(cents).
State.	1919	1920	1921	1922	1923 1	1919	1920	1921	1922	1923
Maine New Hampshire Vermont Massachusetts Rhode Island	4, 829	1, 680	4,060	1, 250	2, 390	117	120	115	107	96
	1, 364	1, 200	700	775	800	160	150	175	135	140
	960	993	600	960	592	175	150	195	160	170
	3, 187	3, 575	1,125	3, 010	3, 015	200	120	240	145	150
	334	390	63	200	450	195	200	250	110	135
Connecticut New York New Jersey Pennsylvania Delaware	1, 395	2, 375	758	1, 300	1,700	170	125	240	120	150
	14, 350	47, 087	13, 500	36, 000	24,000	200	75	205	81	120
	1, 666	2, 942	667	2, 610	2,203	200	120	270	95	140
	5, 513	18, 584	2, 208	11, 400	10,855	225	90	260	96	100
	606	822	68	1, 414	1,200	200	95	220	90	100
MarylandVirginiaWest VirginiaNorth CarolinaSouth Carolina	1, 519	2,600	225	1,500	2, 300	200	78	195	90	86
	8, 943	13,744	570	8,960	9, 800	160	90	255	90	94
	4, 189	8,040	420	5,625	8, 320	180	125	260	102	100
	2, 000	6,320	593	6,000	2, 700	187	105	250	90	140
	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 Wyoming Colorado New Mexico Arizona	850	825	975	610	990	175	180	150	100	130
	30	18	19	40	35	350	200	250	200	180
	3, 418	2, 830	3, 200	4, 250	3,010	185	140	170	75	95
	1, 100	434	483	750	1,400	200	180	200	130	180
	125	80	47	77	128	225	250	250	205	180
Utah	760	1, 064	1, 037	1, 085	1, 119	170	120	130	80	78
	53	36	24	35	56	300	275	260	160	140
	3, 800	3, 420	4, 500	3, 900	5, 600	180	145	130	72	75
	25, 295	21, 502	29, 062	25, 775	31, 357	155	140	125	100	77
	6, 921	4, 158	6, 667	6, 300	8, 000	140	125	115	95	85
	8, 200	6, 000	6, 500	7, 850	8, 450	145	160	135	90	75
United States		223, 677		202, 702	196, 770	183. 6	114.8	168. 0	98. 6	102. 2

<sup>1</sup> 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	1923 1
	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.
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	8. Dak	3	5	0	4	3
Mass		375	172	461	500	Nebr	180	110	17	130	103
R. I	65	75	8	20	50			1	1	1	
_						Kans		286	29	546	400
Conn	119	215	70	108	160	Ку	57	218	31	169	70
N. Y	2, 975	6, 500	3, 300	6,000	3,900	Tenn		204	45	95	30
N. J		848	132	552	470	Ala	9	20	15	18	12
Pa	759	1, 547	221	1, 216	1, 266	1		1	1		}
						Tex	37	21	21	15	15
Del		219	14	380	340	Okla	43	29	21	38	42
Md	177	399	20	280	460	Ark	1,100	724	16	520	656
Va	1,653	1,988	80	1,400	1,850	Mont	140	128	175	115	123
W. Va	648	1,340	130	881	1,350			1	1		1
						Colo	828	736	812	1,034	803
N. C	92	250	25	236	100	N. Mex	264	108	123	150	315
Ga	35	106	58	95	60	Ariz	15	10	6	9	14
Ohio	280	1, 445	360	608	1,033	Utah	121	196	198	198	260
Ind	137	542	109	277	300						
						Idaho	1,008	756	1, 359	1, 150	1,600
III	712	1, 369	397	1,450	1, 351	Wash	7, 167	5,734	8,300	7, 341	9, 198
Mich		3, 167	1, 208	1, 699	2, 118	Oreg	1, 357	832	1, 667	1, 260	1,750
Wis		161	64	101	136	Calif	1, 200	1, 230	1, 352	1, 399	1,732
Minn	61	78	64	41	61			,	2, 002	-, 500	
	٧.	,,,	0.		01	United States	26, 159	33, 905	21, 557	31, 945	34, 303
	1		1			Carried Courses	,	, 500	, 50.	, 510	, 000

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.

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 a full crop.
1866	P. ct. 98. 9 120. 7 99. 4 105. 8 87. 3	P. ct. 92. 8 108. 2 94. 6 101. 9 88. 1	P. ct. 100. 0 89. 9 96. 6 83. 9	P. ct. 100. 5 71. 8 94. 7 89. 3	P. ct.	P. ct. 89. 1 97. 2 80. 1 101. 9 86. 8	1896 1897 1808 1899 1900	P. ct. 71. 0 74. 8 73. 0 75. 2 83. 4	P.ct. 64. 6 66. 8 57. 5 58. 7 75. 4	P. ct. 65. 7 60. 3 46. 8 56. 8 71. 0	P. ct. 67. 0 56. 9 42. 0 52. 0 67. 8	P. ct. 66. 7 57. 2 36. 6 46. 4 61. 2	P. ct. 65. 5 53. 3 35. 6 44. 2 56. 3
	87. 1 105. 6 84. 5 100. 6 67. 2	81. 2 102. 1 72. 3 91. 4 61. 2	80, 4 100, 2 64, 0 85, 4 56, 6	82. 1 101. 6 62. 7 78. 0 59. 6		82. 6 109. 7 57. 9 86. 9 58. 4	1901 1902 1903 1904 1905	80. 3 67. 9 62. 6 79. 5 70. 6	65. 7 62. 3 56. 5 71. 5 61. 1	45. 8 59. 3 54. 3 63. 8	44. 9 61. 6 56. 2 64. 7 50. 3	46. 4 63. 8 56. 4 65. 4 50. 0	44.0 61.3 53.0 64.2 41.1
1876 1877 1878 1879 1880	95. 0 84. 4 87. 1 71. 7 93. 6	93. 5 76. 2 84. 7 66. 8 94. 7	88. 4 73. 7 79. 7	92. 4 73. 5 78. 4 65. 6 94. 8		107. 0	1906 1907 1908 1909 1910	76. 6 50. 1 66. 0 61. 4 53. 0 68. 5	70. 5 44. 0 57. 6 54. 6 49. 6 57. 9	68. 2 39. 4 52. 2 46. 3 47. 8 53. 9	70. 6 34. 7 52. 1 44. 5 46. 8 56. 2	69. 2 33. 8 48. 4 43. 9 46. 4 59. 8	69. 1 32. 1 43. 4 52. 5 43. 5 62. 4
1881 1882 1883 1884	80. 0 78. 5 93. 2	73. 0 88. 3 70. 2 83. 6 77. 8	65. 7 77. 7 58. 2 79. 7 73. 0	58. 6 75. 9 52. 5 78. 9 70. 7		74. 5 52. 8 78. 5 73. 0	1912 1913 A v.1909-1913	72. 3 67. 1 64. 5	67. 9 59. 4 57. 9	65. 8 52. 2 53. 2	67. 9 47. 7 52. 6	67. 8 46. 6 52. 9	69. 9 44. 6 52. 6
1886		83. 8 63. 4 84. 0 76. 7 60. 8	79. 0 58. 0 81. 3 74. 6 48. 1	75. 9 50. 9 80. 7 68. 5 40. 7		67. 7 47. 8 80. 7 67. 0 42. 2	1915 1916 1917 1918 1919	70. 1 76. 0 73. 9 69. 8 67. 8 79. 3	63. 3 68. 1 64. 0 59. 7 56. 6 70. 7	61. 5 62. 3 55. 4 55. 9 52. 2 70. 4	62. 7 58. 7 51. 1 54. 3 51. 0 72. 4	63. 0 57. 2 50. 7 54. 7 52. 1 74. 7	65. 6 57. 5 50. 4 54. 2 48. 1 77. 3
1891 1892 1893 1894 1895	84. 4 83. 2 68. 8 60. 7 76. 0	81. 0 65. 2 56. 9 47. 6 70. 2	76. 8 55. 4 46. 2 44. 0 71. 2	77. 2 48. 9 42. 0 40. 8 72. 8	70. 6	77. 3 45. 3 38. 6 41. 7 71. 1	Av.1914-1920 1921 1922 1923	72. 9 42. 2 72. 7 75. 5	35. 3 66. 8 67. 0	34. 8 67. 4 63. 8	58. 9 34. 5 68. 2 63. 6	35. 0 67. 6 64. 2	33. 0 68. 5 65. 6

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 195.—Apples: Percentage reduction from full yield, from stated causes, as reported by crop correspondents, 1912-1922.

Calendar year.	Defi- cient mois- ture.	Excessive moisture.	Floods	Frost and freeze.	Hail.	Hot winds.	Storms	Total cli- matic.	Plant dis- ease.	Insect pests.	Ani- mal pests.	Total.1
1912 1913 1914 1915 1916 1916 1917 1918 1919 1920 1921 1922	P. ct. 2. 5 19. 3 6. 5 1. 2 5. 4 4. 1 7. 5 4. 3 2. 2 5. 0 4. 1	P. ct. 9. 9 - 4 - 3 1. 9 3. 2 3. 9 - 7 2. 9 - 8 - 7 1. 3	P. ct. 0.3 4 (2) .2 .2 .1 .2 .1 .2	P. ct. 10. 2 25. 3 6. 4 15. 8 9. 9 15. 2 19. 1 29. 1 10. 2 49. 0 13. 4	P. ct. 0: 7 . 6 . 9 1. 1 . 8 . 6 . 8	P. ct. 0.3 .9 .4 .1 .6 .3 1.0 .6 .2	P. ct. 0.9 .6 1.2 1.4 1.1 .7 1.0 .7	P. ct. 16. 9 39. 9 15. 1 21. 8 22. 8 27. 0 30. 7 39. 1 16. 5 57. 7 21. 3	P. ct. 4. 2 1. 0 .8 5. 2 5. 6 4. 7 4. 2 5. 1 4. 4 3. 0 4. 8	P. ct. 3. 1 5. 2 5. 0 3. 0 3. 0 2. 8 2. 9 2. 7 1. 9 1. 9 2. 4	P. ct. 9, 1 (2) .1 .1 .1 .2 .1 .1 .1 .1	P. ct. 32. 4 53. 5 28. 2 35. 4 38. 6 44. 2 52. 7 25. 9 65. 1 28. 6

Table 196.—Apples: Carlot shipments, by States of origin, 1917-1922.

		¥	ear beginn	ing June 1	•	
State.	1917-18	1918-19	1919-20	1920-21	1921-22	1 <b>922</b> –23
WESTERN AREA.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.
Montana	171	262	500	430	686	351
Celerado	2,064	1.984	3, 225	2, 861	3, 886	3, 385
New Mexico	636	407	959	279	615	438
Utah	355	441	199	619	735	718
daho	3, 528	536	3,943	2, 881	5, 811	4, 222
Washington	15, 837	16, 232	27, 169	21, 627	32, 961	<b>23, 2</b> 95
Oregon	3, 448	2, 246	5. 443	3, 170	6, 543	3,893
California	1, 630	3, 473	4, 153	4, 503	5, 055	4, 966
Total	27, 669	25, 581	45, 591	36, 370	56, 292	<b>46, 2</b> 68
BASTERN AEEA.						
Maine	1, 248	257	2, 343	414	4, 306	278
New Hampshire	276	120	507	249	321	187
Massachusetts	358	252	407	627	159	286
New York	5,867	22,900	10. 286	33, 860	17, 735	29, 966
New Jersev	1.001	936	737	856	179	447
Pennsylvania	913	1,794	1, 286	3, 402	226	2, 038
Delaware	349	375	498	751	126	1,75
Maryland, Eastern Shere	1 436	29	36	139	46	418
Maryland, other	(2)	685	564	1, 498	92	700
Virginia	4, 589	4, 227	7,075	8, 762	323	6, 97
West Virginia	1, 280	2, 919	2, 849	4,880	801	2, 24
Ohio	274	448	255	976	615	424
Illinois	5, 554	2,676	2, 935	3, 471	445	4,840
Michigan	1, 385	2,862	3, 435	6, 212	5,992	6, 015
Missouri	2,600	I, 167	2, 155	1, 725	(*)	3, 079 1, 083
Kansas	1, 131	398	535	738 2, 666	(³)	2, 620
Arkansas All other	1, 5 <b>45</b> 1, 9 <b>3</b> 1	L 065 939	4, 553 1, 008	2, 000 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 <b>. Œ</b> 5	109, 280	88, 314	112, 267

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.

<sup>1</sup> Includes all other causes.

<sup>\*</sup> Less than 0.05 per cent.

<sup>&</sup>lt;sup>1</sup> Includes Maryland "other." <sup>2</sup> Included in Maryland Eastern Shore. <sup>3</sup> 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.	Мау	June.	Total
New York: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 1923-24		Cars.  8 23 4 98 68	747 970 1, 360	Cars. 397 2, 026 978 2, 488 3, 064 3, 502 1, 572	3, 195 9, 125 5, 855 7, 988	4, 199 1, 171 7, 996 1, 206 5, 711	Cars. 439 2, 388 829 3, 376 839 1, 968 1, 146	2,600 1,090	Cars. 693 1, 951 992 3, 254 1, 485 2, 241	Cars. 685 1, 130 1, 218 2, 655 1, 472 2, 399	Cars. 470 564 576 1,074 970 1,482	Cars. 186 228 447 449 563 888	Cars. 46 43 56 2 92 123 166	10, 286 33, 860 17, 735
Pennsylvania: 1917-18		25 2 27 27 19 20	12 39 14 27 1 23 39	36 253 170 190 67 270 359	526 839 699 1,379 109 840	145 247 121 674 9 372 892	62 124 76 382 7 220 276	28 143 93 299 7 177	42 73 62 262 15 71	18 45 21 151 9 21	39 6 3 10 2 17	5 5 1 8		913 1, 794 1, 266 3, 402 226 2, 038
1917–18 1918–19 1919–20 1920–21 1921–22 1922–23 1923–24	6	36 29 43 46 32 49	115 100 238 102 9 300 131	1, 091 867 1, 933 1, 523 126 1, 741 1, 887	1, 887 1, 569 2, 732 3, 143 87 2, 349 3, 610	548 740 592 1, 275 17 1, 139 1, 385	131 235 394 811 34 465 740	131 283 313 680 16 342	250 171 336 468 10 133	211 83 308 354 16 94	156 92 114 219 8 98	27 49 72 116 	 9  25 	4, 589 4, 227 7, 075 8, 762 323 6, 975
West Virginia: 1917-18 1918-19 1918-20 1920-21 1921-22 1922-23 1923-24	10	9 23 23 63 4 28 78	24 71 90 75 18 75 120	231 504 620 744 412 451 1,020	478 1, 254 1, 267 2, 269 176 1, 005 3, 064	223 718 365 874 19 310 1,477	98 202 160 209 27 141 301	37 78 95 179 15 84	87 34 82 118 42 37	66 32 71 146 59 36	27 61 109 27 38	3 15 84 2 27	10	1, 280 2, 919 2, 849 4, 880 801 2, 242
Illinois: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	12 24 36 50 35 312 22	353 244 340 528 24 526 429	140 81 79 217 51 253 145	1, 242 518 807 789 114 1, 294 1, 043	3, 001 1, 210 1, 142 1, 268 94 1, 557 2, 125	664 219 131 296 8 492 554	3 46 11 34 9 58 66	12 66 73 45 33 65	49 100 90 28 46 85	33 69 111 113 12 88	37 46 47 69 7 61	8 39 55 26 12 48	<sup>3</sup> 14 13 8	5, 554 2, 676 2, 935 3, 471 445 4, 840
Michigan: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	1	88 12 55 516 307	127 414 608	271 480 1, 040 1, 188 1, 772 997 1, 334	432 1, 532	511 307 175 1,300 112 854 1,719	23 27 7 175 15 95 178	6 5 2 51 12 42	5 4  92 11 33	10 4 1 70 7 35	1 1 26 1 20	2 1 2 2		1, 385 2, 862 3, 435 6, 212 5, 992 6, 015
Washington: 1917-18		22 35 33 33 33 65	56 138 164 111 120 78 202	409 1, 023 1, 763 653 2, 506 2, 187 2, 492	5, 280 6, 209 9, 401 7, 521 12, 758 6, 792 13, 106	4, 582 4, 481 6, 682 4, 967 7, 749 5, 596 7, 819	1, 447 2, 139 1, 875 2, 069 3, 124 3, 298 2, 772	1, 043 700 1, 854 1, 123 2, 070 4, 194	1, 461 814 1, 881 1, 699 2, 368 3, 007	967 420 1, 864 1, 498 994 2, 004		77 60 493 700 491 297	2 15 19 4 197 112 29	15, 837 16, 232 27, 169 21, 627 32, 961 28, 295
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 1923-24		2 4 1 9 1 19	4 9 10 3 11 1 20	43 59 192 36 300 98 459	629 723 1, 354 961 2, 340 867 2, 239	1, 207 746 1, 478 1, 079 1, 897 1, 238 1, 914	627 359 781 452 1, 032 706 628	219 126 798 260 496 451	260 128 406 207 298 314	335 72 232 116 109 191	117 15 108 43 44 23	7 7 80 12 6 3	1	3, 448 2, 246 5, 443 3, 170 6, 543 3, 893
California: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	6 5 6 13 2 61	112 66 273 244 352 220 1,290	173 468 441 723 690 998 986	514 486 877 967 1, 224 782 1, 259	404 797 908 1, 018 1, 494 918 1, 415	216 585 709 765 699 887 772	62 501 370 373 181 494 221	22 198 155 106 120 179	34 226 148 84 .117 103	36 81 173 73 101 168	30 42 48 79 42 107	25 12 41 56 21 78	2 5 5 9 1 30	1, 630 3, 473 4, 153 4, 503 5, 055 4, 966

The crop movement season normally begins in June and extends through June of the following year, with irregular shipments continuing into July.
 Includes 3 cars in July.
 Includes 2 cars in July.
 Includes 2 cars in July.
 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.	Мау	June.	Total.
All other:	Cars.	Cars. 241	Cars. 638						Cars. 351	Cars. 521			Cars.	Cars. 17, 903
1917–18 1918–19	36 148	642	553	1, 854	4, 885	1, 321	299	230	178	. 127	29	32	3	10, 301 22, 424
1919-20 1920-21	61 107	592 854	704	2, 465		3, 861	994	378 703	422 486		134	50	18	19, 393
1921-22 1922-23	<sup>5</sup> 28 545	171 1, 358		3, 068 3, 648	9, 817 8, 932	2,748 4,028		340 846	364 587	124 466		22 89	6 13	
1923–24 Total:	70				11, 407						<i>-</i>			
1917-18	54	751	1, 308	5, 719	21, 895	14, 165		2, 362 4, 044	3, 232 3, 679					58, 406 69, 630
1918–19 1919–20	178 102	1, 347	2,712	12, 259	32, 666	13, 563 15, 854	5, 301	4, 393	4, 419	4,378	2, 229	1, 276	99	87, 035
1920-21 1921-22	163 5 76	1, 855 1, 207	3, 861 3, 384	11, 043 12, 653	37, 284 35, 057	23, 087 14, 464	8, 875 5, 991			2, 903	1, 763	1, 117	243	109, 280 87, 813
1922-23 1923-24	874 153	2, 592	4, 923	14, 970	33, 965	20, 627 25, 397	8, 816	8, 573	6, 611	5, 502	2, 807	1,600	356	112, 216

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 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.
1915–16	1,000 barrels.	1,000 barrels. 3,689	1,000 barrels. 5,441	1,000 barrels. 4,813	1,000 barrels. 4, 236	1,000 barrels. 3, 242	1,000 barrels. 1,984	1,000 barrels. 1,035	1,000 barrels. 304
1916-17 1917-18 1918-19		3, 260 3, 296 3, 752	4, 492 4, 689 4, 928 5, 923	4, 132 4, 599 4, 294	3, 385 3, 957 3, 105 4, 524	2, 442 2, 830 1, 772 3, 162	1, 545 1, 783 956 1, 699	808 678 380 806	265 159 125 213
1919-20	971 544 792	4, 523 4, 475 3, 643	6, 787 5, 739	5, 529 6, 386 5, 429	5, 105 4, 313	3, 650 3, 090	2, 210 1, 930	1, 119 944	445 314
1922–23 1923–24	1, 452 927	5, 521 6, 914	6, 743 10, 099	6, 481 9, 641	5, 376	3, 877	2,314	1,070	277

Division of Statistical and Historical Research.

Table 199 .- Apples: Farm price per bushel, 1st of month, United States, 1910-

Year beginning June 1.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	Weight- ed av.
1010 11	Cts. 119. 6	Cts. 94. 4	Cts. 75.4	Cts. 73. 7	Cts. 75. 5	Cts. 83. 4	Cts. 89. 6	Cts. 108. 0	Cts. 117. 2	Cts. 121. 6	Cts. 131. 8	Cts. 139. 2	Cts. 85. 6
1910-11 1911-12	137. 5		83. 9	71. 6	68. 0	69.4	72. 1	89. 4	95. 8	101. 2	109. 2		
1912-13	118. 4	95. 2		64. 8 75. 8		62. 4 90. 0	66. 3 98. 1	73. 4 107. 1	76. 4 116. 8			89. 5 141. 8	
1913-14	97. 6	93. 6	- 80. 0	10.0	- 61. 0		50. 1	101.1					
Av. 1910-1913	118.3	99. 6	78. 7	71. 5	71.6	76. 3	81. 5	94. 5	101. 6	107. 3	114. 4	123. 1	79. 8
1914–15	141. 0	113. 4	79. 9	65. 1	58. 8	56. 6	59. 4	68. 0	71. 2	73. 2	76. 8		64. 4
1915–16	90. 4	84. 4	70. 1	59. 9	62. 0	69. 2	69. 0				94. 9		68.9
1916-17	105. 4		80.4	77. 7		87. 6					133. 0 151. 9		89. 7 117. 5
1917-18	157. 2		127. 0 128. 1										
1918-19	158. 2 237. 3												
1920-21	297. 0								128. 4	<b>130</b> . 5	134. 4	142. 2	138. 3
Av. 1914-1920	169. 5	155. 1	122. 7	104. 8	106. 9	111.8	110. 3	122. 5	130. 4	138. 8	150. 4	162. 9	114. 5
1921-22	169. 2	170. 0	171. 2	163. 6	186. 9	213. 9	168. 0	180. 6	181. 7	197. 4			
1922-23	213. 4				109. 6		98.6	114.8	124.0	136.0	147. 1	161.0	114. 2
1923-24	173.9		131. 2	111.4	115. 1	105. 0	102. 2						

<sup>&</sup>lt;sup>1</sup>The crop movement season normally begins in June and extends through June of the following year, with irregular shipments continuing into July.

<sup>5</sup>Includes 1 car in May.

<sup>6</sup> Includes 15 cars in July.

<sup>&</sup>lt;sup>1</sup> Apples in barrels, boxes and baskets combined; 3 boxes or bushels equivalent to 1 barrel.

Table 200.—Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920-1923.

BARRELS.

Market, and	Septem	ber.	Octob	er.	Novem-	Decem-	January	February	March	Apri	l.	May	1
year beginning Sept. 1.	Range.	Average	Range.	Average.	average.	ber average.	average.	average.	average.	Range.	Average.	Range.	Average.
New York:													
1920-21	\$2.75-\$8.00	\$4,86	\$2.00-\$9.00	\$5. <b>23</b> 7. 72	\$5.66	\$4.71 7.82	\$4.80	\$5.01	<b>\$6</b> . 01	\$3. 50-\$10.00	\$6.79	<b>\$4.00-\$13.50</b>	\$8.0
1921-22	5. 50-13. 00 1. 50- 7. 50	8. <b>09</b> 3. <b>53</b>	5. 00-11. 00 2. 00- 8. 50	7. 72	7. 18	7.82	8. 23	8. 62	7.64	5.00- 12.00	7.44		
1922-23	2.00-7.50	5. 16	2.00-8.50	4. 63 4. 80	4. 94 4. 58	4. 67 4. 71	5.08	5.09	5. 37	3.00- 8.50	6. 03	3, 75- 8, 50	6. 7
1923-24	2.00- 1.50	5. 10	2.00-10.00	4.00	4.08	4.71	- <del>-</del>						
Chicago: 1920-21	3, 50- 8, 00	5. <b>8</b> 6	3, 50- 9. <b>0</b> 0	6, 28	6. 29	5. 23	5. 36	5, 15	5. 38	4.50- 8.00		5.00- 9.00	6.5
1920-21	7. 00-10. 00	8. 26	6. 00-10. 50	8.00	7. 97	8. 10	8.48	9. 07	8. <b>4</b> 9		5. 55 7. 86	5.00- 9.00	0.0
1922-23	2.00-6.00	3. 58	2. 25- 7. 00	4.41	4. 68	4.90	4.58	4.84	5. 17	6.00- 9.00 4.00- 7.00	5. 43	4.00- 9.50	6. 4
1923-24	2.75-7.00	4. 60	3. 50- 6. 25	5. 06	5. 12	4.96	1,00	4.04	0.17	4.00- 7.00	0.40	4.00- 9.50	0.3
hiladelphia:	2	1.00	0.00 0.20	0.00	0.12	1.00							
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	6.0
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	2.00- 1.00	0.0
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. 8
1923-24	1.75-7.00	4.28	1. 75- 6. 50	3. 77	3, 93	3.64	1.00		1.01	2.00 0.00	0. 22	2.20 0.00	0.0
ittsburgh:			r .										
1920-21	3.00- 6.50	4.99	3. <b>00</b> - 6. <b>0</b> 0	4.46	4.81	4.68	4.59	4. 73	5.06	8. 25- 6. 50	5, 34	4.50- 8.50	6.3
1921-22	5. 25- 9. 00	7. 22	5.00- 9.00	7.16	6. 55	6. 25	7.63	7.42	7. 07	3. 25- 6. 50 5. 75- 8. 00	7. 02	7.	
1 <b>922–2</b> 3	2.50-4.00	3. <b>2</b> 5	2. 50- 5. 00	<b>3</b> . 51	3.99	4.38	4. 29	7. 42 4. 38	4.84	3.00- 6.50	4, 80	4.00- 7.00	5. 4
1923-24	2. 50- 5. 50	4.06	3. 00- 5. 50	3. 54	3. 49	4.05							
t. Louis:						i .							1
1920-21	3.00-7.25	5. <b>34</b>	2. 75- 7. 50	4. 67	4. 97	4.83	4.68	4.88	5. 23	4.75- 8.50	5. 92	5. 50- 10.00	6.6
1921-22			4.85-8.25	6.48	5. 44							<b></b>	
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		l
1923-24	1. 75- 5. 25	4. 07	1.75- 5.25	3.60	3. 29	4. 15					]		
lincinnati:	4 00 0 00	- 40	0 == 0 00	4.00									1
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	4. 87	4.46	4.65	5. 31	4. 25- 8. 00	6.02	5.00- 7.75	6.7
1921-22	2.50- 4.00	8. 12 3. 15	5.00- 8.50 2.00- 4.75	7. 64 3. 32	6. 98	6. 72	7.44	7. 62	7. 56	6.00- 8.50	7. 76		
1922-23	2.50-4.00	5. 15	3. 00- 4. 75 3. 00- 5. 50	3. 32 4. 07	4. 15 4. 30	4.41	4.46	4.72	5.08	4.00- 6.50	5. 46	4.65-6.50	5. 9
1923–24 t. Paul:			5. 00- 5. 50	4.07	4. 30	4. 88	,						
1920-21	7, 00-12, 50	8, 79	5. 50-10. <b>0</b> 0	7.81	5, 85	5, 53	5, 31		- 0-				1
1920-21	7.00-12.50	0.19	7.00-8.50	7.37	5. 85 7. 73	7. 97	5. 31	5. 69	5. 87	4.75- 7.50	6. 39		
1922-23_			4.00-6.50	5. 11	4. 55	4. 34	4. 59		4, 95				
1923-24			5. 50- 6. 50	6.11	5, 40	5. 61	4. 59	5. 20	4. 95	5.00- 5.50	5. 19	5.00- 5.50	5. 4
Inneapolis:			0.00-0.00	0.11	5.40	3.01							
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 0 0"	
1921-22	3.00 11.00	<i>0.</i> 30	7. 50-10. 00	8.78	9. 77	8.89	8. 57	9.56	9. 87	0.00- 7.50	0.78	7.00- 8.25	7. 5
1 <b>922</b> -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. 7
1923-24	0.20-0.00	3. 10	4.00- 8.00	6. 16	5.08	5. 14	0.29	0.21	5. 49	0.00- 0.25	0.39	0.20- 6.00	5.7

	1

Kansas City: 1920-21 1921-22	7. 50- 9. 00 10. 00-12. 00	8. 45 11. 00	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
1922–23 1923–24	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. 50 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 <sup>2</sup> 1921-22 <sup>2</sup> 1922-23 <sup>2</sup>	3. 50- 7. 50 5. 00-11. 00 3. 00- 5. 75	5. 90 8. 88 3. 86	3. 00-14. 00 7. 50-11. 00 2. 00- 6. 50	5. 74 9. 23 4. 79	5. 46 8. 42 4. 76	5. 52 8. 12 4. 42		4. 71 8. 24 4. 43	5. 19 8. 43 4. 96	3. 50- 7. 50 6. 00- 9. 00 4. 00- 7. 50	5. 56 8. 38 5. 61	4. 00- 10. 00 3. 75- 8. 00	6. 61 6. 23
1923–24	4.00- 9.00	5. 20	3. 50- 7. 50		4. 40	3. 95							

### BOXES.

New York: 1920-21	\$4. 00-\$5. 25	<b>\$4.</b> 40	\$2. 25-\$5. 50	\$3. 68	<b>\$</b> 3. <b>2</b> 9	\$3. 88	\$3.70	\$3. 90	\$3. 77	\$2. 50-\$6. 00	\$3. 98	\$2. 75-\$5. 00	\$3. 87
1921-22 1922-23 1923-24	1, 50- 4, 50	4. 06 2. 65 2. 95	2. 00- 5. 50 1. 40- 5. 25 1. 15- 5. 00	3. 36 2. 85 2. 41	2. 80 2. 36 2. 09	3. 12 2. 42 2. 13	3. 01 2. 41	3. 35 2. 35	3. 41 2. 57	2. 75- 4. 75 1. 90- 3. 75	3. 54 2. 74	2. 25- 4. 75	3, 45
Chicago: 1920-21	4.00- 5.25	4. 62 8 1. 89	2.00- 4.75 1.50- 3.75	3. 43 2. 69	3. 67 3. 05 2. <b>4</b> 8	3. 75 3. 00 2. 61	3. 14 3. 16 2. 69	3. 30 3. 34 2. 71	3. 62 3. 36 3. 07	2. 25- 5. 25 2. 00- 4. 50 2. 25- 5. 00	3. 23 3. 45 2. 96	2. 50~ 4. 50 1. 85~ 5. 00	3. 23 2. 91
1923–24 Philadelphia: 1920–21 1921–22	2. 50- 4. 00		1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00	2. 39 3. 16 2. 88	2. 42 2. 72 2. 41	2. 55 2. 52 2. 49	3. 44 2. 77	3. 83 2. 96	3. 06 3. 32	2. 25- 3. 75	3, 13	2.00- 4.00	3. 11
1922-23 1923-24 Pittsburgh: 1920-21			1. 25- 3. 50 1. 00- 3. 25	2. 34 1. 82 4. 26	1. 93 1. 77 3. 64	2. 10 1. 76	2. 07 2. 60	2. 06	2. 39  3, 11	2. 25- 3. 75		2. 25- 4. 00	
1921-22 1922-23 1923-24			2, 00- 4, 75 1, 50- 3, 00 1, 25- 4, 50	3. 22 2. 17 2. 39	2. 85 2. 00 2. 09	2. 32 2. 27	3. 07 2. 22		3. 50 2. 49	2. 25- 4. 50 2. 00- 3. 50	3. 13 2. 71	2. 25- 3. 50	2. 96
St. Louis: 1921-22 1922-23 1923-24							2. 70	3.09					
Cincinnati: 1920-21 1921-22							2. 40						
1922-23. 1923-24 St. Paul; 1920-21			3. 25- 3. 75	3. 50	3. 34	3. 23	3. 09	3. 54	3. 28	3. 00- 3. 75	3. 29	3. 00- 3. 50	3. 27
1921-22 1922-23 1923-24	3 2. 25- 2. 50	\$ 2.38	3. 00- 4. 25 1. 80- 3. 50 2. 00- 3. 00	3. 62 2. 20 2. 42	3. 56 2. 64 2. 50	3. 62 2. 45 2. 59	3. 32 2. 27	3. 15 2. 21	3. 33 2. 41	3. 00- 3. 50 2. 40- 2. 75	3. 26 2. 56	2. 50- 2. 85	2. 72

<sup>&</sup>lt;sup>1</sup> Last quotation May 12, 1923.

<sup>&</sup>lt;sup>2</sup> Sales direct to retailers.

<sup>&</sup>lt;sup>3</sup> First quotations in 1922-23 were, Sept. 26 for Chicago, Sept. 21 for St. Paul, and Sept. 20 for Minneapolis

Table 200.—Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920-1923—Continued.

BOXES—Continued.

Market, and year beginning	Septem	ber.	Octob	er.	Novem- ber	Decem- ber	January	February	March	Apri	1.	Мау	7,1
Sept. 1.	Range.	Average.	Range.	Average.	average.	average.	average.	average.	average.	Range.	Average.	Range.	Average.
Minneapolis:			\$3, 40-\$4, 40	\$3.80	\$3. 74	<b>\$3.</b> 59	\$3.18	\$3, 45	\$3. 41	\$3, 00-\$3, 75	\$3,38	\$3,00-\$3,75	\$3.38
1921-22 1922-23 1923-24	\$2. 25-\$4. 75 3 2. 40- 3. 37	\$3. 22 8 2. 59	2. 90- 4. 75 1. 75- 3. 50 1. 30- 3. 15	3. 75 2. 50 2. 55	3. 57 2. 70 2. 49	3. 77 2. 62 2. 37	3. 46 2. 59	3. 39 2. 40	3. 57 2. 58	3. 00- 4. 00 2. 50- 3. 00	3. 46 2. 79	2. 50- 3. 00	2. 78
Kansas City: 1920-21 1921-22	3.75	3. 75	3. 00- 4. 50 2. 75- 4. 50	3. 61 3. 54	3. 60 3. 63	3. 07 3. 52	2. 84 3. 49	3. 29 3. 59	3. 53 3. 75	3, 50- 4, 50 3, 00- 4, 50	4. 00 3. 48	3. 50- 4. 50	4.00
1922-23 1923-24	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
Washington: 1921-22 2 1922-23 2			2. 25- 5. 00	3. 75	3. 64 2. 79	3. 38 2. 54	3. 06 2. 62	3. 52 2. 38	3. 44 2. 39	3. 00- 4. 50 2. 00- 3. 25	3. 54 2. 65	2. 50- 4. 25	3. 0
1923-24	1. 50- 3. 50	2. 85	1. 25- 3. 75	2. 77	2. 69	2. 62							

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.

<sup>1</sup> Last quotation May 12, 1923.

<sup>&</sup>lt;sup>2</sup> Sales direct to retailers.

<sup>&</sup>lt;sup>3</sup>First quotations in 1922-23 were, Sept. 26 for Chicago, Sept. 21 for St. Paul, and Sept. 20 for Minneapolis.

Table 201.—Apples: Monthly average wholesale prices per barrel at New York, 1900-1923.

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	<b>\$3.</b> 15	\$3. 55	\$3.81	\$3. 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 2. 69	1.97	2. 20	2.00	2. 37	2. 59	2. 12	2.00	2. 52
1903-4 1904-5	2. 09	2. 43 2. 03	2. 94 1. 96	2. 71 2. 25	2. 90 2. 38	2. 97 2. 44	3. 06 2. 75	3. 02 2. 43	2. 91 2. 97
·	3. 18	2. 97	3. 75	3, 75	3, 75	4. 50	4.82	6.06	5. 59
1905-6 1906-7	2. 67	3.32	3. 75	2.62	2, 88	3, 25	3. 22	3.66	5. 00
1907-8	3. 72	3. 56	3. 55	3. 34	3. 46	3. 52	3. 22	3.00	2.60
1908-9	2. 68	3.04	3. 16	3. 50	4. 09	4. 53	4. 68	5. 00	5. 02
	$\frac{-3.72}{3.72}$					3, 21	3. 28	3.48	3.71
1909-10	3. 72	4. 22 3. 65	3. 81 3. 75	3. 69 4. 14	3.82 4.12	4. 50	4.75	5.35	5. 71 5. 31
1910-11	2. 55	3.06	2.71	3. 12	2.84	2. 96	3.39	4. 20	4.00
1911-12	2. 66	3.06	2.75	2. 62	2.71	2. 78	2.70	3. 12	4.00
1912-13	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 1920–21	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	5. 38
Average 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	<b>5.</b> 55	4. 42					

Division of Statistical and Historical Research. Compiled from the American Agriculturist.

Table 202.—Apples: Wholesale prices per barrel at New York for October 15, January 1, and March 1, 1881-1923.

37.5-	O = + 15	Ton 1	Mar.1.	Year.	Oct 15	Jan. 1.	Mor 1	Year.	Oct 15	Jan. 1.	Mor1
Year	Oct.15.	Jan. 1.	wiar.i.	1 cai.	066.10.	Jan. 1.	WIAI.I	Toal.	000.10.	Jan. 1.	141411.
1881-82	\$3.00	\$3.00	\$2.75	1899-1900	\$2.38	\$2.62	\$3.12	1914-15	\$2.50	\$2.88	\$3. 25
1882-83	2. 25	2. 88	3.40	1900-1	1.88	3.12	3.12	1915-16	2.88	3.00	3.00
1883-84	2, 25	3. 25	3.48	1901-2	3.50	5. 00	5. 25	1916-17	3.12	4.88	5. <b>62</b>
1884-85	1.38	1.88	2.85	1902-3	1.88	2. 25.	2. 25.	1917-18	4.50	5. 00	5. 00
1885-86	1.50	1.94	1.56	1903-4	2. 50	2.75	3.00	1918-19	5. 38	6. 50	9. 25
1886-87	2.00	4, 00	3.00	1904-5	1.88	2.38	2.62	1919-20	6.75	6. 50	8. 25
1887-88	1.68	2. 88	2.50	1905-6	3.00	3. 75	4.62	1920-21	6.75	5.00	4. 25
1888-89	2. 25	1.88	1.38	1906-7	3.38	2. 55	3. 12				
1889-90	2.75	3.00	3. 25	1907-8	3.75	3. 38	3.50	Average	4 22	4 00	2 20
1890-91	3.00	4.00	4. 25	1908-9	3. 25	3. 75	4.75	1914-1920	4. 55	4. 82	5. 52
1891-92	1.50	1, 50	1.72	1909-10	4.00	4.12	3. 25	1921-22	8. 25	6.75	6. 50
1892-93	2.00	3.00	2. 50	1910-11	3. 75	4.00	4.50	1922-23	5. 00	5.50	6.50
1893-94	2. 25	3. 88	4. 52	1911-12	3. 25	2.75	2.88	1923-24	7. 25	4.75	
1894-95	2.00	2. 50	4.00	1912-13	3.00	2.75	2. 88	1		1	
1895-96	1.62	2.50	3.02	1913-14	3. 50	4. 25	4.88	·			
1896-97	1.38	1.31	2.38	Average							i
1897-98	2. 88	3.75	3: 25	1909-1913	3. 50	3. 57	3.68	1			
1898-99	3,00	3.75	4. 25								
	<u>'</u>	1	<u>'</u>	<u>'                                      </u>	<del>'</del>		·	<u>'                                     </u>	<u>'</u>	<u>'</u>	

Division of Statistical and Historical Research. Compiled from the American Agriculturist.

Table 203.—Oranges: Production and value, 1915-1923.

	Ur	ited Sta	tes.		Florida.		(	Californie	ì.
Year	Produc- tion.	Average price per box Dec. 1.	Farm value Dec. 1.	Produc- tion.	Average price per box Dec. 1.	raina	Produc- tion.	Average price per box Dec 1.	Farm value Dec. 1.
1915 1916 1917 1918 1919 1920 1921 1922	1,000 boxes. 21, 200 24, 433 10, 593 24, 200 22, 528 29, 700 20, 300 30, 200 34, 800	Dollars. 2.39 2.52 2.60 3.49 2.67 2.19 2.51 2.10 1.84	1,000 dollars. 50, 692 61, 463 27, 556 84, 480 60, 202 64, 908 51, 000 63, 310 64, 080	1,000 boxes. 6, 150 6, 933 3, 500 5, 700 7, 000 8, 100 7, 300 9, 700 12, 000	Dollars. 1.88 2.05 2.30 2.65 2.50 2.20 2.00 2.30 1.35	1,000 dollars. 11,562 14,213 8,050 15,105 17,500 17,820 14,600 22,310 16,200	1,000 boxes. 15,050 17,500 7,093 18,500 15,528 21,600 13,000 20,500	Dollars. 2.60 2.70 2.75 3.75 2,75 2.18 2.80 2.00 2.10	1,000 dollars. 39,130 47,250 19,506 69,375 42,702 47,088 36,400 41,000 47,880

Table 204.—Citrus fruits: Carlot shipments, by States of origin, calendar years. 1918-1923.

	GRAPEI	FRUIT.				
State.	1918	1919	1920	1921	1922	1923
FloridaAiabama	Cars . 5, 289	Cars. 6, 328	Cars. 11, 498	Cars. 11, 795	Cars. 13, 626	Cars. 18, 973
Mississippi Texas		<b>-</b>				59
Arizona California	9 352	17 279	54 477	54 426	65 491	93 497
Total	5, 650	6, 624	12, 929	12, 275	14, 182	18,727
	LEM	ions.				
Florida. Alabama Mississippi.			2			
Texas Arizona California	6, 913	8, 823	9, 371	11, 887	9, 874	8, 430
Total	6, 913	8, 8 <b>23</b>	9, 373	11,887	9,875	8, 430
	ORAI	NGES.				
Florida Alabama Mississippi	12, 184 6	13, 264 5	19, <b>2</b> 73 71	18, 914 145	17, 435 401	25, 285 577 10
Texas Arizona California	71 16, 183	98 <b>35, 9</b> 57	49 <b>30, 906</b>	73 <b>46,</b> 759	75 28, <b>6</b> 15	98 <b>46, 10</b> 01
Total	28, 444	49, 324	50, 299	65, 891	46, 526	71, 971
TOTAL CITBUS FRUITS (	GRAPEF	RUIT, LE	EMONS,	AND OR.	ANGES).	
Fłorida	17, 473 6	19, 592 5	<b>30,</b> 773 71	30, 709 145	31, 061 401	43, 358 .577 10
TexasCalifornia	80 23, 448	115 45, 059	103 40, 754	127 59, 072	141 38, 980	59 196 54, 923
Total	41, 007	64, 771	71, 701	90, 053	70, 583	99, 128

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 205.—Grapefruit, Floridas (excluding russets): Monthly average wholesale prices per box at New York, 1908-1923.

Calendar year.	Jan.	Feb.	Mar	Apr.	May.	June.	July.	Oct.	Nov.	Dec.
1998	\$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	3.50
1910	3. 50	4.34	4. 28	4.38	4.39	l		5.00	4. 59	3.65
1911	3.50	8.53	3.69	3.34	3.75	4.00		6.41	4.69	4. 78
1912	4.00	4. 75	4.95	6.44	7.38	1		4.00	3.62	3.47
1913	2.95	3.50	3.12	3. 38	3.80	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		4. 62	4.62	4. 62	2.00	2		4. 75	4. 75
1919	4.75	4.75	4.88	6.56	7. 25	7. 75			4. 75	4. 75
1920	4.75	4.06	4.00	4. 10	5. 56	4.38	4.15		6. 25	6. 25
Average 1914–1920			3. 88	4. 29	4. 47					
1921	6. 25	6. 25	6. 25	6. 25	6. 25	6. 99	5. 25	5. 38	5. 38	5. 38
922 923	6.12	6. 12	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.

Table 206.—Lemons, California: Monthly average wholesale prices per box at New York, 1908-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908	\$3. 10 3. 70	\$3. 25 3. 88	\$3. 06 3. 20	\$2.91 3.42	\$3. 02 3. 62	\$3. 25 3. 12	\$5.80			\$6, 97	\$4.72 5.75 6.17	\$3. 19 5. 25 3. 88
1910 1911 1912	4. 62 3. 50 3. 62	3.84 4.22	3. 44 3. 88	3. 78 3. 94	4.00 4.75	5. 88	4.75		\$4.94 10.00	5. 97 7. 66	5. 91 7. 60	4. 40 6. 22
1913 1914 1915	4. 75	2. 59	2.75	2, 84	3. 30	3. 28	2.08	\$2.69	4.75 3.03	4. 56 3. 90	4. 25 4. 31	3. 00 4. 18
1916 1917	4. 19 3. 12	3. 62 3. 50	2. 90 3. 72	3. 19 4. 62	3. 50 4. 62	4. 15 5. 25	5. 69 6. 75	8. 12 8. 85	7. 62 10. 25	7. 38 7. 34	6. 56	4. 70 5. 88
1918 1919 1920	5. 88 3. 62 6. 00	5. 88 4. 59 6. 00	5.88 4.06 6.25	5. 56 4. 41 6. 25	6. 08 4. 62 4. 50	8. 28 3. 97 2. 75	8. 38 4. 53 3. 05	8. 38 5. 50 3. 25	8.38 5.88 3.25	8. 38 8. 75 3. 25	8. 38 6. 00 3. 25	4.81 6.00 3.25
1921 1922 1923	3. 25 4. 00 6. 75	3. 25 4. 00 6. 75	3. 25 4. 00 6. 75	3. 25 4. 00 6. 75	3. 25 4. 00 6. 75	7. 43 4. 00 6. 75	9.82 4.00 6.75	7. 50 4. 00 7. 05	7. 50 4. 00 6. 62	7. 50 9. 00 6. 62	7. 50 9. 00 6. 62	7. 50 8. 60 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	<b>\$</b> 3. 25	\$2.97	\$3.02	\$3. 50	\$4.38	\$4. 38	\$3, 38
1909 1910	3. 28 2. 88	3. 25 3. 19	3. 03 3. 12	3. 28 3. 18	3. 00 3. 56	3. 16 3. 72	3. 62 4. 00	3, 65
1911 1912	3. 22	3. 32 3. 72	4. 12 3. 30	3. 42 3. 44	3. 78 3. 22	3. 82 3. 69	3. 56	3. 50
1913Average 1909-1913	3. 54	3. 55	4. 16 3. 55	3.61	3. 74			3. 38
1914	3. 28	3. 09	3. 03	3. 12	3. 50	2. 81		3. 19
1915 1916 1917	2. 73 3. 38 3. 25	2. 90 3. 38 3. 72	2. 79 3. 02 3. 98	2. 96 3. 66 4. 38	3. 19 3. 50 4. 38	3. 44 4. 00 4. 38	4. 38	3. 79 3. 00 4. 20
1918	4. 25	5. 00	5. 95	6. 75	6. 75			
1919 1920		4. 91	5. 69	5. 75	5. 62			5. 0
1921 1922 1923	4. 00 6. 31 7. 75	4. 00 6. 00 7. 75	4. 00 7. 75		7. 2 7. 7 6. 0			

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Journal of Commerce.

Table 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	<b>\$</b> 5. 25	\$5. 25	\$5. 50	\$7.00	
1909 1910			4. 88 6. 22	4. 94 6. 94	5. 44 6. 95	5. 98 7. 50	6. 50 8. 41	\$6. 50 9. 50
1911	\$9.38	4. 38 4. 75	4. 91 5. 16	5. 66 5. 15	5. 72 5. 56	6. 78 5. 91	7. 03 6. 62	9. 25
1913		6. 22	7. 03 5. 64	6. 60 5. 86	6. 44	6, 79	8. 12 7. 34	
1914		3. 58	3. 95	4. 31	3. 94	4. 15	4. 97	6. 56
1915 1916		5. 00	4. 92 5. 12	5. 41 5. 44	6. 09 6. 48	6. 88 7. 12	7. 50 6. 94	8. 38 6. 75
1917 1918 1919	3. 38 11. 00	7. 94 5. 56	7. 75 5. 53	5. 75 7. 75 7. 35	5. 75 7. 75 7. 50	5. 47 9. 84 7. 55	6. 25 12. 72 7. 75	4. 81 11. 00 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 1922 1923	<b></b>	5. 25 10. 75	5. 32 10. 75 6. 50	6. 25 10. 75 6. 35	6. 25 10. 75 6. 12	6. 25 11. 00	6. 25 11. 25	6. 25 11. 25
1920			0. 50	0.30	0.12	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	19	920	19	)21		922, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Algeria	1,000 pounds. 2 974 2 6,643 30 2,020	1,000 pounds. 2 11,566 22,272 75,130 86,454 18,090	1,000 pounds. 110 813 2,631 21	1,000 pounds. 1,720 3,916 23,374 119,754 1,311	1,000 pounds. 288 206 25, 196	1,000 pounds. 4,120 25,004 30,908 105,768 58,322	1,000 pounds. 246 127 9,321 9	1,000 pounds. 20, 831 36, 464 40, 510 102, 472 68, 319
PRINCIPAL IMPORTING COUNTRIES.	2,020	10,000	10	1,311		00, 322	20	00, 519
Argentina Australia Belgium Brazil Canada Chile	48, 248 510 2 4, 295 8, 409 1, 593 7, 255	11 2 582	31, 538 523 1, 676 9, 733 1, 459 5, 425	(³) 293	305 1, 373 1, 224 1, 557 3, 941	1 186	2, 375 1, 744	207
Cuba	146 4, 803 42, 502 6, 085 126	12, 935	11, 232 202 1, 591 20, 250	8 3 4,812	157 3, 164 44, 847 1 1, 192 134	9 18 10,009	3, 223 58, 300 769	13 13, 742 5
Japan Morocco Netherlands New Zealand Norway	267 2 282 68 3, 458	375 2 205	3, 647 37 87 2, 227	(³) 36 111	5, 514 151 54 873	43	139	24
Peru Philippine Islands Sweden Switzerland	2 684 360 889 4, 138	2 77 2 71	1, 496 125 305 1, 226	33 1 4	825 115 253 2,554	5 1 9	481 177 2, 914	(3)
United Kingdom United States Uruguay Other countries	22, 950 39, 903 4, 249 53, 766	823	9, 052 31, 087 1 5, 132 9, 155	668	9, 854 53, 881 1 5, 477 6, 837	164	17, 136 87, 974	190
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).

<sup>2</sup> Four-year average. <sup>2</sup> Less than 500 pounds.

<sup>&</sup>lt;sup>1</sup> International Institute of Agriculture, for Oleaginous Products and Vegetable Oils.

Table 210.—Fruits and nuts: Production and value in California and Florida, 1919-1923.

#### CALIFORNIA.

	Produc-	Farm va	due, Dec. 1.		Produc-	Farm va	lue, Dec. 1
Crop and year.	tion.	Per unit.	Total.	Crop and year.	tion.	Per unit.	Total.
Apples:	Bushels.			Grapes (table):	Tons.		
1919	8, 200, 000	\$1.45	\$11, 890, 000	1919	200,000	75.00	15, 000, 00
1920	6, 000, 000	1.60	9, 600, 000	1920	190, 000	75. 00	14, 250, 00
1921	6, 500, 000	1.35	8, 775, 000	1921	210,000	75. 00	15, 750, 00
1922	7, 850, 000	. 90	7, 065, 000	1922	308, 000	52.00	16, 016, 0
1923	8, 450, 000	. 75	6, 338, 000	1923 Grapes (wine):	340, 000	35. 00	11, 900, 0
Pears:	Tons.	ļ	, ,	Grapes (wine):	·		
1919	115, 000	72.00	8, 280, 000	1919	400, 000	50.00	20, 000, 0
1920	102,000	90.00	9, 180, 000	1920	375, 000	75.00	28, 125, 00
1921	86, 000	62. 50	5, 375, 000	1921	310, 000	82.00	25, 420, 00
1922	150, 000	50.00	7, 500, 000	1922	450, 000	65. 00	29, 250, 0
1923	128, 000	50.00	6, 400, 000	1923	428, 000	40.00	17, 120, 0
Peaches:				Oranges: 2	Boxes.		
1919	430, 000	60. 00	25, 800, 000	1919	15, 528, 000	2.75	42, 702, 0
1920	360, 000	76.00	27, 360, 000	1920	21, 600, 000	2. 18	47, 088, 0
1921	310, 000	42.00	13, 020, 000	1921	13, 000, 000	2.80	36, 400, 0
1922	410, 000	45.00	18, 450, 000	1922	20, 500, 000	2.00	41, 000, 0
1923	380, 000	24.00	9, 120, 000	1923 3 Lemons: 2	22, 800, 000	2. 10	47, 880, 0
Apricots:	ine 000	00.00	14 000 000	Lemons:	3, 499, 000	2.00	6, 998, 0
1919	175, 000	80.00	14, 000, 000	1919 1920	4, 955, 000	2. 92	14. 469. 00
1920	110,000	85. 00 50. 00	9, 350, 000 5, 000, 600	1920	4, 050, 000	3. 45	13, 973, 00
1921	100, 000 145, 000	70.00	10, 150, 000	1921	3, 400, 000	3. 30	11, 220, 00
1922 1923	170, COO	25. 00	4, 250, 000	1922 1923 ³	4, 800, 000	1.90	9, 120, 0
Prunes: 1	170,000	20.00	4, 200, 000	Trices.	Tons.	1. 30	e, 120, 0
1919	135, 000	240. 00	32, 400, 000	1919	12,000	150.00	1, 800, 0
1920	97, 250	130.00	12, 643, 000	1920	12, 300	90.00	1, 107, 0
1921	100, 000	130.00	13, 000, 000	1921	9, 600	145, 00	1, 392, 0
1922	110, 000	140, 00	15, 400, 000	1922	11,000	120.00	1, 320, 0
1923	80, 000	100.00	8, 000, 000	1923	9,000	90.00	810, 00
Plums:	00,000	200.00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Olives:	* 1		•
1919	42,000	60,00	2, 520, 000	1919	8, 800	160.00	1, 408, 00
1920	35, 000	90.00	3, 150, 000	1920	8,000	95.00	760, 00
1921	42,000	53. 00	2, 226, 000	1921	8, 200	90.00	738, 00
1922	48, 000	50.00	2, 400, 000	1922	10,000	125, 00	1, 250, 00
1923	69, 000	30.00	2, 070, 000	1923	17, 000	65, 00	1, 105, 00
Cherries:				Almonds:			- 22
1919	12, 400	150.00	1, 860, 000	1919	7, 250	440.00	3, 190, 00
1920	17, 500	200.00	3, 500, 000	1920	5, 500	360. 00	1, 980, 00
1921	13, 000	125. 00	1, 625, 000	1921	6,000	320.00	1, 920, 00
1922	14, 000	180.00	2, 520, 000	1922	8, 500	290.00	2, 465, 00
1923	14, 500	160.00	2, 320, 000	1923	11, 000	260: 00	2, 860, 00
Raisins: 1	100 700	010.00	00 007 000	Walnuts:	00 100	550, 00	15 455 00
1919	182, 500	210.00	38, 325, 000	1919	28, 100		15, 455, 0
1920	177, 000	235. 00	41, 595, 000	1920	21,000	400, 00 400, 00	8, 400, 00 7, 800, 0
1921	145, 000	190.00	27, 550, 000	1921 19 <b>2</b> 2	19, 500	360.00	9, 720, 00
1922	237, 000	105.00	24, 885, 000	1922	27, 000 25, 000	400.00	10, 000, 00
1923	237, 000	80.00	18, 960, 000	1923	20,000	400.00	±0,000,00

#### FLORIDA.

Oranges: 1919 1920 1921 1922 1923 Grapefruit: 1919 1920 1921 1921 1921 1922 1923	Boxes. 7, 000, 000 8, 100, 000 7, 300, 000 9, 700, 000 12, 000, 000 5, 100, 000 6, 000, 000 7, 200, 000 8, 000, 000	2. 50 2. 20 2. 00 2. 30 1. 35 1. 85 2. 30 1. 70 1. 90 1. 20	17, 500, 000 18, 829, 000 14, 600, 000 22, 310, 000 16, 200, 000 10, 175, 000 11, 730, 000 10, 200, 000 13, 680, 000 9, 600, 000	Limes: 1919 1920 1921 1922 1923 Pineapples: 1919 1920 1921 1922 1923	Boxes. 28, 000 26, 000 33, 000 35, 000 40, 000 Crates. 26, 000 47, 000 11, 000 22, 000 57, 000	3. 45 3. 10 2. 75 2. 90 3. 00 4. 25 4. 30 4. 75 4. 00	97, 000 81, 000 91, 000 102, 000 120, 000 111, 000 202, 000 55, 000 105, 000 228, 000
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Division of Crop and Livestock Estimates; California estimates in cooperation with California Department of Agriculture. 1923 estimates are preliminary.

Dried basis.
 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.
 Freeze during January, 1924, promises to reduce the stated figures for oranges by about one million boxes. Damage to lemons still undetermined.

#### CRANBERRIES.

Table 211.—Cranberries: Acreage, production, and farm value, United States, 1914-1923; by States, 1922 and 1923.

Calendar year and State.	Acre	Acreage.		Average yield, in barrels, per acre.		Production, thousands of barrels.		ge farm er barrel c. 1.	Farm value, thousands of dollars.	
1914 1915 1916 1917 1917 1948 1919 1920	22, 000 23, 100 26, 200 18, 200 25, 400 25, 000 25, 000 25, 000		31. 7 19. 1 18. 0 13. 7 13. 9 22. 0 18. 0 15. 4		997 441 471 249 352 549 449 384		\$3. 97 6. 59 7. 32 10. 24 10. 77 8. 37 12. 28 16. 99		2, 766 2, 908 3, 449 2, 550 3, 791 4, 597 5, 514 6, 526	
Leading States.	1922	1923 1	1922	1923	1922	19231	1922	1923	1922	19231
Total	25, 000	25, 000	22. 4	24. 4	560	610	10. 18	7. 25	5, 702	4, 423
Massachusetts New Jersey Wisconsin	12, 000 11, 000 2, 000	12, 000 11, 000 2, 000	25. 4 18. 2 27. 5	29, 2 20, 0 20, 0	305 200 55	350 220 40	10. 50 9. 75 10. 00	6. 50 8. 00 9. 70	3, 202 1, 950 550	2, 275 1, 760 388

Division of Crop and Livesteek Estimates.

<sup>1</sup> Preliminary.

#### GRAPES.

Table 212.—Grapes: Estimated production, by States, calendar years, 1922 and 1923.

State.	1922	1923 1	State.	1922	19231
Maine New Hampshire Vermont Massachusetts Rhode Island Connecticut New York New York New Jersey Pennsylvania Delaware Maryland Virginia West Virginia North Carolina South Carolina	1,000 pounds. 112 204 90 860 369 1,760 210,000 4,505 50,000 1,620 1,000 2,900	1,000 pounds. .104 .176 .74 .913 .552 .1,955 .122,220 .4,488 .33,000 .1,539 .1,760 .4,032 .2,183 .11,664	Kansas Kentucky Tennessee Alabama Mississippi Louisiana Texas Oklahoma Arkansas Colorado New Mexico Arizona Utah Nevada	1,000 pounds. 6,768 2,000 4,574 1,400 1,674 3,713 2,400 576 910 680 1,269	1,000 pounds. 5,400 1,690 2,065 1,470 504 59 2,325 2,940 1,120 680 1,378
South Carolina Georgia Ohio Indiana Illinois Michigan Wisoonsin Minnesota Iowa Missouri Nebraska	3, 040 45, 000 8, 836 12, 740 127, 500 693 150 13, 000 14, 700	2, 952 3, 1000 38, 710 7, 980 10, 988 88, 560 576 148 11, 880 12, 600 2, 640	Idaho. Washington Oregon California United States	570 3, 784 3, 060 3, 602, 000 4, 152, 342	; 600 3, 999 ; 2; 730 3, 822; 000 4, 015, 609

Division of Crop and Livestock Estimates.

Table 213.—Grapes: Carlot shipments, by States of origin, calendar years, 1917-1923.

State.	1917	1918	1919	1920	1921	1922	1923
New York	Cars. 3, 621 801 196 3, 298	Cars. 2, 017 367 50 1, 635 68	Cars. 3,751 881 87 3,783 108	Cars. 6, 979 1, 245 50 4, 607	Cers. 2, 451 390 68 1, 237 68	Cars. 7, 728 1, 558 80 6, 020 236	Gars. 4, 239 854 76 4, 034 207
Missouri Washington California All øther Total	28 31 13, 251 .68 21, 379	21 59 16, 639 59 20, 915	36 37 21, 605 61 30, 340	26 8 26, 974 110 39, 205	67 32,879 38 37,202	128 47 43, 884 177 \$9, 858	72 56 53,477 202 63, 217

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 earlot basis.

<sup>1</sup> Preliminary.

#### PEACHES.

Table 214.—Peaches: Production, United States, 1899-1923.

Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production.
1899	Bushels: 15, 433, 000 49, 438, 000 46, 445, 000 28, 850, 000 41, 070, 000 36, 634, 600 44, 104, 000 22, 527, 000	1908 1909 1910 1911 1911 1912 1913 1914 1915	48, 171, 000 34, 880, 000 52, 343, 000	1916 1917 1918 1919 1919 1920 1921 1921 1922 1923	33, 094, 000 53, 178, 000 45, 620, 000 32, 602, 000

Division of Crop and Livestock Estimates. Census figures in italics.

Table 215.—Peaches: Production and farm prices, by States, calendar years, 1919-1923.

G. A.	Tot	al crop,	thousand	ds of bus	hels.	Far	m price	per bush	el Sept.	15
State.	1919	1920	1921	1922	1923 1	1919	1920	1921	1922	1923
New Hampshire	39	0	29	32	40	Cents.	Cents.	Cents.	Cents.	Cents.
Massachusetts	213	4	185	200	205	220	400	357	262	270
Rhode Island	29	3	9	28	31	350	415	357	270	195
New York	195 1, 26 <b>2</b>	2, 600	290 1,700	3,400	232 1, 700	250 270	425 225	371 255	285 110	264 181
New Jersey Pennsylvania	1,653	2, 134	347	2,000	2, 642	270	220	<b>3</b> 35	185	209
Delaware	1, 100 227	2,000 203	350 7	1,560 320	1,907 225	300 190	250 225	345 300	180 80	183 150
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 North Carolina	760 575	992 1, 539	48 644	715 1,010	526 260	220 210	225 184	300 235	200 170	205 200
South Carolina	390	832	566	845	550	220	200	145	150	240 240
Jeorgia	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
ndiana llinois	82 450	405 770	26 76	650 1, 100	445 675	330 270	258 317	352 371	178 175	231 264
Michigan	448	1, 500	358	1, 440	1, 125	310	230	290	150	179
.owa	2	100	30	200	40	330	347	341	172	200
Missouri Nebraska	1, 263	1, 427 5	0	2, 30 <b>0</b> 81	1, 040 45	200 310	254 403		110 150	174 270
Kansas	214	187	24	630	78	260	400	320	170	270 252
Kentucky	460	988	80	1, 218	450	240	225	300	140	164
Fennessee	<b>1, 2</b> 85	1, 500	320	2,002	460	180	180	230	108	190
Alabama Mississippi	1, <b>0</b> 83 776	974 412	1, 230 322	810 375	779 260	170 150	175 175	165 150	120 200	138 195
ouisiana	382	269	264	180	175	190	275	250	167	200
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
ColoradoNew Mexico	722 204	670 6	810 8	900 98	792 189	250 200	250 250	175 325	100 200	171 200
Arizona	140	48	54	128	90	180	350	300	190	250
Jtah	884	471	763	885	802	160	250	171	50	129
Nevada	6 293	6 <b>42</b>	4 150	6 244	5	270	300	250	75	200
Washington	1, 545	155	772	950	282 1, 333	180 170	290 280	175 182	155 106	108 134
Oregon	504	100	105	300	500	140	330	250	125	168
California	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.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 216.—Peaches: Condition of crop, United States, 1st of month, 1868-1923.

Calendar year.	June.	July.	Aug.	Per cent of a full crop.	Calendar year.	June.	July.	Aug.	Per cent of a full crop.
1868 1869 1870	P. ct. 113. 9 97. 8 79. 2	P. ct. 103. 2 97. 4 80. 3	P. ct. 105. 0 90. 9 72. 1	P. ct. 91. 5 91. 0 68. 4	1898 1899 1900	P. ct. 70. 8 25. 6 88. 2	P. ct. 61. 8 23. 6 85. 4	P. ct.	P. ct. 63. 6 19. 6 78. 0
1871 1872 1873	96. 1 91. 8 59. 0	96. 1 90. 7 55. 4	87. 6 85. 4 47. 0	92. 2 86. 3 44. 6	1901 1902 1903	88. 5 66. 0 48. 2 63. 1	82, 5 62, 8 44, 9 60, 7	59. 0 42. 7 59. 1	70. 1 57. 8 40. 8 58. 9
1874 1875 1876 1877	95. 3 57. 5 60. 3 90. 8	94. 5 54. 6 57. 5 89. 8	86. 2 50. 3 49. 6 84. 9	84. 8 46. 2 48. 3 82. 8	1904 1905 1906 1907	59. 0 72. 3 37. 4	55. 8 66. 2 35. 7	54. 4 66. 1 33. 4	54. 3 64. 0 30. 7
1878	97. 9 62. 3 85. 4 65. 6 80. 0	96. 2 56. 4 81. 9 63. 2 85. 7	87. 7 80. 6 54. 7 79. 9	91. 3 52. 4 80. 6 48. 0 77. 7	1908 1909 1910 1911	73. 0 54. 1 62. 0 52. 1	50. 0 62. 1 44. 6	45. 4 61. 3 42. 7	43. 6 64. 0 44. 3
1883 1884 1885	67. 0 73. 6 76. 7	67. 0 71. 3 71. 1	59. 3 66. 5 65. 7	55. 6 56. 1 72. 7	1912 1913 1909–1913	63. 7 55. 7	68. 5 52. 3 55. 5	65. 7 48. 2 52. 7	68. 4 47. 6 53. 6
1886 1887 1888 1889	60. 5 70. 9 83. 6 85. 4	67. 2 66. 9 79. 8 85. 0	60. 2 60. 3 78. 3 81. 5	60. 4 54. 1 79. 2 74. 4	1914 1915 1916 1917	61. 7 75. 8 55. 4 60. 5	56. 2 73. 0 52. 2 55. 2	55. 9 72. 2 48. 5 52. 9	63. 0 78. 6 45. 5 52. 6
1890 1891 1892	47. 8 78. 2 68. 2	37. 5 79. 9 58. 6	28. 0 77. 4 54. 6	26. 9 79. 3 49. 5	1918 1919 1920	52. 0 73. 1 64. 9	46. 5 69. 0 61. 8	45. 6 66. 7 60. 7	44. 7 70. 8 61. 2
1893 1894 1895 1896 1897	77. 9 39. 9 66. 0 64. 7 67. 0	71. 0 24. 3 66. 4 51. 8 62. 5	62. 0 22. 3 83. 3 48. 1 58. 0	58. 7 21. 1 84. 1 42. 8 60. 5	1914-1920 1921 1922 1923	63. 3 45. 6 77. 1 66. 7	59. 1 42. 8 74. 3 63. 5	57. 5 42. 6 74. 7 61. 3	59. 5 46. 7 78. 1 61. 2

Table 217.—Peaches: Carlot shipments, by States of origin, calendar years, 1917-1923.

State.	1917	1918	1919	1920	1921	1922	1923
New York New Jersey Pennsylvania Virginia West Virginia North Carolina Georgia Michigan Tennessee Tennessee Oklahoma Arkansas Colorado Utah	Cars. 7, 308 1, 218 879 125 990 65 4, 098	Cars. 1, 057 748 257 63 322 56 7, 995 76 152 1, 579 244 190 1, 111 577	Cars. 1, 434 1, 148 366 137 425 66 7, 236 67, 236 116 1, 940 866 2, 335 1, 334 1, 102	Cars. 4, 666 1, 307 316 370 458 343 5, 663 2, 275 149 62	Cars. 2,840 5 45 589 10,636 198 218 964 42 596 1,219 839	Cars. 6, 862 1, 595 268 265 19 1, 452 7, 368 265 1, 650 248 25 1, 521 1, 420 1, 261	Cars. 2, 764 1, 758 554 70 177 250 8, 717 994 53 102 94 747 1, 264
Washington California All other	1, 920 2, 858 2, 128	647 4, 518 817	2, 219 7, 846 2, 083	204 7, 354 2, 605	1, 097 7, 606 406	990 9, 085 4, 107	1, 611 10, 059 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:	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.
1917	-	.	.	.	4, 292	1 3, 016	7, 30
1818				. 18	999	40	1, 05
1919			5	97	1, 289	43	1, 43
1920			1	22	3, 442	1, 202	4, 66
1921				1, 663	1, 173	1,202	2, 84
1922				1,000	5, 953	800	6, 86
			1 0	100			
1923				10	2, 138	616	2, 76
Jeorgia:					i	[ ]	
1917	_ 37	1,076	2, 983	2			4, 09
1918	1,036	3, 511	3, 438	10			7, 99
1919	295	3,073	3, 863	5			7, 23
1920	41	1, 315	4, 157	150	1		5, 66
1921		3, 659	5, 564	11			10, 63
1922	682	3, 002	3, 681	3			7, 36
		2, 238	5, 898	580			8, 71
1923	- 1	2, 200	0,090	300			0, 11
rkansas:		10	1 000	405	3	1	1 50
1917		10	1,099	485	0		1, 59
1918			179	11			19
1919	.  2		1,375	956	2		<b>2,</b> 33
1920	.			20			2
1921		3	591				59
1922	1 -	5	1, 264	252			1, 52
1923		2	198	547			74
olorado:		-	100	01.			• • •
				51	922	374	1, 34
1917							
1918			5	670	434	2	1, 11
1919				860	470	4	<b>1, 3</b> 3
1920	.	- <del></del>		62	708	3	773
1921		l	<b>-</b>	554	659	6	1, 219
1922				455	965		1, 42
1923				567	695	2	1, 26
alifornia:				1		- 1	-,
	1	154	173	2, 136	361	133	2, 85
1917	1	201	762	2, 396	1, 122	36	4, 51
1918					1, 122		7, 04
1919		205	1, 520	4, 363	1,753	1	7,84
1920	.  2	222	2, 314	3, 186	1,624	6	7, 35
1921		43	1,672	4, 231	1,652	8	7, 600
1922	.	64	127	5, 258	3, 352	284	9, 08
1923		110	4, 367	3,842	1,691	49	10, 059
all other:			,	′ ′	′	i	•
	3	54	894	3,069	5, 453	2 556	10, 029
1917	'I		1, 952	2,080	1, 070	45	5, 538
1918		309		2,000	1,070		10 726
1919	. 27	235	2,453	4,996	2, 971	56	10, 73
1920	. 2	51	410	2, 844	4, 754	2 430	8, 491
1921	25	307	1,560	865	1,632	14	4, 40
1922	13	113	2, 465	5, 812	3, 508	124	12, 03,
1923	7	34	392	4, 205	4, 882	90 1	9, 60
otal shipments:		0.		3 7	-,		,
	41	1, 294	5, 149	5, 743	11, 031	3 3, 979	27, 23
1917		4, 021	6, 336	5, 185	3, 625	123	20, 409
1918	1, 119	4,021					20, 40
1919	328	3, 513	9, 216	11, 277	6, 485	104	30, 92
1920	45	1,588	6, 881	6, 284	10, 528	2 1, 641	26, 96
1921	1,429	4,012	9, 387	7,324	5, 116	32	27, 300
1922	695	3, 184	7, 540	11,886	13, 778	1, 208	38, 293
1923	1	2, 384	10, 855	9,751	9, 406	757	33, 154
				0,101	0, 100		

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 219.—Peaches: Farm price per bushel, 15th of month, United States, 1910-1923.

Calendar year.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Weight- ed average.	Calendar year.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Weight- ed average.
		112. 1	108. 3	Cts. 115. 1 129. 0 110. 0 136. 3	105. 0	Cts. 113. 3 138. 2 111. 2 131. 3	1919	165. 1 191. 1	169. 4 201. 6	Cts. 143. 3 178. 9 199. 6 235. 0	185. 3 205. 7	211. 7	Cts. 148. 6 176. 6 200. 9 228. 9
1914 1915	119.6	120. 4 99. 5	105. 0 85. 4	202. 2	105. 3 85. 2	108. 7 88. 2 115. 0	1921	189. 3 172. 0	205. 3 161. 4	216. 3 143. 7 171. 8	227. 5 143. 5	244. 3 150. 4	213. 5 152. 3 175. 8

Division of Crop and Livestock Estimates.

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<sup>&</sup>lt;sup>1</sup> Includes 8 cars in November. <sup>2</sup> Includes 3 cars in November. <sup>3</sup> Includes 11 cars in November.

Table 220.—Peaches: Average jobbing prices per 6-basket carrier and per bushel at 10 markets, 1921-1923.

Market, and calen-		6-basket	carriers.	·			Bush	iels.		
dar year.	May.1	June.	July.	Aug.	May.1	June.	July.	Aug.	Sept.	Oct.2
New York:										
1921 1922		\$3. 34	\$3.04	\$5.00	l		\$2.62			
1922	\$3.72	3.05	2. 57	2.16		l	2. 29	\$1.90	\$1.78	\$1.43
1923		3. 31	2. 10	2.03		l	2.18	2. 16	2.48	1.94
Chicago:			l	1		ł	į.	}		
1921		2.47	2.95	4. 23	I <u></u>					
1922	3, 50	2.72	2.65	l		2, 76	2, 51	1.91	1.70	1.38
1923		2.79	2.39	2. 56			2.76	3.06	2.11	2. 25
Philadelphia:							1			
1921		2, 73	2, 86	4.28	l	l	2, 07			
1922	2. 81	2. 65	2. 44	2.14				1.88	1.60	1. 67
1923	2.01	2.98	2. 24	2, 70					2, 08	2. 18
Pittsburgh:										
1921		2, 59	2, 87	4. 29	Į.	l	3.38			
1922	3, 50	2.78	2. 58	2. 20			2.89	2.47	1.62	1.84
1923	0. 50	3. 15	2. 22	2. 75			2, 32	2. 79	2. 01	2. 09
St. Louis:		3. 10	2. 22	2.10			2. 52	2. 10	2.01	2.00
1921		2, 84	3, 12	4, 74			3, 27			
1921		2.74	2.48	7. 74	}	2.50	2. 59	1.89	1. 95	1. 54
1922		2. 74	2. 48	3. 01		2.00	2. 65	3. 39	2.46	1, 54
1923		4, 30	2.11	5.01		}	2.00	0. 39	2.40	
Cincinnati: 1921		2. 27	2, 78			2,42	3, 02			
1921						2. 05		0.17	1. 69	1. 90
1922		2. 21	2. 13		\$2.50	2.00	2.59	2. 17		
1923		2. 55	1.96	2. 20			2, 28	3. 21	2. 35	2. 31
St. Paul:						1	1	1	1	
1921								:		
1922								2. 17	2.03	1. 70
1923										
Minneapolis:						İ	1 1	3		
1921										
1922			2.49					2. 21	1.99	1.56
1923									2. 53	2. 20
Kansas City:								1	1	
1921		2. 59				4.04	3. 29			
1922		2.60	2.58			- <b></b> -	2.48	2. 15	1. 99	1.01
1923			2. 55					3. 24	2. 25	1.98
Washington: 3							1	1	í	
1921		3.04	3. 29	4, 75					<b></b>	
1922		3.07	2. 43	2, 27				2. 55	2. 30	2. 07
1923		3.90	2. 64	2. 68				3. 12	2.48	2. 20
1020		Ç. 60	01	~						3. 20

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

PEARS.

# Table 221.—Pears: Production, United States, 1909-1923.

Calendar year.	Production.	Calendar year.	Production.	Calendar year.	Production.
1909	Bushels. 8, 841, 000 10, 431, 000 11, 450, 000 11, 843, 000 10, 108, 000	1914	Bushels. 12, 086, 000 11, 216, 000 11, 874, 000 13, 281, 000 13, 362, 000	1919 1920 1921 1922 1923	Bushels, 15, 006, 000 16, 805, 000 11, 297, 000 20, 705, 000 17, 390, 000

Division of Crop and Livestock Estimates. Census figures in italies.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.

Quotations began May 25, 1922.
 Last quotation Oct. 11, 1922, and Oct. 13, 1923.
 Sales direct to retailers, except September and October, 1923, for bushels.

Table 222.—Pears: Production and farm prices, by States, calendar years, 1919-1923.

				1323	•						
	Tota	al crop, t	housand	s of bush	els.	Farm price per bushel Nov. 15—					
State.	1919	1920	1921	1922	1923 ¹	1919	1920	1921	1922	1923	
Maine New Hampshire Vermont Massachusetts Rhode Island	14 17 10 84 11	10 18 10 83 11	15 17 6 45 6	14 24 10 84 12	7 12 6 58 10	Cents. 240 240 240 240 240 240	Cents. 225 225 280 250 250	Cents. 200 250 330 300 150	Cents. 200 200 220 147 100	Cents. 200 200 225 226 250	
Connecticut New York New Jersey Pennsylvania Delaware	1, 830 402 421 98	2, 700 690 845 140	50 1,650 185 220 9	3, 200 405 576 158	$\begin{array}{c} 37 \\ 1,000 \\ 662 \\ 612 \\ 370 \end{array}$	240 240 140 230 150	250 105 110 130 25	200 170 150 245 200	100 65 80 100 25	225 188 109 121 50	
Maryland	287	421	35	256	374	130	60	200	50	100	
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	260	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	
Michigan	405	1, 044	532	1, 500	900	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	1, 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 States.	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.

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	P. ct. 70. 9	P. ct. 69. 7	P. ct. 70. 6	P. ct. 74. 1	P. ct; 75. 0	P. ct. 73. 3	1916 1917	P. ct. 66. 6 77. 1	P. ct. 60. 8 66. 2	P. ct. 59. 0 61. 9	P. ct. 61. 2 65. 3	P. ct. 61. 8 66. 3	P. ct. 61. 8 68. 2
1969 1910 1911 1912	61. 8 63. 2 65. 1 70. 9	57. 5 61. 0 60. 4 66. 2	55. 0 61. 3 59. 5 65. 0	53. 6 63. 9 64. 0 70. 8	54. 2 64. 7 66. 9 71. 8	54. 3 66. 3 71. 9 73. 3	1918	62. 7 66. 3 73. 4	58. 2 60. 6 68. 4	56. 4 60. 5 71. 0	60. 3 66. 8 76. 1	60. 6 68. 0 78. 5	62. 1 68. 2 82. 9
A verage 1909-1913	59. 7 64. 1	60. 2	55. 4 59. 2	62. 3	63. 1	65. 5	Average 1914-1920	69. 1	62. 7	61. 7	66. 3	67. 5	69. 0
1914 1915	68. 4 69. 2	62. 4 62. 3	60. 9 62. 0	67. 4 66. 8	69. 5 67. 8	73. 0 66. 8	1921 1922 1923	43. 8 72. 8 68. 6	40. 9 69. 8 63. 2	41. 7 73. 0 61. 8	45. 3 77. 4 64. 0	48. 1 80. 2 66. 4	48. 2 86. 3 68. 8

<sup>1</sup> Preliminary.

Table 224.—Pears: Carlot shipments, by States of origin, 1917-1922.

Q	Year beginning June 1.								
State.	1917–18	1918–19	1919–20	1920-21	1921-22	1922-23			
New York New Jersey New Jersey Delaware Maryland Ohio Idianna Illinois Michigan Texas Colorado Utah Washington Oregon California All other	461 54 29 45 334 696 18 382 27 1,700	Cars. 1, 226 1, 226 413 43 47 11 97 343 127 347 2, 421 799 4, 002 208	Cars. 1, 506 121 55 18 5 49 324 127 100 524 25 2, 452 930 3, 661 257	Cars. 3, 962 42 267 36 54 78 1,140 1,142 88 604 75 1,906 847 4,594	Cars. 2,855 21	Cars. 5,418 40 151 36 96 44 468 1,860 47 774 82 2,678 1,862 6,461			
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, 1910-1923

Calendar year.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Weight- ed aver. crop year.	Calendar year.	Aug. 15.	Sept.	Oct. 15.	Nov. 15.	Dec. 15.	Weight- ed aver. crop year.
1912 1913 1914 1915	106. 3 109. 9 98. 8 80. 8	Cts. 100. 9 103. 8 100. 0 119. 3 92. 8 83. 8 102. 7	Cts. 98. 6 97. 2 83. 1 95. 6 80. 4 82. 7 96. 9	Cts. 100. 8 85. 1 79. 3 93. 0 77. 5 89. 8 93. 3	Cts. 122. 4 111. 0 92. 8 97. 9 82. 5 89. 7 105. 6	Cts. 100. 9 109. 3 100. 4 111. 2 93. 7 82. 5 104. 8	1918 1919 1920 1921 1922	168. 4 188. 4 195. 5 165. 2 147. 1	157. 8 183. 0 197. 9 175. 1	181. 3 184. 2 186. 4 116. 2	140. 1 182. 0 170. 0 194. 9	Cts. 156. 6 219. 5 164. 5 198. 7 118. 7	Cts. 127. 4 161. 1 185. 7 194. 1 172. 2 139. 7

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	822	430	640	856	940	924
Maryland	2, 193	838	611	787	1,069	1,646	1,916
	1, 352	342	208	349	697		
Virginia	1, 302	342	200	949	097	1,670	1, 193
North Carolina	696	585	484	446	479	1, 101	1, 667
Florida	193	79	21.	153	108	322	
Illinois	347	125	80				1,035
				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	1 070
Arkansas	1,096	651	1, 034	896			1,678
Colifornia	1,090				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

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in earlots include those by boat reduced to carlot basis.

Table 227.—Strawberries: Average jobbing prices per quart at 10 markets, 1921–1923.

Market, and calendar year.	Mar.1	Apr.	May.	June.2	Market, and calendar year.	Mar.1	Apr.	May.	June.2
New York:					Cincinnati:		ļ ———		
1921	\$0.47	\$0.41	\$0, 27		1921	\$0.33	\$0. 27	\$0. 23	l
1922	.60	.37	. 21	\$0.16	1922	. 53	. 18	. 12	
1923	. 65	. 43	. 20	. 18	1923	.48	.30	.15	\$0.10
Chicago:					St. Paul:	1 - 0			Ψ0. 10
1921	. 31	. 37	. 24	l	1921	. 38	. 44	. 28	
1922	. 45.	. 29	.14	. 12	1922		.30	19	. 16
1923	. 45	, 41	. 20	.15	1923		. 44	. 25	20
Philadelphia:			l	1	Minneapolis:		• • • •		. 20
1921	. 33	. 34	. 23	l l	1921	. 37	. 41	. 31	i
1922	. 53	.32	. 18	. 17	1922		. 29	.18	. 14
1923	. 55	.40	. 18	. 15	1923	. 58	.45	. 26	. 19
Pittsburgh: .				l 1	Kansas City:		• • •	• =0	
1921	. 34	. 34	. 26		1921	. 33	. 36	. 23	
1922	. 50	. 34	.17	. 18	1922		.31	.16	. 13
1923	. 62	. 41	. 22	. 16	1923	. 46	. 40	. 21	.16
St. Louis:					Washington: 8				
1921	. 31	. 33	. 23		1921	. 50	. 35	. 22	
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.

#### CABBAGE.

Table 228.—Cabbage: Commercial acreage, yield per acre, and production, in car-loads containing 12.5 tons each, 1921–1923.

State.		Acreage	).	Y	ield per a	cre.	P	roduction	n.
	1921	1922	1923 1	1921	1922	1923	1921	1922	19231
Early: California	Acres. 7, 320	Acres.	Acres	Tons.	Tons.	Tons.	Cars.	Cars.	Cars.
Florida	5,370	7,320	5, 300 2, 070	7. 0 6. 0	6.0	7.0	4,099	3, 514	2, 968
Louisiana	1, 580	1, 670	1,640	6.4	6.0	8.0 4.5	2, 578 809	6, 317 802	1,325
Texas	11, 210	14, 880	4,070	4.0	5.0	5.0	3, 587	5,952	590 1,628
Total		35, 150	13, 080	5. 4	5. 9	6. 2	11, 073	16, 585	6, 511
Intermediate:							11,010	10,000	0,011
Alabama	1,600	2, 200	2, 200	8.0	8.5	7.5	1,024	1,496	1 200
Georgia	250	520	220	7.0	5.0	5.5	1,024	208	1, 320 97
Georgia Illinois	1,620	1,880	1,400	5.0	8.0	5.0	648	1, 203	560
lowa	1 600	1,840	1,200	5.0	8.0	5. 5	240	1, 178	528
Kentucky	350	300	300	6.0	6.0	5.0	168	144	120
Maryland	1 2.060	2,750	2,000	4.8	5.0	6.0	791	1,100	960
• M1SSISSIDD1	1 1.420	4,640	4, 240	6.0	5.0	3.5	682	1,856	1, 187
Missouri	700	700	800	8.1	7.0	6.0	454	392	384
New Jersey	4, 220	4,500	4, 100	6.5	8.0	5. 5	2, 194	2,880	1,804
New Mexico New York (L. I.)	130	400	300	8.0	9.0	7.0	83	288	168
North Carolina	4, 150 450	4,500	4, 200	6. 6	11.0	7.0	2, 191	3,960	2, 352
South Carolina	3,970	350 4, 100	3, 450	6. 5 9. 7	6.0	7.5	234	168	264
Tennessee	720	1,500	1,200	6.1	7. 5 7. 0	11.5	3,081	2,460	3, 174
Virginia (Norfolk and	120	1,500	1,200	6.1	1.0	7.0	351	840	672
Eastern Shore	4, 200	3, 500	3,750	8.8	8.0	6.0	2, 957	2, 240	1,800
Washington	920	950	890	8.0	9.0	8.0	589	684	570
Total	27, 360	34, 630	30,690	7. 2	7.6	6. 5	15, 827	21, 097	15, 960
Late:		====	===	====	<u></u>	====	10, 621	21, 051	10, 500
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	523	930	1,040
Michigan	1,990	3, 570	3, 290	6. 5	11.0	9.8	1,035	3, 142	2, 579
Michigan Minnesota New York	2,740	3,840	3, 260	5.0	9. 0	7. 5	1,096	2, 765	1, 956
New York	22, 900	24, 900	22, 680	6.5	9.0	7. 5	11, 908	17, 928	13, 608
Omo	2. 360	2,870	3, 220	5.7	8. 2	8.5	1,076	1,883	2, 190
Oregon	780	900	900	9. 5	7.0	5.0	593	504	360
Pennsylvania Virginia (southwest) Wisconsin	2,720	2, 800	2,750	6.0	7.0	5.0	1,306	1, 568	1, 100
Wisconsin	2, 500	2,670	2,620	6.0	9.0	7.0	1, 200	1, 922	1, 467
		16, 560	13, 340	6.0	11.0	9. 5	5, 117	14, 573	10, 138
Total		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	54, 498	87, 927	61, 547

Division of Crop and Livestock Estimates.

Quotations began Mar. 23, 1922, and Mar. 28, 1923
 Last quotation June 6, 1922, and June 13, 1923.
 Sales direct to retailers.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 229.—Cabbage: 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, Long Island	118	111		36		13	
New York, other	4, 999	8, 357	1 7, 300	7, 006	1 9, 543	9, 766	1 8, 838
Pennsylvania	94	160	383	239	291	348	291
Maryland	171	63	254	260	325	448	220
Virginia	1,891	1, 927	1,508	1, 532	3, 595	2, 939	3, 331
South Carolina	663	1,867	1,172	1, 087	3, 285	3, 365	4, 313
Florida	1, 413	3, 782	1,537	4, 745	1, 518	3,002	1, 216
Omo	546	578	283	342	335	59 <del>0</del>	497
Hinois	65	267	161	146	102	144	407
Michigan	524	430	385	335	472	871	614
Wisconsin.	2, 815	3, 334	3, 508	4, 179	3, 355	5, 452	5, 630
Minnesota.	582	1,010	961	834	596	1, 156	797
Lowa	453	389	205	374	144	560	351
Kentucky	96	121	185	128	98	73	106
Tennessee	51	117	175	141	176	563	274
Alabama	87	860	421	265	940	1, 366	1, 561
Mississippi	281	1, 128	566	884	577	1, 629	1, 134
Louisiana	150	258	188	233	313	349	448
Texas	931	304	1, 437	4, 828	1, 757	3, 996	1, 364
Colorado.	2, 485	1, 960	2, 323	1,656	2, 580	1, 889	3, 103
California	1, 412	1,078	1, 395	1, 247	845	737	683
All other	527	560	635	523	871	809	890
Total	20, 354	28, 661	24, 982	31, 020	31, 718	40,065	36, 068

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 230.—Cabbage: Farm price per 100 pounds, 15th of month, United States, 1910-1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weight- ed average.
1910÷11	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls	D lls.	Dolls.	Dolls.	Dolls.	Dolls,
	2. 27	1.89	1. 94	1, 58	1.36	1. 49	1. 56	1. 48	1. 26	1. 33	1. 38	2. 46	1. 57
	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. 87	2. 07	2. 03	2. 24	2. 05	2: 61	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. 86	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 1922-23 1923-24	3. 95 2. 96 3. 85	3. 16 2. 12 3. 20	2. 61 1. 72 2: 90	2, 39 1, 55 2, 59	2. 42 1. 46 2: 12	2. 77 1. 63 2. 30	3. 05 2. 11	3. 09 2. 42	3. 02 3. 00	3. 10 3. 62	3. 68 4. 01	3. 36 4. 11	2. 92 2. 44

<sup>&</sup>lt;sup>1</sup> Long Island included with New York, other, in 1919, 1921, and 1923

Table 231.—Cabbage, Danish: Range and average jobbing prices, per 100 pounds, at 10 markets, 1920-1923.

			1		·	<u> </u>	i ·		1	
Market, and	- Octob	er.	Novem	ber.	De- cem- ber.	Janu- ary,	Februa	ary	Marc	h.
beginning October 1.	Range.	Aver- age.	Range.	Aver- age.	aver- age.	aver- age.	Range.	Aver- age.	Range.	Aver. age.
New York:		ŀ								
	\$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	\$0.81
1921-22	1. 82-2. 05	1.98	1. 78-2. 40	2.08	2. 49 1. 18	2. 60 1. 33	1. 75-2. 25	2.02	1. 75-2. 50	2, 11
1922-23 1923-24	. 90-1, 25 1, 10-1, 60	1. 01 1. 33	. 50-1. 25 . 75-1. 40	. 79 1. 01	1. 16	1. 33	1. 60-3. 00	2.08	2. 25-3. 50	3. 16
Chicago:	1. 10-1.00	1. 55	. 75-1. 40	1.01	1. 30					
1920-21		1	.4373	. 52	. 70	. 92	.4783	.71	.3078	. 64
1921-22	1. 75-2. 25	2.02	2.00-3.25	2.47	2, 59	2. 21	1. 50-2. 15	1.83		
1922-23	2		.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:										
1920-21	. 70-1. 00	. 81	. 55-1. 18	. 82	. 62	. 93	. 55 80	. 69	. 55 83	. 69
1921-22	1. 50-2. 00	1.87	1. 50-2. 38	1.91	2. 42 1. 09	2, 39 1, 25	1, 25-2, 25 1, 25-3, 00	1.77	2. 00-2. 50 1. 00-3. 75	2, 22 2, 38
1922-23 1923-24	. 75–1. 10 1. 00–1. 65	. 87 1. 32	. 35-1. 15	.71	1. 09	1, 20	1. 25-5. 00	1. 18	1. 60-3. 73	2. 38
Pittsburgh:	1.00-1.05	1. 54	. 75-1. 25	. 50	1.21					
1920-21	88-1.40	1.12	. 70–1. 50	1.00	. 69	1.04	.7095	. 80	. 55 78	. 66
1921-22	2. 15-2. 75	2.48	2. 25-2. 88	2.57	2, 67	2.58	1.90-2.75	2, 21	1. 75-2. 75	2. 36
1922-23	1. 50-2. 50	1. 91	. 40-1. 50	. 86	1. 57	1, 25	1. 25-3, 50	2.06	2. 50-4. 50	3. 16
1923-24	1. 15-2. 00	1. 51	. 75-1. 40	1. 10	1.34					
St. Louis:			l							
1920-21	,				. 91	1. 12	. 75–1. 25	. 99	. 63-1. 25	. 96
1921-22	1. 69-2. 75	2. 15	1. 81-2. 50	2. 30	2: 65	2. 57	1. 50-2. 25	2, 02	2. 75-4. 50	3, 32
1922-23				1.08	1.30 1.39	1.37	2, 00-4, 25	2.84	2. 75-4. 50	3. 32
1923-24 Cincinnati:			. 60-1. 50	1.68	1.39					
1920-21	•	i I	. 55-1. 33	. 96	.72	1. 03	. 95-1. 18	1, 05	. 50-1. 13	. 82
1921-22	1.50-2.62	2, 14	1, 50-2, 50	2.10	2.73	2. 59	1. 75-2. 50	2.32	.00 1.10	.02
1922-23	. 90-1. 40	1. 21	. 50-1.00	.71	1.31	1.46	1. 85-3. 50	2, 31	2, 50-3, 75	3. 18
1923-24	1. 25-1. 90	1.58	. 90-1. 50	1.16	1.39					
St. Paul:		1								
1921-22						3. 34	2.50	2, 50		
Minneapolis:	(				ŀ	3. 32		ľ		•
1921-22						3.02				
Kansas: City: 1920-21		ŀ		1	1, 05	1. 39	. 75–1. 50	1.05	. 50-1. 00	. 78
1921-22	1. 50-2. 50	2. 09	1. 75-3. 25	2. 61	3.15	3. 26	2.00-2.75	2.43	. 00 1. 00	
1922-23	-60-1. 25	.90	.5085	. 66	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	1.07	1. 24					<b>-</b>
Washington:				ļ.	ŀ		F			
1920-211						1.93	1. 25-1. 50	1.47	1. 00-1. 50	1. 25
1921-221			2. 00-3. 00	2. 53	3.03	3.41	2. 50-4. 00	3. 01		
1922-231	1. 50-2. 25	1. 97	1. 00-2. 00 1. 25-2. 00	1. 43 1, 44	1. 82 1. 68	1.88	2, 00-3, 00	2. 47		
1923-24	1.75-2.50	1.96	1. 25-2. 00	1,44	1.08		1		<b>-</b>	

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.

### CANTALOUPES.

Table 232.—Cantaloupes: Carlot shipments by States of origin, calendar years, 1917-1923.

State.	1917	1918	<b>19</b> 19	1920	1921	1922	1923
Delaware	Cars. 702	Cars. 429	Cars. 590	Cars. 581	Cars. 943	Cars. 843	Cars. 818
Maryland	855	490	835 523	771 <b>3</b> 59	1, 206 821	1, 233 700	1, 271 619
North Carolina South Carolina Georgia	1, 106 157 789	418 31 551	100 314	359 110 389	299 640	270 1, 632	70 222
Indiana Michigan	684 42	443 37	462 204	635 209	644 176	894 465 990	653 302 336
Arkansas Colorado New Mexico	797 1, 898 227	699 1, 818 256	1, 106 3, 132 378	986 2, 454 937	1, 501 3, 215 421	4, 420 275	2; 314 366
Arizona Washington	1, 215 145	1, 169 110	1, 832 100	1, 164 329	1, 474 209	1, 558 371	1, 209 199
California All other	8, 258 575	6, 848 320	12, 010 453	13, 100 403	13, 177 843	15, 304 962	16, 390 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.

<sup>1</sup> Sales direct to retailers.

# CELERY.

Table 233.—Celery: Carlot shipments by States of origin, calendar years, 1917-1923.

State.	1917	1918	1919	1920	1921	1922	1923
New York New Jersey Pennsylvania Florida	Cars. 1, 563 108 143 2, 222	Cars. 1, 614 155 199 2, 461	Cars. 1, 523 177 33 2, 051	Cars. 2, 675 105 176 3, 010	Cars. 3, 110 216 225 4, 172	Cars. 3, 347 119 212 4, 955	Cars. 3, 496 213 224 6, 409
Michigan Colorado California All other	436 183 1,877 45 6,577	461 225 2, 262 35 7, 412	598 212 1,796 59 6,449	604 283 2, 384 71 9, 308	1, 013 211 3, 405 131 12, 483	1, 612 222 3, 474 210	1, 372 115 4, 473 285

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	19	906	1	1907		1908		1909	1910
		Cases.1		ses.1		ases.1		ases.1		Cases.1	Cases.1
Maine	1	, 348, 751	93	39, 698	1, (	90, 624		970,000		698, 000	1, 487, 000
Vermont							ĺ	(2)		(2)	· (2)
New York	1	, 583, 969	1, 42	22,012	(	559, 391		6 <b>2</b> 0, 000		634,000	1, 145, 000
Pennsylvania		220, 022	19	99, 920		68, 570		(2)		(2)	(2)
Delaware		95, 300	1 11	0,040	i	75,000	1	(2)		(2)	(2)
Maryland 3	1	676, 240		8, 492	8	375, 506	1.0	oìó, 000		432,000	970, 000
Ohio	1	140, 631		18, 796		61, 560		933, 000		677, 000	936, 000
Indiana	1	025, 606		21, 433		80, 778		301, 000		405, 000	746, 000
lllinois	1	963, 617	1. 24	13, 106	1.2	19, 525		856, 000	1.1	134, 000	2, 027, 000
Michigan		145, 152		9, 300		68, 300	'	(2)		( <sup>2</sup> )	(2)
Wisconsin.		443, 055		1,711		69, 120		343, 000		422,000	222, 000
Minnesota		272, 000		0. 933		23, 945		124, 000		78, 600	200, 000
Iowa		557, 104		5. 900		248, 725		085,000		902,000	1, 720, 000
Missouri		47, 100		29, 100		18, 600	1,	( <sup>2</sup> )		(2)	(2)
Nebraska		441,000		51, 300	1	64,000	l	(2)		(2)	2
Kansas		53, 887		32, 819	'	23, 400		2		$\mathbb{R}$	$\mathcal{Z}$
All other		5, 231		2, 400		7,000	1	542,000		405, 000	610.000
				2, 400				542,000		405,000	610, 000
United States	13	, 018, 665	9, 13	36, 960	6, 6	554, 044	6,	784, 000	5,	, 787, 000	10, 063, 000
State.		1911	19	912	]	1913		1914	1	1915	1916
Maine	1	, 545, 000	90	01,000	-	550, 000	1	114, 000		942, 000	700.000
New York	1	. 700. 000		9, 000		393, 000		771, 000			782, 000
Maryland	3 1	, 673, 000		17,000						,016,000	280,000
Ohio						023, 000		364, 000	1,	, 609, 000	1, 448, 000
		, 412, 000 796, 000		76,000		984, 000		203, 000	1,	144, 000	930, 000
Indiana				35, 000		785, 000		694, 000		785, 000	797,000
Illinois	Z	, 771, 000		38, 000		330, 000		515, 000	2,	, 081, 000	1, 540, 000
Wisconsin		351,000		19,000		377, 000		342, 000		208, 000	322,000
Minnesota		301,000		21,000		188, 000		224, 000		121, 000	278, 000
Iowa	2	, 744, 000	2, 90	51,000		384, 000		573, 000	1,	, 223, 000	1, 730, 000
All other	1	, 044, 000	98	32, 000		669, 000		989, 000		995, 000	1, 023, 000
United States	14	, 337, 000	13, 10	09, 000	7,5	283, 000	9,	789, 000	10,	, 124, 000	9, 130, 000
State.	1917	1	918	191	9	1920	)	1921		1922	1923
Maine	566, 4	108 1 11	2, 912	1,652	000	1, 588,	000	911, 0	_	1, 066, 000	923, 000
New York	257.		8, 912	1,014		829,		564, 0		616,000	434, 000
Maryland	2, 001,	44 0 00	2, 944	2, 081		2, 217,		1, 130, 0		1, 944, 000	
Ohio	1, 200,		4, 064	1, 360				850, 0			2, 256, 000
Indiana						1, 544,				1,073,000	1, 390, 000
IndianaIllinois	742, 4		2, 688		, 000	861,	000	709, 0		665, 000	1, 208, 000
Wisconsin	2, 421,	100   2, 18	9, 344	2, 225		2, 271,		1, 711, 0		1, 939, 000	2, 833, 000
Wisconsin	165, 4 201, 9		2, 924		, 000	590,		576, 0		625, 000	648, 000
Minnesota			9, 136		, 000	643,		573, 0	00	598, 000	898,000
Iowa	2, 280, 3		0, 241	2,496		3, 246,		1, 190, 0	UU	1, 959, 000	2, 382, 000
All other	965, 2	275 80	08, 695	1,045	, 000	1, 251,	000	629, 0	00	934, 000	1, 134, 000
United States			21, 860	13, 550		15, 040,	7	8, 843, 0		11, 419, 000	14, 106, 000

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

<sup>&</sup>lt;sup>1</sup> Stated in cases of 24 No. 2 cans.

Included in all other.

<sup>3</sup> Includes Virginia.

# LETTUCE.

Table 235.—Lettuce: Carlot shipments by States of origin, calendar years, 1917-1923.

State.	1917	1918	1919	1920	1921	1922	1923
	Cars.	Cars.	Cars.	Cars.	Cars.	Сатв.	Cars.
New York	1, 423	1, 334	1, 761	2, 138	3, 361 478	3, 167 571	3, 811 454
New Jersey	215	171 226	245	515 265	448	622	718
North Carolina	181	375	319 395	356	583	987	577
South Carolina Florida	161 1, 116	2, 352	2, 134	3, 120	2, 286	3, 323	3, 054
-	53	2, 352	2, 134	176	114	113	102
Arizona	64	64	41	165	166	678	1, 044
Washington	0.	01.	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, 1921-1923.

								<u> </u>	
		Acreage.		Yie	eld per ac	ere.	P	roductio	n.
State.	1921	1922	1923 1	1921	1922	1923	1921	1922	1923 1
Early (Bermuda): California Louisiana Texas	Acres. 2,000 1,010 10,500	Acres. 2, 950 1, 100 11, 920	Acres. 1, 340 1, 100 12, 680	Bush. 245 206 207	Bush. 320 300 197	Bush. 297 106 129	Cars. <sup>2</sup> 980 416 4,347	Cars. <sup>2</sup> 1, 888 660 4, 696	Cars. <sup>2</sup> 796 233 3, 271
Total	13, 510	15, 970	15, 120	213	227	142	5, 743	7, 244	4, 300
Intermediate:     Iowa	1, 120 1, 280	1, 610 1, 000 2, 360 1, 320 1, 530	1, 540 1, 000 2, 290 1, 290 1, 500	205 300 250 280 300	380 225 250 225 320	365 298 194 254 450	508 600 1, 190 627 768	1, 224 450 1, 180 594 979	1, 124 596 889 655 1, 350
Total	7,020	7,820	7,620	263	283	303	3, 693	4, 427	4, 614
Late: California. Colorado. Idaho. Illinois. Indiana. Massachusetts. Michigan. Minnesota. New York. Ohio. Oregon. Pennsylvania. Utah Wisconsin.	7, 900 1, 300 140 1, 040 4, 180 4, 500 1, 430 7, 280 5, 080 870 340 1, 010	6, 720 1, 900 300 1, 250 5, 620 4, 560 1, 750 1, 470 7, 740 5, 680 880 350 250 1, 030	7, 010 2, 360 300 1, 080 5, 900 3, 360 1, 840 1, 050 7, 390 5, 700 600 280 400 1, 090	225 300 470 210 265 280 225 200 300 225 300 270 440 300	250 280 460 300 413 275 511 350 270 400 380 400 350	300 250 425 289 276 345 267 220 418 253 295 200 375 279	3, 555 780 132 437 2, 215 2, 520 608 572 4, 368 2, 286 2, 286 106 606	3, 360 1, 064 276 750 4, 642 2, 508 1, 788 1, 029 4, 180 4, 544 528 266 200 721	4, 206 1, 180 255 624 3, 257 2, 318 983 462 6, 178 2, 884 112 300 608
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.

500 bushels to car.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 237.—Onions: Carlot shipments, by States of origin, 1917-1922.

G	Crop mo	vement seas	on, March 1	through Jur	ne of succeed:	ing year.
State.	1917-18	1918-19	1919–20	1920-21	1921-22	1922-23
Massachusetts New York New Jersey Virginia Ohio Indiana Ellinois Michigan Wisconsin Minnesota	Cars. 2, 766 2, 104 567 158 1, 475 1, 204 230 253 240 626	Cars. 2, 883 2, 784 597 95 2, 008 1, 817 334 590 309 822	Cars. 2, 835 2, 702 634 133 1, 913 1, 005 123 224 95 439	Cars. 3, 834 3, 089 635 181 3, 212 3, 448 360 795 406 276	Cars. 2, 224 2, 891 427 140 1, 743 1, 834 253 417 89 172	Cars. 1, 912 2, 812 479 371 4, 492 4, 683 487 1, 867
Iowa Kentucky Louisana Texas <sup>1</sup> Colorado Washington	708 177 174 5, 896 239	968 195 450 3, 575 230	488 339 101 2, 876 207	870 303 106 5, 086 134 790	411 361 79 4, 208 443	918 257 91 4, 629 651
Oregon California, northern district California, southern district LAll other Total	2, 835 663 215 21, 041	3, 627 400 150 22, 549	202 4, 887 522 228 20, 549	3, 169 1, 233 277 28, 223	2, 657 928 434 20, 707	263 2, 376 1, 266 610 29, 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.

Table 238.—Onions: Farm price per bushel, 15th of month, United States, 1910-1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Weight- ed av.
1910-11 1911-12 1912-13 1913-14	Cts. 104. 5 122. 0 114. 0 101. 7	116. 0 100. 0	104. 0 89. 0	102. 0 85. 0	103. 0 84. 0	113. 0 84. 0	117. 0 81. 6	140. 0 77. 5	167. 0	175. 0 79. 0	177. 0 87. 2	155. 0 95. 6	123. 6 88. 2
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 1915-16 1916-17 1917-18	170. 4 93. 0 147. 3 201. 0	86. 3 133. 5	82.8 122.9	94. 8 131. <b>4</b>	94. 8 153. 8	99. 6 175. 7	113. 2 208. 4	126. 3 357. 9	130. 3 476. 2		123. 3 398. 0	133. 8 308. 0	104. 5 241. 7
1918-19 1919-20 1920-21	162. 6 232. 0 204. 8	<b>22</b> 5. 8	195. 4	196. 4	143. 1 212. 5 143. 8	<b>24</b> 5. 8		307. 3	199. 8 325. 6 114. 2	344. 2	337. 6	264. 2	257.0
Av. 1914–1920	173. 0	154. 2	<b>140</b> . 5	138. 6	143. 9	150. 6	16 <b>2</b> . 7	194. 0	212. 6	214. 6	204. 7	188. 6	169. 0
1921-22 1922-23 1923-24	147. 7 204. 5 207. 7	156. 9	126. 9	118.8	219. 9 123. 6 174. 6		159.8		365. 7 173. 8				

<sup>&</sup>lt;sup>1</sup> 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 20 in 1918–19, 178 in 1919–20, 56 in 1920–21, 30 in 1921–22, and 13 in 1922–23.

Table 239. -Onions: Average jobbing prices per 100 pounds, at 10 markets, 1920-1923.

		7	Vario	us con	nmon	varie	ties.	İ			Bern	nudas.		
Market, and year beginning									A	pr.	М	ay.	Ju	ne.²
Aug. 1.	Aug.1	Sept.	Oet.	Nov.	Dec.	. Jan. 1	Feb.	Mar.	Yel- low.	Crystal White Wax.	Yel- low.	Crys- tal White Wax.	Yel- low.	Crys- tal White Wax.
New York:	-						***	***	A. 0.4	20.40	40.15	40.70	40.00	\$3. 0
1920-21 1921-22	\$2.80	\$2. 24	51.56	5 63	\$1. 23 5. 45	7 34	8 25	\$0. 80 8. 21	\$4.34 7.66				\$2. 93 3. 91	3.5
1922-23	2.08		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:	i l			1 50	1. 31	1. 16	. 98	. 93	3.48	4. 37	2, 79	3. 73	2. 53	3, 2
1920-21 1921-22	2. 58	1. 94 3. 61			5, 62		7.64	8. 53	6.21		4. 05			
1922-23	2. 12	1.61	1.70	2. 22	2. 29	2, 56	3. 44	3. 38			5. 15	5. 79		
1923-24	3, 19	3.48	3, 29	3. 22	3. 07									
Philadelphia:		2.03	1.49	1 = 1	1. 23	1. 27	l i.98	. 87	4.04	3, 88	3, 26	3. 70	2, 75	2. 6
1920-21 1921-22	3, 02	3, 80				6. 93								2. 0
1922-23	2, 19	1.63		1.82	2. 73	2.90								
1923-24	3. 07	3.45	3.09	2. 73	2.61									<b>-</b> -
Pittsburgh:		2.30	1.74	1. 65	1. 05	1. 26	. 89	. 90	4.03	4. 58	3. 22	3, 91	2, 95	3.3
19 <b>2</b> 0-2 <b>1</b> 19 <b>2</b> 1-2 <b>2</b>	3. 05	3.82	4.86		5. 57		7.89	8.89	6.81					
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:	ŀ	1.67	1. 5	1. 55	1 100	1. 17	. 91	. 70	3, 30	4, 40	2. 83	3 47		3. 2
1920-21 1921-22	2. 95		4.8	5. 45	5.68	6. 9	7. 96	8. 52	5. 95			4. 19	3. 37	0
1922-23	2.00		1.89	2. 20	2, 30	2. 92	2. 52	3. 14			5. 05	5. 20		
1923-24	2. 55	3. 45	3. 4	3. 23	3, 05	i								
Cincinnati:	1	1. 76	1. 48	1 45	1 30	1. 25	1. 13	. 85	3, 43	4.49	3.17	3, 95	2.72	3. 7
1920-21 1921-22	2.92		5. 19	5. 59	5. 45	A. 96	8.29	8.63	5. 93	6.44			3.40	
1922-23	2. 02		1. 78	1.9€	2.87	3.08	2. 93	3. 94			5. 38	5. 71		
1923-24	2. 94	3.43	3.04	2.60	2.56	i		i						
St. Paul: 1920–21	Ī	1. 99	ł	1			1		3 55		3. 23	4. 05	2. 50	3.8
1920-21	2, 85	3. 49	4. 92	4.83	4. 44	6.42	7. 75	8. 61		J	4.39	4.52	3, 12	3.
1922-23						.l					5. 65	6.15		
1923-24		3. 35	3.66	3. 11	2. 71		· - <b></b> -							
Minneapolis: 1920-21		2, 12	,						4. 02	4, 66	3, 38	4.11	2.49	4.0
1920-21	2, 70		4.70	4. 81	4. 60	6. 62	8. 1	8.83			4. 62	4.86	3. 17	
1922-23											5. 90	6. 21		
1923-24	2. 73	3. 44	3. 72	3. 14	3. 22	2	-					<b></b> -		
Kansas City: 1920-21	1	1.98	1. 68	1. 67	1. 52	1.3	1, 13	. 66	3. 60	4. 27	2. 78	3. 46	2. 39	3.
1920-21			4. 3	5. 40	5. 42	6.94	8.06	8. 50	6. 56					
1922-23			. 2. 15	2.02	2. 56	3, 25	3. 45	3. 22						
1923-24	262	348	3. 6	3. 30	2.96	3	-					- <b></b> -		
Washington: 1920-213	1	2. 61	1. 9	5 1. 92	1. 86	1.8	1. 53	1. 35	5.67	,   	4, 21		3, 45	
1920-213	3. 64	4. 27	4. 9		5. 78	7. 10	8.6	9. 55	8.00	7. 36	d.	5.17	4.36	4.
1922-233	2. 64	2.07	1. 7	5 2. 72	2. 7	7 3.39	3. 30	3. 58			6. 07	/		
1923-24		3. 90	3. 6	2 3. 32	3. 1	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.

Quotations began Aug. 22, 1921, and August 14, 1923.
 Last quotation June 14, 1922.
 Sales direct to retailers.

# CANNED PEAS.

Table 240.—Peas, canned: Production in the United States, calendar years, 1906-1923.

State.	1906	1907	1908	1909	1910	1911	1912	1913	1914
New York	125, 931 46, 900 333, 590 87, 000	149, 900 141, 036 468, 073 45, 721	101, 000 110, 000 343, 000 199, 000	125, 000 107, 000 226, 000 113, 000	<sup>(2)</sup> <sup>4</sup> 299, 000 200, 000 170, 000	4 192, 000 305, 000 128, 000	4 270, 000 380, 000 276, 000	(2) 4 173, 000 318, 000 343, 000	3 295, 000 502, 000 748, 000 470, 000
Illinois	342, 901 1, 409, 497	1, 507, 710	2, 200, 000		1, 086, 000	1, 520, 000	 	3, 348, 000	3, 555, 000 350, 000 (5)
United States					l		<u> </u>		9, 347, 000
State.	1915	1916	1917	1918	1919	1920	1921	1922	1923
New York New Jersey  Maryland Ohio Indiana Iltinois Michigan Utah California All other	371, 000 574, 000 289, 000 544, 000 381, 000 514, 000 3, 469, 000 303, 000	312, 000 468, 000 131, 000 412, 000 248, 000 280, 000 2, 763, 000 275, 000 228, 000	567, 432 721, 160 321, 624 522, 532 421, 213 604, 470 3, 569, 185 754, 673 349, 910	331, 869 683, 007 441, 842 454, 229 978, 434 476, 650 4, 519, 934 491, 963 252, 836	248, 000 509, 000 306, 000 381, 000 425, 000 4, 317, 000 395, 000 205, 000	549, 000 696, 000 282, 000 271, 000 460, 000 549, 000 5, 804, 000 595, 000	345, 000 533, 000 241, 000 182, 000 331, 000 317, 000 4, 063, 000 376, 000 84, 000	153, 000 489, 000 225, 000 268, 000 516, 000 455, 000 7, 042, 000 751, 000	199, 000 591, 000 384, 000 367, 000 586, 000 392, 000 6, 961, 000 918, 000 239, 000
United States	9, 272, 000	6, 586, 000	9, 820, 153	10,898,213	8, 685, 000	12,317,000	8, 207, 000	13,042,000	13,948,000

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

Stated in cases of 24 No. 2 cans.
 Included in Delaware.

Includes Delaware.
 Includes New Jersey.

<sup>5</sup> Included in all other.

# POTATOES.

Table 241.—Potatoes: Acreage, production, value, exports, etc., United States, 1869-1923.

Aver- Chicago cash price Demostic												
Calendar	Acre-	Average	Produc-	Average farm price	Farm value	Value per	pe fai	r hund r to fa	lredw ncy.2	eight,	Domestic exports, fiscal	Imports, fiscal year be-
year.	age.	yield per acre.	tion.	per bushel Dec.	Dec. 1.	acre.1	b	er.	M	ay.	year be- ginning July 1.	ginning July 1.
				1.			Low.	High.	Low.	High		
1869 1870 1871 1872	1,000 acres. 1,222 1,325 1,221	Bush- els. 109. 5 86. 6 98. 7 85. 3	1,000 bushels. 133, 886 114, 775 120, 462 113, 516	Cents. 42. 9 65. 0 53. 9 53. 5	1,000 dollars. 57, 481 74, 621 64, 905 60, 692	Dollars. 47. 04 56. 32 53. 16 45. 60	Cts.	Cts.	Cts.	Cts.	Bushels. 596, 968 553, 070 621, 537 515, 306 497, 413	Bushels. 75, 336 458, 758 96, 259 346, 840
1873	1, 331 1, 295	81. 9	113, 516 106, 089	65. 2	69, 154	53. 40					497, 413	549, 073
1874 1875 1876 1877 1878	1,310 1,510 1,742 1,792 1,777	80. 9 110. 5 71. 7 94. 9 69. 9	105, 981 166, 877 124, 827 170, 092 124, 127	61. 5 34. 4 61. 9 43. 7 58. 7	65, 223 57, 358 77, 320 74, 272 72, 924	49. 79 37. 99 44. 39 41. 45 41. 04			<b></b> -		609, 642 704, 379 529, 650 744, 409 625, 342	188, 757 92, 148 3, 205, 555 528, 584 2, 624, 149
1879 1880 1881 1882 1883	1,837 1,843 2,042 2,172 2,289	98. 9 91. 0 53. 5 78. 7 90. 9	181, 626 167, 660 109, 145 170, 973 208, 164	43. 6 48. 3 91. 0 55. 7 42. 2	79, 154 81, 062 99, 291 95, 305 87, 849	43. 09 43. 98 48. 62 43. 88 38. 38					696, 080 638, 840 408, 286 439, 443 554, 613	721, 868 2, 170, 372 8, 789, 860 2, 362, 362 425, 408
1884 1885 1886 1887	2, 221 2, 266 2, 287 2, 357 2, 533	85. 8 77. 2 73. 5 56. 9 79. 9	190, 642 175, 029 168, 051 134, 103 202, 365	39. 6 44. 7 46. 7 68. 2 40. 2	75, 524 78, 153 78, 442 91, 507 81, 414	34. 00 34. 49 34. 30 38. 82 32. 14	73 117 50	78 138 62	55 108 108 40	83 150 142 75	380, 868 494, 948 434, 864 403, 880 471, 955	658, 633 1, 937, 416 1, 432, 490 8, 259, 538 883, 380
1889 1890 1891 1892 1893	2,732 2,650	77. 4 56. 7 93. 7 62. 1 71. 7	201, 200 150, 494 256, 122 164, 516 195, 040	35. 4 75. 3 35. 6 65. 5 58. 4	71, 294 113, 291 91, 229 107, 835 113, 886	27. 41 42. 70 33. 39 40. 69 41. 84	55 137 50 100 85	75 155 67 120 100	50 158 50 117 107	100 183 83 163 147	406, 618 341, 189 557, 022 845, 720 803, 111	3, 415, 578 5, 401, 912 186, 871 4, 317, 021 3, 002, 578
1894 1895 1896 1897 1898	2, 891 3, 101 2, 975 2, 813 2, 841	63. 6 102. 3 91. 4 67. 9 77. 0	183, 841 317, 114 271, 769 191, 025 218, 772	52. 9 26. 2 29. 0 54. 2 41. 5	97, 330 83, 151 78, 783 103, 442 90, 897	33. 67 26. 81 26. 48 36. 77 31. 99	72 30 30 83 50	97 40 43 103 60	67 17 32 100 55	117 38 43 145 87	572, 957 680, 049 926, 646 605, 187 579, 833	1, 341, 533 175, 240 246, 178 1, 171, 378 530, 420
1899 1900 1901 1902 1903	2, 939 2, 987 2, 996 3, 078	88. 6 82. 9 66. 3 95. 5 85. 1	260, 257 247, 759 198, 626 293, 918 262, 053	39. 7 42. 3 76. 3 46. 9 60. 9	103, 365 104, 764 151, 602 137, 730 159, 620	35. 17 35. 07 50. 60 44. 75 51. 82	58 67 125 70 100	77 80 137 80 110	45 58 97 70 158	65 100 167 100 193	809, 472 741, 483 528, 484 843, 075 484, 042	155, 861 371, 911 7, 656, 162 358, 505 3, 161, 581
1904 1905 1906 1907 1908	3, 195	111. 1 87. 3 102. 2 95. 7 86. 2	352, 268 278, 885 331, 685 322, 954 302, 000	44. 8 61. 1 50. 6 61. 3 69. 7	157, 646 170, 340 167, 795 197, 863 210, 618	49. 70 53. 31 51. 72 58. 63 60. 13	53 92 67 77 100	63 110 72 97 128	33 80 92 83 117	42 122 125 133 250	1, 163, 270 1, 000, 326 1, 530, 461 1, 203, 894 763, 651	186, 199 1, 948, 160 176, 917 403, 952 8, 383, 966
1909 1910 1911 1912 1913	3, 669 3, 720 3, 619 3, 711 3, 668	107. 5 93. 8 80. 9 113. 4 90. 4	394, 553 349, 032 292, 737 420, 647 331, 525	54. 2 55. 7 79. 9 50. 5 68. 7	213, 679 194, 566 233, 778 212, 550 227, 903	58. 24 52. 30 64. 60 57. 28 62. 13	33 50 117 67 83	97 80 167 108 117	27 58 150 55 100	57 125 333 117 150	999, 476 2, 383, 887 1, 237, 276 2, 028, 261 1, 794, 073	353, 208 218, 984 13, 734, 695 337, 230 3, 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
1914 1915 1916 1917	3,711 3,734 3,565	110. 5 96. 3 80. 5 100. 8	409, 921 359, 721 286, 953 442, 108	48. 7 61. 7 146. 1 122. 8	199, 460 221, 992 419, 333 542, 774	53. 75 59. 45 117. 62 123. 81	50 88 208 155	110 158 317 225	57 133 333 80	250 183 625 250	3, 135, 474 4, 017, 760 2, 489, 001 3, 453, 307	270, 942 209, 532 3, 079, 025 1, 180, 480
1918 1919 1920	4, 295 3, 542 3, 657	95. 9 91. 2 110. 3	411, 860 322, 867 403, 296	119. 3 159. 5 114. 5	491, 527 514, 855 461, 778	114. 44 145. 36 126. 27	90 280 120	225 360 225	125 685 40	250 925 500	3, 688, 840 3, 723, 434 4, 803, 159	3, 534, 076 6, 940, 930 3, 423, 189
Average 1914–1920	3, 841	98. 1	376, 675	108. 2	407, 388	106.06	142	231	208	426	3, 615, 854	2, 662, 596
1921 1922 1923 <sup>3</sup>	3, 941 4, 307 3, 816	91. 8 105. 3 108. 1	361, 659 453, 396 412, 392	110. 1 58. 1 82. 3	398, 362 263, 355 339, 322	101. 08 61. 15 88. 92	100 75	1	190 90	235 700	2, 327, 147 2, 980, 701	2, 109, 537 572, 149
Division	n of Cro <sup>1</sup> Base	p and I d on far	ivestock m price	Estima Dec. 1.	tes; figur	es in ital ² Burba	ics are nk to	e censu 1910.	s retu	rns. <sup>8</sup> Pi	eliminary.	

<sup>&</sup>lt;sup>1</sup> Based on farm price Dec. 1.

Table 242.—Potatoes: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thou	sands of	acres.		ction, th of bushel			ice, thou	asis Dec. sands of
	1921	1922	1923 1	1921	1922	1923 1	1921	1922	19231
Maine	129	135	124	38; 442	25, 245	31, 992	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
Raode Island	3	3	2	345	270	330	552	243	429
Connecticut New York New Jersey Pennsglyania Delaware	23	24	23	2, 369-	3, 360	3, 565	3, 554	3, 360	5, 241
	330	340	323	33, 990	37, 400	39, 729	36, 709	22, 440	37, 743
	95	95	80	9, 025	16, 435	7, 600	12, 816	11, 833	9, 500
	251	254	249	21, 586-	27, 432	26, 145	28, 709	20, 574	27, 452
	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
GeorgiaFlorida OhioIndianasIliinois	23 17 120 70 121	25 26 126 74 107	22 19 126 75 104	1,725 1,564 6,960 3,570 6,413	1, 700 2, 860 11, 214 5, 624 6, 741	1, 540 1, 748 12, 348 7, 875 9, 568	2, 846 2, 972 10, 788 5, 176 8, 978	2,380 5,005 10,093 4,724 6,067	2, 464 3, 321 12, 348 6, 772 8, 420
Michigan	340	357	314	27, 260	37, 842	35, 796	25, 840	12, 866	17, 898
Wisconsin	315	328	272	21, 420	40, 672	26, 112	20, 349	13, 422	13, 056
Minnesota	430	486	399	32, 250	43, 740	38, 304	29, 025	15, 309	21, 067
Iowa	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, 900	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
Kansas	65	65	69	4, 160	4, 160	5, 160	5, 616	3, 827	5, 108
Kentucky	58-	59	58	3, 770	4, 720	4, 930	6, 220	4, 720	5, 916
Tennessee	35	32	32	1, 820	2, 560	2, 889	3, 003	2, 816	3, 226
	32	48	44	2, 400	3, 840	3, 520	4, 080	5, 760	5, 280
	16	16	15	1, 088	1, 360	1, 110	2, 176	2, 176	1, 709
	27	27	26	1, 809	1, 755	1, 638	3, 256	2, 632	2, 457
	37	39	35	2, 072	2, 418	1, 925	3, 937	3, 869	3, 080
Oklahoma Arkansas Montana Wyoming Colorado	36	40	42	2, 088	2, 720	2,772	3, 863	3, 346	3, 548-
	33	35	33	1, 815	2, 380	1,947	3, 267	3, 094	2, 648-
	41	45	36	4, 715	5, 670	3,960	3, 772	2, 268	2, 891-
	19	22	18	2, 052	2, 420	1,710	2, 421	1, 210	1, 590-
	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:
Newada	4:	5	5	592	870	870	710	522	914
Idaho. Washington Oregon California	64	81	67	11, 840	14, 985	11, 725	9, 117	4, 645	5, 862
	60	65	52	8, 100	9, 425	8, 060	8, 019	4, 241	5, 642
	43	49	44	3, 870	5, 145	4, 180	4, 218	2, 675	2, 926
	74	76	52	10, 360	9, 880	7, 800	13, 468	7, 114	10, 140
United States	3, 941	4, 307	2, 816	361, 659	453, 396	412, 392	398, 362	263, 355	339, 322

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 243.—Potatoes: Yield per acre, by States, calendar years, 1908-1923.

_		,					<del></del>		,							,	,		
	State.	1908	1909	1910	19 <b>11</b>	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
I	Maine New Hampshire Vermont Massachusetts Rhode Island	Bu. 225 100 73 95 150	Bu. 225 130 155 125 125	Bu. 220 150 130 125 136	Bu. 180 125 105 93 110	Bu. 198 140 140 130 113	Bu. 220 122 127 105 130	Bu. 209 133 131 116 123	Bu. 260 159 168 155 165	Bu. 179 95 108 120 110	Bu. 204 120 112 91 74	Bu. 125 107 100 115 135	Bu. 200 140 130 133 130	Bu. 230 102 100 90 100	Bu. 177 127 130 125 110	Bu. 196 121 121 118 118	160 150		180 175
]	Connecticut  New York  New Jersey  Pennsylvania  Delaware	80 82 72 72 72 82	120 120 90 78 96	125 102 105 88 103	85 74 73 56 60	107 106 108 109 100	92 74 95 88 87	106 95 94 84 89	140 145 108 105 80	95 62 130 72 95	95 70 122 70 90	110 95 114 92 95	95 98 92 80 87	75 109 96 100 83	115 125 156 115 106	104 101 117 91 91	103 103 95 86 50	140 110 173 108 96	123 95 105
7	Maryland Virginia West Virginia North Carolina South Carolina	77 88 84 79 81	80 92 98 74 85	95 98 92 89 90	45 45 45 48 70	112 87 112 85 90	87 94 83 80 80	84 83 86 75 83	78 65 54 52 70	97 125 117 90 80	95 130 88 95 75	100 99 115 90 96	80 94 87 95 102	94 114 90 80 85	102 120 120 91 100	92 107 96 85 87	65 108 85 88 88	101 107 99 94 76	86
I	leorgia Florida Dhio ndiana Ilinois	78 83 77 57 71	81 95 93 95 91	82 90 82 84 75	72 90 65 58 50	78 93 112 114 101	81 76 64 53 46	79- 89- 83- 81- 73	60 80 95 80 60	65 80 82 95 110	60 74 45 44 58	84 91 100 92 90	70 100 69 80 72	70 76 61 44 52	74 105 100 96 65	69 87 79 76 72	75 92 58 51 53	68 110 89 76 63	92 98 105
I	Michigan Wisconsin Minnesota owa Missouri	72 80 76 80 80	105 102 115 89 85	105 95 61 72 86	94 116 115 74 27	.105 120 135 109 84	96 109 110 48 38	101 108 107 78 64	121 124 114 86 45	59 87 106 105 98	48 47 60 42 60	95 114 112 95 87	84 110 105 72 61	90 94 87 46 75	105 108 99 110 82	86 98 98 79 73	80 68 75 43 58	106 124 90 105 60	96 96 84
1	North Dakota South Dakota Nebraska Kansas Kentucky	85 90 78 80 62	110 80 78 79 92	41 44 60 57 92	120 72 52 22 39	128 105 80 82 101	85 78 48 40 49	97 76 64 56 75	109 90 80 62 45	90 115 105 83 126	93 66 73 71 84	43 90 85 57 96	99 91 86 53 75	63 50 55 76 70	79 106 99 85 99	82 87 83 70 85	96 61 80 64 65	90 78 84 64 80	88 80 86
I I	rennessee Alabama Mississippi Louisiana Pexas	80 85 91 82 71	75 80 87 75 50	80 80 85 55 51	41 78 83 69 57	88 81 89 73 63	64 84 80 70 52	70 81 85 68 55	43 79 80 70 61	88 80 90 51 65	82 90 65 65 50	94 72 78 64 60	70 80 80 79 55	67 80 85 64 73	83 67 87 65 52	75 78 81 65 59	52 75 68 67 56	80 80 85 65 62	90 80 74 63 55
N	Oklahoma Arkansas Montana W yoming Colorado	78 82 138 158 125	70 70 180 160 160	60 84 120 100 100	18 55 150 42 35	60 70 165 140 95	60 72 140 140 115	54 70 151 116 101	70 60 140 108 120	85 90 155 150 135	53 65 125 130 138	69 80 95 155 160	34 50 135 150 160	75 73 60 80 115	74 78 110 125 130	66 71 117 128 137	58 55 115 108 132	68 68 126 110 130	66 59 110 95 123
Ţ	New Mexico Arizona Utah Nevada	100 110 160 120	85 90 180 180	1			68 75 180 160	76 95 165 166	100 110 140 130	100 95 125 172	102 115 180 190	116 105 189 207	100 85 180 171	58 70 136 135	75 90 189 135	93 96 163 163	60 115 161 148	50 85 197 174	50 60 168 174
1	daho Washington Dregon California	130 120 99 107	200 170 160 130	130	180 160 130 135	185 167 155 130	170 123 135 119	175 150 137 129	155 128 97 138	125 135 115 130		156 125 108 145	185 132 110 143	155 125 94 130	180 155 130 140	158 138 115 138	185 135 90 140	185 145 105 130	175 155 95 150
	United States	86. 2	107. 5	93. 8	8 <b>0</b> . 9	113. 4	90. 4	97. 2	110. 5	<b>ж</b> б. 3	8U. 5	100. 8	AP. A	9L. 2	110. 3	91.9	91. 8	105. 3	100.1

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	Yield per .acre.
1866	P. ct. 104. 0 97. 3 103. 5 106. 8 96. 9	P. ct. 105. 0 100. 0 104. 0 110. 5 91. 0	P. ct. 90. 9 83. 6 106. 0 85. 4	P. ct. 98. 8 87. 9 90. 6 105. 2 83. 0	Bush. 100. 2 82. 0 93. 8 109. 5 86. 6	1896 1897 1898 1899	P. ct. 99. 0 87. 8 95. 5 93. 8 91. 3	P. ct. 94. 8 77. 9 83. 9 93. 0 88. 2	P. ct. 83. 2 66. 7 77. 7 86. 3 80. 0	P. ct. 81. 7 61. 6 72. 5 81. 7 74. 4	Bush. 91. 4 67. 9 77. 0 88. 6 82. 9
1871 1872 1873 1874 1875	98. 4 102. 1 90. 2 97. 5 101. 2	99. 6 102. 2 93. 4 92. 8 105. 9	95. 6 96. 1 95. 0 83. 0 110. 0	97. 6 92. 6 89. 0 86. 0 106. 7	98. 7 85. 3 81. 9 80. 9 110. 5	1901 1902 1903 1904 1905	87. 4 92. 9 88. 1 93. 9 91. 2	62. 3 94. 8 87. 2 94. 1 87. 2	52. 2 89. 1 84. 3 91. 6 80. 9	54. 0 82. 5 74. 6 89. 5 74. 3	66. 3 95. 5 85. 1 111. 1 87. 3
1876 1877 1878 1879	98. 3 104. 2 100. 7 88. 0	94. 0 105. 0 94. 0 97. 0	79. 6 99. 0 85. 3 95. 0	77. 0  90. 0	71. 7 94. 9 69. 9 98. 9	1906 1907 1908	91. 5 90. 2 89. 6	89. 0 88. 5 82. 9	85. 3 80. 2 73. 7	82. 2 77. 0 68. 7	102. 2 95. 7 86. 2
1880 1881 1882 1883	99. 1 100. 3 102. 0 101. 0	98. 0 92. 0 101. 0 101. 0	90. 0 70. 0 92. 0 95. 0	88. 0 67. 0 90. 7 93. 0	91. 0 53. 5 78. 7 90. 9	1909 1910 1911 1912 1913	93. 0 86. 3 76. 0 88. 9 86. 2	85. 8 75. 8 62. 3 87. 8 78. 0	80. 9 70. 5 59. 8 87. 2 69. 9	78. 8 71. 8 62. 3 85. 1 67. 7	107. 5 93. 8 80. 9 113. 4 90. 4
1884 1885	96. 2 97. 0	94. 0 95. 0	91. 0 93. 0	88. 0 82. 0	85. 8 77. 2	Av.1909-1913_	86. 1	77. 9	73. 7	73. 1	97. 2
1886	96. 6 93. 2 95. 7 95. 1 91. 7	88. 3 80. 8 93. 2 94. 3 77. 4	81. 4 67. 3 91. 6 81. 7 65. 7	81. 0 61. 5 86. 8 77. 9 61. 7	73. 5 56. 9 79. 9 77. 4 56. 7	1914 1915 1916 1917 1918	83. 6 91. 1 87. 8 90. 1 87. 6	79. 0 92. 0 80. 8 87. 9 79. 9	75. 8 82. 7 67. 4 82. 7 74. 5	78. 3 74. 2 62. 6 79. 0 73. 7	110. 5 ) 96. 3 80. 5 100. 8 95. 9
1891 1892	95. 3 90. 0	96. 5 86. 8	94. 8 74. 8	91. 3 67. 7	93. 7 62. 1	1919 1920	87. 6 89. 3	75. 1 87. 0	69. 5 84. 3	67. 9 82. 7	91. 2 110. 3
1893 1894	94. 8 92. 3	86. 0 74. 0	71. 8 62. 4	71. 2 64. 3	71. 7 63. 6	Av. 1914–1920.	88. 2	83. 1	76. 7	74. 1	97. 2
1895	91. 5	89. 7	90. 8	87. 4	102. 3	1921 1922 1923	83. 4 87. 3 86. 4	65. 8 84. 3 80. 5	63. 7 79. 9 77. 7	66. 5 77. 3 78. 2	91. 8 105. 3 108. 1

Table 245.—Potatoes: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

Calendar Year.	Deficient mois- ture.	Excessive moisture.	Floods	Frost or freeze.	Hail.	Hot winds.	Storms.		Plant dis- ease.	sect	Ani- mal pests.	De- fect- ive seed.	To- tal. <sup>1</sup>
1909	P. ct. 11. 3 15. 4 25. 8 5. 3 20. 8	P. ct. 2. 8 1. 7 2. 0 3. 3 1. 6	P. ct. 0.3 .2 (2) .4 .2	P. ct. 1. 8 1. 1 1. 9 . 6 2. 0	P. ct. 0. 2 . 1 . 1 . 1	P. ct. 0. 2 . 3 3. 2 . 2 . 7	P. ct. (2) (2) (2) (2) (0. 1 (2)	P. ct. 16. 7 19. 2 33. 5 10. 5 26. 0	P. ct. 1. 7 3. 9 2. 7 5. 8 1. 7	P. ct. 1. 7 5. 0 2. 6 3. 9 3. 9	P. ct. 0.1 .1 .1 .2 .1	P. ct 0. 2 . 4 . 6 . 3 . 5	P. ct. 21. 3 29. 8 42. 4 21. 7 34. 5
1914 1915 1916 1917 1918	10. 2 2. 2 19. 7 8. 8 14. 7	2. 1 8. 7 6. 5 3. 5 1. 0	.1 .5 .4 .2 .2	. 8 2. 2 1. 9 3. 0 1. 5	.1 .2 .2 .1	.4 .1 1.4 .3 .6	(2) 1 (2) (2) (2)	14. 0 14. 0 31. 5 16. 3 18. 4	1. 7 13. 0 5. 6 4. 1 5. 3	3. 3 2. 4 4. 5 2. 4 3. 3	(2) (2) (2) (2) (2)	.3 .1 .2 .1	21. 2 30. 4 43. 6 23. 8 28. 3
1919 1920 1921 1922	16. 3 6. 7 21. 7 10. 6	5. 0 2. 2 1. 0 2. 8	.4 .3 .1 .4	.7 .6 1.2 .3	.1 .2 .2 .3	.7 .2 1.8 .2	.1	23. 6 10. 2 26. 1 14. 7	8. 8 8. 1 5. 7 5. 7	4.7 2.8 3.5 2.6	(2) .1 .1 (2)	.3 .2 .3 .2	38. 1 21. 8 36: 2 23. 4

<sup>1</sup> Condition at time of harvest.

<sup>1</sup> Includes all other causes.

<sup>2</sup> Less than 0.05 per cent.

Table 246.—Potatoes: Area and yield per acre in undermentioned countries. NORTHERN HEMISPHERE.

NORTHERN HEMISPHERE.												
			Area.				Y	ield per a	cre.1			
Country.	Aver- age, 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.	A ver- age, 1909– 1913.	1920	1921	1922	1923, pre- limi- nary.		
NORTH AMERICA. Canada United States	1,000 acres. 483 3,677		1,000 acres. 702 3,941		561		Bush. 170. 1 110. 3					
Total comparable with 1923	4, 160	4, 442	4, 643	4, 991	4, 377				-			
United Kingdom: England and Wales Scotland Ireland Norway Sweden Denmark Netherlands Belgium Luxemburg France Spain Portugal Italy Switzerland Germany Austria Czechoslovakia Hungary Yugoslavia Bulgaria Rumania Poland Lithuania Latvia Esthonia Esthonia Finland	144 588 2 377 3 151 411 388 36 4 3, 838 4 641 710 5 115	545 162 584 228 427 366 33 3,560 841 63 744 124 5,986 291 1,494 626 504 20 241 4,061 320 122 157	558 154 568 130 363 363 208 441 419 35 3,595 779 4763 113 6,541 327 1,574 665 516 20 40 32 4,796 146 160 168	561 157 570 126 400 204 477 445 37 3, 619 783 68 861 112 6, 725 20 355 532 20 355 5, 409 326 171 187	137	240. 8 203. 9	285. 1 127. 0 164. 3 198. 8 284. 6	252. 1 168. 0 200. 0	283. 2 223. 8	223. 5 227. 1 156. 3		
Russia, including Ukraine and North- ern Caucasia	<sup>8</sup> (6, 930)			6, 096		104. 1			114. 0			
Total comparable with 1909–1913 Total comparable	31, 953			30, 691			 					
with 1923		<del></del>	22, 301	23, 230	23, 168					===		
Algeria Tunis	44	43 3	46 2	42 3	46	42. 0	22. 9	14. 2	51. 1	18. 0		
ASIA. Russia (Asiatic) Japanese Empire:	445			229		79. 3			95. 4			
Ĵapan Chosen	169 10 65	297 186	256 187			146. 4 107. 1	133. 8 99. 3	154. 3 98. 2				
		so	UTHER	N HEN	MISPHE	RE.						
Chile	69 217 8 62 (11)	83 9 390 45 2	83 9 336	83		123. 3 140. 6 49. 5	144. 4  80. 0	139. 6	131. 7			
Australia New Zealand	144 28	140 22	149 19	20		100. 5 205. 8	99. 5 214. 9	97. 2 220. 3	212. 5			
World total com- parable with	37, 356		26, 992	28, 266	27, 594				2.2.0			

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- 1 Yield per acre not calculated when acreage is less than 12,000 acres.
  2 Four-year average.
  3 One year only.
  4 Old boundaries.
  5 Three-year average.
  6 Former Kingdom of Serbia.

- Includes Bessarabia.
   Preliminary estimate of former Russian territory within 1923 boundaries.
   Estimate of U. S. Department of Agriculture.
   Two-year average.
   Acreage less than 500 acres.

Table 247.—Potatoes: Production in undermentioned countries. NORTHERN HEMISPHERE

NORTHERN HEMISPHERE.												
Countries.	Average, 1909-1913.	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.	bushels.	bushels.	ousneis.	bushels.	bushels.	bushels.	bushels.	bushels.				
Canada United States	77, 843 357, 699	79, 89 <b>2</b> 442, 108	104, 347 411, 860	125, 575 322, 867	133, 498 403, 296	107, 347 361, 659	92, 908 453, 396	113, 991 412, 392				
	357, 098	442, 100	411, 600	322, 607	405, 250	301, 038	455, 590	412, 392				
Total compar- able with	i.		ì	l	1	İ	1	ļ.				
1909-1913	435, 542	522,000	516, 207	448, 442	536, 794	469, 006	546, 304	526, 383				
EUROPE. United Kingdom: England and												
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 39, 700	144, 231	102, 555	74, 141	95, 424	127, 579					
Norway Sweden	<sup>1</sup> 25, 179	39,700	28, 954 67, 344	37, 912 73, 537	31, 076	25, 995 64, 543	32, 699 74, 788	28, 610 61, 251				
Denmark	57, 581 30, 953 104, 051 107, 479	74, 252 2 31, 882	<sup>2</sup> 40, 605	<sup>2</sup> 53, 087	45, 316	50, 173	74, 788 49, 249 162, 328 144, 453	01, 201				
Denmark Netherlands	104, 051	123, 978	<sup>2</sup> 40, 605 130, 288	127, 403 103, 930	121, 514	107, 346	162, 328	81, 948				
Belgium Luxemburg	107, 479 6, 439	5, 500	5, 104	103, 930 6, 696	82, 912 5 284	71, 534	144, 453 7, 007	88, 853 6, 173				
France	2 489, 377	399, 962	251, 600	312, 708	5, 284 427, 610	2, 856 305, 324	464, 661	350, 311				
Spain	<sup>3</sup> 112, 997	113, 477	95 562	101, 019	107.833	102, 224	108, 598	95, 497				
Portugal		6, 080	5, 600	5, 654	6, 218	6, 058	6,512	60 464				
Spain Portugal Italy Switzerland	60, 806 4 24, 664	48, 112 38, 573	51, 804 34, 304	50, 989 30, 313	6, 218 52, 260 28, 248	58, 359 25, 371	53, 689 24, 820	62, 464 23, 292 1, 197, 119				
Germany.	l <sup>a</sup> 1, 681, 959	1, 264, 377	34, 304 1, 070, 772 21, 495	760, 548	1, 024, 301	960, 889	1. 494. 181	1, 197, 119				
Austria	<sup>2</sup> 456, 492	32, 890	21, 495	760, 548 20, 022	24, 707	30, 607	51, 378					
Czechoslovakia	<sup>2</sup> 202, 207	90, 899	85, 334	84, 091	183, 810 75, 967	159, 068 45, 898	333, 236 48, 490	231, 063 63, 043				
Hungary Yugoslavia Bulgaria Rumania Poland Lithuania	5 6 1, 721 2 454				41, 079	26, 184	31 100					
Bulgaria	2 454	651	535	813	1 973	1,040	1.360	1, 220				
Rumania	7 8, 849			10, 441 386, 315	22, 363 664, 920	50, 987 617, 272	37, 692	903, 443				
Lithuania	*(449, 034) *(28, 347)			32, 738	47, 127	50, 926	67, 903	55, 171				
Latvia	(23, 470)				13,.771	24, 758 25, 000	24, 806					
Esthonia Finland	8 (26, 008)	19, 118	19, 548	18, <b>34</b> 9 19, 953	25, 813 20, 497	25, 000 22, 891	26, 373 16, 009	23, 567 15, 816				
Russia, including	18, 443	18, 118	19, 040	18, 800	20, 401	200,001	10, 008	10, 010				
Ukraine and North-												
ern Caucasia	8 (721, 219)						695, 122					
Total compar-												
able with 1909-1913	4, 892, 170						5, 512, 184					
Total compar-	1, 052, 110						0, 012, 101					
able with												
1923					3, 123, 764	2, 795, 795	4, 495, 258	3, 422, 345				
AFRICA.					00*	0.50	0.140	00				
Algeria Tunis	1, 847	2, 756 92	1, 273 220	920 138	985 147	653 147	2, 146 165	827 147				
ASIA. Russia (Asiatic)	35, 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						
		souti	IERN H	EMISPHI	ERE.							
Chile.	8, 510	9, 640	8, 905	10, 377	11, 989	11, 587	10, 932					
Uruguay		148	148	138	150	197						
Argentina Union of South Africa	4 30, 515 1 3, 071	3, 670	3, 429	3, 127	3, 599	4, 331						
Southern Rhodesia	- 0, 0/1	82	87	118	119	92	142					
Australia-	14, 469	12, 969	9, 722	10, 984	13, 927	14, 489						
New Zealand	5, 763	3, 756	3, 938	5, 402	4,728	4, 185	4, 250					
World total		_										
comparable with 1909-							į					
1913	5, 458, 881							<b>-</b>				
World total			- 1									
comparable with 1923		ł	1		3, 661, 690	3, 265, 601	5, 043, 873	3, 949, 702				
WIUI 1828					C, 001, 000	3, 200, 001	3, 010, 010	-, -10, .02				

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. Calendar years.

One year.
Old boundaries.
Two-year average.
Four-year average.

<sup>&</sup>lt;sup>5</sup> Three-year average.

Former Kingdom of Serbia.
 Includes Bessarabia.
 Preliminary estimate of former Russian territory

within 1923 boundaries.

Estimate of U. S. Department of Agriculture.

Table 248.—Potatoes: Stocks on hand January 1, 1919-1923.

1 ABLE 240.—1	otatoes.	Stocks (	on nana	<b>J</b> anuary	<i>j</i> 1, 1918	9-1923.	
	Total	Merch	antable	Per cen	t of stock	Farm 1	price per
State and year.	produc-	Per cent	Jan. 1. Quantity.	held Ja Growers.	1	Dec. 1.	Mar. 1.
19 surplus late potato States: 1	1,000 bush.	of crop.  Per cent.	1,000 bush.	Per cent.	Per cent.		
1919-20	225, 248	26.0	58, 530	79.4	20. 6	Cents. 151. 0	Cents. 234. 2
1920-21 1921-22 1922-23	269, 222	35. 3	58, 530 95, 061	85. 2	14. 8	103.1	65.6
1921-22	263, 052	31. 4	1 82,657	80.0	20. 0	99. 9	65. 6 105. 2
1922-23	325, 479 286, 659	36. 3	118. 151 96, 799	85. 8	14. 2	46. 2	50.7
16 deficient lote metata Chatana	286, 659	33. 8	96, 799	86. 7	13. 3	71. 3	
1923-24. 16 deficient late potato States: <sup>3</sup> 1919-20. 1920-21.	73, 291	9.4	0 075	74. 4	05.0	101 1	
1920-21	107, 644	12.0	6, 875	81.7	25. 6 18. 3	181. 1	254. 7
	74, 928	9.8	12, 930 7, 366	76. 9	23. 1	130. 5 139. 5	105. 2
1922-23	98, 406	11.5	11, 312	77. 2	22.8	81.6	141. 3 87. 7
1923-24	99, 171	11. 3	11, 178	85. 0	15. 0	101. 3	01.,
1922-23 1923-24 Total; 35 States:							
	298, 539	21.9	65, 405	78.8	21. 2	158.8	239. 5
1920-21	376, 866 337, 980	28. 7 26. 6	107, 991 90, 023	84. 6	15. 4	110. 2	75. 9
1922-23	423, 885	30. 5	120 463	79. 6 84. 8	20. 4 15. 2	110.1	114.5
1923-24	385, 830	28. 0	129, 463 107, 977	86. 4	13. 6	55. 4 79. 1	60.3
Leading surplus States:			101,011	00. 1	10.0	10.1	
Maine			-		İ		
1919-20	25, 530	44. 5	11, 373 9, 699	78	22	140	200 -
1920-21	21, 771	44.6	9,699	88	12	125	55
1000.02	38, 442	43. 7	16, 814	81	19	85	96
1920-21 1921-22 1922-23 1923-24	25, 245 31, 992	47. 0 50. 0	11, 865 15, 996	84 84	16 16	45 70	60
New York—	31, 332	30.0	10, 990	. 012	10	70	
1919-20	33, 790	30. 2	10.218	90	10	145	220
1920-21	40, 625	40.3	10, 218 16, 380	91	9	118	63
1921-22	33, 990 37, 400	29. 0	9, 850 12, 252	92	8	108	116
1922-23	37, 400	32.8	12, 252	92.	8.	60	72
Pennsylvania—	39, 729	38.0	15, 096	95	5	95	
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
1920-21 1921-22 1922-23 1923-24	26, 145	28.0	7, 321	86	14	105	
Michigan— 1919-20 1920-21 1921-22 1922-23 1922-24							
1919-20	27,000	21.0	5, 670	77	23	135	228
1021_29	27 200	38. 4	13, 910	83	17	92	52
1922-23	36, 225 27, 200 37, 842	30. 0   37. 2	8, 160 14, <b>0</b> 66	· 81 88	19 12	95 34	96: 40
1923-24	35, 796	39. 0	13, 961	87	13	50	- 10
		Į.		į.		34	
1919-20	28, 388	21.6	6, 132 12, 374	78.	22	140	227
1920-21 1921-22 1922-23 1923-24	33, 264	37. 2	12, 374	88	12	86	62
1000 00	21, 420	39. 6 39. 6	8, 482	,74 88	26 12	95 33	109
1923-24	40, 672 26, 112	33.0	16, 106 8, 616	88	12	50 50	32
Willingsona-	20, 112	00.0	3, 010	ا ۵۰	12	30	
1919-20 1920-21 1921-22	28, 884	21.5	6, 196	76	24	153	237
1920-21	31, 581 32, 250	32.5	10, 264 9, 707	80 73	20	80	54
1921-22	32, 250	30.1	9,707	73:	27	90	94
1922-23. 1923-24. North Dakota—	43, 740 38, 304	41. 1 33. 0-	17, 912 12, 640	74 76	26 24	35	33.
North Dakota-	00, 002	30.0	12,010	10	24	55	
	5, 229	10. 5	549	86	14	160	243
1920-21	6, 557	16.5	1,082	6 <b>2</b> °	38	98	91
1921-22	11.904	13. 7	1.625	63	37	70	93
1920-21 1921-22 1922-23 1922-24 1923-24	18, 900	30.0	5, 670	83	17	31	38
South Dakota—	13, 114	23. 0	3, 016	78	22	35 .	
South Darota— 1919-20. 1920-21. 1921-22. 1922-23. 1923-24. Noberts	4, 050	16. 2	656	80	20	190	254
1920-21	7, 950	17. 5	1, 395	82	18	97	92:
1921-22	5, 490	10. 0	549:	82	18	107	108
1922-23.	8, 580	15. 3	1, 313	91	9	44	<b>52</b>
1923-24	7, 744	13.0	1,007	85	5	50	
Nebraska—	E 700	95.0	1 420	78	22	100	075
1920-21	5, 720 8, 415	25. 0 20. 0	1, 430 1, 683	78 85	15	190 120	275 106
1919-20 1920-21 1921-22 1922-23 1922-94	8, 160	26. 4	2, 154	73	27	120	137
1922-23	11, 676	25. 0	2, 154 2, 919	88	12	47	54
1020 42	8, 880	16.0	1, 421	94	6	80 L	
Colorado		1			1.	i	
1919-20 1920-21	8, 855	28. 5	2, 524 3, 488	89	11	170	<b>24</b> 5.
1920-21	9, 490	36. 8 44. 2	3, 488	92 90	.8	80	53
1921-22 1922-23	14, 916 18, 460	44. 2	6, 600 8, 030	95	10	73 37	65 25
1923-24	13, 530	36. 0	4, 871	92	8	65	20
<sup>1</sup> Maine, Vermont, New York,							te South

<sup>&</sup>lt;sup>1</sup> Maine, Vermont, New York, Pennsylvania, Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Montana, Wyoming, Colorado, Utah, Nevada, Idaho, Washington, Oregon, and California.

<sup>2</sup> New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, West Virginia, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, and Kentucky.

Table 248.—Potatoes: Stocks on hand January 1, 1919-1923—Continued.

State and man	Total		antable Jan. 1.		of stock 1. 1 by—		orice per shel.
State and year.	produc- tion.	Per cent of crop.	Quantity.	Growers.	Dealers.	Dec. 1.	Mar. 1.
Leading surplus States—Con. Idaho— 1919-20	1,000 bush. 6, 665 8, 100 11, 840 14, 985	Per cent. 28. 7 49. 0 40. 2 47. 0	1,000 bush. 1,913 3,969 4,757 7,043	Per cent. 63 90 82 98	Per cent. 37 10 18	Cents. 151 68 77 31	Cen's. 253 48 89 55
1923-24	11, 725	38. 0	4, 455	89	11	50	

Table 249.—Potatoes: Carlot shipments, by States of origin, 1917-1922.

·	1				rop mo	vement	season	ı.			
State.		]		]	Ī	·	Q	uarters	, 1922–2	23.	
	1917–18	1918–19	1919-20	1920-21	1921–22	Apr June.	July- Sept		Jan Mar.		Total.
Maine New York:	Cars. 14, 79	Cars. 19, 026	Cars. 23, 444	Cars. 17, 817	Cars. 38, 037	Cars.			Cars. 9, 012	Cars. 1 5, 286	Cars. 24, 385
Long Icland Other New Jersey Pennsylvania	5, 171	5, 739 5, 889	9, 116	11, 001 17, 147	14, 029 10, 476		2, 586 92 15, 377 1, 017	2, 4, 350 2, 653	6,058 217	1 1, 579 81	12, 079 18, 335
Maryland: Eastern Shore, first Eastern Shore, second Other Virginia:	2, 286 625 22	703 233 10	1, 434 667 58	799	2, 123 529 27	206	2, 847	223	400	79 5	3, 053 711 19
Eastern Shore, first Eastern Shore, second Norfolk, first Norfolk, second Other	14, 123 214 5, 003 328 772	8, 385 203 2, 485 591 265	9, 235 398 2, 285 174 102	973 2, 995 446	359 5, 192	5, 450 2, 663 190	1, 430	185  114	103 56 2	34 41 2	13, 732 322 4, 093 211 385
North Carolina South Carolina Horida Michigan Wisconsin	4. 294	5, 605 2, 812 4, 839 11, 062 20, 655	3, 306 1, 217 2, 275 12, 237 21, 975	17, 119	3, 597 2, 509 2, 344 15, 222 11, 045	3, 680 4, 337 2 5, 039	5	1 1 6, 455	7 2 3 5, 051 7, 393	1 7, 031 1 5, 450	4, 144 4, 345 5, 046 19, 829 21, 763
Minnesota Iowa North Dakota South Dakota Nebraska	16, 477 462 353 963 2, 026	23, 515 943 2, 530 1, 291 3, 823	22, 058 251 2, 229 689 1, 661	23, 214 922 1, 846 1, 926 3, 071	29, 568 91 10, 522 3, 345 5, 331		6, 107 235 1, 051 757 1, 365	3, 959 1, 675	7, 471 25 1, 803 69 1, 679	1 5, 143 7 1 1, 538 201 780	28, 908 843 8, 351 2, 702 5, 564
Kansas Kentucky Alabama Louisiana Texas	844 805 641 1,076 1,693	824 758 579 4, 032 2, 312	1, 132 866 90 559 808	1, 982 1, 132 308 887 738	2, 380 641 696 1, 162 1, 107	61 30 1, 912 1, 013 1, 410	2, 328 375 6 43 10	40 19 3 14 3	4 54 4 13 9	5	2, 433 483 1, 925 1, 083 1, 432
Oklahoma Arkansas Montana Wyoming Colorado	665 371 355 230 12, 462	350 280 771 407 13, 647	677 186 352 265 8, 810	592 236 949 545 11, 345	281 138 1,834 958 17,844	945 317	52 11 65 194 3, 227	2 6 611 407 4, 282	1 7 182 278 5, 607	554 1 158 1 2, 354	1,000 341 1,412 1,037 15,470
Utah Nevada Idaho Washington Oregon	816 1, 417 7, 120 2, 630 1, 903	496 726 7, 727 2, 924 1, 628	426 689 6, 853 3, 098 786	563 415 8, 143 3, 765 1, 756	1, 074 465 14, 670 6, 194 1, 386	3	1, 325 4 2, 760 609 451	498 367 4, 132 1, 279 386	49 259 4, 376 1, 449 302	161 114 1 4, 945 1, 728 703	2, 036 744 16, 213 5, 065 1, 842
California: Northern district Southern district All other	<sup>3</sup> 7, 864 ( <sup>3</sup> ) 1, 980	8, 151 2, 200 1, 667	7, 118 1, 369 1, 123	8, 403 1, 687 1, 336	6, 500 2, 741 1, 593	530 431 729	1, 466 1, 374 520	386	1, 659 44 277	227 16 146	5, 860 1, 905 2, 058
Total	161, 596	176, 552	167, 870	199, 165	238, 546	28, 953	61, 416	68, 678	56, 270	38, 810	254, 127

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.

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, Wyoming 2, Colorado 2 and Idaho 10.
 Includes 1 car in February and 221 cars in March.
 Southern District included in Northern District.
 Includes 289 cars in July and 9 cars in August.

Time	250.—Potatoes:	C7 - 4	. 7	7			1018 1000
TVDDD	200 Dianes.	$\circ artot$	snipmems,	vu	siales of	$origin_n$ .	1917-1925.

	·····					1	Pirecite	, 09 0	acco oj	Oregen	, 10	1020.		,			
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: 1917–18	Cars.		Cars.	Cars.	Cars.	Ccrs. 1,699	Cars. 1, 986	Cars. 1,331	Cars. 1, 390	Cars. 1, 808	Cars. 1, 673	Cars. 2,020	Cars. 1, 530	Cars. 825	Cars.	Cars.	Cars. 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	132		23, 444
1920-21					91	1, 126	2, 170	2,046	1,478	2,478	2,036	2, 495	1,778	1,643	458	18	17, 817
1921-22					579	4, 452	4, 681	2,882	2,768	3, 569	3,386	4,473	4,814	4, 459	1,918	56	38, 037
1922-23					198	1,778	3,077	2,675	2, 359	2,717	2,782	3, 513	2,589	1, 523	1, 131	43	24, 385
1923-24 New York:					281	3, 943	5, 737	3, 742	2, 995								- <del>-</del>
		i	1		700												ŀ
1917–18 1918–19				36	733	1,052	2, 228	1,043	478	913	1, 145	1, 104	891	413	74		10, 110
1919–20				80 117	608 782	1, 169	2,067	1, 265	875	902	687	1,012	927	374	116	7	10,089
1920-21					336	516	2,920	2,071	982	1, 298	1, 153	1,929	817	214	15	- 3	12, 817
1921-22				53 203	1,360	999	2, 363	2,636	1,008	1,316	1,787	2, 317	2,063	1, 429	192	3	16, 502
1922-23				93	815	2, 121 1, 770	4, 914 3, 396	1,946 2,662	1,356	2, 138	1,517	1,818	1, 129	428	57	1	18, 988
1923-24			6	52	1,867				1,830	2, 207	2,058	2,851	1, 159	354	97	3	19, 295
New Jersey:			0	02	1,007	1, 634	2, 270	1,905	979		<b></b>						
1917-18	1		1	112	4, 669	3, 919	1, 979	563	76	57	84	105		07	_		
1918–19				303	3,075	1, 641	368	223	110	27	32	105 48	111 41	27 13	7		11,709
1919-20			1 -	618	4, 971	3, 292	970	410	56	32	32	50	3	5	6		5, 889
1920-21				1, 567	5, 242	6, 282	2,747	969	118	37	24	109	37	15			10, 409
1921-22				2, 107	5, 854	1,634	377	284	49	23	55	75	16	2			17, 14 <u>4</u> 10, 476
1922-23			7	2, 234	8,387	4,756	1,971	609	73	34	9	174	72	9			18, 335
1923-24				86	3, 869	1,704	357	183	19	0.1	"	114	12				10, 000
Pennsylvania:				1	0,000	1,.01		100	10								
1917-18			1		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			1		80	549	743	964	320	351	236	274	151	71	3		3, 742
1920-21		.	l	1	7	331	1,316	1,879	418	550	397	717	564	291	15	3	6, 489
1921-22	l		l		69	426	1, 182	578	241	412	286	211	121	36	ı	ı	3, 564
1922-23 1923-24			l		124	893	1,432	1, 176	444	492	290	496	316	74	12	3	5, 752
1923-24					30	196	569	835	269								0, 102
Virginia:			1	Ì	1	ŀ											
1917-18		.  4	4, 962	11, 487	3,026	288	110	207	76	22	63	65	101	16	13		20, 440
1918–19	<b>-</b>	. 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	9, 142	651	74	49	246	. 40	60	43	58	75	2.			18, 743
1923-24			5, 198	9, 443	572	64	26	. 284	17		l						
North Carolina:		00:	0.00-								1						
1917-18		. 221	3, 925	554		1	6	2				3		1			4, 713
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 1921-22			3, 288	152	2	2	13	18		1		3	4				3, 913
		. 404	2, 515	515	115	21	1	6	2	2	7	1	7	1			3, 597
1922–23			3,479	392	41	1	14	6		2	2	3	3				4, 144
1929-24	.'	. 14	3, 139	215	66	19	4	l	J	l	J						

Table 250.—Potatoes: Carlot shipments, by States of origin, 1917-1923—Continued.

····	TADLE	200.	-I Orași		,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	pintoite	, og ,o	taree ej	0.090.0	, 1011	1000	Contin	uuuu.			<del>,</del>	
State, and crop movement season beginning Apr. 1.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July,	Total.
South Carolina:	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.
1917-18	l	1,770	670														2, 440
1918-19		800	1,927	85													2,812
1919-20	l	341	838	38										<b></b> -	l		1, 217
1920-21	2	852	2, 209	6						1							3,070
1921-22	l	2,035	451	14						3		6					2, 509
1922-23		3, 293	1,044	4	1				1	2							4, 345
1923-24		1,848	2, 347	1,1	1												
Florida:											_	_			1		
1917-18	1 1, 472	2, 618	190	4					[	3	5						4, 294
1918-19	2 1, 264	2, 950	584	36		2				3							4, 839
1919-20	2 734	1, 499	42														2, 275
1920-21	1 48	2, 335	924	42				2		<u>-</u> -							3, 351
1921-22	3 1, 775	539	28							2							2, 344
1922-23	3 1, 775 4 2, 712 5 1, 089	2, 214	113		3		1			3							5, 046
1923-24	. 1, 089	2, 291	108	3				1							}		
Michigan:	İ	1	l .		٠.,												
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	990	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	.		.	I	76	1, 216	2,600	2, 475	1,380	1,468	1, 415	2, 168	2, 920	2, 321	1,633	6 157	19, 829
1923-24	-		·		50	864	2, 333	2, 359	1,088								
Wisconsin:	•		1				0 -0-		l								
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	2,876	1, 214	2, 337	1,933	2, 385	2, 234	1,592	431	2 3	18, 661
1921-22	-		-		76	754	2, 125	719	626	1, 367	1,201	1,993	1, 166	755	260		11, 045
1922-23	-	-	-		205	1,377	3,685	2,018	1,635	2, 495	1,906	2,992	2,716	1, 735	944	55	21, 763
1923-24	-	-	-	}	185	982	2, 458	1,415	1,040			- <b>-</b>			i		·}
Minnesota:		1	l .	1	1 010	1 010	4 074	1	077	1 001		0.110				l	
					1,312 3,099	1,918	4,074	1, 445 1, 733	675	1, 261	1,510	2, 119	1,328	625	179	16	16, 477
1918-19	-	-	-	96		4,573	4,623		758	1,839	1,359	2,365	1,612	1,018	434	6	23, 515
1919-20	-	-	-	83 64	2, 438	5, 359	5, 817	1,324	693	1,875	1,162	1,900	1,027	262	117	1	22, 058
1920-21	-	-	-		1, 344 960	2,770	6,870	3, 279	934	1,469	1,723	2, 542	1, 133	863	214	9	23, 214
1921-22	-	-	-			4,869	9,029	2, 197	892	1,894	1,442	4, 443	2, 514	1,080	248		29, 568
1922-23	-	-	-	508	1,432	4, 167	7,062	2, 466	659	1,724	1, 532	4, 215	3, 274	1,390	458	21	28, 908
1923-24	-	-	-	. 15	1,754	5, 980	7, 936	2,650	1, 120							,	
Nebraska:	1	1	1	1	00		050	000								1	
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	-	-	٠	- 1	96	182	712	257	59	173	84	71	22	4			1,661
1920-21	-	-	-	. 1	152	338	924	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					570	744	903	461	376	743	432	504	530	210	40		5, 564
1923-24	_!	-1	_ <sup>†</sup>	12	266	387	656	712	279	·	I	1	J	·	J	1	

a 1 1																	
Colorado:	ŀ		- 1	- 1	000	1 704	0.105	7 054	004	* 005	980	1 074	7 597	790:	177	ا م	10 400
1917-18			-	[	230	1,764	2, 165	1, 254	824	1,065		1,674	1,537			2	12, 462
1918-19				10	850	2,673	2,676	1, 259	452	1,380	1,083	1, 257	909	828	270		13, 647
1919-20					631	2, 348	2,720	884	455	687	512	431	92	47	3 .	[	8, 810
1920-21 1921-22				15	643	1, 939	2,882	1,481	702	1,278	893	760	527	211	14		11, 345
1921-22				91	1,010	3, 108	2,699	1,394	917	1,981	1,510	2, 125	1,821	997	188	3	17, 844
1922-23_			l	74	788	2, 365	1,865	1, 294	1, 123	1,875	1,628	2, 104	1,326	790	236	2	15, 470
1923-24				205	1, 112	1,692	1,765	1, 131	997								
Idaho.							· 1		).	1		1	1		ļ.	+	
1917-18			F 1	3	100	284	909	1, 291	899	856	603	911	513	615	136		7, 120
1918-19				9	458	1.049	1.076	944	446	846	599	892	755	525	123	5	7. 727
1919-20				24	635	1, 168	1, 785	1,052	450	867	384	383	89	16		•	6.853
1920-21				23	784	689	1, 174	1,738	707	1,094	553	866	387	107	21		8, 143
1920-21				166	1,945	1. 401	2, 304	1,064	848	1,069	939	1,713	1, 936	1.087	198		14, 670
1921-22				35	1, 415	1,310	1, 669	1.482	981	1, 320	878	2, 178	2, 874	1, 430	631	10	16, 213
1922-23			[			1, 540	1, 467	1,677	1, 292	1, 520	010	2, 110	2,017	1, 400	904	10	10, 440
1923-24				66.	1,763	1, 540	1, 404	1, 8//	1, 292								
Washington:			1			110	670	242	101-	054	275	000	100	100	110		0.000
1917-18			[	60:	98	110	372	343	161	354	375	232	193	196	119	17	2,630
1918-19				1	33	43	112	363	219	296	206	403	818	243	126	61	2, 924
1919-20_				55	116	192	738	587	254	303	184	364	210	69	26		3,098
1920-21				42	114	288	756	756	157	159	163	418	589	210	113		3, 765
1921-22				98,	187	382	1, 201	856	422	575	384	476	595	589	429		6, 194
1922-23		l		178	190	241	479	506	294	401	339	709	1, 145	398	185		5,065
1923-24				140	132	229	793	967	451								
California:	1				1	1		1			1			1			
1917-18	Ì	138	1,534	965	583	462	494	600	455	905	921	454	259	91	3		7.864
1918–19		36	941	2,065	1.089	1.098	1.122	1.054	895	917	417	471	176	57	12	1	10, 351
1919-20	1	65	532	1, 556	1,336	1, 110	971	813	647	656	374	282	97	46	2	-	8, 487
1920-21		117	822	1, 775	1, 228	1,074	1, 188	1,029	898	728	540	453	192	46	- 1		10,090
1921-22		89	1, 129	1, 754	849	886	903	626	610	737	566	584	331	177			9, 241
1922-23	·[	A	955	1, 473	744	623	719	717	582	739	544	420	201	42			7, 765
1000 04		110	787	7717	587	740	711	539	362	,,,,			201	-~			1,100
1923-24	· [	110	101	* 11.	004	120		0,50	0,024								
All other:	1	0.004	2,642	2, 242	1,900	851	2, 237	1, 532	582	521	915	873	557	409	135	10	17 507
1917-18	. 11	2,084	2,042	2, 398	1, 276	1.580	2, 643	1,041	573	683	600	942	1, 261	503	94	16	17, 507
1918-19	57	2, 187	4, 701				2, 101	897	452	548	383	643	311	93			20, 540
1919-20	47	318	1, 925	3,069	1,028	1,451				597	592	983			20	1	13, 287
1920-21	. 37	704	2, 229	3, 651	1, 791	1,054	3, 597	1,866	556				1,023	482	75	1	19, 238
1921-22	7 276	1,959	1,446	3,771	2, 194	4, 200	9, 298	1,504	505	879	786	1,563	1, 181	657	129	4	30, 352
1922-23	68	2, 574	3,984	4, 574	2, 598	3, 105	6, 266	2, 258	662	973	745	2,030	2,837	691	136	4	33, 505
1923-24	94	1,048	3, 204	5, 470	4, 264	3, 261	7, 127	1, 721	509								
Total:	1	1	ľ		ì	1										•	
1917-18	1 1, 483	6,835	13, 923	15, 478	12, 910	14, 292	23, 542	13, 536	7, 120	9, 555	11,009	12, 619	10, 212	6,714	2, 287	81	161,596
1918-19	2 1, 321	6,006	14, 702	14, 075	11, 805	19,841	24,902	15, 442	8,891	12, 753	8,998	13, 739	12,653	7,657	3, 596	171	176, 552
*****	* 781	2, 226	9, 707	13, 684	13, 626	22, 257	32, 535	17, 362	9, 532	12, 883	8, 725	12,771	8,359	2,922	492	8	167, 876
9(19-20)				15, 614	13, 592	18, 155	31, 522	25, 075	9,755	14, 106	11,970	16,039	12, 957	9, 561	2, 347	62	199, 165
#919-20	1 87	4, 038	14, 285	10,014	10,000											. 02	
1920-21	1 87			16, 979		26, 040	43, 250	16,729	10, 496	16, 705	13, 717	22, 109	17, 489	11, 910		71	238, 546
1920-21 1921-22	1 87	5, 426	15, 298	16, 979	16, 115	26, 040	43, 250	16, 729	10, 496	16, 705	13, 717	22, 109	17, 489	11,910	4, 161	71	238, 546
1920-21	<sup>1</sup> 87 8 2, 051																238, 546 254, 127

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.

<sup>1</sup> Includes 1 car in March.
2 Includes 5 cars in March.

Encludes 95 cars in March.
 Encludes 1 car in February and 221 cars in March.

Fineludes 36 cars in March.
Includes 9 cars in August.

<sup>&</sup>lt;sup>7</sup> Includes 20 cars in March. <sup>8</sup> Includes 115 cars in March.

<sup>769</sup> 

Table 251.—Potatoes: International trade, calendar years, 1911-1922.

Commitme		erage, -1913.	19	20	19	)21		22, ninary.
Country.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.
PRINCIPAL EXPORTING COUNTRIES. Canada	1,000 bushels. 525 36	1,000 bushels. 1,207 288	1,000 bushels. 923	5, 583	1,000 bushels. 466	1,000 bushels. 3,258 272	1,000 bushels. 347	1,000 bushels. 3,609
China. Czechoslovakia Denmark Esthonia.	40	928	1 860 30	192 1 332 7, 954 1 923	283 55	1 65 2,322 1 719	319 123	468 2,834 2,244 11,712
France Italy Japan Netherlands		8, 683 3, 975 440 16, 451	2, 465 1 44	7, 903 3, 074 328 14, 424	5, 870 706	8, 667 4, 260 240 18, 321	13, 544 3 735	5, 167 4, 526 1 235 11, 538
Portugal Spain Sweden United States		500 1,835 64 1,814	1 770 208 6, 062	1 24 326 1, 535 4, 154	657 2, 018	899 3 3, 500	506 78 1,775	1, 346 1 750 2, 897
PRINCIPAL IMPORTING COUNTRIES. Algeria Argentina	1, 218 1, 337	931 543	1, 631 91	473 1, 560	994	720	1, 200	614
AustriaAustria-Hungary	4,070	1, 451	6, 037 1, 520	(²) 2, 371	4, 148 10, 946	24 677	1 3, 666 6, 641	2,975
Belgium Brazil British India	4, 921 939	8, 692 (²)	276 752 2, 802	2,3/1 (²) 7	769	18 10	874	2, 975
Cuba Egypt Finland Germany	2, 001 599 479 29, 180	<sup>3</sup> 28 15 12, 412	785 172 26, 852	2, 109	624 139 1 9, 728	13 16 4 2, 148	594 527 6, 158	215 1 1 2, 468
Hungary Norway Philippine Islands Russia	215 334 309	60 7,762	97 291 1 527	1 1, 051 568	1 12 499 352 1 469	1 767 21	1 403 398 300	77
Switzerland Tunis United Kingdom	3, 172 5 294 11, 382	42 5 2 6, 246	456 316 9, 719	584 3 690	1, 082 313 5, 678	51 3 2, 825	2, 260 320 6, 405	19 4 1 5, <b>433</b>
Uruguay Other countries Total	<sup>3</sup> 768 931 78, 767	779 75, 151	1 1, 418 2, 139 67, 244	871 57, 043	1, 818 49, 011	1, 280 51, 099	1 1, 325 849 49, 350	455 49, 602

Division of Statistical and Historical Research. Compiled from official sources except where otherwise noted

Table 252.—Potatoes: 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.	Мау.	June.	Weight- ed av.
1908-9	Cts. 77. 8	Cts. 83. 6	Cts. 78. 0	Cts. 74. 8	Cts. 69. 2	Cts. 70. 6	Cts. 72. 0	Cts. 73. 3	Cts. 80. 0	Cts. 86. 3	Cts. 97. 3	Cts. 97. 7	Cts. 77. 0
1909-10 1910-11 1911-12 1912-13 1913-14	91. 0 40. 1 96. 3 103. 6 49. 8	64. 9 136. 0	113. 7 65. 0	64. 3 67. 8 88. 3 51. 1 73. 9	55. 7 76. 3 45. 5	55. 7 79. 9 50. 5		55. 1 94. 4 53. 1	54. 6 55. 3 102. 0 52. 0 70. 7	55. 5 117. 1	62. 5 127. 3 48. 2		
Av. 1909–1913	76. 2	88. 3	79. 7	69. 1	61. 0	61. 8	62. 7	65. 7	66. 9	68. 1	69. 6	69. 4	68. 0
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	81. 5 52. 1 102. 3 247. 9 94. 9 128. 4 386. 0	87. 1 56. 3 95. 4 170. 8 141. 6 192. 8 302. 9	50. 5 109. 3 139. 1 148. 8 187. 5	112. 0 122. 1 143. 6 164. 2	60. 8 135. 7 127. 8 127. 2 152. 8	61. 7 146. 1 122. 8 119. 3 159. 5	116. 1 178. 6	172. 4 122. 9 114. 4 217. 6	240. 7 120. 3 109. 4 243. 5	234. 7 92. 6 105. 4 295. 6	94. 8 279. 6 80. 1 118. 9 393. 6	274. 0 75. 5 121. 4 421. 3	155. 2 126. 4 126. 2
Av. 1914-1920	156. 2	149. 6	127. 9	112. 9	110.8	110. 4	112. 7	123. 0	134. 7	135. 9	155. 1	158. 4	124.8
1921–22 1922–23 1923–24	69. 9 103. 3 83. 1	136. 9 114. 8 122. 7	168. 6 88. 0 119. 0	137. 6 69. 6 100. 2	62. 8		59. 3		117. 8 63. 6			104. 1 76. 6	

Division of Crop and Livestock Estimates.

International Institute of Agriculture.
 Less than 500 bushels.
 One year only.

<sup>&</sup>lt;sup>4</sup> Eight months, May-December. <sup>5</sup> Two-year average.

Table 253.—Potatoes: Farm price per bushel, by States, December 1, calendar years, 1909–1923, and value per acre 1923.

-													_						
State.	190	8 190	9 191	0 1911	191:	2 191:	A v. 1909 1913	- 191	4 191	5 1916	191	7 1918	8 191	9 1920	A v 1914 1920	<b>- 192</b> :	1 192	192	Value per acre, 1923.
Me N. H Vt Mass R. I	- 6	1 4 3 6 7 4 5 7	7 4	2 77 2 87 5 79 0 96	58 61 58 78	5 53 1 83 5 72 5 85	5 5 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5 3 9 6 9 4 1 7	3 70 0 90 7 8 1 90	0 14 5 16 1 13 4 17	2 13 6 16 9 14 5 17	0 12 7 14 0 13 5 17	0 14 5 17 8 15 0 19	0 12 5 15 7 12 0 15	5 10 5 13 5 11 0 14	9 8 8 13 8 10 6 15	5 48 5 108 4 93 2 95	70 118 100 138	Dolls 180. 60 212. 75 180. 00 236. 25 214. 50
Conn N. Y N. J Pa Del.	- 8 - 8	5 9 8 0 6	0 48 2 64 5 55	90 5 105 2 93	58 66 57	80 82 80	64 2 80 69	6 6	1 82 1 73 3 78	2 150 5 150 5 140	130 141 131	0 12: 1 170 5 15:	2 14 0 16 1 15	5 118 9 128 4 124	11- 12- 1 12-	4 108 8 142 1 133	60 2 72 3 75	95 125 105	227. 85 116. 85 118. 75 110. 25 81. 60
Md Va W. Va N. C S. C	- 72 - 83 - 72	2 70 5 64 7 8	0 58 8 67 1 73	96 104 108	62 76	80 90 82	74 78 84	81 81 92	61 65 73	1 137 5 158 8 140	124 132 143	5 120 2 160 3 135	15 17 5 16	7 95 5 135 3 142	110 120 121	0 110 9 163 7 143	65 87 101	109 105 120	80, 00 93, 00 126, 00 103, 20 156, 80
GaFlaOhioIndIll.	134 77 84	5 12 7 5 1 5	0 100 5 51 2 50	145 84 87	87 110 53 50 60	85	118 66 65	113 53 56	115 70	200 182 177	205 143 139	200 3 150 135	210 192 193	200 2 135 5 133	178 132 127	190 155 145	175 90 84	190	112. 00 174. 80 98. 00 90. 30 80. 96
Mich Wis Minn Iowa Mo	60 56	38 35 55	38 64 60	62 58 73	41 34 28 46 69	53 54 52 82 93	46 45 47 63 80	30 30 32 59 73	45 39 54	147 130 175	90 91 131	80 75 133	140 153 192	86 80 122	88 86 124	95 90 140	33 35 67	50 50 55 77 88	57. 00 48. 00 52. 80 64. 68 88. 00
N. Dak S. Dak Nebr Kans Ky	51 55 83	63 60	85 84 90	92 106	28 36 51 73 67	56 63 78 91 102	55 63 73 88 80	42 47 54 77 84	41 35 42 74 55	115 137 150 165 142	130 111 107 152 140	93 118 144	190 190 190	97 120 150	94 101 112 136 135	107 120 135	44	35 50 80 99 120	29. 05 44. 00 64. 00 85. 14 102. 00
Tenn Ala Miss La Tex	71 95 93 92 98	71 98 95 91 106	94 94 90	108 118 115 100 126	70 90 90 83 105	97 105 100 96 112	82 101 99 92 112	91 101 95 97 104	63 90 84 95 105	149 169 160 167 190	126 182 168 184 210	165 181 165 150 200	215 185	200 200	132 163 151 159 177	165 170 200 180 190	110 150 160 150 160	150	100. 80 120. 00 113. 96 94. 50 88. 00
Okla Ark Mont Wyo Colo	98 86 70 66 60	95 92 51 63 57	100 85 85 82 55	124 115 74 140 99	93 92 40 60 41	105 100 67 65 65	103 97 63 82 63	90 97 64 70 50	84 76 50 60 55	195 190 120 128 135	180 157 102 104 91	195 184 80 85 99	205 205 160 190 170	180 175 105 120 80	161 155 97 108 97	185 180 80 118 73	123 130 40 50 37	128 136 73 93 65	84. 48 80. 24 80. 30 88. 35 79. 95
N. Mex Ariz Utah Nev	90 55 75	101 130 43 85	104 126 59 80	100 140 85 93	65 125 49 60	140 135 58 68	102 131 59 77	95 120 60 70	95 100 63 70	175 180 130 130	165 150 78 120	160 205 97 123	190 195 137 150	210 190 80 156	156 163 92 117	180 140 85 120	145 90 40 60	140 70 105	80. 00 84. 00 17. 60 82. 70
Idaho Wash Oreg Calif	60 67 68 77 69. 7	48 47 60 77 54. 2	65 73 70 85 55. 7	65 68 67 90 79. 9 5	29 36 31 65 60. 5	50 60 58 70 38. 7	51 57 57 77 61. 8	48 55 60 70 48. 7	56 53 60 75 61. 7	127 98 90 140 146. 1	79 92 80 150 122. 8	81 101 100 120 119. 3	151 145 150 171 159. 5	68 95 80 150	87 91 89 125 110. 4	77 99 109 130		70 70 130	87. 50 08. 50 66. 50 95. 00
									I				1						

<sup>&</sup>lt;sup>1</sup> Based upon farm price Dec. 1

Table 254.—Potatoes: Monthly average jobbing prices, per 100 pounds, at ten markets, 1919-1923.

Market, and crop move- ment season.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау
New York: 1919-20	\$6. 25	\$4, 29	\$4.37	\$3, 43	\$3. 39	\$2. 79	<b>\$2.</b> 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			2.90			1.92		2.33	2.18			1. 58
1922÷23 1923−24	4.07 7.24	3. 27 4. 13			1. 04 2. 57	. 95				1. 39	1.44	1.87	2.09	1.76
Chicago:	7. 24	4. 13	3.08	3.08	2.57	1.49	1.85	1.07	1.59					
1919-20	6, 40	5. 32	4. 33	4, 18	1 3, 99	1 2. 73	1 2, 40	1 2. 90	3, 83	5. 54	4.80	6.00	1 6, 98	1 7. 40
1920-21		9.14	8.38	1 6. 44	1 3. 42	1 2. 40	<sup>1</sup> 1. 85	1 2. 13	1 1. 58	1 1. 29	<sup>1</sup> 1. 15	<sup>1</sup> 1. 25	1.98	1.8
1921-22	4.83		1 2, 42											
1922-23 1923-24	4.16	3.57	1 3. 03 1 3. 15	1 2. 29	1.03	11.17	1 1.00	1 1. 05 1 1. 24	1 1 97	1.02	<sup>1</sup> 1.07	1 1. 35	1.53	1 1. 13
Philadelphia:		4.00	* 5. 15	2.10	- 2, 10	- 1. 70	- 1. 14	- 1. 24	- 1.21					
1919–20	5, 31	4, 77	4, 11	3.61	3.48	2. 51	2.48	2.64	3. 25	4.07	4. 35	5. 24	6.74	7. 13
	211.00			5. 58	2, 59	1.89	1.87	2.09	1.48	1.65	1. 20	8 1. 07	1.05	1.03
1921-22	3, 96			2.11	3.07	2.41			2,00	2. 29	2. 23		1.69	1. 39
1922-23	3. 76				1. 10	1.00			1.32	1.36	1.36	1.79	2.17	1.6
1923-24 Pittsburgh:	7. 21	4.03	3.02	3. 24	2.84	2.06	1.96	1.66	1.73					
1919-20	6. 59	4. 99	4. 56	4, 07	4. 10	3. 18	2.74	2. 80	3. 33	4. 51	4. 52	5. 57	7.00	7. 66
1920-21	0.00	9. 54	7.48	5. 98	3.01	2. 31	2. 33	2.48	1,84	160			1.11	1.08
1921-22	4, 50	4.37	2. 28	2, 73	3.43	2.71	2. 30		2.01	2. 26	2. 13			1.6
1922-23	4.36	3.47	3. 19		1.43	1.39	1.33			1.16	1. 20	1.67	1.60	1.36
1923-24	7. 30	4.44	3.35	3. 44	3. 13	238	1, 67	1.46	1.33					
9t. Louis: 1919-20	5, 98	5. 62	3. 33	3, 62	3, 12	2. 90	2.71	2. 99		4, 61	4, 49	.	7. 55	7.57
1920-21	J. 9G	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	3.49		2. 84	3. 16	2. 83	2. 28	1.89	1.93	2.27	2.14		1. 89	1. 91
1922-23	5. 87	3.81	2.96		1.73	1. 53	1. 26		1.10	1.16	1.18		1.59	1. 45
1923-24	7. 32	5.56	3.05			1.94	1.38	1.40	1.44					
Cincinnati:		4 77	4 00	0.07	0.00	0.10	ا م ما	0.07		4 00	4		7 00	27 00
1919-20 1920-21	5. 54	4. 71 8. 65	4. 33 7. 59	3. 87 6. 49	3, 83 3, 41	3. 12 2. 57	2. 94 2. 19	2. 97 2. 60	3. 29 1. 92	4, 60 1, 68	4. 51 1. 58	5. 51 1. 77	7. 28 1. 22	<sup>3</sup> 7. 36
1921-22	4. 12	4. 10	2.49		3. 52	2.96	2. 46	1. 93	1. 97	2. 30	2. 16	2.06		1. 93
1922-23	3. 96	3. 28	3.01	2.44	1.74	1.48		1. 17	1. 15	1. 20	1. 21	1. 46		1. 27
1923-24	6. 62	4.43	3.33			1.85	1.36	1.24	1. 26					
St. Paul:		i	4	4					Į	- 1	1	1		
1919-20			4. 12 8. 80	4. 15 8. 44										
1021-22			3.06	3. 05	3 49									
1920-21 1921-22 1922-23			3.46											
1926-24			3. 55	3.18										
							:	1	1	.	- 1	1	ı	
Minneapolis:			4 4. 73	4. 13 8. 29										
1920-21 1921-22			9. 02 3. 05	2.90	3 43									
1924-22 1922÷23			3. 36	2.86	0. 10									
1923-24			3. 37	3.04										
Kansas City:				1	4	- 1	1	ı	- 1	- 1	- 1		1	
1919-20	8, 11	7.01	3. 32										777755	
1920-21	6. 36	3.93	8. 77 3. 06		2. 81 3. 09	2.69	2.06	2. 27 1 1. 51	11 65		1.1 00	11 00	1 1. 37	1. 29
19 <b>21-</b> 22 19 <b>22-</b> 23	5.62	3. 93	2.87		5. 08	1 1, 23	1 1 12	1 1. 07	11:03	1 1 05	1 1. 07	1 1 24	1 1 21	
1923-24	0.02	6.14			1 1.79	1 1. 52	1 1. 16	1 1. 30	1 1. 30	1.00	1,0,,	1. 22	1.21	
Washington:5						- 1		1	l					
1919-20	6. 45	5. 33	4. 56	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			3. 27 1. 49	2.83 1.37	2. 61 1. 39	2. 43 1. 49		2.62 1.48	2.58	2. 44 1. 73	2. 27 1. 99	2. 18 1. 69
1922-23 1923-24	4. 48 7. 73	3.60 4.67	2. 91 3. 25	2. 21 3. 64		2.43	1. 83		1. 48	1. 100	1.41	1. 13	1. 99	1:09
1040-44	1. 10	4,04	0.00	- U, UE	0.71	. 24-X9	1.00	1,02	1.10					

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.

Carlot sales.
 Eight day average.
 Bulk only.

<sup>Sales direct to retailers.
Sales direct to retailers except September-December, 1923.</sup> 

Table 255.—Polatoes, "Maine" and "State and Western": Average wholesale prices per bushel at New York, 1900-1923.

Year beginning Sept. 1.	Sept.	Oct.	Nov.	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	.66	.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
1905-6	. 62	. 67	.74	.68	. 66	.60	. 68	. 80	. 76
19 <b>96</b> -7	. 55	. 58	. 51	. 48	.48	. 57	.60	. 56	.74
1967-8	. 56	. 63	. 58	. 64	.70	.81	. 83	.84	. 80
1908-9	. 74	. 69	. 79	. 79	. 79	. 81	. 88	. 92	. 91
1909-10	. 65	. 56	. 56	. 56	. 58	. 54	. 49	.40	. 39
1946-11		. 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	. 60	. 59	. 64	. 68	. 63	. 67	. 62	. 66	. 77
1913-14	. 74	. 69	. 71	. 70	. 80	. 83	. 81	. 85	. 85
Average 1909-1913	. 67	. 64	. 66	. 68	. 73	. 73	. 73	. 78	. 77
1944-15	. 62	. 56	. 54	. 51	. 51	. 48	.47	. 50	. 46
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
1917-18		1.62	1. 37	1.39	1.66	1.47	1.14	1.11	. 82
1918-19		1.44	1. 37	1. 50	1.42	1. 26	1.11	1. 43	1.49
1919-20	1. 51	1.37	1. 57	1.79	2.31	2.64	3. 33	4.28	4. 17
1920-211		1. 26	1. 38	1. 27	1.16	. 88	. 88	. 78	. 66
Average 1914-1920		1. 18	1. 24	1. 28	1.47	1. 52	1. 55	1.75	1. 70
1921-22	1. 37	1. 16	1. 25	1. 23	1.43	1. 35	1. 25	1.12	. 90
19 <b>22-2</b> 3 19 <b>23-24</b>	. 86	. 78	. 82	. 86	. 93	. 96	1. 21	1, 25	1.10
1923-24	1.46	1.13	1.06₁	1.05					

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Producer's Price Current.

### SWEET POTATOES.

Table 256.—Sweet potatoes: Acreage, production, and value, United States, 1849-1923.

per aere. Dec. 1. Dec. 1.	Value
	per acre.1
1,000 avres. Bushels. Bushels. Cents. dollars.  1849	Dollars.
1859 42, 095	
21.710	
1879	
1889	
1899 53.0 22,065	41.09
1900 544 88.9 48,346 50.6 24,478	45, 00
1901. 547 81. 7 44, 697 57. 5 25, 720	47, 02
1902 532 85. 2 45, 344 58. 1 26, 358	49. 55
1903 548 80. 2 48, 870 58. 3 28, 478	51, 97
1904. 548 88.9 48,705 60.4 29,424	53, 69
	53.96
1906 551 92.6 51,034 58.3 29,734 1906 554 90.2 49,948 62.2 31,063	56.07
1907 565 88.2 49.813 70.0 34.858	61. 70
1908	61. 04
1900 641 90.1 57, 764 68.5 39, 585	61.76
1910	62.74
1911 605 90.1 54,538 75.5 41,202	68. 10
1912 583 95. 2 55, 479 72. 6 40, 264	69. <b>66</b>
1913 625 94.5 59, 057 72.6 42, 884	68. 61
Average, 1909-1913 619 92 7 57, 355 71.2 40, 880	65. 96
1914. 603 93.8 56,574 73.0 41,294	68. 48
1915 731 106. 5 75, 689 62. 1 46, 980	64. 27
1916 774 91. 7 70, 955 84 8 60, 141	77. 70
919 91. 2 83, 822 110. 8 92, 916	101, 11
1918	126, 45
1919 941 103. 2 97, 128 134. 4 136, 514	138.70
1920 992 104.8 103, 925 113.4 117, 834	118.78
Average, 1914-1920 848 97.6 82, 281 105.7 86, 935	103. 13
1921 1,066 92.5 98,654 88.1 86,894	81, 51
1922 1,117 97.9 100,394 77.1 84,295	75. 47
1923 2 97. 9 97, 177 97. 9 95, 091	95, 76

First two weeks of October, 1920, are quotations on Jerseys.

<sup>&</sup>lt;sup>1</sup> Based on farm price Dec. 1.

<sup>&</sup>lt;sup>2</sup> Preliminary.

Table 257 .- Sweet potatoes: Acreage, production, and total farm value, by States, calendar years, 1921-1923.

State.	Thou	sands of	acres.	Produc	ction, the	ousands s.		value, bar ce, thous rs.	
	1921	1922	1923 1	1921	1922	1923 1	1921	1922	19231
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 VirginiaNorth CarolinaSouth CarolinaSouth CarolinaFlorida	3	3	3	345	402	390	621	563	577
	102	110	100	10, 302	12, 430	10, 500	9, 993	9, 944	10, 290
	83	104	94	7, 885	9, 568	9, 118	7, 096	6, 793	7, 841
	146	152	137	12, 410	12, 616	11, 508	7, 818	7, 696	8, 746
	32	32	30	2, 720	2, 720	2, 940	2, 611	2, 557	3, 410
Ohio Indiana Illinois Iowa Missouri	3 9 3 14	3 3 9 4 14	3 8 4 14	321 396 990 312 1,400	360 375 855 312 1,330	336 354 880 280 1, 512	571 594 891 546 1,400	486 450 898 437 1,396	504 442 968 420 1,633
Kansas	4	4	$\begin{array}{c} 3 \\ 20 \\ 35 \\ 113 \end{array}$	500	416	321	575	437	401
Kentucky	18	20		1, 872	2,020	2, 060	2, 153	2, 222	2, 472
Tennessee	44	44		4, 400	4,180	3, 850	4, 180	3, 260	3, 850
Alabama	135	142		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 States	1, 066	1, 117	993	98, 654	109, 394	97, 177	86, 894	84, 295	95, 091

Division of Crop and Livestock Estimates.

Table 258.—Sweet potatoes: Yield per acre, by States, calendar years, 1908-1923.

State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
New Jersey Pennsylvania Delaware Maryland Virginia		Bu. 123 88 125 115 100		121 140 115	120 120 125	135 141	Bu. 130 109 127 121 98	105 120 125	105 135	100 125 126	110 112 118	115 120 120 130	Bu. 125 140 138 140 140	138 128 126	117 125	124 100 100	175 140 156 153	122 130 112 130
West Virginia North Carolina South Carolina Georgia Florida	93	99 95 93	101 105 91 83 108	84 81	90 105 90	100 92 87	103 96 93 87 109	85 85	110 105 105 85 112	107 86 80	95 95 93	110 95 92	115 107 90 92 100	119 104 105 93 95	94 89	101 95 85	113 92 83	105 97 84
Ohio	83 71 80 93 91	101	98 104 110 98 102		116 98 90	90 78 70 80 56	97	100	95 104 110 95 100	100 90 91	97 90	108 82 93	• 100 105 95 67 104	120 97 104	100 106 94 91 96	132 110 104	125 95 78	118 110 70
Kansas Kentucky Tennessee Alabama	105 84 89 85	88 87	85	85	90 90 100	50 75 80 95	85 91	105 100 93	110 105 105 90	90 100 74	95 95 90	96	109 105 112 94	135 105 102 97	104 100 102 91	104 100 90	101 95 95	103 110 104
Mississippi Louisiana Texas Oklahoma	92 86 88 88	70	94 93 56 70	85 90 71 75	84 75 92	98 85 80 64	66 74	87 101 102	110 92 98 115	90 89 74	78 90	75 58 65	105 90 110 110	110 101 105 115	94 88 91 96	94 82 98	92 83 76	90 80 90
Arkansas	100 125 140 105	58 180 163 160	120	92 150 200 140	88 141 140 156	90 125 135 170	85 139 152 157	95 143 200 161	130 160 150 135	91 125 160 160	110 118 150 167	125	100 120 150 130	105 118 125 127	103 130 153 150	120 125	112 150	134 170
United States	92. 4	90. 1	93. 5	90. 1	95. 2	94. 5	92. 7	93. 8	103. 5	91. 7	91. 2	93. 5	103. 2	104.8	97. 4	92. 5	97. 9	97. 9

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

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.
1869 1870 1871 1872 1873	P. ct. 98. 9 99. 3 98. 6 95. 9 98. 8	P. ct. 97. 0 100. 8 93. 9 98. 1 97. 9	P. ct. 106. 8 101. 9 90. 5 95. 1 100. 3	P. ct. 80. 2 104. 3 88. 5 87. 4 100. 8	Bush. 78. 7 107. 4 99. 0 83. 5 97. 2	1899	P. ct. 85. 1 93. 7 93. 1 83. 6 90. 2	P. ct. 84. 1 92. 2 80. 7 78. 3 88. 7	P. ct. 80. 7 83. 6 78. 7 77. 2 91. 1	P. ct. 74. 9 80. 0 79. 0 79. 7 83. 7	Bush. 77. 5 88. 9 81. 7 85. 2 89. 2
1874 1875 1876 1877 1878	95. 2 97. 8 102. 6 96. 2 100. 3	95. 2 94. 2 101. 9 95. 7 98. 9	86. 5 96. 1 100. 6 91. 4 98. 2	88. 5 94. 8 96. 5	82. 4 89. 0	1904	87. 3 90. 6 90. 9 85. 9 89. 8	88. 5 90. 1 91. 2 85. 7 88. 8	89. 9 89. 5 88. 7 85. 7 88. 7	86. 1 88. 6 86. 0 82. 7 85. 5	88. 9 92. 6 90. 2 88. 2 92. 4
1879 1880 1881 1882 1883	87. 1 99. 2 91. 5 100. 6 95. 5	82. 1 98. 3 78. 5 102. 0 90. 3	90. 5 99. 6 70. 4 104. 4 82. 1	104. 6 77. 3	90. 4 101. 8  96. 2 78. 0	1909 1910 1911 1912 1913	89. 7 87. 3 78. 4 86. 9 86. 5	86. 9 85. 4 77. 7 85. 0 85. 8	81. 3 83. 9 79. 1 84. 1 81. 4	77. 8 80. 2 78. 1 82. 0 80. 1	90. 1 93. 5 90. 1 95. 2 94. 5
1884	96. 1 97. 5. 95. 3 97. 2 95. 6	96. 9 97. 8 94. 8 95. 7	91. 6 95. 0 93. 1 89. 8 93. 0	83. 4 95. 6 91. 7 83. 4 94. 6	78. 8 96. 4 87. 5 80. 8 97. 2	Av. 1909-1913_ 1914 1915 1916	85. 8 77. 1 88. 7 90. 4	75. 5 85. 5 85. 9	82. 0 81. 8 87. 5 82. 7 85. 7	79. 6 80. 7 85. 0 79. 2 83. 2	92. 7 93. 8 103. 5 91. 7 91. 2
1889 1890 1891 1892 1893	92. 9 96. 0 93. 7 95. 0 93. 7	93. 2 89. 9 93. 7 92. 2 89. 4	93. 9 88. 7 92. 0 90. 8 88. 8	90. 3 87. 5 89. 8 84. 2	87. 2 99. 3 88. 5 88. 0 87. 2	1917 1918 1919 1920	81. 9 86. 4 90. 1 87. 2	78. 3 87. 1 86. 9	74. 5 86. 0 86. 8	77. 4 83. 9 87. 1	93. 5 103. 2 104. 8
1894 1895 1896 1897	88. 4 91. 4 89. 3 86. 5	89. 7 91. 0 87. 1 86. 4 92. 0	91. 4 89. 3 71. 7 85. 4 90. 6	91. 6 81. 2 71. 1 89. 9	92. 4 79. 1 70. 8 72. 0 98. 3	Av. 1914–1920 1921 1922 1923	86. 0 85. 1 88. 2 82. 8	83. 4 84. 5 86. 3 80. 0	83. 6 80. 7 82. 4 79. 1	82. 4 77. 0 79. 0 80. 2	97. 4 92. 5 97. 9 97. 9

Division of Crop and Livestock Estimates.

Table 260.—Sweet potatoes: Carlot shipments, by States of origin, 1917-1922.

		Year be	ginning	July 1—			Quar	ters, 19 <b>2</b> 2	2-23	
State.	1917–18	1918–19	1919–20	1920-21	1921–22	July- Sept.	Oct Dec.	Jan Mar.	Apr June.	Total.
New Jersey. Delaware. Maryland. Virginia: Eastern Shore. Other. North Carolina. South Carolina. Georgia. Tennessee. Alabama. Louisiana. Texas. Arkansas. California. All other.	Cars. 1, 955 670 607 5, 476 139 463 114 225 51 186 159 314	Cars. 1, 785 1, 7877 441 2, 948 76 708 525 545 342 150 329 149 800 365	Cars. 2, 237 1, 212 1, 179 5, 561 179 750 481 1, 212 401 211 506 355 640 561	Cars. 2, 948 1, 799 1, 473 4, 899 634 884 58 966 901 482 647 622 498 708 415	Cars. 2, 212 1, 722 1, 722 1, 325 4, 786 334 1, 015 1, 375 1, 568 912 752 578 998 918	Cars. 557 2 349 3, 083 2222 3567 1 80 94 364 266 244 7 169 2 165	Cars. 1, 215 677 697 3, 184 60 57 320 326 31 262 369 68 605 209	Cars. 938 1,592 535 41 12 113 126 335 770 81 151 151 1280	Cars 148 361 168 18 13 152 73 301 61 140 42 14 14 65	Cars. 2, 858 2, 632 1, 749 6, 326 307 679 235 781 1, 491 537 1, 033 974 240 982 740
Total	10, 657	10, 540	15, 485	17, 934	19, 310	<sup>2</sup> 5, 960	8, 025	5, 852	1 1,727	21, 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.

<sup>&</sup>lt;sup>1</sup> Condition at time of harvest.

<sup>&</sup>lt;sup>1</sup> Includes 4 cars in July.

<sup>2</sup> Includes 2 cars in June

Table 261.—Sweet potatoes: Farm price per bushel, 1st of month, United States, - 1910-1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	Мау.	June.	Weight- ed av.
1910-11 1911-12 1912-13 1913-14	Cts. 75. 1 99. 0 112. 2 90. 1	105. 8 107. 8	102.6 95.7	91. 8 84. 4	80. 9 76. 8	75. 5 72. 6	83. 0 80. 4	99. 2 85. 4	98: 0 88: 9	109. 9	118. 0 98. 8	115.0 92.0	87.1
Av. 1910-1913	91. 4	96. 5	93. 4	84. 4	76. 3	<b>7</b> 2. 0	79. 4	85, 1	89. 5	95. 8	101. 4	100. 0	<b>8</b> 5. 5
1914+15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21		85. 8 87. 1 129. 3 144. 7 167. 9	84. 6 89. 9 132. 6 156. 2 175. 4	72. 7 83. 7 116. 1 160. 6 154. 7	63.7 80.6 111.2 146.0 143.9	62. 1 84. 8 110. 8 135. 2 134. 4	64. 9 90. 1 117. 2 142. 1	71. 2 95. 8 123. 1 143. 1 156. 6	77.3 110.7 142.7 153.7 172.2	124. 0 151. 6 160. 7 185. 8	80. 5 141. 3 155. 0 174. 6 205. 2	83. 4 149. 4 148. 8 173. 7 216. 6	91. 4 124. I 149. 8 157. 8
A ▼. 1914–1920 1921–22	125. 0	133. 7 144. 1 128. 4 123. 3	135. 6 107. 6		89. 5 80. 7	88. 1 77. 1	95. 1	96.8		111.7	114. 1	142. 5 121. 2 105. 8	118: 8 109: 8 95: 0

Table 262.—Sweet potatoes: Farm price per bushel, by States, December 1, calendar years, 1908-1923, and value per acre 1923.

State.	1908	1909	1 <b>9</b> 10	1911	1912		Av. 1909- 1913.	1914	1915	<b>19</b> 16	1917	1918	1919	1 <b>92</b> 0	Av. 1914– 1920.	1921	1 <b>92</b> 2	1923	Value per acre 1923.1
N. J Pa Del Md Va	Cts. 82 93 70 70 68	Cts. 79 89 60 68 70	58	Cts. 100 105 70 75 74	Cts. 84 75 68 63 75	Cts. 78 90 60 60 70	65	Cts. 95 86 70 70 76	Cts. 70 75 62 70 65		120 100	150	180 110 133	100 115	137 95 104	180 110 140	111 50 50	Cts. 145 140 115 115 105	Dolls. 176. 90 182. 00 128. 80 149. 50 126. 00
W. Va N. C S. C Ga Fla	94 53 61 58 70	85 57 63 62 71	55 64 65	72 73	62 68 66	61 75 68	60 68 67	98 65 70 69 80	56 65 61	75 85 81	105 104 105	132 142 125	138 148 110	114 117 97	98 104 93	97 90 63	80 71 61	98 86 76	192, 40 102, 90 83, 42 63, 84 113, 68
Ohio Ind Ill Iowa Mo	101 102 102 100 87	84	83 89 105	96 110 110	89 95 108	103 106 150	91 97 113		90 82 108	150 125 192	165 150 210	195 175	215 175 250	160 135 247	152 134 192	150 90 175	120 105 140	125 110 150	168. 00 147. 50 121. 00 105. 00 116. 64
Kans Ky Tenn Ala	105 82 63 63	73	75 69	88 75	85 72	110 94 80 67	83 73	106 77 69 65	70 59	100 87	125 105	175	117	150 123	122 99	115 95	110 78	120 100	123.60 110.00
Miss La Tex Okla	63 63 77 82	69 59 99 114	65 1 <b>0</b> 8 110	60 104 125	65 104 109	70 95 104	64 102 112	63 64 87 80	50 70 73	66 90 135	160	175 <b>220</b>	115 150 180	93 130 132	89 120 141	65 85 106	61 85 118	95 114 113	91. 20 101. 70
Ark N. Mex_ Ariz Calif	71 108 140 80	90 120 140 90	118 140 95	160 110	105 150 94	130 170 100	98	77 113 150 87	120 150 80	185 100	205 227 150	250 238 150	225 250 179	220 230 160	188 204 129	260 182 125	290 175 67	200 210 165	268. 00 357. 00 189. 75
U. S	66. 1	70.8	67. 1	<b>75</b> . 5	72. 6	72.6	71.7	73. 0	62. 1	84. 8	110.8	135. 2	134. 4	113. 4	102.0	88. 1	77. 1	97. 9	,95. 76

<sup>1</sup> Based upon farm price Dec. 1.

Table 263.—Sweet potatoes: Average jobbing prices per bushel at 10 markets, 1920-1923.

Market, and	Augu	st.1	Septem	ber.²	Octo-	Novem-	Decem-	January	February	March	Apr	il.	Ma	у.
year beginning Aug. 1.	Range.	Average.	Range.	Average.	ber average.	ber average.	ber average.	average.	average.	average.	Range.	Average.	Range.	Average
New York: 1920-21 1921-22 1922-23 1923-24	1. 23- 2. 00	\$2. 70 1. 51	\$1. 04-\$2. 77 . 88- 2. 25 . 50- 1. 75 . 46- 1. 75	\$1. 76 1. 48 1. 00 1. 16	\$1. 36 1. 26 . 70 1. 20	\$1. 23 1. 36 . 73 1. 95	\$1. 56 1. 67 . 96 2. 51	\$1. 76 2. 02 1. 03	\$1. 82 1. 93 1. 01	\$2. 40 1. 92 . 94	\$1. 50-\$2. 75 1. 50- 2. 50 . 75- 2. 00	\$2. 32 2. 27 1. 39	\$2. 00-\$3. 00 1. 25- 2. 50	2. 23
Chicago: 1920-21 1921-22 1922-23 1923-24	2.00- 3.00 1.14- 2.75	2. 61 2. 01	1. 35- 2. 85 .80- 2. 50 .69- 2. 75	2. 05 1. 70 1. 44 1. 67	1. 85 1. 57 1. 00 1. 52	1. 96 1. 48 1. 22 2. 03	2. 21 1. 65 1. 26 2. 73	2. 20 1. 81 1. 43	2. 29 1. 89 1. 44	2. 35 1. 93 1. 47	1. 75- 3. 25 1. 00- 2. 50 1. 00- 2. 50	2. 40 1. 69 1. 62	1. 75- 2. 50 . 75- 2. 40	1, 29
Philadelphia: 1920-21 1921-22 1922-23 1923-24	1. 23- 2. 77 1. 15- 1. 50	2. 27 1. 33	.85- 2.31 .92- 1.36 .46- 1.00 .54- 1.08	1. 40 1. 14 . 68 . 80	. 99 1. 02 . 57 . 84	. 84 1. 03 . 41 1. 18	1. 35 1. 43 . 68 1. 98	1. 53 1. 51 . 65	1. 55 1. 65 . 58	1. 74 1. 72 61	1. 25- 2. 00 1. 00- 1. 80 . 60- 1. 00	1. 66 1. 42 . 76	. 80 1. 90	1
Pittsburgh: 1920-21 1921-22 1922-23 1923-24	2. 31 . 75- 2. 50	2. 31 1. 55	1. 31- 3. 00 1. 14- 2. 25 . 62- 2. 25 . 92- 2. 15	1. 95 1. 62 1. 14 1. 45	1. 49 1. 49 . 90 1. 43	1. 38 1. 50 . 87 1. 94	1. 95 1. 69 . 98 2. 47	1. 91 1. 88 1. 15	1. 73 1. 94 1. 10	2. 03 1. 82 . 81	1. 40- 2. 15 1. 25- 2. 00 . 75- 1. 50	1. 89 1. 71 1. 03	1, 50- 2, 15 . 75- 2, 00	1. 92 1. 32
St. Louis: 1920-21 1921-22 1922-23 1923-24	1. 75- 2. 75 1. 00- 1. 40	1.29	. 86- 2. 30 . 50- 1. 38 . 65- 1. 00	1. 66 1. 09 . 87	1.16 .94 .84	1.61 .92 1.49	1. 40 1. 11 . 98 1. 97	1. 68 1. 20 1. 03	1.85 1.10 .97	1. 78 1. 18 . 96	1. 50- 2. 10 . 70- 1. 90 . 90- 1. 50	1. 80 1. 04 1. 12	1. 80 1. 90	1. 84
Cincinnati: 1920-21 1921-22 1922-23 1923-24	1. 77- 2. 35 . 90- 1. 54	1.19	1.00- 2.19 .90- 1.40 .69- 1.15 1.08- 1.15	· 1. 63 1. 21 . 84 1. 12	1. 31 1. 11 . 66 1. 09	1. 15 . 98 . 65 1. 48	1. 54 1. 27 . 88 2. 06	1. 71 1. 21 1. 05	1. 95 1. 16 1. 02	1.78 1.15 .96	1. 31- 3. 00 . 75- 1. 15 . 90- 1. 35		1. 35- 2. 10 . 40- 1. 15	. 80
St. Paul: 1920-21 1921-22 1922-23 1923-24			1. 92- 4. 00 1. 50- 3. 00 1. 00- 2. 50	2. 86 2. 05 1. 52 1. 91	2. 13 1. 77 1. 24 1. 67	2. 03 1. 79 1. 36 1. 97	2. 05 1. 89 1. 69 2. 82	2. 18 2. 19 1. 71	2. 26 1. 88 1. 65	2.37 1.88 1.34		2. 25 1. 66		1. 35
Minneapolis: 1920-21 1921-22 1922-23 1923-24	3. 08- 3. 25 2. 15- 3. 25	3. 19 2. 47	1. 88- 3. 75 1. 62- 2. 75 1. 00- 2. 65	2. 80 2. 24 1. 76	2. 03 1. 89 1. 21	1. 99 1. 85 1. 40	2.09 2.07 1.81	2. 25 2. 19 1. 87	2. 28 1. 85 1. 60	2. 41 2. 08 1. 50	2. 25 1. 25- 2. 75 1. 25- 2. 15	2. 25 1. 76 1. 63	. 25- 2. 00	. 95

<sup>&</sup>lt;sup>1</sup> Quotations began Aug. 23, 1920 and 1921.

<sup>&</sup>lt;sup>2</sup> Quotations began Sept. 18, 1923.

Table 263.—Sweet potatoes: Average jobbing prices per bushel at 10 markets, 1920-1923.—Continued.

Market, and year beginning	Augu	st.1	Septem	ber.²	Octo- ber	Novem- ber	De cem- ber	January	February	March	Apr	ii.	May	y.
Aug. 1.  Kansas City:	Range.	Average.	Range.	Average.	average.	average.	average.	average.	average.	average.	Range.	Average.	Range.	Average.
1920–21 1921–22 1922–23 1923–24	\$2.00-\$2.25 1.50-1.65	\$2. 15 1. 56	\$1. 50-\$2. 00 1. 00- 1. 50 . 75- 1. 00	\$1.75 1.25 .89	\$1.01 .78	\$1.62 1.10 .62	\$1. 48 1. 21 1. 04 1. 54	\$1. 59 1. 30 1. 12	\$1. 64 1. 22 1. 12	\$1. 66 1. 19 1. 13	\$1. 75-\$2. 25 . 85- 1. 25 . 90- 1. 75	\$1. 92 1. 09 1. 19	\$1. 85-\$2. 25 . 86- 1. 00	\$2.01 .92
Washington: 1920-21 8 1921-22 3 1922-23 8 1923-24	2. 15- 2. 62 1. 27- 1. 62	2. 36 1. 40	1. 08- 2. 46 . 85- 1. 35 . 46 69 . 77- 1. 38	1. 63 1. 10 . 62 1. 06	1. 17 . 97 . 58 . 95	1. 06 . 96 . 73 1. 19	1. 09 1. 26	1. 66 1. 58 1. 06	1. 73 1. 68 1. 06	1. 72 1. 68 . 96	1. 38- 2. 00 1. 08- 1. 50 . 62- 1. 25	1. 59 1. 32 . 96	1. 62- 2. 50 1. 00- 1. 40	1. 89 1. 14

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 not from larger to smaller units or vice versa, in order to obtain comparability.

<sup>&</sup>lt;sup>1</sup>Quotations began Aug. 23, 1920 and 1921.

<sup>&</sup>lt;sup>2</sup> Quotations began Sept. 18, 1923.

<sup>&</sup>lt;sup>8</sup> Sales direct to retailers.

#### TOMATOES.

Table 264.—Tomatoes: Commercial acreage, yield per acre, and production, for table and canning stock, 1921–1923.

State.		Acreage.		Yie	ld per	acre.		Production	1.
	1921	1922	1923 ¹	1921	1922	1923	1921	1922	1923 1
Arkansas_ California_ Colorado_ Delaware_ Florida_	15, 230 910	Acres. 5, 780 31, 310 2, 430 12, 640 33, 710	Acres. 7, 920 43, 860 3, 830 24, 590 36, 360	Tons. 3.3 5.4 6.2 4.9 4.0	Tons. 4. 0 7. 0 8. 3 3. 9 3. 6	Tons. 2. 4 6. 7 5. 2 5. 4 3. 1	Tons. 3, 400 82, 200 5, 600 12, 400 72, 200	Tons. 23, 100 219, 200 20, 200 49, 300 121, 400	Tons. 19, 000 293, 900 19, 900 132, 800 112, 700
Illinois Indiana Iowa Kentucky Maryland	25, 150 2, 240 4, 300	12, 500 56, 040 3, 180 8, 820 41, 300	9, 270 69, 490 3, 980 9, 350 49, 140	3. 5 5. 0 3. 3 3. 4 4. 2	4. 5 5. 8 6. 7 3. 9 3. 6	3. 4 3. 0 5. 5 2. 6 5. 4	21, 300 125, 800 7, 400 14, 600 53, 900	56, 200 325, 000 21, 300 34, 400 148, 700	31, 500 208, 500 21, 900 24, 300 265, 400
Michigan Mississippi Missouri New Jersey New York	7, 150 5, 410	5, 100 11, 180 17, 510 27, 160 14, 680	3, 900 11, 110 22, 490 30, 740 16, 560	5. 6 3. 1 2. 9 5. 0 8. 2	4. 8 3. 7 3. 2 5. 2 7. 9	3. 7 2. 4 2. 5 4. 8 4. 2	10, 800 22, 200 15, 700 116, 800 52, 200	24, 500 41, 400 56, 000 141, 200 116, 000	14, 400 26, 700 56, 200 147, 600 69, 600
Ohio Pennsylvania South Carolina Tennessee Texas	1, 480 350	16, 850 4, 280 1, 100 9, 220 12, 490	17, 880 5, 200 1, 600 9, 020 6, 590	5. 5 4. 9 2. 9 2. 7 3. 3	5. 4 5. 7 3. 0 3. 3 2. 1	4. 7 4. 5 2. 9 2. 1 2. 4	43, 200 7, 300 1, 000 7, 800 28, 800	91, 000 24, 400 3, 300 30, 400 26, 200	84, 000 23, 400 4, 600 18, 900 15, 800
Utah Virginia West Virginia Wisconsin Other States	1, 250 3, 460 1, 110 200 430	3, 820 10, 710 570 220 820	4, 890 15, 650 490 360 1, 720	12. 3 3. 0 3. 0 3. 2 4. 0	10. 0 4. 3 4. 3 4. 0 4. 5	8. 8 4. 2 2. 9 6. 1 3. 2	15, 400 10, 400 3, 300 600 1, 700	38, 200 46, 100 2, 500 900 3, 700	43, 000 65, 700 1, 400 2, 200 5, 500
Total	160, 300	343, 420	405, 990	4.6	4.8	4. 2	736, 000	1, 664, 600	1, 708, 909

Division of Crop and Livestock Estimates.

<sup>1</sup> 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 2, 239 877 237 4, 695	Cars. 381 2,006 1,130 200 3,700	Cars. 457 1, 012 502 206 4, 501	Cars. 845 2, 356 153 138 3, 749	Cars. 1, 098 2, 130 189 128 5, 774	Curs. 1, 902 1, 930 413 278 10, 288	Cars. 1, 112 1, 621 321 267 9, 957
Indiana	524 487 947 1,063	1, 150 393 654 1, 379	948 234 368 1, 388	1, 148 340 805 1, 363	528 155 357 1, 961	1, 303 229 920 3, 441	1, 106 249 494 2, 144
Texas	1, 278 519 478	1, 123 1, 514 1, 042	1, 205 2, 186 1, 007	1, 286 1, 958 1, 085	1, 954 1, 714 · 860	1, 844 2, 305 1, 258	1, 085 3, 273 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
July	Cents. 161. 4 95. 8 68. 0 73. 0		141. 4	161. 5 88. 4 75. 6	194. 3 124. 3	219. 1 133. 1 103. 0	240. 3 177. 0 137. 2	324. 4 168. 4 104. 4		270. 0 102. 0	310. 7 165. 2 106. 6

Division of Crop and Livestock Estimates.

85813°--- чвк 1923----- 50

Table 267.—Tomatoes: Average jobbing prices, per 4-basket and 6-basket carriers at 10 markets, 1921-1923.

Market, and	4-basket	carrier.	6-basket	Market, and	4-baske	t carrier.	6-basket
calendar year.	June.	July.	carrier, June.	calendar year.	June.	July.	carrier, June.
New York: 1921 1922 1923	\$1.70 1.14 2.32	\$1. 20	\$2.96 2.03 4.23	Cincinnati: 1921 1922 1923	\$1.52 .88	\$1.05	\$2. 63 2. 01
Chicago: 1921 1922 1923 Philadelphia: 1921	1. 59 1. 18 2. 13	1. 05	2. 98 	St. Paul: 1921 1922 1923 Minneapolis: 1921	1. 23 2. 11		2.80
1922 1923 1923 Pittsburgh:	1. 06 2. 11 1. 58	1. 22	3. 46 3. 19	1921 1922 1923 Kansas City: 1921	1. 30 2. 20 1. 68	.67	
1922 1923 St. Louis: 1921	1. 16 2. 15 1. 61	.71	3. 82	1922 1923 Washington: <sup>1</sup> 1921	2.34	1. 32	3. 03
1922 1923	2. 15			1922 1923	1. 21 2. 19		3. 21 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.

Table 268.—Tomatoes, canned: Production in the United States, calendar years, 1891-1923.

State.	1891	1892	.1893	1894	1895	1896
Massachusetts	Cases.1 10, 000	Cases.1 6, 557	Cases.1 3, 400	Cases.1 9, 800	Cases.1 5, 000	Cases.1
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, 364	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, 626	2, 159, 876	1, 317, 606	1, 031, 500
Virginia 2	98, 360	60, 386	45, 020	67, 125	87, 830	49, 830
North Carolina	3, 900	1,500 7,500	7, 350 2, 950	8,879 4,800	22, 210 20, 500	
South Caronna		7,500	2, 930	3,000	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
Illinois	68, 324	42, 200	64, 400	159, 360	101, 539	82, 965
Michigan	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			2,300	5, 500		
Texas		100	7, 521	7,816	9,600	
Oklahoma			2, 500	2, 500		
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, 000	46,000		
California	218, 311	230, 943	451, 547	<b>222</b> , 913	233, 259	183, 317
All other						2, 526
United States	3, 315, 885	3, 223, 135	4, 298, 443	6, 426, 669	4, 034, 670	3, 423, 900

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

<sup>1</sup> Stated in cases of 24 No. 3 cans.

<sup>2</sup> Includes West Virginia.

<sup>1</sup> Sales direct to retailers.

Table 268.—Tomatoes, canned: Production in the United States, calendar years, 1891-1923—Continued.

State.	1897	1898	1899	1900	1901	1902
•	Cases.1	Cases.1	Cases.1	Cases. 1	Cases.1	Cases 1
Connecticut		9, 720 162, 354	20, 120	16, 425	15,000	13,000
New York	93, 610	162, 354	20, 120 158, 296	16, 425 201, 371	15, 000 140, 043	13, 000 107, 423 739, 845
New Jersey	519, 813	1 610.219	6/1,049	815, 102	411, 150	739, 84
New York New Jersey Pearsylvanio Delaware	16, 900 305, 769	42, 216 450, 409	76, 010 545, 551	48, 540 381, 124	3, 791 212, 723	81, 601 750, 670
Maryland Virginia <sup>2</sup> Ohio Indiana Illinois		i	1	1	1	4, 514, 383
Virginia?	1, 381, 989 119, 517 152, 800	1, 918, 872 135, 293 210, 755 1, 029, 415	2, 859, 914 298, 270 248, 519	177, 835	1, 768, 269 194, 813 103, 847 420, 082	1 414 599
Ohio	152, 800	210, 755	248, 519	233, 697	103, 847	314, 660
Indiana	587, 579	1, 020, 415	827, 413 144, 115	629, 536	420, 082	314, 660 992, 686 52, 530
	1	75, 561	144, 115	1, 691, 045 177, 835 233, 697 629, 536 102, 481	25, 600	52, 530
Michigan	21, 384	41, 585	53, 316	40, 150	34, 475	17, 667
W 15@OEESID.	2,750 119,505	31, 258 134, 250	53, 580	58, 300 95, 500	33, 312	6,000
Iowa Missouri	180, 874	146, 844	85, 884 168, 211	133, 000	18, 180 13, 400	51, 657 98, 682
Vebraska	1	21, 600	1 '	1	1	1
Kanasas	9, 800 33, 988 23, 600	16 805	16, 174 25, 075 32, 220	13, 550 20, 010	1, 400 2, 500 16, 500	3, 352 20, 000 62, 249
Kentucky	23, 600	16, 805 27, 600	32, 220	26, 125	16, 500	62, 249
Kentucky Arkansas	9,700					
Colorado	67, 125	45, 142	38, 550	30, 500 205, 351	47, 900 150, 000	5,000
Jtah	34, 300	18, 000	125, 000	205, 351	150, 000	248,650
Utah California All obher	208, 612	299, 408 35, 903	508, 310 18, 206	555, 536 22, 865	696, 288 14, 788	737,400
						29, 669
United States	3,963,975	5, 654, 209	7, 173, 993	5,498,043	4,234,061	9, 261, 722
State.	1903	1904	1905	1906	1907	1908
Connecticut	8 000					
Verer Vork	185, 581	169, 521	187, 171	274, 798	217, 695	369 000
New Jersey	6,000 185,581 592,670	169, 521 815, 8 <b>23</b>	187, 171 416, 053	274, 798 545, 628	217, 695 914, 844	369, 000 651, 000
New Jersey Pennsylvania Delaware	67, 922 899, 964	90, 638 646, 110	36, 366 404, 155	84, 169 728, 365	106, 888 1, 368, 866	(8)
	1	646, 110	404, 155	728, 365	1, 368, 866	940, 000
Maryland Virginia <sup>2</sup> Ohio ndiana	4, 687, 224	3, 338, 310	2, 294, 408	3, 209, 953	5, 294, 253	4, 716, 000
/irginia 2	941, 614	486, 260	161, 994	102, 537 276, 243	• 1, 070, 409	607, 000 406, 000
)hio	941, 614 268, 336 989, 081	486, 260 278, 438 1, 166, 664	161, 994 184, 353 799, 404	276, 243	*1,070,409 410,876 1,172,095	406,000
ndiana	j ,			1, 469, 167	1	1, 126, 000
Ilinois	42, 519	34, 700	52, 147 7, 825	67, 860 17, 160	51, 239	(3) (3)
Michigan Visconsin	13, 310 49, 912	15, 415	7,825	17, 160	50, 000	(9)
owa	27, 978	83, 145	64, 625	155, 770	60, 121	(3)
Aissouri	38,033	115, 950	83,743	255, 419	225, 325	546,000
Vebr <b>ask</b> a	3,611	6, 907	9, 542	4, 438	5, 600	(3)
Kansas Kentucky	15, 123 61, 299	6, 907 3, 400 42, 500	21, 399 80, 900	4, 438 23, 938	22, 628 76, 905	(3) (3) (3) (3)
Centucky	61, 299	42, 500	80, 900	76, 783	76, 905	(3)
Colorado		73, 000 373, 068 730, 311 46, 966	49, 176	100, 075 332, 267 838, 792 67, 776	60, 107	(3)
Jtah	359, 336	373, 068	51, 975	332, 267	424, 806	(1)
Colorado	359, 336 884, 243 21, 156	730, 311	51, 975 649, 685 20, 395	838, 792	424, 806 1, 227, 364 158, 185	(3)
m otner	21, 156	46, 966	20, 395	67, 776	158, 185	2, 118, 000
United States	10, 154, 912	8, 517, 126	5, 575, 316	8, 631, 138	12, 918, 206	11, 479, 000
State.	1909	1910	1911	1912	1913	1914
		119 000	193, 000 570, 000	490, 000 799, 000	487, 000 883, 000	601, 000
lew York	298,000	110,000		700 nnn i	883 000	728,000
lew York	298, 000 944, 000	118, 000 519, 000	570, 000	1 200 200	1 040 000	1 90" 00"
lew York lew Jersey elaware	298, 000 944, 000 1, 236, 000	519, 000 992, 000	931, 000 (	1, 398, 000	1, 646, 000	1, 335, 000
lew York lew Jersey Jelawere faryland irginia <sup>2</sup>	298,000 944,000 1,236,000 4,609,000 985,000	519, 000 992, 000 3, 675, 000 630, 000	931, 000 (	1, 398, 000 6, 350, 000 882, 000	1, 646, 000 6, 280, 000 945, 000	1, 335, 000 5, 850, 000 867, 000
Delaware faryland firginia <sup>2</sup>	1, 236, 000 4, 609, 000 985, 000	3, 675, 000 630, 000	3, 908, 000 681, 000	1, 398, 000 6, 350, 000 882, 000	1, 646, 000 6, 280, 000 945, 000	601, 000 728, 000 1, 335, 000 5, 850, 000 867, 000
elawere faryland irginia <sup>2</sup>	1, 236, 000 4, 609, 000 985, 000	3, 675, 000 630, 000	3, 908, 000 681, 000	1, 398, 000 6, 350, 000 882, 000	1, 646, 000 6, 280, 000 945, 000 326, 000	
Delaware faryland firginia <sup>2</sup>	1, 236, 000 4, 609, 000 985, 000	3, 675, 000 630, 000	3, 908, 000 681, 000	1, 398, 000 6, 350, 000 882, 000	1, 646, 000 6, 280, 000 945, 000 326, 000 948, 000	523, 000 1, 295, 000 376, 000
Vew York Vew Jersey Pelaware Aaryland Virginia 2  Phio Odfana Hissouri Il other	298, 000 944, 000 1, 236, 000 4, 609, 000 985, 000 339, 000 852, 000 244, 000 1, 477, 000	519, 000 992, 000 3, 675, 000 630, 000 209, 000 537, 000 350, 000 2, 205, 000	3, 908, 000 681, 000	1, 398, 000 6, 350, 000 882, 000 283, 000 792, 000 435, 000 2, 593, 000	1, 646, 000 6, 280, 000 945, 000 326, 000	1, 335, 000 5, 850, 000 867, 000 523, 000 1, 295, 000 376, 000 3, 647, 000

¹ Stated in cases of 24 No. 3 cans.

<sup>&</sup>lt;sup>3</sup> Includes West Virginia.

<sup>3</sup> Included in "All other."

Table 268.—Tomatoes, canned: Production in the United States, calendar years, 1891-1923.—Continued.

State.	1915	1916	1917	1918	1919	1920	1921	1922 -	1923
New York New Jersey Delaware Maryland	Cases.1 256, 000 325, 000 711, 000 3,084,000	Cases.1 174, 000 712, 000 1, 199, 000 6, 042, 000	Cases. <sup>1</sup> 552, 830 380, 116 1, 380, 805 5, 933, 239	Cases. <sup>1</sup> 395, 904 667, 063 879, 070 6, 649, 475	Cases.1 436, 509 59, 678 188, 920 2, 528, 927	Cases.1 515, 000 517, 000 553, 000 3, 347, 000	Cases.1 214, 000 116, 000 176, 000 1,656,000	Cases.1 340, 000 337, 000 590, 000 3, 205, 000	Cases.1 266, 000 412, 000 1, 216, 000 5, 722, 000
Virginia 2 Ohio Indiana Missouri	969, 000 157, 000 419, 000 252, 000	928, 000 186, 000 760, 000 211, 000	1, 170, 504 107, 491 398, 327 704, 347	1, 547, 291 357, 283 968, 219 352, 821	852, 991 172, 367 875, 598 438, 720	1, 162, 000 142, 000 778, 000 715, 000	217, 000 71, 000 530, 000 136, 000	891, 000 179, 000 1, 312, 000 775, 000	963, 000 174, 000 717, 000 839, 000
Utah California All other	329, 000 1,281,000 686, 000	373, 000 1, 635, 000 922, 000	512, 546 2, 603, 019 1, 332, 850	952, 539 1, 789, 904 1, 322, 803	594, 066 3, 051, 688 1, 510, 106	444, 000 1, 773, 000 1, 422, 000	132, 000 339, 000 430, 000	664, 000 1, 701, 000 1, 544, 000	584, 000 2, 397, 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
November December January February	Cents. 47. 4 48. 4 49. 2 51. 1	Cents. 45. 9 45. 1 48. 6 49. 6	Cents. 68. 4 73. 3 78. 6 91. 1	Cents. 76. 4 81. 1 88. 4 89. 9	Cents. 79. 6 79. 0 82. 1 84. 7	Cents. 98. 9 101. 8 112. 4 124. 1	Cents. 94. 1 85. 9 88. 7 88. 7	Cents. 88. 5 86. 5 87. 5 90. 3	Cents. 83. 1 81. 9 91. 9 91. 3	Cents. 87. 8 92. 2

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
Delaware	Cars. 511 1, 019 728 1, 201 4, 107	Cars. 303 388 244 727 2,787	Cars. 327 515 263 891 2,673	Cars. 177 458 312 799 4,735	Cars. 499 763 364 1,530 4,427	Cars. 289 379 156 987 4,677	Cars. 246 580 159 1,506 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
	2, 533	1, 196	3, 516	3,012	3, 188	2, 752	1, 707
	1, 634	806	708	1,160	1, 486	1, 941	1, 249
	2, 871	2, 290	3, 007	4,845	4, 298	4, 131	5, 282
Oklahoma	505	189	870	465	566	308	64
	449	93	268	314	577	325	165
	1, 137	1,689	3,300	3,276	3;796	4, 289	<b>4,</b> 028
	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

	AORE	AUL.				
Crop.	Number of States producing.	1919	1920	1921	1922	1923 1
Asparagus. Beans (snap). Cabbage. Cantaloupes Cauliflower Celery. Corn (sweet). Cucumbers Lettuce. Onions. Peas (green). Potatoes (early Irish) Strawberries. Tomatoes Watermelons	30 28 23 3 9 20 29 14 22 23	Acres. 28, 290 38, 560 92, 020 8, 640 13, 760 250, 030 64, 810 18, 360 255, 450 225, 450 376, 260	Acres. 31, 440 34, 550 119, 210 74, 530 8, 200 15, 790 261, 580 66, 450 31, 930 64, 940 149, 340 262, 750 93, 410 333, 560	Acres. 33, 230 34, 370 100, 430 77, 840 8, 940 14, 880 36, 270 80, 360 31, 240 57, 070 138, 380 267, 540 109, 590	Acres. 33, 970 50, 030 131, 780 9, 220 18, 090 198, 960 81, 780 44, 230 177, 710 306, 090 132, 800 343, 420	Acres. 43, 520 55, 390 98, 200 82, 040 10, 520 18, 910 250, 160 100, 980 56, 630 61, 100 207, 590 279, 770 405, 990
watermerous	22	122, 310	149, 640	155, 980	211,060	155, 730

#### PRODUCTION.

	1919	1920	1921	1922	1923 1
Asparaguscrates_	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
Cabbagedo	613, 800	1,062,300	654, 000	1, 062, 800	740, 000
Cantaloupescrates	10, 188, 000	10, 508, 000	10, 730, 000	12, 942, 000	11, 197, 000
Cauliflowerdo	2, 245, 000	2, 190, 000	2, 409, 000	2, 578, 000	3, 024, 000
Celerydo	2, 732, 000	3, 435, 000	3, 446, 000	4,017,000	4, 309, 000
Corn (sweet)tons	587, 400	594, 900	360, 600	478, 200	588, 700
Cucumbersbushels	6, 629, 000	5, 385, 000	8, 224, 000	8, 804, 000	7, 972, 000
Lettucecrates_	5, 517, 000	9, 425, 000	11, 056, 000	11, 176, 000	13, 270, 000
Onionsbushels_	14, 548, 000	21, 343, 000	14, 165, 000	18, 763, 000	16, 318, 000
Peas (green) tons	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
Strawberriesquarts	155, 800, 000	155, 588, 000	189, 677, 000	260, 394, 000	254, 691, 000
Tomatoestons_	1, 436, 000	1, 532, 800	736,000	1,664,600	1,708,900
Watermelonsnumber	41, 354, 000	57, 521, 000	61, 122, 000	71, 148, 000	42, 477, 000

Division of Crop and Livestock Estimates.

<sup>1</sup> Preliminary.

### 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 <sup>1</sup>
	Acres.	Acres	Acres.	Acres.	Acres.	Acres.	Acres.
Beans, dwarf, snap	63, 524	70, 867	48, 658	30, 059	12, 625	33, 488	42, 123
Beans, garden, pole 2	4,029	6, 297	7, 957	11, 573	3, 911	4, 430	5, 284
Beet, garden	826	2,748	2,666	400	380	633	699
Beet, mangel	20	424	619	123	(3)	112	
Beet, sugar	4,638	6, 014	11, 139	7, 919	3, 699	1, 129	
Cabbage		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		71	106	61	39	132	108
Lettuce	1, 979	2, 291	2, 283	2,010	1, 185	1, 929	2, 200
Muskmelon		1, 671	1, 467	1, 898	2, 223	1, 985	2, 720
Watermelon		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, seed	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		102, 095	104, 172	113, 844	35, 680	54, 462	86, 659
		720	160	431	1, 308	671	503
Pepper 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
Radish Salsify	131	124	205	52	9	33	
Spinach	1, 415	4, 259	1, 139	141	32	655	234
Squash, summer		1, 004	1, 153	1,000	1, 128	612	684
Squash, winter		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
Tomato Turnip, English	24	936	1, 207	239	336	200	-, 00-
Turnip, Swede	21	279	205	136	(3)	90	75
- ump, 0 " out			_00	200	` '	• •	

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	1923 1
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Beans, dwarf, snap	233	412	516	501	712	585	673
Beans, garden, pole 2	<b>3</b> 15	820	552	474	660	920	816
Beet, garden	562	913	697	295	474	678	934
Seet, mangel	1, 500	677	1, 003	561	(3)	911	
Beet, 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	365
Corn, sweet	640	807	902	1,070	1, 029	1, 181	1, 016
Ducumber	219	179	214	161	136	169	260
Cale	278	239	406	180	769	341	398
ettuce	456	326	298	292	262	444	173
Muskmelon	160	117	102	89	178	186	184
Watermelon	71	91	91	104	112	127	84
Onion, seed.	259	232	389	335	301	347	437
nion, sets	11, 850	12, 066	5, 906	11, 106	8, 304	9, 802	8, 427
Parsiey	771	471	767	629	311	524	312
Parsnips	496	625	733	622	542	702	497
eas, garden	444	569	460	767	762	855	765
epper	31	78	75	63	76	70	54
umpkin	. 71	96	95	114	117	120	135
Radish	176	221	233	181	150	299	176
alsify	427	250	454	308	333	455	170
pinach	212	387	317	716	781	479	842
quash, summer	145	99	193	131	166	185	175
quash, winter	70	50	152	121	110	79	119
omato	71	80	67	80	62	62	58
urnip, English	125	215	378	142	176	75	98
urnip, English	429	97	600	287	(3)	511	307

<sup>&</sup>lt;sup>1</sup> Preliminary.

### PRODUCTION.

		111000	O 1 1 0 1 1 .				
	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, 960	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	28	40	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	43
Lettuce	1903	747	680	587	310	856	380
Muskmelon	293	196	150	169	395	359	501
Watermelon	633	960	500	614	732	1, 200	711
Onion, seed	980	1,685	2, 618	801	334	450	935
Onion, sets		46, 069	21,900	44, 402	26, 780	31, 200	23, 200
Parsley	84	73	112	117	28	44	25
Parsnips	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
Pepper Pumpkin	108	133	110	247	106	119	47
Radish	621	1, 935	2, 537	614	258	743	600
Salsify	56	31	93	16	3	15	1
Spinach	300	1,650	361	101	25	314	197
Squash, summer	121	7 99	223	131	187	114	116
Squash, winter	93	128	443	255	144	66	182
Tomato	227	308	243	218	81	238	150
Turnip, English		201	456	34	59	15	100
Turnip, Swede.	ğ	27	123	39	(3)	46	23
· · · · · · · · · · · · · · · · · · ·		1	120		`'	10	

Division of Statistical and Historical Research. Compiled from data of Hay, Feed, and Seed Division.

<sup>2</sup> Not including Lima beans.

<sup>3</sup> Not reported for 1921.

<sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> Not including Lima beans.

<sup>8</sup> Not reported for 1921.

Table 273.—Vegetable seed: Imports into United States, 1910 to 1922.

771 . 1 . 6 1			Fisc	al year	endin	g June	30			'	Calend	ar yeai	·.
Kind of seed.	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	1,000	1,000	1,000		1,000	1,000		1,000	1,000	1,000	1,000	1,000	1,000
	lbs.	lba.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Beet, sugar		11, 109	11, 390	14, 783				14, 466	15, 637		23, 446	7, 726	
Beet, all other	624										238	257	27
Cabbage	162		311	273								253	18
Carrot	176			149	172		38		33		69	48	3
Castor bean 1		<b>39</b> , 512	48, 913	41, 229	52, 196	46, 230	53, 598	<b>38, 3</b> 53	52 <b>, 2</b> 01			36, 565	- <b></b>
Cauliflower	6	10	7	. 9	11	13	9	8	. 8	12	17	12	1
Celery 1	189	341	39		406		608			768			60
Collard	1 7	1	(2)	. 2	(²)	9	(2)	(2)	(2)	1	(2)	(2)	
Corn salad	7	10	8	6	6	5	. 5	4	. 2	8	14	` 3	
Eggplant	3	1	2	2	1	1	2	1	2	1	1	1	
Kale	17	25	39		38					19	77	40	2
Kohl-rabi	50	17	11	14	16				17	17	23	14	10
Mushroom spawn	368			240	195				17	23	19	23	
Mustard 1	9, 124		12, 198			10, 158	16, 402	9,962	13, 036	14, 227	9,063	7, 564	
Parsley	75	75		129	255	139	70	38	66	53	180	151	14
Parsnips	89	57	- 55	117	130	100	100	65		44	17	57	4
Pepper	16			10	12	15	15	5	22	6	2	9	
Radish	470		373	504	527	550		119	103	112		213	275
Spinach	935	972	1, 218	1,698	1,386	1, 136	838	634	805		1, 139		1, 92
Turnips and ruta-			1		,	,					,	,	,
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.

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
Beet, 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
Cerrot	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	4.00	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	. 77
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
Parenin	. 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	. ii
romato	2.75	3. 60	4.00	3. 25	3. 10	2.80	2, 70
Furnip, English	. 35	1.75	1. 35	. 65	. 50	. 35	. 46
Furnip, 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.

<sup>&</sup>lt;sup>1</sup> Imported for planting and for other purposes.

<sup>2</sup> Less than 500 pounds.

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
Dt1	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Beet, garden Beet, sugar	9. 4 6. 5	10. 3	16. 4 9. 7	15. 7 7. 2	15. 0 7. 6	11. 0 8. 8	12. 0 11. 2	17. 2 11. 6	49. 2	67. <b>2</b>	21. 1 22. 2	14. 2 19. 6	18.0
Cabbage	22. 9	34. 1	37. 6	47. 6	49. 0	35. 0	42. 2		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
Cauliflower	534. 0		562. 0			343. 0		606. 0		382. 3		813. 4	688. 2
Celery 2 Collard	9. 4 19. 6	9.3	25. 1 14. 3	87. 2 13. 1	21. 4 17. 0	18. 3 13. 4	26. 6 24. 0	18. 8 77. 0	38. 0	40. 0	19. 6	14. 3	21.0
Corn salad	15. 6	12. 7	20. 7	14. 6	12.6	13. 5	15.0	16. 8	38. 1	49. 1	26. 0 44. 9	23. 1 47. 3	
Eggplant	78. 6	71. 9	61. 1	80. 8	80. 6	80. 5	86. 2			219. 7	187. 6	143. 5	
Kale	<b>22</b> . 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-rabi	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 Parsnip	8. 5 7. 2	9. 0 7. 6	19. 2 10. 4	28. 1 8. 6	18. 6 8. 2	11. 0 7. 0	12. 2 8. 1	14. 4 8. 4	19. 7 49. 2	39. 3 60. 4	11. 9	12. 5	12.7
Pepper	42.3	41. 4	40. 9	44.0	38. 2	41.0	41. 0	57. 0		151. 9	21. 9 109. 5	13. 2 68. 3	27. 0 105. 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
Turnip and ruta-	0.5	0.0				0.5							
baga	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.

Table 276.—Vegetable seed: Retail catalogue prices, calendar years, 1917-1923.

	19	17	191	.8	19	19	19	20	19	21	19	922	19	923
Kind of seed.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.
Beans, dwarfsnap Beans, garden pole Beets, garden Beets, garden Beet, mangel Cabbage Carrot Celery, domestic Celery, imported Cucumber Lettuce Muskmelon Watermelon Onion seed Parsley Parsnip Peas, garden Radish Spinach Squash, summer Squash, winter Squash, winter Sweet corn Tomato Turnip, English Turnip, Swede	\$0. 15 . 10 . 25 . 15 . 10 . 15 . 10 . 15 . 10 . 25 . 10 . 10 . 10 . 10 . 10	. 55 3. 00 1. 40 2. 60 17. 00 . 95 1. 35	\$0. 20 . 15 . 45 . 20 . 30 1. 40 . 15 . 15	1. 30 5. 05 2. 25 2. 85 1. 75 1. 40 1. 30 5. 15 1. 75 1. 65 2. 10 1. 40 1. 50 1. 38	\$0. 20 . 15 . 90 . 20 . 35 1. 30 . 15 . 15 . 15 . 35	1. 75 1. 20 11. 10 2. 90 13. 55 1. 30 1. 50 1. 35 1. 80 1. 25 1. 80 1. 25 1. 60 1. 35 4. 60 2. 05	\$0. 15 . 10 . 50 . 15 . 30 . 95 . 15 . 15	1. 30 3. 20 10. 45 1. 30 1. 55 1. 50 1. 10 3. 15 1. 10	\$0. 15 . 10 . 35 . 15 . 30 . 85 . 15 . 20 . 15 . 15 . 30 . 15	3. 90 1. 10 3. 00 9. 85 1. 40 1. 50 1. 15 3. 00 1. 10 1. 05	\$0. 14 . 10 . 30 . 13 . 27 . 85 . 15 . 17 . 14 . 24 . 14 . 14 . 10 . 17	. 70 3. 15 1. 00 2. 75 9. 05 1. 35 1. 50 1. 05 2. 55 1. 10 1. 00 . 37	\$0. 14 . 10 . 29 . 13 . 29 1. 05 . 17 . 16 . 14 . 21 . 17 . 14 . 11 . 16 . 16	. 70 3. 05 1. 05 3. 00 11. 20 1. 30 1. 60 1. 45 1. 10 2. 55 1. 10 . 60 1. 40 1. 35 . 31 3. 90 . 95

Hay, Feed, and Seed Division. Average of prices quoted for standard varieties of vegetable seed by a number of representative mail-order dealers.

<sup>&</sup>lt;sup>1</sup> Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce. <sup>2</sup> Imported for planting and other purposes.

<sup>&</sup>lt;sup>1</sup> Not including Lima beans.

Table 277.—Fruits and vegetables: Carlot shipments of 15 commodities, United States, 1917-1923.

		,	,					,		,			
Commodity, and calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Apples: 1917 1918 1919 1920 1921 1922 1923 Beans, dry:	4, 393 6, 046 4, 199 8, 573	Cars. 2, 153 3, 232 3, 679 4, 419 6, 698 4, 756 6, 611	2, 882 2, 063 4, 378	2.819	Cars. 965 347 430 1, 276 1, 496 1, 117 1, 617	Cars. 301 229 189 262 422 1, 117 507	Cars. 755 1, 149 1, 349 1, 855 1, 220 2, 592 3, 324	Cars. 1, 308 2, 359 2, 712 3, 861 3, 384 4, 924 3, 908	Cars. 5, 719 8, 070 12, 259 11, 043 13, 146 14, 969 14, 818	Cars. 21, 895 26, 680 32, 666 37, 284 35, 117 34, 007 44, 477	Cars. 14, 165 13, 563 15, 854 23, 087 14, 464 20, 617 25, 187	Cars. 3, 993 6, 320 5, 301 8, 875 5, 991 8, 816 7, 746	
1919 1920 1921 1922 1923	699 661 1, 239 1, 168 1, 251	406 421 1, 236 1, 124 724	967 921 680	122 715 441 690 479 580	343 754 812 675 492 486	166 474 466 612 393 558	186 338 331 492 232 407	201 611 305 749 163 453	1, 187 797	1, 019 845 2, 461 1, 986	1, 136 1, 532	758 864 874	
Cabbage:  1917  1918  1919  1920  1921  1922  1923  Cantaloupes:  1917	1, 286 1, 498 2, 182 1, 931 2, 852 3, 344 2, 985	463 1, 735 2, 017 2, 518 2, 293 3, 422 2, 299	503 1, 790 1, 977 3, 328 2, 929 4, 185 2, 630	0,001	1, 634 3, 734 2, 469 2, 941 3, 186 4, 006 4, 130	1, 594 1, 438 1, 508 1, 727 2, 252	753 645 557 612 459 660 817	1, 305 1, 152 1, 095 1, 393 1, 436	3, 261 2, 465 1, 791 2, 818	5, 137 5, 399 5, 467 7, 060	3, 298 2, 411 4, 607	1,371 1,346 1,355 1,934 2,529	20, 354 28, 661 24, 982 31, 020 31, 718 40, 065 36, 068
1918 1919 1920 1921 1922				4	51 66 475 638 135 917	6, 781 7, 974	10, 173	3, 922 4, 755 6, 867 5, 986 5 334	2, 184 1, 339 2, 834 2, 784 2, 153 3, 294 2, 671	306 10 338 152 171 603 538	23  12 3 34	3	17, 430 13, 619 22, 039 22, 377 25, 569 29, 917 25, 791
1919 1920 1921 1922 1923	616 816 1,675 1,423 1,999	546 1, 047 1, 746 1, 392 1, 894	722 1, 206 1, 754 1, 749 2, 510	412 708 866 1, 204 1, 681	507 320 255 466 393	32 21 105 93 87	44 69 137 201 218	141 150 262 369 359	258 421 516 829 603	2, 107	1.811	1, 086 1, 483 1, 909 2, 278 2, 521	6, 449 9, 308 12, 483 14, 151 16, 587
Grapes: 1919 1920 1921 1922 1923 Lettuce:	$egin{array}{c} 1 \\ 2 \\ 7 \end{array}$					12 12 12 . 1	460 366 425 324 600	4, / 40	13, 023 12, 001 16, 743 22, 420 22, 042	20, 1911	2, 423 2, 808 1, 968 6, 366 7, 574	10 13 6 225 755	30, 349 39, 205 37, 202 59, 858 63, 217
1919	767 2, 025 2, 356 2, 245 3, 119	717 1, 622 1, 984 1, 919 2, 741	2, 219	1, 090 1, 063 1, 974 3, 181 2, 515	831 1, 172 1, 067 1, 855 2, 015	1	1,536	695 934 1, 140 1, 787 2, 454	1, 303 1, 781	2, 013	565 1, 388 1, 481 1, 444 2, 219	937 1, 491 1, 771 2, 082 2, 814	8, 018 13, 821 18, 616 22, 240 29, 286
1917	986 901 1, 488 1, 368 2, 038 1, 724 2, 110	355 1, 062 1, 213 1, 159 1, 769 1, 011 1, 484	232 1, 023 949 999 1, 724 719 1, 569	2, 511	2, 960 2, 290 2, 462 4, 242 2, 559 2, 301 2, 541	1, 156 1, 141 646 607 822 937 766	1,030 1,482 1,695	1, 921 1, 909 1, 918 2, 048 2, 497	2,740 3,075 3,522 3,675 3,362 4,603 3,800	2, 608 5, 129	1, 348 2, 410 1, 702 2, 918 1, 248 2, 185 2, 622	516 1, 017 987 1, 186 1, 148 1, 677 1, 683	19, 152 22, 027 20, 874 25, 950 23, 319 27, 563 26, 396
Peaches: 1917 1918 1919 1920 1921 1922 1923					41 1, 119 328 45 1, 429 695	4,021 3,513 1,588 4,012 3,184	9, 216 6, 881 9, 387	5, 743 5, 185 11, 277 6, 284 7, 324 11, 886	11, 031 3, 625 6, 485 10, 528 5, 116 13, 778	3, 968 123 104 1, 638 32 1, 208 757	3		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 277.—Fruits and vegetables: Carlot shipments of 15 commodities, United States, 1917-1923—Continued.

Commodity, and calendar year.   Cars			inaca	· •										
Pears:   Cars.	Commodity, and	Ton	Feb	Mar	Anr.	Mav.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Pears: 1919: 11 1 1 8 8 3 23 2, 417 3, 797 4, 850 3, 634 779 157 14, 950 40 10, 158 1920 1921 46 28 20 1 1, 650 6, 660 34, 41, 610 625 112 20, 138 1923 121 40 23 7 7 7 1 109 3, 527 5, 233 4, 900 2, 907 419 118 17, 419 Potatoes: 10, 331 8, 418 6, 968 8, 471 9, 746 14, 719 15, 488 12, 910 14, 202 23, 542 13, 526 7, 120 144, 656 1917 1919 12, 738 8, 981 13, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 528 13, 528 118, 221 1919 12, 738 8, 981 13, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 528 13, 428 1919 1919 12, 738 18, 981 18, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 528 13, 428 18, 91 169, 264 1919 12, 273 8, 988 13, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 529 13, 154 67, 120 1920 12, 883 8, 725 12, 772 8, 445 6, 960 14, 777 16, 622 13, 528 12, 821 1922 16, 705 13, 178 122, 309 20, 97 120, 214 22, 308 18, 820 18, 229 14, 105 11, 801 14, 104 19, 104 14, 10	calendar year.	Jan.	100.	1.101.	p.r.				"					
Pears: 1919: 11 1 1 8 8 3 23 2, 417 3, 797 4, 850 3, 634 779 157 14, 950 40 10, 158 1920 1921 46 28 20 1 1, 650 6, 660 34, 41, 610 625 112 20, 138 1923 121 40 23 7 7 7 1 109 3, 527 5, 233 4, 900 2, 907 419 118 17, 419 Potatoes: 10, 331 8, 418 6, 968 8, 471 9, 746 14, 719 15, 488 12, 910 14, 202 23, 542 13, 526 7, 120 144, 656 1917 1919 12, 738 8, 981 13, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 528 13, 528 118, 221 1919 12, 738 8, 981 13, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 528 13, 428 1919 1919 12, 738 18, 981 18, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 528 13, 428 18, 91 169, 264 1919 12, 273 8, 988 13, 744 13, 429 9, 883 13, 308 13, 851 13, 622 13, 529 13, 154 67, 120 1920 12, 883 8, 725 12, 772 8, 445 6, 960 14, 777 16, 622 13, 528 12, 821 1922 16, 705 13, 178 122, 309 20, 97 120, 214 22, 308 18, 820 18, 229 14, 105 11, 801 14, 104 19, 104 14, 10											_		_	~
1919	Pears:	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.							
1921	1919	11	1					1, 954	3, 820		1, 389	190		
1922   93	1929			8	3			2,417	3, 0/9					
Potations:	1921	49		20				1, 511	0, 582	0,972				
Potatoes: 1917. 10, 331 8, 1818 6, 083 8, 477 19, 746 14, 719 15, 488 12, 910 14, 292 23, 542 13, 536 7, 120 144, 656 1918 9, 489 10, 948 112, 558 11, 528 11,	19 <b>22</b>	9		2				1, 609	0, 900	0, 010			112	17 410
1917.	1923	121	40	37	7	1	109	3, 527	0, 233	4, 900	A, 901	419	110	11, 110
1918	Potatoes:							1 400	10 010	14 900	92 549	12 526	7 120	144 656
1919	1917	10, 331	8, 418	6, 083	8, 471	9, 746	14, 719	10, 400	11 905	10 841	24 902	15 449	8 801	160 264
1920 12, 813 8, 725 12, 772 8, 445 6, 960 14, 777 15, 622 13, 592 18, 153 13, 252 25, 1075 19, 755 1768, 282 1922 16, 705 13, 718 122, 330 20, 047 20, 214 122, 030 18, 839 18, 252 24, 420 35, 188 21, 051 12, 437 245, 221 1923 17, 255 14, 605 24, 450 23, 186 16, 277 20, 402 16, 343 16, 695 23, 186 33, 435 19, 400 11, 421 236, 654 1923 1919 1919 1918 111 355 1, 122 5, 321 1, 417 1777 31 18 18 18 15, 055 1940 1919 1910 1910 1910 1910 1910 1910	1918	9, 489	10, 943	12, 558	11, 528	12, 720	10, 989	12, 100	12 696	99 957	29, 502	17 362	0 532	181 277
1921 14, 106 11, 970 16, 154 14, 863 14, 987 17, 645 17, 641 16, 115 26, 040 43, 250 16, 729 10, 496 [219, 426 1922] 16, 705 13, 718 [22, 330   20, 047   20, 214   22, 030 18, 893 18, 285 24, 35, 185   38, 435 19, 400 11, 421   236, 654   Strawberries:	1919	12, 753	8, 998	13, 744	13, 429	9,880	13, 300	15 699	12 500	18 155	31 522	25 075	9 755	178 283
1922	1920	12, 883	8, 725	12, 772	8, 440	0, 900	17 048	17 041	16 115	26 040	43 250	16 729	10, 496	219, 426
1923	1921	14, 106	11, 970	16, 104	14, 893	14, 987	20, 020	10 990	10, 110	24 420	35 188	21 051	12 437	245, 221
Strawberries:   97   1, 383   6, 506   6, 439   640	1922	16, 705	13, 718	22, 330	20, 047	20, 214	22, 000	16 242	16 605	23 185	33, 435	19 400	11 421	236, 654
1917 97 1, 383 6, 308 6, 308 6, 439 1040 1777 31 18	1923	17, 255	14,605	24, 450	23, 186	16, 277	20, 402	10, 343	10, 000	20, 100	00, 100	13, 100	11, 123	200, 002
1918	Strawberries:		l		1 000	0 500	0 490	040	1	l				15.065
1918	1917		=		1, 383	0, 000	0, 408			18				8, 452
1920	1918					0, 321	0 005	147		94			i	R 105
Sweet potatoes:  1919	1919			49				102		59	2			8, 490
Sweet potatoes:  1919	1920				887	0, 011	1 700			13	ã	li		10, 695
Sweet potatoes:  1919	1921	10	40		2, 128	0, 010	0, 005		.1	10		1 *		18, 716
Sweet Potatoes:	1922	17	105		2, 401	12, 940	2, 920			7				17 896
Sweet Potatoes:	1923	125	441	493	1,576	10, 572	4, 401	200	'	<b></b>				1,,000
1921	Sweet Dotatoes:	I	P .	l		1 40	ء ا		1 220	9 004	2 741	2 211	1 452	13 725
1921	1919	1, 123								2, 900	2, 131	2, 658	1 882	16 254
1922	1920	1.368	959	1, 150				92	1 051		3, 405	2,000	2 628	19 071
1922	1921	<b>2,03</b> 5	1,624	1, 505					1, 901	2 613		2, 482	2, 110	
Tomatoes:  1917	1922	1,674	1,503	1,588				170	1,928	9 069		1 891	1 728	18 750
1917. 115 74 22 1,448 1,568 3,028 1,967 2,154 3,771 1,361 281 23 15,471 1918. 30 109 874 1,027 1,924 3,070 1,471 850 2,788 1,899 403 39 14,503 1920 208 472 1,340 468 703 3,180 2,199 1,504 3,539 1,491 216 26 15,556 1921 33 273 938 1,686 2,784 4,392 1,861 1,071 2,847 863 428 53 17,199 1922 65 544 2,615 2,794 3,890 5,988 1,958 1,958 2,724 3,432 1,343 290 67 2,668 1923 177 902 2,303 2,403 3,840 4,155 1,529 1,355 4,507 2,157 555 101 23,792 Watermelons:  1919	1923	2, 220	1, 793	1,839	1, 164	400	101	1/6	1,000	2, 802	2, 100	1,001	1, .20	10, 100
1918	Tomatoes:				044	0.001	0.000	0 264	1 904	1 868	1 056	04	1.5	14 115
1918	1917	115			814	2, 961	2,832	2, 309	0 104		1 361	981		
1990	1918	!			1,446	1, 506		1, 907	2, 129					
1920	1919					1, 929	3, 070	1,4/1	1 504	2, 530				
1922	1920	268					4 200	1 1 0001	1,009	9 847		428		
1922	1921				1,686		4, 392	1,001	0 710	1 249				26 668
1923	1922			2,615	2, 794	3, 980	0, 900	1, 900		4 507				23, 792
1919	1923	177	902	2,303	2,403	3, 642	4, 10	1,020	1,000	T, 501	2,10	1 000	1 -0.	20, .02
1922	Watermelons:	l	1	ļ		900	1 000	15 011	0 956	1 677	20	وا		30, 860
1922	1919					291	4, 900	100 100	10,000					
1922	1920					1 000	0, 414	10 925	110, 488				1 00	
1923	1921				•		11, 240	17 765	9 00	1 643				
Total (15 commodities):  1917.	1922				1 6	5,000	15, 010	115 609	8 590	1,071				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1923				1 0	102	0,02	10,000	0, 020	1, 5, 1	102	1 1		00,0
1919 25, 7/22 18, 629 22, 564 21, 560 22, 565 21, 567 21, 560 22, 565 21, 567	Total (15 commod-	1.	1	1	Į.			1	1	ł	1	1	1	į
1919 25, 7/22 18, 629 22, 564 21, 560 22, 565 21, 567 21, 560 22, 565 21, 567	ities):	1 - 000		0 110	1 5 040	04 919	29. 224	31 700	20 865	40, 339	60, 913	31, 678	12, 685	315,057
1919 25, 7/22 18, 629 22, 564 21, 560 22, 565 21, 567 21, 560 22, 565 21, 567	1917	15, 098	11, 463	9, 112	10, 045	97 409	29 029	20 749	28 853	42 664	63, 292	35, 864	18, 524	350, 887
1919 25, 7/22 18, 629 22, 564 21, 560 22, 565 21, 567 21, 560 22, 565 21, 567	1918	14, 272	17, 033	19, 172	21, 040	24, 196	27 600	53 890	54 570	74, 297	93, 645	45, 473	21, 488	491, 605
1920 25, 713 21, 342 27, 762 23, 561 22, 562 15, 473 64, 188 62, 648 84, 106 112, 491 44, 196 26, 292 611, 094 1921 32, 246 36, 682 65, 487 85, 106 171, 964 106 151 123, 620 63, 087 133, 877 723, 863 1923 39, 942 33, 534 46, 084 41, 071 43, 826 53, 315 63, 441 65, 236 96, 279 131, 171 68, 652 32, 762 715, 313	1919	23, 722	18, 620	22, 004	21, 000	22, 900	90, 50	100,020	55 49	74 022	111 496	66 504	27 152	551, 393
1922 32, 675 29, 496[39, 841] 39, 885[32, 369] 60, 367 (63, 361) 65, 368 [70, 367] 131, 171 [68, 652] 32, 762 715, 313	1920	25, 713	21, 342	27,020	20, 934	24, 990	50, 02	00, 01	00, 046	94 100	119 401	44 106	26 202	611 094
1923 39, 942 33, 534 40, 084 41, 071 45, 520 55, 515 65, 411 65, 200 65, 275 22, 11 65, 200 65, 275 22, 11	1921	32, 440	29, 002	34, 380	34, 400	50 250	65. 25	65 681	71 084	106151	123, 620	63, 087	33, 877	723, 863
	1922	32, 575	29, 490	40,094	139, 830	42 200	52 21	63 441	65 236	96. 279	131, 171	68, 652	32, 762	715, 313
The state of the s	1923	ຸ <b>ອ</b> 9, 942	33, 334	±0, 089	21, 071	10,020	,,00, 010	100, 22	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	]	,	1	, , , , ,	1
		1	1	1	1		<del></del>	<del></del>	<del></del>	4.1 77	*****	. TT	- blo F	i-inion

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.	Chi-	Phila- del- phia.	Pitts- burgh.	St. Louis.	Cin- cin- nati.	St. Paul.	Min- neap- olis.	Kan- sas City.	Wash- ing- ton.	Total.
Apples: 1917 1918 1919 1920 1921 1922 1923 Cabbage:	, ,	Cars. 4, 335 4, 536 6, 069 7, 102 6, 634 6, 575 10, 364	Cars. 2, 343 2, 701 2, 864 3, 217 3, 416 2, 539 3, 211 1, 325	Cars. 2, 498 2, 951 2, 216 2, 792 2, 808 3, 020 3, 005	Cars. 2, 117 1, 540 1, 379 1, 975 1, 856 2, 111 2, 736	Cars. 636 1, 130 1, 450 1, 617 1, 810 1, 257 1, 659	Cars. 284 410 227 401 351 496 428	Cars. 586 568 348 464 422 712 681	Cars. 988 709 674 1, 006 1, 002 775 1, 507	Cars. 333 633 387 590 369 454 674	Cars. 1 22, 116 26, 514 26, 215 30, 222 2 30, 652 2 30, 703 2 39, 803 1 7, 503
1917 1918 1919 1920 1921 1922 1923	1 2, 027 2, 880 2, 301 2, 306 2 3, 030 2 3, 333 2 3, 981	1, 141 1, 322 1, 837 1, 355 1, 780 1, 697 1, 685	1, 325 1, 936 1, 662 1, 906 1, 962 2, 166 2, 233	1, 670 1, 172 1, 297 1, 105 1, 219 1, 274	858 746 864 1, 049 1, 121 1, 018	577 557 596 669 781 729	54 53 74 68 102 78	57 49 121 75 104 81	580 421 399 400 515 503	371 287 393 386 468 390	10, 305 9, 085 9, 311 2 10, 524 2 11, 506 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 York.	Chi- cago.	Phila- del- phia.	Pitts- burgh.	St. Couis.	Cin- cin- nati.	St. Paul.	Min- neap- olis.	Kan- sas City.	Wash- ing- ton.	Total.
Cantaloupes:	Cars.	Corn	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.	Cars.
1917	3, 365	Cars. 793	815	1, 140	285	418	85	142	360	99	7, 502
1917 1918	3, 029	1. 059	493	1, 068	286	389	38	118	128	126	6. 734
		1, 936	1, 049	1,702 1,275	305	597	92	171	448	230	10, 397
1920	4, 213	2.061	1,091	1, 275	452	554	60	94	396	266	10, 462
1921	2 4, 781	2, 308	1, 258	1, 322	539	640	115	166	452	242	2 11, 823
1920 1921 1922 1923	<sup>2</sup> 5, 535	2,800	1, 542	1, 244	618	676	122	214	422	306	2 13, 479
Onions:	<sup>2</sup> 4, 521	2, 237	1, 226	1,203	512	461	76	199	309	253	<sup>2</sup> 10, 996
1917	1 4.666	1, 146	1,606	1.178	75 <b>3</b>	286	50	149	407	108	1 10, 349
1918	4,465	695	1, 542	1, 208	549	276	25	75	389	220	9, 444
1010	1 201	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
1920 1921 1922 1923	<sup>2</sup> 4, 933 <sup>2</sup> 8, 338	1, 673 1, 951	1,698 1,790	951 941	672 664	400 394	65 64	115 95	453 454	235 247	2 11, 195 2 14, 938
Peaches:	- 0, 230	1, 931	1,790	941	004	394	04	90	404	241	- 14, 900
1917	3, 620	1, 067	827	1, 167	348	495	69	190	292	120	8, 195
1010	2 602	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
1919 1920 1921 1922 1923	3, 506 2 4, 143	1, 267 1, 326	847	849	347	481	36	64	158	263	7,818
1921	<sup>2</sup> 4, 143	1, 326	1,056	759	481	600	77	101	268	148	2 8, 959
1922	3 4, 617	2, 107	1,016	1,071	438	609	161	192	331	294	2 10, 836
Potatoes:	<sup>2</sup> 3, 496	1, 404	778	745	542	649	136	158	320	220	2 8, 448
1917	1:20 RO1	9, 609	6,441	5, 185	2,904	1,573	410	1, 196	2, 546	439	1 50, 964
1019	1 40 3300	12, 477	6 823	6, 516	2,739	1,538	125	397	2,602	1, 213	53, 760
1 <b>9</b> 19	18, 378	12, 158	7, 668	7, 326	2,756	1, 538 2, 047 2, 189	150	498	2, 602 2, 521	1,000	54, 502
1919 1920 1921 1922 1923	17, 424	11, 302	7, 668 7, 190 7, 460	5, 614	2, 512	2, 189	437	756	2, 145 2, 257	885	50, 454
1921	17, 986	13, 077	7, 460	5, 396	3, 592	2,857	-594	845	2, 257	1, 153	2 55, 217
1922	20, 100	13, 912	8,025	5,009	4, 290	3, 447	351 263	717 735	2, 433 2, 417	1, 623 1, 646	<sup>2</sup> 59, 905 <sup>2</sup> 60, 204
Strawberries:	*21,330	14, 436	8, 519	4, 906	3,012	2, 942	200	155	2, 417	1,000	- 00, 201
1917	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 3, 089
1918 1919	898	1, 246	243	166	45	232	58	101	50	50	3, 089
1920	1, 202 2 1, 101	909	291	185	85	80	49	84	68	75	3, 028
1921	2 1, 101	1,499	300	321	132	356	72 160	147 351	180 262	50 48	<sup>2</sup> 4, 158 <sup>2</sup> 6, 537
1922	<sup>2</sup> 2, 193 <sup>2</sup> 2, 507	1,719	568 750	497 516	265 277	474 559	130.	246	129	62	<sup>2</sup> 6, 872
1920 1921 1922 1922 1923 Sweet potatoes:	- 4, 507	1,000	100	920		000	100.	210	120	02	0,012
	1.092	1, 231	440	913	194	368	38	91	180	197	2 5, 244
1922 1923	2 1. 625	1.315	378	962	127	461	65	141	147	183	<sup>2</sup> 5, 404
1923	<sup>2</sup> 1, 255	1, 497	409	944	1 136	413	58	133	102	180	<sup>2</sup> 5, 127
Tomatoes:	10.010	1 800	696	045	237	347	27	75	266	105	1 7, 341
1917 1918	<sup>1</sup> 3, 310 3, 229	1,333 1,008	698	945 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
1 <del>920</del>	9 153	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	262	193	37,645
1922	2 3. 974	1, 918	1, 382 1, 436	1, 219	444	438	75	121	330	254	2 10, 155
1921 1922 1923	2 3,981	1,652	1, 436	1, 321	309	339	34	106	302	226	2 9, 705
rotai (nine commodi-			1		-						
ties):	148, 356	20, 334	14,732	13, 444	7, 734	4, 467	1,053	2,618	5, 407	1,400	<sup>1</sup> 119, 545
1917 1918	49.158	23, 033	15, 389	15, 710	6 301	4,771	840	1, 481	4,898	2,834	124, 415
1010		27, 026	16, 771	15, 772	6, 181	5 942	793	1,412	4, 918	2, 444	129, 026
1919		100 100	16, 922	13, 892	7. 142	6, 018	1, 112	1,739	4,812	2, 878	127, 881
1919 1920	46, 934	26, 432	10,044								
1920 1921	46, 934 51, 918	30.988	18, 479	14, 465	6, 181 7, 142 8, 729	7,901	1, 420	1, 996	5, 346	2, 934	2 144, 176
1920 1921 1922 1923	46, 934 51, 918 59, 074	30.988	18, 479 19, 312		8, 729 10, 086 9, 206	7, 901 8, 543 8, 145	1, 420 1, 597 1, 267	1, 996 2, 667 2, 434	5, 346 5, 668 6, 043	3, 865	2 144, 176 2 159, 720 2 168, 065

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Unloads as shown in carlets include those by boat reduced to carlot basis.

¹ Reports incomplete.
¹ New York received, in addition in L. C. L. receipts for 1921, 152 cars of apples, 53 of cabbage, 152 of cantaloupes, 306 of enions, 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, 202 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, 316 cars of apples, 101 of cabbage, 280 of cantaloupes, 239 of onions, 1,182 of peaches, 689 of potatoes, 522 of strawberries, 1,361 of sweet potatoes, 1,156 of tomatoes, and 5,786 of total fruits and vegetables.

# 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.		isands cres.	in bi	ge yield 1shels acre.	thou	uction, sands ishels.	price pe	ge farm er bushel 7. 15.	thou	value, sands ollars.
1914 1915 1916 1917 1917 1918 1919 1920	1, 1, 1, 1, 1, 1, 1, 1, 1, 1	375 928 107 321 744 960 347	1 10 11 10	3. 2 1. 1 9. 7 8. 8 0. 0 2. 6 0. 8 1. 8	10, 10, 16, 17, 13, 9,	, 585 , 321 , 715 , 045 , 397 , 349 , 185 , 150	2. 5. 6. 5. 4. 2.	26 59 10 50 28 26 95 67	26, 54, 104, 91, 56, 27,	213 771 686 350 863 811 134 399
Leading States.	1922	1923 1	1922	1923	1922	1923 ¹	1922	1923	1922	19231
Total	1, 074	1, 297	11.9	12. 1	12, 734	15, 740	3. 74	3. 65	47, 640	57, 480
New York Michigan Wisconsin Colorado New Mexico Arizona Idaho California	1,074 1,297  108 130 458 568 8 10 81 170 62 69 7 6 26 45 324 299		14. 0 10. 5 9. 5 5. 0 3. 2 3. 5 14. 0 16. 5	13. 0 11. 5 9. 0 8. 0 5. 0 6. 5 22. 0 15. 7	1, 512 4, 809 76 405 198 24 364 5, 346	1, 690 6, 532 90 1, 360 345 39 990 4, 694	3. 80 3. 65 3. 60 4. 40 4. 50 4. 50 3. 40 3. 75	3. 90 3. 30 4. 00 3. 70 4. 20 3. 90 3. 60 4. 00	5, 746 17, 553 274 1, 782 891 108 1, 238 20, 048	6, 591 21, 556 360 5, 032 1, 449 152 3, 564 18, 776

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 1911-12 1912-13 1913-14	2. 26 2. 38 2. 08	\$2. 25 2. 27 2. 34 2. 25	2. 34 2. 25 2. 20	\$2. 20 2. 42 2. 31 2. 12	2. 38 2. 26 2. 17	\$2, 23 2, 38 2, 19 2, 09	2. 42 2. 10 2. 05	2. 37 2. 11 2. 11	2. 52 2. 18 2. 31	\$2, 19 2, 62 2, 23 2, 23	\$2. 23 2. 47 2. 22 2. 22	\$2. 20 2. 40 2. 11 2. 54	\$2. 21 2. 37 2. 25 2. 17
Av. 1910-1913	2. 25	2. 28	2. 23	2. 26	2. 25	3. 02	2. 18	2. 20	2. 30	2. 32	2. 28	2. 31	2. 25
1915–16 1916–17 1917–18	2. 70 4. 60 6. 69	2. 93 4. 47 7. 48	3. 03 5. 53 7. 33	3. 30 5. 77 7. 00	3. 47 5. 71 7. 00	3. 43 6. 07 7. 08	3. 34 6. 49 6. 95	3. 42 7. 37 6. 95	3. 56 8. 94 6. 67	3. 72 8. 99 6. 28	5. 09 8. 07 5. 88	4. 59 7. 29 6. 11	3. 27 5. 92 7. 04
1918–19 1919–20 1920–21	5. 67 4. 36 3. 83	5. 52 4. 27 3. 46	5. 46 4. 42 3. 27	4. 86 4. 41 2. 99	4. 98 4. 70 2. 95	4. 52 4. 47 2. 85	4. 40 4. 32 2. 89	4. 44 4. 41 2. 69	4. 19 4. 36 2. 73	4, 39 4, 49 2, 82	4, 25 4, 47 2, 75	4. 30 4. 17 2. 83	4. 98 4. 41 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 1922–23 1923–24	2. 99 3. 22 3. 78	2. 87 3. 36 3. 87	2. 85 3. 71 3. 83	2.83 3.91 3.44	2. 86 4. 24	3. 04 4. 42	3. 64 4. 30	3. 77 4. 32	4. 02 4. 26	4. 48 4. 05	4. 29 3. 94	4. 09 3. 62	3. 18 3. 88

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 281.—Beans, dry: Carlot shipments by States of origin, calendar years, 1918-1923.

State.	1918	1919	1920	1921	1922	1923
New York Michigan Colorado New Mexico Idaho California All other	Cars. 69 833 763 133 177 2,080 89	Cars. 144 1, 765 478 422 232 4, 681 69	Cars. 351 2, 123 186 621 147 3, 481 86	Cars. 1, 305 5, 855 524 974 145 3, 759 152	Cars. 1, 599 4, 955 483 288 236 3, 821 84	Cars. 1,771 5,869 993 84 48 3,269 151
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.

Calandan	Во	ston, p	ea.	Cl	nicago,	pea.	De	etroit, j	pea.	Sar sn	Franc nall wh	isco, ite.
Calendar year—	Low.	High.	Aver- age.	Low.	High.	Aver- age.	Low.	High.	Aver- age	Low.	Пigh.	Average.
1915. 1916. 1917. 1918. 1919. 1920.  Low, high, and average, 1914–1920.	3. 80 6. 50 9. 00 6. 00 4. 75	4. 10 7. 25 15. 00 14. 00 10. 00 8. 25	3. 36 4. 96 9. 24 12. 08 7. 74 6. 98		4. 10 8. 00 14. 50 15. 00 9. 50 9. 25	3. 19 4. 24 9. 09 11. 49 7. 92 6. 76 6. 42	2. 00 3. 50 6. 25 8. 63 6. 50 3. 90	3. 60 7. 00 13. 25 13. 25 9. 00 7. 90	3. 06 4. 82 8. 60 10. 75 7. 54 6. 25	4. 50 6. 25 10. 50 8. 90 5. 75 3. 75	\$6. 00 6. 40 11. 50 16. 00 12. 75 8. 90 6. 75	\$4. 98 5. 30 8. 05 13. 20 11. 64 7. 05 5. 72 7. 99
1921 1922 1923	4. 25 5. 00 6. 75	5. 50 10. 50 8. 00	4. 88 7. 60 7. 44	3. 60 4. 60 5. 30	5. 50 11. 15 9. 00	4. 61 7. 46 7. 04	3. 30 4. 30	4. 78 9. 65	3. 99 6. 86	3. 20 4. 75 5. 75	4. 90 7. 75 7. 75	4. 03 6. 18 6. 67
1923. January February March April May June July August September October November December	7. 50 7. 50 7. 50 7. 50 7. 15 7. 20 7. 00 6. 75 7. 25 7. 50 7. 50 7. 50	7. 75 7. 85 7. 75 7. 75 7. 50 7. 50 7. 50 7. 50 7. 50 7. 50 7. 50 7. 50 7. 50 7. 50 7. 50	7. 62 7. 71 7. 66 7. 60 7. 27 7. 35 7. 18 6. 89 7. 40 7. 75 7. 79 7. 12	8. 10 8. 25 8. 00 7. 75 7. 75 7. 50 6. 25 5. 50 5. 85 6. 30 5. 30 5. 30	9. 00 8. 50 8. 25 8. 00 7. 90 7. 50 5. 85 6. 30 6. 50 6. 50 5. 70					6. 75 7. 00 7. 25 7. 15 6. 50 6. 50 6. 15 5. 75 6. 50 5. 75 6. 50 5. 75	7. 75 7. 45 7. 30 7. 25 7. 15 7. 00 6. 50 6. 50 7. 00 7. 00 6. 25 6. 15	7. 48 7. 23 7. 27 7. 22 6. 76 6. 81 6. 42 6. 05 6. 75 6. 05 6. 09 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.	Novem- ber.	Decem- ber.	January.	Febru- ary.	Weighted average.
1913-14 1914-15 1915-16 1916-17 1917-18	\$1. 96 2. 08 1. 88 2. 13 2. 73	\$1. 57 2. 15 2. 08 2. 13 2. 86	\$1. 72 2. 24 2. 23 2. 18 3. 33	\$1. 96 2. 35 2. 31 2. 20 3. 47	\$1. 80 2. 26 2. 39 2. 45 3. 82	\$1. 76 2. 18 2. 11 2. 16 3. 05
1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	3. 36 3. 34 3. 41 2. 20 1. 89 2. 09	3. 20 3. 35 3. 00 2. 22 2. 06 2. 11	3. 29 3. 44 2. 28 2. 08 1. 97 2. 11	3. 00 3. 76 2. 18 2. 11 2. 07	3. 00 4. 05 2. 17 2. 16 2. 13	3. 23 3. 45 2. 80 2. 17 2. 00

Table 284.—Soy beans: Acreage, yield per acre, and production, by States, calendar years, 1922 and 1923.

		E	quivale	nt solid	acreage	utilized	1.1				. 1	Beans ga	thered.	2				H	ау.	
						_			Yield				Produ	ction.			771.1	1		
State.	Prin for b	narily eans.	Prim for l		Prim for gri hogg et	azing, ging,	Tot	tal.	acte acre gro prim for b	age wn arily	From a gro prim for b	wn arily	From till prim for corpurp	arily ther	То	tal.	Yield acre acre acre prim for l	from eage arily	Produ from a prim for l	crea <b>ge</b> arily
	1922	19238	1922	1923 8	1922	1923 8	1922	1923 <sup>8</sup>	1922	1923	1922	1923 8	1922	1923 3	1922	1923 8	1922	1923	1922	1923 8
Delaware Maryland Viginia West Virginia North Carolina South Carolina Georgia Ohio	100 3 3 31	1,000 acres. 3 7 14 1 105 5 7	1,000 acrès. 3 10 40 5 65	1,000 acres. 3 12 48 5 70 9 20 50 95	1,000 acres. 1 3 10 1 60 3 2 29 64	1,000 acres. 1 5 10 1 65 7 5 28	1,000 acres. 6 18 63 7 225 10 12 90	1,000 acres. 7 24 72 7 240 21 32 128	Bush. 14. 3 16. 0 16. 0 15. 0 16. 0 11. 0 12. 2 15. 0	Bush. 15. 4 17. 5 19. 0 15. 0 17. 0 12. 0 11. 0 16. 0	1,000 bush. 29 80 208 15 1,600	1,000 bush. 46 122 266 15 1,785	1,000 bush. 69 1 400	1,000 bush. 89 1 446 30	1,000 bush. 29 80 277 16 2,000 43 66 465	1,000 bush. 46 122 355 16 2,231 90 138 800	Tons. 1. 75 2. 00 1. 80 1. 70 1. 30 . 90 . 93 1. 70	Tons. 1. 40 1. 50 1. 80 1. 70 1. 40 90 . 80 1. 50	1,000 tone. 5 20 72 8 84 4 7 51	1,000 tons. 4 18 86 8 98
Indiana Illinois Michigan	20 65	40 92 6	29 70	137	58	64 213	113 193	199 442	12. 0 12. 5	14.0 14.0	240 812	560 1, 288	220 388	550 484	1,200	1, 110 1, 722	1. 50 1. 50	1. 40 1. 80	44 105	134 247
Wisconsin Iowa Missouri Kentucky	4 7 6 15 6	10 70 6	11 7 33 38	4 14 10 68 38	30 100 51 21	30 150 112 21	12 48 113 99 65	14 48 170 250 65	10. 2 11. 0 22. 0 11. 0 13. 0	11.0 8.0 17.0 12.0 14.0	41 77 132 165 78	66 32 170 840 84	10 41 84	95 94	51 77 132 206 162	66 32 170 935 178	1. 32 1. 20 1. 40 1. 25 1. 25	1. 50 1. 30 1. 90 1. 40 1. 45	5 13 10 41 48	6 18 19 95 55
Tennessee Alabama Mississippi Louisiana	8 18	6 17 8 1	125 60 19 1	130 52 23 6	23 35 16 1	23 37 14 1	154 113 43 3	159 106 45 8	9. 0 8. 6 12. 0 12. 1	9. 0 8. 5 14. 5 16. 0	54 155 96 12	54 144 116 16	63 83 96 9	63 78 116 13	117 238 192 21	117 222 232 29	1. 35 1. 20 1. 20 1. 00	1. 35 1. 03 1. 35 1. 40	169 72 23 1	176 54 81 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

<sup>&</sup>lt;sup>1</sup> Interplanted acreage is included as its equivalent solid acreage.

<sup>3</sup> Shelled, or equivalent bushels in the pod.

<sup>3</sup> Preliminary.

COWPEAS.

Table 285.—Cowpeas: Acreage, yield per acre, and production, by States, calendar years, 1922 and 1923.

		E	quivaler	t solid	acreage	utilized	1.1		•		1	Peas (ga	thered)	.2				H	ay.	,
									Yield p	er acre			Produ	etion.			37:-1.3		D 3	
State.	Primai pe		Primar ha		Primar grazing ging,	, hog-	Tot	al.	from a grown rily pe	prima- for	From a grown rily for	prima-	From a utilized rily fo purp		То	tal.	Yield p from a prim for l	creage arily	from a prim	creage arily
	1922	1923³	1922	1923 <sup>8</sup>	1922	19238	1922	1923³	1922	19 <b>2</b> 3	1922	1923³	1922	19238	1922	19238	1922	1923	1922	19238
Delaware Maryland Virginla West Virginia North Carolina	1,000 acres. 2 3 22 1 110	1,000 acres. 2 4 20 1 100	1,000 acres. 10 14 84 8 170	1,000 acres. 17 20 90 8 160	1,000 acres. 1 4 14 1 120	1,000 acres. 1 4 14 1 198	1,000 dcres. 13 21 120 10 400	1,000 acres. 20 28 124 10 358	Bush. 13. 5 14. 4 12. 0 13. 0 12. 0	Bush. 14. 0 13. 0 14. 0 14. 0	1,000 bush. 27 43 264 13 1,320	1,000 bush. 28 52 280 14 1,000	1,000 bush.	1,000 bush. 120 1 613	1,000 bush. 27 43 377 14 2,129	1,000 bush. 28 52 400 15 1,613	Tens. 1, 75 2, 00 1, 70 1, 55 1, 10	Tons. 1. 40 1. 50 1. 70 1. 50 1. 00	1,000 tons. 18 28 143 12 187	1,000 tons. 24 30 153 12 150
South Carolina Georgia Florida Indiana Illinois	300 230 11 18 53	304 181 14 23 45	277 333 33 66 90	293 380 36 95 97	150 140 42 17 19	130 160 44 20 19	727 703 86 101 162	727 721 94 138 161	7. 5 8. 9 11. 0 12. 0 7. 0	10. 0 8. 5 11. 0 10. 9 9. 5	2, 250 2, 047 121 216 371	3, 040 1, 538 154 230 427	750 1, 482 246 130 161	960 1, 180 313 180 114	3, 000 3, 529 367 346 532	4, 000 2, 718 467 410 541	. 85 . 90 . 73 1. 50 1. 50	.80 .70 .95 1.50 1.57	235 300 24 99 135	234 266 34 142 152
Missouri Kentucky Tennessee Alabama	21 10 14 240	23 10 12 179	74 58 175 220	97 . 58 168 182	30 28 40 209	30 28 36 154	125 96 229 669	150 96 216 515	9. 0 12. 0 7. 0 9. 0	9. 0 12. 0 7. 0 8. 5	189 120 98 2,160	207 120 84 1,522	83 150 106 1,379	107 150 91 974	272 270 204 3,539	314 270 175 2, 496	1. 18 1. 30 1. 30 . 90	1. <b>0</b> 0 1. <b>4</b> 5 1. 10 . 78	87 75 228 198	97 84 185 142
Mississippi Louisjana Texas Arkansas	160 55 44 50	154 46 55 45	160 75 22 120	163 65 26 110	127 105 110 62	104 95 81 57	447 235 176 232	421 206 162 212	8. 0 14. 6 9. 1 10. 0	7. 5 13. 5 12. 0 10. 0	1, 280 803 400 500	1, 155 621 660 450	1, 135 657 176 350	1, 025 508 121 220	2, 415 1, 460 576 850	2, 189 1, 129 781 670	1. 00 1. 10 1. 25 1. 10	1. 10 1. 20 . 80 1. 10	160 82 28 132	179 78 21 121
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

<sup>&</sup>lt;sup>1</sup> Interplanted acreage is included as its equivalent solid acreage.

<sup>&</sup>lt;sup>2</sup> Shelled, or equivalent bushels in the pod.

Preliminary.

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Table 286.—Cowpeas: Farm price per bushel, 15th of month, United States, 1915-

Year begin- ning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Weighted average.
1915-16 1916-17 1917-18 1918-19 1919-20	Cts. 174. 4 141. 3 265. 4 241. 3 310. 3	142. 4 217. 0 226. 2 269. 4 368. 8	233. 9 260. 9 273. 7	161. 6 227. 1 231. 4 270. 7 243. 4	177. 0 237. 5 237. 6 280. 6 229. 0	192. 2 262. 2 238. 9 312. 9	210. 0 292. 5 252. 1 372. 4 204. 2	248. 8 394. 0 204. 7	253. 4 292. 8 267. 6 4214 215. 5	293. 1 283. 3 292. 3 484. 4 242. 7	309. 1 257. 4 343. 9 483. 7 265. 1	303. 2 248. 4 342. 8 470. 8	236. 2 254. 3 319. 4 273. 8
1921–22 1922–23 1923–24	240. 9 166. 5 208. 1	199. 7 157. 4 187. 2	153. 6	160.7		187.0		185. 8 198. 2					

Division of Crop and Livestock Estimates.

### VELVET BEANS.

Table 287.—Velvet beans: Acreage, yield per acre, and production, calendar years, 1922 and 1923.

	Equi	valent	solid	acreag	ge util	lized.1			В	eans g	athere	1.2		
							Yiel	d per			Produ	ction.		
State.	Prim for b	eans.	for gr	earily azing, ging, c.	То	tal.	acre acre grow mari	from	age g	acre- rown arily eans.	age u prim for c	acre- tilized tarily other poses.	· To	tal.
	1922	1923³	1922	19238	1922	19233	1922	1923	1922	19233	1922	19238	1922	19232
North Carolina South Carolina Georgia Florida Alabama Mississippi Louisiana Texas Total	1,000 acres. 5 50 2222 30 250 40 35 8	1,000 acres. 6 50 218 25 225 38 30 9	36 175 520 210 450 216 132 . 40	39 195 510 225 366 205 132 42	41 225 742 240 700 256 167 48	45 245 728 250 591 243 162 51	Bush-els. 11. 0 13. 0 11. 8 12. 0 11. 3 10. 0 11. 2 13. 0 11. 57	els. 11. 0 13. 0 11. 9 13. 0 11. 0 12. 0 8. 6 9. 0	bush. 55 650 2,620 360 2,825 400 392 104	325 2, 475 456 258 81	1,000 bush. 68 533 1,124 200 1,130 200 482 110 3,847	75 490 1,000 178 990 185 204 75	1,000 bush. 123 1,183 3,744 560 3,955 600 874 214	1,000 bush. 141 1,140 3,594 503 3,465 641 462 156

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.

### 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.	Acr	eage.	in po	ge yield ounds acre.		uction ns).	price	ge farm per ton 7. 15.	thouse	value, ands of lars.
1915	235 345 366 352 275	, 100 , 200 , 000 , 000 , 000 , 500 , 000	329 333 340 303 268	4. 1 0. 3 2. 8 0. 4 3. 4 5. 0 4. 2	38, 57, 62, 53, 36,	242 726 400 300 400 500 200	172 292 233 154 126	. 67 2. 75 3. 75 3. 87 3. 57 4. 16 4. 20	6, 16, 14, 8, 4,	789 690 804 570 254 605 758
Leading States.	1922	1923 1	1922	1923	1922	1923 1	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 Missouri Kansas Texas Oklahoma - Colorado New Mexico	21,000 3,000 16,000 16,000 195,000 10,000 14,000	37, 000 4, 000 58, 000 30, 000 271, 000 48, 000 50, 000	680 560 390 375 200 350 290	475 500 370 363 220 300 255	7, 100 800 3, 100 3, 000 19, 500 1, 800 2, 000	8,800 1,000 10,700 5,400 29,800 7,200 6,400	260 225 221 200 213 195 185	235 188 118 150 170 145 108	1,846 180 685 600 4,154 351 370	2, 068 188 1, 263 810 5, 066 1, 044 691

Division of Crop and Livestock Estimates.

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 1911 1912	\$190 81 100 49	\$197 80 86 56	\$200 78 99 57	\$204 74 101 58	\$199 81 83 53	\$151 69 79 61	\$180 68 85 57	\$142 72 83 91	\$139 92 77 106	\$108 121 70 102	\$96 124 69 100	\$93 108 57 92
Av. 1910-1913	105	105	108	. 109	104	90	98	97	104	100	97	88
1914 1915 1916 1917 1918 1919 1920	94 66 104 184 249 169 163	95 78 104 201 254 141 123	91 68 104 212 242 174 130	89 71 96 227 222 149 145	85 75 101 252 206 152 146	88 77 102 223 222 106 145	88 79 193 194 235 119 113	91 83 120 308 232 124 142	77 75 129 240 300 154 125	67 86 168 270 265 162 126	66 92 173 296 205 161 123	58 101 172 280 172 163 88
Av. 1914-1920	147	142	146	143	145	138	133	157	157	163	159	148
1921 1922 1923	70 71 229	71 88 256	72 80 242	69 76 254	66 82 223	76 87 233	75 84 214	67 122 195	68 175 169	72 193 197	68 221 161	86 238 172

Division of Crop and Livestock Estimates.

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<sup>&</sup>lt;sup>1</sup> Preliminary.

## COTTON.

Table 290.—Cotton: Acreage, production, value, exports, etc., United States, 1869-1923.

					1923.							
Calendar	Acre-	Aver-	Pro-	Aver- age farm price	Farm	Value per	la	You You mid mid.	anng	osing ound up-	Domes- tic ex- ports, fiscal	Im- ports fiscal year
year.	age picked.	yield per	duc- tion.	per	value, Dec. 1.	acre, Dec.		em-		May.	year be-	begin-
, and the second	DICKCL	acre.	, orom.	pound, Dec.	200. 2.	1.1				·	ginning	ning
				1			Low.	High	Low.	lgh	July 1.	July 1.
•							Ä	H	Ä	田		
	1 000		1,000		1 000	Dol-						
	1,000 acres.	Lbs.	bales.	Cents.	1,000 dollars.	lars.	Cts.	Cts.	Cts.	Cts.	Bales.2	Bales.2
1869 1870	7,743	196. 9	3, 012 3, 800				25.00	25, 50 15, 88	22. 50 14 88	23. 50 17. 62	1, 917, 117 2, 925, 856	3, 396 2, 394
1870	8,885	198. 9	2, 553				10.12	20 25	23. 75	26 38	1, 867, 075	5. 788
1871 1872 1873 1874 1875	7, 558 8, 483	148. 2 188. 7	3, 920				19. 12	20. 25	19. 25	19. 62	2, 400, 127	8, 851 7, 252
1873	8, 483 9, 510 11, 764	179.7	3, 683				15. 62	16. 50	17. 75 18. 19	18.88	2,717,205	7, 252 4, 299
1874	11, 764 11, 934	147. 5 190. 6	3, 941 5, 123				13. 06	13. 31	11. 81	13. 12	2, 717, 205 2, 520, 838 2, 982, 811	4, 903
1978	11, 677	167. 8	4, 438	9.0	174, 724	1 / O.C.	119 MG	112 50	110 XI	111 38	1 9 SON 73X	5, 313
1877	12, 133	163.8	4, 438 4, 370 5, 244 5, 755				11. 25	11. 50	10.62	11. 25	3, 215, 067	6,064
1878	12, 344	191. 2 181. 0	5, 244	8. 2 10. 3	192, 515	15.60	12 38	13. 44	11. 69	11.88	3, 644, 363	5, 987 7, 096
1876	14, 480 15, 951	184. 5	6, 343	9.8	192, 515 269, 305 289, 083	18. 12	11.88	12, 00	10. 44	11. 25 13. 75 11. 88 10. 88	3, 256, 746 3, 644, 363 4, 382, 009	8, 900
1981	16, 711	149.8	5, 456				11.88	12, 12	12,06	12, 38	3, 480, 792	8, 680
1882	16, 277 16, 778	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. 8 153. 8	5, 701 5, 682	9. 1 9. 2	250, 977 246, 575	14,90	10. 88	11. 44	10. 69	11. 00	3, 725, 145 3, 783, 319 4, 116, 149	14, 039 10, 231
1881 1882 1883 1884 1885	17, 440 18, 301	164. 4	6, 575	8.4	250, 977 246, 575 251, 775	13. 76	9. 19	9. 44	9. 19	11. 75 11. 00 9. 31	4, 116, 149	10, 145
1886	18, 455	<b>169</b> . 5	6 446	8.1	251, 856	12 65	0 10	0 56	10 75	11 44	4, 338, 915 4, 528, 883 4, 770, 065 4, 943, 925	7,849
1887	18, 641	182. 7	7, 020	8.5	200 901	15. 61	10. 50	10. 62	9.94	10. 06 11. 19 12. 75	4, 528, 883	10, 995 15, 946
1888	19, 059 20, 175	180. 4 159. 7	6,941	8. 5 8. 5	292, 139	13, 64	10. 25	10. 25	11. 94	12. 75	4, 943, 925	17, 212
1886	19, 512	187. 0	7, 473 8, 674	8.6	292, 139 275, 249 313, 360	16.06	9. 19	9.44	8.88	8. 94	0, 814, 718	41, 818
1891	19.059	179. 4	9, 018	7.2	247 633	12.99	7. 75	8. 06 10. 00 8. 06	7. 25	7.44	5, 870, 440 4, 424, 230 5, 366, 565	57, 328 86, 736
1891 1892 1893	15, 911	209. 2	6, 664	8.3	277, 194	17. 42 10. 50	9.38	10.00 8 06	7.62	7. 81 7. 38	4, 424, 230 5 366, 565	55, 412
1893	19, 525 23, 688	149. 9 195. 3	7, 493 9, 476	7.0 4.6	204, 965	8.96	i. 5. 69	1 5.81	[ 0. 70	7.30	7, 034, 866	98, 664
1894 1895	20, 185	155. 6	9, 476 7, 161	7.6	277, 194 204, 983 212, 335 238, 503	11.82		8, 56			4, 670, 453	110, 701
	23, 273	184. 9	8, 533	6.7	286 180	12.30	7.06	7. 69 5. 94	7. 62		6, 207, 510 7, 725, 572	103, 798 105, 321
1896 1897	24, 320	182. 7 220. 6	10, 898 11, 189	6.7	296, 816 315, 449 326, 215 463, 310	12. 20 12. 63	1 5 62	I D. XX	I D. 12	6. 25	7, 575, 4381	100.316
1898	24, 807	183. 8	9, 345	5. 7 7. 0	326, 215	13. 41	7, 50	l 7. 75	9.00	9.88	6, 252, 451	134, 797 93, 26 <b>3</b>
1898 1899 1900	24, 933	194. 4	9, 345 10, 1 <b>23</b>	9. 2	463, 310	18. 58	9, 75	10. 31	8, 06	8.31	6, 718, 125	
1001	26, 774	170. 0	9, 510	7.0	334, 088 403, 718 516, 763 603, 438 569, 791	12.48	8.00	8.75	9.38	9. 75 12. 15 13. 90	7, 057, 949 7 138 284	197, 431 149, 749
1902	27, 175 27, 052	187. 3 174. 3	10, 631 9, 851	7. 6 10. 5	516, 763	19.10	11. 95	14. 10	12. 75	13. 90	7, 138, 284 6, 179, 712	97. 681
1904	31, 215 27, 110	205. 9	9, 851 13, 438 10, 575	9.0	603, 438	19. 33	6. 85	9. 00	7. 85	8. 85 12. 00	8, 678, 644 7, 268, 090	121, 017 141, 927
1902 1903 1904 1905	27, 110				569, 791	21. 02						
1906`	31, 374	202. 5 179. 1	13, 274	9. 6 10. 4	635, 534 575 226	20.26 10.30	10.45	11. 20 12. 20	10. 20	12. 90 11. 50	9, 036, 434 7, 633, 997	209, 584 142, 146
1907 1908	29, 660 32, 444	194. 9	11, 107 13, 242	8.7	635, 534 575, 226 575, 092	17. 73	9. 10	9. 35	10. 85	11. 50 11. 80	7, 633, 997 8, 895, 970	142, 146 173, 036
· .		154.0	10.005	12.0	73.0	22 55	14 65	16 15	14 50	16. 05	6, 413, 416	172, 075
1909	30, 938 32, 403	154. 3 170. 7	10,005 11,609	13. 9 14. 1	697, 681 820, 407 687, 888	25 32	14 80	15.25	15, 35	116, 15	8, 067, 882	227, 537
1911	36, 045	207. 7	15, 693 13, 703	8.8	687, 888	19.08	9. 20	9.65	11, 30	11.90 12.10	11, 070, 251	219, 560 243, 704
1910 1911 1912 1913	34, 283 37, 089	190. 9 182. 0	13,703 14,156	11. 9 12. 2	817, 055 862, 708	23. 26	12. 75	13. 50	12, 90	14. 50	9, 124, 591 9, 521, 881	246, 694
	37,000											001 014
Av. 1909–1913	34, 152	182. 5	13, 033	12. 5	777, 148					14. 14	8, 839, 604	221, 914
1914	36, 832	209. 2	16, 135	6.8	549, 036 631 460	14. 91 20 10	7. 25 11 95	·7.80	9, 50 12, 30	13, 35	6, 168, 140	370, 409 465, 602
1915	31, 412 34, 985	170. 3 156. 6	11, 19 <b>2</b> 11, 450	11. 3 19. 6	631, 460 1, 122, 295	14. 91 20. 10 32. 08	16. 20	20. 30	19. 60	22. 10	8, 807, 157 6, 168, 140 6, 176, 162	294, 123
1917	33, 841	159. 7	11, 450 11, 302	27.7	1, 566, 198	46. 28 46. 20	29. 851	31. 80	25, 70	13U. IU		206, 651 207, 184
1918	36, 008 33, 566	159. 6 161. 5	12, 041 11, 421	27. 6 35. 6	1, 663, 633 2, 034, 658	60, 62	38. 00l	40. 25	40, 00	<b> 43. 00 </b>	5, 525, 894 7, 087, 487 5, 622, 777	690, 628
1917 1918 1919 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
		171. 6	12, 426	20. 4	1, 214, 420	35. 05	20, 75	23, 24	20, 78	23. 73	6, 289, 806	355, 211
Av. 1914-1920	34, 646		-			21. 05					.6, 717, 757	358, 330
1921 1922	30, 509 33, 036	124. 5 141. 5	7,954 9,760	16. 2 23. 8	643, 933 1, 161, 846	35, 03	24. 55	26. 80	25. 30	28.90	5, 253, 464	472, 185
19233	37, 420	128. 8	10, 281	31. 0	1, 563, 347	41. 98	34. 35	37. 65	<b>-</b> -			
		1									marrigad or	2.000000

Division of Crop and Livestock Estimates; figures in italics are census returns; acreage revised on census basis since 1899.

<sup>&</sup>lt;sup>1</sup> Based on farm price Dec. 1.

<sup>&</sup>lt;sup>2</sup> Bales of 500 pounds gross weight.

<sup>&</sup>lt;sup>8</sup> Preliminary.

Table 291.—Cotton ginned to specified dates and throughout the season, United States, 1902-1923, .

Growth year.		· · · · · · · · · · · · · · · · · · ·	· ;	Cot	tton ginned to	<del>-</del>		5 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		Total
Growth year.	Sept. 1.	Sept. 25.	Oct. 18.	Nov. 1.	Nov. 14.	Dec. 1.	Dec. 13.	Jan. 1.	Jan. 16.	ginned.
<b>9</b> 02	Bales.	Bales.	Bales. 5, 683, 006	Bales.	Bales.	Bales.	Bales. 8, 905, 505	Bales.	Bales.	Bales.
903 904 906 906 906 907	17, 302 374, 821 476, 655 407, 551 200, 278 402, 229	2, 355, 716 2, 057, 283 1, 532, 602 2, 590, 639	3, 706, 248 6, 417, 894 4, 990, 566 4, 931, 621 4, 420, 258 6, 296, 166	6, 457, 595 6, 906, 395 6, 128, 562 8, 191, 557	6, 815, 162 9, 786, 646 7, 501, 180 8, 562, 242 7, 300, 665 9, 595, 809	8, 689, 663 10, 027, 868 8, 343, 396 11, 008, 661	8, 526, 244 11, 971, 477 9, 297, 819 11, 112, 789 9, 284, 070 11, 904, 269	9, 725, 426 11, 741, 089 9, 951, 505 12, 465, 298	9, 485, 537 12, 767, 600 9, 989, 634 12, 176, 199 10, 339, 551 12, 666, 203	10, 588, 2 9, 819, 9 13, 451, 3 10, 495, 1 12, 983, 2 11, 057, 8 13, 086, 0
909 910 911 912 913	388, 242 353, 011 771, 297 730, 884 799, 099	2, 568, 150 2, 312, 074 3, 676, 594 3, 007, 271 3, 246, 655	5, 530, 967 5, 423, 628 7, 758, 621 6, 874, 206 6, 973, 518	7, 017, 849 7, 345, 953 9, 970, 905 8, 869, 222 8, 830, 396	8, 112, 199 8, 780, 433 11, 313, 236 10, 299, 646 10, 444, 529	8, 876, 886 10, 139, 712 12, 816, 807 11, 854, 541 12, 088, 412	9, 358, 085 10, 695, 443 13, 770, 727 12, 439, 036 12, 927, 428	9, 647, 327 11, 084, 515 14, 317, 002 12, 907, 405 13, 347, 721	9, 787, 592 11, 253, 147 14, 515, 799 13, 088, 930 13, 582, 036	10, 072, 73 11, 568, 33 15, 553, 0 13, 488, 5 13, 982, 8
Ay, 1909-1913	608, 507	2, 962, 149	6, 512, 188	8, 406, 865	9, 790, 529	11, 155, 272	11, 838, 144	12, 260, 794	12, 445, 501	12, 933, 0
914 915 916 917 918 919 920	463, 883 850, 668 614, 787 1, 038, 078	3, 393, 752 2, 903, 829 4, 081, 989 2, 511, 658 3, 770, 611 1, 835, 214 2, 249, 606	7, 619, 747 5, 708, 730 7, 303, 183 5, 573, 606 6, 811, 351 4, 929, 104 5, 754, 582	9, 826, 912 7, 378, 886 8, 623, 893 7, 185, 178 7, 777, 159 6, 305, 054 7, 508, 633	11, 668, 240 8, 771, 275 9, 615, 003 8, 571, 115 8, 706, 420 7, 604, 320 8, 914, 642	13, 073, 386 9, 703, 612 10, 352, 031 9, 713, 529 9, 571, 414 8, 844, 368 10, 141, 293	13, 972, 229 10, 306, 309 10, 838, 799 10, 131, 594 10, 281, 139 9, 396, 646 10, 876, 263	14, 443, 146 10, 636, 778 11, 039, 491 10, 434, 852 10, 773, 863 10, 008, 920 11, 554, 648	14, 915, 850 10, 751, 990 11, 137, 712 10, 570, 733 11, 048, 652 10, 307, 120 12, 014, 742	15, 905, 8 11, 068, 1 11, 363, 9 11, 248, 2 11, 906, 4 11, 325, 5 18, 270, 9
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, 298, 4
921 922 923	485, 787 806, 189 1, 135, 880	2, 920, 392 3, 866, 396 3, 235, 974	5, 497, 364 6, 978, 321 6, 415, 145	6, 646, 354 8, 139, 215 7, 565, 868	7, 274, 201 8, 869, 978 8, 374, 148	7, 639, 961 9, 319, 601 9, 251, 264	7, 790, 656 9, 488, 852 9, 554, 177	7, 882, 356 9, 597, 330 9, 811, 038	7, 912, 452 9, 648, 261 3 9, 946, 462	7, 977, 7 9, 729, 3 10, 159, 4

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.

Includes cotton ginned after Jan. 16 and estimated quantities not ginned on Mar. 1. Quantities in Table 290 converted from running bales, average weight, by deducting average weight of bagging and ties, by States.

3 Preliminary.

Table 292.—Cotton (linters): Production, United States, 1899-1922.

Year beginning Aug. 1.	Production, in 500-lb. gross-weight bales.	Year beginning	Production, in 500-lb. gross-weight bales.	Year beginning	Production, in 500-lb. gross-weight bales.
1899-1900. 1900-1. 1901-2. 1902-3. 1903-4. 1904-5. 1905-6. 1906-7. 1907-8.	114, 544 143, 500 166, 026 196, 223 194, 486 241, 942 229, 539 321, 689 268, 282 345, 507	1909-10 1910-11 1911-12 1912-13 1913-14 Av. 1909-1913 1914-15 1915-16	310, 433 397, 072 557, 575 609, 594 633, 881 502, 711 856, 900 931, 141	1916-17 1917-18 1918-19 1919-20 1920-21 Av. 1914-1920 1921-22 1922-23	1, 330, 714 1, 125, 719 929, 516 607, 969 440, 313 903, 182 397, 752 607, 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
***	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.
Virginia	45	34	42	50	44	42	42	34	55	73
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
Mississippi	3, 054	2,735	3, 110	2,788	3, 138	2,848	2,950	2,628	3, 014	
Louisiana	1, 299	990	1, 250	1,454	1, 683	1, 527	1,470	1, 168	1, 140	3, 298 1, 395
Texas	11, 931	10, 510	11, 400	11, 092	11, 233	10, 476	11, 898	10, 745	11, 140	1, 595
Arkansas	2, 480	2, 170			2 001				11,874	14, 081
ATRAHS88	2,400	4,170	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	339
Oklahoma	2,847	1,895	2, 562	2, 783	2,998	2, 424	2,749	2, 206	2, 915	3, 295
California 1	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
United States	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.

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	1923
Virginia North Carolina	25 931	16 699	27 655	19 618	25 898	23	22 925	17	27 852	50
South Carolina	1, 534	1, 134	932	1, 237	1,570	830 1,426	1,623	776 755	493	1, 020 795
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	995	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

<sup>&</sup>lt;sup>1</sup> Preliminary. <sup>2</sup> 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.

<sup>&</sup>lt;sup>1</sup> Preliminary estimate of the Department of Agriculture.

Includes 6,000 net bales Missouri cotton estimated to have been ginned in Arkansas.

TABLE 290.—Collon: I lela per acre, by States, calendar years, 1908-196	TABLE 295.—Cotton:	Yield per acre, by States, calendar years.	1908-1998
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4.4				1		· · · · · · · · · · · · · · · · · · ·	·		,	<del></del>	<del>,</del>		,		•			1
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914- 1920	1921	1922	1923
/irginia. /orth Carolina outh Carolina elorgia - lorida .labama /ississippi .outsiana - lasa	210 211 219 190 112 179 233 145 196 215 218 340	Pounds. 190 210 210 184 110 142 157 130 125 153 168 271 147	Pounda 212 227 216 173 110 160 145 175 207 225 200 335	Pounds. 330 315 280 240 130 204 172 170 186 190 257 360 390	Pounds. 250 267 209 159 113 172 173 193 206 169 260 183 450	Pounds. 240 230 235 208 150 190 204 170 150 205 210 286 182 500		Pounds. 265 290 255 239 175 209 195 165 184 196 200 270 211 500	Pounds. 225 260 215 189 120 146 167 165 147 180 188 240 162 380	Pounds. 310. 215. 160. 165. 105. 79. 125. 170. 157. 209. 206. 225. 154. 400.	Pounds. 180 194 208 173 100 125 155 210 135 170 130 190 165 242 285	Pounds. 270 268 250 190 85 149 187 167 115 158 175 200 92 270 280	Pounds. 255 266 240 152 74 122 160 93 140 155 257 195 268 270	Pounds. 230 275 260 138 86 111 145 126 174 195 185 275 230 266 224	Pounds. 248 253 227 178 106 134 162 157 150 180 183 237 173 332	Pounds, 230 264 140 90 80 124 148 164 228 104 225 104 258 242	Pounds. 230 250 123 100 102 142 157 144 130 173 190 360 103 188 222	Pounds 322 299 18' 8' 44' 99 14' 14' 99' 99' 16' 99' 27' 311'
United States	194. 9	154. 3	170. 7	207. 7	190, 9	182, 0	181. 1	209. 2	170. 3	156. 6	159. 7	159. 6	161. 5	178. 4	170. 8	124. 5	141. 5	128.

Table 296.—Cotton: Condition of crop, with yield per acre, United States, 1867-1923.

Calendar year.	May 25.	June 25.	July 25.	Aug. 25.	Sept. 25.	Yield per acre.	Calendar year.	May 25.	June 25	July 25.	Aug. 25.	Sept. 25.	Yield per acre
1867 1868 1869	P. ct.	110. 7 110. 4 90. 2	115. 0 101. 6	118. 4 89. 1 99. 1	P. ct. 104. 6 88. 2 85. 3	Pounds of lint. 189. 8 192. 2 196. 9	1901 1902 1903	P. ct. 81. 5 95. 1 74. 1	81. 1 84. 7 77. 1	77. 2 81. 9 79. 7	71. 4 64. 0 81. 2	61. 4 58. 3 65. 1	170. 9 187. 3 174. 3
1870 1871	86. 7 99. 7	98. 0 85. 8 103. 0	99. 3 85. 6 104. 0	105. 7 81. 5 90. 7	98. 8 76. 7 81. 8	198. 9 148. 2 188. 7	1904 1905	83. 0 77. 2 84. 6	88. 0 77. 0 83. 3	91. 6 74. 9 82. 9	84. 1 72. 1 77. 3	75. 8 71. 2 71. 6	205. 9 186. 6 202. 8
1873 1874 1875	91. 3 82. 2 96. 1	87. 5 91. 0	90. 0 92. 0 96. 0	87. 9 71. 0 89. 2	79. 3 71. 7 88. 0	179. 7 147. 5 190. 6	1906 1907 1908	70. 5 79. 7	72. 0 81. 2	75. 0 83. 0	72. 7 76. 1	67. 7 69. 7	179. 1 194. 9
1876 1877 1878 1879	94. 4 92. 9 99. 0 96. 0	97. 6 93. 0 99. 0 93. 0	99. 4 93. 0 95. 0 91. 0	90. 5 86. 0 90. 0 85. 0	82. 7 82. 0 90. 0 81. 0	167. 8 163. 8 191. 2 181. 0	1909 1910 1911 1912 1913	81. 1 82. 0 87. 8 78. 9 79. 1	74. 6 80. 7 88. 2 80. 4 81. 8	71. 9 75. 5 89. 1 76. 5 79. 6	63. 7 72. 1 73. 2 74. 8 68. 2	58. 5 65. 9 71. 1 69. 6 64. 1	154. 3 170. 7 207. 7 190. 9 182. 0
1880	99. 0 93. 0	100. 0 95. 0	102. 0 88. 0 94. 0	91. 0 72. 0 92. 0	84. 0 66. 0 88. 0	184. 5 149. 8 185. 7	Av. 1909- 1913	81. 8	81. 1	78. 5	70. 4	65. 8	181. 1
1882 1883 1884 1885 1886	89. 0 86. 0 87. 0 92. 0 88. 7	92. 0 90. 0 86. 0 96. 0 86. 1	94. 0 84. 0 87. 0 96. 5 81. 3	92. 0 74. 0 82. 5 87. 0 82. 1	68. 0 74. 7 78. 0 79. 3	164. 8 153. 8 164. 4 169. 5	1914 1915 1916 1917	74. 3 80. 0 77. 5 69. 5	79. 6 80. 2 81. 1 70. 3	76. 4 75. 4 72. 3 70. 3	78. 0 69. 2 61. 2 67. 8	73. 5 60. 8 56. 3 60. 4	209. 2 170. 3 156. 6 159. 7
1887 1888 1889 1890	96. 9 88. 2 86. 4 88. 8	96. 9 86. 7 87. 6 91. 4	93. 3 87. 3 89. 3 89. 5	82. 8 83. 8 86. 6 85. 5	76. 5 78. 9 81. 5 80. 0	182. 7 180. 4 159. 7 187. 0	1918 1919 1920	82. 3 75. 6 62. 4	85. 8 70. 0 70. 7	73. 6 67. 1 74. 1	55. 7 61. 4 67. 5	54. 4 54. 4 59. 1	159. 6 161. 5 178. 4
1891	85. 7 85. 9	88. 6 86. 9	88. 9 82. 3	82. 7 76. 8	75. 7 73. 3	179. 4 209. 2	Av. 1914- 1920	74. 5	76. 8	72. 7	65. 8	59. 8	170.8
1893 1894 1895 1896	85. 6 88. 3 81. 0 97. 2	82. 7 89. 6 82. 3 92. 5	80. 4 91. 8 77. 9 80. 1	73. 4 85. 9 70. 8 64. 2	70. 7 82. 7 65. 1 60. 7	149. 9 195. 3 155. 6 184. 9	1921 1922 1923	66. 0 69. 6 71. 0	69. 2 71. 2 69. 9	64. 7 70. 8 67. 2	49. 3 57. 0 54. 1	42. 2 50. 0 49. 5	124. 5 141. 5 128. 8
1897 1898 1899 1900	83. 5 89. 0 85. 7 82. 5	86. 0 91. 2 87. 8 75. 8	86. 9 91. 2 84. 0 76. 0	78. 3 79. 8 68. 5 68. 2	70. 0 75. 4 62. 4 67. 0	182. 7 220. 6 183. 8 194. 4				2			

Table 297.—Cotton: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Calendar year.	Defi- cient moist- ure.	Ex- ces- sive moist- ure.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total cli- mat- ic.	Plant dis- ease	sect.	Ani- mal pests.	De- fec- tive seed.	To- tal. <sup>1</sup>
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													_	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						P. ct.	P, ct.		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			6.0	1.1	1.0	.6	3.0		28.6	4.2	7.9	(2)	.1	42.0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			5. 1	.9	2.1	.3	1.6	.1	22.6	.4	7.5 م	(2)	3	35.6
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1911	9.8	2.6	(2)	.3	. 1	1.6	.3	15.4	.4	7.9	(3)	. 2	26. 1
1914     7.9     2.9     .5     .9     .4     .6     .1     13.8     .2     9.8     (2)     .2       1915     6.8     5.7     1.9     .6     .7     1.1     2.0     19.3     1.9     12.2     (3)     .1       1916     9.2     9.1     3.1     .4     .7     .6     2.0     25.2     .9     15.7     (3)     .1       1917     15.1     1.7     .5     6.0     1.0     .7     .2     25.5     1.3     12.3     (2)     .1       1918     23.8     .9     .3     .6     .1     2.8     .3     29.2     2.0     7.9     (2)     .1       1919     2.7     15.3     1.6     .3     .2     .4     .5     21.2     1.4     18.8     (2)     .2		8.1	7.6		1.0		1.2	.2	20.7	4.3	6.5	1		32.7
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1913	15. 2	2.0	.8	1.1	.4	2,4	. 5	23. 1	. 5	8.9	· (²)	.4	33. 7
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1914	7.9	2. 9	. 5	.9	.4	. 6	. 1	13.8	. 2	9.8	(2)	. 2	25. 4
1919 2.7 15.3 1.6 .3 .2 .4 .5 21.2 1.4 18.8 (2) .2	1915	6.8	5. 7	1.9	. 6	.7	1.1	2.0	19. 3	1.9	12.2	(2)	.1	36.8
1919 2.7 15.3 1.6 .3 .2 .4 .5 21.2 1.4 18.8 (2) .2	1916	9. 2	9. 1	3.1	.4	.7	.6	2.0	25. 2	9	15.7	(2)		42, 4
1919 2.7 15.3 1.6 .3 .2 .4 .5 21.2 1.4 18.8 (2) .2	1917	15.1	1.7	. 5	6.0	1.0	.7	. 2	25. 5	1.3	12.3	(2)	.1	39. 9
		23. 8	. 9		.6	.1	2.8	. 3	29. 2	2.0	7.9	(²)	.1	40. 3
1020 2 8 8 8 8 2 1 2.0 13.1 1.1 24.0 .2 .2	1919	2.7	15. 3	1.6	.3	.2	.4	. 5	21. 2		18.8	(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	1921	8.6	4. 3	.7	.4	. 2	. 6	1. 2	16.0	1.0	35.4		₹.1	<b>52.</b> 9
1921			4. 9	.8	. 1	.3	1.0	. 1	17. 5	:.8	- 26.7	(2)	.1	<b>45. 2</b>

<sup>&</sup>lt;sup>1</sup>Includes all other causes. <sup>2</sup> 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. 3, 58	P. ct. 12, 27
South Carolina Georgia Florida			0. 30	0. 10 11. 80		0. 02 . 28 13, 14	3. 44	9. 06	10.73	19. 36	30. 56	31. 48 45. 12	40. 48 44. 28
Tennessee	0. 05	0. 20		. 10	0. 08	.04	1. 23	1. 74	. 37	. 17	. 57	7. 21	8.84
Mississippi Louisiana	14. 66 40. 80	5. 10 11. 40	1. 50 18. 00 13. 70	4. 80 33. 90 25. 10	24. 14 17. 66	24. 68 19. 85	31. 73 24. 31	11.89	10. 41			30.38	27.65
Texas Oklahoma Arkansas	6. 52 1. 27 7. 23	. 90 . 20 2. 00	2. 80 . 50 2. 40	6. 80 . 40 2. 80	. 79	2, 70	3. 70	7. 26 4. 35 8. 96	4, 43 1, 30 3, 14	1.48	19. 90 8. 81 9. 41	41.36	16. 25 25. 69 18. 15
U. S. average 1	5. 30	1. 28	3. 26	6. 69		9. 93		9. 34	5. 83				24. 17

Table 299.—Cotton: Area and yield per acre in undermentioned countries, 1909-

•			Area.				Averag	e yield p	er acre.	1 17
Country.	Aver- age 1909- 1913.	1920-21	1921–22	1922-23	1923-24	Aver- age 1909- 1913.	1920-21	1921-22	1922-23	1923-24
United States India Egypt China <sup>1</sup>	1,000 acres. 34, 152 22, 503 1, 743	1,000 acres. 35,878 21,340 1,897 4,300	1,000 acres. 30, 509 18, 451 1, 341 4, 284	1,000 acres. 33,036 21,154 1,868 3,947	1,000 acres. 37, 420 21, 845 1, 649	Pounds. 182 76 398	Pounds. 179 67 315	Pounds. 125 97 321	Pounds. 141 98 299	Pound: 12
Brazil Russia, Asiatic Mexico	1,490	805 374 265	1, 420 296 230	1, 512 174 242	541 2 279	306	219 74	170 70	175 152	
Chosen (Korea) Uganda Peru Anglo-Egyptian Su-	<sup>3</sup> 146 58	359 238 163	362 170 161	370 334	378	57 169	134 137	122 88	133 107	140
danArgentina	6	85 59	69 39	<sup>2</sup> 62		243	133 200	138 200		
Total coun- tries report- ing, 1909–1922 Estimated world total	60, 098 67, 298	60, 145 66, 707	51, 168 58, 356	56, 998 63, 995						

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.

<sup>2</sup> From an unofficial source. <sup>3</sup> Average for 4 years.

<sup>&</sup>lt;sup>1</sup> Average is weighted and includes cotton States in which there was no damage by boll weevil.

<sup>&</sup>lt;sup>1</sup>Estimates by the Chinese Mill Owners' Association, which represent the most important cotton growing areas where the commercial crop is grown.

Table 300.—Cotton (bales of 478 pounds net): Production in undermentioned countries, 1909-1923.

### NORTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917–18	1918–19	1919–20	1920–21	1921–22	1922-23	1923–24, prelim- inary.
NORTH AMERICA. United States 1 Mexico	Bales. 13, 033, 235 193, 000	Bales. 11, 302, 375 2 135, 000	Bales. 12, 040, 532 2 8 203, 000	Bales. 11, 420, 763 2 8 199, 000	Bales. 13, 439, 603 2 3 188, 000	Bales. 7, 953, 641 147, 302	Bales. 9, 761, 817 178, 243	Bales. 10, 081, 000 138, <b>0</b> 00
Total North American countries re- porting 1909- 1922	<b>13, 226, 2</b> 35	11, <b>4</b> 37, 375	12, 243, 532	11, 619, 763	13, 627, 603	8, 100, 943	9, 940, 060	
SOUTH AND CENTRAL AMERICA AND WEST INDIES.								
Colombia Venezuela	10,000	5, 753	6, 276				646	
Guatemala	4 144 5 161 6 8, 910 6 1, 066 4 1, 319	304		184 7 15, 229 411 2, 201	7 9, 132 150	215 45 7 21, 553 405 920	7 15, 000	
St. Croix (U. S. Virgin Islands) <sup>7</sup> British West Indies:	519	280	14	94	61			
Antigua Montserrat St. Kitts-Nevis	246 657 1, 347 703	125 857 1,088 507	165 917 1, 186 644	196 1, 147 1, 158 785	826 1, 615	63 732 732		
Grenada St. Vincent Barbadoes Jamaica	1, 026 1, 061 71	768 403	988 238	1, 161 211	1, 363 185	523 419		
Trinidad and To- bago 7 Virgin Islands 7	19 81	27	59	3 71	103			
Total Central and South American countries and West Indies re-								
porting 1909– 1922	13, 259	9, 061	10, 852	20, 896	14, 336	24, 460	18, 577	
EUROPE.				-				
ItalyYugoslavia	5, 212				1, 037	798	4, 603 858	
Greece Bulgaria Malta Spain:	4 12, 614 8 842 433		8, 063 1, 163 263	10, 224 993 287	1, 212 238	1, 840 485	3, 600 167	1, 799 98 1, 088
Russia, European (Northern Cauca- sia)	9 680							
Turkey, European 8 Total European	4 10, 000							
countries reporting 1909–	1, 275	1, 030	1, 426	1, 280	1, 450	2, 325	3, 767	

<sup>&</sup>lt;sup>1</sup> Linters not included.

<sup>1</sup> Linters not included.
2 From an unofficial source.
3 Laguna District and Lower California only.
4 For one year.
5 Average for 4 years.
6 Average for 3 years.
7 Exports.
9 Pre-war territory.
9 Average for 2 years.

Table 300.—Cotton (bales of 478 pounds net): Production in undermentioned countries, 1909-1923-Continued.

### NORTHERN HEMISPHERE-Continued.

. Country.	Average 1909–1913		1918–19	1919–20	1920-21	1921-22	1922-23	1923-24, prelim- inary.
AFRICA.	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.
Dahomey	664						7 1, 273	
French Guinea 7ivory Coast 7 French Sudan 7	4 230 4 28	683		1, 55				
French Togo Italian Somaliland	10 2, 312 7 510	2, 057 7 261	7 413	5		4, 603	4, 612 1, 192	1, 841
Eritrea Egypt Anglo-Egyptian	7 1, 022 1, 453, 000	1, 304, 000	999, 000		1, 251, 000	902, 000	11 1,170,000	
SudanGold Coast	12, 552 104				23, 506		21, 004	
Kenya Nigeria Uganda	519 9, 050 20, 338	167 9, 875	167 5, 104	83 15, 264	83 26, 360	418 12, 552	460	
Total African countries re- porting 1909- 1922					1, 349, 008		1, 272, 630	
ASIA.								
Cyprus Turkey, Asiatic India 12	1, 938 133, 000 3, 585, 000				2, 024 3, 013, 000	2 30, 000	2 50, 000	
Ceylon Russia, Asiatic Persia	953, 000	634, 000	161, <b>00</b> 0	81, 000	58,000	157 43, 000		
China <sup>13</sup> Japanese Empire:	136, 000 3, 473, 000	2, 092, 000	7 89, 000 3, 053, 000	94, 000 2, 599, 000	1, 883, 000		2, 048, 000	<sup>2</sup> 2, 200, 000
Japan Chosen French Indo-China 7 Siam 7 Afghanistan	4,704 5 17,387 14,337 3,653 24 6,000	60, 676 7, 573 734	68, 534 8, 379	88, 469 12, 598	100, 672 14, 921			
North Borneo 7	125		59	121	232	112		
Total Asiatic countries re- porting for 1909-1923	8, 030, 325	6, 180, 969	6, 611, 669	7, 622, 566	5, 056, 696	5, 401, 892	6, 555, 602	
Total Northern Hemisphere countries re- porting 1909-								
1922	22, 760, 737	18, 968, 401	19, 912, 029	20, 475, 944	20, 049, 093	14, 489, 883	17, 790, 636	

From an unofficial source.

For one year.
Average for 4 years.
Exports.

<sup>&#</sup>x27;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 1922-22, 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 Pand loom consum prion. 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 countries, 1909-1923.—Continued.

#### SOUTHERN HEMISPHERE.

Country.	A verage 1909–1913.	1917–18	1918-19	1919–20	1920-21	1921-22	1922-23	1923-24, prelim- inary:
PeruEcuador	Bales. 110, 000	Bales. 125, 104	Bales. 141, 533	Bales. 154, 774	Bales. 163, 732	Bales. 156, 814 2 12, 000		Bales.
Brazil Paraguay	<sup>3</sup> 322, 000 <sup>6</sup> 3, 045	115	460		1, 200			
Argentina Belgian Congo Tanganyika Terri-		1, 245	2, 075	3, 459	4, 151	4, 520	4, 603	
tory	<sup>8</sup> 7, 971 4, 536		3, 462 2, 107	3, 410 1, 651		6, 132 3, 285		
Africa	76 510 766	456	1,058		2,349	1, 778 2, 067		
Dutch East Indies French establish-	13, 981	10, 141						
ments in Oceania New Hebrides Australia	168 4 7 303 91	<sup>7</sup> 2, 121		<sup>7</sup> 2, 282 19		3, 124 2, 720	7, 531	
Total Southern Hemisphere countries re- porting 1909-								
1922	436, 703	475, 474	484, 053	664, 554	539, 374	669, 597	705, 127	
Total all countries reporting 1909–1922 Estimated world	23, 197, 440	<b>19, 443, 87</b> 5	20, 396, 082	21, 140, 498	20, 588, 467	15, 159, 480	18, 495, 763	
total	23, 580, 000	19, 675, 000	20, 613, 000	21, 384, 000	20, 875, 000	15, 330, 000	18, 705, 000	19, 125, 000

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.

Table 301.—Cotton: World production, 1900-1923.

Year beginning	Production in countries	Production	Estimated world	Three princi	ipal producing	countries.
Aug. 1.	reporting all years, 1900–1923.	as far as reported.	totals (pre- liminary).	United States	India.	Egypt.
1900–1901 1901–02 1902–03 1903–04 1904–05	14, 046, 282 15, 503, 888 14, 795, 269 19, 029, 776 15, 834, 191	Bales. 14, 809, 578 14, 226, 730 16, 823, 334 16, 185, 114 20, 007, 125 16, 856, 569	Bales. 15, 931, 000 15, 292, 000 16, 948, 000 16, 253, 000 20, 079, 000 16, 925, 000	Bales. 10, 123, 027 9, 509, 745 10, 630, 945 9, 851, 129 13, 438, 012 10, 575, 017	Bales. 2, 471, 000 2, 297, 000 2, 818, 000 2, 645, 000 3, 172, 000 2, 859, 000	Bales. 1, 126, 000 1, 320, 000 1, 210, 000 1, 349, 000 1, 308, 000 1, 235, 000
1906-07 1907-08 1908-09 1909-10	16, 196, 535 18, 942, 894	21, 259, 290 17, 357, 753 21, 144, 006 19, 289, 657	21, 357, 000 17, 458, 000 21, 267, 000 19, 329, 000	13, 273, 809 11, 107, 179 13, 241, 799 10, 004, 949	4, 129, 000 2, 613, 000 3, 090, 000 3, 998, 000	1, 440, 000 1, 499, 000 1, 399, 000 1, 036, 000
1910-11 1911-12 1912-13 1913-14 1914-15	21, 493, 861 20, 620, 689 21, 756, 976	21, 873, 607 25, 322, 333 24, 994, 921 26, 214, 631 28, 556, 341	21, 915, 000 25, 356, 000 25, 043, 000 26, 259, 000 28, 687, 000	11, 608, 616 15, 692, 701 13, 703, 421 14, 156, 486 16, 134, 930	3, 254, 000 2, 730, 000 3, 702, 000 4, 239, 000 4, 359, 000	1,555,000 1,530,000 1,554,000 1,588,000 1,337,000
1915-16 1916-17 1917-18 1918-19 1919-20	17, 988, 805 17, 250, 025	17, 605, 635 19, 768, 309 19, 598, 564 20, 556, 648 21, 319, 924	20, 689, 000 19, 845, 600 19, 675, 000 20, 613, 000 21, 384, 000	11, 191, 820 11, 449, 930 11, 302, 375 12, 040, 532 11, 420, 763	3, 128, 000 3, 759, 000 3, 393, 000 3, 328, 000 4, 853, 000	89,000 1,048,000 1,304,000 999,000 1,155,000
1920-21 1921-22 1922-23 1923-24	13, 481, 953 16, 236, 474	20, 795, 387 15, 265, 137 18, 560, 030 17, 925, 148	20, 875, 000 15, 330, C00 18, 705, 000 19, 125, 000	13, 439, 603 7, 953, 641 9, 761, 817 10, 081, 000	3, 013, 000 3, 748, 000 4, 348, 000 4, 111, 000	1, 251, 000 902, 000 1 1, 170, 000 1, 213, 000

Division of Statistical and Historical Research. Bales of 478 pounds net.

<sup>&</sup>lt;sup>2</sup> From an unofficial source. <sup>4</sup> For 1 year. <sup>5</sup> Average for 4 years. <sup>6</sup> Average for 3 years. <sup>7</sup> Exports.

<sup>1</sup> 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.

Y btt					Per	centag	e of ye	ar's sa	les.¹				
Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Sea- son.
1912-13 1913-14 1914-15 1915-16 1916-17 1917-18	1. 2 2. 7 3. 9 2. 5	17. 2 18. 2 6. 8 11. 3 14. 6 11. 3	25. 8 24. 4 14. 8 19. 3 23. 0 23. 0	20. 3 19. 7 18. 0 20. 4 21. 6 22. 7	12. 8 13. 3 16. 1 16. 4 15. 0 16. 2	8. 0 8. 3 11. 0 8. 4 6. 4 8. 2	5. 2 5. 3 8. 3 5. 4 4. 0 5. 8	4. 5 4. 4 7. 7 5. 2 3. 9 4. 5	2.6 2.7 6.1 3.9 3.0 2.6	1. 5 1. 5 2. 5 3. 6 2. 5 1. 3	1. 1 1. 2 3 7. 5 3 3. 4 1. 6 1. 0	2 1. 0 2 1. 0 3 1. 0	100 100 100 100 100
1918-19 1919-20 1920-21 1921-22 1922-23	3. 3 1. 4 3. 1 3. 6 5. 2	10. 9 9. 5 10. 0 14. 0 16. 8	18. 1 21. 0 16. 2 22. 3 25. 3	16. 4 22. 2 15. 7 17. 1 19. 8	13. 6 17. 4 11. 0 12. 1 12. 8	5. 4 8. 8 6. 4 5. 9 5. 9	4. 4 5. 6 5. 6 4. 3 4. 4	4.6 4.9 6.0 4.6 3.7	4. 6 3. 2 6. 7 4. 6 2. 0	7. 5 2. 7 6. 9 5. 9 1. 0	6. 8 1. 7 6. 8 3. 0 1. 5	4. 4 1. 6 5. 6 2. 6 1. 6	100 100 100 100 100
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

Table 303.—Cotton: International trade, calendar years, 1909-1922.

•		rage, -1913.	19	20	19	921	19 prelin	22, ninary.
Country.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.
PRINCIPAL EXPORTING COUNTRIES. Brazil	1,000 bales. 1 60	1,000 bales. 83 1,966	1,000 bales.	1,000 bales. 114 3,052	1,000 bales. (1) 130	1,000 bales. 90 2,240	1,000 bales.	1,000 bales. 157 2,447
Egypt Persia Peru	(1) (1) (1)	1, 442 109 87	2 2	829 5 160	(1) 1 1	993 18 168	(1)	<sup>2</sup> 1, 343
United States	215	9, 008	628	6, 359	291	6, 678	390	6, 307
Austria	906	12	55	(1)	116	*1	3 122	23
Belgium Canada China	496 137 43	159 240	689 241 189	221 105	428 182 469	227 170	283 232 497	(1) 235
Czechoslovakia France Germany	1, 435 2, 258	316 232	293 1,083 691	151 3	423 976 2 1, 533 2 4	100 3 76	355 1, 213 1, 314	23 112 160
Hungary	896 1, 405 277	(¹) 145	825 2, 176 124	1 8	728 2,420 120	3	820 2 2, 389 117	(*) 2 2
Norway Poland Russia	18 886	(1)	12 106		<sup>3</sup> 158 <sup>3</sup> 2		2 222 2 1	(1)
Spain Sweden Switzerland	382 93 113	1	375 107 97	3 4	380 59 114	1	382 84 99	1
United Kingdom Other countries	4, 164 220	155	3, 457 198	237	2, 137 166	250	2, 823 167	228
Total	14, 005	13, 956	11, 374	10, 254	10, 844	11, 019	11, 599	11, 268

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.

As reported by about 7,590 cotton growers, supplemented by records of State weighers, cooperative associations, and cotton dealers.
 Includes August.
 Includes July.

Less than 500 bales.
 International Institute of Agriculture.
 Eight months, May-December.

Table 304.—Cotton: Farm price per pound, 1st of month, United States, 1908-1923.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Weight- ed average.
1908-09	Cts. 10. 3	Cts. 9. 4	Cts. 9. 0	Cts. 8. 7	Cts. 8. 7	Cts. 8. 4	Cts. 9. 0	Cts. 9. 0	Cts. 9. 1	Cts. 9. 6	Cts. 10. 1	Cts. 10. 3	Cts. 8, 9
1909-10 1910-11 1911-12 1912-13 1913-14	11. 3 14. 3 13. 2 12. 0 11. 5	11. 7 14. 4 11. 8 11. 3 11. 8	12. 6. 13. 3 10. 2 11. 2 13. 3	13. 7 14. 0 8. 9 10. 9 13. 0	13. 9 14. 1 8. 8 11. 9 12. 2	14. 6 14. 4 8. 4 12. 2 11. 7	14. 0 14. 3 9. 0 11. 9 11. 9	14. 0 13. 9 9. 8 11. 8 12. 6	14. 1 13. 9 10. 1 11. 8 11. 9	14. 0 14. 2 10. 9 11. 6 12. 2	14. 2 14. 6 11. 0 11. 5 12. 4	13. 9 14. 4 11. 2 11. 6 12. 4	13. 8 14. 0 9. 4 11. 6 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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	12. 4 8. 1 12. 6 24. 3 27. 8 32. 5 36. 8	8. 7 8. 5 14. 6 23. 4 32. 2 30. 3 31. 1	7. 8 11. 2 15. 5 23. 3 31. 8 31. 3 25. 5	6. 3 11. 6 18. 0 27. 3 29. 3 36. 5 19. 4	6. 8 11. 3 19. 6 27. 7 27. 6 35. 6 13. 9	6. 6 11. 4 17. 1 28. 9 28. 7 35. 9 11. 5	7. 4 11. 5 16. 8 29. 7 24. 9 36. 2 11. 8	7. 4 11. 1 15. 9 30. 2 24. 0 36. 2 10. 3	8. 1 11. 5 18. 0 31. 8 24. 5 37. 3 9. 4	9. 1 11. 5 18. 9 28. 5 26. 0 37. 7 9. 4	8. 6 12. 2 20. 2 27. 4 29. 5 37. 2 9. 8	8. 6 12. 5 24. 7 28. 6 31. 1 37. 4 9. 6	7. 2 11. 4 17. 7 27. 7 28. 2 35. 5 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 1922-23 1923-24	9. 8 20. 7 23. 5	12. 6 21. 1 24. 1	19. 8 20. 0 27. 2	17. 7 22. 4 28. 8	16. 2 23. 8 31. 0	16. 3 24. 5	15. 5 25. 9	15. 9 27. 7	16. 0 28. 4	15. 9 26. 9	18. 7 25. 6	20. 4 26. 2	17. 0 23. 9

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	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923	Valu per acre, 1923.
Virginia North Carolina_ South Carolina Georgia Florida	9. 0 9. 0 8. 8	13. 2 13. 9 14. 1	13. 8 14. 1 14. 2	9.0 8.8 8.8 8.9	12. 0 12. 2 12. 4	13. 1 12. 6 12. 7	Cts. 12. 2 12. 3 12. 4 12. 5 17. 0	7.3 6.9 6.9 6.9	11. 4 11. 2 11. 3 11. 4	19. 4 19. 4 19. 6 19. 9	27. 8 27. 7 28. 4 28. 8	26. 5 26. 4 27. 6 27. 5	35. 0 35. 2 35. 7 35. 8	15. 0 14. 5 14. 5 15. 3	20. 3 20. 2 20. 6 20. 8	16. 4 16. 4 16. 0 16. 6	23. 0 24. 5 24. 3 23. 9	32.0	59. 3. 59. 8 26. 2
Alabama	8.8 8.7	14. 3 13. 7	14. 4 14. 4	9. 2 8. 9 8. 6	12. 3 11. 5	12. 6 11. 7	12. 4 12. 6 12. 0 11. 8 12. 2	6.8 6.9 6.8	11. 5 11. 2 11. 1	20. 5 19. 1 19. 4	28. 5 26. 7 26. 7	27. 8 27. 5 28. 2	37. 5 35. 0 35. 0	15. 3 14. 2 13. 2	21, 1 20, 1 20, 1	16. 6 15. 0 16. 1	24. 1 24. 0 23. 5	31. 8 32. 5 30. 3 30. 4 31. 9	28. 9. 37. 8 44. 3
Tennessee Missouri Oklahoma California Arizona.	0.0	19 5	12 0	8.8	11.3	11. 5	12. 3 11. 6 11. 4	6.5	11. 0 11. 3	19. 0 19. 0	27. 5 26. 5	27. 0 25. 5 30. 0	34. 0 35. 2 43. 0	13. 5 10. 5 30. 0	19.8 19.2	15. 0 15. 4 17. 0	21. 5 23. 0 26. 0	32, 5 29, 6 32, 0	52.6 26.6 88.6
U. S	8. 7	13. 9	14. 1	8.8	11. 9	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. 9

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> 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.	Мау.	June.	July.	A ver
1914–15 1915–16 1916–17 1917–18	8. 77 14. 32 25. 33 31. 51	Cents. 10. 30 15. 39 21. 92 33. 28		Cents. 11. 39 19. 37 28. 35 27. 59	Cents. 11. 76 17. 87 29. 18 27. 83	Cents. 11. 92 17. 50 30. 47 26. 23	Cents. 7. 89 11. 53 16. 54 30. 36 24. 38	Cents. 8. 33 11. 63 18. 41 32. 42 25. 27	Cents. 9. 38 11. 76 19. 73 32. 99 25. 87	Cents. 9. 12 12. 61 20. 09 29. 26 28. 32	12. 83 24. 33 28. 95	8. 43 13. 04 25. 21	11. 6 18. 8 28. 8
1919-20 1920-21 1921-22 1922-23 1923-24		29. 58 29. 06 19. 10 20. 99	33. 70 21. 23 18. 66	37. 47 17. 39 17. 12 25. 40	37. 99 14. 46 17. 28 25. 44	38. 84 14. 85 16. 96 27. 59	38. 60 12. 89 16. 83	39. 20 11. 37 17. 27	40. 11 11. 20 17. 12	40. 50 11. 60 19. 46 26. 22	40. 50 10. 76 21. 44	40. 50	37. 3 16. 9 18. 0
	,			A	ugu	STA.							
914-15 915-16 916-17 917-18 918-19	8. 55 14. 18 24. 59 31. 14	10. 22 15. 31 21. 63 32. 88	11. 88 17. 70 26. 93 30. 46	11. 47 19. 61 28. 42 27. 98	11. 73 18. 64 29. 37 28. 24	11. 95 17. 76 31. 16 27. 33	7. 90 11. 49 16. 46 31. 15 25. 43	8. 27 11. 66 18. 74 33. 44 26. 17	. 20, 08	9. 17 12. 54 20. 41 28. 61 28. 96	8. 92 12. 65 24. 60 30. 45 31. 55	8. 56 12. 79 25. 32 29. 34 33. 59	19. ( 29. (
919-20 920-21 921-22 922-23 923-24	30. 72 85. 03 12. 83 21. 55 24. 63	29. 41 28. 17 19. 49 20. 93 27. 76	34. 72 21. 60 18. 74 22. 38 28. 75	38. 34 17. 75 16. 93 25. 18 33. 16	38. 46 14. 62 17. 17 25. 46 34. 28	39. 67 14. 46 16. 74 27. 66	38. 48 12. 67 16. 60 28. 78	40. 04 10. 82 17. 09 30. 07	. 16. 881	41. 44 11. 36 19. 30 26. 84	42. 13 10. 62 21. 49 28. 15	40. 65 11. 29 22. 38 25. 84	16. 17.
				SA	VAN	NAH.			-				
914–15 915–16 916–17 917–18	8. 62 14. 21 25. 20 31. 22	10. 24 15. 40 21. 87 32. 91	11. 95 17. 54 27. 05 80. 53	11.60 19.69 28.26 29.43	12.11 19.27 29.28 29.52	12. 20 18. 45 31. 12 31. 00	8. 14 11. 79 30. 94 27. 23	8. 36 11. 90 18. 82 32. 53 27. 04	20, 15	9. 36 12. 61 20. 62 31. 50 29. 11	9. 03 12. 75 24. 83 30. 24 31. 92	8. 66 13. 00 25. 95 30. 10 33. 61	11. 29. 30.
919-20 920-21 921-22 922-23 923-24	31. 64 34. 69 12. 74 21. 29 24. 45	29. 66 28. 74 19. 64 20. 88 27. 85	22, 37	38. 45 18. 38 17. 17 25. 19 33. 09	17. 39 25. 61	39. 89 15. 62 17. 06 27. 58	39. 43 13. 95 16. 72 28. 75	40. 31 11. 75 17. 36 30. 11	41. 60 11. 48 17. 03 28. 16	41. 53 11. 83 19. 39 26. 44	21. 52	40. 87 11. 31 22. 09 25. 74	18
·		-		MON	TGO:	MERY	7.	!					
914-15 915-16	8. 42 13. 92 24. 67 29. 60	10. 02 15. 21 21. 47 32. 39	11. 74 17. 43 26. 98 30. 24	.11. 27 19. 34 28. 43 28. 56	11. 65 18. 33 29. 49 28. 19	11. 75 17. 78 31. 28 28. 48	7. 70 11. 32 16. 81 31. 30 27. 00	8. 04 11. 37 18. 64 33. 36 25. 98	33. 88	8. 82 12. 28 20. 14 29. 48 28. 54	8. 70 12. 46 24. 06 29. 80 31. 10	8. 38 12. 69 24. 82 29. 63 33. 36	11. 3 18. 8 29. 1 29. 1
919-20	30. 68 36. 38 11. 89 21. 28 24. 23	29. 20 27. 84 18. 73 20. 17 27. 61	34. 26 21. 24 18. 46 21. 75 28. 68	38. 16 17. 97 16. 68 24. 86 32. 87	38. 26 14. 40 16. 92 25. 02 34. 00	39, 29 13, 86 16, 46 27, 05	38. 39 12. 32 16. 18 28. 61	39. 41 10. 39 16. 55 29. 81	16, 15	40. 67 10. 89 18. 66 25. 97	40. 88 10. 09 21. 08 27. 86	40. 15 10. 53 22. 05 25. 70	37. 5 16. 3 17. 4 25. 4
<u> </u>	٠.	·			MEM	PHIS.	······································			······:	,	,.	
914-15	8. 91 14. 35 25. 96 30. 98	10. 32 15. 56 22. 97 33. 89	12. 15 17. 40 27. 54 31. 56	11. 55 19. 60 28. 91 30. 17	12. 12 18. 96 29. 57 29. 42	12. 29 17. 88 31. 07 29. 29	7. 87 11. 79 17. 00 31. 36 27. 18	8. 26 11. 82 18. 17 32. 82 26. 86	9. 24 12. 00 19. 97 33. 57 26. 90	9. 17 12. 81 20. 34 30. 08 29. 08	8. 99 13. 07 24. 02 30. 00 32. 16	8. 69 13. 15 25. 75 30. 00 33. 80	11. 8 19. 0 29. 4 20. 1
919–20 920–21 921–22 921–22 922–23	33. 48 36. 35 12. 17 22. 07 24. 08	30. 96 31. 00 19. 46 21. 19 27. 73	35. 94 21. 68 19. 71 22. 09 29. 28	41. 17 18. 28 18. 27 25. 31 33. 54	39. 88 14. 75 18. 15 25. 80 34. 67	40. 35 14. 46 17. 80 27. 68	39. 22 13. 48 17. 01 28. 74	40. 04 11. 65 17. 28 30. 63	41. 69 11. 25 17. 00 29. 02	41. 31 11. 63 19. 19 26. 89	40. 73 11. 05 21. 79 28. 58	39. 60 11. 82 22. 72 <b>2</b> 6. 51	38. 7 17. 2 18. 3 26. 2

Table 306.—Cotton, middling: Average spot price per pound at nine markets, 1914-1923.—Continued.

#### LITTLE ROCK.

				LII	TLE	ROCI	K.						
Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Aver- age.
1914–15	8. 61 14. 27	10. 08 15. 26	12. 32 17. 33	10 58	12. 15 18. 80	12. 28 17. 70	16.81	8. 15 11. 88 17. 89	12. 25 19. 71	9. 07 12. 80 19. 99	Cents. 8. 89 12. 96 23. 90	8. 58 13. 07 25. 42	11. 84 18. 89
1917-18	30. 73 31. 73	22. 14 33. 99 30. 31	31.70	40. 08	39, 94	28. 20 39. 98	26. 45 39. 10	26. 83 40. 19	26. 40 42. 57	28, 33 41, 45	31. 34 40. 31	33. 55 39. 60	29. 75 38. 38
1919-20 1920-21 1921-22 1922-23 1923-24	34. 89 11. 81 21. 47 24. 20	28. 28 19. 60 20. 76 27. 64	21. 38 19. 75 21. 80 29. 10	18. 23 18. 12 25. 22 33. 55	14. 96 17. 84 25. 53 34. 41	14. 45 17. 57 27. 15	13. 35 16. 90 28. 46	11. 49 16. 89 30. 02	10. 63 16. 87 28. 24	11. 35 18. 90 26. 41	10. 68 21. 17 27. 88	10. 58 22. 07 26. 39	16 60
					DALI	LAS.							
1914-15 1918-16 1916-17 1917-18 1918-19	8. 56 14. 14 24. 86 31. 09	10. 17 14. 83 21. 88 33. 34	11. 72 16. 81 26. 16 30. 89	11. 13 19. 18 27. 46 28. 78	11. 73 17. 63 28. 53 29. 33	11. 84 17. 17 80. 74 27. 72	7. 87 11. 37 15. 75 30. 71 25. 84	8. 25 11. 63 17. 77 32. 56 25. 71	9. 15 11. 78 19. 09 31. 32 27. 02	8. 71 12. 47 19. 58 28. 85 29. 75	8. 57 12. 72 24. 17 29. 76 32. 10	8. 25 13. 04 25. 04 28. 79 34. 16	11. 51 18. 43 28. 47 29. 64
1919-20 1920-21 1921-22 1922-23 1923-24	31. 05 32. 74 12. 11 21. 19 23. 49	30. 60 26. 40 19. 25 20. 14 27. 05	19. 17 21. 67	17. 10	17. 12 24. 79	42. 08 13. 63 16. 75 26. 68	16. 44	16. 93	16. 69	19.08	21. 37	22. 05	15. 79 17. 84
				H	tous	ron.							
1914–15 1915–16 1916–17 1917–18 1918–19	9. 04 14. 79 25. 67 31. 26	10. 56 15. 39 22. 62 33. 70	12. 11 17. 42 26. 62 32. 05	11. 62 19. 80 27. 87 30. 01	12. 27 18. 10 28. 77 30. 26	12. 36 17. 64 31. 25 28. 56	8. 33 11. 82 16. 05 30. 91 27. 00	8. 80 12. 09 18. 18 32. 94 26. 43	9. 82 12. 27 19. 43 31. 80 27. 33	9. 21 12. 99 20. 13 28. 06 30. 18	9. 06 13. 26 24. 60 30. 91 32. 04	8. 68 13. 60 25. 54 28. 75 34. 24	12. 00 18. 92 28. 85 30. 26
1919-20 1920-21 1921-22 1922-23 1923-24	31. 65 32. 94 13. 06 21. 59 24. 23	31. 36 27. 33 20. 02 20. 69 27. 78	36. 88 20. 98 19. 64 22. 20	40. 79 17. 56 17. 65 25. 33	40 74	41.72 13.95 17.20 27.51	30 08	41 52	42 23	40 67	30 54	38 10	22 77
				G.A	LVE	STON.		•					
1915-16 1916-17 1917-18 1918-19 1919-20	9. 15 14. 77 25. 70 31. 56 31. 87	10. 59 15. 48 22. 66 34. 19 31. 58	12. 20 17. 48 26. 82 32. 25 37. 10	11. 66 19. 82 28. 07 30. 30 41. 32	12. 30 18. 43 29. 11 30. 64 41. 87	12. 39 17. 79 31. 28 29. 45 42. 53	11. 89 16. 30 31. 10 28. 26 41. 10	12. 14 18. 31 33. 06 26. 94 42. 52	12, 30 19, 63 32, 23 27, 63 42, 99	12. 98 20. 18 28. 40 30. 59 41. 64	13. 36 24. 58 30. 89 32. 87 39. 83	13. 71 25. 99 29. 37 34. 62 38. 59	12. 06 19. 06 29. 06 30. 78 39. 41
1920-21 1921-22 1922-23 1923-24													16. 89 18. 64 26. 03

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.	No♥.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aver- age.
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
1900-1901	l	10. 39	9.57	9.48	9.50	9. 52	9.20	8.49	8, 15	7. 69	8.05		
1901-2	8. 28			7.32		7.88	8.08	8, 54					
1902-3	8.43				8. 14	8, 66	9. 36	9. 73	10, 05	11, 14			
1903-4	12.70	10. 72	9. 66	10. 72	12. 52	14,06				13, 41			
1904-5	10. 59	10. 54	9. 80	9. 50	7.48			7. 45					
1905-6	10. 48		10. 16	11. 28	11. 88	11, 56	10. 67	10. 84	11. 28	11. 33	10. 99	10.96	10.97
1906-7			10.76	10. 39	10. 53	10.46	10.49	10.83					
1907-8		12, 41			11, 54	11.84	11.63		10. 20				
1908-9	9. 92	9. 11	8. 92	8. 97	8. 78	9. 34		9. 39			11.04		
1909-10	12. 28	12. 66	13. 48	14. 40	14. 96	15. 23	14, 88	14, 74	14.89	14, 64	14. 85	14. 93	14, 33
1910-11	14. 92	13. 49	14. 21	14. 50	14.85	14, 95			14, 70	15, 48		14. 30	
1911-12	11.96	11. 29	9. 61	9. 35	9. 17	9. 53		10. 65	11. 61	11. 72		12. 93	
1912-13	12,07	11, 37	10. 95	12, 15		12, 58		12, 45	12. 44	12. 29		12. 34	
1913–14	12.02	13. 11	13. 73	13. 26	12.98	12.93	12. 90	12.95		13. 36		13. 34	
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)	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, 88	12.61		13. 03	11.68
1916-17	14. 26	15. 27	17. 24	19.45	18.34	17. 33	17, 14	17. 94		20.06		25. 41	18. 84
1917–18 1918–19	25. 10	21.68	26. 76	28, 08	29.07	31.07		32, 76			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			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		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. 48	27. 51		30. 43	28. 42	26, 63	28, 61	25. 73	25. 94
1923-24	24. 22	27. 71		33. 68	34. 88						-0.01		UI

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 exchange 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.

<sup>1</sup>Market closed.

<sup>2</sup> No quotations prior to Sept. 23. Average for 7 days' business.

### NEW YORK

1				14	E 44 T	Anu	·		٠.				
Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aver- age.
•	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents	Cents.	Cents.	Cents.	Cents.
1900-1901	9.85	10. 57	10. 18	9.89	10, 10	10.32	9. 52	8, 62	8.35	8. 15			
1901-2	8. 18	8.40	8.35	7.95		8.28			9. 37				
1902-3	8.97	8,96	8.77	8.45	8.64		9.65	10.08	10. 44	11. 46			
1903-4	12, 75					14. 42		15. 58	14. 36				
1904-5	10.82	11.02	10, 26					8.03					
1905-6	10.89	10, 85	10.35	11.45	12.13			11. 35			11.06		
1906-7	10.31	9.77						11. 20					11. 24
1907-8	13.33	12. 57				11. 73	11. 53	11.01	10. 17	10 93	11.63		
1908-9	10, 29	9. 39	9. 26	9, 40	9. 23	9. 67	9.82		10.49		11. 51		
1909-10	12.75	13.00	13, 99	14. 77					15, 10			15. 74	
1910-11					15. 07	14. 90	14. 30		14.87				
1911–12	12.53			9. 43	9. 37				11.57				
1912-13	12.04								12. 29			12. 26	
1913–14	12. 14							13. 27				13, 17	13. 21
						-							
Av. 1909-1913	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			11. 73		12.05		12.97	13. 05	11.98
1916-17	14.64	15. 79	17. 99	19.92								26. 30	19. 28
1917-18	25, 49	23. 05	28, 02	29. 78	30. 74				31.85			31. 54	29.68
1918–19	33.88	35, 09	32, 42	29.69				27. 74				35, 33	31.01
1919-20	32. 10			39. 40				41, 20				41. 20	38. 29
1920-21	36. 23	30. 07		18.81	15.68				12.14	12.84	12.00	12. 41	17. 89
Av. 1914-1920				22. 45				21. 97	22. 54				
												24. 15	
1921-22	13. 79			18, 01		17. 94			18.06			22. 27	
1922-23	21.86				25. 65		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								
	, ,	, ,			,	- 1			4 L	1	: 1		

Division of Statistical and Historical Research. Compiled from Market Reports of the New York Cotton Exchange.

<sup>&</sup>lt;sup>1</sup>Cotton Exchange closed on account of the war. <sup>2</sup>Cotton Exchange opened on Nov. 16. Quotations cover only half month.

1923

Table 308.—Cotton: Average closing prices per pound, New York, for future de-livery, August, 1922-December, 1923.

					<u> </u>							
36 . 45					3	or deli	very in-	-				
Month.	Aug.1	Sept.1	Oct.	Nov.1	Dec.	Jan.	Feb.1	Mar.	Apr.1	May.	June.1	July.
1922-23. August	Cents. 21. 14 24. 36 24. 91 26. 84 27. 51 28. 56 26. 70 24. 85 26. 44	Cents. 21. 47 21. 17 23. 90 24. 33 26. 00 26. 11 26. 80 25. 55 24. 15 25. 16	Cents. 21. 60 21. 08 22. 01 23. 37 25. 50 25. 56 24 24. 97 23. 62 24. 49	Cents. 21. 61 21. 21 22. 58 25. 40 25. 39 25. 40 25. 91 24. 74 23. 41 24. 23	Cents. 21. 63 21. 33 22. 79 25. 49 25. 14 25. 28 25. 25 70 24. 51 23. 20 23. 94	Cents. 21. 48 21. 18 22. 52 25. 37 25. 43 27. 18 225. 06 25. 42 24. 22 22. 91 23. 66	22. 90 23. 63	Cents. 21. 51 21. 26 22. 63 25. 34 25. 63 27. 48 28. 52 30. 73 124. 05 222. 89 23. 61	Cents. 21. 45 21. 22 22. 60 25. 25 25. 64 27. 56 28. 63 30. 42 28. 66	Cents. 21. 42 21. 19 22. 56 25. 17 25. 64 27. 66 28. 74 30. 44 28. 66 26. 57 23. 50	Cents. 21. 27 21. 09 22. 45 25. 01 25. 50 27. 51 28. 44 30. 01 28. 20 26. 22 28. 03	Cents.  1 21. 25 1 21. 00 22. 35 24. 85 25. 37 27. 36 28. 13 29. 59 27. 78 25. 72 27. 22
Av. Aug. 1- July 31	24. 69 25. 60	23. 90	23. 21	23. 02	22. 83	23. 92	24. 07	22. 61 24. 68	22, 57 25, 23	25. 34	25. 79	25, 59
1923–24. August September October November December	24. 36 27. 30 31. 37 31. 51	24. 38 27. 74 26. 44 29. 24 29. 30	23. 93 28. 07 29. 03 28. 14 28. 42	23. 89 27. 88 29. 18 33. 53 28. 04	23. 86 27. 79 29. 12 34. 19 35. 19	23. 59 27. 35 28. 61 33. 72 34. 62	23. 62 27. 34 28. 63 33. 82 34. 80	23. 65 27. 34 28. 64 33. 92 34. 99	23. 62 27. 30 28. 66 33. 96 35. 06	23. 60 27. 28 28. 68 34. 01 35. 16	23. 62 27. 01 28. 34 33. 71 34. 74	23. 50 26. 77 28. 09 33. 45 34. 32

Division of Statistical and Historical Research. Compiled from Market Reports of the New York Cotton Exchange.

<sup>3</sup> Largely nominal.

**22.** 0

Table 309.—Cotton: Average spot prices per pound in specified foreign markets, 1912–192**3**.

#### LIVERPOOL, EGYPTIAN UPPERS-GOOD.1 A ver-Feb. May. June. Calendar year. Jan. Mar. Apr. July. Aug. Sept. Oct. Nov. Dec. age. Cts. 18. 0 Cts. Cts. 19. 5 Cts. 16.9 19.3 21.3 20. 2 18. 8 19.1 18. 3 19. ŏ 1913\_\_\_\_\_ 19.9 20.1 20. 2 20. 3 20. 2 19.7 20.0 20. 2 20. 0 19. 5 19.8 18. 2 14. 4 23. 5 55. 4 52. 6 48. 4 81. 3 16. 1 15. 4 27. 2 52. 0 55. 4 48. 8 53. 4 17. 9 12. 8 22. 5 41. 9 18. 1 14. 5 22. 4 52. 0 16. 5 14. 1 23. 7 60. 9 17. 6 13. 8 18.9 17. 3 17. 9 13. 5 12.6 16. 4 15. 1 12 2 17. 3 14. 0 22. 4 44. 5 54. 9 49. 3 108. 7 18. 1 31. 2 46. 7 54. 3 53. 4 1915.... 12. 2 15. 5 17. ğ 18. 6 21. 6 50. 5 56. 3 48. 3 107. 6 21. 9 39. 7 53. 8 50. 3 23. 7 60. 3 54. 4 46. 4 39.5 39. 6 51. 6 51. 7 67. 0 1917\_\_\_\_\_ 50.8 54. 4 51. 5 50. 0 54. 0 48. 3 97. 1 55. 8 48. 8 50. 4 53.8 52.9 76. 3 94. 0 105. 0 71. 6 68: 6 37. 0 29. 4 23. 4 73.1 A verage 1914-1920 . 43, 1 45. 4 43.8 42.0 41.1 41. 2 38. 3 36. 3 38. 5 39.3 41. 2 20. 8 27. 4 32. 5 19. 6 28. 4 33. 9 21. 5 26. 8 33. 0 1921\_ 18. 8 28. 1 30. 4 18. 0 29. 4 31. 0 29. 3 27. 4 33. 4 **2**3. 4 24. 6 28. 8 18.8 29.7 18. 6 28. 1 33. 3 27. 3 33. 5 28.3 30.7 29: 4 31. 2 28. 6 33. 7 31: 9 31. 9 31. 5 39. 6 1923..... LIVERPOOL, NO. 1 OOMRAS, FULLY GOOD.1 10.3 10.8 12.8 10. 9 12. 7 11.3 11.6 12.2 11. 7 11. 9 12.3 12. 2 11. 9 12. 9 11. 6 12. 9 12. 5 11.8 11.6 12.8 12. 5 12. 4 11, 4 8, 9 13, 0 22, 1 35, 2 30, 1 7. 9 10. 7 17. 6 37. 6 37. 5 12. 0 8. 5 12. 6 11. 5 8. 4 12. 4 17. 3 10. 6 8. 9 12. 9 8. 8 10. 9 15. 8 11. 5 8. 5 12. 1 11. 5 9. 2 9. 7 9. 1 9. 1 9. 7 7. 7 11. 9 11.0 10.2 1915 9.1 9. 5 1916..... 11. 9 12.8 31.2 14. 2 34. 2 15. 0 16. 6 37. 2 13. 9 16. 9 38. 2 20. 2 21. 0 33. 4 36. 9 28. 3 38. 2 28. 9 31. 8 37. 8 30. 7 37.6 38. 2 36. 8 36.8 44. 1 42, 4 34. 3 38.1 32. 6 30. 0 27. 7 35. 3 32. 4 32. 2 29. 0 30. 5 32. 1 32. 0 31, 1 1920.... 23. 8 21. 6 32. 6 32. 3 30. 2 29. 1 26. 1 18. 5 15.7 12.0 25. 3 Average 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 11. 9 15. 3 21. 9 10. 6 14. 9 22. 2 9. 2 15. 4 21. 7 9. 4 16. 0 20. 7 9. 8 15. 7 19. 4 9. 2 18. 9 20. 8 9. 3 19. 7 **20**. 2 10. 5 19. 8 19. 6 16. 0 18. 9 21. 8 16. 9 18. 8 **22. 0** 15. 3 **20**. 6 **25.** 9 12.0 17.9 20. 5 27. 7

<sup>&</sup>lt;sup>1</sup> Based on nominal quotations.

Table 309.—Cotton: Average spot prices per pound in specified foreign markets, 1912-1923.—Continued.

### ALEXANDRIA, EGYPT, EGYPTIAN UPPERS, GOOD.2

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912 1913 1914 1915 1916 1917	Cts. 15. 8 18. 6 17. 4 11. 1 19. 2 35. 1	Cts. 16. 6 18. 7 17. 0 11. 9 21. 1 37. 3	Cts. 16. 8 19. 0 16. 4 13. 0 21. 0 39. 6	Cts. 17. 6 19. 4 17. 0 14. 3 20. 3 48. 7	Cts. 18. 1 19. 0 16. 8 13. 2 20. 6 49. 3	Cts. 18. 9 18. 5 16. 7 13. 1 21. 4 51. 7	Cts. 19. 4 18. 2 16. 3 12. 5 20. 7 60. 1	Cts. 18. 5 17. 8 (3) 12. 6 20. 6 45. 1	Cts. 17. 2 18. 5 (3) (3) 23. 3 29. 6	Cts. 15. 8 18. 6 9. 6 (3) 27. 5 32. 4	Cts. 17. 0 18. 6 11. 2 16 2 34. 5 35. 6	Cts. 18. 1 18. 0 10. 5 (3) 35. 4 38. 5	Cts. 17. 5 18. 6 14. 9 13. 1 23. 8 41. 9
1918	37. 9 ( <sup>3</sup> ) 85. 2 19. 9 25. 3	36. 6 (³) 94. 6 15. 1 23. 3	38. 0 (3) 87. 2 16. 3 22. 9	38. 3 (*) 94. 0 16. 3 22. 7	36. 5 (3) 82. 7 15. 3 24. 7	37. 6 (3) 69. 8 14. 2 26. 7	40. 5 (3) 61. 2 14. 9 26. 1	(3) 47. 1 54. 9 14. 9 25. 0	(3) 42. 6 41. 9 25. 7 23. 3	(8) 45. 6 32. 5 30. 9 24. 1	(3) 60. 5 24. 2 26. 0 26. 7	(3) 71. 9 19. 5 27. 3 27. 0	62.3 19.7 24.8

### LIVERPOOL, AMERICAN MIDDLING.4

1912 1913						13. 37 13. 67				12. 59 15. 55			13. 12 14. 20
1917 1918	9. 77 15. 99 21. 76	10. 06 15. 61 21. 34 45. 88	10. 46 15. 48 24. 07 47. 19	11. 37 15. 47 25. 23 46. 52	10. 42 16. 77 26. 17 42. 28	15. 71 10. 47 16. 47 34. 07 43. 89 38. 25	10. 32 15. 94 37. 65 43. 09	10. 79 17. 54 38. 21 45. 26	12. 24 18. 99 35. 96 48. 44	13. 90 20. 69 34. 85 46. 46	13. 74 23. 05 43. 38 43. 97	15. 03 22. 16 44. 25 42. 30	13. 14 11. 55 17. 85 32. 24 45. 12 36. 28
1920 Average 1914-1920_		41. 61	45. 16	44. 17	42. 51	44. 48	41. 83	38. 31	31. 33	24. 41	19. 18		35. 94 27. 45
1922	18. 12	12. 71 17. 75 30. 93	19. 21	18. 89	21. 42	11. 66 23. 46 31. 53	24. 98	24. 90	23. 98		27. 96	28. 26	15. 02 22. 79 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.

Table 310.—Cottonseed: Production, 1874-1923.

Year beginning	Produc-	Year beginning	Produc-	Year beginning	Produc-
Aug. 1.	tion.	Aug. 1.	tion.	Aug. 1.	tion.
1874-5	1, 969 2, 148 2, 268 2, 616 3, 039 2, 455 3, 266 2, 639 2, 625 3, 045 3, 018	1890-1	3, 579 4, 792 3, 416 4, 070	1907-8. 1908-9. 1909-10. 1910-11. 1911-12. 1912-13. 1913-14. 1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. 1922-22. 1922-23.	5, 175 6, 997 6, 104 6, 305 7, 186 4, 992 5, 113 5, 040 5, 360 5, 074

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

<sup>1</sup> London Economist, average of weekly quotations.

2 Monthly Agricultural Statistics, Ministry of Finance, Cairo, Egypt.

3 No quotations.

4 International Yearbook of Agricultural Statistics, 1921, p. 443. London Economist, 1922 and 1923.

Average of weekly quotations. COTTONSEED.

<sup>&</sup>lt;sup>1</sup> Preliminary estimate by Department of Agriculture.

Table 311.—Cottonseed: Production, and farm value, by States, 1919-1923.

State.	Pr	oduction Year b	, thousa eginning		ns.	To			nds of dog Aug. 1.	ollars.
	1919	1920	1921	1922	1923 ¹	1919	1920	1921	1922	1923 1
Virginia	10	9	7	12	22	\$740	\$230	\$220	\$480	\$1, 012
	368	410	344	378	453	27, 340	10, 550	11, 420	15, 606	21, 744
	633	720	334	218	353	47, 460	16, 620	11, 510	9, 230	17, 703
	736	628	349	317	262	55, 260	16, 640	11, 070	12, 520	13, 558
	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, 996
United States	5, 074	5, 971	3, 531	4, 336	4, 476	340, 470	136, 990	104, 560	150, 400	202, 603

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

Table 312.—Cottonseed, and cottonseed products: Production, 1900-1923.

		Crude	cottonseed pro	ducts.
Year ending July 31.	Cottonseed, crushed.	Oil.	Cake and meal.	Hulls.
1899-1900 1990-1 1901-2 1902-3	Tons. 2, 479, 000 2, 415, 000 3, 154, 000 3, 269, 000 3, 241, 000	Gallons. 93, 330, 000 96, 610, 000 118, 610, 000 122, 910, 000 121, 880, 000	Tons. 884, 000 845, 000 1, 125, 000 1, 165, 000 1, 156, 000	Tons. 1, 169, 600 1, 139, 000 1, 487, 000 1, 541, 000 1, 528, 000
1904-5	3, 345, 000 3, 131, 000 3, 844, 000 2, 565, 000	133, 820, 000 · 125, 700, 000 153, 760, 000 103, 050, 000	1, 360, 000 1, 272, 000 1, 563, 000 1, 043, 000	1, 213, 000 1, 135, 000 1, 393, 000 927, 000
1908-9 1909-10 1910-11 1911-12	3, 670, 000 3, 269, 000 4, 106, 000 4, 921, 073 4, 579, 508	146, 790, 000 131, 000, 000 167, 970, 000 201, 650, 000 185, 750, 000	1, 492, 000 1, 326, 000 1, 792, 000 2, 151, 000 1, 999, 000	1, 330, 000 1, 189, 000 1, 375, 000 1, 642, 000 1, 540, 000
Av. 1909-1913	4, 109, 116	166, 632, 000	1, 752, 000	1, 415, 000
1913-14 1914-15 1916-16 1916-17 1917-18 1918-19	4, 847, 628 5, 779, 665 4, 202, 313 4, 479, 176 4, 251, 680 4, 478, 508 4, 012, 704	193, 330, 000 229, 260, 000 167, 110, 000 187, 688, 000 174, 996, 000 176, 711, 000 161, 529, 000	2, 220, 000 2, 648, 000 1, 923, 000 2, 225, 000 2, 068, 000 2, 170, 000 1, 817, 000	1, 400, 000 1, 677, 000 1, 220, 000 969, 000 996, 000 1, 137, 000 1, 143, 000
Av. 1914-1920	4, 578, 811	184, 375, 000	2, 153, 000	1, 220, 000
920-21 921-22 922-23	4, 069, 166 3, 007, 717 3, 241, 557	174, 558, 000 124, 063, 000 133, 723, 000	1, 786, 000 1, 355, 000 1, 487, 000	1, 256, 000 937, 000 944, 000

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

<sup>&</sup>lt;sup>1</sup> Preliminary estimate by Department of Agriculture.

Table 313.—Cottonseed: Farm price per ton, 15th of month, United States, 1910-1923.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Weight- ed average,
1913–14	\$20. 45 18. 02 20. 24	17. 61 21. 07	16. 73 18. 04 22. 01	16. 69 18. 57 22. 46	21. 42 23. 48	16. 57 21. 98 22. 70	16. 81 22. 01 23. 37	18. 21 21. 55 23. 60		19. 21 21. 88 23. 56	19. 24 21. 54 23. 62	19. 04 21. 37 22. 78	17. 13 18. 77 22. 14
Av. 1910-1913	19. 57	20. 75	20. 91	20. 77	21. 81	2190	21.95	22. 21	22. 70	<b>2</b> 2. 53	21. 94	21. 47	20.86
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.  A v. 1914-1920	20. 16 20. 14 35. 22 56. 61 61. 34 66. 23 43. 22 43. 27	20. 98 41. 13 57. 58 67. 90 62. 13 29. 96	65. 85 66. 95 28. 94	34. 01 55. 82 69. 38 64. 97 72. 65 26. 00	35. 54 56. 35 68. 29 65. 05 69. 07 19. 83	36. 85 52. 53 67. 51 64. 93 69. 88 18. 96	36. 75 51. 43 66. 95 64. 65 69. 34 19. 76	36. 56 53. 18 68. 27 64. 00 67. 18 18. 92	38. 13 55. 94	37. 91 55. 61 68. 16 63. 83 69. 88 17. 28	35. 79 57. 19 66. 03 63. 80 66. 16 17. 06	36. 06 56. 90 64. 11 64. 24 61. 64 18. 75	30. 25 48. 11 64. 04 65. 62 67. 87
1921-22 1922-23 1923-24	22. 06 32. 44 37. 47	<b>2</b> 5. 37		40. 18	42.93		30. 17 45. 16	32. 72 46. 32	40. 79 47. 60	40. 21 46. 58	37. 71 43. 14		29. 25 32. 13

### COTTONSEED OIL.

Table 314.—Cottonseed oil: International trade, calendar years, 1909-1922.

PRINCIPAL EXPORTING COUNTRIES.   1,000   1,000   624	2000 1,000 1	m- orts. Ex- ports: ,000 1,000 illons. gallon 30 42 5,802 5,16 24,63 62 24,63	8. ports.  0 1,000 18. gallons 3 1 67 4 5 5 5,432	1,416 400 506 557	Imports.  1,000 gallons.  1,418 3	Ex- ports. 1,000 gallons. 136 718 3,198 1,004
Brazil	illons. gall 12 281 476 2 3 21 7, 189 2, 3, 968 1, 3	Mons. gallon 1, 01 1, 60 42 5, 162 80 80	ns. gallons 3 1 6 7 4 5 5 5 4 89 1 1 133 59	. gallons 1, 416 400 506 557 3, 098 33, 673	gallons.	gallons. 136 718 3, 198
Algeria       364         Australia       142         Austria       39         Austria-Hungary       39         Belgium       2, 251       1,         Canada       2, 817       2, 817         Czechoslovakia       3, 944       7, 944         France       3, 289	8 5	80	59	9		<u>-</u> -
Netherlands 5, 352 Norway 1, 504	335 2,6 335 2,6 335 2,6 335 2,6 5341 2,6 52 2,8 (6) 3	720 155 091 2 12 877 6 677 82 719	9 563 5, 781 1 1, 774 4 1, 214 2 2,855 2 3,936 1 10,897 1,509 0 315 2 339	225 26 104 1 2, 153 208 67	156 4,088 68 1,107 625 783 104 71 1,681 1,167	29 39 4 281

Division of Statistical and Historical Research. Official sources except where otherwise noted.

One year only. International Institute of Agriculture.

Four-year average.
Three-year average.
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.	Мау.	June.	July.	A verage.
1909-10 1910-11 1911-12 1912-13 1913-14	\$5. 46 10. 84 5. 85 6. 47 8. 88	10. 12 6. 96 6. 38	8. 11	7. 29 5. 73 6. 01	7. 24 5. 37 6. 30	7. 32 5. 39 6. 25	7. 03 5. 54 6. 35	6. 60 5. 69 6. 44	6. 19 6. 46 6. 96	7. 18 7. 01	6. 43 6. 86 7. 70	5. 89 6. 67 9. 11	7. 47 6. 14 6. 77
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. 1916-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. Av. 1914-1920.	5. 78 9. 27 14. 84 20. 25	10. 17 16. 44 20. 25	11. 75 17. 99 20. 25 23. 00 11. 43	7. 93 12. 53 18. 59 20. 25 22. 75 10. 14	8. 38 12. 38 18. 65 20. 25 21. 50 8. 91	8. 99 12. 32 20. 09 20. 25 21. 86	9. 59 12. 51 20. 33 20. 25 19. 67 7. 34	10. 53 13. 62 19. 84 20. 25 19. 07	10. 73 15. 30 19. 75 21. 25 18. 54 6. 24	10. 91 16. 23 20. 00 21. 25 19. 21	10. 91 16. 26 20. 25 25. 03 16. 70 7. 46	10. 04 14. 52 20. 25 27. 37 13. 21 8. 57	8. 98 13. 07 18. 91 21. 41 20. 23 9. 00
1921–22 1922–23 1923–24	8. 69 9. 96 10. 34	9. 88 8. 54 11. 62	8. 69 8. 88 12. 01	8. 30 9. 51 11. 67	8. 28 9. 81 11. 00	8. 62 10. 77		11. 48 11. 78	11. 57 11. 76				9. 95 10. 44

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.

	•	Aver-		Aver-		Walna	ti	eago p moth g carlo	y per	ton	Domes-	Im- ports,
Calendar year.	Acre- age.	age yield per acre.	Pro- duc- tion.	farm price per ton	Farm value Dec. 1.	Value per acre Dec.1.1	h	em-		owing ay.	ports, fiscal year begin- ning	fiscal year begin- ning
				Dec. 1.			Low.	High.	Low.	High.	July 1.	July 1.
	1,000 acres.	Short tons.	1,000 short tons.	Dol- lars.	1,000 dollars.	Dol-	Dols	Dols	Dols	Dols.	Short tons.	Short tons.
1869	18, 591	1. 42	26, 420	10, 18	268, 933	14. 47						
1870 1871	19, 862 19, 009		24, 525 22, 239	12. 47 14. 30	305, 743 317, 940	15.39					5, 131	
1872	20, 319	1. 17	23, 813	12.94	308, 025	15. 16					5, 104	
1873	21,894	1. 15	25 <del>p</del> 085	12. 53	314, 241	14, 35			<b></b>		5, 476	
1874	21, 770		25, 134	11.94	300, 222	13. 79					8, 045	
1875 1876	23, 508 25, 283		27, 874 30, 867	10. 78 8. 97	300, 378 276, 991				-ā-ñ	10.00	8, 431 8, 161	
1877	25, 368		31, 629	8. 37	264, 880			10. 50	9. 75	10. 75	10, 656	
1878	26, 931	1. 47	39, 608	7. 20	<b>285, 0</b> 16	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					15. 00		73, 929
1880	25, 864		31, 925		371, 811					19.00		195, 195
1881 1882	30, 889 32, 340		35, 135 38, 138	11. 82 9. 73	415, 131 371, 170					16. 50 13. 00		96, 352 109, 283
1883	35, 516		46, 864		383, 834					17. 00		133, 230
1884	38, 572	1. 26	48, 470	8. 17	396, 139	10.97	10 00	11 50	15 50	17. 50	12, 479	180, 264
1885	39, 850		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 1888	37, 665 38, 592	1. 10 1. 21	41, 454 46, 643	9. 97 8. 76	413, 440 408, 500	10.98	13. 50	14. 50	17. 00	21. 00 21. 00	20, 382 24, 559	112, 301 118, 042
	,		10,010	- 1	200, 000			1	İ		'	•
1889		1. 26	49, 181	7.76	381, 481					14.00		139, 489
1890 1891	40, 038 41, 258	1. 23 1. 18	49, 057 48, 759	8. 18 8. 89	401, 111 433, 276	10.02	12.50	15 00	12. 50	15. 50 14. 00	31, 433 39, 425	65, 231 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		9. 48	527, 044					10. 50		97, 198

<sup>&</sup>lt;sup>1</sup>Based on farm price Dec. 1.

Table 316.—Hay, tame: Acreage, production, value, exports, etc., United States, 1869-1923—Continued.

		Aver-	D	A yerage	1	Value	l t	icago j imoth y carl	y per	No.1 r ton ots.	Domes- tic ex-	Im- ports,		
Calendar year.	Acre- age.	yield per acre.	Pro- duc- tion,	farm price per ton	Farm value Dec. 1.	per acre Dec.1.1		cem- er.		owing [ay.	fiscal year begin- ning	fiscal year begin- ning		
				Dec. 1.			Low.	High.	Low.	High.	July 1.	July 1.		
1894 1895	1,000. acres. 42,772 40,832	Short tons. 1. 18 1. 02	1,000 short tons. 50, 468 41, 838	Dol- lars. 8. 96 9. 46	1,000 dollars. 452, 079 395, 647	10. 57	10.00	Dols.	10, 00	Dols. 10. 25 12. 00	Short tons. 52,771	Short tons. 226, 128		
1896 1897 1898	40, 978 41, 336 43, 120	1. 33 1. 42 1. 55	54, 380 58, 878 66, 772	7. 48 7. 28 6. 63	406, 957 428, 919 442, 905	9. 93 10. 38 10. 27	8. 00 8. 00	8. 50 8. 50	8. 50 9. 50	9. 00 10. 50 10. 50	66, 138 69, 057 91, 646 72, 706	338, 970 134, 335 4, 353 22, 257		
1899 1900 1901 1902 1903	43, 127 42, 070 42, 066 42, 962 43, 400	1. 33 1. 27 1. 33 1. 52 1. 57	57, 450 53, 231 55, 819 65, 296 68, 154	8. 20 9. 72 9. 91 9. 19 9. 35	470, 844 517, 399 553, 328 599, 781 637, 485	10. 92 12. 30 13. 15 13. 96 14. 69	11. 50 13. 00 12. 00	14. 00 13. 50 12. 50	12. 50 12. 50 13. 50	13. 50 13. 50 15. 00	81, 442 100, 088 171, 843 57, 091 68, 018	161, 157 159, 734 54, 225 328, 285 128, 115		
1904 1905 1906 1907 1908	44, 645 45, 991 47, 891 49, 098 51, 196	1. 55 1. 59 1. 39 1. 47 1. 53	69, 192 72, 973 66, 341 72, 261 78, 440	8. 91 8. 59 10. 43 11. 78 9. 14	616, 369 627, 023 692, 116 850, 915 716, 644	13. 81 1 13. 63 1 14. 45 1 17. 33 1 14. 00 1	10, 00 15, 50 13, 00	12.00 18.00 17.50	11. 50 15. 50 13. 00	12. 50 20. 50 14. 00	74, 544 78, 593 65, 634 86, 555 74, 638	51, 760 76, 765 68, 450 11, 271 7, 517		
1909 1910 1911 1912 1918	51, 041 51, 015 48, 240 49, 530 48, 954	1. 46 1. 36 1. 14 1. 47 1. 31	74, 384 69, 378 54, 916 72, 691 64, 116	10. 58 12. 14 14. 29 11. 79 12. 43	786, 722 842, 252 784, 926 856, 695 797, 077	15. 41 1 16. 51 1 16. 27 2 17. 30 1 16. 28 1	6. 00 0. 00 3. 00	19. 00 22. 00 18. 00	18, 50 24, 00 14, 00	23. 50 28. 00 16. 50	61, 608 61, 850 66, 898 68, 006 56, 169	108, 448 377, 168 782, 884 175, 082 191, 280		
Av. 1909-1913_	49, 756	1. 35	67,097	12. 12	813, 534	16. 35 1	5. 90	18. 80	16. 80	20. 30	62, 906	326, 972		
1914 1915 1916 1917 1918 1919 1920	49, 145 51, 108 55, 721 55, 203 55, 755 56, 888 58, 101	1. 43 1. 68 1. 64 1. 51 1. 37 1. 52 1. 51	70, 071 85, 920 91, 192 83, 308 76, 660 86, 359 87, 855	17. 09 20. 13 20. 08	779, 068 913, 644 1, 022, 930 1, 423, 766 1, 543, 494 1, 734, 085 1, 560, 235	15. 85 1 17. 88 1 18. 36 1 25. 79 2 27. 68 2 30. 48 2 26. 85 2	4. 50 5. 00 6. 00 9. 00	16. 50 17. 50 28. 00 31. 00 32. 00	17. 50 19. 00 20. 00 34. 00 35. 00	20. 00 22. 00 26. 00 37. 00 50. 00	32, 366 67, 142	22, 609 48, 366 65, 125 460, 027 310, 742 251, 946 126, 185		
Av. 1914-1920_	54, 560	1. 52	83, 052	15. 44	1, 282, 460	23. 51 2					<del></del>	183, 571		
1921 1922 1923 <sup>2</sup>	58, 769 61, 159 60, 162	· 1. 40 1, 57 1. 48	82, 379 95, 882 89, 098		997, 527 1, 204, 101 1, 253, 364	16. 97 2 19. 69 2 20. 83 2	0. 0012	<b>22. 00</b>  2	21. 00/2	28. 00 23. 00	61, 240 53, 096	5, 357 35, 430		

Division of Crop and Livestock Estimates; figures in italics are census returns.

Table 317.—Wild, salt, and prairie hay: Acreage, production, and farm value, United States, 1909–1923.

Calendar year.	Acre- age.	Yield per acre.	Produc- tion.	Farm price per ton.	Farm value.	Calendar year.	Acreage.	Yield per acre.	Produc- tion.	Farm price per ton.	Farm value.
1909 1910 1911 1912 1913 1914 1915	1,000 acres. 17, 186 17, 187 17, 187 17, 427 16, 341 16, 752 16, 796 16, 635	Tons. 1. 07 . 77 . 71 1. 04 . 92 1. 11 1. 27 1. 19	1,000 tons. 18, 383 13, 151 12, 155 18, 043 15, 063 18, 615 21, 343 19, 800	7. 49 6. 80 7. 90	1,000 dolls. 	1917 1918 1919 1920 1921 1922 1923 <sup>2</sup>	1,000 acres. 16, 212 15, 365 17, 150 15, 787 15, 632 15, 871 15, 722	Tons. 0. 93 . 94 1. 07 1. 11 . 98 1. 02 1. 11	1,000 tons. 15, 131 14, 479 18, 401 17, 460 15, 391 16, 131 17, 528	Dolls. 13. 49 15. 23 16. 50 11. 35 6. 63 7. 14 7. 85	1,000 dolls. 204,086 220,487 303,639 198,115 101,991 115,176 137,603

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Based on farm price Dec. 1. <sup>2</sup> Preliminary.

<sup>&</sup>lt;sup>1</sup> Census acreage.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 318.—Hay: Acreage, production, and total farm value, by States, calendar years, 1922 and 1923.

			Т	ame h	ay.			Wild	l, salt,	or prai	irie hay	
State.		usands acres.	thou	uction sands ions.	Dec. 1 p	alue, basis rice, thou of dollars.	_ I I II O C	ısands cres.	thou	action, sands ons.	basis price sands	value, Dec. 1 , thou- of dol- ars.
	1922	1923	1922	1923 1	1922	19231	. 1922	19231	1922	19231	1922	19231
Maine New Hampshire Vermont Massachusetts Rhode Island	909 430	918 918 9434	590 1, 273 568	529 1,285 595	11, 50 22, 27 13, 06	5 10,051 8 21,202 4 15,470	1 12 2 13 0 12	12 13 12	12 14	11 13 12	144 147 174	126 150 192
Connecticut New York New Jersey Pennsylvania Delaware	4,870	4, 919 312 2, 920	6, 818 488 4, 584	6, 690 328 3, 066	96, 13- 8, 83 65, 55	1 108,378 3 8,823 1 65,919	22	67 22 25	9 79 31 28 2	79 26 29	372 224	924 390 450
Maryland	1,040 768 800	1, 010 753 784	1, 300 1, 037 1, 040	1, 010 904 941	20,800	20, 200 2 17, 990 3 18, 820	14	14 11 100	14 13 100 6	14 11 100	189 182 1,550	210 154 1,550
Georgia Florida Ohio Indiana Illinois.	728 126 3,374 2,700 3,645	132 3, 070 2, 210	5, 061 3, 699	119 3, 684 2, 740	1, 646 54, 659	2, 380 61, 523 42, 744	6 2 25	6	15 5 3 28 78	5 28	85 30	93 280
Michigan Wisconsin Minnesota Iowa Missouri	3, 074 3, 155 1, 988 3, 351 3, 520	3, 187 2, 016 3, 351	5, 364 3, 141 4, 926	2, 520 5, 060	45, 016 65, 977 33, 609 49, 260 44, 528	67, 824 28, 476 63, 250	2, 053 425	52 368 2,041 404 125	73 436 2, 505 484 127	62 478 <b>2,347</b> 485 138	518 3, 357 19, 288 4, 066 952	533 4, 780 21, 123 4, 996 1, 228
North Dakota South Dakota Nebraska Kansas Kentucky	1,028 1,000 1,553 1,630 1,177	1.050	3.028	1, 618 1, 732 3, 849 3, 602 1, 186	12, 412 13, 500 33, 914 32, 587 21, 330	14, 029 39, 260 38, 181	3, 675 2, 208 887	2, 395 3, 491 2, 296 892 23	2, 592 3, 308 1, 877 976 26	2, 395 4, 189 2, 526 1, 053 23	12, 960 18, 194 15, 954 5, 856 325	12, 933 24, 296 20, 208 7, 792 276
Tennessee	1, 382	1, 354 761 471 214 711	1,866 730 550 342 1,074	1, 557 616 589 342 1, 173	30, 602 12, 410 7, 975 4, 549 12, 351	11, 396 9, 130 5, 130	52 25 41 18 201	55 25 43 18 207	57 20 45 25 221	60 20 52 22 228	627 270 518 225 2, 210	816 276 614 264 2,850
OklahomaArkansas Montana W yoming Colorado	965 585 1,045 715 1,191	936 556 1,087 750 1,203	1, 544 731 1, 975 1, 366 2, 263	1, 498 712 2, 044 1, 425 2, 406	19, 300 9, 942 17, 775 11, 611 25, 346	11, 392 18, 192 13, 680	495 133 660 310 366	520 126 653 315 373	446 133 594 294 355	510 152 594 331 392	3, 345 1, 596 4, 752 2, 499 3, 195	5, 610 1, 900 4, 752 2, 979 4, 116
New Mexico Arizona Utah Nevada	162 165 503 179	158 175 523 180	292 578 1, 459 507	332 612 1,407 477	5, 694 10, 404 11, 964 5, 983	9, 180 12, 522 5, 247	33 10 112 181	40 12 117 173	26 5 155 288	32 15 178 189	468 60 852 <b>2,</b> 736	448 243 1, 246 1, 890
Idaho Washington Oregon California	1, 029 987 965 2, 108	1,060 1,005 984 2,066	2, 572 1, 974 1, 930 5, 207	2, 650 2, 362 2, 214 5, 268	25, 720 31, 979 26, 248 78, 105	23, 585 28, 344 24, 354 73, 752	132 27 228 160	132 27 226 152	158 31 228 176	158 43 249 152	1, 185 372 1, 596 1, 584	1, 232 400 2, 116 1, 520
United States.	61, 159	60, 162	95, 882	39, 098	1, 204, 101	1, 253, 364	15, 871	15, 722	6, 131	17, 528	115, 176	137, 603

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 319.—Hay, tame: Yield in tons per acre, by States, calendar years, 1908-1923.

									,		,	,	,				,	
State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1 <b>9</b> 18	1919	1920	Av. 1914– 1920	1921	1922	1923
Maine	T. 0. 90 . 92 1. 11 1. 20 1. 50	T. 0. 95 . 97 1. 25 1. 15 1. 10	T 1. 25 1. 20 1. 35 1. 28 1. 18	T. 1. 10 1. 05 1. 30 1. 08 1. 00	T. 1. 16 1. 25 1. 50 1. 25 1. 13	T. 1. 00 1. 00 1. 28 1. 21 1. 17	T. 1. 09 1. 09 1. 34 1. 19 1. 12	1. 15 1. 20 1. 32	1. 00 1. 35 1. 50	1. 45 1. 70 1. 56	1. 35 1. 62 1. 50	1. 15 1. 30 1. 20	1. 20 1. 50 1. 40	T. 0. 95 1. 10 1. 35 1. 35 1. 10	1. 20 1. 43 1. 40	. 95 1. 05 1. 25	1. 31	1. 40 1. 37
Connecticut								1. 28	1. 30 1. 45 1. 40	1. 62 1. 60 1. 60	1. 46 1. 45 1. 41	1. 25 1. 50 1. 41	1. 40 1. 50 1. 35	1. 25 1. 65 1. 40	1. 35 1. 50	1. 00 1. 32 1. 20	1. 40 1. 61 1. 57	1.05
MarylandVirginiaWest VirginiaNorth CarolinaSouth Carolina	11. 50	11. 38	1. 50	1. 05	1.30	1. 31	1.31	. 72 . 92 1. 15	1. 35 1. 50 1. 85	1. 35 1. 54 1. 30	1. 16 1. 27 1. 13	1. 35 1. 30 1. 20	1. 20 1. 20 1. 02	1. 30 1. 25 1. 05	1. 20 1. 28 1. 24	. 98 1. 20 1. 30	1. 62 1. 25 1. 35 1. 30 1. 00	1. 00 1. 20 1. 20
Georgia Florida Ohio Indiana Illinois	1. 75 1. 35 1. 53 1. 50 1. 53	1. 35 1. 38 1. 43 1. 40 1. 45	1. 40 1. 33 1. 39 1. 30 1. 33	1. 35 1. 30 . 98 . 94 . 82	1. 35 1. 25 1. 36 1. 37 1. 30	1. 40 1. 35 1. 30 1. 00 . 98	1. 37 1. 32 1. 29 1. 20 1. 18	1. 35 1. 35 1. 13 1. 00 . 85	1. 15 1. 20 1. 44 1. 50 1. 54	1. 15 1. 25 1. 57 1. 44 1. 45	1. 03 1. 10 1. 42 1. 45 1. 25	1. 24 1. 14 1. 40 1. 45 1. 35	. 85 . 77 1. 35 1. 22 1. 35	. 81 . 65 1. 35 1. 29 1. 25	1. 07 1. 38 1. 34 1. 29	1. 10 1. 27 1. 08	1. 50 1. 37	
Michigan Wisconsin Minnesota Iowa Missouri	1. 45 1. 70 1. 68 1. 70	1. 30 1. 53 1. 75 1. 64	1. 30 1. 00 1. 00 1. 05	1, 16 1, 20 1, 00 , 80	1. 33 1. 60 1. 53 1. 40	1. 05 1. <b>62</b> 1. 50 1. 48	1. 23 1. 39 1. 36 1. 27	1. 28 1. 75 1. 89 1. 38	1. 40 1. 75 1. 91 1. 80	1. 70 1. 70 1. 85 1. 60	1. 50 1. 70 1. 55 1. 23	1. 03 1. 40 1. 40 1. 30	1. 20 1. 77 1. 90 1. 53	1. 20 1. 70 1. 70 1. 52	1. 33 1. 68 1. 74 1. 48 1. 17	1. 35 1. 50 1. 48	1. 70 1. 58 1. 47	1. 26 1. 33 1. 25 1. 51 1. 22
North Dakota South Dakota Nebraska Kamsas Kentucky	1. 30 1. 50 1. 55 1. <b>5</b> 0 1. 35	1. 37 1. 50 1. 50 1. 45 1. 36	. 55 . 80 1. 90 1. 15 1. 29	1. 10 . 55 . 85 . 85 . 95	1. 40 1. 46 1. 35 1. 50 1. 23	1. 14 1. 20 1. 34 . 90 . 87	1. 11 1. 10 1. 21 1. 17 1. 14	1.70 1.69	2.00 2.60 2.30	1. 90 2. 10 1. 55	1. 50 1. 60 2. 18	1. 60 1. 40 1. 73	1. 75 1. 86 2. 46	1. 75 1. 90 2. 08	1. 27 1. 74 1. 88 1. 97 1. 24	1. 40 2. 19 1. 80	1. 80 1. 95 2. 15	1.65
Tennessee	1. 50 1. 60 1. 50	1. 50 1. 50 1. 47	1. 40 1. 43 1. 42	1. 00 1. 40 1. 50	1. 30 1. 25 1. 48	1. 21 1. 36 1. 33	1. 28 1. 39 1. 44	1. 31 1. 45	1. 45 1. 40	1. 10 1. 40 1. 70	. 80 1. 45 1. 60	. 81 1, 20 1, 30	. 90 1. 35 1. 44	. 86 1. 44 1. 40	1. 29 1. 03 1. 38 1. 58 1. 38	. 90 1. 15 1. 28	. 96 1. 26 1. 60	. 81 1. 25 1. 60
Oklahoma	1. 45 1. 50 2. 00 2. 00 2. 50	. 90 1. 25 1. 79 2. 40 2. 50	1. 05 1. 35 1. 40 2. 40 2. 00	. 80 1. 15 2. 00 2. 10 2. 00	1. 25 1. 23 1. 90 1. 90 2. 19	. 85 1. 20 1. 80 1. 90 2. 05	. 97 1. 24 1. 78 2. 14 2. 15	2. 50 2. 30	1.60 2.00 2.20	1. 25 1. 70 1. 80	1. 47 1. 40 1. 70	1. 30 1. 60 2. 10	1. 12 1. 00 1. 40	1. 16 1. 80 2. 00	1. 28 1. 71 1. 93	1. 08 1. 80 1. 80	1. 25 1. 89 1. 91	1, 88
New Mexico	2.00 3.20 2.50 2.00	2. 60 3. 30 2. 90 2. 35	2. 10 2. 10 3. 00 3. 40	2. 60 3. 86 2. 50 3. 40	2. 33 3. 40 2. 78 3. 00	2. 08 4. 00 2. 33 2. 75	2.34 3.33 2.70 2.98	3. 20 2. 75 3. 25	3. 20 2. 50 3. 00	3. 80 2. 20 2. 40	3. 50 2. 90 2. 90	3. 20 2. 35 2. 60	3. 50 1. 92 2. 28	3, 10 2, 62 2, 33	2. 23 3. 36 2. 46 2. 68	3. 00 2. 62 2. 67	3. 50 2. 90 2. 83	2. 10 3. 50 2. 69 2. 65
Idaho								2. 00 1. 95	2. 20 1. 80	2. 30 1. 75	1. 95 2. 00	1. 80 1. 25	1. 72 2. 25	2. 25 2. 30	2. 19	2. 60 2. 30 2. 35	2. 00 2. 47	2. 25 2. 55
United States	1. 03	1. 40	1. 30	1. 14	1. 11	1. 91	1. 00	<del>2</del> 0	50	52	01	0.		- 51				

Table 320.—Hay, wild: Yield per acre, by States, calendar years, 1910-1923.

State.	1910	1911	1912	1913	Av. 1910– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
Maine New Hampshire Vermont Massachusetts Rhode Island	1. 05 1. 10 1. 05	. 85 1. 05	1. 25	. 80 1. 03	. 94 1. 11 1. 00	1. 00 1. 07 1. 10	. 80 1. 05 1. 05	1. 05 1. 35	1. 00 1. 00	. 90 1. 00	1. 00 1. 10 1. 10	. 95 1. 00	. 96 1. 08	. 80 1. 00	Tons 1. 10 1. 00 1. 10 1. 00 1. 90	Tons 1. 10 . 94 1. 00 1. 00 . 95
Connecticut New York New Jersey Pennsylvania Delaware	1. 05 1. 30 1. 20	. 90 . 85	1. 25	1 15	1.00	1. 15 1. 30 1. 50 1. 16 1. 24	1.00	1. 45 1. 45	1. 25 1. 45 1. 30	1. 00 1. 30	1. 26 1. 20 1. 25	1. 19 1. 35 1. 24	1. 21 1. 34	1. 00 1. 23 1. 20	1. 00 1. 18 1. 40 1. 20 1. 24	1. 20 1. 18 1. 29 1. 15 1. 36
Maryland Virginia West Virginia North Carolina South Carolina	1. 25 1. 05 1. 10 1. 20 1. 20	. 60	1. 10	1. 15 1. 15 1. 15	. 98 1. 01 1. 11	.87 .95	1. 10 1. 10 1. 10 1. 40 1. 40	1. 05 1. 20 1. 07	1. 10 1. 20 1. 01	1. 05 1. 20 1. 00	1. 12	1. 25 1. 20 1. 20	1. 08 1. 14	. 75 1. 10 1. 00	1. 12 1. 00 1. 20 1. 00 1. 00	1, 15 1, 00 1, 00 1, 00 , 85
GeorgiaFloridaOhioIndianaIllinois	1. 25	1. 15 . 90 . 90	1. 10 1. 30	1. 20	1. 16 1. 16 1. 11	1. 05 1. 10 1. 10	1. 15 1. 42 1. 20	1. 00 1. 50 1. 40	1. 30 1. 20	1. 50 1. 20	1. 20	. 95 1. 28 1. 20	1, 21	1. 07	.92 .90 1.50 1.14 1.25	. 90 . 85 1. 15 1. 15
Michigan	. 10	1.00 .70 .60	1. 10	. 85 1. 30 1. 10 1. 10 . 60	1. 11	1. 33 1. 44 1. 20	1. 35 1. 35 1. 35	1. 47 1. 52 1. 30	1. 37 1. 24	1. 55 1. 15 1. 20	1. 36 1. 46 1. 26	1. 28 1. 40 1. 27	1. 39 1. 37 1. 25	1. 20 1. 28	1.30 1.30 1.22 1.14 .95	1. 20 1. 30 1. 15 1. 20 1. 10
North Dakota South Dakota Nebraska Kansas Kentucky	. 60 . 75	.80 .40 .65 .60	1.00 1.05	.90 .80 .90 .70 .80	.70 .82 .81	1. 10 1. 07 . 96	1. 40 1. 20 1. 40	1. 20 1. 25 1. 10 1. 10 1. 15	. 85 . 80	.90 1.00 .88 .60 1.00	1. 02 1. 15	1. 02 . 97	. 97 1. 11 1. 02 1. 00 1. 16		1. 05 . 90 . 85 1. 10 1. 15	1. 00 1. 20 1. 10 1. 18 1. 00
Tennessee	1. 15 1. 20	1. 30 1. 00	1. 10 1. 25	1. 15	1. 16 1. 22 1. 20	1. 38 1. 20 1. 55	1. 20 1. 10 1. 40	1. 20 1. 25	1. 05 1. 22	1. 00 1. 20 1. 00	1. 30 1. 50	1. 00 1. 30 1. 30	1. 12 1. 22 1. 34	. 90 1. 00 1. 30	1. 10 . 80 1. 10 1. 40 1. 10	1. 10 . 80 1. 20 1. 20 1. 10
Oklahoma Arkansas Montana Wyoming Colorado Colorado	. 80 1. 05 . 80 1. 00	. 60 . 90 1. 10 . 95 . 90		.70 1.00 .95 .90	.96	. 94 1. 00	1. 20	.90	. 70 1. 12 . 75 1. 00 1. 02	. 56 . 90 . 75 1. 10 . 94	1. 20 . 35 . 92	. 95 1. 00	1. 08 . 82 . 99	1. 00 1. 05 . 80 . 80 1. 00	.90 1.00 .90 .95 .97	. 98 1. 21 . 91 1. 05 1. 05
New Mexico Arizona Utah Nevada	. 70 . 70 1. 60 1. 60	. 95 1. 05 1. 55 1. 60		. 70 1. 00 1. 50 1. 10	. 81 . 88 1. 56 1. 40	.80 .80 1.60 1.50	1.60	1.50	. 87 1. 25 1. 75 1. 50	. 70 1. 00 1. 10 . 50	. 90 1. 00 1. 17 . 84	. 82 . 80 1. 23 1. 00	1.42		. 80 . 50 1. 38 1. 59	. 80 1. 25 1. 52 1. 09
Idaho	1. 15 1. 10	1. 10	1. 25 1. 25 1. 00	1.00	1. 20 1. 05	1. 22 1. 20	1. 30 1. 10	1. 40 1. 10 1. 00	1. 40 1. 40 1. 10 1. 15	1. 10 1. 33 1. 00 . 95	1. 18 1. 04	1. 15 1. 20 1. 04	1.07	1. 50 1. 10 1. 10	1. 20 1. 14 1. 00 1. 10	1. 20 1. 58 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

Division of Crop and Livestock Estimates.

Table 321.—Hay, alfalfa: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

State.	Т	'hous	ands (	of a cre	es.	Yi	ield p	er acre	e (ton	s).	Prod	uction,	, thous	ands o	f tons.
state.	1919	1920	1921	1922	1923 ¹	1919	1920	1921	1922	1923	1919	1920	1921	1922	19231
Vermont Massachusetts Connecticut New York New Jersey	1 1 1 120 15	1 1	1 1 145	1 1 155	1 1 163 19		2.80 2.60 2.50	3. 00 3. 50	3. 10 3. 50 2. 75	3. 50 2. 40 2. 40	2 3 2 326 40	3	3 4 362	3	4 2 391
Pennsylvania Delaware Maryland Virginia West Virginia	31 2 12 24 5	12 24	11 23	16 29	36 2 16 35 6	2.90 2.60 2.20	3.00 2.80 2.37	2. 55 2. 70 2. 60 1. 80 2. 40	2. 90 2. 75 2. 30	2. 25 2. 10	81 6 31 53 11	74 6 34 57 12	5 9 41	67	5 36 74
North Carolina South Carolina Georgia Florida Ohio	3 3 3 94	3 3 3 89	3 4	4	4 3 4 	2. 40 2. 04 2. 20 2. 31	2. 20 2. 00		2. 20 2. 40	2. 30 2. 00 2. 10 2. 60	7 6 7 <u>21</u> 7	7 7 6 6 222	9	10 7 10 295	6 <b>8</b>
Indiana	62 89 74 70 45	70 100 95 106 59	80 107 143	95 124 246 92 88	105 136 338 155 123	2. 26 2. 65 2. 00 2. 50 3. 60	2. 50 2. 70 2. 30 2. 70	Į	2. 34 2. 70 2. 35 2. 67	2. 40 2. 90 2. 10 2. 30	140 236 148 175 124	175 270 218 286 171	168 277 322	222 335 578 246 230	252 394 710
Iowa Missouri North Dakota South Dakota Nebraska	172 152 58 462 1, 180	180 168 56 459 1, 233	187 164 56 508 1, 196	192 170 65 543 1, 163	211 185 70 590 1, 163	2. 70 2. 40 1. 72 2. 15 2. 60	1. 90 2. 33	2. 91 2. 05 2. 20 1. 90 2. 36	2. 50	3. 00 2. 35 2. 10 2. 10 2. 60	464 365 100 993 3, 068	511 423 106 1,069 3,239	544 336 123 965 <b>2,</b> 823	513 408 162 1, 205 2, 407	
Kansas Kentucky Tennessee Alabama Mississippi	1, 243 56 17 10 30	1, 231 51 19 10 28	1, 065 53 20 10 24	919 58 25 20 24	885 58 27 25 22	2. 18 2. 00 2. 46 2. 30 2. 80	2. 20 1. 87	1. 80 1. 80 2. 25 1. 70 2. 50	2. 45 2. 30 2. 30 1. 50 2. 30		2,710 112 42 23 84	2,708 102 42 19 64	195 45 17	2, 252 133 58 30 55	2, 221 128 61 38 53
LouisianaTexasOklahomaArkansasMontana	58 370 61 374	56 355 77 424	12 57 348 83 466	18 60 362 78 486	21 62 366 75 505	2.70 2.20	2.60 2.10 2.45	2.80 2.50 2.10 2.20 2.25	2. 75 2. 40 1. 95 2. 10 2. 20	2. 33 2. 50 1. 90 2. 25 2. 15	19 157 814 165 636	23 146 745 189 912	142 731 183	50 144 706 164 1,069	48 155 695 169 1,086
Wyoming Colorado New Mexico Arizona Utah	330 782 125 125 365	437 845 127 94 380	459 818 132 121 412	475 818 107 134 431	520 834 104 148 458		2. 80 2. 70 3. 80	2. 00 2. 50 2. 60 3. 50 2. 70	2. 15 2. 15 2. 40 3. 70 2. 92	2. 10 2. 25 2. 60 3. 90 2. 81	561 1, 916 338 538 766	1, 005 2, 366 343 357 1, 064	2, 045 343 424	1, 021 1, 759 257 495 1, 259	1,876 270 577
NevadaIdaho Washington Oregon California	117 651 229 211 909	110 665 230 217 920	120 652 230 220 941	121 648 222 240 952	124 657 235 246 981	2. 80 2. 85 2. 98 3. 11 3. 65	2. 80 3. 30 2. 80 3. 50 3. 70	3. 20 3. 40 3. 50 3. 50 3. 70	3. 39 3. 10 3. 56 3. 40 3. 80	3. 23 3. 00 3. 60 3. 50 3. 80	328 1,855 682 656 3,318	308 2, 194 644 760 3, 404	805 770	2,008 790 816 3,618	846 861
United States.	8, 750	9, 134	9, 228	9, 368	9, 833	<b>2</b> . 55	2. 59	2. 58	2. 61	2. 63	<b>22, 32</b> 5	<b>24,</b> 763	23, 786	24, 433	26, 013

<sup>&</sup>lt;sup>1</sup>Preliminary.

Table 322.—Hay, clover: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

	T	housa	nds o	f acre	s.	Yi	eld pe	er acre	(ton	s).	Produ	iction,	thouse	ands o	f tons.
State.	1919	1920	1921	1922	1923 ¹	1919	1920	1921	1922	1923	1919	1920	1921	1922	19231
Maine New Hampshire_ Vermont Massachusetts Rhode Island	36 10 21 14	31 11 20 12 1	31 10 18 11	38 14 25 14 1	. 14	1. 70 1. 70 1. 75	1. 60 1. 60 1. 70	1.30 1.30	1. 60 1. 60 1. 70	1. 70 1. 80 1. 80 1. 90 1. 70	17 36 24	43 17 32 20 2	34 13 23 18 2	61 22 40 24 2	68 25 47 27 27
Connecticut	11 482 29 317 19	28 308	12 435 29 311 17	14 472 32 300 19	481 33 294	1. 60 1. 50 1. 35	1. 30 1. 60 1. 48	1. 02 1. 22 1. 15	1. 50 1. 54	1. 60 1. 00 1. 05	771 44	16 620 45 456 26	20 444 35 358 17	24 755 48 462 25	27 770 33 309 18
Maryland	106 200 66 90	180 63	97 180 66 84	79	74 105	1. 30 1. 30 1. 40	1. 24 1. 40	1.00	1. 20 1. 45 1. 40	. 80 1. 30	260 86 126	162 223 88 122	107 180 83 109	159 230 115 141 3	90 134 96 147 3
GeorgiaOhioIndianaIllinoisMichigan	3 711 563 802 563	801	691 561 799 584	3 844 710 1, 093 738	743 426 773	1, 30 1, 23 1, 50	1. 23 1. 18	1. 19 . 93 1. 10	1. 50 1. 43 1. 50	1. 10 1. 10 1. 20	924 692 1, 203	5 866 727 945 611	5 822 522 879 526	1, 266 1, 015 1, 640 1, 033	817 469 928 953
Wisconsin Minnesota Iowa Missouri North Dakota	648 398 741 449 16	455 720 511		430 890 704	366 838 598	1. 89 1. 70 1. 25	1. 85 1. 45 1. 35	1.60 1.40 1.20	1. 41 1. 35	1. 26 1. 44 1. 30	752 1, 260 561	1, 372 842 1, 044 690 32	941 626 1,049 653 55	1, 341 688 1, 255 950 217	949 461 1, 207 777 252
South Dakota Nebraska Kansas Kentucky Tennessee	60 49	60 62 188	66 84 194	74 104 204	70 119 184	1. 65 1. 57 1. 32	1. 70 1. 68 1. 35	1. 50 1. 31 1. 00	1. 40 1. 43 1. 45	1. 70 1. 60 1. 40	99 77 264	52 102 104 254 415	52 99 110 194 285	84 104 149 298 434	86 119 190 261 358
Alabama Mississippi Louisiana Oklahoma Arkansas	100 38 5	105 39 5	110 41 6	99 39 6	92 34 6	1. 30 1. 20 1. 30	1. 35 1. 50 1. 60	1. 20 1. 50 1. 60	1. 50 1. 40	1. 25 1. 70 1. 65	130	21 142 58 8 77	27 132 62 10 68	32 124 58 8 75	38 118 58 10 84
Montana Wyoming Colorado New Mexico Utah	12 15	15 20 2	16 12	25 20 2	27 19 2	1. 10 1. 80 2. 00	2.00 2.00 2.00	1. 60 1. 80 2. 00	1. 60 1. 60 1. 50	1. 50 1. 80 2. 00	13 27	67 30 40 4 12	70 26 22 4 8	81 40 32 3 2	94 40 34 <b>4</b> 6
NevadaIdaho Washington Oregon	45 70	42 69 91	43 75 94	31 74 140	32 74 147	1. 60 2. 14 2. 00	2. 00 2. 30 2. 15	2. 30 2. 40 2. 25	2. 43 2. 20	2. 00 2. 55 2. 70	150 176	6 84 159 196 26	6 99 180 212 29	2 50 180 308 26	264 189 397 26
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, 78

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 323.—Hay, clover and timothy (mixed): Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

	-,														
State.		Thou	sands	ofacre	s.	Yi	eld p	er ac	ere (t	ons).	Prod	luction	, thous	sands o	f tons.
State.	1919	1920	1921	1922	1923 1	1919	192	1921	1922	1923	1919	1920	1921	1922	19231
Maine New Hampshire Vermont Massachusetts Rhode Island	17 549 149	1 17 9 54 9 13	8 17: 7 53: 5 13:	2 180 1 545 2 144	174 550 146	1. 20 1. 60 1. 40	1. 10 1. 40 1. 50	1. 00 1. 00 1. 35	1. 30 1. 45 1. 50	1. 40 1. 40 1. 50 1. 60 1. 40	20 87 20	5 20 8 76 9 20	5 17 6 53 9 17	2 23 1 79 8 21	4 244 0 825 6 234
Connecticut New York New Jersey Pennsylvania Delaware	2, 296 116 1, 458	2, 286 136 1, 534	2, 786 123 1, 596	2, 248 138 1, 568	2, 256 142 1, 560	1. 44 1. 45 1. 35	1. 25 1. 65 1. 40	1. 30 1. 18	1. 60	1. 40 1. 04 1. 04	3, 300 168 1, 968	2, 85 22 3 2, 14	7 2, 50° 4 166 8 1, 883	3, 192 221 3 2, 509	3, 158 1 148 1, 622
Maryland Virginia West Virginia North Carolina South Carolina	251 265 40	239 278 42	250 278 40	324 288 38	324 292 39	1. 25 1. 25 1. 30	1. 35 1. 30 1. 35	1. 05 1. 15	1. 60 1. 25 1. 35 1. 40	1. 00 . 85 1. 20 1. 30	314 331	32 35 5	3 262 3 316	405 389 53	272 350
GeorgiaOhioIndianaIlinoisMichigan	731 518	893 639 720	941 730 739	964 690 803	874 528	1. 40 1. 20 1. 45	1. 35 1. <b>2</b> 5 1. 15	1. 28 1. 10 1. 15	1.48	1. 00 1. 15 1. 16 1. 21 1. 15	1, 023 622 787 1, 678	1, 200 799 829	803 850	945 1, 188	612 874
Wisconsin Minnesota Iowa Missouri North Dakota	636 1, 238 574	1, 306 908	642 1, 286 864	738 1, 353	1,400 1,002	1. 88 1. 55 1. 30	1. 70 1. 45 1. <b>24</b>	1, 52 1, 42 1, 15	1. 60 1. 45	1. 30 1. 23 1. 50 1. 22 1. 40	2, 752 1, 196 1, 919 746 19	1, 034 1, 894 1, 126	976 1,826 994	1, 181 1, 962 1, <b>0</b> 60	862 2, 100 1, 222
South Dakota Nebraska Kansas Kentucky Tennessee	185 44 163	125 54	96 49 149	82 220	84 87 200	1. 60 1. 40 L 30	1. 65 1. 40 1. 30	1. 30 1. 40 1. 30 1. 05 1. 15	1. 60 1. 35 1. 35	1. 30 1. 70 1. 57 1. 30 1. 30	72 288 62 212 204	206	134 64 156	122 111 297	120 143 237 260 260
Alabama Mississippi Louisiana Texas Oklahoma	→ 7 2	2 8 3 6 5	8 3 5	3 3 4 6	2 1 3	1. 30 1. 50 1. 30	1. 40 1. 50 1. 80	1. 30	1. 25 1. 40	1. 10 1. 47 1. 25 2. 00 1. 10	3 9 3 9 6	3 11 4 11 9	10 4 6	<u>-</u> 5	3 1 6 7
Arkansas Montana Wyoming Colorado	116	60 140 28 112	62 154 28 112	60 150 34 95	156 37	L. 10 L. 10	L 80 L 70	1. 20 1. 70 1. 50 1. 60	1. 90 1. 40	1. 10 2. 00 1. 50 1. 70	90 128 29 172	84 252 48 224	262 42	66 285 48 152	61 312 56 162
New Mexico Arizona Utah Nevada	1	2 1 25 14	2 1 29 13	2 1 32 14	25	l. 80 2	2. 00	2, 00 1, 50 1, 90 1, 90	1. 00 1. 50 2. 10 1. 95	1. 50 1. 50 2. 08 1. 47	4 2 46 18	4 2 50 24	4 2 55 25	2 2 67 27	3 2 52 18
Idaho Washington Oregon California	77 93 47 52	75 93 48 52	75 98 50 52	103 94 30 52	96 2 30 1	. 25 2 . 90 2	2. 10	2. 00 2. 20 2. 10 2. 10 1. 70	2. 00	1. 90 2. 55 2. 50 1. 70	116 209 89 75	131 195 96 78	150 216 105 88	185 188 69 73	180 245 75 88
United States	14, 739	15, 632	15, 948	16, 100	5, 687	. 44 1	. 37	1. 16	l. <b>4</b> 7	1. 30	21, 273	21, 406	18, 495	23, 649	20, 371

Preliminary.

Table 324.—Hay, timothy: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.

						1									
		Phouse	nds o	f acres	•	Yie	ld p	er ac	re (t	ons).	Prod	uction,	thous	ands of	tons.
State.	1919	1920	1921	1922	1923 1	1919	1920	1921	1922	1923	1919	1920	1921	1922	19231
Maine New Hampshire. Vermont Massachusetts Rhode Island	153 58 102 78 8	137 59 105 72 8	141 60 100 71 8	143 62 103 71 8	62 104 71	1. 50 1. 55 1. 31	1. 35 1. 50 1. 60	1. 15 1. 10 1. 30	1. 35 1. 40 1. 45 1. 55 1. 40	1. 30 1. 40 1. 50	121	80 158 115	69 110 92	87 149 110	81 146 106
Connecticut New York New Jersey Pennsylvania Delaware	41 1,300 75 972 10	1,300 81 972 11	40 797 85 972 10	43 1, 300 80 925 11	1, 313 77 935	1. 40 1. 40	1. 20 1. 60 1. 40	1. 00 1. 30 1. 20	1. 50 1. 50	1.32 .85	105	63 1, 560 130 1, 361 16	797 110 1, 215	1, 781 120 1, 387	1, 733
Maryland	83 91 229 20 2	81 84 234 24 2	80 82 230 27 3	85 108 236 26 2	105 229 23	1. 30	1. 25 1. 30 1. 40	1. 10 1. 20 1. 30	1. 41 1. 20 1. 30 1. 40 1. 40	1.30	114	117 105 <b>304</b> 34 2	100 90 276 35 4	129 307	76 79 252 30 2
Ohio Indiana Illinois Michigan Wisconsin	1, 436 808 1, 020 656 580	1, 418 760 1, 024 643 527	1, 414 765 1, 029 655 538	1, 350 730 1, 057 676 663	744 1. 004	1. 20 1. 14	1. 28 1. 29	1. 05 1. 10	1. 33	1.15	970	973	803	1, 863 971 1, 406 913 1, 001	893
Minnesota Iowa Missouri North Dakota	515 808 1, 167 190	501 792 1, 277 179	632 840 1, 216 182	546 808 1, 232 154	788 1, 142	1. 73 1. 50 1. 28 1. 00	1. 39 1. 20	1. 31 1. 10	1. 28	1. 02 1. 17 . 95 1. 20	891 1, 212 1, 493 190	812 1, 101 1, 532 215	916 1, 100 1, 338 237	781 1, 034 1, 108 223	584 922 1, 085 194
South Dakota Nebraska Kansas Kentucky Tennessee	116 47 125 238 78	166 47 156 231 80	168 36 120 219 76	134 22 101 223 105	20 75 219	1. 48 1. 25	1. 60 1. 27 1. 25	1. 30 1. 34 1. <b>0</b> 0	1. 25 1. 20 1. 19 1. 30 1. 30	1. 30	162 73 185 298 90	249 75 198 288 100	218 47 161 219 84	167 26 120 290 136	148 28 104 285 105
Alabama	2 2 2 5 24	2 2 2 5 27	2 2 2 5 28	2 2 2 4 25	 4	1. 30 1. 30 1. 60	1. 50 1. 50 2. 00	1. 20 1. 50 1. 30	1.50	1. 20	3 3 8 <b>3</b> 0	3 3 10 34	3 2 3 6 32	3 2 3 4 25	2 5 20
Montana Wyoming Colorado New Mexico Utah	81 30 45 6 13	90 32 44 5 13	81 32 48 5 12	83 50 45 2 9	44 2	1. 20 1. 70 2. 00	1. 40 2. 00 2. 00	1. 30 1. 50 1. 80	1. 50 1. 20 1. 60 1. 00 2. 05	1. 40 1. 60 1. 30	12	135 45 88 10 23	114 42 72 9 23	124 60 72 2 18	135 73 70 3 27
Nevada Idaho Washington Oregon California	4 83 51 31 13	5 81 50 32 13	5 79 53 32 13	5 93 50 20 13	106 52 20	1. 30 2. 08 1. 60	1. 80 1. 90 1. 80	1. 80 2. 00 1. 90	1. 80 1. 70 1. 69 1. 60 1. 50	1.70 2.10 1.80		. 58	106 61	32	10 180 109 36 22
United States	11, 398	11, 416	10, 995	11, 409	11, 086	1. 34	1. 33	1. 19	1. 33	1. 15	15 <b>, 27</b> 2	15, 200	13, 042	15, 1 <b>73</b>	12, 749

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 325.—Hay, grains cut green: Acreage, yield per acre, and production, by States, calendar years, 1919–1923.

	Т	house	inds o	f acre	es.	Yi	eld p	er acre	e (ton	s).	Produ	iction,	thous	ands o	tons.
State.	1919	1920	1921	1922	1923¹	1919	1920	1921	1922	1923	1919	1920	1921	1922	19231
Maine	15 11 17 17 3	13 10 16 15	20 12 18 18	16 10 16 14 3	16 10 16 14 3	1. 90 1. 70 1. 70	1. 70 2. 00 1. 95	1. 90 1. 85	1. 30 1. 80 1. 90	2. 00 2. 00 2. 00	26 21 29 29 5	22 17 32 29 5	29 19 34 33 5	34 13 29 27 5	35 20 32 28 5
Connecticut New York New Jersey Pennsylvania Delaware	14 89 9 13	12 65 7 11 3	15 130 10 20 4	12 80 5 16 3	12 86 7 18 2	1. 40 1. 45	1.60 1.60	1. 80 1. 20 1. 40	1.30 1.60	1. 40 1. 08 1. 50	20 125 13 20 4	19 130 11 18 4	22 234 12 28 5	22 120 6 26 6	24 120 8 27 3
Maryland Virginia West Virginia North Carolina South Carolina	6 56 26 59 65	53 30 56 68	10 50 35 50 60	8 50 39 78 34	8 41 39 80 35	1. 20 1. 20		1. 40 1. 25	1. 25 1. 40 1. 20	1. 00 1. 40 1. 30	8 67 31 59 <b>62</b>	8 74 39 53 100	12 70 44 70 51	14 62 55 93 44	12 41 55 104 42
GeorgiaFloridaOhioIndianaIllinois	57 7 20 61 70	21 44	63 5 38 94 64	65 50 300 73	70 6 40 147 62	1. 10	1.70 1.60	1. 40 1. 20	1.00	1. 40 1. 20	46 6 24 67 98	51 8 36 70 52	52 6 53 113 86	52 5 75 300 110	43 6 56 176 95
Michigan	59 28 89 47 190	28 20 28 31 128	86 60 29 32 192	15 36 40 27 87	27 45 80 34 45	1.40	1. 60 1. 60 1. 60	1. 40 1. 45 1. 50	1. 30 1. 40	1. 30 1. 30 1. 70	55 36 125 70 228	40 32 45 50 179	108 84 42 48 240	16 47 56 38 39	34 58 104 58 50
North Dakota South Dakota Nebraska Kansas Kentucky	324 109 40 36 98	327 107 27 23 90	269 78 27 47 135	279 80 39 43 123	316 80 34 30 130	. 80 1. 00 1. 15 1. 40 1. 20	1. 40 1. 80	1.30 1.50	1. 10 1. 20	1. 20 1. 25 1. 20	259 109 46 50 118	392 128 38 41 108	323 94 35 71 135	391 88 43 52 148	395 96 42 36 143
TennesseeAlabamaMississippiLouisianaTexas	129 54 15 6 167	59	130 118 17 15 136	90 100 10 10 109	95 118 10 20 50	1. 10 1. 15	.90	. 90 1. 00 1. 20	1.00 .95 1.20	1. 02 1. 50	123 54 16 7 217	146 53 14 8 159	130 106 17 18 136	80 100 10 12 109	76 88 10 30 95
OklahomaArkansas	94 193 467 101 132	100 170 313 91 98	112 112 202 73 105	48 82 195 71 110	53 75 197 75 107	1. 30 . 95 . 45 . 65 1. 15	1. 25	1. 10 1. 20 1. 20	1. 40 1. 50	. 80 1. 37 1. 70	122 183 210 66 152	120 170 360 114 108	134 123 <b>242</b> 88 126	53 82 273 106 121	58 60 270 128 128
New Mexico Arizona Utah Nevada	27 23 16 7		24 24 15 7	11 22 14 8	11 20 11 6	1. 50 1. 20 1. 10 1. 00	1. 10 1. 20	. 95	. 88 1. 24	1. 20 1. 17 1. 28	40 128 18 7	30 20 16 11	36 31 14 9	33 12 10	18 24 13 8
Idaho Washington Oregon California	168 477 467 1, <b>08</b> 5	477 452	491 489	134 490 410 1,000	149 490 413 930	1.50 1.30	1.60 1.70	1. 70 1. 60	1. 25 1. 20	1.75 1.50	185 715 607 1, 302	231 763 764 1, 284	253 835 782 1, 238	161 613 492 1, 400	620 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

<sup>&</sup>lt;sup>1</sup>Preliminary.

Table 326.—Hay, legumes: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

	Т	hous	ands	of acre	s.	Y	ield p	er acr	e (tor	ıs).	Prod	uction	, thous	ands o	f tons.
State.	1919	1920	1921	1922	19231	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923 1
Maine	2 1 1 1 1	1 1	4 2 2 2 2 2 1	2 1 1	2	1. 20 1. 50	1. 10 1. 40 1. 50	1.00 1.30		1. 30 1. 40 1. 50	1 2 2	1 1 2	3	2 2	3 1 2
Connecticut New York New Jersey Pennsylvania Delaware	2 5 3 4 7	3	1 5 3 4 9	3 4	1 5 3 4 20	1.80	1. 28 1. 40 1. 80	1. 30 . 80 1. 30 1. 80 1. 45	1. 20 1. 60 1. 90	1. 20 1. 30 1. 50	6 5 7	4	4 7	5 8	6 4 6
Maryland	15 210 9 320 190	227 12 286	18 240 13 344 250	225 15	32 237 15 386 385	1. 10 1. 20 . 90 . 85	1. 20 1. 20 . 95 . 95	1.00 1.05 .82	1.30 1.40 1.05	1. 25 1. 60	231 11 288	24 272 14 272 186	168 13 361	291 21 416	298 24
Georgia Florida Ohio Indiana Illinois	407 53 6 19 72	35	469 53 10 50 92	504 50 17 95 160	562 59 20 190 239	1.05	1.40	1. 00 1. 50 1. 20	. 68 1. 70 1. 50	. 90 1. 50 1. 40	358 42 9 20 93	391 44 16 49 101	53 15 60	34 29 142	53 30 266
Michigan	7 5 6 7 47	6 8 19 9 63	12 24 19 10 70	25 30 30 7 107	36 35 45 10 165	1. 50 1. 60 1. 50	1. 30 1. 50 1. 40 1. 60 1. 15	1. 70 1. 40 1. 80	1. 20 1. 20 1. 40	1. 30 1. 10 1. 90	7 8 10 10 52	8 12 27 14 72	41 27	33 36 36 10 128	54 45 50 19 190
North Dakota South Dakota Nebraska Kansas Kentucky	28 5 8 5 5 35	28 24 6 3 45	28 19 5 4 67	28 12 4 6 96	25 12 5 8 96	. 90 1. 20 1. 20 1. 30 1. 10	1. 10 1. 30 1. 30 1. 50 1. 10	1. 20 1. 10 1. 40 1. 80 1. 00		1. 50 1. 31	25 6 10 7 38	31 31 8 4 50	34 21 7 7 67	39 17 6 8 117	35 12 8 10 134
Tennessee	280 456 68 85 57	260 458 92 87 60	280 444 128 93 54	313 380 193 105 50	311 376 202 101 66		1. 30 . 80 1. 10 1. 35 1. 30	1. 20 . 80 . 90 1. 10 1. 20	1. 30 . 80 . 98 1. 10 1. 04	1. 19 . 61 1. 10 1. 13 . 80	294 365 75 119 68	338 366 101 117 78	336 355 115 103 65	407 304 191 116 52	371 246 222 114 53
Oklahoma Arkansas Montana Wyoming Colorado	25 77 6 2 13	24 97 6 2 10	30 108 5 2 10	33 128 4 	33 117 4 	1. 30 1. 00 . 80 1. 00 1. 20	1. 30 1. 15 1. 20 1. 50 1. 40	1. 30 1. 50	1. 30 1. 10 1. 30 1. 30	1. 10 1. 35	32 77 5 2 16	31 112 7 3 14	33 108 6 3 15	43 141 5 19	43 129 5 20
New Mexico Arizona Utah Nevada	3 1 2 1	3 1 1 1	3 1 1	3	3	- 1	1. 30 1. 50 1. 40 1. 80	1. 60 1. 75	1.00		4 2 3 2	4 2 1 2	4 2 2	3	4
Idaho	4 7 25 26	1 7 25 26	1 7 25 26	7 48 26	20		1. 60 1. 50 1. 60 1. 20	1. 20 1. 60 1. 50 1. 30	2. 17 2. 00 1. 20	2. 25 2. 00 1. 50	4 11 44 30	10 40 31	1 11 38 34	15 96 31	• 16 98 30
United States_2	2, 619	2, 756	3, 048	3, 510	3, 905	. 99	1.06	. 99	1.09	1.06	2, 599	2, 925	3, 021	3, 812	4, 143

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<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 327.—Hay, millet, sudan grass, and other: Acreage, yield per acre, and production, by States, calendar years, 1919-1923.

	Т	house	nds o	f acre	s.	Yi	eld pe	er acre	(ton	s).	Produ	iction,	thous	ands o	tons.
State.	1919	1920	1921	1922	1923 ¹	1919	1920	1921	1922	1923	1919	1920	1921	1922	19231
Maine	311 188 223 150 15	416 191 224 184 17	421 194 239 188 17	430 182 218 185 16	435 179 220 187 16	1. 03 1. 22 1. 25	1. 15		1. 07 1. 16	. 94 1. 06 1. 06	323 194 272 188 16	327 187 233 212 20	269 160 230 206 18	408 195 252 187 16	448 169 234 198 16
Connecticut New York New Jersey Pennsylvania Delaware	152 630 26 86 4	31		165 610 28 72 4	166 615 31 72 5	. 89 1. 31 1. 33	1. 29 1. 22	1. 01 . 95 1. 14 1. 21 1. 14	1.46 1.42	. 83 . 90 1, 14	185 561 34 114 6	165 615 40 98 8	168 565 40 109 8	174 542 • 41 102 5	183 510 28 82 8
Maryland	18 108 90 150 90	20 105 99 145 87	26 105 101 142 80	112 105 157	20 103 100 147 55	1. 15 1. 13 . 90	1. 33 1. 01	1. 19 . 97 1. 35 1. 31 . 75	1. 15 1. 20 1. 40	1. 10	22 124 102 135 76	147	31 102 136 186 60	38 129 126 220 105	18 114 120 221 55
Georgia	149 60 26 69 355	156 52 26 66 314	148 52 29 80 342	148 71 31 80 335	129 67 30 70 344	. 77 1. 04 1. 34	. 80 . 79 1. 50 1. 33 1. 09	1.34 1.18	1. 61 1. 25	1.60 1.10	127 46 36 91 411	125 41 39 88 343	133 55 39 94 399	143 50 50 100 365	89 60 48 77 413
Michigan	48 60 205 72 141	40 70 186 62 137	81 196 159 67 150	83 75 116 84 160	87 79 128 70 173	1. 57 1. 92 1. 62	1. 18 1. 21 1. 50 1. 65 1. 45	1.63	1. 23 1. 20 1. 40 1. 50 1. 14	1.74	60 94 393 118 220	47 85 279 102 208	106 277 250 109 211	102 90 162 126 182	109 111 173 122 280
North Dakota South Dakota Nebraska Kansas Kentucky	264 95 249 220 261	284 113 182 220 256	368 83 139 183 234	360 75 175 375 253	426	1. 62 1. 69	1. 18 1. 60 1. 70 2. 33 1. 31	1. 28 1. 76 2. 36	1. 55 1. 63 1. 83 2. 11 1. 35	1. 62	397 154 420 469 331	334 181 309 514 335	507 106 244 431 288	558 122 320 818 331	546 146 478 894 292
Tennessee Alabama Mississippi Louisiana Texas	372 230 172 59 261	379 218 150 61 283	376 240 139 42 387	334 220 130 37 448	323 196 143 37 532	1. 97 1. 28	1. 26 1. 00 1. 23 1. 15 1. 55	1.05 1.08		1. 00 1. 07 1. 29 1. 20 1. 60	439 250 212 85 418	463 218 184 70 426	458 251 150 45 544	412 251 176 41 738	322 210 186 44 881
Oklahoma Arkansas Montana Wyoming Colorado	363 148 76 67 125	373 165 90 77 127	404 159 93 80 90	506 152 82 60 88	468 154 90 39 90	1. 08 . 88 1. 07	1. 55 1. 62 1. 45 1. 32 1. 41	1. 38 1. 50	1. 64 1. 20 1. 66 1. 35 1. 33	1. 20 1. 56	589 160 66 72 168	577 267 131 122 179	555 179 128 120 117	786 182 136 81 117	754 185 140 62 117
New Mexico Arizona Utah Nevada	24 10 25 30	23 9 23 30	23 4 17 28	35 8 16 30	34 6 14 31	1.50 1.30	1. 70 1. 56 1. 10 1. 50	1. 52 1. 75 1. 40 1. 50		1. 50 1. 69 1. 32	40 15 33 40	39 14 25 45	35 7 24 42	20 12 27 48	34 9 24 40
Idaho	21 52 82 26	32 53 85 50	30 54 85 50	20 50 77 50	21 51 79 53	1. 20 1. 90 1. 60 1. 16	1. 40 1. 50 1. 40 1. 30	1. 60 1. 50 1. 40 1. 30	1. 40 . 90 1. 50 1. 10	2.00 1.60	25 99 131 30	45 80 119 65	48 81 119 65	30 102 116 55	30 102 126 69
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

Preliminary.

Table 328.—Hay, tame: Condition of crop, 1st of month, and yield per acre, United States, 1908-1923.

Calendar year.	Мау.	June.	July.	Aug.	Yield per acre.	Calendar year.	Мау.	June.	July.	Aug.	Yield per acre.
1908	P. ct. 93. 5	P. ct. 96. 8	P. ct. 92. 6	P. ct. 92. 1	Tons. 1. 53	1916 1917	P. ct. 88. 4 88. 5	P. ct. 90. 3 84. 3	P. ct. 93. 4 85. 1	P. ct. 95. 5 87. 3	Tons. 1.64 1.51
1909 1910 1911	84. 5 89. 8 84. 7	87. 6 85. 9 77. 4	87. 8 80. 2 64. 9	86. 8 83. 1 68. 6	1. 46 1. 36 1. 14	1918 1919 1920	90. 0 94. 0 89. 4	89. 5 93. 5 87. 9	82. 1 90. 7 85. 5	83. 3 91. 2 89. 8	1. 37 1. 52 1. 51
1912 1913	85. 7 88. 5	89. 8 86. 9	85. 2 80. 5	91. 0 82. 3	1. 47 1. 31	Av. 1914-1920_	90. 1	88. 7	86. 1	88. 7	1. 52
Av. 1909-1913.	86. 6	85. 5	79. 7	82. 4	1. 35	1921 1922	91. 7 90. 1	84. 2 90. 9	78. 7 89. 0	82. 2 91. 0	1. 40 1. 57
1914 1915	90. 9 89. 8	87. 6 87. 8	80. 8 85. 2	85. 0 89. 0	1. 43 1. 68	1923	86. 8	84. 1	80. 3	81. 0	1.48

Table 329.—Hay: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

P. ct   P. c	Calendar year.	Deficient moisture.	Ex- ces- sive mois- ture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total cli- mat- ic.	Plant dis- ease.	sect	Ani- mal pests.	De- fec- tive seed.	Total <sup>1</sup>
1920 7.2 1.4 .2 .4 .2 .2 .1 10.8 .2 1.0	1910 1911 1915 1916 1917 1918	10. 7 17. 4 27. 7 3. 7 5. 5 11. 5 17. 5 9. 9	2. 2 1. 2 . 8 4. 9 1. 0 1. 3	0.6 .3 (2) .6 .3 .2	1. 2 1. 2 . 9 1. 8 1. 1 2. 9 2. 7 1. 0	0.1 .1 .1 .1 .2 .1	0.3 .5 1.9 .1 .2 .3	0.3 .1 (2) .3 .1 .1	15. 7 21. 2 31. 9 11. 9 8. 6 16. 8 22. 7 13. 9	0.1 .1 .1 .2 (i) .1	0. 5 . 6 . 5 . 3 . 4	0. 1 . 2 . 1 . 1 (²)	0. 1 .1 (2) (2) (2) (2) (2) .1	P. ct. 17. 6 23. 6 34. 7 13. 9 9. 6 18. 3 24. 9 15. 5 12. 7

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Table 330.—Hay, all: Stocks on farms May 1, United States, 1910-1923.

Calen- dar year.	Production of all hay preceding year (tons).	Per cent 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 per ton May 1.
1910 1911 1912 1913 1914 1915	92, 767, 000 82, 529, 000 67, 071, 000 90, 734, 000 79, 179, 000 88, 686, 000 107, 263, 000	11. 6 12. 4 8. 5 14. 9 12. 2 12. 2 13. 5	10, 745, 000 10, 222, 000 5, 732, 000 13, 523, 000 9, 631, 000 10, 797, 000 14, 452, 000	\$11. 08 11. 69 16. 31 10. 42 11. 63 11. 03 11. 27	1917 1918 1919 1920 1921 1922 1923	110, 992, 000 98, 439, 000 91, 139, 000 104, 760, 000 105, 315, 000 97, 770, 000 112, 013, 000	11. 4 11. 7 9. 4 10. 1 17. 8 11. 2 12. 0	12, 659, 000 11, 476, 000 8, 559, 000 10, 618, 000 18, 771, 000 10, 919, 000 13, 392, 000	\$13. 94 17. 97 22. 31 24. 22 13. 08 12. 98 12. 69

<sup>1</sup> Includes all other causes.

<sup>&</sup>lt;sup>2</sup> Less than 0.05 per cent.

TABLE 331.—Hay: Receipts at 12 markets, 1910-1923.

Year beginning July 1.	Balti- more.	Bos- ton.	Chi- cago.	Kan- sas City.	Mil- wau- kee.	Min- neap- olis.	New York.	Peo-ria.	Phil- adel- phia.	Pitts- burgh.	St. Louis.	San Fran- cisco.	Total.
1912-13 1913-14 1914-15 1915-16 1916-17 1917-18	69, 284 58, 939 63, 186 54, 904 50, 415 50, 874 64, 053	tons. 162, 420 164, 196 139, 920 117, 740 115, 161 126, 590 123, 780 97, 150	351, 630 274, 769 369, 032 325, 095 273, 181 237, 932 352, 730	318, 948 343, 392 285, 288 398, 604 398, 172 359, 316 419, 964	44, 199 47, 138 36, 283 45, 060 34, 637 24, 360 23, 131	tons. 66, 306 63, 570 37, 290 38, 280 45, 513 45, 376 35, 652 39, 126	286, 474 296, 866 317, 543 330, 098 294, 395 212, 256 199, 727	41, 822 38, 131 43, 660 33, 957 \$1, 299 48, 870 40, 250	tons. 86, 851 96, 484 82, 063 75, 630 78, 583 84, 006 78, 284 61, 618	115, 608 106, 993 103, 466 83, 923 106, 710 92, 202 74, 075	256, 462 222, 998 261, 155 308, 727 232, 628 210, 591 237, 506	147, 483 141, 224 133, 598 161, 750 146, 560 104, 468 82, 460	1, 844, 861 1, 981, 375 1, 843, 969 1, 578, 585 1, 691, 790
1918-19 1919-20 1920-21 Av. 1914-	32, 650	58, 740	225, 050	599, <b>34</b> 0	19, 053	22,601	221, 580 167, 088 150, 338	33, 306	52, 466	63, 680	213, 043 254, 042 188, 550	85, 807	1, 473, 879 1, 613, 823 1, 153, 649
1920	44, 904 13, 730 15, 536	51, 250	135, 625	196, 534	19, 038	23, 467	225, 069 98, 904 92, 516	10, 970	51, 226	76, 162	235, 012 ====================================	59, 185	1, 619, 581 857, 195 930, 807
July August September. October November. December	1, 169 1, 780 1, 314 912 781 1, 083	4, 110 3, 890	9, 861 9, 864 14, 443 11, 879	21, 978 13, 937 18, 975 31, 438	1, 140 1, 080 1, 344 2, 270	2, 263 1, 921 2, 193 2, 245	6, 000 10, 677 10, 052 9, 532	6, 380 3, 750 3, 410 2, 700	3, 532	4, 122 5, 506 5, 808 5, 008 6, 944 5, 764	5, 978 13, 045 9, 712 9, 368 13, 401 11, 664	4, 547 9, 270 5, 180 3, 159 5, 017 4, 058	61, 971 87, 433 70, 097 76, 178 95, 819 84, 263
1923. January February March April May June	850 814 1,022 2,202 2,025 1,584	3, 110 4, 080 5, 450 4, 820 3, 680 3, 540	9, 884 10, 333 11, 536 17, 156	21, 681 27, 456 21, 582 11, 642	1, 546 1, 344 1, 320 1, 438	2, 141 3, 154 1, 502 1, 667	9, 928 3, 690 8, 089 5, 488 6, 320 5, 892	1,890 1,450 2,710	2, 676 2, 520 2, 580 2, 772	3, 564 4, 610 5, 466 6, 985 3, 625 4, 367	12, 754 13, 854 13, 011 12, 858 11, 267 11, 400	3, 548 2, 829 5, 228 5, 441 4, 799 6, 941	88, 391 69, 695 84, 523 79, 024 69, 061 64, 352
Total	15, 536	47, 010	152, 632	244, 169	17, 626	<b>25,</b> 972	92, 516	33, 060	42, 188	61, 769	1 <b>38,</b> 312	<b>6</b> 0, 017	930, 807
JulyAugust September. October November. December_	2, 834 2, 267 1, 446	4, 650 1, 930 4, 080 4, 430 3, 150 3, 760	6, 510 11, 724 19, 095 10, 575 10, 334	23, 958 20, 977 21, 582 21, 401 17, 446	2, 472 1, 571	1, 794 1, 800 2, 875 2, 520 3, 516	9, 183	3, 950 4, 890 5, 600 2, 670 1, 120	2, 532 2, 700 4, 296 6, 252 4, 620	3, 652 2, 097 6, 127 9, 218 9, 107 5, 105	7, 376 10, 228 12, 804 11, 504 13, 200 8, 652	7, 072 14, 000 6, 676 9, 285 7, 496 8, 640	63, 913 75, 217 83, 310 101, 717 89, 513 75, 393
Total	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.

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Table 332.—Hay: Shipments from eight markets, 1910-1923.

Year beginning July 1.	Balti- more.	Chicago.	Kansas City.	Mil- waukee.	Minne- apolis.	Peoria.	Pitts- burgh.	St. Louis.	Total.
1910-11 1911-12 1912-13 1913-14	Short tons. 11, 864 13, 257 8, 313 8, 995	Short tons. 18, 011 49, 160 22, 681 39, 184	Short tons. 93, 828 58, 896 85, 176 78, 756	Short tons. 5, 958 4, 445 3, 159 9, 718	Short tons. 31,350 28,910 4,820 5,500	Short tons. 10, 373 17, 222 7, 819 16, 077	Short tons. 76, 631 75, 420 65, 800 65, 148	Short tons. 112, 435 146, 285 105, 533 139, 376	Short tons. 360, 450 393, 595 303, 301 362, 754
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	9, 681 13, 657 26, 913 20, 221 4, 118	83, 414 55, 791 33, 439 62, 665 52, 802 32, 637 18, 631	67, 608 73, 668 138, 432 222, 912 143, 040 276, 492 153, 648	17, 306 6, 841 5, 765 5, 293 2, 986 5, 270 3, 863	5, 390 4, 156 4, 351 7, 042 4, 147 6, 925 2, 020	19, 788 9, 676 15, 324 10, 621 7, 650 6, 151 7, 100	37, 512 87, 216 55, 032 20, 536 23, 511 26, 267 40, 480	172, 590 90, 415 103, 990 177, 240 119, 625 111, 695 63, 250	412, 504 337, 444 369, 990 533, 222 373, 982 469, 555 288, 992
Av. 1914–1920		48, 483	153, 686	6, 761	4, 862	10, 901	41, 508	119, 829	397, 956
1921-22 1922-23		9,700 10,951	50, 748 78, 660	10, 435 14, 879	3, 531 2, 625	4, 520 3, 460	31, 509 7, 323	43, 610 61, 720	154, <b>053</b> 179, 618
July		323	3, 636 3, 840 3, 000 4, 704 6, 492 7, 644	1, 684 1, 438 1, 171 1, 380 1, 464 1, 176	35 82 81 172 228 307	400 480 129 170 220 180	1, 198 4, 820 1, 305	2, 610 3, 970 3, 465 2, 970 5, 315 4, 320	10, 094 14, 953 9, 867 9, 892 14, 111 14, 153
January		601 278 833 1, 663 2, 948 1, 635	14, 820 9, 540 10, 716 8, 184 4, 092 1, 992	960 1, 699 1, 678 724 670 835	289 233 341 425 154 278	710 340 220 260 270 90		5, 910 6, 120 8, 415 7, 720 5, 660 5, 245	23, 290 18, 210 22, 203 18, 976 13, 794 10, 075
Total			78, 660	14, 879	2, 625	3, 460	7, 323	61, 720	179, 618
July		716 582 1, 522 358 723 750	5, 324 4, 488 4, 896 4, 476 6, 720 7, 968	708 432 516 382 584 499	90 148 • 131 326 286 495	70 50 180 160 280 100		3, 657 3, 555 4, 245 3, 315 4, 555 3, 450	10, 565 9, 255 11, 490 9, 017 13, 148 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	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923	Value per acre, 1923.1
Maine New Hampshire Vermont Massachusetts Rhode Island	Dols. 14.00 16.00 13.50 17.00 17.25	Dols. 14. 70 17. 90 14. 70 18. 90 18. 60	Dols. 12. 80 15. 80 12. 40 19. 10 19. 60	Dols. 14. 40 17. 20 14. 00 23. 00 24. 10	Dols. 13. 70 15. 00 14. 00 21. 50 22. 20	Dols. 13. 90 17. 20 14. 50 21. 10 21. 20	Dols. 13. 90 16. 62 13. 92 20. 72 21. 14	Dols. 13. 10 17. 00 14. 60 21. 50 20. 20	Dols. 14. 90 17. 40 15. 50 22. 00 22. 50	Dols. 12. 40 14. 50 12. 60 19. 00 20. 00	Dols. 11. 10 12. 00 11. 50 19. 90 20. 30	Dols. 13. 90 18. 80 16. 30 26. 00 25. 50	Dols. 18. 70 24. 00 20. 10 27. 00 32. 00	Dols. 24. 60 25. 00 23. 00 28. 00 33. 20	Dols. 15, 53 18, 39 16, 23 23, 34 24, 81	Dols. 20. 00 28. 00 22. 00 27. 00 27. 00	Dols. 13. 10 19. 50 17. 50 23. 00 26. 50	Dols. 13. 50 19. 00 16. 50 26. 00 26. 80	Dols. 17. 28 22. 80 23. 10 35. 62 33. 50
Connecticut New York New Jersey Pennsylvania Delaware	12. 25	19. 30 14. 20 16. 50 14. 60 15. 00	19. 00 13. 70 18. 20 15. 00 14. 80	23. 50 17. 90 22. 00 20. 00 22. 50	22. 50 14. 90 20. 00 15. 60 15. 00	20, 10 15, 30 19, 00 14, 90 15, 70	20. 88 15. 20 19. 14 16. 02 16. 60	19. 50 14. 60 19. 50 14. 50 17. 00	20. 00 15. 70 19. 00 15. 60 17. 00	18, 50 11, 90 17, 60 13, 80 15, 90	19. 50 15. 10 20. 00 17. 50 20. 50	24, 00 20, 40 28, 00 23, 70 28, 00	30, 20 20, 50 29, 10 24, 00 26, 00	30. 00 23. 60 27. 50 23. 50 21. 50	23. 10 17. 40 22. 96 18. 94 20. 84	26. 00 18. 00 18. 00 17. 00 17. 50	26. 00 14. 10 18. 10 14. 30 19. 00	24. 00 16. 20 26. 90 21. 50 21. 00	31. 68 22. 03 28. 24 22. 58 24. 15
Maryland Virginia West Virginia North Carolina South Carolina	12. 25 11. 00	14. 40 13. 30 13. 30 14. 40 15. 50	15. 40 14. 60 15. 00 14. 60 16. 00	22. 40 20. 50 20. 00 17. 00 17. 00	14. 40 15. 20 15. 00 16. 70 18. 00	15, 20 15, 50 14, 90 16, 50 18, 70	16. 36 15. 80 15. 64 15. 84 17. 04	15. 30 17. 20 17. 20 17. 10 17. 00	16. 20 15. 70 15. 00 16. 50 15. 60	14. 00 15. 00 14. 50 17. 50 16. 70	19. 90 21. 30 21. 10 19. 70 20. 60	26. 80 23. 00 23. 50 21. 00 26. 10	24. 00 23. 70 25. 60 24. 20 31. 00	25. 00 23. 50 24. 20 23. 00 25. 00	20. 17 19. 91 20. 16 19. 84 21. 71	15. 10 17. 70 17. 50 19. 80 20. 00	18. 50 16. 00 16. 80 18. 20 17. 50	23. 60 20. 00 19. 90 20. 00 18. 00	24. 78 20. 00 23. 88 24. 00 15. 30
Georgia Florida Ohio Indiana Illinois	14. 80 8. 70	15. 80 15. 00 10. 90 10. 50 9. 90	16. 40 17. 00 12. 50 11. 90 12. 00	17. 00 18. 50 18. 90 16. 80 17. 00	17. 00 18. 10 13. 00 11. 40 12. 60	17. 90 18. 20 12. 80 14. 10 14. 10	16. 82 17. 36 13. 62 12. 94 18. 12	16. 20 17. 20 13. 40 14. 10 14. 40	15. 10 16. 00 12. 70 11. 00 10. 80	16. 20 16. 00 10. 60 10. 90 11. 30	29. 00 18. 20 19. 00 18. 70 20. 00	23. 50 18. 50 22. 20 19. 80 21. 00	25. 30 23. 00 21. 80 21. 60 21. 40	23. 50 19. 00 19. 50 19. 30 20. 60	19. 97 18. 27 17. 03 16. 49 17. 07	15. 80 19. 50 11. 50 13. 00 13. 50	17. 00 18. 50 10. 80 11. 20 12. 50	18. 90 20. 00 16. 70 15. 60 14. 80	12. 47 18. 00 20. 04 19. 34 19. 24
Michigan	8. 75 8. 00 5. 40 5. 70 7. 00	11. 40 9. 60 6. 00 7. 10 8. 30	13. 60 15. 10 9. 10 9. 60 9. 20	17. 00 15. 60 11. 90 12. 50 13. 80	12.70 12.10 6.40 9.50 9.80	13. 10 11. 10 6. 60 9. 60 14. 50	13. 56 12. 70 8. 00 9. 66 11. 02	12. 00 9. 30 6. 10 10. 10 13. 60	12, 20 9, 90 6, 40 8, 70 8, 50	10. 00 11. 60 7. 00 9. 00 9. 30	17. 20 17. 30 12. 10 16. 80 17. 50	23. 50 21. 60 14. 10 18. 20 20. 50	23. 40 20. 30 14. 50 17. 40 19. 50	21. 00 20, 40 11, 20 16, 24 15, 70	17. 04 15. 77 10. 20 13. 78 14. 94	13. 00 15. 40 8. 60 9. 30 9. 80	10, 10 12, 30 10, 70 10, 00 11, 50	14. 50 16. 00 11. 30 12. 50 12. 00	18. 27 21. 28 14. 12 18. 88 14. 64
North Dakota South Dakota Nebraska Kansas Kentucky	4. 10 4. 90 5. 70	5. 00 5. 10 6. 00 6. 00 11. 90	7. 60 7. 10 8. 90 7. 80 13. 10	7. 00 8. 50 9. 70 9. 90 17. 30	5. 50 6. 10 8. 40 7. 60 13. 70	5. 80 6. 50 8. 70 12. 50 16. 50	6. 18 6. 66 8. 34 8. 76 14. 50	5. 20 5. 70 6. 90 7. 40 16. 00	5. 70 5. 30 5. 80 5. 60 12. 50	6. 00 5. 40 7. 10 7. 60 12. 60	11. 50 10. 60 15. 20 16. 60 20. 30	14. 60 10. 00 17. 20 19. 40 23. 70	14. 10 13. 50 14. 00 15. 80 25. 40	9. 90 8. 50 9. 00 10. 20 22. 00	9. 57 8. 43 10. 74 11. 80 18. 93	7. 70 6. 40 7. 00 8. 00 15, 50	7. 50 7. 50 11. 20 9. 30 14. 50	6. 80 8. 10 10. 20 10. 60 17. 00	10. 20 13. 36 24. 79 23. 43 17. 85

Table 333.—Hay, tame: Farm price per ton December 1, by States, calendar years, 1908-1923, and value per acre, 1923—Continued.

State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923	Value per acre, 1923.
Tennessee Alabama Mississippi Louisiana Texas	Dols. 11. 80 12. 50 11. 00 11. 00 8. 25	Dols. 12. 80 13. 50 11. 50 10. 70 11. 90	Dols. 13. 40 13. 20 12. 20 11. 50 12. 00	Dols. 16. 70 12. 80 11. 00 12. 00 11. 90	Dols. 15. 80 14. 60 12. 50 12. 70 10. 40	Dols. 16. 20 14. 20 13. 50 12. 50 11. 80	Dols. 14. 98 13. 66 12. 14 11. 88 11. 60	Dols. 17. 00 13. 80 12. 00 12. 00 9. 80	Dols. 13. 90 12. 40 11. 00 10. 30 7. 90	Dols. 15.00 13.00 11.00 11.00	Dols. 19. 30 16. 20 15. 30 14. 30 20. 00	Dols. 24. 00 20. 30 18. 50 21. 20 24. 90	Dols. 27. 00 22. 30 20. 50 23. 00 18. 00	Dols. 20, 50 19, 50 17, 20 16, 00 13, 40	Dols. 19. 53 16. 79 15. 07 15. 40 14. 93	Dols. 15. 50 15. 60 14. 50 14. 00 9. 90	Dols. 16. 40 17. 00 14. 50 13. 30 11. 50	Dols. 18. 50 18. 50 15. 50 15. 00 16. 00	Dols. 21. 28 14. 98 19. 38 24. 00 26. 40
Oklahoma Arkansas Montana Wyoming Colorado	5. 00 9. 75 8. 35 7. 40 8. 75	7. 30 19. 80 10. 00 8. 90 10. 00	8. 40 11. 00 12. 50 12. 50 10. 80	8. 00 13. 00 10. 00 10. 30 9. 30	7. 40 12. 00 8. 30 8. 60 8. 70	10. 40 13. 50 9. 60 6. 70 10. 00	8. 30 12. 06 10. 08 9. 40 9. 76	7. 90 12. 90 8. 70 7. 50 7. 40	5. 60 10. 30 7. 50 7. 80 7. 60	9. 00 12. 50 11. 00 12. 00 11. 00	15. 40 15. 40 18. 60 17. 00 16. 60	19. 50 19. 50 19. 60 14. 00 15. 50	15. 10 20. 50 23. 00 23. 00 18. 50	10. 50 16. 00 12. 00 12. 00 12. 00	11. 86 15. 30 14. 34 13. 33 12. 66	8. 20 12. 50 8. 70 7. 50 6. 90	12. 50 13. 60 9. 00 8. 50 11. 20	14. 30 16. 00 8. 90 9. 60 11. 30	22. 88 20. 48 16. 73 18. 24 22. 60
New Mexico	12, 20	11. 10 12. 80 9. 00 10. 50	11. 50 13. 00 9. 00 10. 80	13.00 12.00 9.00 9.50	8. 50 12. 00 8. 00 8. 70	12.10 11.00 9.10 11.00	11. 24 12. 16 8. 82 10. 10	9. 30 8. 80 7. 70 8. 30	8. 80 9. 60 8. 00 7. 50	14. 00 14. 50 15. 00 9. 60	21, 00 24, 80 15, 00 15, 90	20. 00 24. 00 17. 10 19. 90	18. 20 20. 00 21. 90 19. 60	17. 00 29. 00 13. 00 16. 00	15. 47 18. 67 13. 96 13. 83	12.70 13.00 6.20 9.00	19. 50 18. 00 8. 20 11. 80	16. 00 15. 00 8. 90 11. 00	33. 60 52. 50 23. 94 29. 15
Idaho Washington Oregon California	7. 10 11. 00 9. 30 13. 25	9. 10 14. 00 11. 70 11. 50	9. 00 15. 70 12. 10 9. 60	7. 60 12. 00 9. 60 10. 90	6. 30 10. 10 8. 30 13. 70	7. 20 10. 90 9. 00 13. 50	7. 84 12. 54 10. 14 11. 84	7. 30 11. 00 9. 20 8. 20	7. 70 10. 80 9. 50 11. 20	12. 10 13. 80 10. 90 12. 60	16. 00 20. 00 17. 50 19. 20	17. 60 25. 40 20. 00 20. 00	22. 00 23. 00 19. 10 17. 20	12. 50 18. 50 14. 50 20. 00	13. 60 17. 50 14. 39 15. 49	6. 70 10. 50 9. 80 11. 00	10.00 16.20 13.60 15.00	8, 90 12, 00 11, 00 14, 00	22. 25 28. 20 24. 75 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

<sup>1</sup> Based on farm price Dec. 1.

Table 334.—Hay, tame: Farm price per ton, 1st of month, United States, 1908-1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June	Weight- ed av., crop year.
1908–9	\$9. 79	\$9. 28	<b>\$9.</b> 18	\$9. 23	\$9. 22	\$9. 02	\$9. 09	\$9. 27	\$9. 47	<b>\$9. 6</b> 5	\$10. 12	\$10. 70	\$9. 43
1909-10 1910-11 1911-12 1912-13 1913-14	13. 99	11. 29 14. 67	11. 87 14. 61 12. 14	11. 82 14. 50 11. 76	14. 62 11. 80	12. 14 14. 29 11. 79	12. 24	12. 29 15. 44 11. 64	12. 09 15. 69 11. 34	11. 89 16. 79 11. 15	12. 21 12. 29 17. 64 11. 13 12. 32	13. 16 17. 54 11. 30	12. 03 15. 22 12. 06
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 1915-16 1916-17 1917-18 1917-19 1919-20 1920-21	12. 09 14. 56	11. 02 10. 68 13. 42 16. 40 20. 97	10. 80 10. 42 13. 68 17. 94 21. 27	10. 69 10. 36 14. 29 19. 15 20. 54	20.09	10. 63 11. 22 17. 09 20. 13 20. 08	10. 94 11. 49 18. 56 20. 49 21. 23	11. 40 11. 96 19. 43 20. 45 22. 54	11. 62 12. 14 19. 80 20. 35 23. 26	11. 78 13. 05 19. 40 21. 05	22, 95 25, 37	12. 46 15. 25 17. 75 23. 92 26. 11	11. 25 11. 76 16. 69 19. 79 22. 02
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. <b>90</b>
1921-22 1922-23 1923-24	12. 91 12. 59 13. 06	11. 58	12. 44 11. 17 12. 71	11. 38	11. 54	12, 56	12. 39				13. 59 13. 22		12. 43 12. 25

Table 335.—Hay, alfalfa: Farm price per ton, 15th of month, United States, 1914-1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Weight- ed av., crop year.
1914–15 1915–16 1916–17 1917–18 1918–19	\$8. 65 8. 28 9. 87 14. 13 16. 58	8. 28 9. 80 15. 28	8. 22 10. 06 16. 33	8. 14 10. 25 17. 59	8. 72 11. 37 19. 19	9. 52 12. 31 20. 39	12. 79 21. 27	10. 35 13. 63 21. 38	14.68	10. 73 17. 68 18. 97	10. 56 17. 92 17. 84	10. 49 16. 77 16. 74	9. 39 12. 76 18. <b>42</b>
1919-20 1920-21 1921-22 1922-23 1923-24	20. 15 21. 70 9. 85 10. 61 12. 45	20. 43 9. 66 10. 54	19. 12 9. 86 11. 15	18. 03 9. 82 11. 87	21. 63 17. 10 9. 67 12. 70 13. 59	16. 59 10. 46 13. 31	14.06	13. 55 11. 04	12. 88 11. 80	11. 35 12. 39	10. 88 12. 28	10. 64 10. 98	15. 96 10. 58

Division of Crop and Livestock Estimates.

Table 336.—Hay, clover: Farm price per ton, 15th of month, United States, 1914–1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Weighted av., crop year.
1914–15	\$11. 85 11. 65 10. 84 12. 95 15. 73	10. 87 9. 93 12. 76	10. 82 10. 01 13. 79	10. 60 10. 08 15. 01	10. 59 10. 46 17. 14	10. 95 10. 86 18. 67	11. 24 11. 38 19. 82	11. 41 11. 65 21. 11	11. 70 11. 90 21. 37	11. 87 13. 06 19. 68	12. 52 13. 94 18. 30	12. 46 14. 22 16. 54	11. 29 11. 33 17. 21
1919-20 1920-21 1921-22 1922-23 1923-24	22. 02 24. 62 13. 89 12. 82 13. 52	22. 82 14. 17 12. 66	22. 57 14. 37 12. 54	21, 29 13, 99 12, 51	20. 60 13. 83 12. 67	19. 96 14. 17 13. 03	23. 78 19. 17 13. 90 13. 39	17. 39 14. 10	16. 44 14. 06	15. 47 14. 51	14. 90 14. 90	14. 52 14. 33	19. 48 14. 15

Table 337.—Hay, timothy: Farm price per ton, 15th of month, United States, 1914-

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Weight- ed av., crop year.
1914–15 1915–16 1916–17 1917–18 1918–19		12.39 11.74 14.11	12. 32 11. 57 14. 89	12. 14 11. 54 16. 23	12. 24 12. 03 18. 33	12. 73 12. 29	13. 11 12. 61 21. 37	\$14. 28 13. 39 12. 91 22. 25 22. 69	13. 61 13. 20 22. 53	14.00	14. 50 15. 31 20. 40	14. 71 15. 76 18. 55	13. 09 12. 83 18. 67
1919-20 1920-21 1921-22 1922-23 1923-24	14. 33 14. 86	24. 35 15. 01 13. 61	24. 15 14. 83 13. 44	23. 04 22. 74 14. 39 13. 70 16. 22	22. 09 14. 22 13. 93	21. 22 14. 31	19. 88 14. 51 14. 41	25. 49 18. 30 14. 77 14. 46	17. 04 15. 06	15. 52	15. 44 16. 10	15. 16 15. 75	20. 64 14. 82

Table 338.—Hay, prairie: Farm price per ton, 15th of month, United States, 1914-

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted av., crop year.
1914–15 1915–16 1916–17 1917–18 1918–19	\$7. 49 7. 37 7. 25 10. 11 12. 51	6. 83 6. 96 10. 82	6. 64 7. 21	6. 44 7. 26 12. 29	6. 75 7. 85 13. 32	6. 95 8. 14 14. 91	7. 38 8. 58 15. 39	7. 34 8. 60 15. 74	7. 39 9. 32 15. 47	7. 56 10. 94 14. 47	7. 71 12. 02 12. 75	7. 97 11. 84 12. 78	7. 13 8. 61
1919-20 1920-21 1921-22 1922-23 1923-24	16. 10 15. 38 7. 67 7. 68 9. 17	13. 74 7. 50 7. 76	7. 54	11. 83 6. 78	11. 47		7. 39	9. 46 7. 67	8. 70 7. 94		8. 05 8. 24	8. 02 8. 40	10.94

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.	Мау.	June.	Aver- age.
1910-11 1911-12 1912-13 1913-14	\$12.08 15.13 12.59 12.12	14. 44 13. 00	14. 87 13. 58		15. 27 15. 11	15. 50 15. 00	17. 72 14. 79	18. 37 12. 86	20. 49 14. 06	22. 73 13. 75	19. 34 13. 28	11. 62 10. 70	
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	12. 38 11. 54 11. 29 21. 18 22. 60 26. 93 27. 21	11. 90 13. 40 24. 09 29. 08	12. 25 13. 58 24. 07 31. 45 24. 86	13. 11 15. 68 27. 43 30. 14 30. 24	12. 83 18. 50 31. 10 31. 21 33. 39	14. 35 19. 33 32. 76 31. 01 35. 10	19. 81 30. 01 32. 85 35. 75	15. 34 20. 25 31. 33 31. 01 34. 83	33. 79	14. 44 24. 33 24. 11 37. 90 34. 10	22. 64 36. 20 35. 46	11. 42 21. 87 20. 57 36. 43 31. 75	13. 34 18. 64 26. 40 32. 04 31. 99
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 1922-23 1923-24	17. 50 15. 50 18. 90	15. 80	18. 30	22. 60	23.80	23.00	23. 40	19. 60 23. 70					19. 60 22. 15

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.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Aver- age.
1910-11 1911-12 1912-13 1913-14		12. 93 7. 96	11. 50 8. 39	11. 60 8. 96	12. 07 8. 91	\$10. 86 12. 61 9. 39 15. 57	13. 84 10. 45	13. 66 9. 37	16. 70 9. 19	20. 85 9. 56	20. 48 9. 53	15. 16 9. 97	14. 78 9. 21
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21		8. 65 8. 06 18. 57 25. 25 19. 98	8. 63 9. 36 18. 06 26. 57 19. 32	9. 71 9. 47 19. 60 27. 58 19. 75	9. 54 10. 74 25. 07 26. 84 21. 12	10. 98 8. 97 11. 15 25. 47 24. 04 25. 34 14. 49	8. 84 10. 57 24. 00 28. 25 21. 40	9. 15 10. 92 23. 79 26. 82 20. 68	12. 92 23. 42 32. 35 20. 64	9. 50 18. 68 21. 13 36. 63 21. 70	9. 74 19. 74 19. 17 38. 91 24. 02	17. 66 37. 34 18. 95	9. 30 12. 56 21. 17 29. 15
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 1922–23 1923–24	12. 30 12. 90 11. 80	10.70	11.00	14.00	12. 00 14. 20 14. 75	12. 70			11. 50 14. 60				

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, 1910-1923

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Aver- age.
1910-11	23. 50 19. 75	21. 50 18. 50	20. 00 18. 50	20. 50 18. 00	21. 25 17. 00	21. 00 15. 50	21. 75 15. 75	20. 75 14. 25	21. 50 14. 75	24. 00 15. 50	26. 00 15. 25	\$21. 75 21. 25 14. 25 15. 25	21. 92 16. 42
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	19. 25 16. 00 17. 75	20. 25 16. 00 19. 25 26. 50 35. 00	19. 00 15. 50 21. 00 32. 00 29. 00	17. 00 16. 25 25. 00 31. 00 28. 00	15. 50 16. 25 27. 25 30. 00 29. 50	15. 50 16. 25 27. 00 30. 00 30. 00	16. 25 15. 50 28. 25 29. 50 32. 50	15. 50 15. 75 29. 00	16. 75 15. 75 28. 00 30. 50 35. 25	18. 75 18. 00 24. 00 33. 50 43. 00	18. 75 20. 50 23. 00 35. 50		17. 54 16. 71 24. 04 29. 92 35. 00
Average, 1914-1920-	23. 39	24. 86	23. 68	23. 54	23. 71	23. 25	23. 59	22. 88	23. 83	25. 33	<b>2</b> 6. 16	24. 50	24. 06
1921-22 1922-23 1923-24	24. 40 24. 50 24. 00	22. 00	20.90	22.40	23.00	21. 90 21. 10 27. 10	21. 75	21. 80 21. 50	23. 60 23. 00	26. 80 23. 00		23. 60 24. 00	

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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Alfalfa No. 1													\$24.42
Alfalfa, standard	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						18, 30	19, 25	20, 60	22, 00	22, 00	22, 40	22, 75	İ
Clover No. 1. me-						1							
dium	1	16, 50	16.80	17.00	17.00	18.40	19. 70	20, 60	20, 50	21, 50	22, 40	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.		16.00											
Prairie Upland No. 2		13.00											
Timothy No. 1													
Timothy No. 2													
1 mioury 190. 2	10.00	11.00	19.00	19.00	10. 20	20.00	20.00	22. 40	47. 20	44, 10	22, 40	47.40	21.01
	<u> </u>	i	<u> </u>	<u> </u>			<u> </u>				J		

Table 342.—Hay: Monthly average price per ton at three markets, 1923—Con.

KANSAS CITY.

Grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Alfalfa No. 1	20. 10 16. 70 15. 50 14. 10 16. 00 12. 60 11. 10	20. 40 17. 70 15. 75 14. 60 16. 00 13. 25 11. 60	22. 40 19. 20 16. 40 15. 80 16. 80 14. 60 13. 40 17. 30	23. 80 20. 60 18. 40 18. 70 19. 50 19. 10 17. 60 19. 60	24. 40 19. 90 18. 90 18. 90 19. 80 19. 10 16. 75 19. 90	\$22. 90 20. 60 16. 70 18. 75 19. 00 19. 80 16. 60 20. 20 18. 40	16. 80 14. 10 14. 30 14. 20 15. 60 11. 80 10. 60 15. 80	19. 00 15. 70 15. 70 13. 00 13. 90 11. 50 10. 60 14. 10	20. 40 16. 90 19. 00 14. 75 16. 00 13. 80 12. 60 16. 40	23. 00 19. 25 19. 00 15. 50 17. 00 14. 60 13. 70 17. 50	22. 40 18. 80 19. 00 16. 10 17. 70 14. 75 13. 40 18. 40	22. 30 18. 70 18. 50 16. 75 18. 00 14. 75 13. 40 18. 50	21. 30 17. 85 17. 43 15. 95 17. 18 14. 87 13. 45 17. 46

#### ST. LOUIS.

Alfalfa No. 1	\$28, 50	\$26, 00	<b>\$28.</b> 75		\$25, 75			\$26, 00	\$29.50	\$28.00	\$31. 30	\$31, 30	
Alfalfa, standard		23, 00	23.00	\$24, 00		\$29, 00			25.00		28.00	27. 00	
Alfalfa No 2			18.00	i		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	1 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				21.00	20.00						17.00	
Timothy No. 1	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
Timothy No. 2	16.90	16.00	17. 50	18. 70	18.90	20. 25	18.00	19. 70	19. 10	21. 25	19.80	22. 90	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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Atlanta	23. 75 23. 25	23. 00 22. 25	23. 00 25. 30 34. 00	23. 00 24. 25 30. 00	23. 00 23. 25 31. 00	23. 20 20. 20 30. 00	23. 00 20. 75 29. 00	23. 40 22. 60 28. 00	\$34. 75 25. 25 26. 40 22. 80	26. 25 28. 00	27. 40 29. 60	28. 75 29. 00	24. 42 24. 57
Los Angeles Memphis Minneapolis New Orleans Omaha	30. 60	30. 50 21. 40	31. 40 21. 20 30. 80	31. 50 21. 75 30. 70	32. 50 22. 00 31. 90	29. 25 20. 75 26. 50	23. 10 21. 00 27. 25	26. 20 24. 00 29. 00	20. 00 30. 50 23. 25 31. 40 19. 25	29. 25 23. 75 32. 30	32. 20 23. 60 34. 25	32. 75 22. 90 34. 50	29. 98 22. 33
Richmond St. Louis San Francisco Savannah	22. 50 28. 50 18. 75	26.00	28.75		<b>25.</b> 75		16. 00	26. 00 16. 25	28. 50 29. 50 16. 00 36. 00	28. 00 16. 00	31. 30	31. 30 21. 00	17. 27

# No. 1 CLOVER. (8 markets.)

	\$15. 50	\$15, 50	15, 80	16, 00	16, 00	\$17. 25 .16. 80	17. 25	19.00	20, 50	22, 00	\$22, 80	\$23. 00	\$18. 35
Cincinnati Kansas Citv	15. 90 15. 50	15.75 15.75	17. 20 16. 40	17. 90 18. 40	16.75 18.90	17. 20 18. 75	17.00 14.30	19. 50 15. 70	23. 50 19. 00	25. 50 19. 00	26.90 19.00	26. 25 18. 50	19. 95 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
Pittsburgh Richmond St. Louis	20, 50	20.00	21.00	19. 50	20, 00	17. 00 20. 00 22. 20	20.75	22.90	24. 80	25. 40	28. 30	28, 60	22, 65

Table 343.—Hay: Average price per ton, 1923—Continued.

No. 1 TIMOTHY. (17 markets.)

Market.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
AtlantaBaltimore	<b>\$24</b> . 75	\$24. 50			\$26.00 21.90							\$30. 90	\$27. 07
Boston	26. 00	26. 50 22. 50	25. 80	25. 80	25. 90 22. 40	27.00	25. 60	27. 70				29. 60	27. 12
Chicago	21. 75	21. 50			23. 10				26. 60	26. 50	26. 80	27. 10	24. 38
Cincinnati		17. 60 24. 00									24. 30	24. 40	21. 28
Kansas City Memphis	15. 90	15. 90 22. 25	17. 30	19, 60	19.90	20. 20	15.80	14. 10		17. 50		18. 50 27. 00	
Minneapolis		16. 10											
New Orleans New York	24. 50	26. 00			27. 40			24. 70 30. 40					
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 Richmond	19. 50 22. 50	19. 60 22. 00						25. 30 26. 75					
St. Louis	20. 50		21. 30					22. 20					
Savannah	<b>24</b> . <b>2</b> 5	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.	Мау.	June.	July.	Aug.	Calendar year.	Мау.	June.	July.	Aug.	Sept.	Oct.
	P. ct.	P. ct.	P. ct.	P. ct.		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
1866		87. 0	99. 1	104.0	1897	93. 4	96. 7	97.0	95. 3	l	
1867	l	101. 0	116. 2	110.6	1898	91. 2	99. 5	100.0	88. 5		
1868	<b> </b>	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	i	100. 1	91. 0	87.7	1901	91. 5	95. 5	90. 4	72. 1		
1871 1872		96.4	94. 5	92. 2	1902	84. 9	91.6	93. 3	97. 1		
1872_ <b></b>	<b> </b>	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 1875		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	ļ	108. 6	109. 0	102. 5	1000	00.1	00.0	00.1	84. 8		
1879		88.7	90. 9	91.8	1909	80. 1 89. 3	89. 3 88. 5	93. 1 81. 6	73. 0		
880		94.0	93. 9	94. 8	1910 1911	81.3	81.8	69.6	59. 6		
001		102, 4	102.6	94.4	1911	81. 7	93. 7	84. 9	86. 6		
881 882	91. 1	92.2	102.0	103. 1	1913	87. 1	89. 2	81. 2	73. 7		
002		98. 7	69. 9	104. 2	1910	01. 1	00. 2	01. 2	10. 1		
883 884.	94. 7	99. 8	97. 1	96. 3	Av. 1909-1913_	83. 9	88. 5	82.1	75. 5		
885	90.0	93. 8	95. 2	93. 3	117.1000 1010-						
	00.0	00.0	00.2		1914	88. 3	89.8	82.1	76. 2		
886	100.0	101.7	95. 5	80.7	1915	87. 2	91. 3	91.3	9671	98. 5	96. 5
887	91.8	92.6	86. 7	73. 8	1916	85. 2	93. 4	97. 7	86. 9	80.4	76. 9
888	84. 9	91.8	92.6	92. 3	1917	81. 9	83. 8	89. 9	85. 5	82. 4	78. 4
889	96.6	97. 6	96. 6	99. 0	1918	83. 1	92. 5	84. 5	75. 4	69. 9	77. 3
890	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
891	97.8	90. 5	92. 3	92. 2	l						
892	87. 5	95. 9	98. 4	95. 6	Av. 1914-1920_	85. 1	91.0	90.0	84. 3	82.9	82. 2
893	87. 2	93. 4	94.0	82.3	1001	01.0	00.1	90.0	74.2	01 0	84. 8
394	92. 7	92.0	83. 2	66. 0	1921	91.8	90. 1	80.8	74. 3	81.6	
395	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	76. 0 83. 1
896	93. 2	94. 5	91. 0	93. 9	1940	11.0	02.0	00.0	11.0	10.0	00. 1
300	80. Z	9rg. 0	91.0	90. B	l l		- 1		- 1	i	

## HOPS.

Table 345.—Hops: Acreage, production, and farm value, United States, 1915-1923; by States, 1922 and 1923.

Calendar year, and State.	Acre			ge yield nds per re.	Production, thousands of pounds.		Average farm price, cents per pound, Dec. 1.		Farm value thousands o dollars.	
1915	43, 29, 25, 21, 28,	653 900 900 900 900 000 000	1, 1 90 81 1, 1 1, 2	86. 6 52. 5 82. 9 29. 4 89. 0 24. 3 86. 7	50, 595 12. 29, 388 33. 21, 481 19. 24, 970 77. 34, 280 35.		12. 0 6, 9 33. 3 9, 19. 3 4, 77. 6 19, 3 35. 7 12, 2			
Leading States.	1922	1923 1	1922	1923	1922	1923 ¹	1922	1923	1922	1923¹
Total	23, 400	15, 800	1, 185. 6	1, 124. 7	27, 744	17, 770	8. 6	18.7	2, 383	3, 329
Washington Oregon California	2, 400 12, 000 9, 000	9,000	1, 410 800 1, 640	2, 151 722 1, 480	3, 384 9, 600 14, 760	3, 872 6, 498 7, 400	10. 0 9. 0 8. 0	18. 0 20. 0 18. 0	338 864 1, 181	697 1, 300 1, 332

Division of Crop and Livestock Estimates.

Table 346.—Hops: Area and yield per acre in undermentioned countries, 1909-1923.

			Area.				Yi	eld per a	cre.	
Country.	Aver- age 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.	Aver- age 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA.  Canada 1 United States 3  EUROPE.	Acres. 2 718 445, 000	Acres. 509 28, 000	Acres. 507 27, 000	Acres. 507 23, 400	Acres. 15, 800	Pounds. 3 1, 429 4 1, 192	Pounds. 1, 695 1, 224	Pounds. 1, 705 1, 087	Pounds. 1, 343 1, 186	Pounds.
	33, 797 5, 312 5 7, 037 5 67, 756 551, 599 6 3, 901 6 2, 589	21, 002 3, 504 10, 403 28, 651 200 20, 660 630 2, 849	25, 133 3, 731 10, 774 27, 870 240 18, 952 502 2, 980	26, 452 4, 258 10, 430 29, 687 242 19, 408 3, 788 4, 823	24, 893 3, 408 29, 000 19, 180 	977 1, 319 6 987 5 444 5 533	1, 499 1, 438 998 468 435 562 554 496	998 998 617 255 396 338 558 381	1, 274 785 857 462 355 641 832 738	1, 030 892 247 334
OCEANIA.  Australia New Zealand	1, 251 4 653	1, 497 484	1, 562 540	675		1, 285	1, 336 1, 340	1, 537 1, 258		
Total com- parable with	219, 613			108, 028	97, 181					

ture unless otherwise stated.

Figures are for 1909-1923 in Northern Hemisphere and for seasons 1909-10 through 1923-24 in Southern Hemisphere.

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>1</sup> British Columbia only.

Two-year average.
Principal producing States.

One year.
Old boundaries.

<sup>•</sup> Congress Poland

Table 347.—Hops: Production in undermentioned countries, 1909-1923.

Country.	Aver- age 1909- 1913.	1917	1918	1919	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA.  Canada 1 United States 3  EUROPE.	1,000 pounds 1,026 53,654	1,000 pounds 270 29, 388	1,000 pounds. 21,481	1,000 pounds 337 24,970	1,000 pounds. 863 34, 280	1,000 pounds 864 29, 340	1,000 pounds 681 27,744	1,000 pounds.
United Kingdom: England England France Germany Austria Czechoslovakia Hungary Yugoslavia Poland Russia	33, 021 7, 008 4 6, 948 4 30, 105 4 27,478 4 3, 036 6 1, 425 7 8, 803	24, 752 4, 354 20, 621 265	14, 560 924 1, 833 132	21, 168 3, 180 1, 855 8, 533 110 9, 594	31, 472 5, 038 10, 387 13, 397 87 11, 609 349 1, 414	25, 088 3, 722 6, 646 7, 097 95 6, 401 280 1, 135	33, 712 3, 344 8, 940 13, 704 86 12, 439 90 3, 150 3, 558	25, 648 3, 040 5 3, 400 7, 150 6, 415 5 22 5 2, 200 5 2, 000
AustraliaNew Zealand	1, 607	2, 103 692	1, 858 650	1, 462 701	2, 001 649	2, 401 679	<sup>5</sup> 1, 700 <sup>6</sup> 700	<sup>5</sup> 1, 700 <sup>6</sup> 600
Total Total comparable with 1923	174, 111 						109, 167	70, 045

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 Hemisphere.

- British Columbia only.
- Two-year average.
  Principal producing States.
  Old boundaries.
- Commercial estimates.
  Congress Poland.
- Russia exclusive of Congress Poland.

Table 348.—Hops: Consumption and movement, 1910-1923.

Year ending	Consumed	Expo	rts.	Total of brewers'		
June 30—	by brewers.	Domestic.	Foreign.	consump- tion and exports.	Imports.	Net domestic movement.
1909-10. 1910-11 1911-12 1912-13 1912-13 1912-14 1914-15 1914-16 1916-17 1917-18 1919-19 1919-20 1920-21 1921-22	Pounds. 43, 293, 764 45, 068, 811 42, 436, 665 44, 237, 735 43, 987, 623 38, 839, 294 37, 451, 610 41, 949, 225 33, 481, 415 13, 924, 650 16, 440, 894 15, 983, 982 14, 452, 676 14, 555, 759	Pounds. 10, 589, 254 13, 104, 774 12, 199, 663 17, 591, 195 24, 262, 896 16, 210, 443 22, 409, 818 4, 874, 876 3, 494, 579 7, 466, 952 30, 779, 508 22, 206, 028 19, 521, 647 13, 497, 183	Pounds. 14, 590 17, 974 35, 869 35, 859 30, 221 16, 947 134, 571 26, 215 37, 823 40, 198 827, 803 487, 633 198, 006	Pounds. 53, 897, 608 58, 191, 559 54, 663, 197 61, 864, 789 68, 280, 743 55, 066, 684 59, 995, 999 46, 850, 316 37, 013, 817 21, 396, 321 37, 324, 460 29, 022, 813 24, 461, 956 18, 250, 948	Pounds. 3, 200, 560 8, 557, 531 2, 991, 125 8, 494, 144 5, 382, 025 11, 651, 332 675, 704 236, 849 121, 288 6, 264 4, 807, 998 893, 324 1, 294, 644	Pounds. 50, 697, 048 49, 634, 028 51, 672, 075 53, 370, 645 62, 998, 718 43, 415, 352 59, 320, 295 46, 613, 457 36, 892, 529 21, 396, 315 24, 214, 815 23, 568, 632 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.		erage, -1913.	19	920	19	21		22, ninary.
	Imports	Exports.	Imports	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Austria-Hungary	1,000 pounds. 938	1,000 pounds. 18, 333	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
Czechoslovakia Germany Hungary	7, 688	17, 564	1 2, 539 87	1 14, 961 21, 624 1 532	2, 403 1, 714 1 146	6, 625 2 5, 712 1 39	4, 806 1 225	10, 586 7, 444 1 179
New Zealand	1, 258	352 2, 348 15, 416	19 5, 949	181 25, 624	19	235 18, 460	1, 201	221 14, 882
PRINCIPAL IMPORTING COUNTRIES.	0, 200	10, 110	0,010	20, 021		10, 100	1, 201	14,002
ArgentinaAustralia	618 1, 106	22	723 1, 254	<del>-</del> -	754	<u>1</u>		
Austria Belgium		4, 814	1, 117 16, 457	69 12, 222	1, 247 8, 507	650 4, 228	1 1, 281 4, 626	1 141 2, 072
British IndiaCanada	246 1,396	176	122 1,657	63	272 2, 140	821	282 1, 965	826
Denmark France	1, 027 5, 436	3 1 335	526 5, 877	28 4, 170	388 2, 862	5, 806	653 3, 032	1 1 3, 329
Italy Japan	529 253	10	1, 284 1, 506	5	846 658	11	778 1 754	87
Netherlands Norway	2, 938 289 987	1, 405	1,562 471 998	3, 013	1, 072 422 685	1, 311	1, 323 533 867	549
Sweden Switzerland Union of South Africa	1, 257 487	42	153 457		492 390	152	749 404	*80
United KingdomOther countries	21, 028 2, 277	2, 162	51, 049 2, 303	411 8	24, 256 2, 846	246 55	14, 284 685	317 399
Total	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.

TABLE 350.—Hops: V	V holesal	e price p	er pound	l, 1913–	1923.	
Calendar year.	New Yo	ork, State, choice.	prime to	Sa	n Francis	co.
	Low.	High.	Average.1	Low.	High.	Average.1
1913 1914 1915 1916 1917 1918 1919 1920	15 34 23 37 41 26 19	Cents. 48 50 30 55 90 54 85 105 60 40	37. 9 59. 9 80. 2 37. 0 25. 3	Cents. 19 10 10 7 6 19 34 33 12	Cents. 30 30 15 14 40 22.5 84 85 35 30 35	19. 5 59. 2 61. 6 24. 4 17. 6
1923.  January February March April May June July August September October November	19 22 22 20 19 19 22 28 55 53	58 24 24 24 21 20 27 29 30 57 58 57 55	32. 5 23. 0 23. 0 22. 3 19. 6 19. 5 19. 7 26. 5 29. 0 41. 3 56. 3 55. 3 54. 0	10 10 10 10 10 10 10 10 10 25 25 20	15 15 15 12 12 12 12 12 30 35 35 30	17. 2 12. 5 12. 5 12. 3 11. 0 11. 0 11. 0 15. 3 27. 5 29. 1 26. 4

Division of Statistical and Historical Research. Compiled from New York Journal of Commerce and San Francisco Daily Commercial News.

<sup>&</sup>lt;sup>1</sup> International Institute of Agriculture. <sup>2</sup> Eight months, May-December.

<sup>&</sup>lt;sup>1</sup> Three-year average.
<sup>4</sup> One year.

 $<sup>^{1}</sup>$ Monthly averages are computed from daily ranges. Yearly averages are simple averages of monthly averages.

## PEANUTS.

Table 351.—Peanuts: Acreage, production, and farm value, United States, 1916-1923; by States, 1922 and 1923.

Calendar year, and State.		acres.		Average yield in pounds per acre.		Production, thousands of pounds.		Average farm price, cents per pound Nov. 15.		value, ands of lars.						
1916 1917 1918 1919 1920 1921	1, 1, 1, 1,	1, 842 7777. 1, 865 664. 1, 132 691. 1, 181 712.		881. 1 919, 028 777. 7 1, 432, 581 664. 9 1, 240, 102 691. 9 783, 273 712. 5 841, 474 683. 1 829, 307		777. 7 1, 432, 8 664. 9 1, 240, 1 691. 9 783, 2 712. 5 841, 4		1, 432, 581 1, 240, 102 783, 273 841, 474		1, 432, 581 1, 240, 102 783, 273 841, 474		1, 432, 581 1, 240, 102 783, 273 841, 474		5 9 . 5 . 3 . 3	98, 80, 73, 44,	243 512 271 094 256 097
Leading States.	1922	1923 1	1922	1922 1923		1923 1	1922	1923	1922	1923 1						
Total	1,005	884	630. 0	720. 0	633, 114	636 <b>, 462</b>	4.7	6.8	29, 613	43, 078						
Virginia North Carolina South Carolina Georgia	130 145 36 160	124 148 38 152	600 840 760 602	990 1, 100 850 512	78, 000 121, 800 27, 360 96, 320	122, 760 162, 800 32, 300 77, 824	5. 5 4. 0 5. 0 4. 7	6. 5 7. 4 7. 2 6. 9	4, 290 4, 872 1, 368 4, 527	7, 979 12, 047 2, 326 5, 370						
Florida Tennessee Alabama Mississippi	72 14 205 18	80 14 142 15	625 750 550 675	600 935 469 600	45, 000 10, 500 112, 750 12, 150	48, 000 13, 090 66, 598 9, 000	5. 0 4. 5 4. 8 6. 0	7. 0 7. 0 5. 8 6. 0	2, 250 472 5, 412 729	3, 360 916 3, 863 540						
Louisiana	18 172 17 18	17 1 <b>22</b> 15 17	600 560 620 643	450 620 650 650	10, 800 96, 320 10, 540 11, 574	7, 650 75, 640 9, 750 11, 050	6. 9 4. 0 3. 8 6. 0	7. 5 6. 4 5. 0 7. 0	745 3, 853 401 694	574 4, 841 488 774						

Division of Crop and Livestock Estimates.

Preliminary.

Table 352.—Peanuts: Farm price per pound, 15th of month, United States, 1910-1923.

Year beginning Nov. 1.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Weight- ed av., crop year.
1910-11 1911-12 1912-13 1913-14	Cts. 4. 7 4. 4 4. 7 4. 4	Cts. 4. 5 4. 4 4. 6 4. 8	Cts. 4.4 4.3 4.6 4.7	Cts. 5.0 4.7 4.5 4.7	Cts. 4.8 5.0 4.7 4.7	Cts. 4.9 4.9 4.8 4.9	Cts. 4.8 4.9 4.7 5.1	Cts. 5. 2 5. 2 5. 0 5. 1	Cts. 5. 0 4. 9 5. 1 5. 2	Cts. 5.3 5.0 4.9 4.9	Cts. 5.1 4.8 4.9 5.0	Cts. 4.6 4.7 4.8 4.5	Cts. 4. 6 4. 4 4. 6 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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	4. 4 4. 2 4. 4 7. 1 6. 6 9. 1 5. 3	4.3 4.2 4.7 7.1 6.1 9.1 4.7	4. 5 4. 3 4. 9 7. 0 6. 0 9. 9 4. 4	4. 4 4. 4 5. 3 7. 2 6. 9 10. 5 4. 1	4. 2 4. 4 5. 5 7. 4 7. 0 11. 2 4. 0	4. 5 4. 6 6. 2 8. 3 6. 9 10. 9 3. 5	4. 8 4. 6 7. 2 8. 2 7. 2 11. 2 3. 4	4.8 4.7 7.7 7.9 7.7 11.2 3.8	4. 7 4. 6 7. 6 7. 8 8. 2 11. 0 3. 8	4. 5 4. 6 7. 2 7. 9 8. 1 8. 5 3. 9	4. 4 4. 4 6. 6 8. 3 8. 3 8. 0 4. 0	4.3 4.4 6.1 6.9 8.1 5.8 4.0	4. 4 4. 3 4. 8 7. 1 6. 5 9. 2 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 1922-23 1923-24	3. 7 5. 2 6. 8	3. 5 5. 0 6. 2	3. 6 5. 9	4. 0 6. 5	4. 3 6. 7	3. 9 7. 1	3. 9 7. 1	4. 2 7. 3	4. 4 6. 9	4. 4 6. 7	4. 7 6. 7	3. 6 7. 0	3. 7 5. 5

TABLE 353.—Peanuts: International trade, calendar years, 1911-1922.

Country.	Average,	1911–1913.	19	20	19	21	193 prelim	
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.  Anglo-Egyptian Sudan Brazil. British India. China. Dutch East Indies. French possessions in India. Gambia. Guinea (French). Mozambique. Nigeria. Senegal. Spain.  PRINCIPAL IMPORTING COUNTRIES.	32, 882 612	306, 701	26, 159 727	2 46, 775 2 190, 826 2 3, 799 18, 359 2 101, 716	22, 845	<sup>2</sup> 66, 451 <sup>2</sup> 132, 552 <sup>2</sup> 3, 331	20, 090	5, 928 590, 518 238, 032 1 28, 505
Algeria	5, 236 4, 664 1, 239, 659 174, 970 1, 194 122, 862 2, 264 20, 092 3, 1, 459 3, 164 20, 988 80, 604	* 98 804 10, 675 32, 863 * 12, 191 7 6, 804 99, 214	11, 140 7, 819 1, 662, 099 21, 939 31, 045 43, 833 52, 946 3, 241 15, 289 1, 138 1, 896 322, 074 174, 919 9, 269	597 11, 928 1, 165 5, 550 58 9, 366 13, 579	21, 570 10, 798 10, 114 1, 027, 395 6 127, 445 52, 278 33, 806 64, 478 3, 111 2, 022 783 216, 946 57, 984 15, 920	4, 994 11, 725 191 1, 435 3, 928 197 14, 493 16, 955	44, 443 84, 241 98, 301 3, 102 2, 795 1, 499 139, 131 15, 192 747	3, 329 12, 383 34, 414 768 2, 679

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.

Table 354.—Peanuts used in the production of oil, United States, 1919-1924.

Year ending June 30.	July- Sept.	Oct - Dec.	Jan Mar.	Apr June.	Year.
1918–19 1919–20 1920–21 1921–22 1921–23 1923–24	1,000 pounds. 12,694 15,715 37,538 4,690 938	1,000 pounds. 4,350 27,351 38,281 13,126 6,137	1,000 pounds. 1 70, 936 5, 861 26, 202 43, 038 7, 054	1,000 pounds. 1116,240 9,261 42,990 26,159 8,409	1,000 pounds. 32,166 112,258 145,016 33,279

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census. tities reported in terms of "hulled" have been converted to "in the hull" basis by dividing by .67.

<sup>&</sup>lt;sup>1</sup> Java and Madura only.
<sup>2</sup> International Institute of Agriculture, Oleaginous Products and Vegetable Oils.

<sup>3</sup> Two-year average.

<sup>4</sup> One year only.
5 Eight months, May-December.
6 Reports include some sesamum.

<sup>1</sup> Includes peanuts "in the hull" which were not reported separately.

## PEANUT OIL.

Table 355.—Peanut oil: International trade, calendar years, 1909-1922.

Country.		Average 1909- 1913. <sup>1</sup>		920	19	21	21 192 prelimi	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. China. Dutch East Indies. France. Netherlands. Spain.	1,000 pounds. (2) 4 2,090 142 2,743	1,000 pounds. 3 35, 593 4 45 50, 967 18, 569 29	1,000 pounds. (2) 1 1,044 18,277 2,270	1,000 pounds. 110, 170 1 1, 947 29, 321 8, 703 173	1,000 pounds. (2) 1 1,776 10,405 14,280	1,000 pounds. 61, 555 1 2, 457 82, 805 18, 115	1,000 pounds. (2) 2,138 17,716	1,000 pounds. 51, 136 49, 339 20, 781
PRINCIPAL IMPORTING COUNTRIES.								
Algeria. Belgium Denmark Germany Hongkong	(2) 2, 233 2, 941 1, 602	(2) 2, 065 3 156	7, 283 4, 036 948 (²)	1, 703 391	30, 910 4, 434 1, 342 1 11, 453	694 4, 529 662	4, 618 3, 047 5, 959 27, 558	3, 671 5, 344 21, 746
Italy Morocco Norway Philippine Islands Sweden United Kingdom United States Other countries	8, 867 (2) (2) (3) 3 976 2, 459 (2) 5 7, 295 4, 376	3 4 (2) (2) (2) (2) (2) (384	12, 253 1, 369 3, 678 1, 538 1, 859 22, 154 95, 124 1, 378	537 (2) 323 2, 410 1, 425 1, 408	28, 159 2, 545 6, 078 2, 712 3, 695 19, 907 3, 021	61 604 (2) 72 7, 605 1, 708 391	7, 846 3, 119 	7, 939 963
Total	35, 724	107, 812	173, 211	158, 573	141, 463	181, 258	98, 614	160, 944

Division of Statistical and Historical Research. Official sources except where otherwise noted. Conversions made on the basis of 7.5 pounds to the gallon.

<sup>&</sup>lt;sup>1</sup>International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
<sup>2</sup>Not separately stated.
<sup>3</sup>Four-year average.
<sup>4</sup>Two-year average.
<sup>5</sup>Three-year average.

#### SUGAR.

Table 356.—Sugar beets and beet sugar: Production in the United States, 1914–1923.

				1923.					
		Acreage.2		Produ	ection.	Yield I	oer acre.	Aver-	
State and year.1	Planted	Harve Area.	Per cent of plant-ed.	Quantity harvested.	Quantity worked (sliced).	As har- vested.	As worked (sliced).	age price per ton to grow- ers.	Farm value.
California: 1919	Acres. 130, 000 136, 000 136, 000 62, 000 70, 000	Acres. 107, 000 123, 000 121, 000 57, 000 61, 000	Per cent. 82. 76 90. 50 88. 89 92. 29 86. 25	Short tons. 816, 000 1, 074, 000 1, 046, 000 424, 000 581, 000	Short tons. 805, 000 1, 052, 000 1, 040, 000 424, 000 579, 000	Short tons. 7. 61 8. 74 8. 67 7. 40 9. 59	Short tons. 7.51 8.56 8.62 7.38 9.55	Dol- lars. 14. 17 13. 13 7. 51 10. 14 13. 57	Dollars. 11, 561, 000 14, 096, 000 7, 851, 000 4, 306, 000 7, 883, 000
1920	254, 000	183, 000	77. 28	1, 765, 000	1, 656, 000	9. 66	9. 07	10. 85	19, 143, 000
	254, 000	220, 000	86. 69	2, 325, 000	2, 166, 000	10. 58	9. 85	11. 88	27, 627, 000
	214, 000	200, 000	93. 49	2, 279, 000	2, 159, 000	11. 39	10. 79	6. 37	14, 521, 000
	165, 000	148, 000	89. 33	1, 466, 000	1, 422, 000	9. 93	9. 63	7. 79	11, 426, 000
	182, 000	164, 000	90. 44	1, 996, 000	1, 890, 000	12. 15	11. 50	7. 59	15, 156, 000
1919	54, 000	30, 000	56. 48	203, 000	197, 000	6. 70	6. 49	11. 00	2, 235, 000
	58, 000	45, 000	78. 32	396, 000	405, 000	8. 77	8. 97	12. 10	4, 787, 000
	53, 000	41, 000	78. 49	380, 000	355, 000	9. 18	8. 57	6. 00	2, 279, 000
	33, 000	24, 000	71. 08	273, 000	258, 000	11. 59	10. 94	8. 28	2, 262, 000
	47, 000	43, 000	90. 00	498, 000	447, 000	11. 68	10. 95	7. 21	3, 590, 000
Michigan: 1919 1920 1921 1922 1923 Nebraska:	166, 000	123, 000	74. 28	1, 211, 000	1, 032, 000	9. 82	8. 36	12. 52	15, 158, 000
	164, 000	150, 000	91. 31	1, 313, 000	1, 244, 000	8. 78	8. 32	10. 08	13, 236, 000
	164, 000	148, 000	90. 27	1, 153, 000	1, 117, 000	7. 80	7. 55	6. 10	7, 041, 000
	106, 000	84, 000	78. 98	692, 000	648, 000	8. 23	7. 72	7. 22	4, 994, 000
	131, 000	109, 000	83. 31	883, 000	815, 000	8. 11	7. 49	9. 33	8, 240, 000
1920 1921 1922 1923 <sup>3</sup>	65, 000 79, 000 72, 000 55, 000 60, 000	59, 000 72, 000 72, 000 55, 000 58, 000	91. 22 91. 63 100. 65 100. 66 96. 38	601, 000 718, 000 773, 000 703, 000 640, 000	554, 000 670, 000 730, 000 671, 000 597, 000	10. 16 9. 93 10. 72 12. 78 11. 04	9. 37 9. 26 10. 12 12. 21 10. 30	10. 90 11. 96 6. 59 7. 79 7. 45	6, 546, 000 8, 587, 000 5, 093, 000 5, 477, 000 4, 769, 000
1919	37, 000	31, 000	83. 29	327, 000	292, 000	10. 58	9. 43	12. 75	4, 168, 000
1920	54, 000	49, 000	91. 28	436, 000	382, 000	8. 86	7. 77	9. 89	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 <sup>8</sup>	46, 000	41, 000	90. 94	391, 000	367, 000	9. 43	8. 85	9. 25	3, 616, 000
1919	110, 000	103, 000	94. 12	1, 016, 000	908, 000	9. 84	8. 80	10. 97	11, 148, 000
	116, 000	113, 000	96. 96	1, 390, 000	1, 261, 000	12. 35	11. 20	12. 03	16, 713, 000
	111, 000	112, 000	101. 24	1, 152, 000	1, 084, 000	10. 26	9. 66	5. 47	6, 300, 000
	80, 000	73, 000	90. 77	819, 000	775, 000	11. 29	10. 69	7. 96	6, 519, 000
	84, 000	83, 000	98. 56	1, 075, 000	1, 008, 000	12. 91	12. 10	7. 08	7, 611, 000
1919	16, 000 29, 000 18, 000 13, 000 20, 000	12, 000 21, 000 17, 000 8, 000 15, 000	74. 69 71. 33 91. 48 63. 42 73. 87	117, 000 190, 000 148, 000 67, 000 122, 000	106, 000 169, 000 133, 000 65, 000 113, 000	9. 71 9. 19 8. 82 8. 27 8. 36	8. 73 8. 16 7. 96 7. 75	12. 02 10. 20 7. 00 7. 22 8. 70	1, 411, 000 1, 940, 000 1, 034, 000 484, 000 1, 064, 000
Other States: 1919	76, 000	44, 000	56. 61	365, 000	338, 000	8. 39	7. 77	11. 08	4, 050, 000
	88, 000	79, 000	88. 54	696, 000	642, 000	8. 75	8. 07	11. 52	8, 025, 000
	78, 000	71, 000	89. 66	587, 000	548, 000	8. 23	7. 69	6. 26	3, 677, 000
	64, 000	55, 000	88. 35	519, 000	494, 000	9. 23	8. 79	7. 77	4, 036, 000
	92, 000	83, 000	90. 99	820, 000	749, 000	9. 82	8. 99	8. 37	6, 860, 000
United States:  1914	515, 000	483, 000	93. 94	5, 585, 000	5, 288, 000	11. 60	10. 90	5. 45	30, 438, 030
	664, 000	611, 000	92. 02	6, 511, 000	6, 150, 000	10. 70	10. 10	5. 67	36, 950, 000
	768, 000	665, 000	86. 57	6, 228, 000	5, 920, 000	9. 36	8. 90	6. 12	38, 139, 000
	807, 000	665, 000	82. 43	5, 980, 000	5, 626, 000	9. 00	8. 46	7. 39	44, 192, 000
	690, 000	594, 000	86. 13	5, 949, 000	5, 578, 000	10. 01	9. 39	10. 00	59, 494, 000
	890, 000	692, 000	77. 77	6, 421, 000	5, 888, 000	9. 27	8. 50	11. 74	75, 420, 000
	978, 000	872, 000	89. 08	8, 538, 000	7, 991, 000	9. 79	9. 17	11. 63	99, 324, 000
Av. 1914-1920	759, 000 882, 000 606, 000 732, 000	655, 000 815, 000 530, 000 657, 000	92. 36 87. 50 89. 82	6, 459, 000 7, 782, 000 5, 183, 000 7, 006, 000	6, 063, 000 7, 414, 000 4, 963, 000 6, 565, 000	9. 87 9. 55 9. 77 10. 66	9. 26 9. 10 9. 36 9. 99	8. 49 6. 35 7. 22 8. 39	54, 851, 000 49, 392, 000 40, 950, 000 58, 789, 000

<sup>&</sup>lt;sup>1</sup>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. 
<sup>2</sup>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. 
<sup>3</sup> Prenminary.

Table 356.-Sugar beets and beet sugar: Production in the United States, 1914-1923—Continued.

			1923	ontinued	1.				
		Aver-				ysis of ets.		very of	
State and year.1	Fac- tories oper- ating.	age length of cam- paign.	Sugar made (chiefly refined).	Beets worked (sliced).	Per- cent- age of su- crose.2	Purity coeffi- cient.3	Percent- age of weight of beets	Per- centage of total sucrose in beets.	Loss.5
California:	No. 10	Days.	Shor tons.	Short tons.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
1919 1920	1 . 10	76 90 84	131, 000 168, 000 171, 000	805,000 1,052,000 1,040,000 424,000	17. 87 17. 66 17. 80	82. 02 81. 44 81. 46	16. 30 15. 97	91. 21 90. 43 92. 58	1. 57 1. 69
1921 1922 1923 <sup>6</sup> Colorado:		74 88	73, 000 100, 000	424, 000 579, 000	18. 48 18. 35	82. 71 82. 94	16. 48 17. 28 17. 33	93. 51 94. 44	1. 32 1. 20 1. 02
1919 1920 1921 1922 1923 6	15 17	87 98	194,000 294,000	1, 656, 000 2, 166, 000	13. 62 15. 81	83. 85 85. 15	11. 71 13. 60	85. 98 86. 02	1. 91 2. 21
1921	15 15	95 63	294, 000 295, 000 183, 000	2, 159, 000 1, 422, 000 1, 890, 000	15. 66 14. 66	83. 28 82. 69	13. 66 12. 90	87. 23 87. 99	2. 00 1. 76
1923 <sup>6</sup> Idaho:	16	78	240, 000	1, 890, 000	14. 59	82. 34	12.73	87. 25	1. 86
1919 1920	6 8	50 72	26, 000 57, 000	197, 000 405, 000	15. 48 16. 26	86. 15 86. 42	13. 29 13. 98	85. 85 85. 98	2. 19 2. 28
1921 1922 1923 <sup>6</sup>	7 5	60 55	57, 000 40, 000	355, 000 258, 000	17. 45 16. 58	86. 54 86. 21	15. 99 15. 44	91. 63 93. 12	1. 46 1. 14
	9	61	68, 000	447, 000	16. 39	86.74	14. 64	89. 32	1. 75
1919	16 17	84 87	130, 000 166, 000 122, 000	.1, 032, 000 1, 244, 000 1, 117, 000	14. 57 15. 79	81. 78 84. 04	12. 63 13. 34	86. 68 84. 48	1. 94 2. 45
1920	17 15	71 48	122, 000 81, 000	1, 117, 000 648, 000	13. 28 14. 38	81. 68 84. 16	10. 95 12. 52	82. 45 87. 07	2. 33 1. 86
	16	57	110, 000	815, 000	15. 29	84. 40	13. 51	88. 36	1. 78
1919 1920 1921 1922 1923 <sup>6</sup>	4 5	112 110	61, 000 90, 000	554, 000 670, 000	13. 14 15. 74	82. 80 83. 94	10. 99 13. 37	83. 64 84. 94	2. 15 2. 37
1921	5 5	106 92	105, 000 87, 000	730, 000 671, 000 597, 000	16. 60 14. 79	84. 55 84. 26	14. 43 12. 94	86. 93 87. 49	2. 17 1. 85
1923 <sup>6</sup> Ohio:	š	83	74, 000	597, 000	14. 48	82. 38	12, 32	85. 08	2. 16
1919 1920	5 5	79 100	32, 000 47, 000	292, 000 382, 000	14, 15 15, 44	82. 73 82. 45	10. 93 12. 31	77. 24 79. 73	3. 22 3. 13
1921 1922 1923 <sup>6</sup>	5 4	62 60	26, 000 25, 000	248, 000	13. 41 14. 65	81. 41 82. 81	10. 46 11. 94	78. 00 81. 50	2. 95 2. 71
1923 6 Utah:	5	79	39, 000	206, 000 367, 000	13. 39	82. 02	10. 54	78. 72	2. 85
1919 1920	18 18	84 102	101, 000 163, 000	908, 000 1, 261, 000	13. 87 15. 62	82. 39 84. 27	11. 12 12. 89	80. 17 82. 52	2. 75 2. 73
1921	18 16	78 55	156, 000 110, 000	1, 084, 000   775, 000	16. 52 16. 11	84. 72 85. 17	14. 37 14. 16	86. 99 87. 90	2. 15 1. 95
1922 1923 <sup>6</sup> Wisconsin:	17	67	137, 000	1, 008, 000	15. 66	85. 02	13. 59	86.78	2. 07
1919 1920	· 4	60 80	11,000 21,000	106, 000 169, 000	13. 16 15. 86	81. 73 82. 53	10. 07 12. 40	76. 52 78. 18	3. 09 3. 46
1919	5 4	51 31	21, 000 14, 000 8, 000	169, 000 133, 000 65, 000	13. 47 16. 06	82. 11 83. 14	10. 59 13. 08	78. 62 81. 44	2. 88 2. 98
1923 6 Other States:	4	51	14, 000	113, 000	15. 71	85. 32	12. 33	78. 49	3. 38
1010	11 12	52 70	40, 000 83, 000	338, 000 642, 000	14. 27 15. 46	83. 14 83. 12	11. 95 13. 06	83. 74 84. 48	2. 32 2. 40
1920. 1921. 1922. 1923 <sup>6</sup>	11 10	60 54	74, 000 68, 000 99, 000	548, 000 494, 000 749, 000	15. 41 15. 91 15. 08	81. 89 83. 54	13. 50 13. 79	87. 61 86. 68	1. 91 2. 12
	11	$\frac{71}{}$	99, 000	749, 000		82. 55	13. 12	87.00	1.96
United States: 1914 1915 1916	60 67	85 92	722, 000 874, 000	5, 288, 000 6, 150, 000	16. 38 16. 49	83. 89 84. 38	13, 65 14, 21	83. 33 86. 17	2. 73 2. 28
1916	74 91	80 74	821, 000 765, 000	5, 920, 000 5, 626, 000	16. 30 16. 28	84. 74 83. 89	13. 86 13. 60	85. 03 83. 54	2. 44 2. 68
1917 1918	89 89	81 78	761, 000 726, 000	5, 578, 000 5, 888, 000	16. 18 14. 48	84, 70 82. 84	13. 64 12. 34	84. 30 85. 22	2. 54 2. 14
1918 1919 1920	97	91	1, 089, 000	7, 991, 000	15. 99	83. 96	13. 63	85. 24	2. 36
A verage 1914–1920	$\frac{81}{92}$	83	823, 000 1, 020, 000	6, 063, 000 7, 414, 000	16. 01 15. 77	83. 09	13. 57	84. 75 87. 25	2. 44
1922	81 89	58 70	675, 000 881, 000	4, 963, 000 6, 565, 000	15. 44 15. 34	83. 76 83. 43	13. 61 13. 41	88. 15 87. 42	1. 83 1. 93
1923 <sup>6</sup>	09	10	001,000	0, 000, 000	10.01	00. 10	10, 11	U., 12	

Preliminary.

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.

Based upon weight of beets.

Percentage of sucrose (based upon weight of beets)

Percentage of sucrose (based upon weight of beets) remaining in molasses and pulp.

Table 357.—Cane sugar: Production in Louisiana, 1911-1923.

	Facto-		Average	Can	e used for	r sugar.	Molasses	Molasses made.3		
Year.1	ries in opera- tion.	Sugar made. <sup>2</sup>	made per ton of cane.	Area.	Average per acre.	Produc- tion.	Total.	Per ton of sugar.		
	Num-	Short			Short			Gal-		
	ber.	tons.	Pounds.	Acres.	tons.	Short tons.	Gallons.	lons.		
1911-12	188	352, 874	120	310, 000	19	5, 887, 292	35, 062, 525	99		
1912-13	126	153, 573	142	197, 000	11	2, 162, 574	14, 302, 169	93		
1913-14	153	292, 698	139	248, 000	17	4, 214, 000	24, 046, 320	82		
1914-15	149	242, 700	152	213, 000	15	3, 199, 000	17, 177, 443	71		
1915-16	136	137, 500	135	183, 000	l ii	2, 018, 000	12, 743, 000	93		
1916-17	150	303, 900	149	221, 000	18	4, 072, 000	26, 154, 000	86		
1917-18	140	243, 600	128	244, 000	15.6	3, 813, 000	30, 728, 000	126		
1918-19	134	280, 900	135	231, 200	18	4, 170, 000	28, 049, 000	100		
1919-20	121	121,000	129	179, 900	10.5	1, 883, 000	12, 991, 000	107		
1920-21	122	169, 127	136	182, 843	13. 6	2, 492, 524	16, 856, 867	100		
Average 1914-1920	136	214, 104	138	207, 849	14. 9	3, 092, 503	20, 671, 330	97		
1921-22	124	324, 431	155	226, 366	18. 5	4, 180, 780	25, 423, 341	78		
1922-23	112	295, 095	156	241, 433	15. 6	3, 778, 110	22, 718, 640	77		
1923-24		168, 700	129	227, 500	11.5	2, 616, 200	15, 985, 000	95		

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Table 358.—Cane sugar: Production in Hawaii, 1913-1923.

	Aver-		Cane	used fo	r sugar.		Average tion of	
Island, and year ending September 30.	age length of cam- paign.	Sugar made (chiefly raw).	Area harvested.	Average yield per acre.	Production.	Total area in cane.	Per cent of cane.	Per short ton of cane.
				Short				
Island of Hawaii:	Days.	Short tons.	Acres.	tons.	Short tons.	Acres.	Per cent.	Pounds.
1920-21	191	195, 267	52, 600	34	1, 790, 000	108, 200	10. 91	218
1921-22	198	223, 000	55, 000	37	2, 010, 000	106, 000	11. 09	222
1922-23	164	186, 000	<b>52,000</b>	32	1, 681, 000	106,000	11.08	222
Island of Kauai:								
1920-21	219	83, 569	19, 800	45	884, 000	42, 700	9.45	189
1921-22	200	94, 000	23, 000	36	842, 000	43, 000	11. 22	224
1922-23	171	93, 000	21,000	37	782, 000	42,000	11.82	236
Island of Maui:								
1920-21	177	116, 630	19, 200	46	876, 000	38, 500	13.31	266
1921-22		124, 000	19,000	50	971, 000	38, 000	12.76	255
1922-23	136	112,000	17, 000	50	874,000	43, 000	12.81	256
Island of Oahu:								
1920-21	243	126, 113	21, 500	51	1, 107, 000	47, 100	11.39	228
1921-22	243	151,000	27, 000	48	1, 265, 000	42,000	11. 92	238
1922-23	200	146,000	24,000	5 <b>2</b>	1, 223, 000	44,000	11.93	239
Territory of Hawaii:						!	10.01	044
1912 -1913	169	546, 524	_114,600	39	4, 476, 000		12, 21	244
1913-14	183	612, 000	112, 700	43	4, 900, 000		12.49	250
1914-15	195	646, 000	113, 200	46	5, 185, 000	239, 800	12, 46	249
1915-16	180	592, 763	115, 419	42	4, 859, 424	246, 332	12. 20	244
1916-17	190	644, 663	123, 900	42	5, 220, 000	245, 100	12, 35	247
1917-18	184	576, 700	119, 800	. 41	4, 855, 000	276, 800	11.88	238
1918-19	178	600, 312	119, 700	40	4, 744, 000	239, 900	12.65	253
1919-20	175	555, 727	114, 100	39	4, 473, 000	247, 900	12. 42	248
Average 1914-1920	184	604, 024	116, 974	42	4, 890, 918	1 249, 305	12. 35	247
1920-21	202	521, 579	113, 100	41	4, 657, 000	236, 500	11, 20	224
1920-21	199	592, 000	124, 000	41	5, 088, 000	229, 000	11.64	233
1922-23	167	537, 000	114, 000	40	4, 560, 000	235, 000	11. 77	235
1000 20	101	551, 666	11.,000	10	2, 550, 600	200,000		200

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Sugar "campaign," usually not ended before February following season of growth of cane.
 Chiefly raw.
 Figures for molasses, 1911–1914, are as reported by the Louisiana Sugar Planters' Association; figures for later years as reported by Division of Crop and Livestock Estimates.

<sup>11915-1920</sup> average.

Table 359.—Sugar: Production in the United States and its possessions, 1866-1923.

Vh-mii	Beet sugar		Cane	sugar (chiefl	y raw).		
Year beginning July 1	(chiefly refined).	Louisiana.	Other States.	Porto Rico. 1	Hawaii.2	Philippine Islands.3	Total.
	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.
1866-67	4 448	21, 450 20, 700 47, 526 40, 353	3,750	76, 416		61, 818	163, 882
1867-68	4 448	20, 700	5,060	82, 807 91, 280		82, 971	191, 986
1868-69	4 448 4 448	47, 526	2,875	91, 280		77, 076	219, 205
1869-70 1870-71	4448	84, 439	3, 168 4, 713	114, 363 115, 700		77, 076 87, 600 97, 961	245, 932 303, 261
1871-72	4 448	73, 453	4, 723	100, 306 98, 156		106, 989	285, 919 260, 061 247, 212 305, 777
1872-73	560	62, 673	4,743	98, 156		93, 929 111, 742	260, 06
1873-74	784 4 112	67 952	2, 699 3, 868	80, 366 80, 783	12, 541	141, 220	247, 212
1873–74 1874–75 1875–76	1112	51, 621 67, 253 81, 708	4, 532	78, 418	13, 036	143, 903	321, 709
187677	4 112	95, 337	4, 344	69, 821	12, 788	135, 578	317, 980
877-78	4 112	73, 551 119, 739	5, 970 5, 701	94, 469	19, 216	134, 508	327, 826
1878-79	224 1, 344	119, 739	5, 701	85, 580 63, 904	24, 510 31, 792	145, 350 199, 728	381, 104
879-80 880-81	4 560	85, 853 136, 491	3, 583 6, 160	69, 121	46, 894	230, 169	386, 204 489, 395
1881-82	4 560	79, 938	5, 600	89, 674	57, 089	165, 813	398, 674
882-83 883-84	4 560	151, 533	7,840	86, 918	57, 910	216, 973	521, 764
883-84	599 1, 067	143, 856 105, 701	7,616 7,280	110, 505 78, 400	71, 622 85, 676	134, 623 225, 117	468, 821 503, 241
.884-85	672	143, 313	8, 064	71, 680	108, 080	203, 861	535, 670
886-87	896	90, 562	5, 079	96, 320	106, 400	189, 325	488, 582
887-88	286	176, 928	11, 024	67, 200	112, 000	177, 458	544, 896
888-89	2, 084 2, 467	162, 263 146, 062	10, 115 4, 580	69, 440 61, 600	134, 400 134, 400	251, 844 159, 660	630, 146 508, 769
889-90 890-91	3, 874	241, 745	6, 840	56, 000	140, 000	152, 359	600, 818
891-92	6,002	180, 250	5, 040	78, 400	129, 470	278, 663	677, 825
892-93	13, 542	243, 628	5, 600	56, 000 67, 200	156, 800	288, 279 232, 197	763, 849 780, 498
893-94 894-95	22, 596 22, 503	297, 737 355, 414	7,676 9,283	58, 800	153, 092 147, 502	376, 405	969, 907
895-96	32, 726	266, 248	5, 570	56, 000	225, 828	257, 600	843, 972
896-97	42, 040	315, 850	6, 238	64, 960	251, 124	226, 240	906, 452
897-98	45, 246 36, 368	347, 701 278, 497	6, 425 5, 897	60, 480 60, 285	229, 413 282, 808	199, 360 104, 160	888, 625 768, 015
898-99 899-1900	81, 729	159, 583	1, 691	39, 200	289, 544	81, 976	653, 723
900-1	86, 082	308, 648	3, 238	81, 536	360, 036	61, 873	901, 413
901-2	184, 606	360, 277	4,048	103, 152 100, 576	355, 611	75, 011	1, 082, 705
902-3 903-4	218, 406   240, 604	368, 734   255, 894	4, 169 22, 176	138, 096	437, 991 367, 475	123, 108 82, 855	1, 252, 984 1, 107, 100
904-5	242, 113	398, 195	16, 800	151, 088	426, 248	125, 271	1, 359, 715
905-6	312, 921	377, 162	13, 440	214, 480	429, 213	138, 645	1, 485, 861
906-7	483, 612	257, 600 i	14, 560	206, 864	440, 017	132, 602 167, 242	1, 535, 255 1, 776, 328
907-8	463, 628 425, 884	380, 800 397, 600	13, 440 16, 800	230, 095 277, 093	521, 123 535, 156	123, 876	1, 776, 328
909-10	512, 469	320, 526	11, 200	346, 786	517, 090	140, 783	1, 848, 854
910-11	510, 172	342, 720	12, 320	349, 840	566, 821	164, 658	1, 946, 531
911-12	599, 500	352, 874	8,000	371, 076	595, 038	205, 046	2, 131, 534 2, 144, 734
912-13 913-14	692, 556 733, 401	153, 573 292, 698	9,000 7,840	398, 004 351, 666	546, 524 612, 000	5 345, 077 5 408, 339	2, 144, 734
Av. 1909-1913	609, 620	292, 478	9,672	363, 474	567, 495	252, 781	2, 095, 519
1914-15	722, 054	242, 700	3,920	346, 490	646, 000	<sup>5</sup> 421, 192	2, 382, 356
1915-16	874, 220	137, 500 303, 900	1,120	483, 590	592, 763	412, 274	2, 501, 467
1916-17	820, 657	303, 900	7,000	503, 081 453, 794	576 700	5 412, 274 5 425, 266 5 474, 745	2, 704, 567 2, 516, 286
018-10	765, 207 760, 950	243, 600 280, 900	2, 240 3, 500	406, 002	600, 312	5 453, 346	2, 505, 010
916-17 917-18 918-19 919-20	726, 451	121, 000	1, 125	485, 071	644, 663 576, 700 600, 312 555, 727	5 466, 912	2, 356, 286
920-21	1, 089, 021	169, 127	6, 987	489, 818	521, 579	5 608, 499	2, 885, 031
Av. 1914-1920	822, 651	214, 104	3, 699	452, 549	591, 106	<sup>5</sup> 466, 033	2, 550, 143
	1,020,489	324, 431	3, 270	408, 325	592, 000	<sup>5</sup> 533, 189	2, 881, 704
921-22 922-23	675, 000	295, 095 168, 748	640	379, 172	537, 000		

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Beet sugar 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 Rice production previous to 1885–86 from Rueb & Co.; 1885–86 through 1899–1900 from Willett & Gray; 1900–1901 hrough 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 Hawaiian Sugar Planters Association.

<sup>11900-1906</sup> shipments from Porto Rico to the United States.
2 Statistics for Hawaii 1874-1880 represent exports.

Exports.

Estimated average production.

Production.

Table 360.—Sugar: Production, trade, and consumption of continental United States, 1866-1923. \(^1\)

	Pro-	Brought from in-	Net im- ports from	Domestic	Consur	nption.5
Year beginning July 1.	duction.	sular pos- sessions.2	foreign countries.3	exports.4	Total.	Per capita.
1000 05	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds. 880, 010	Pounds. 24, 4
1866–67	51, 296 52, 416		836, 844 1, 105, 078	8, 130 2, 218	1, 155, 276	31. 4
1868-69	101, 697 87, 939		1, 105, 078 1, 230, 005 1, 196, 774	3, 168	1, 328, 534	35. 4
1869–70 1870–71	87, 939 179, 201		1, 196, 774	4, 428 3, 841	1, 280, 285 1, 442, 471	33. 5 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, 208 142, 466		1, 681, 988 1, 786, 310	10, 133 24, 152	1, 782, 063 1, 904, 624	41. 7 43. 4
1874–75	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 72, 353	1, 646, 594	34. 8 41. 3
1878–79 1879–80	201, 328 181, 560		1, 823, 977 1, 818, 803	30, 142	2, 002, 952 1, 970, 221	39.7
1880-81	199, 586 159, 265 251, 328 181, 560 286, 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, 866 304, 143		2, 135, 809 2, 747, 007	28, 542 76, 123	2, 427, 133 2, 975, 027	45. 4 48. 0
1883–84 1884–85	228, 098		2, 712, 461	252, 740	2, 687, 819	54. 3
1885-86	30 <b>4</b> , 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 50. 4
1887-88	376, 475 348, 925 306, 219		2, 674, 531 2, 756, 711	34, 646 14, 259	3, 016, 360 3, 091, 377	50. 4
1889–90 1890–91	306, 219		2, 913, 741	27, 225	3, 192, 735	51. 2
	504, 918		3, 478, 960	108, 433	3, 875, 445	60.8
1891-92	382, 584 525, 539		3, 551, 945 3, 757, 959	14, 850 20, 746	3, 919, 679	60. 3 64. 3
1892–93 1893–94	656, 018		4, 296, 338	15, 468	4, 262, 752 4, 936, 888	73.0
1894-95	774, 399		3, 556, 805	9, 529	4, 321, 675 4, 494, 682	62.7
1895–96	609, 087		3, 894, 998	9, 403		64. 0 78. 3
1896-97 1897-98	728, 257 798, 744 641, 525		4, 878, 440 2, 676, 502	8, 305 6, 508	5, 598, <b>3</b> 92 3, 468, 738	47. 6
1898-99	641, 525		3, 973, 152	9, 865	4, 604, 812	62.1
1899–1900 1900–1	486, 007 795, 936	832, 776	4, 013, 683 3, 965, 050	22, 515 8, <b>532</b>	4, 477, 175 5, 585, 230	59. 3 72. 6
	1, 097, 862	915, 794	3, 014, 342	9, 126	5, 018, 872	63. 9
1901-2 1902-3	1, 182, 616	1, 019, 742	4, 193, 568	14, 214	6, 381, 712 5, 694, 964	79. 6
1903-4	1, 037, 348	1, 019, 742 1, 057, 294	3, 619, 966	19, 644	5, 694, 964 6, 075, 598	69. 6 72. 8
1904-5	1, 314, 216	1, 182, 038	3, 600, 842	21, 498 26, 532	6, 511, 628	76.6
1905-6 1906-7	1, 407, 046 1, 511, 544	1, 226, 520 1, 254, 330	3, 904, 594 4, 358, 318	20, 532 29, 696	7, 094, 496	81. 9
1907-8	1, 511, 544 1, 715, 736	1, 585, 184 1, 594, 964	3, 327, 498	34, 010	6, 594, 408	74.7
1908-9	1, 680, 568		4, 103, 126	89, 226	7, 289, 432	81. 1
1909-10 1910-11	1, 765, 260 1, 806, 950	1, 855, 504 1, 887, 402	3, 869, 508 3, 690, 558	144, 764 73, 195	7, 345, 508 7, 311, 715	80. 3 78. 6
1911–12	2, 010, 673	2, 375, 326	3, 664, 848	l 100, 760	7, 950, 087	84. 2
1912–13	1, 814, 141	2,053,944 1,872,752	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			91,005	7, 969, 817	84. 3
Av. 1909–1913	1, 914, 982	2,008,986	4, 136, 854 5, 059, 926	605, 283	8, 696, 927	88. 2
1914–15 1915–16	2, 045, 656 2, 156, 813	2, 196, 628 2, 204, 114	5, 378, 134	1, 765, 728	7, 973, 333	79. 7
1916-17	2, 386, 213	2, 204, 114 2, 407, 876	5, 055, 968	1, 353, 505	8, 496, 552	83. 7 79. <b>4</b>
1917–18 1918–19	2, 136, 875 2, 204, 842	1, 951, 368 2, 147, 888	4, 689, 632 5, 599, 924	610, 858 1, 137, 133	8, 167, 017 8, 815, 521	84. 5
1919-20	1, 806, 120	1, 951, 470	7, 625, 910	1, 553, 005	9, 830, 495	93. 0
1920-21	2, 693, 623	2, 152, 684	6, 456, 558	638, 178	10, 664, 687	99. 6
Av. 1914-1920	2, 204, 306	2, 144, 575	5, 695, 150	1,094,813	8, 949, 219	86. 9
	0 040 450	0 001 804	7 001 554	2, 170, 698	11, 242, 043	103. 6
1921-22 1922-23	2, 849, 453 2, 042, 720	2, 681, 734 2, 470, 098	7, 881, 554 7, 825, 406	824, 394	11, 513, 830	104. 7

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Trade figures, Department of Commerce.

Predominately raw except beet sugar production and domestic exports which are chiefly refined; 1909 to date production and domestic exports converted to raw.
 From Hawaii, Porto Rico, and Philippine Islands (Virgin Islands included, 1917-18 and subsequently).
 Cuba included. Philippine Islands excluded 1900-1901 and subsequently.
 Shipments to Hawaii and Porto Rico included.
 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 consump- tion.	Year beginning July 1.	Quantity.	Per cent of United States consump- tion.
	1,000			1,000	
	pounds.	Per cent.		pounds.	Dom soud
1866-67	642, 191	73. 0	1896-97	577, 790	Per cent.
1867-68	861, 149	74. 5	1897-98	440, 225	10. 3
1868-69	904, 764	68. 1	1898-99		12.7
1869-70	801, 637	62. 6	1899-1900	663, 544	14.4
1870-71	759, 995	52. 7	1000-1	705, 456	15.8
i	100,000	32. 1	1900-1	1,099,404	19. 7
1871-72	877, 166	53. 2	1901-2	984, 217	19.6
1872-73	940, 069	56.3	1902-3	2, 396, 498	37.6
1873-74	1, 223, 665	68. 7	1903-4	2, 819, 558	37. 0 49. 5
1874-75	1,090,654	57. 3	1904-5	2,019,000	
1875-76	1,008,415	63. 1		2, 057, 684	33. 9
1876-77	000 101		1905-6	2, 781, 901	42.7
1077 70	926, 164	51. 1	1906-7	3, 236, 466	45. 6
1877-78	904, 731	54. 9	1907-8	2, 309, 189	35. 0
1878-79	1, 275, 839	63. 7	1908-9	2, 862, 260	39. 3
1879-80	1, 087, 332	55. 2	1	=======	50.0
1880-81	1, 056, 905	48. 0	1909-10	3, 509, 658	48. 2
1881–82			1910-11	3, 347, 606	46. 2
1001-02	1, 107, 580	51. 7	1911-12	3, 186, 634	40. 5
1882-83	1, 139, 794	47.0	1912-13	4, 311, 782	52. 3
1883-84	1, 191, 234	40.0	1913-14	4, 926, 606	56. 0
1884-85	1, 115, 046	41.5		2, 020, 000	
1885-86	1, 210, 504	43. 0	Av., 1909-1913	3, 856, 457	48. 7
1886–87	1, 394, 716	44. 6	1914–15	4 704 000	
1887-88	1, 209, 175	40. 1	1015 10	4, 784, 888	<b>5</b> 5, <b>4</b>
1888-89	1, 032, 086	33. 4	1915-16	5, 150, 852	64. 7
1889-90	1, 041, 076		1916-17	4, 669, 097	55. 1
1890-91	1, 430, 566	32. 6	1917-18	4, 560, 750	56. 3
1000-81	1, 430, 300	36. 9	1918-19	5, 488, 711	62. 5
1891–92	1 000 740		1919-20	6, 905, 710	70. 3
1091-92	1, 983, 540	50. 6	1920-21	4, 925, 631	46. 7
1892-93	1, 843, 652	43. 3	' I-		
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
1	1	II.	1922-23	7, 730, 592	67. 5

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Table 362.—Sugar beets: Area and yield per acre in undermentioned countries.

			Area.				Yi	eld per a	ere.1	
Country.	Aver- age 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.	Aver- age 1909- 1913.	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA.  Canada United States	1,000 acres. 17 485	1,000 acres. 36 872	1,000 acres. 28 815	1,000 acres. 21 530	1,000 acres. 22 651	Short tons. 9. 4 10. 0	Short tons. 11. 4 9. 8	Short tons. 9.4 9.6	Short tons. 9.0 9.8	Short tons. 8.1
Total com- parable with 1923	502	908	843	<b>5</b> 51	673					
EUROPE.  England and Wales Sweden Denmark Netherlands Belgium France Spain Italy Switzerland Germany Austria. Czechoslovakia. Hungary Yugoslavia. Bulgaria Rumania. Poland Finland Russia, excluding Congress Poland	7 1, 532	3 108 95 166 131 258 179 114 2 805 18 18 517 77 73 39 23 14 175 2	8 120 1826 182 143 298 103 159 3 962 119 544 103 411 300 57 17 197 3	8 41 600 138 149 3223 138 203 3 3 1,031 28 519 103 48 24 524 2770 3	17 106 78 78 166 179 365 153 210 3 3970 32 571 135	13. 3 2 13. 7 13. 7 12. 3 2 10. 7 3 8. 3 2 15. 2 2 12. 6 2 11. 5 3 8. 8 8 8. 1 9. 3 6 9. 1	10. 6 9. 8 12. 7 12. 1 10. 5 11. 3 11. 6 10. 2 9. 2 9. 2 5. 8 3. 9 7. 0 8. 7	13. 6 11. 2 16. 4 11. 3 7. 6 7. 9 12. 1 9. 1 5. 4 8. 2 5. 8 5. 1 4. 3 6. 3	12. 3 10. 5 14. 5 12. 6 11. 2 11. 8 12. 2 11. 5 6. 8 11. 1 7. 6 7. 2 9. 8 6. 8	10.3 11.4 11.1 9.7 8.8 12.3 9.7 7.4 10.0 7.2 2 9.5
Total com- parable with 1909-1913 Total com- parable with 1923 World total comparable	5, 253	2, 687	3, 017	3, 095	3, 464					
with 1909- 1913 World total comparable with 1923	5, 755	3, 595	3, 860	3, 646	4, 137		<b>-</b>			

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture.

<sup>1</sup> Yields per acre not calculated where total area was less than 10,000 acres.
2 Old boundaries.
3 Three-year average.
4 Two-year average.

Four-year average, Former Kingdom of Serbia.
Congress Poland.

<sup>7</sup> Includes a small area in Siberia.

Table 363.—Sugar beets: Production in undermentioned countries.

Country	Aver- age 1909- 1913.	1917	1918	1919	1920	1921	1922	1923, pre- limi- nary.
NORTH AMERICA. Canada United States. Totals comparable with 1923	4,860	1,000 short tons. 118 5,980 6,098	1,000 shor t tons. 180 5,949 6,129		1,000 short tons. 412 8,538 8,950	1,000 short tons. 268 7,782 8,050	1,000 short tons. 190 5, 183	
EUROPE.  England and Wales Sweden Denmark Netherlands Belgium France Spain Italy Switzerland Germany Austria Czechoslovakia Hungary Yugoslavia Bulgaria Rumania Poland Finalnd Russia, excluding Congress Poland Total comparable with 1909- 1913 Total comparable with 1923 World total comparable with 1909-1913	1, 036 1, 861 1, 977 1, 770 1 6, 499 949 1 1, 982 226 1 15, 697 1 4, 021 2 8 105 57 298 41, 541 5 10, 977 5 4, 749 42, 508	3, 086		193 31 1,368 9	1, 146 934 2, 100 1, 585 2, 715 2, 025 1, 323 31 8, 748 144 5, 270 90 98 1, 526 11	73 1, 636 957 2, 985 1, 613 2, 271 809 1, 930 4, 788 598 208 129 388 1, 244 14	62 503 631 2, 004 1, 874 3, 626 1, 624 2, 486 37 11, 896 784 345 236 365 2, 945 13	1, 097 1, 889 1, 994 3, 552 1, 345 2, 589 35 9, 381 237 5, 687 972 169 3, 353
World total comparable with	59, 769 47, 528				36, 358	34, 699	39, 354	39, 382

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture.

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, prelimi- nary. <sup>1</sup>
NORTH AMERICA. Canada United States	Short tons. 11, 160 641, 705	12, 303		19,916	46, 989	27, 822	15, 743	16, 200
Total North America	652, 865	817, 784	827, 364	784, 601	1, 193, 327	1, 101, 822	726, 743	947, 200
EUROPE.								
Austria Czechoslovakia Hungary Jugoslavia	153, 739 3 127, 091 4 246, 391 276, 075 8 07, 887 115, 727 2 08, 675 6 3, 784 3 2, 251, 186 3 1, 079, 708 3 492, 864 5, 09, 676	148, 700 4 214, 891 130, 797 234, 843 154, 317 104, 987 9, 900 1, 726, 483 542, 802	155, 800 181, 986 66, 031 129, 105 169, 223 122, 904	149, 053 4 251, 891 257, 997 181, 882 91, 089	342, 633 264, 492 357, 711 234, 025 140, 994 4, 700	155, 755 411, 534 315, 372	94, 136 308, 473	
Bulgaria	4, 376		7, 103	13, 391	10, 452	14, 042	19, 333	

Old boundaries.
 Four-year average.
 Former Kingdom of Serbia.

Congress Poland.
 Includes a small amount grown in Siberia.

<sup>&</sup>lt;sup>1</sup> Unofficial. <sup>2</sup> Official. <sup>3</sup> Old boundaries.

<sup>Includes a small amount of refined.
Four-year average.
Former Kingdom of Serbia.</sup> 

Table 364.—Sugar: Production in undermentioned countries—Continued. BEET SUGAR, IN TERMS OF RAW SUGAR-Continued.

Country.	A verage 1909–1913.	1917–18	1918–19	1919–20	1920-21	1921-22	1922-23	1923-24, prelimi- nary.
EUROPE—continued. Ruman'a	Short tons. 39, 229 7 233, 641 8 1, 594, 371	9, 193 263, 200	2, 759	5, 439	194, 800 891	33, 069 198, 326 2, 244	1 55, 857 294, 000 1, 746	88, 000 397, 000
Total European countries com- parable with 1909-1913 Total European countries com- parable with 1923-24	7, 644, 370				4, 101, 080	, ,	, ,	
World total com- parable with 1909-1913 World total com- parable with 1923-24	8, 297, 235				5, 294, 407 5, 283, 955	5, <b>44</b> 3, 277	<b>5,</b> 69 <b>2, 2</b> 95	

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## CANE SUGAR (RAW).

					ī ———			
NORTH AND CENTRAL AMERICA.								
United States	310, 837	245, 840	284, 400	122, 125	176, 114	397 700	10 295, 100	<sup>2</sup> 172, 200
Hawaii	567, 495	576, 700	600, 312					
Porto Rico			406, 002					
Porto Rico	363, 474	400, 194			489, 818		1 1 1 040	
Virgin Islands	9, 613	6,048	10,080	13, 888	5, 040	5, 600	1 1, 948	2, 200
Central America:		0.40		l	1	ŀ	1	
British Honduras	575						l	
Costa Rica	2, 791					1 4, 500	1 4, 500	
Guatemala			14,816	16, 330	19, 286	27, 383		
Nicaragua	3, 742			16,000		14, 881	12,677	
Salvador	11 18, 084	20, 385	30, 515	21, 893		1 17, 000	1 17,000	
Panama				1 2, 100		1 3, 028	1 12.787	
Mexico	163, 388		73, 243	101, 000	89, 393	1 140, 797	1 164, 614	
West Indies:			,		01,011	,		
British—	1			ŀ				
Antigua	12, 919	1 10, 538	12, 588	14, 659	11, 721	1 11, 032	1 14, 159	11,000
Barbados	27, 788							
Jamaica	23, 856		39, 383		45, 037			36, 960
Montserrat 13	25, 650	330	09, 000			- 41, 221	- 30, 992	30, 900
			46					
St. Christopher	13, 252		11, 318	13, 457				11,000
St. Lucia 12	5, 437	4,719		4, 137		4, 498		
St. Vincent 13	315	632	158		175	75		
Trinidad and								
Tobago	51, 275	79, 140						
Cuba	2, 287, 052	3, 889, 966	4, 490, 902	4, 183, 676	4, 406, 413	4, 517, 470	14, 033, 798	4, 271, 000
Dominican Re-								
public	104, 664	139, 066	184, 849	197, 388	184, 850	205, 974	206, 272	224,000
Haiti	İ			3, 551	3, 431	11, 352	1 11, 000	11,000
French—							- ,	
Guadeloupe	40, 810	29, 341	21, 324	26, 032	31, 327	35, 737	1 33, 600	29,000
Martinique	42, 782							
mai unique	12, 102	22,001	0, 210	10, 11.	00, 200	22, 100	- 22,001	
Total North								
and Cen-				1				
tral Amer-								
ica compara-								
ble with 1909								
-1913	4, 059, 299							
Total North				!				
and Cen-								
tral Ameri-								
ca compara-								
ble with								
1923-24				5, 810, 650	6, 034, 021	6, 325, 406	5, 707, 442	5, 896, 360

Unofficial.
 Official.
 Congress Poland.
 Exclusive of Congress Poland.

 <sup>&</sup>lt;sup>9</sup> Exclusive of part o fregion of Kiev, Ukraine.
 <sup>10</sup> The State of Louisiana only.
 <sup>11</sup> One year only.
 <sup>12</sup> Exports.

Table 364.—Sugar: Production in undermentioned countries—Continued. CANE SUGAR (RAW)-Continued.

							,
A verage 1909–1913.	1917–18	. 1918–19	1919–20	1920-21	1921–22	1922-23	1923-24, prelimi- nary.
Short tons. 17, 059 2, 649, 480 192, 299 75, 718	6, 297 3, 846, 000 378, 661	6, 921 2, 762, 000 321, 594	7, 452 3, 404, 000 246, 049	13, 264 2, 825, 000 278, 587	15, 456 2, 925, 000 368, 046	15, 588 3, 347, 000 391, 730	13, 000 3, 388, 000 412, 369
1, 485, 236 294, 380	2, 055, 839 474, 745	1, 988, 002 453, 346	1, 540, 666 466, 913	1, 747, 594 589, 437	1, 906, 032 501, 992	1, 992, 786 1 588, 000	<sup>2</sup> 1, 971, 038
4, 714, 172	6, 863, 213	5, 627, 009	5, 7 <b>44</b> , 961	5, 558, 563	5, 827, <b>4</b> 26		
4, 344, 074	6, 286, 797	5, 078, 517	5, 198, 167	4, 864, 445	5, 214, 534	5, 747, 104	5, 784, 407
193, 853 18 <b>33</b> 2, 813	97, 086 460, 000			231, 101 580, 000			276, 000 705, 900
18 112, 312 13, 235	15, 830	13, 322	8, 356	124, 303 12, 094	113, 263 12, 242	106, 953 1 12, 000	100, 000 11, 000
202, 518	312, 160	311, 353	432, 000	<sup>1</sup> 351, 386	341, 718	351, 390	364, 000
856, 094	1, 006, 857	1, 025, 745	1, 636, 257				
854, 731	1, 006, 238	1, 022, 984	1, 632, 246	1, 298, 884	1, 233, 762	1, 368, 065	1, 456, 900
67, 127 233, 671 88, 165	87, 620 249, 101 109, 071			73, 838 286, 465 1 143, 000	1 148, 499	254, 921 1 158, 214	<sup>1</sup> 224, 000 184, 000
26, 460 41, 653	47, 926 37, 057	22, 724 1 36, 677	43, 825 1 35, 644	57, 000 50, 348	39, 000 42, 516	1 44, 000	67, 000 53, 000
457, 076	<b>530, 7</b> 75	579, 040	589, 427	610, 651	576, 714	614, 499	640, 000
216, 331 84, 629	366, 900 108, 979	226, 527 70, 570	193, 730 72, 069	204, 428 84, 129	336, 004 51, 277	342, 263 1 45, 000	289, 000 39, 000
300, 960	· <b>4</b> 75 <b>,</b> 879	297, 097	265, 799	288, 557	387, 281	387, 263	328, 000
10, 387, 601			10 404 990	19 000 550	12 727 607	12 924 272	14 105 667
18, 684, 836			15, 496, 289	19, 090, 598	10, 101, 091	10, 024, 313	
				<b>18, 380,</b> 513	19, 166, 932	19, 497, 335	20, 206, 730
	1909–1913.  Shorttons. 17, 059 2, 649, 480 75, 718 1, 485, 236 294, 380  4, 714, 172  4, 344, 074  193, 853 13 332, 813 13 112, 312 13, 323 1, 363 202, 518  856, 094  854, 731  67, 127 233, 671 88, 165 26, 460 41, 653  457, 076  216, 331 84, 629 300, 960  10, 387, 601	1900-1913.   1917-18    Shorttons	Shorttons	1900-1913.   1917-18   1918-19   1919-20   1	Shorttons	1900-1913.   1917-18   1918-19   1919-20   1920-21   1921-22   1	1909-1913

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.

<sup>1</sup> Unofficial.

<sup>&</sup>lt;sup>2</sup> Official.

<sup>18</sup> Three-year average.

Table 365.—Sugar, raw, cane and beet: World production, 1895-1923.

	Production in countries		Estimated	Three ch	ief producing c	ountries.
Year.1	reporting all years 1895-1923.	Production as reported.	world totals (prelimi- nary).	Cuba.	India.	Java.
1895–96 1896–97 1897–98 1898–99 1899–1900	7, 894, 621 8, 077, 178	Short tons. 7, 619, 883 8, 255, 405 8, 436, 725 10, 793, 709 11, 203, 891	Short tons. 10, 105, 883 10, 761, 405 10, 942, 925 11, 002, 309 11, 409, 131	Short tons. 252, 248 237, 497 342, 208 375, 948 336, 082	Short tons. 2, 325, 382 2, 083, 206	Short tons. 628, 021 575, 263 623, 223 785, 638 821, 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
1904-5	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
	12, 567, 736	15, 789, 808	15, 815, 608	1, 598, 994	2, 469, 936	1, 092, 053
	12, 121, 445	15, 189, 827	15, 218, 527	1, 077, 393	2, 292, 528	1, 215, 530
	12, 953, 119	15, 846, 662	15, 876, 462	1, 694, 965	2, 097, 648	1, 274, 306
	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

Division of Statistical and Historical Research.

<sup>&</sup>lt;sup>1</sup> 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.

Table 366.—Sugar: International trade, calendar years, 1909-1922.

Country.	Average	1909–1913.	1	920	]	1921		1922, minary.
	Imports.	Exports.	Imports.	Exports.	Imports	. Exports	Imports.	Exports.
PRINCIPAL EXPORT- ING COUNTRIES.								
Argentina	Shorttons	Short tons	. Short tons	Shorttons	. Shorttons	Short tons	Shorttons.	Shorttons.
Austria-Hungary	51, 690 3, 942	848, 830	91	81, 377		-	<b>-</b>	-
Barbados	1 233	25, 829		38, 905		29, 508	-	-
Belgium	7.892	154, 476	63, 678	79, 451	16, 392	195, 886	98, 715	177, 529
Brazil	1 117	154, 476 38, 284 106, 196	.7	38, 905 79, 451 120, 306	1	189, 699	l	
British Guiana	1 6, 112	106, 196		93, 829		_ 121, 262		.
Cuba	656	2, 009, 899	891	3, 492, 623		- 3, 144,960	<u></u>	3 5,781,440
Denmark	21.814	22, 536	5, 793 519	274, 085 19, 279	2, 792 5, 244	491, 383 10, 179	718	348, 016
Dominican Republic.	21, 814 3 766	92, 351	390	175, 561	983	202, 396	21, 908 284	629 189, 195
Dutch East Indies	3, 562	1, 412, 555	2, 370	1, 669, 534	2, 230	1, 848, 708	180	41,582,656
		78, 817	171	81, 743	117	81, 339	138	80, 339
Formosa	554	5, 744	25, 492	13,776		_	.	l
Fijinosa Germany Gustemala Hungary Mauritius Netherlands	3, 486	873, 161	101, 573	7,081	6 17, 263	<sup>6</sup> 12, 370	206, 999	13, 915
Hungary		7, 424	(7)	35, 578		-		
Mauritins	12	226, 255	(7)	201, 136	(7)	252, 674	14, 357	28
Netherlands	82, 721	200, 490	46, 413	83 914	51,824	178 481	152, 559	322, 692 219, 477
Peru	726	146, 736	13	275, 534	27	263, 842	102,003	302, 447
Peru_Philippine IslandsPoland	. 3, 950	179, 432	2, 689	275, 534 198, 790 17, 116	2,764	178, 481 263, 842 319, 530		399, 112
Poland		<u></u>	5, 247	17, 116		.		
Russia Trinidad and Tobago	3,744	293, 514		I <del></del>				
Union of South Africa.	522 29, 694	43, 755 675	66	53, 724	583	51, 687	17, 913	
Venezuela	3 285	2, 181	11 87	16, 614 20, 736	12, 643	68, 962 13, 402	17, 913	36, 100
PRINCIPAL IMPORTING COUNTIRES.		. <i>'</i>						
Algeria Anglo-Egyptian Su-	37, 908		34, 297	562	35, 412	1, 181	42, 526	
dan	13, 764 76, 233	268	16, 337 130, 227	10	7, 418	39	11, 199	<b>-</b>
Austria	10, 200	200	A 5 121	47	7, 715 88, 833	505		
Austria British India	715, 990	26, 611	352, 146	44, 150	655, 233	27, 058	516, 269	17, 988
Canada	297, 893	820	390, 439	38, 490	384, 871	44, 396	600, 135	159, 949
Chile	84, 965	90	81, 503	33	73, 344	204	. <b></b>	
China	343, 622	14, 933	257, 152	23, 311	514, 660	21, 129 17, 695	510, 987	15, 018
Egypt Finland	43, 020 50, 077	8, 086	41, 204	31, 381	9, 058 61, 011	17,695		19, 676
France	186, 198	206, 897	27, 602 685, 689 27, 965	93, 282	402, 113	114, 101	66, 075 644, 806	169, 602
Gracca	11, 718	200,001	27, 965	80, 202	49, 881	114, 101	43, 542	109, 002
Hongkong							376, 870	350, 468
Italy Japan\	9, 249	302	12, 539	29	106, 504	20	38, 603	10
Japan\	176, 942	60, 204	12, 539 198, 255	67, 878	339, 321	54, 506		
Morocco New Zealand	61, 402 62, 962	110 450	56, 572		62, 101			
New Zealand	50,962	<sup>1</sup> 13, 478	69, 134	534	71, 098	499	75, 522	298
Persia	52, 326 109, 352	1 557	100, 148 40, 144	58	35, 353		78, 510	
Portugal	39, 631	- 301	10, 111	00				
Singapore	81, 610	47, 939	45, 838	34, 762				
Norway Persia Portugal Singapore Spain	45	63	56, 928	730	52, 099	1, 975	41, 337	35
sweden	1,672	1	67, 709	337	52, 099 7, 544	4	7, 173	
Switzerland United Kingdom	118, 201		139, 528	3	85, 143	11	91,349	2
United Kingdom	1, 553, 505	32, 603	1, 517, 588	2,606	1, 432, 356	7,988	2, 145, 026	32, 655
Other countries	351, 304	39, 684 250, 323	4, 036, 880 110, 084	462, 096 121, 466	2, 983, 750 149, 375	466, 896 115, 781	4, 860, 810 80, 320	918, 361
owner countries	301, 301	200, 020	110, 004	121, 400	140, 010	110, 101	00, 320	5, 251
Total7	7, 125, 060	7, 472, 071	8, 816, 540	7, 972, 457	7, 727, 065	8, 350, 256	10,744,932	11, 420, 790

Division of Statistica land Historica l 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.

Four-year average.

Lamborn & Co.

One year only.

Java and Madura only.

Three-year average.
 Eight months, May-December.
 Less than half a ton.

Table 367.—Sugar, raw (96° centrifugal): Average wholesale price per pound, New York, 1890-1923.

1890\$0.	n. 055	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.			_	Aver-
1890\$0.	<b>0</b> 55	1				- Cano	July.	Aug.	sept.	Oct.	Nov.	Dec.	age.
		\$0, 055	\$0, 054	<b>\$</b> 0. 054	<b>\$</b> 0. 053	<b>\$</b> 0. 053	<b>\$</b> 0. 053	\$0, 056	<b>\$0</b> , 059	\$0. 058	<b>\$0.</b> 053	\$0.052	\$0.055
1891	053	. 056	. 056	. 035	. 032	. 034	. 034	. 034	. 035	. 033		. 034	. 039
1892	035	. 034	. 033	.031	. 031	. 031	. 031	.032		. 035	. 034	. 034	. 033
1893	035	.034	. 034	. 038	. 041	.044	. 042	. 036	. 037	. 039	. 032	. 029	. 037
1894	029	. 032	. 031	. 028	. 028	. 031	. 031	. 035	. 038	. 036	. 035	. 032	. 032
1895	030	. 030	. 030	. 030	. 033	. 033	. 033	. 033	. 033	. 036	. 034	. 036	. 033
	038	. 040	.042	.043	. 041	. 037	. 034	.034	. 031	. 030	. 033	. 032	. 036
1897	032	.032	. 032	.033	. 033	. 035	. 034	.038	. 039	. 031	.038	. 040	. 036
1898	041	. 042	.041	.042	.042	. 043	.041	.042	. 043	.042		.044	. 042
1899	043	. 043	. 044	. 046	. 047	. 046	. 045	. 045	. 044	. 043	. 043	. 042	. 044
1900	040	. 045	044	044	0.45	. 046	0.40	040	050	0.40	044		040
	043 043	. 043	. 044	.044	. 045	.040	. 048	. 049 . 040	. 050	. 048	.044	. 044 . 037	. 046 . 040
1902	036	. 036	. 035	.035	. 035	. 034	. 033	.034	. 035	. 036	.037	. 039	. 035
1903	038	.037	. 037	.036	. 037	. 034	. 036	.038	. 039	. 039	.038	. 036	. 037
1904	034	. 034	. 035	. 036	. 038	. 039	. 039	. 042	. 043	. 043	.045	. 048	.040
	- 1												
	051	. 050	. 049	. 048	. 045	. 043	. 041	. 041	. 038	. 036	. 035	. 036	. 043
	036	. 034	. 035	. 035	. 034	. 035	. 037	. 039	. 041	. 040	. 038	. 038	. 037
	035	. 034	. 035	. 037	. 039	. 038	. 039	. 039	. 039	. 039	. 038	. 038	. 038
1908	039	. 037	. 041	. 044	. 043	. 043	. 043	. 040	. 040	. 040	. 039	. 038	. 041
1909	037	. 036	. 038	. 039	. 039	. 039	. 039	. 041	. 042	. 043	. 044	. 042	. 040
	041	. 042	. 044	. 043	. 043	. 042	. 043	. 044	. 043	. 039	. 039	. 040	. 042
	036	. 035	. 038	. 039	. 039	. 039	. 043	.049	. 059	. 059	. 051	. 048	. 045
	044	. 046	. 045	. 041	. 040	. 039	. 039	. 041	. 043	. 041	. 040	. 040	. 042
1913	035	. 035	. 035	. 034	. 033	. 033	. 036	. 037	. 037	. 035	. 036	. 034	. 035
Av. 1909-1913	039	. 039	. 040	. 039	. 039	. 038	. 040	. 042	. 045	. 043	. 042	. 041	. 041
1914	033	. 034	. 030	. 030	. 032	. 033	. 033	. 057	. 058	. 044	. 039	. 039	. 038
	033	. 047	. 048	.048	. 048	. 049	. 049	. 048	. 043	. 041	. 048	. 039	. 047
	046	. 049	. 056	. 062	. 064	. 063	. 063	. 056	. 056	. 063	. 062	. 053	. 058
	052	. 052	. 055	. 062	. 061	. 060	.066	. 073	. 070	. 069	. 069	. 063	. 063
1918	060	. 060	. 060	. 060	. 060	.060	.061	. 061	. 070	. 073	. 073	. 073	.064
1919	073	. 073	. 073	. 073	.073	. 073	. 073	. 073	. 073	. 073	. 073	. 102	. 075
	130	. 114	. 119	. 177	. 208	. 197	. 176	. 134	. 107	. 083	. 068	. 053	. 130
Av. 1914–1920	062	. 061	. 063	. 073	. 078	. 076	. 074	. 072	. 068	. 064	. 062	. 062	. 068
1921	054	. 053	. 061	. 054	. 049	. 042	. 044	. 047	. 043	. 042	. 041	. 037	. 047
	036	. 038	. 039	. 040	. 049	. 042	. 052	. 052	. 048	. 054	.056	. 057	. 047
	053	. 062	. 073	.078	.079	. 074	. 069	. 061	. 070	. 076	.073	. 073	.070
		. 002		. 5.0			. 550	. 551	9				

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, 1913-1923.

Calendar year.	Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	Мау 15.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	Aver- age.
1913	\$0. 058	\$0. 055	\$0. 054	\$0. 054	\$0.054	<b>\$0.</b> 053	<b>\$0. 0</b> 55	<b>\$0. 056</b>	<b>\$0.</b> 057	<b>\$0.</b> 055	\$0.054	\$0. 054	<b>\$0. 0</b> 55
1914 1915	. 052 . 060		. 051		.050				.080		. 062		. 059 . 066
1916 1917	. 067	. 069	. 075	.080	.086	. 087	. 088	.085	.077	. 082	. 096	. 083 . 095	. 080
1918 1919	. 108	. 106	. 092	.106	. 091 . 106	.091		. 111	.110			. 145	. 097 . 113
1920	. 178	. 188	. 187	. 202	. 254	. 267	. 265		. 183	. 139	. 128	. 105	. 194
Av. 1914–1920	. 091	. 095		. 099	. 108		===	. 109		. 096	. 090	. 095	===
1922 1922 1923	. 062	. 064	. 065		.066	.071	.076	. 081	. 079	. 079	. 081	. 083	

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

Table 369.—Sugar, granulated: Average wholesale price per pound, New York, 1890–1923.

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	age. 59 \$0.062 41 .047 46 .044 42 .048 38 .041 44 .042 41 .045 48 .045 48 .049
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	41 .047 46 .048 42 .048 38 .041 44 .042 41 .045 48 .050 48 .050
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	41 .047 46 .048 42 .048 38 .041 44 .042 41 .045 48 .050 48 .050
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46 .044 42 .048 38 .041 44 .042 41 .045 48 .045 48 .050 48 .049
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	42 .048 38 .041 44 .042 41 .045 48 .045 48 .050 48 .049
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	38 . 041 44 . 042 41 . 045 48 . 045 48 . 050 48 . 049
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	44 . 042 41 . 045 48 . 045 48 . 050 48 . 049
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	41 . 045 48 . 045 48 . 050 48 . 049
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	41 . 045 48 . 045 48 . 050 48 . 049
1897	48 . 045 48 . 050 48 . 049
1899	48 . 050 48 . 049
1899 047  047  048  049  051  052  052  051  049  048  048  048  0	48 . 049
1900   .048   .050   .049   .049   .050   .055   .058   .059   .059   .055   .054   .0	53 . 053
1901053 .052 .051 .051 .053 .052 .051 .050 .048 .047 .0	16 . 050
1902	
1903 046  .046  .046  .047  .047  .047  .048  .048  .048  .046  .045  .0	
1904	
	1
1905   .058   .059   .059   .059   .057   .055   .051   .051   .048   .045   .044   .0	15 .053
1906 044 .043 .044 .044 .044 .044 .046 .047 .047 .046 .046 .0	16 . 045
1907 046 045 046 046 048 049 048 047 046 046 046 0	16 . 047
1908 047 046 050 053 053 052 052 050 050 048 046 0	15 . 049
1909	9 . 048
1911 047 046 047 047 048 049 051 057 066 066 061 0	
1912054 .055 .055 .051 .049 .050 .049 .050 .048 .048 .0	
1913045 .042 .042 .041 .041 .041 .045 .046 .045 .042 .042 .0	. 043
Av.1909-1913048 .047 .048 .048 .048 .047 .049 .050 .052 .051 .049 .0	. 049
1914039 .039 .038 .037 .040 .042 .042 .065 .068 .059 .049 .0	8 .047
1915	
1916	
1917 0.66 0.69 0.71 0.82 0.79 0.75 0.75 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82	
1918074 .073 .073 .073 .073 .074 .074 .085 .088 .088 .08	
1919	
1920154 .150 .137 1.192 1.225 1.212 1.191 .167 .143 .108 .096 .09	1
Av. 1914-1920 075 . 076 . 076	6
1001	000
1921 076 071 078 073 063 057 055 058 056 052 052 052	
1922048 .049 .052 .053 .059 .066 .067 .063 .066 .068 .06	
1923067 .073 .086 .092 .094 .092 .085 .076 .082 .090 .087 .08	8 . 084

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

<sup>1</sup>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.

			A	rea of su	ıgar can	e.1			Production of sirup.			
State.		To	tal.		На	rvested	for siru	ıp.	1000	1001	1000	
	1920	1921	1922	1923 3	1920	1921	1922	1923 3	1920	1921	1922	19233
South Carolina Georgia Florida Alabama	Acres. 8, 200 53, 100 28, 000 55, 000	61,000 34,000	50, 000 29, 000	45, 000 28, 000	44, 100 24, 000	45, 000 30, 000	Acres. 8, 900 40, 000 24, 000 69, 000	37, 800 23, 000	6, 110	1,000 gals. 1,107 7,335 6,300 8,760	1,000 gals. 1,288 7,040 4,800 11,937	1,000 gals. 1,100 5,103 4,255 9,904
Mississippi Louisiana Texas Arkansas	33, 100 268, 300 16, 400 3, 200	294, 500 18, 000	319, 600 18, 800	331, 700 17, 300	18, 300 7, 100	18, 900 12, 000		22, 700 13, 200	4,640	7, 582 6, 454 3, 192 437	7, 040 6, 490 2, 485 531	5, 565 4, 981 2, 118 594
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.

<sup>1</sup>Sorghum, sometimes confused with sugar cane, is not included.

<sup>1</sup>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 16,887,000 gallons in 1920.

<sup>8</sup> Preliminary.

# SORGHUM FOR SIRUP.

Table 371.—Sorghum for sirup: Acreage, production, and farm value, United States, 1917–1923; by States, 1922 and 1923.

					<del></del>					
Calendar year, and State.		ands of res.	in g	e yield, allons acre.	thou	iction, sands llons.	price, c	ge farm ents per Dec. 1.	thou	value, sands llars.
1917 1918 1919 1920 1921	4: 4: 5:	15 22 87 36 18	90. 3 79. 2 80. 9 92. 4 88. 0		33, 39, 49,	472 387 413 505 566	69. 5 93. 4 110. 8 106. 9 62. 9		31, 43, 52,	055 191 683 943 681
Leading States.	1922	1923 ¹	1922	1923	1922	1923 1	1922	1923	1922	19231
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
FloridaOhioIndianaIllinoisWisconsin	1	1	130	110	130	110	52	71	68	78
	4	4	62	65	248	260	105	118	260	307
	11	11	85	80	935	880	95	100	888	880
	9	9	72	80	648	720	94	100	609	720
	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
TexasOklahomaArkansasNew Mexico	35	32	69	84	2, 415	2, 688	72	80	1, 739	2, 150
	17	16	66	57	1, 122	912	72	83	808	757
	28	26	64	70	1, 792	1, 820	75	88	1, 344	1, 602
	1	2	53	75	53	150	106	100	56	150

<sup>&</sup>lt;sup>1</sup> Preliminary.

# MAPLE SUGAR AND SIRUP.

Table 372.—Maple sugar and sirup production, 1917-1923.

[Figures for 1923 subject to revision.]

State and year.	Trees	Sugar	Sirup	Total product	Average	per tree.
•	tapped.	m <b>a</b> de.	made.	in terms of sugar.1	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	450 000	199 000	1, 520, 000	1.90	. 24
1921 1922	800, 000	456, 000 247, 000	133, 000 189, 000	1, 760, 000	2. 20	. 24
1923	760, 000	343, 000	145, 000	1, 505, 000	1. 98	. 25
Vermont:	100,000	340, 000	, 140,000	1, 500, 000	1. 50	. 20
1921	5, 100, 000	2, 937, 000	745, 000	8, 900, 000	1.75	. 22
1922	5, 559, 000	3, 152, 000	1, 065, 000	11, 674, 000	2.10	. 26
1923	5, 281, 000	2, 307, 000	913, 000	9, 612, 000	1.82	. 23
Massachusetts:						
1921	269, 000	113, 000	50, 000	512, 000	1.90	. 24
1922	272, 000	134, 000	82, 000	788, 000	2. 90	. 36
1923	261, 000	87, 000	49, 000	483, 000	1.85	. 23
Connecticut:	8, 000	6,000	2, 000	24, 000	3.00	. 38
1922	10, 000	2,000	4,000	35, 000	3. 50	. 44
1923	9, 000	6,000	1,000	15, 000	1.68	. 21
New York:	0,000	0,000	_, -,	,		
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
1923	4, 000, 000	1, 376, 000	903, 000	8, 600, 000	2.15	. 27
Pennsylvania:	WO F 000		00 000	000 000	1 00	1.5
1921	785, 000	173,000	98, 000	960, 000 2, 201, 000	1. 22 2. 70	. 15 . 34
1922 1923	815, 000 831, 000	242, 000 209, 000	245, 000 265, 000	2, 329, 000	2. 80	. 40
Ohio:	001, 000	209, 000	200, 000	2, 323, 000	2.00	. 10
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
Indiana:						
1921	532, 000	37, 000	149, 000	1, 232, 000	2. 32	. 29
1922	558, 000	12, 000	143, 000	1, 156, 000	2. 07 2. 74	. 26 . 34
1923	536, 000	29, 000	180, 000	1, 469, 000	2.74	. 03
Michigan:	816, 000	52,000	157, 000	1, 306, 000	1.60	. 29
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
Wisconsin:	100,000	,	<i>'</i>	· · · · · · · · · · · · · · · · · · ·	-	
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 <b>, 000</b> `	32, 000	119, 000	<b>9</b> 84, <b>0</b> 00	1. 73	. 22
Total, 11 States: 2	17 010 000	10 505 000	4 050 000	44, 589, 000	2, 58	. 32
1917 1918	17, 313, 900 19, 312, 000	10, 525, 000 12, 944, 000	4, 258, 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
1920	15, 114, 000	4, 730, 000	2, 386, 000	23, 820, 000	1.58	. 20
1922	16, 274, 000	5, 147, 000	3, 640, 000	34, 263, 000	2.11	. 26
1923	15, 291, 000	4, 685, 000	3, 605, 000	33, 533, 000	2.19	. 27

<sup>&</sup>lt;sup>1</sup>One gallon of sirup taken as equivalent to 8 pounds of sugar.

<sup>1</sup>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 sirup.

Table 373.—Maple sugar and sirup: Farm price, 15th of month, United States, 1917-1923.

Month.		Su	gar (ce	ents pe	r poun	d).			Sir	up (do	llars p	er gallo	on).	
Wonth.	1917	1918	1919	1920	1921	1922	1923	1917	1918	1919	1920	1921	1922	1923
Feb. MarApr May June	14. 7 14. 7 16. 3 16. 2 15. 9	18. 8 20. 5 22. 5 22. 6 22. 0	22. 0 25. 3 26. 9 26. 3 26. 2	29. 3 31. 6 37. 0 36. 0 35. 1	24. 9 25. 7 25. 7 21. 5 20. 7	17. 5 21. 9 23. 1 21. 6 21. 3	22. 0 23. 2 26. 0 26. 4 25. 6	1. 22 1. 30 1. 33 1. 34 1. 33	1. 58 1. 76 1. 80 1. 85 1. 85	1. 86 1. 99 2. 03 2. 02 2. 19	2. 35 2. 58 2. 92 2. 93 2. 84	2. 27 2. 17 2. 21 2. 08 2. 10	1. 84 1. 95 1. 93 1. 86 1. 86	1. 89 1. 96 2. 09 1. 75 2. 05

# 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.		ands of es.	per	ge yield acre hels).	thousa	action, ands of shels.	price pe	ge farm er bushel 7. 15.	basis De	value, c.1 price, nds of lars.
1916	1,	939 821 820 942 982 889	1. 1. 1. 1.	8 8 5 6 8 7	1, 1, 1,	706 488 197 484 944 538	12. 19. 26. 11.	. 18 . 84 . 80 . 75 . 95 . 75	19, 23.	
Leading States:	1922	1923 1	1922	1923	1922	1923 1	1922	1923	1922	19231
Total	1, 156	800	1.6	1. 5	1,887	1, 233	10. 05	12. 19	18, 971	15, 027
New York	11	11	2. 5	2. 1	28	23	10. 00	13. 90	280	320
Pennsylvania	18	14	1. 4	1. 1	25	15	10. 00	12. 70	250	190
Ohio	206	144	1. 1	1. 2	227	173	10. 70	12. 00	2, 429	2, 076
Indiana	100	35	1. 2	. 9	120	32	9. 80	12. 10	1, 176	387
Illinois	210	116	1. 5	1. 1	315	128	9. 60	13. 00	3, 024	1, 664
Michigan Wisconsin Minnesota Iowa Missouri	150	105	1. 6	1. 4	240	147	10. 50	11. 10	2, 520	1,632
	157	126	1. 7	1. 3	267	164	10. 20	12. 00	2, 723	1,968
	72	65	2. 1	2. 0	151	130	9. 40	11. 20	1, 419	1,456
	118	88	1. 5	1. 3	177	114	10. 40	12. 70	1, 841	1,448
	21	16	1. 7	1. 6	36	26	9. 00	12. 90	324	335
Nebraska	8	7	2. 7	1. 6	22	11	10, 00	12. 00	220	132
Kansas	18	12	1. 5	1. 2	27	14	8, 00	12. 00	216	168
Kentucky	21	18	2. 2	2. 0	46	36	10, 70	13. 50	492	486
Tennessee	5	4	1. 8	1. 7	9	7	11, 00	11. 70	99	82
Mississippi	20	19	6. 0	7. 0	120	133	10. 00	13. 00	1. 200	1, <b>729</b>
	16	15	4. 5	4. 0	72	60	9. 70	11. 90	698	714
	5	5	1. 0	4. 0	5	20	12. 00	12. 00	60	<b>240</b>

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 375.—Clover seed: Receipts and shipments, Chicago, 1910-1923.

RECEIPTS.

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	To-
1910-11 1911-12 1912-13 1913-14	1,000 lbs. 1,340 519 271 188		1,000 lbs. 865 176 521 939	95 <b>2</b> 95	1,000 lbs. 94 331 493 1,035	1,000 lbs. 524 337 545 418	357 901	1,000 lbs. 378 307 279 412	1,000 lbs. 364 213 109 210	1,000 lbs. 405 194 165 836	1,000 lbs. 59 343 41 429	1,000 lbs. 270 574 40 1,180	
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	789 2, 190 1, 356 1, 346 192 1, 539 1, 549	1, 921 1, 308 945 1, 597 1, 816	1,953 995 1,149 1,337 1,941	1, 205 1, 416 587 1, 146 1, 606	980 660 1, 079 1, 974 2, 840	1, 236 1, 192 1, 688 1, 002 2, 557	1, 123 833 797 1, 175 2, 239	438 974 798 217 464 884 1,570	55 294 393 298 88 7 418	307 108 200 319	48 53 2 22 271 195 84	138 602 135 798 213	9, 778 12, 067 9, 862 8, 371 10, 044 16, 037 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 1922–23 1923–24	739 1, 368 641	1, 235 1, 299 1, 681	1, 479	1, 214	1, 585 1, 044	1, 692 629	2, 448 1, 825	1, 050 845	352 348	169 109	77 8		1 <b>4, 44</b> 8 10, <b>4</b> 39
				SH	IPME	ENTS.							
1910-11 1911-12 1912-13 1913-14	165 51 141 - 138	183 111 309 152	244 204 862 264	224 131 372 668	480 426 502 882	682 621 835 1, 576		252 363 707 740	185 106 90 544	52 48 78 301	12 144 33 381	59 65	
1914-15: 1915-16: 1916-17: 1917-18: 1918-19: 1919-20: 1920-21	309 714 279 423 191 271 107	124 596 602 483 527 386 589	484 1, 506 1, 021 430 1, 447 952 691	1, 665 879 962 1, 144 787 888 769	1, 197 1, 125 1, 065 908 984 2, 589 1, 554	1, 583 1, 438 1, 696 1, 923 1, 139 1, 619 2, 997	1, 290 2, 027 2, 086 1, 116 1, 109 926 3, 104	792 1, 481 1, 606 182 653 842 1, 694	188 415 583 246 18 248 370	13 39 157 4 94 98 167	69 78 309 60 25 118 239	88 429 167 136 61	7, 818 10, 386 10, 795 7, 086 7, 110 8, 998 12, 809
Average 1914–1920	328	472	933	1, 014	1, 346	1, 771	1, 665	1, 036	295	82	128	216	9, 286
1921–22 1922–23 1923–24	371 547 530	781 1, 172 514	691 1, 187 705	1, 236 1, 169 670	1, 728 1, 430	2, 167 906	2, 416 1, 252	1, 030 820	818 223	147 75	133 122		11, 748 9, 188

Division of Statistical and Historical Research Compiled from Chicago Board of Trade and the Seed World.

Table 376.—Timothy seed: Receipts and shipments, Chicago, 1910-1923.

RECEIPTS.

Year beginning Aug. 1—	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Total.
1910-11 1911-12 1912-13 1913-14	1,000 lbs. 1,878 4,451 2,916 3,601	lbs. 7,509 5,829 6,875	lbs. 3,778 4,011 5,505	2, 649 3, 608	1, 120 2, 182	lbs. 1,311 792 2,361	1bs. 1,560 879 3,019	868 2, 831	1bs. 368 557 3, 964	108. 106 388 1,509	lbs. 55 242 1,764	<i>lbs.</i> 87 158 2, 647	1,000 lbs. 21, 161 21, 944 39, 181 34, 340
1914–15 1915–16 1916–17 1917–18 1918–19 1919–20 1920–21	1, 201 2, 487 3, 810 764 7, 450	11, 208 9, 894 10, 565 6, 525 3, 198 13, 191 12, 777	5, 578 5, 631 5, 172 5, 175 6, 124	4, 039 3, 989 2, 966 3, 242 2, 582	3, 051 1, 915 1, 463 1, 643	1, 431 2, 149 2, 006 1, 578 3, 186	2, 478 2, 242 2, 234 3, 381	2, 167 6, 279 2, 554 2, 985 3, 118	1, 019 3, 367 1, 434 3, 772 1, 338	1, 039 2, 442 1, 250 2, 398 1, 093	704 1, 117 392 1, 348 641	296 924 677 891 1, 135	39, 415 31, 987 44, 479 30, 943 29, 048 44, 882 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 1922-23 1923-24	8,985	6, 269 9, 600 13, 722	4, 516	3, 197 2, 048 1, 606	1,050	570	2, 899 1, 352	2, 827 1, 697	780 1, 243		472 355		38, 286 31, 898

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.	Мау.	June.	July.	Total
1910-11		lbs. 4, 198 5, 038 7, 504	ibs. 1, 701 2, 035 4, 373	2, 051 4, 912	688 2, 224	482 3, 313	958 3, 152	<i>lbs</i> . 2,751 1,356 4,426	761 4, 629	360 2, 229	54 1, 521	158 1,344	1,000 lbe, 17, 40 16, 39 41, 578
1913-14 1914-15 1915-16 1916-17 1917-18 1918-19 1918-20	1,774 2,056 1,372 2,826 2,605 1,218 2,340	4, 845 5, 344 7, 956 3, 887 1, 774 6, 301	2, 511 5, 283 5, 363 2, 816 2, 674 3, 142	2, 124 3, 796 4, 071 1, 511 3, 903 1, 964	3, 549 2, 485 3, 128 1, 291 2, 688 2, 588	2, 565 1, 892 2, 921 1, 720 1, 659 4, 007	1,877 2,326 4,082 2,049 3,178 3,737	2, 430 4, 203 7, 775 5, 160 3, 621 3, 404	2, 623 2, 715 4, 321 1, 459 4, 579 1, 852	1, 727 1, 212 2, 288 147 1, 817 2, 497	955 162 779 509 780 735	1, 205 395 729 427 1, 253 1, 057	26, 867 28, 467 31, 185 46, 239 23, 581 29, 144 33, 624
Av. 1914–1920		4, 883	3, 706	2, 737	2, 475	2, 653	3, 111	4, 572	2, 894	1,605	644	867	32, 239
1921-22 1922-23 1923-24	5, 233 3, 896 2, 481	8, 567 6, 303 3, 926	4, 580	3,943	1,895		4, 108 2, 451			2, 598 1, 394			39, 99 32, 65

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

		•			For fi	scal ye	ar end	ing Jur	ne 30.	•			
Kind of seed.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	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.	ibs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
lfalfa	1,272			5, 203				45	770	18, 831	942	7, 259	8,78
anada bluegrass	786	306		567	1,043			1, 229			1, 148	1,034	83
Kentucky bluegrass	25	1	5	3		1		5				<b>-</b>	
wnless brome grass	165	6	75	139	7	(4)	1			169	9	14	
Alsike clover	1, 524			2,688	778	1, 113	4, 329	3, 528	7,032	5, 648	4, 121	7,057	
rimson clover	3, 529	3, 407		8, 534	11,690		5,776	1,603	1,484	10,053	5, 566	3, 443	2, 26
Red clover		19,674		5, 921		32, 509		768	1,051	19, 268	16, 333	10, 391	44
White clover	473	543		640				53	1	189	516	1,623	52
Biennial white sweet									ĺ				
clover	13	23	33	42	194	(3)	195	71	941	2, 215	3, 133		
Biennial yellow					ĺ								
sweet clover		15		<b>24</b> 3	201	(3)	9		1	202	<b>23</b> 5		
lover mixtures							26	169			23	57	
rass mixtures							124	6	(4)	3	6	43	, ( <del>1</del> )
bring vetch and													
oats mixtures			!								4		
Meadow fescue										3		1	-=-==
Broom-corn millet		3,376		1,520	1,305	1,102	786			225	152		
Foxtail millet	482	276		523	338		260	. 9	138	146	434	302	_6
Orchard grass	548		119	1, 939		754		58	177	2, 771		2, 922	768
Rape	1,516	1, 266	1, 194	2, 981	3, 966	4,019	2, 286	11, 316	639	5, 766		4, 763	6, 38
Redtop										7	(+)	2	1
Perennial ryegrass	605		1,117		1, 342		1,668		831	1, 958	1,523	1,868	1,83
talian rye grass	251	321	345	311	485		481	606	208	980	577	828	86 3
'imothy	320	378	40	23	18		200	22	155	37	391	95	
Hairy vetch	965	646			466		296	<b>2</b> 31	257	1, 220	1, 387		1, 59
pring vetch	2,076	531	1,390	682	221	62	30	. 118	435	1,048	542	345	1,85

Hay, Feed, and Seed Division.

<sup>&</sup>lt;sup>1</sup> 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.

<sup>2</sup> Preliminary.

<sup>3</sup> Figures missing.

<sup>4</sup> Less than 500 pounds

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.	Мау.	June.	Average
1912-13 1913-14 1914-15 1915-16	\$8. 32 8. 20 6. 92 8. 51	7. 96 6. 81	7. 42 7. 21	6. 96	6. 36 7. 29	6. 60 7. 57	6. 55	6.48	7. 92	6. 77 8. 45	6. 77 7. 01	6. 83 8. 31	6. 96 7. 52
1916–17 1917–18 1918–19 1919–20	10. 30 8. 71 9. 67 10. 88	8. 69 9. 88	9. 04 10. 04	9. 04 9. 91	9. 43 9. 38	9. 58 9. 65	10. 14 10. 07	9. 90 10. 48		10. 53 11. 18	10. 09 12. 13	10. 13 11. 79	9. 66 10. 40
1920-21 1921-22 1922-23 1923-24	19. 41 7. 89 9. 00 10. 25		8. 53 8. 00	8. 33 7. 94	8. 09 8. 50	7. 63	9. 95 7. 39 9. 58	8. 45	7. 50	9.00	8. 89		

Table 379.—Clover seed: Farm price per bushel, 15th of month, United States, 1910-1923.

Year beginning July 1.	Sept:	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Weight- ed av.
-1910-11 1911-12 1912-13 1913-14	\$8. 27 10. 19 9. 39 7. 31	10. 33 9. 37	10. 37 9. 06	10. 62 9. 00	10. 89 9. 41	12. 22 10. 28	12.89 10.42	12. 91 11. 00	12. 53 10. 74	11. 69 9. 77	10. 64 9. 78	9. 80 9. 37	11. 25 9. 71
Av. 1910-1913	8. 79	8. 71	8. 62	8. 82	9. 14	9. 74	10. 01	10. 19	9. 97	9. 56	9. 34	9. 40	9. 25
1914–15 1915–16 1916–17 1917–18 1918–19 1919–20 1920–21	9. 10 8. 49 8. 65 10. 89 16. 61 25. 38 17. 77	9. 70 8. 54 11. 92 19. 01	9. 67 9. 20 12. 91 20. 03 26. 53	10. 01 9. 40 13. 53 20. 67 27. 63	10. 27 9. 60 14. 48 21. 55 28. 06	10. 47 9. 87 16. 46 21. 79 31. 21	10. 76 10. 32 17. 49	10, 58 10, 41 17, 86 24, 81 32, 23	9. 98 10. 40 16. 56 24. 48	9. 47 10. 29 15. 88 23. 37 26. 21	9. 15 10. 50 14. 71 23. 25 25. 52	9. 12 10. 53 15. 20 24. 33 19. 97	9. 98 9. 54 14. 48
Av. 1914-1920	13. 84	13. 87	14. 00	14. 23	14. 76	15. <b>5</b> 7	16. 08	16. 44	15, 73	14. 76	14. 44	13. 92	14. 80
1921–22 1922–23 1923–24	10, 25 8, 85 11, 07		10, 18	10.88	11. 16	11. 88 11. 52		13. 13 11. 48					

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.	Мау	June	July	Weight- ed av.
1910-11	\$6. 52 3. 20 2. 01		1. 95	6. 90 1. 82	6, 72 1, 79	6. 99 1. 79		7. 33 1. 72	7. 27 1. 74	1.76	6. 68 1. 77		6. 87 2. 01
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 1915–16 1916–17 1917–18 1918–19 1919–20 1920–21	2. 43 2. 56 2. 36 3. 23 3. 87 4. 58 4. 44	2, 62 2, 22 3, 31 3, 79	2. 72 2. 27 3. 61 4. 08 4. 78	2. 91 2. 25 3. 25 4. 26 4. 67	2. 86 2. 31 3. 37		3. 19 2. 46 3. 78 4. 51	3, 28 2, 70 3, 84 4, 54 5, 61	3. 51 2. 76 3. 74	3. 09 3. 84 5. 05 5. 61	3. 26 3. 09 3. 56 4. 63 5. 46	3. 08 3. 04 3. 67	2. 49 2. 89 2. 42 3. 50 4. 19 4. 98 3. 29
Av. 1914-1920	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 1922–23 1923–24	2. 71 2. 20 2. 63	2. 31 2. 28 3. 01	2. 70 2. 48 3. 12	2. 41 2. 49 3. 15	2. 57 2. 69 3. 19	2. 70 3. 06	2. 82 2. 98	2. 95 3. 00	3. 11 2. 99	3. 21 2. 87	2, 81 2, 92	2. 53 3. 16	2, 64 2, 60

Table 381.—Field seeds: Average price per 100 pounds paid to growers for crops of 1919-1922.

## ALFALFA SEED.

				11 1111 1	A SEED.				
State or State sub- division.	1919	1920	1921	1922	State or State sub- division.	1919	1920	1921	1922
Southern Arizona California Colorado Southern Idaho Northeastern Kansas Northwestern Kansas Southeastern Kansas Southeastern Kansas	\$35. 50 30. 00 27. 00 31. 65 25. 05 26. 75 28. 30 26. 60	\$17. 00 15. 90 13. 00 11. 80 13. 60 14. 25 16. 40 14. 70	\$14. 35 14. 00 11. 85 12. 00 11. 10 10. 65 13. 60 11. 35	\$15. 50 14. 75 11. 60 14. 95 12. 10	Montana Nebraska Eastern New Mexico Western Oklahoma Western Oregon South Dakota Western Texas Northern Utah	26. 00 27. 50 22. 30 28. 70 31. 45 23. 50	\$17. 00 15. 80 14. 00 12. 85 18. 00 18. 75 20. 65 16. 00	\$17. 85 10. 10 10. 80 11. 20 13. 00 13. 20 14. 75 11. 75	\$21. 05 13. 90 13. 00 13. 30 17. 00 13. 10 15. 50
			ALSIK	E CLO	VER SEED.				
Southern Idaho	40.35	\$22, 00 22, 05 21, 75 19, 95 20, 90 19, 25	\$14. 50 14. 65 14. 80 15. 15 13. 50 13. 65	\$13. 60 13. 80 14. 55 13. 50 12. 95	Western New York Northwestern Ohio Western Oregon Northeastern Wis- consin Southeastern Wis- consin	\$39. 20 40. 80 40. 45 40. 25 41. 20	\$21, 10 22, 30 23, 50 18, 95 20, 20	\$14.50 13.30 13.65 14.30 14.20	\$12.90 15.20 11.80 12.85
<u> </u>		·	RED	CLOV	ER SEED.			•	·
Idaho	43. 70 45. 50 45. 50 42. 50 42. 10 40. 50 42. 70	\$13. 95 18. 70 18. 40 19. 10 16. 05 17. 80 17. 25 15. 65 17. 10 16. 75	\$15. 10 16. 30 16. 55 17. 00 16. 55 16. 45 16. 45 15. 40 15. 90 15. 30 16. 60	\$16. 75 17. 25 16. 55 17. 20 16. 15 15. 85 16. 60 16. 10 17. 05 16. 30 17. 35 17. 10	Missouri Nebraska Northwestern Ohio Western Oregon Washington Northeastern Wisconsin Southeastern Wisconsin Southwestern Wisconsin	41. 25	\$15. 85 14. 65 19. 05 22. 35 18. 00 16. 30 18. 40 16. 75	\$16. 05 15. 35 17. 20 15. 30 15. 25 16. 65 17. 55 16. 85	\$15, 55 16, 15 17, 55 20, 10 17, 35 17, 90 17, 45
			SWEE'	r cro	VER SEED.		·		
Colorado	\$21, 60 24, 75 24, 00 23, 50 21, 00 23, 25	\$9. 90 10. 00 16. 30 8. 15 8. 00 11. 50	\$4. 25 6. 50 10. 15 5. 10 4. 50 5. 00	\$4, 55 7, 10 7, 75 6, 85 7, 00	Nebraska	23. 00 22. 00 21. 00	\$12.50 9.60 9.00 9.50 8.50	\$6. 50 4. 40 5. 00 5. 00 3. 00	\$7.35 7.00
•			TII	HTOM	Y SEED.				
Southwestern Iowa	10. 50 10. 15 10. 75	\$5. 25 6. 50 6. 75 6. 25 5. 40 5. 90 5. 50 5. 50 5. 75 5. 50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$4. 10 4. 50 4. 85 4. 70 4. 20 4. 10 5. 60 4. 35 4. 40 4. 45 4. 75	\$4. 45 4. 70 4. 95 5. 15 5. 15 4. 70 4. 60 4. 55 4. 55 5. 05 4. 85 4. 75	Northeastern Missouri Northwestern Missouri Southwestern Missouri Nebraska North Dakota Northeastern Ohio Northwestern Ohio Northeastern Ohio Southeastern South Dakota Wisconsin	\$10. 55 10. 60 10. 35 9. 60 9. 35 11. 05 10. 70 9. 55 9. 95 10. 00	\$5, 75 5, 50 4, 55 5, 50 6, 65 5, 85 5, 05 5, 65 5, 90	\$4. 30 3. 95 3. 70 5. 50 5. 20 4. 85 4. 70 4. 45 4. 05 4. 80	\$4. 95 4. 60 

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, 1910-1923.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Average.
1910-11 1911-12 1912-13 1913-14	(1) (1) \$10. 50 10. 00	\$10. 27	11. 50 9. 84	10. 48 9. 64	10.00 10.00	10. 17 10. 00	11. 03 9. 90		10. 91 9. 88	\$10. 45 10. 09	10. 25	11.71	\$10. 16
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.		14. 17 17. 58 12. 52 13. 91 17. 70	14. 98 12. 63 13. 25	15. 69 11. 23 13. 51 13. 12 23. 50	15. 57 10. 50 14. 00 13. 45 27. 72	16. 08 10. 66 14. 00 13. 31 30. 00	17. 40 10. 62 13. 50 13. 58 30. 00	13. 15 16. 23 11. 00 13. 50 13. 75 33. 77 14. 62	17. 25 11. 00 13. 50 13. 75 20. 73	17. 25 11. 18 14. 38 13. 04 25. 00	17. 25 11. 80 15. 00	17. 25 12. 00 12. 42 14. 21 25. 00	12. 33 13. 47 13. 53
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 1922–23 1923–24	12. 75 (¹) (¹)	12. 75 13. 12 (¹)	12. 12 14. 50 14. 75	14. 25	11. 50 16. 00 17. 10	17. 50	11. 12 17. 85	12. 25 17. 35	13. 88 16. 00	14. 25 16. 10	13. 00 15. 90	13. 00 15. 00	12. 43

Division of Statistical and Historical Research. Compiled from Kansas City Price Current and the Seed World.

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.	Мау.	June.	July.	Aug.	Aver- age.
1910-11 1911-12 1912-13 1913-14		20. 63 18. 38	20. 63 18. 05	20. 75 18. 88	21. 81 19. 90	23. 13 19. 88	\$15, 25 22, 50 19, 25 14, 04	21. 63 21. 38	20. 55 18. 40	20. 13 16. 00	20. 00 15. 50	16.00 14.70	20, 66
1914-15 1915-16 1916-17 1917-18	18. 40 14. 85	21. 05 16. 00	20. 06 17. 50	20. 72 17. 91	19. 59 18. 19	21. 19 19. 38	14, 30 18, 00 18, 81 33, 72	16. 69 17. 90	16. 00 18. 33	14. 60 18. 39	14.00 19.08	15. 63	14. 82 17. 99 18. 06
1918–19 1919–20 1920–21	35. 00 50. 00 26. 58	53. 10 22. 28	51. 20 21. 67	52. 00 20. 00	54. 23 21. 52	55. 73 18. 55	51, 60 54, 22 18, 19	44. 96 17. 85	35. 00 19. 00	35. 00 19. 00	35. 00 19. 00		43. 52 45. 86 20. 22
Av., 1914–1920 1921–22 1922–23 1923–24	26. 34 18. 01 16. 42 20. 08	18. 32 19. 40	18. 50 20. 22	18. 50 20. 12	20. 84 20. 45	22. 49	29. 83 24. 52 19. 65	22. 00	21. 77	19. 38	18. 00		19. 88 18. 68

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, 1914-1923.

Year beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Aver- age.
1914-15 1915-16 1916-17 1917-18 1918-19		10. 24	10. 72 14. 35	11. 10 14. 46	\$10. 26 11. 30 15. 31 18. 70	10. 07 11. 62	11. 51 15. 59	9. 15 11. 56 15. 31	11. 50 15. 22	9. 48 11. 40	9. 53	9. 88 11. 74	\$9. 78 11. 18
1919-20 1920-21 1921-22 1922-23 1923-24	25. 30 16. 84 10. 62 10. 11 10. 52	17. 35 10. 72 10. 50	17. 70 10. 64 10. 74	16. 96 11. 05 10. 91	11. 64 10. 76	15. 34	14. 98 11. 92	13. 93 11. 46	13. 50 11. 27	12. 43 11. 71	10. 82 10. 82	10. 71 9. 81	28. 74 14. 71 11. 17 10. 49

Division of Statistical and Historical Research. Compiled from the Seed World.

<sup>&</sup>lt;sup>1</sup> No quotations.

<sup>1</sup> Price based on very few sales.

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.	Apr.	Мау.	June.	July.	Average.
1910-11 1911-12 1912-13 1913-14	\$6. 36 14. 31 6. 13 5. 59	15. 20 4. 81	15.81	16.00	16. 45 4. 13	16. 25 4. 13	16. 25 3. 88	15. 60 3. 76	14. 50 3. 88	13. 70 4. 16		10. 25 5. 28	14.66 4.44
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	6. 31 8. 19 7. 00 8. 25 8. 90 11. 75 8. 89	4. 99 8. 44 10. 00 11. 50	8. 35 5. 43 8. 56 10. 00 11. 25	8. 46 5. 50	8. 73 5. 74 7. 63 11. 00 . 12. 25	8. 70 5. 55 8. 25 11. 00 13. 62	8. 75 5. 55 8. 94 10. 00 14. 30	8. 55 5. 78 8. 55 10. 50 13. 07	8. 50 6. 81 8. 25 11. 00 11. 76	8. 94 8. 20 8. 41 12. 00 12. 00	9. 20 8. 14 7. 81 12. 00 12. 00	8. 75 8. 01 8. 88 12. 00 11. 85	8. 69 6. 39 8. 32 10. 72 12. 24
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 1922-23 1923-24	4. 50 4. 59 5. 91	4. 30 4. 96 7. 19		6. 26	5. 53 6. 25 7. 25				5. 22 5. 50			4. 50 6. 04	

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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912	\$8. 25 8. 30 8. 79 10. 27 9. 72	\$9.60 7.98 9.29 11.04 9.98	\$9. 78 8. 01 9. 58 12. 21 10. 34	\$9. 99 8. 17 9. 50 12. 54 10. 32	\$9.75 8.38 9.62 12.10 10.52	\$10. 25 9. 73 8. 31 9. 61 12. 10 10. 79	\$10. 07 9. 41 8. 29 9. 61 11. 67 10. 87	\$10.07 10.06 7.79 9.14 11.51 10.52	\$10. 52 8. 96 8. 85 9. 60 11. 30 10. 72	\$9.84 8.73 8.97 10.00 10.67 11.00	\$9. 73 7. 65 8. 45 9. 71 10. 00 10. 94	\$9. 49 7. 25 8. 81 9. 75 10. 31 11. 16
1918	11. 84 12. 48 21. 25 10. 91 10. 33 11. 99	12. 00 12. 70 22. 66 12. 74 10. 76 12. 42	12. 24 13. 12 24. 64 12. 47 11. 37 12. 50	12. 34 13. 65 25. 22 11. 62 11. 72 12. 85	12. 35 14. 32 25. 08 11. 43 11. 45 13. 19	12. 04 14. 24 24. 22 11. 84 11. 24 12. 64	11. 70 14. 51 23. 70 10. 70 11. 38 12. 17	13. 06 14. 11 21. 05 11. 00 10. 38 12. 05	12. 43 15. 47 21. 19 11. 14 10. 67 12. 15	11. 82 16. 57 18. 32 10. 51 10. 94 12. 86	11. 68 17. 51 16. 87 10. 14 11. 19 12. 31	12.00 20.27 12.99 10.38 11.60 12.44

Division of Crop and Livestock Estimates.

Table 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	\$11. 39	\$11. 62	\$12. 30	\$12.90	\$12.90	\$13. 49 12. 47	\$12. 82 12. 12	\$11.78 11.94	\$11. 61 10. 22	\$11.28 9.32	\$11. 23 9. 13	\$11. 10 9. 43
1914	9. 82	9. 77	9. 45	9. 84	9. 77	9. 86	9. 79	10. 39	10. 76	10. 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 16. 45	11. 67	12. 07 20. 13	12. 28 20. 35	12.30	12. 23	12. 36 18. 71	12.38	12.64	13. 26 20. 84	14. 26 21. 25	14. 99 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. <b>20</b>	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

Table 387 .- Timothy seed: Price per bushel paid by farmers, 15th of month, United States, 1912-1923.

Calendar year.	Jan	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912						\$7.37	<b>\$6.</b> 59	\$3. 89	\$3,06	\$2, 84	\$2, 67	\$2, 47
1913 1914	\$2. 51 2. 90	\$2. 47 2. 94	\$2. 33	\$2.43	\$2.40 2.97	2.44	2. 57	2.76	2, 84	2.85	2.87	2.84
1915	3. 42	3. 56	2. 97 3. 60	2. 95 3. 57	3. 46	2. 98 3. 48	2. 99 3. 49	3. 17 3. 48	3. 25 3. 59	3. 19 3. 74	3. 11 3. 69	3. 05 3. 73
1916	3. 80 3. 17	3. 96 3. 22	3. 98 3. 24	4.03 3.27	4. 04 3. 60	4. 01 3. 81	3. 99 3. 93	3. 50 3. 98	3.08 4.12	3. 01 4. 14	3. 05 4. 12	3. 11 4. 20
1918	4. 49 5. 43	4. 55 5. 45	4. 67 5. 50	4, 58 5, 56	4, 55 5, 73	4. 56 5. 68	4. 55 5. 79	4.71 5.96	4. 98 5. 92	5. 10 6. 05	5. 20 6. 06	5. 23 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 1922	4. 40 3. 83	4. 27 4. 04	4.05 4.00	4.08 4.03	4. 02 4. 04	4. 10 3. 88	3. 91 3. 79	3. 65 3. 56	3. 41 3. 34	3. 48 3. 48	3. 52 3. 69	3. 63 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

# 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.	Value per acre Dec. 1.1	Domesitc exports of unmanufac- tured, fiscal year begin- ning July 1.	Imports of unmanu- factured, fiscal year beginning July 1.
. 1849	Acres.	Pounds.	Pounds. 199,753,000	Cents.	Dollars.	Dollars.	Pounds.	Pounds.
1859			434, 209, 000					
1869			262,735,000					
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		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 55, 83	301, 007, 365 368, 184, 084	29, 428, 837 34, 016, 956
1902 1903	1, 031, 000 1, 038, 000	797. 3 786. 3	821, 824, 000 815, 972, 000	7.0 6.8	57, 564, 000 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		857. 2	682, 429, 000	10.0	68, 233, 000	85, 72	340, 742, 864	40, 898, 807
1907		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	1 995 000	814. 8	1, 055, 133, 000	10. 1	106, 374, 000	82, 14	357, 196, 074	46, 853, 389
1910		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	348, 346, 091	45, 764, 728
1915		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		873. 7	1, 439, 071, 000	28.0	402, 264, 000	244, 24	629, 287, 761	83, 951, 103
1919		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	<b>33</b> 5, 675, 000	171. 26	506, 526, 449	58, 923, 217
Av. 1914-1920.	1, 583, 000	811. 0	1, 283, 750, 000	22. 0	282, 374, 000	178. 38	468, 037, 237	<b>65,</b> 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
19232		810. 3	1, 474, 786, 000	20. 3	298, 936, 000	164. 25		
				]	<u> </u>	"		

Based upon farm price Dec. 1.
 Preliminary.

Table 389.—Tobacco: Acreage, production, and total farm value, by States, 1922 and 1923.

State.	Thousand	ls of acres.		, thousands ounds.	Total value, thou- sands of dollars, basis Dec. 1 price.		
	1922	1923 1	1922	1923 1	1922	1923 1	
Massachusetts Connecticut New York Pennsylvania Maryland	28 2 43	10 29 2 45 24	9, 612 29, 260 2, 220 56, 760 20, 020	14, 100 40, 252 2, 250 58, 950 19, 008	3, 633 11, 792 821 9, 082 3, 504	6, 176 18, 717 450 10, 700 4, 182	
Virginia. West Virginia North Carolina South Carolina Georgia	9 505 85	182 9 552 102 17	156, 750 7, 425 252, 500 54, 400 5, 940	134, 689 7, 740 386, 400 74, 460 11, 237	37, 620 1, 634 76, 508 12, 512 1, 544	26, 936 1, 703 81, 144 17, 870 3, 371	
Florida Ohio Indiana Wisconsin	3 46 18 40	4 47 22 44	3, 300 41, 400 16, 200 45, 600	4, 292 42, 776 19, 800 48, 092	1, 551 7, 866 2, 754 9, 120	2, 146 7, 271 3, 287 11, 157	
Missouri Kentucky Tennessee Louisiana	5 525 130 1	578 146 1	4, 500 446, 250 94, 250 450	6, 600 494, 190 109, 500 465	1, 305 87, 019 20, 735 248	1, 848 82, 036 19, 710 232	
United States	1, 695	1, 820	1, 246, 837	1, 474, 786	289, 248	298, 936	

Table 390.—Tobacco: Acreage, production, and farm value, by types and districts, 1922 and 1923.

Types and States.	Acre	ege.		d per re.	Produ	etion.	Pric pou	e per ind.1	Fai val	
1 ) pos and a total so	1922	1923 2	1922	1923	1922	1923 2	1922	1923 2	1922	1923 2
					1,000	1,000	~		1,000	1,000
Cigar types:	Acres.	Acres.	Lbs.	Lbs.	pounds.	pounds.		Cents.		dolls.
Massachusetts	9,000	10,000							3, 633	6, 176
Connecticut	28,000	29,000								
New York	2,000	2,000				2, 250	37.0			450
Pennsylvania	43, 000	45, 000								
Ohio	28, 900	27, 600	910		26, 299	25, 530				3, 574
Indiana	500	600					10.0	<b>13</b> . 5	40	70
Wisconsin	40,000	44, 000	1, 140	1,093	45, 600	48,092	20.0	23. 2	9, 120	11, 157
Georgia	1,500	1, 800	1,033	1,000	1, 550	1,800		52.4		944
Florida	3,000	4, 000								2, 146
Total cigar types	155, 900	164, 900	1,123	1, 194	175, 001	195, 788	23. 2	<b>2</b> 7. 5	40, 556	53, 934
Chewing, smoking, snuff,							-			
and export types:			}							
Burley-										
Virginia	1,800	2, 200	1,000		1,800	2, 420	26.6	20.0		484
West Virginia	8, 400	8, 500	827	860	6, 945	7, 310			1, 562	1,643
Ohio	15, 600	17, 600	855	862	13, 338	15, 176			2, 601	2, 276
Indiana	11, 000	14, 400	854	867	9, 400	12, 488	28.0	16.0	2,632	1,998
Missouri	5, 000	6,000	900	1, 100	4, 500	6, 600	29.0	28.0	1, 305	1,848
Kentucky	260, 000	296, 000	860	880		260, 480	25.0	21.0	55, 900	54, 701
Tennessee	19, 300	24, 600	830	880	16, 018	21, 648		23.0	4, 966	4,979
										-,
Total Burley	321, 100	369, 300	858	883	275, 601	326, 116	25. 2	20.8	69, 445	67, 929
Paducah—				-				_		
Kentucky	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		19,000	13. 0		2, 124	2,090
						-,,				
Total Paducah	93, 500	103, 500	810	798	75, 740	82, 585	13. 2	11. 1	10, 024	9, 148
Henderson—			====							
Kentucky	80,000	83, 500	893	880	71, 440	73, 480	15. 0	12. 2	10, 716	8, 965
	55, 000	55, 500	300		12, 110	-0, 400	10.0	14. 4	10, 710	G, 900
j										

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 390.—Tobacco: Acreage, production, and farm value, by types and districts, 1922 and 1923—Continued.

Types and States.	Acı	reage.		d per ere.	Prod	uction.		e per ind.1	Farm	ı value.
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
One Sucker— Indiana Kentucky Tennessee	Acres. 6, 500 38, 000 13, 900	39,500	875	81	33, 250	6, 790 32, 195	10. 0 13. 2	10. 8 11. 0	640	3, 541
Total One Sucker	58, 400	63, 100	863	818	50, 422	51, 601	12. 2	10. 7	6, 148	5, 516
Clarksville and Hop- kinsville— Kentucky Tennessee	72, 000 73, 500		780 680							7, 502 7, 007
Total Clarksville and Hopkinsville	145, 500	154, 500	729	750	106, 140	115, 900	15. 9	12. 5	16, 859	14, 509
Virginia sun cured Virginia Dark	10, 600 60, 000		770 818	707 830		5, 656 <b>40,</b> 504	14. 3 18. 8	11. 0 17. 9		622 7, 250
Old Belt— Virginia North Carolina	136, 600 240, 000	123, 000 255, 000	715 <b>4</b> 67	700 641			29. 3 31. 0	22. 8 22. 0	28, 628 34, 720	19, 631 35, 948
Total Old Belt	376, 600	378, 000	557	660	209, 708	249, 500	30. 2	22. 3	63, 348	55, 579
New Belt— North Carolina South Carolina Georgia	265, 000 85, 000 9, 000	102,000	530 640 462	751 730 625	140, 500 54, 400 4, 160	74, 460	29. 7 23. 0 21. 8	24. 0 24. 0 27. 6	12, 512	17,850
Total New Belt	359, 000	413, 700	555	741	199, 060	306, 647	27. 7	<b>24</b> . 1	55, 207	73, 978
Maryland, eastern Ohio Export— Maryland Ohio West Virginia	26, 000 1, 500 500		770 1, 175 800	792 1, 150 860	20, 020 1, 763 400	19, 008 2, 070 344	17. 5 17. 0 15. 0	22. 0 15. 0 14. 0	3, 504 300 60	4, 182 311 48
Total Export	28, 000	26, 200	792	818	22, 183	21, 422	17. 4	21. 2	3, 864	4, 541
Other— Georgia Tennessee Kentucky Louisiana West Virginia	500 1,800 3,000 1,000	500 2, 800 3, 000 1, 000 100	460 630 800 430 800	500 834 818 465 860	230 1, 140 2, 400 450 80	250 2, 336 2, 450 465 86	10. 0 15. 0 13. 2 55. 0 15. 0	10. 0 15. 0 11. 0 50. 0 14. 0	23 171 317 248 12	25 850 269 232 12
Total other	6, 400	7, 400	673	755	4, 300	5, 587	17. 9	15. 9	771	888
Total chewing, smoking, snuff, and export	1, 539, 100	1, 656, 000	696	772	1, 071, 836	1, 278, 998	23. 0	19. 4	246, 776	248, 925
Total, all types	1, 695, 000	1, 820, 000	736	810	1, 246, 837	1, 474, 786	23. 0	20. 5	287, 332	302, 859

<sup>&</sup>lt;sup>1</sup> 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.

<sup>2</sup> Preliminary.

TABLE 391.—Tobacco: Yield per acre, by States, calendar years, 1908-1933.

State.	1908	1909	1910	1911	1912	1913	Av. 1909– 1913	1914	1915
Massachusetts Connecticut New York Pennsylvania Maryland	1, 680 1, 175 1, 325	1 1,600 1,650 1,175 985 710	1,730 1,730 1,250 1,500 690	1, 650 1, 625 1, 330 1, 420 735	1,760 1,700 1,300 1,450 660	1,550 1,550 1,020 1,200 740	1, 646 1, 651 1, 215 1, 311 707	1,750 1,770 1,300 1,450 800	1, 100 1, 350 1, 200 1, 350 740
Virginia West Virginia North Carolina South Carolina Georgia	750 670 865	775 875 600 800 700	780 640 600 630 680	800 750 710 810 900	600 760 620 700 830	770 680 670 760 1, 000	745 741 640 740 822	650 820 650 730 1, 000	750 870 620 580 880
Florida Ohio Indiana Wisconsin	990 670 700 1, 130	710 925 950 1, 180	680 810 880 1, 050	940 925 910 1, 250	840 920 800 1, 290	1, 000 750 750 1, 180	834 866 858 1, 190	1, 000 900 900 1, 180	910 900 840 900
Missouri Kentucky Tennessee Louisiana	875 815 800 850	885 835 730 550	1, 050 810 760 550	800 880 810 450	1, 000 780 660 300	650 760 720 450	877 813 736 460	1, 200 910 820 400	900 810 750 420
United States	8 <b>2</b> 0. 2	814. 8	807. 7	893. 7	785. 5	784. 3	815. 1	845. 7	775. 4
State.	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923
Massachusetts Connecticut New York Pennsylvania Maryland	1, 660 1, 630 1, 230 1, 360 770	1, 400 1, 400 1, 250 1, 400 790	1, 500 1, 500 1, 250 1, 420 830	1, 540 1, 565 1, 290 1, 320 675	1, 550 1, 480 1, 280 1, 510 875	1, 500 1, 528 1, 257 1, 401 783	1, 370 1, 454 1, 250 1, 460 715	1, 068 1, 045 1, 110 1, 320 770	1, 410 1, 388 1, 125 1, 310 792
Virginia	680 900 550 520 1, 180	700 800 630 710 1,000	770 720 705 720 800	530 700 616 722 530	730 800 694 650 600	687 801 638 662 856	550 750 561 630 564	750 825 500 640 540	746 860 700 736 661
Florida Ohio Indiana Wisconsin	1, 210 950 930 1, 270	1, 100 960 950 1, 000	960 980 930 1, 330	950 860 800 1, 270	1, 050 960 900 1, 248	1, 026 930 893 1, 171	900 920 875 1, 281	1, 100 900 900 1, 140	1, 073 910 900 1 <b>, 09</b> 3
Missouri Kentucky Tennessee	950 900 800 450	940 900 810 350	900 960 800 420	1, 000 800 810 434	1, 000 850 730 500	984 876 789 425	925 846 750 450	900 850 725 450	1, 100 855 750 465
Louisiana	450	300	420	101	000	120	100	100	100

Table 392.—Tobacco: Condition of crop, 1st of month, and yield per acre, United States, 1867-1923.

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.	Lbs.		P. ct.	P. ct.	P. ct.	P. ct.	Lbs.
1867	95. 5	92. 5	87. 3	93. 5	634. 6	1900	88. 5	82. 9	77. 5	76. 1	778. 2
1868		93. 7	92. 4	98. 9	751. 4	1901	86. 5	72. 1	78. 2	81. 5	788. 1
1869		92. 7	78. 1	83. 7	569. 1	1902	85. 6	81. 2	81. 5	84.1	797. 3
1870		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	1908	86. 6	85. 8	84. 3	84. 1	820. 2
1876	97. 0	81.0	81. 1	88.4	705.0						
1000	100.0		a= a	ļ	1	1909	89. 8	83. 4	80. 2	81. 3	814. 8
1877 1878	102. 0	100.6	97. 3			1910	85. 3	78. 5	77. 7	80. 2	807. 7
1879	95. 3	84.0	81. 0		723. 1	1911	72. 6	68. 0	71.1	80. 5	893. 7
1880	88. 0	77. 0	87. 0		793. 1	1912	87. 7	82. 8	81. 1	81. 8	785. 5
1881	91.3	86. 0	84. 0		740. 7	1913	82. 8	78. 3	74.5	76. 6	784. 3
1991	95. 0	85.0	65. 0		696. 2	4 - 1000 1010	00.4	<b>50.0</b>			
1882	96. 2	87. 0	90. 0	95. 4	764. 1	Av. 1909-1913	83. 6	78. 2	76. 9	80. 1	817. 2
1883	95. 0	88.0	80.0	77. 9	704. 1	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	96. 0	91.0	86. 3	88. 3	747. 8	1916	87. 6	84. 4	85. 5	85. 6	816. 0
1886	92. 4	81. 8	81. 2	86.6	709. 9	1917	86.8	88. 1	84. 5	87. 8	823. 1
1	· · ·	01.0	01. 2	50.0	100.0	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	1020	04. 0	01. 1	01.0	00. 0	
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	111.1011-1020	02. T	50. Z	OU. 1	60. 1	010. 2
						1921	71. 9	66. 6	70. 5	75. 6	749. 6
1892	92.7	88. 8	79. 9	83. 5	687. 6	1922	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		f	- 1	1	1	
1896	91. 5	86. 5	81. 5	76. 9	677. 6					İ	
1897	78. 5	78. 7	75. 5	70. 3	645. 9				-		
1898	89. 9	85. 6	90. 8	88. 0	745. 4		- 1		1		
1899	83. 7	80. 0	84. 0	81. 9	728. 5	1	- 1	- 1	- 1	I	

Table 393.—Tobacco: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909-1922.

Calendar year.	De- fic- ient mois- ture.	Ex- ces- sive mois- ture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	To- tal cli- mat- ic.	Plant dis- ease.	In- sect pests.	Ani- mal pests.	De- fec- tive seed.	To- tal.1
1909 1910 1911 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920	P. ct. 5. 5 4. 8 16. 7 7. 6 15. 3 18. 1 3. 9 3. 5 3. 3 8. 6 8. 9 2. 3 18. 9	P. ct. 6.8 6.8 .9 4.8 .7 .2 8.2 5.5 2.2 .4 7.9 7.0 2.2	P. ct. 1.1 1.2  .8 .4 .1 .9 1.3 .5 .2 .6 .6 .6 .1	P. ct. 0.7 .4 .8 .5 1.2 .4 1.2 1.3 3.3 3.7 .2	P. ct. 0.8 .3 .1 1.0 1.2 .6 .8 1.0 1.2 1.1 1.1	P. ct. 0. 1 (2) . 6 . 2 . 3 . 1 . 1 . 1 . 2 . 1	P. ct. 0. 2 .1 .2 .6 .1 .9 .8 .2 .2	P. ct. 15. 3 14. 4 19. 5 15. 3 20. 0 20. 1 16. 3 14. 0 11. 1 11. 4	P. ct. 0.7 .7 .3 .7 .1 (2) .6 .3 .2 .3 .5 .5 .5 .1 .6	P. ct. 2.6 2.8 1.0 2.8 3.0 2.7 4.0 2.8 2.1 2.1 2.8 2.6 3.2	P. ct.	P. ct. (2) 0.1 .2 .1 (2) .1 .1 (2) .1 .1 (2)	P. ct. 19. 6 20. 6 21. 2 25. 0 24. 8 23. 5 18. 4 15. 2 14. 2 23. 0 21. 0 28. 2

<sup>1</sup> Condition at time of harvest.

<sup>1</sup> Includes all other causes.

<sup>2</sup> Less than 0.05 per cent.

Table 394.—Tobacco: Area and yield per acre for nine of the largest producing countries, 1909-1923.

	•		Area.			Yield per acre.						
Country.	A ver- age 1909– 1913.	1920	1921	1922	1923, pre- limi- nary.	A ver- age 1909- 1913	1920	1921	1922	1923, p re- limi- nary.		
	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	Poumde	Pounds	Pounds.	Pounda	Downdo		
United States France	1, 223	1,960 1 29	1, 427	1, 695	1,820	814. 4	807. 3	749. 6	735. 6 1, 426. 1	810.		
Italy	22	33	48	55		1,009.1	856. 5	898. 9	917. 9			
Germany	39	32	25	28	(2)	1, 706. 1	2,064.4	2,639.2	( <sup>2</sup> )	(2)		
Hungary	121	51	49	44	42		1,076.7	830. 7	782. 5			
Bulgaria	20 24	95 58	58 43	54 53	77	692. 8 684. 4	680. 0 650. 0	619. 4 537. 7	729. 3 523. 6	710.		
Algeria	25	47	54	27	51	936.8	856.0	919. 1	762. 2	785.		
Philippine Islands	8 154	250	225	148	158	422. 1	572. 3	517.3	445. 8	441.		

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

Table 395.—Tobacco: Production in undermentioned countries. NORTHERN HEMISPHERE.

Country.	Average 1909–1913.	1917	1918	1919	1920	1921	1922	1923, prelim- inary.
NORTH AMERICA.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
Canada	1 15, 066	8, 495	14, 232	33, 770	48, 088	13, 249	25, 950	
United States		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	l
Guatemala	256		1,049				143	
Cuba	73, 666	61, 118	81, 039	1	120, 624	40, 299	30, 399	
Dominican Republic.	2 25, 417	<b></b>	]	29, 983	50, 044	14, 991	14, 991	
Porto Rico	\$ 10,828	25, 410	25, 772	19, 363	15, 474	24, 712	24, 710	26, 000
Jamaica	2 490							
EUROPE.								
Sweden	4 1, 744	1, 477	1, 389	1, 702	1, 691	1, 435	1, 164	1, 323
Denmark	í 258	803		2, 518				
Belgium	20, 733			35, 052	13, 485	10, 190	7, 333	8, 600
France	5 45, 273	39, 361	25, 123	34, 666	46, 031	52, 578	47, 062	
ItalySwitzerland	22, 200	11,684	6 19, 841	21, 170	28, 263	43, 145	50, 485	
	4 1, 374	882		661	860	816	790	790
Germany	\$ 66, 536	59, 815	45, 973	39, 984	66, 061	65, 980		
Austria	<sup>8</sup> 13, 693							
Czechoslovakia					3,893	40.70	4, 548	
Hungary	146, 626				54, 912 17, 210	40, 705 26, 046	34, 430 20, 700	45, 000
Yugoslavia	3, 739 28, 021	61, 233	66, 912	65, 463	69, 850	49, 863	38, 940	45,000
Greece Bulgaria	13, 857	32, 647	57, 567	48, 284	64, 604	35, 923	39, 380	54, 670
Rumania	16, 426	32, 047	13, 481	27, 010	37, 699	23, 121	<b>27</b> , 750	34, 070
Russia, included Uk-	10, 420		10, 401	21,010	31,000	20, 121	21, 100	
raine and northern			i					
Caucasia	5 232, 949							
AFRICA.	202, 010							
AF MICA.			1					
Algeria	23, 421	35, 274	49, 118	31, 658	40, 234	49, 630	20, 580	40, 050
Tunis	265	377	484	628	671	1,069	882	990
ASIA.						,		
. f								
India, British	450,000							
British North Borneo			1, 520	1, 857	1, 265	1, 160		
Ceylon							10, 000	
Japanese Empire:								
Japan	93, 717	90, 607	79, 780	113, 361	137, 193	134, 899	149, 610	<b></b>
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)	s 30, 939							
Philippines	65, 005	107, 868	135, 705	124, 555	143, 064	116, 401	65, 977	69, 798

<sup>&</sup>lt;sup>1</sup> Beginning with 1920, figures include Alsace Lorraine. <sup>2</sup> Figures not available. <sup>3</sup> Four-year average.

¹ Two-year average.² Three-year average.

One year only.
Four-year average.

<sup>Old boundaries.
Exclusive of invaded territory.</sup> 

Table 395.—Tobacco: Production in undermentioned countries.—Continued. SOUTHERN HEMISPHERE.

•	1		1		I	I	1	
Country.	Average 1909–1913.	1917–18	1918-19	1919-20	1920-21	1921–22	1922-23	1923-24
SOUTH AMERICA.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
ChileBrazil	3, 834	10, 958 99, 207	6, 929	6, 739 162, 362	9, 521 177, 461			
Uruguay Paraguay	2, 045 17, 844	950 30,864	1, 836	480	1,836	329 21, 280		
Argentina	12, 635	9, 398		22, 253	33, 360	38, 283		
AFRICA.					ļ			
Union of South Africa Rhodesia	8 14, 961 4 1, 992	14, 931 620	<sup>7</sup> 14, 183 1, 468	11, 644 2, 927	15, 006 3, 747	9, 813 3, 182	3, 500	
Nyasaland	3,017	4, 776	2, 594	3, 997	3,844	6, 736		
OCEANIA.							i I	
Dutch East Indies: Java and Madura Sumatra, East	94, 302	57, 096	41, 829	100, 640	68, 911	83, 041		
Coast	46, 278 2, 135	44, 788 459	51,800 2,664	12, 743 2, 651	992	1,086		
Fiji					54	184		
Total compara- ble with 1909- 1913	2, 624, 221					1		
Total compara- ble with 1923					1, 879, 518	1, 335, 915	1, 428, 353	1, 722, 007

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.

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	Av. 1909- 1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914– 1920	1921	1922	1923	Value per acre 1923.
Massachusetts_Connecticut New York Pennsylvania Maryland	15. 5 17. 0 9. 5 10. 5	14. 0 16. 5 8. 0 9. 0	15. 0 16. 5 8. 5 9. 3	20. 0 20. 5 10. 4 9. 5	23. 9 24. 1 12. 6 8. 5	Cts. 21. 0 21. 0 12. 2 7. 5 9. 3	18.8 19.7 10.3 8.8	17. 7 18. 5 12. 0 8. 5	14. 5 17. 0 9. 5 9. 2	25. 0 27. 0 13. 0 14. 2	Cts. 38. 4 38. 4 22. 0 21. 0 20. 0	40. 0 44. 0 18. 0 14. 0	46. 3 46. 3 22. 5 17. 0	40. 6 35. 0 27. 0 20. 0	31.8 32.3 17.7 14.8	36. 0 41. 0 19. 3 14. 4	37. 8 40. 3 37. 0 16. 0	43. 8 46. 5 20. 0 18. 1	Dol. 617, 58 645, 42 225, 00 237, 11 174, 24
Virginia West Virginia North Carolina. South Carolina. Georgia	14. 0 10. 5 10. 0	13. 2 9. 5 7. 3	10. 3 10. 6 8. 6	8. 0 11. 6 12. 6	11. 0 16. 0 10. 9	18. 5 13. 8	10. 9 13. 2 10. 6	11. 0 11. 5 9. 7	10.0 11.2 7.0	15. 0 20. 0 14. 0	30. 0 31. 5 23. 1	36. 6 35. 1 31. 1	50. 0 53. 6 22. 8	25. 0 25. 3 15. 0	25. 4 26. 9 17. 5	24. 0 26. 0 11. 0	22, 0 30, 3 23, 0	22. 0 21. 0 24. 0	148. 00 189. 20 147. 00 175. 20 198. 30
Ohio Indiana	10. 5 12. 0	10. 5 11. 0	8. 5 9. 5	7. 6 7. 8	9. 1 9. 0	31. 0 11. 4 11. 0 12. 0	9. 4 9. 7 9. 9	8. 8 9. 0 11. 0	9. 0 7. 3 6. 0	13. 0 13. 0 12. 5	25. 0 24. 0 17. 5	19. 5 20. 7 22. 0	33. 7 35. 2 22. 2	13. 0 14. 0 25. 9	17. 4 17. 6 16. 7	15. 0 15. 0 12. 5	19. 0 17. 0 20. 0	17. 0 16. 6 23. 2	536. 50 154. 70 149. 40 253. 58
Kentucky Tennessee	9.1 9.0	10. 6 7. 8	8.7 8.4	7.7 8.5	8.7 7.1	12. 7 10. 0 8. 4 25. 0	9. 1 8. 0	8.4	7.8 6.3	12. 7 10. 1	21. 2 22. 7 17. 0 35. 0	26.3 21.4	38. 2 25. 1	15. 0 20. 0	18. 7 15. 3 42. 6	15. 5 20. 0 55. 0	19. 5 22. 0 55. 0	16. 6 18. 0 50. 0	308. 00 141. 93 135. 00 232. 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	28. 0	39. 0	21. 2	20.8	19. 9	23. 2	20. 3	164. 25

Division of Crop and Livestock Estimates.

One year only.
 Four-year average.
 Texclusive of native reserves (production of 2,428,553 pounds in 1917-18 and 1,614,400 pounds in 1920-21).

<sup>1</sup> Based on farm price Dec. 1.

TABLE 397.—Tobacco (unmanufactured): International trade, calendar years, 1909-1922.

Country.	Average,	1909–1913.	19	920	19	21	1922, pre	liminary.
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING								
COUNTRIES.	1,000 lbs	1.000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1.000 lbs.	1,000 lbs.	1.000 lbs.
Algeria	4, 776	11, 681	6, 408	23, 724	6, 781	21, 896	8, 513	33, 549
Brazil	620	59, 991	2, 176	67, 376	2,024	71, 718	0,010	98, 563
British India	6, 538	28, 874	10, 121	36, 379	7, 284	30, 987	8,053	26, 895
Bulgaria	(1)	4, 310		38, 793	., ===	00,000	0,000	20,000
Ceylon		4, 093	4	3, 590	3	2,411	4	4, 33
Cuba	141	38, 035	(1)	28, 058				
Dominican Republic.		<b>22,</b> 395		36, 225		20, 221		16, 602
Dutch East Indies	8,074	163, 823	322	274, 379	491	100, 250	3 455	<sup>3</sup> 79, 598
Greece	12,024	18, 113	157	59, 276	443	57, 750	128	81, 036
Hungary					<del>-</del>		5, 512	7, 569
Paraguay		11, 361	18, 963					
Persia	797	3,874	230	2, 550				
Philippine Islands	45	26, 018	763	45, 578	342	49, 270	181	<b>35,</b> 433
Russia	1,084	23, 283						
United States	52, 768	381, 127	<b>82,</b> 221	479, 900	<b>52,</b> 994	<b>522,</b> 756	77, 693	441, 868
PRINCIPAL IMPORTING COUNTRIES.								
A den	11, 619	7, 739	9,603	6, 452				
Argentina	14, 988	41	21, 935	453				
Australia	13, 740	(1)	21, 955	(1)	17, 104			
Austria			14, 461	287	24, 108	422		
Austria-Hungary	49, 984	23, 192						
Belgium	22, 094	33	36, 400	419	36, 142	220	44, 734	702
Canada	17, 891	433	21, 121	778	19, 925	884	14, 454	1, 735
China	15, 113	25, 487	30, 310	36, 982	29, 504	26, 891	33, 871	26, 269
Czechoslovakia			<b>23, 63</b> 5	102	25, 825		57, 702	(1)
Denmark	8,774	100	15, 900	76	5, 977	(1)	9, 289	
Egypt	19,005		19, 287	244	17, 394	``13		
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	<sup>8</sup> 196, 277	8 961	175, 323	989
[taly	47, 732	3,008	74, 246	79	63, 417		49, 333	4 007
Netherlands	57, 218	3, 786	86, 797	10, 175	64, 322	5, 009	49, 643	<b>4,</b> 667
Norway	3,994		6, 874 14, 376	252	4, 750		4, 982	
Poland	6, 565	279	14, 310	202				
Portugal	51, 026	218	73, 659		42, 766		27, 058	
Sweden	9, 772	i	12, 778	110	8, 783	394	21,000	
Switzerland	17, 949	47	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

Division of Statistical and Historical Research. Official sources. Tobacco comprises leaf, stems, and strippings, but not snuff.

Less than 500 pounds.
 Java and Madura only.
 Eight months, May-December.

## TOBACCO.

Table 398.—Tobacco: Wholesale price per pound, 1907-1923.

	Но	pkinsv	ille.	I	ouisvil	le.	R	lichmor	ıd.	E	Baltimor	·е.
Calendar year.	Leaf	, comm fine.	on to	Leaf red), co	(burley ommon	, dark to good.	Leaf, a	smokers on to fi	', com- ne.	Leaf mediu	(Maryl ım to fi	and), ne red.
	Low.	High.	Average.1	Low.	High.	Aver- age.1	Low.	High.	A ver- age. 1	Low.	High.	Aver- age.1
1907 1908	Cents. 6. 50 7. 50	Cents. 16. 00 20. 00	Cents. 11. 19 12. 75	Cents. 6. 50 9. 00	Cents. 14. 50 19. 00	Cents. 10. 65 13. 67	Cents. 8. 00 8. 00	Cents. 13. 00 13. 00	Cents. 10. 50 10. 50	Cents. 6. 50 6. 50	Cents: 12. 00 13. 00	Cents. 9. 48 9. 85
1909 1910 1911 1912 1913		14. 00 17. 50 18. 00 16. 00 14. 00	9. 85 11. 09 12. 10 11. 69 11. 02	12. 00 8. 00 6. 00 7. 00 7. 00	18. 50 17. 00 12. 75 13. 00 16. 00	15. 35 13. 55 9. 39 9. 62 11. 23	7. 00 7. 00 7. 00 7. 00 7. 00 7. 00	13. 00 13. 00 13. 00 15. 00 20. 00	10. 28 10. 00 10. 00 10. 83 11. 58	8. 50 8. 50 8. 50 8. 50 8. 50	13. 00 13. 00 13. 00 15. 00 15. 00	10. 75 10. 75 10. 75 11. 00 11. 75
Low, high, andav.1909- 1913	5. 50	18.00	11. 15	6. 00	18. 50	11. 83	7. 00	20. 00	10. 54	8. 50	15. 00	11. 00
1914 1915 1916 1917 1918 1919 1920	7. 50 4. 00 5. 00 10. 00 14. 00 12. 14 14. 00	14. 00 12. 50 14. 50 20. 50 25. 00 36. 50 53. 00	11. 05 8. 08 9. 45 13. 61 18. 63 23. 68 27. 02	9. 00 8. 00 10. 00 13. 00 25. 00 10. 00 13. 00	16. 00 15. 00 19. 00 32. 00 44. 00 48. 00 42. 00	12. 71 11. 88 13. 33 20. 71 84. 34 26. 92 27. 05	7. 00 6. 00 6. 00 9. 00 16. 00 15. 00	20. 00 18. 00 20. 00 30. 00 45. 00 45. 00 37. 00	13. 40 11. 07 11. 66 17. 06 23. 62 27. 31 23. 56	8. 00 8. 00 9. 00 17. 00 22. 00 26. 00 25. 00	15. 00 14. 00 21. 00 28. 00 49. 00 53. 00 58. 00	11. 46 10. 83 14. 69 22. 21 33. 56 37. 22 41. 19
Low, high, and av.1914– 1920	4. 00	53. 00	15. 93	8. 00	48. 00	20. 99	6. 00	45. 00	18. 24	8, 00	58. 00	24. 45
1921 1922 1923	8. 00 10. 00 10. 00	55. 00 40. 00 40. 00	24. 47 23. 81 22. 87	7. 00 12. 00 14. 00	30. 00 35. 00 35. 00	17. 83 22. 12 23. 83	7. 00 7. 00 7. 00	30. 00 16. 00 18. 00	12. 66 11. 10 12. 46	18. 00 18. 00 18. 00	58. 00 50. 00 56. 00	30. 52 32 83 33. 12
January	12.00 12.00 12.00			18. 00 18. 00 14. 00 14. 00 14. 00 15. 00 15. 00 15. 00 15. 00 14. 00	35. 00 35. 00 35. 00 35. 00 35. 00 35. 00 30. 00 30. 00 30. 00 30. 00 30. 00	26, 50 26, 50 26, 50 25, 50 24, 50 23, 30 22, 50 22, 50 22, 50 22, 50 22, 50 21, 00	7.00 7.00 7.00 7.00 7.00 7.00 7.00 9.00 9	16. 00 16. 00 16. 00 16. 00 16. 00 18. 00 18. 00 18. 00 18. 00 18. 00	11. 50 11. 50 11. 50 11. 50 11. 50 11. 50 13. 00 13. 50 13. 50 13. 50 13. 50	18. 00 18. 00 18. 00 18. 00 18. 00 18. 00 18. 00 18. 00 23. 50 23. 50 26. 00	50. 00 50. 00 50. 00 42. 00 42. 00 42. 00 42. 00 42. 00 50. 00 50. 00 50. 00 56. 90	34. 00 34. 00 34. 00 34. 00 29. 25 30. 00 30. 00 30. 00 31. 69 36. 75 36. 75 41. 00

Division of Statistical and Historical Research. Compiled from Western Tobacco Journal, Richmond Grain Exchange Price Current, and Baltimore Daily Price Current.

<sup>&</sup>lt;sup>1</sup> 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.

<sup>2</sup> Largely common to good.

<sup>3</sup> Good.

<sup>4</sup> Average common to good.

# COFFEE.

Table 399.—Coffee: International trade, calendar years, 1909-1922.

	Average 1	1909–1913.	19	20	19	21	1922, prel	iminary.
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORT-						4 000	4 000	1 000
ING 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.	1,676,334
Brazil British India		1, 672, 282		1, 524, 478		1, 636, 119 30, 070	5, 595	19, 459
British India	1 605	27, 780	<b>5,</b> 65 <b>5</b>	19, 407	2, 366	<sup>2</sup> 310, 205	3, 595	18, 408
Colombia		104, 398		<sup>2</sup> 190, 962		29, 406		41.043
Costa Rica Dutch East Indies Guatemala		27, 515		<sup>2</sup> 30, 860	1, 961	96, 323	3 37	3 95, 491
Dutch East Indies	4, 227	54, 149	2, 080	137, 223				9 05 100
Guatemala		85, 951		207, 685 68, 292		45, 690		50, 102
Haiti		61, 943		4, 622		2 7, 233		27 081
Jamaica		8, 263				2 29, 938		1, 002
Nicaragua Salvador Venezuela	138	19,033		82, 865	( <sup>6</sup> )	62 418		<sup>2</sup> 94, 972
Salvador	• 1, 593	62, 830		73, 727		121, 965		<sup>2</sup> 143, 248
Venezuela		111, 326		13, 121		121, 500		110, 210
PRINCIPAL IMPORT- ING COUNTRIES.				·				
Argentina	28, 125		38, 811					<sup>2</sup> 18
Austria	·		6, 274	242	11, 909	302	2 9, 794	1 180
Austria-Hungary	128, 304	8						2, 43
Belgium	1111.738	33, 627	84, 469	3, 411	105, 366	21, 538	84, 781 2 25, 970	<sup>2</sup> 22, 160
British Malaya	2 7, 524	2 7, 137	27, 025	27,742	19, 981	15, 121		22, 100
Canada	13, 378	55	19, 493	17	19,876	10	21, 303	-
Cuba	24, 906	4	44, 425	3		(6) 380 226	23, 933	
Czechoslovakia			2 11, 215	2 124	25, 592	(9)	50, 815	214
Denmark	33, 102	152	44, 823	402	43, 724	226	2 21, 744	3
Egypt	15, 654		22, 530	3, 408	20,722	220	30, 524	
Finland	28, 624		14, 953	1 2	27, 913	1 150	386, 293	68
France	245, 752	41	323, 254	1, 983	339, 590	1, 158 7 211	81, 162	17
Germany	399, 965	1,757	90, 602	62	<sup>2</sup> 228, 698 <sup>2</sup> 5, 709	13	27, 119	2 19
Hungary			3,043	14	105, 594	13	104, 195	
Italy	58, 278	458	66, 509	37, 551		66, 568	129, 148	55, 94
Netherlands	283, 633	189, 288	133, 749	31, 331	29, 981	00,000	39, 425	
Norway	29, 309		24, 853 2 1, 198		20, 001		00, 120	
Russia			48, 519	5	48, 219	56	41, 235	1'
Spain	29, 317	9		2, 355		926	77, 660	3 16
Sweden	74, 486	24	22,777	2, 333	31, 583	48	29, 259	4
Switzerland	25, 029	62	28, 753	51	29, 906	64	29, 924	1
Union of South Africa	26, 458	241	27, 434	108	165	87	89, 797	
United Kingdom	28, 581	8 44, 251	1, 297, 439	36, 757	1, 340, 980	34, 573	1, 246, 061	26, 75
United States	907, 899	95, 727	126, 998	101, 854	135, 318	60, 897	80, 336	78, 92
Other countries	82, 15 <b>6</b>	90, 121	120, 998	101, 001	100,010			
Total	2, 614, 854	2, 608, 347	2, 615, 710	2, 571, 631	2, 800, 427	2, 666, 757	2, 616, 110	2, 360, 79

Division of Statistical and Historical Research. Official sources except where otherwise noted. The item of coffee comprises unhulled and hulled, ground or otherwise prepared, but imitation or "surrogate" coffee and chicory are excluded.

<sup>1</sup> Four-year average.
2 International Institute of Agriculture.
3 Java and Madura only.

<sup>4</sup> Three-year average.

<sup>One year only.
Less than 500 pounds.
Eight months, May-December.
Chiefly from Porto Rico.</sup> 

Table 400.—Coffee, Rio, No. 7: Average wholesale price per pound, New York, 1890-1923.

								,			,		
Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age
1890 1891 1892 1893 1894	Cents. 16. 8 17. 4 13. 0 17. 1 18. 4	Cents. 17. 0 17. 5 13. 9 18. 1 17. 4	Cents. 18. 0 18. 4 15. 0 18. 0 17. 2	Cents. 18. 7 18. 5 14. 2 17. 4 17. 6	Cents. 17. 6 18. 6 12. 8 15. 5 16. 5	Cents. 18. 1 18. 2 12. 9 17. 0 15. 8	Cents. 17. 6 17. 5 12. 9 16. 5 16. 6	Cents. 17. 9 17. 5 13. 3 16. 2 16. 3	Cents. 18. 8 16. 2 14. 8 16. 6 16. 0	Cents. 18. 9 14. 1 15. 4 18. 2 15. 7	Cents. 18. 0 12. 9 16. 3 18. 3 15. 1	Cents. 17. 9 13. 6 17. 1 17. 8 15. 8	Cents. 17. 9 16. 7 14. 3 17. 2 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. <del>4</del> -	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
	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
	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
	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
1917	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
1918	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
1919	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°—YBK 1923——56

TEA. Table 401.—Tea: International trade, calendar years, 1909-1922.

Country.	A verage,	1909-1913,	19	20.	19	21.	prelin	22, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORT-								
ING COUNTRIES.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1.000
D 44.1. T 11	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.
British India	8,002	267,887	11, 466	<b>270,</b> 957	11, 581	349, 086	14,603	311,633
Ceylon	11	189, 016	1	184, 770	1	160, 732	1	171,808
China		197, 997	6,069	40, 537	6, 387	57, 358	13, 656	
Formosa	6, 742 68	46, 675	6, 730	100, 703	6, 704	77, 518	<sup>2</sup> 6, 071	<sup>2</sup> 76, 678
Japan	590	23, 640 35, 823	155	14, 377	3 89	<sup>3</sup> 17, 931	8 73	8 11, 271
заран	990	33, 823	540	26, 438	996	15, 863	<sup>3</sup> 1, 469	8 25, 498
PRINCIPAL IMPORT- ING COUNTRIES.								-
Argentina	3, 880		3, 262					
Australia	35, 442	(4)	34, 060		43 409		3 42, 866	
Austria	00, 112		864	28	858	74	8 1, 001	
Austria-Hungary	3, 424	3	001	20	000	12	• 1,001	. 11
British Malaya	8 11, 983	8 5, 318	11, 453	4,067	7, 191	1,338	3 9, 370	<sup>3</sup> 3, 686
Canada	37, 927		36,740	-,	35, 653	2,000	40, 050	: 0, 000
Chile	3, 505		4,690		3,036		<sup>3</sup> 1, 540	
Czechoslovakia			3 1,066	a 3	1, 132	3 3	1,009	3 2
Egypt.		61	4,327	749	3,938	173	3 4, 570	157
France	2,806	61	4,017	160	2, 462	195	2,740	113
French Indo-China	3, 295	1, 145	2,726	787	<sup>8</sup> 3, 622	<sup>3</sup> 1, 376	* 3, 391	8 1, 136
Germany	8, 964	23	3,850	25	8 11,854	5 16	6, 178	23
Hungary			8 679		<sup>3</sup> 528		<sup>3</sup> 1, 075	8 35
Morocco.	6,696		5, 697		6,011		8,765	
Netherlands	11, 383	45	23, 407	63	26, 697	43	26, 226	31
New Zealand	7, 542 9, 446	125	12, 838 6, 623	490	6, 195		8,708	
Persia Poland	9, 440	120	3,771	490	37,426	³ 786		*****
Russia	157, 704	866	3,771		<sup>8</sup> 3, 917 <sup>8</sup> 1, 387	³ 56	<sup>8</sup> 2, 260	<sup>8</sup> 108
Union of South Africa.	5, 192	61	6, 673	47	8,136	23	9,326	252
United Kingdom	293, 045	۱ ۰۰	389, 915	*	412, 848	20	376, 849	452
United States	98, 897		90, 247		76, 487		97, 097	
Other countries	31, 268	7, 237	25, 569	8, 670	21, 419	915	19, 241	1,570
Total	768, 652	775, 922	697, 499	652, 871	709, 957	683, 486	698, 135	680, 475

Division of Statistical and Historical Research. Official sources except where otherwise noted. "Tea" includes tea leaves only and excludes dust, sweepings, and yerba mate.

Less than 500 pounds. Eight months, May-December

Two-year average.
 Java and Madura only.
 International Institute of Agriculture.

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.
1890	28.0	Cts. 26. 5 29. 0 28. 0 29. 0 28. 0	Cts. 26. 5 29. 0 28. 0 29. 0 28. 0	Cts. 26. 5 28. 0 28. 0 29. 0 28. 0	Cts. 24. 0 28. 0 29. 0 29. 0 26. 5	Cts. 24. 0 28. 0 30. 5 29. 0 26. 5	Cts. 24. 0 28. 0 27. 0 29. 0 26. 5	Cts. 24. 0 28. 0 32. 5 28. 0 26. 5	Cts. 34. 0 28. 0 32. 5 28. 0 29. 0	Cts. 32. 0 28. 0 32. 5 28. 0 29. 0	Cts. 32. 0 28. 0 32. 5 28. 0 29. 0	Cts. 28. 0 28. 0 32. 5 28. 0 29. 0	Cts. 27. 3 28. 2 ·30. 1 28. 9 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	26. 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
1908	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
1911		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
1913		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. 1909-1913	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
1917	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
1918	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
1919	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	<b>2</b> 9. 0	29.4	<b>29</b> . 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

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

# VEGETABLE OILS.

Table 403.—Exports of vegetable oils from the United States, 1910-1923.

Year ending June 30.	Corn.	Cotton- seed.	Linseed.	Cocoa butter or but- terine.	Coco- nut.	Peanut.	Soy bean.
	1,000 pounds.	1,000 pounds.	1,000 gallons.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
1909-10	11, 299	223, 955	228		poundo:	poundo.	poundo.
1910-11	25, 317	225, 521	175				
1911-12	23, 866	399, 471	247			<b></b>	
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	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.

Year ending June 30.	Cas- tor.	Chinese nut.	Cocoa butter or but- terine.	Coco- nut.	Cot- ton- seed.	Lin- seed.	Olive.	Palm.	Palm ker- nel.	Pea- nut.	Rape- seed.	Soy bean.
1909–10	1,000 galls. 7 7 8 5	5, 997	4, 279 6, 075 3, 603	51, 118 46, 371 50, 504	(2) 1, 513 3, 384	174	5, 840	57, 100 47, 159 50, 229	(2) 25, 393 23, 569	1, 196	1,550	28, 021 12, 340
1914–15 1915–16 1916–17 1917–18 1918–19	63 253 324 1, 175	4, 940 4, 968 6, 864	150 400 166 (5)	63, 135 66, 008	15, 162 17, 181 13, 703 14, 291	535 50 111 51	7, 364 8, 109	31, 486 40, 497 36, 074 27, 405	4, 906 6, 761 1, 857	853 1, 475 3, 026 8, 289	1, 499 2, 561 1, 085 3, 056	19, 207
1919-20 1920-21 1921-22 1922-23		10, 614 4, 440 7, 410 11, 916	915 7, 123	271, 540 173, 889 230, 236 212, 573		1, 997 168, 705	4, 705 11, 112	31,076	2, 769		1, 230 1, 172 1, 352 1, 770	195, 774 49, 331 8, 283 38, 635

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce.

Includes peanut oil.
 Included in all other fixed or expressed.
 Included in Chinese nut oil.

Includes hemp seed.

<sup>5</sup> Less than 500 pounds.

# 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.

-	I	Milk cows		1	Other cattle	).
Jan. 1—	Number.	Price per head Jan. 1.	Farm value Jan. 1.	Number.	Price per head Jan. 1.	Farm value Jan. 1.
1867 1868 1869 1870, June 1	8, 349, 000 8, 692, 000 9, 248, 000 8, 935, 000	Dollars. 28. 74 26. 56 29. 15 32. 52 33. 89	Dollars. 239, 947, 000 230, 817, 000 269, 610, 000 290, 577, 000 339, 701, 000	11, 731, 000 11, 942, 000 12, 185, 000 14, 885, 000 16, 212, 000	Dollars. 15. 79 15. 06 18. 73 18. 67 20. 78	Dollars. 185, 254, 000 179, 888, 000 228, 183, 000 277, 947, 000 336, 860, 000
1872	10, 304, 000	29. 45	303, 438, 000	16, 390, 000	18. 12	296, 932, 000
1873	10, 576, 000	26. 72	282, 559, 000	16, 414, 000	18. 06	296, 448, 000
1874	10, 705, 000	25. 63	274, 326, 000	16, 218, 000	17. 55	284, 706, 000
1875	10, 907, 000	25. 74	280, 701, 000	16, 313, 000	16. 91	275, 872, 000
1876	11, 085, 000	25. 61	283, 879, 000	16, 785, 000	17. 00	285, 387, 000
1877 1878 1879 1880, June 1	11, 261, 000 11, 300, 000 11, 826, 000 12, 443, 000 12, 369, 000	25. 47 25. 74 21. 71 23. 05 23. 95	286, 778, 000 290, 898, 000 256, 721, 000 286, 785, 000 296, 277, 000	17, 956, 000 19, 223, 000 21, 408, 000 23, 482, 000 20, 939, 000	15. 99 16. 72 15. 38 16. 57 17. 33	287, 156, 000 321, 346, 600 329, 254, 000 388, 990, 000 362, 862, 000
1882	12,612,000	25. 89	326, 489, 000	23, 280, 000	19. 89	463, 070, 000
	13,126,000	30. 21	396, 575, 000	28, 046, 000	21. 81	611, 549, 000
	13,501,000	31. 37	423, 487, 000	29, 046, 000	23. 52	683, 229, 000
	13,905,000	29. 70	412, 903, 000	29, 867, 000	23. 25	694, 383, 000
	14,235,000	27. 40	389, 986, 000	31, 275, 000	21. 17	661, 956, 000
1887	14, 522, 000	26. 08	378, <b>790</b> , <b>000</b>	33, 512, 000	19. 79	663, 138, 000
	14, 856, 000	24. 65	366, <b>252</b> , <b>000</b>	34, 378, 000	17. 79	611, 751, 000
	15, 299, 000	23. 94	366, <b>226</b> , <b>000</b>	35, 032, 000	17. 05	597, 237, 000
	16, 512, 000	22. 01	363, 352, <b>000</b>	34, 852, 000	15. 63	544, 601, 000
	16, 020, 000	21. 62	346, 398, 000	36, 876, 000	14. 76	544, 128, 000
1892	16, 416, 000	21, 40	351, 378, 000	37, 051, 000	15. 16	570, 749, 000
1893	16, 424, 000	21, 75	357, 300, 000	35, 054, 000	15. 24	547, 882, 000
1894	16, 487, 000	21, 77	358, 999, 000	36, 608, 000	14. 66-	536, 790, 000
1895	16, 505, 000	21, 97	362, 602, 000	34, 364, 000	14. 06	482, 999, 000
1896	16, 138, 000	22, 55	363, 956, 000	32, 085, 000	15. 86	508, 928, 000
1897	15, 942, 000	23. 16	369, 240, 000	20, 508, 000	16. 65	507, 929, 000
	15, 841, 000	27. 45	434, 814, 000	29, 254, 000	20. 92	612, 297, 000
	15, 990, 000	29. 66	474, 234, 000	27, 994, 000	22. 79	637, 931, 000
	17, 136, 000	31. 23	535, 091, 000	50, 584, 000	24. 73	1, 251, 080, 000
	16, 834, 000	30. 00	505, 093, 000	45, 500, 000	19. 93	906, 644, 000
1902	16, 697, 000	29. 23	488, 130, 000	44, 728, 000	18. 76	839, 126, 000
1903	17, 105, 000	30. 21	516, 712, 000	44, 659, 000	18. 45	824, 055, 600
1904	17, 420, 000	29. 21	508, 841, 000	43, 629, 000	16. 32	712, 178, 000
1905	17, 572, 000	27. 44	482, 272, 000	43, 669, 000	15. 15	661, 571, 000
1906	19, 794, 000	29. 44	582, 789, 000	47, 068, 000	15. 85	746, 172, 000
1907	20, 968, <b>0</b> 00	31. 00	645, 497, 000	51, 566, 000	17. 10	881, 557, 000
1908	21, 1 <b>94</b> , <b>000</b>	30. 67	650, <b>057</b> , <b>00</b> 0	50, 073, 000	16. 89	845, 938, 000
1909	21, 720, 000	32, 36	702, 945, 000	49, 379, 000	17. 49	863, 754, 000
	20, 625, 000	35, 29	727, 802, 000	41, 178, 000	19. 07	785, 261, 000
	20, 823, 000	39, 97	832, 209, 000	39, 679, 000	20. 54	815, 184, 000
	20, 699, 000	39, 39	815, 414, 000	37, 260, 000	21. 20	790, 064, 000
	20, 497, 000	45, 02	922, 783, 000	36, 030, 000	26. 36	949, 645, 000
Av. 1909-1913	20, 873, 000	38. 34	800, 231, 000	40, 705, 000	20. 66	840, 782, 000
1914 1915 1916 1917 1918 1918	20, 737, 000 21, 262, 000 22, 108, 000 22, 894, 000 23, 310, 000 23, 475, 000 23, 722, 000	53. 94 55. 33 53. 92 59. 63 70. 54 78. 20 85. 86	1, 118, 487, 000 1, 176, 338, 000 1, 191, 955, 000 1, 365, 251, 000 1, 644, 231, 000 1, 835, 770, 000 2, 036, 750, 000	35, 855, 000 37, 067, 000 39, 812, 000 41, 689, 000 44, 112, 000 45, 065, 009 43, 398, 000	31. 13 33. 38 33. 53 35. 88 40. 88 44. 22 43. 21	1, 116, 333, 000 1, 237, 376, 000 1, 334, 928, 000 1, 497, 621, 000 1, 803, 482, 100 1, 993, 442, 000 1, 875, 043, 000
Av. 1914-1920	22, 501, 000	65. 83	1, 481, 255, 000	41, 003, 000	37. 83	1, 551, 175, 000
1921	23, 594, 000	64. 22	1, 515, 249, 000	41, 993, 000	31. 36	1, 316, 727, 000
1922	24, 082, 000	50. 98	1, 227, 703, 000	41, 977, 000	23. 79	998, 772, 000
1923	24, 437, 000	50. 83	1, 242, 113, 000	42, 803, 000	25. 57	1, 094, 469, 000
1924 <sup>1</sup>	24, 675, 000	52. 16	1, 287, 044, 000	42, 126, 000	24. 99	1, 052, 599, 000

Division of Crop and Livestock Estimates; figures in italics are census returns.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 406.—Cattle: Number and value on farms January 1, 1923 and 1924, by States.

								-				
			М	lilk cov	vs.				Ot	her cat	ttle.	
State.		mber n. 1.	Ave price head	erage e per Jan.1—	Farm Jai	value n. 1.		mber	pric	erage 2e per Jan.1.		n value n. 1.
	1923	1924 1	1923	1924	1923	1924 1	1923	1924 1	1923	1924	1923	1924 1
Maine N. Hampshire _ Vermont Massachusetts _ Rhode Island _	Thousands: 216 126 385 189 27	126 385 189	lars. 55.00 59.00 56.00 74.00	Dol- lars. 56. 00 63. 00 57. 00 76. 00 88. 00	7, 434 21, 560	7, 938 21, 945	Thou- sands. 64 36 82 39 7	sands. 57 36 83	lars. 23.00 25.50 18.80 25.70	27.10 18.80 27.70	91; 1,54; 1,00;	976 2 1,560 2 1,080
Connecticut New York New Jersey Pennsylvania Delaware	141 1,678 153 1,071 40	1, 628 151 1, 071	63.00	65. 00 85. 00 62. 00	10, 998 105, 714 13, 311 64, 260 2, 200	105, 820 12, 835 66, 402	382 32 506	393 31 486	24. 50 38. 80 29. 00	25. 30 40. 10 30. 60	9, 359 1, 242 14, 674	14,872
Maryland Virginia West Virginia North Carolina South Carolina	194 430 222 365 228	426 220	42. 50 48. 00 39. 00	. 42. 00 43. 00	11, 640 18, 275 10, 656 14, 235 7, 980	17, 892	101 469 365 274 189	103 460 365 266 189	27. 30 33. 90 17. 10	26. 40 30. 60 17. 30	12, 804 12, 374 4, 685	12, 144 11, 169 4, 602
Georgia Florida Ohio Indiana Illinois	509 97 1,069 742 1,148	757	28. 00 56. 00 56. 00 53. 00 56. 00	55. 00 56. 00 55. 00	14, 252 5, 432 59, 864 39, 326 64, 288	15, 570 5, 335 61, 040 41, 635 69, 540	700 774 857 794 1, 561	693 774 840 779 1, 545	16. 00 31. 70 32. 40	15. 30 31. 10 31. 70	12, 384	26, 124 24, 694
Michigan Wisconsin Minnesota Iowa Missouri	977 2, 195 1, 641 1, 160 777	1,674	55. 00 57. 00 47. 00 58. 00 45. 00	58. 00 52. 00 60. 00	53, 735 125, 115 77, 127 67, 280 34, 965	59, 220 128, 586 87, 048 72, 360 36, 478	3, 479	3.479	20.40	23. 70 21. 10 34. 30	14, 970 19, 622 26, 296 122, 461 57, 486	15, 214 20, 335 26, 924 119, 330 60, 240
North Dakota South Dakota Nebraska Kansas Kentucky	503 450 570 716 530	533 455 587 723 525	44. 00 51. 00 57. 00 46. 00 40. 00		22, 132 22, 950 32, 490 32, 936 21, 200	25, 051 22, 750 32, 872 36, 150 19, 950	814 1, 521 2, 700 2, 487 501	806 1, 551 2, 727 2, 537 466	21. 40 29. 40 31. 80 27. 20 22. 80	27. 50 30. 30 25. 90	17, 420 44, 717 85, 860 67, 646 11, 423	15, 959 42, 652 82, 628 65, 708 9, 413
TennesseeAlabama MississippiLouisiana Texas	495 516 541 216 1,052	480 516 536 220 1,063	34. 00 27. 00 27. 00 38. 00 36. 00	32. 00 27. 00 27. 00 37. 00 33. 00	16, 830 13, 932 14, 607 8, 208 37, 872	15, 360 13, 932 14, 472 8, 140 35, 079	609 515 677 585 5, 597	579 469 636 573 5, 597	15. 70 9. 60 9. 50 14. 70 18. 60		9, 561 4, 944 6, 432 8, 600 104, 104	8, 569 4, 409 5, 724 8, 595 104, 104
Oklahoma	566 516 173 46 253	549 506 194 48 261	34. 00 24. 00 55. 00 67. 00 53. 00	31. 00 21. 00 53. 00 57. 00 50. 00	19, 244 12, 384 9, 515 3, 082 13, 409	17, 019 10, 626 10, 282 2, 736 13, 050	1, 364 494 1, 273 835 1, 361	1, 160 419 1, 222 793 1, 279	16. 80 8. 80 30. 90 30. 70 25. 40	15. 00 7. 60 27. 60 29. 80 25. 10	22, 915 4, 347 39, 336 25, 634 34, 569	17, 400 3, 184 33, 727 23, 631 32, 103
New Mexico	47 46 90 21	47 46 92 24	93. 00 63. 00 74. 00	85. 00 72. 00 83. 00	2, 350 4, 278 5, 670 1, 554	2, 350 3, 910 6, 624 1, 992	1, 220 1, 092 455 356	1, 160 1, 092 446 345	21. 90 31. 40 27. 40 32. 70	28, 90 25, 90 32, 50	26, 718 34, 289 12, 467 11, 641	26, 100 31, 559 11, 551 11, 212
Vashington Oregon California	162 283 220 645	172 289 238 664	63. 00 61. 00 60. 00 76. 00	62. 00 71. 00 61. 00 76. 00	10, 206 17, 263 13, 200 49, 020	10, 664 20, 519 14, 518 50, 464	526 253 595 1, 435	537 253 577 1, 421	26. 80 26. 40 28. 20 34. 70	24. 80 28. 20 28. 00 33. 80	14, 097 6, 679 16, 779 49, 794	13, 318 7, 135 16, 156 48, 030
United States	24, 437	24, 675	50. 83	52. 16	, 242, 113	, 287, 044	2, 803	2, 126	25. 57	24. 99	1, 094, 469	1, 05 <b>2, 599</b>

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 407.—Cattle on farms: Cumulative percentage changes, 1920-1923.1

Item.	To Feb. 1.	To Mar. 1.	To Apr.	To May 1.	To June 1.	To July 1.	To Aug. 1.	To Sept. 1.	To Oct. 1.	To Nov. 1	To Dec.	To Jan. 1 of succeeding year.
Increases: Births 2— 1920 1921 1922 1923	Per cent. 2. 9 2. 8 3. 0 3. 1	Per cent. 6. 4 6. 2 7. 0 6. 7	Per cent. 12. 0 11. 4 12. 5 12. 3	Per cent. 18. 7 17. 7 18. 6 18. 7	Per cent. 25. 5 23. 3 23. 6 23. 8	Per cent. 30. 1 27. 0 26. 9 27. 4	Per cent. 32. 8 29. 3 29. 5 30. 2	Per cent. 35. 0 31. 2 31. 7 32. 4	Per cent. 37. 4 33. 6 34. 1 35. 0	Per cent. 39. 9 36. 1 36. 7 37. 7	Per cent. 42. 2 38. 8 39. 0 40. 3	Per cent. 44. 6 41. 8 41. 9
Brought on farms 2— 1920.————————————————————————————————————	2. 6 1. 7 1. 9 2. 0	4. 9 3. 6 4. 1 4. 4	7.3 5.9 6.1 6.4	9. 4 8. 0 9. 4 8. 4	11. 2 10. 0 11. 6 10. 9	12.9 11.3 13.5 12.7	14. 4 12. 4 15. 2 14. 1	16. 7 14. 4 17. 3 16. 1	20. 6 17. 4 21. 0 17. 9	26. 4 22. 4 27. 2 21. 9	29. 5 27. 8 29. 8 26. 2	31. 4 30. 8 32. 8
Total increase 2— 1920————————————————————————————————————	4.5	11.3 9.8 11.1 11.1	19. 3 17. 3 18. 6 18. 7	28. 1 25. 7 28. 0 27. 1	36. 7 33. 3 35. 2 34. 7	43. 0 38. 3 40. 4 40. 1	47. 2 41. 7 44. 7 44. 3	51. 7 45. 6 49. 0 48. 5	58. 0 51. 0 55. 1 52. 9	66. 3 58. 5 63. 9 59. 6	71. 7 66. 6 68. 8 66. 5	76. 0 72. 6 74. 7
Decreases:  Moved off— 1920	3.5	9. 3 7. 3 7. 3 8. 0	14. 9 12. 4 12. 3 12. 6	20. 4 17. 0 17. 4 17. 8	25. 5 21. 8 22. 7 22. 7	30. 9 26. 3 27. 5 27. 2	35. 0 30. 2 31. 9 31. 5	40. 4 35. 0 37. 2 36. 3	47. 8 40. 2 43. 5 40. 0	55. 1 47. 5 51. 8 47. 2	61. 0 55. 0 58. 3 54. 4	65. 8 59. 4 63. 1
Slaughtered on farms— 1920 1921 1922 1923	0.6 0.6 0.7 0.8	1.0 1.2 1.2 1.3	1.4 1.6 1.7 1.8	1.8 1.9 1.9 2.1	21 22 22 25	2.6 2.5 2.5 2.8	2.9 2.9 2.8 3.1	3. 3 3. 2 3. 2 3. 5	3. 9 3. 6 3. 6 3. 9	4.5 4.1 4.2 4.6	5.3 4.9 4.7 5.0	6.3 5.9 5.6
Died—  1920————  1921————  1922————  1923————  Total decreases—	0. 7 0. 5 0. 5 0. 5	1.5 1.1 1.1 1.3	2. 6 1. 6 1. 9 2. 4	3.8 2.2 2.7 3.2	4.6 2.6 3.2 3.6	5.0 3.0 3.6 4.0	5. 2 3. 3 4. 0 4. 4	5.7 3.6 4.4 4.8	6.0 3.9 4.8 5.2	6. 4 4. 3 5. 1 5. 6	6. 8 4. 7 5. 5 6. 2	7. <b>2</b> 5. <b>2</b> 5. <b>9</b>
1920 1921 1922 1923	5. 9 4. 6 4. 8 5. 3	11. 8 9. 6 9. 6 10. 6	18. 9 15. 6 15. 9 16. 8	26. 0 21. 1 22. 0 23. 1	32. 2 26. 6 28. 1 28. 8	38. 5 31. 8 33. 6 34. 0	43. 1 36. 4 38. 7 39. 0	49. 4 41. 8 44. 8 44. 6	57. 7 47. 7 51. 9 49. 1	66. 0 55. 9 61. 1 57. 4	73. 1 64. 6 68. 5 65. 6	79. 3 70. 5 74. 6
Net change: 1920 1921 1922 1923 On hand compared with	-0.4 -0.1 +0.1 -0.2	-0.5 +0.2 +1.5 +0.5	+0.4 +1.7 +2.7 +1.9	+2. 1 +4. 6 +6. 0 +4. 0	+7.1	+4. 5 +6. 5 +6. 8 +6. 1	+4.1 +5.3 +6.0 +5.3	+2.3 +3.8 +4.2 +3.9	+3.2	+0.3 +2.6 +2.8 +2.2	-1.4 +2.0 +0.3 +0.9	-3.3 +2.1 +0.1
On nand compared with Jan. 1:  1920	100 1	100. 2	100. 4 101. 7 102. 7 101. 9	102. 1 104. 6 106. 0 104. 0	104. 5 106. 7 107. 1 105. 9	104. 5 106. 5 106. 8 106. 1	104. 1 105. 3 106. 0 105. 3	102. 3 103. 8 104. 2 103. 9	100. 3 103. 3 103. 2 103. 8	100. 3 102. 6 102. 8 102. 2	98. 6 102. 0 100. 3 100. 9	96. 7 102. 1 100. 1

Division of Crop and Livestock Estimates. Based on reports of about 7,500 farmers reporting monthly for their own farms.

Number on hand, Jan. 1, each year=100 per cent
 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:

	Loss pe	r 1,000.		Loss pe	r 1,000.		Loss pe	r 1,000.	Year	Loss pe	r 1,000.
Year ending Apr. 30.	From disease.	From expo-	Year ending Apr.30.	From disease.	From expo-	Year ending Apr.30.	From disease.	From expo-	ending Apr.30.	From disease.	From expo-
1889-90 1890-91 1891-92 1892-93 1893-94 1894-95 1895-96 1896-97 1897-98	13. 0 14. 3 12. 8 16. 6 19. 0 21. 4 19. 3 19. 4 19. 7	12. 5 20. 7 11. 3 16. 0	1898-99 1899-1900 1900-01 1901-02 1902-03 1903-04 1904-05 1905-06 1906-07	20. 3 19. 9 22. 3 21. 3 23. 9 23. 6 20. 6 20. 1 19. 9	22. 1 13. 7 11. 5 18. 2 23. 7 20. 2 23. 3 14. 9 13. 7	1907-08 1908-09 1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1915-16	18. 9 19. 2 21. 0 19. 7 21. 6 20. 5 19. 8	12. 0 14. 8 17. 6 13. 3 21. 5 14. 1 10. 9	1916-17 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	19. 4 18. 2 17. 4 19. 5 19. 0 17. 8 16. 7	14.6 13.3 15.9 18.5 9.2 13.1 13.1

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.

					RECI	EIPTS.	•					
Calendar year.	Chi- cago.	Den- ver.	East St. Louis.	Fort Worth.	Kansas City.	Oma- ha.	St. Jos- eph.	St. Paul.	Sioux City.	Total.	All other markets reporting.	Total all mar- kets re- porting.
1900 1901 1902 1903 1904	3, 213 3, 193 3, 704	Thou- sands. 240 227 324 286 265	Thou- sands. 698 892 1, 113 1, 140 1, 074	Thou-sands. (1) (1) 132 447 643	Thou-sands. 2, 083 2, 127 2, 279 2, 137 2, 163	Thou- sands. 828 818 1, 011 1, 071 944	Thou- sands. 390 439 517 625 587	Thou- sands. 221 190 306 303 389	Thou- sands. 300 309 405 379 331	Thou-sands. 7, 625 8, 215 9, 280 10, 092 9, 923	Thou-sands. (2) (2) (2) (2) (2) (2) (2) (2)	Thou-sands. (2) (2) (2) (3) (2) (2) (2) (2)
1905 1906 1907 1908 1909	3, 791 3, 742 3, 727 3, 461 3, 340	294 329 307 420 426	1, 124 1, 121 1, 133 1, 145 1, 241	812 838 1,022 1,069 1,197	2, 423 2, 556 2, 670 2, 458 2, 660	1, 026 1, 079 1, 159 1, 037 1, 125	547 606 616 584 592	489 487 520 463 497	403 385 410 385 426	10, 909 11, 143 11, 564 11, 022 11, 504	(2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2) (2)
1910		399 298 416 499 443	1, 208 1, 072 1, 200 1, 100 1, 041	1,071 884 1,039 1,185 1,176	2, 507 2, 370 2, 147 2, 319 1, 957	1, 224 1, 174 1, 017 962 939	665 513 494 450 356	604 539 524 532 585	439 487 431 394 368	11, 670 10, 790 10, 426 10, 329 9, 466	(2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2)
1915	2, 685 3, 250 3, 820 4, 448 4, 253	424 601 653 728 824	992 1, 200 1, 405 1, 509 1, 473	944 1, 081 1, 960 1, 665 1, 267	1, 963 2, 331 2, 902 3, 320 3, 085	1, 218 1, 434 1, 720 1, 993 1, 975	441 480 670 870 750	856 941 1, 197 1, 430 1, 491	534 602 707 818 814	10, 057 11, 920 15, 034 16, 781 15, 932	4, 496 5, 756 8, 032 8, 514 8, 691	14, 553 17, 676 23, 066 25, 295 24, 623
1920 1921 1922 1923	3, 849 3, 540 3, 934 3, 918	617 482 656 620	1, 254 1, 077 1, 400 1, 399	1, 134 984 1, 084 1, 258	2, 500 2, 469 2, 983 3, 208	1, 603 1, 435 1, 744 1, 793	643 558 655 709	1, 373 985 1, 387 1, 349	752 620 747 759	13, 725 12, 150 14, 590 15, 013	8, 472 7, 637 8, 627 8, 198	22, 197 19, 787 23, 217 23, 211
					SHIPM	ENTS						
1900 1901 1902 1903 1904	949 1, 051 937 1, 296 1, 350	(2) (2) (2) (3) (2)	166 224 316 318 308	(2) (2) (2) (3) (3)	(2) (2) (2) (2) (2)	274 239 365 301 261	92 82 112 174 140	154 126 230 212 275	187 189 283 279 230	1, 822 1, 911 2, 243 2, 580 2, 564	(2) (2) (3) (2) (2)	(2) (2) (2) (2) (2)
1905 1906 1907 1908 1909	1, 437 1, 376 1, 477 1, 387 1, 297	(2) (3) (3) (2)	359 365 371 347 374	(2) (2) (2) (2) (2)	(2) (2) (2) (2) (2)	315 303 362 330 374	133 143 150 178 185	352 353 379 302 322	237 210 227 213 232	2, 833 2, 750 2, 966 2, 757 2, 784	(2) (2) (2) (2) (2) (2)	(3) (2) (2) (2) (2)
1910 1911 1912 1913 1914		(1) (1) (1) (2)	370 309 315 344 306	(2) (2) (2) (2) (2)	(2) (3) (2) (3) (3)	425 446 418 432 394	161 157 158 157 124	369 318 293 322 328	213 249 240 228 197	2, 885 2, 724 2, 418 2, 484 2, 173	(2) (2) (3) (2) (2)	(2) (3) (2) (2) (2)
1915 1916 1917 1918 1919	392 726 867 1,025 1,221	359 512 521 544 642	269 313 317 370 454	506 511 838 562 475	1, 032 1, 028 1, 202 1, 422 1, 467	536 591 723 855 840	175 149 211 299 220	523 556 723 896 935	289 369 410 432 459	4, 081 4, 755 5, 812 6, 405 6, 713	1, 771 2, 198 3, 661 3, 906 4, 044	5, 852 6, 953 9, 473 10, 311 10, 757
1920 1921 1922 1923	1, 247 1, 163 1, 137 1, 105	471 360 532 490	510 611 871 855	544 412 467 463	1, 209 1, 244 1, 534 1, 599	689 635 829 794	234 188 251 265	634 391 609 496	410 346 447 417	5, 948 5, 350 6, 677 6, 484	3, 883 3, 250 3, 988 3, 576	9, 831 8, 600 10, 665 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.

<sup>Not in operation.
Figures not available prior to 1915.</sup> 

TABLE 410.—Cattle and calves: Receipts at all public stockyards, 1915-1923.

Galen- daryear.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1915 1 1916 1 1917 1918 1919 1920 1921 1922	Thou- sands. 1, 029 1, 202 1, 696 1, 727 2, 119 1, 881 1, 644 1, 628 1, 877	Thou- sands. 768 1, 055 1, 302 1, 498 1, 453 1, 480 1, 190 1, 417 1, 427	Thou- sands. 1, 017 1, 201 1, 330 1, 713 1, 517 1, 663 1, 566 1, 622 1, 502	Thou- sands. 987 1, 151 1, 539 2, 046 1, 767 1, 557 1, 494 1, 470 1, 670		Thou- sands. 1, 113 1, 319 1, 759 1, 815 1, 588 1, 879 1, 759 1, 629		Thou-sands. 1, 246 1, 584 1, 814 2, 024 2, 039 1, 962 1, 867 2, 149 2, 214	Thou- sands. 1, 531 1, 779 2, 357 2, 826 2, 396 2, 294 1, 906 2, 397 2, 295	Thou- sands. 1, 818 2, 409 3, 054 2, 865 3, 008 2, 209 2, 310 2, 936 2, 802	Thou- sands. 1, 724 1, 977 2, 626 2, 648 2, 702 2, 428 1, 928 2, 427 2, 182		

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

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.
	Thou- sands.	Thou- sands.	Thou- sands.	Thou-	Thou-	Thou- sands.	Thou- sands.	Thou-	Thou- sands.	Thou- sands.	Thou-	Thou-
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	568	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	568	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	5 <b>55</b>	574	660	591	687	733	833	1,057	827	691
1907	786	585	571	701	605	631	748	788	1,015	1,031	634	596
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	766	1,044	757	555
1912	660	486	502	515	484	462	516	667	868	1,010	674	676
1913	606	486	481	523	452	52 <b>5</b>	568	688	923	824	606	588
Av. 1909-1913.	647	499	544	505	532	55 <b>9</b>	607	769	886	980	757	638
1914	526	446	482	446	405	473	457	566	785	813	558	581
1915	518	377	523	465	461	474	462	611	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	926	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	625	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.

 $<sup>^1</sup>$  Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many of the markets.

Table 412.—Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923.

Less than 500.

Table 412.—Cattle and calves: 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
	Thou- sands.	Thou- sands	Thou- sands	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
St. Joseph, Mo St. Louis, Mo	441 32	480 43	670 35	870 26	750	643	558	655	709
St. Paul, Minn San Antonio, Tex Seattle, Wash	856 139	941 208 25	1, 197 193 39	1, 430 176 56	1, 491 250 66	1, 373 233 58	985 151 47	1, 387 198 46	1,349 163 55
Sioux City, Iowa Sioux Falls, S. Dak	534	602	707	818 7	814 8	752 14	620 17	747 33	759 30
Spokane, Wash Springfield, Ohio	1	17	26	51	74	67	41	49	45 7
Tacoma, Wash Toledo, Ohio Washington, D. C Wichita, Kans	34	16 26 15 220	20 32 16 371	27 44 18 394	29 57 23 311	22 64 27 242	25 25 28 285	28 25 29 407	25 32 417
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 Amarillo, Tex			8	6	4	3 1	2	(1)	(1)
Atlanta, Ga			15	11	11	15	18	19	33
Augusta, Ga	92		10	8	9	8	8	11	9
Baltimore, Md	1	112	122	126	145	170	156	157	158
Billings, MontBirmingham, Ala			2	1		(1)	(1)		¦
Buffalo, N. Y		15 197	$\frac{15}{212}$	21 205	22 202	23 190	19 167	8 192	189
Chattanooga, Tenn		197	212	203	10	10	107	132	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	l	4	. 6	6	5	8	10
Columbus, Ohio		1 9	1 8	(1)	(¹) 9	1	1	2 8	2 7
Dallas, Tex	1	_	1	12	- 1	8	8		
Dayton, Ohio		18 89	23	26	25 174	26	27	29	30
Denver, Colo Detroit, Mich		165	131 174	185 192	174	153 202	122 168	124 206	131 239
East St. Louis, Ill	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	l			13	13	9			
Evansville, Ind		13	15	15	16	24	21	23	22
Fort Wayne, Ind.	362	474	991	954	715	558	576	620	795
	Í	7/1			1	1	1		
Fostoria, OhioIndianapolis, Ind		208	$\begin{array}{c} 2 \\ 270 \end{array}$	3 268	245	3 257	230	238	1 247
Jacksonville, Fla	175	208	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	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1) 2
	(-)	(3)	(-)	. ()	(-)	(-)	(-)	(4)	
Los Angeles, Calif Louisville, Ky	54	70	76	74	87	87	81	89	173 98
Marion, Ohio				(1)	i	1	î	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	4	7
Moultrie, Ga Nashville, Tenn		7	27	32	41	46	$\frac{1}{42}$	47	2 51
Nebraska City, Nebr		'	21	32	(1)	40	42	21	01
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, Utah		1	11	23	19	14	25	14	16
Ogden, Utah			12	12	11	16	13	12	16
1 Took than 500									

<sup>&</sup>lt;sup>1</sup> Less than 500.

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 Omaha, Nebr Pasco, Wash	683	Thou- sands. 221 843	Thou- sands. 415 996	Thou- sands. 528 1,138	Thou- sands. 368 1, 136 (1)	Thou- sands. 228 914 (1)	Thou- sands. 203 797	Thou- sands. 219 916	Thou- sands. 279 997
Peoria, Ill Philadelphia, Pa	10	14	14 183	26 186	18 196	18 221	21 225	20 261	17 172
Pittsburgh, Pa Portland, Oreg Pueblo, Colo	40	92 42	168 56	163 65 (1)	151 62	171 70	175 59 1	161 67	176 98 1
Richmond, Va	11	13	14	13	17	19	20	(1) 25	(1) 24
St. Joseph, Mo St. Louis, Mo	20	331 25	459 25	569 22	531	410	370	403	444
St. Paul, Minn San Antonio, Tex Seattle, Wash		381 25	487 55 39	616 <b>20</b> 56	530 14 64	710 37 56	564 36 46	783 54 45	851 53 55
Sioux City, IowaSioux Falls, S. DakSpokane, Wash		233	296 (¹) 14	385 1 36	363 1 36	342 6 35	273 7 23	301 13 26	341 11 28
Springfield, Ohio									2
Tacoma, Wash		15 12 15 86	20 11 12 122	26 13 15 145	24 13 20 133	22 18 25 84	25 14 27 83	27 12 28 93	13 31 104
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
•	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-
4.15 37 37	sands.	sands.	sands.	sands.	sands.	sands.	sands.	sands.
Albany, N. Y.		1	1	1 1	1	(1)	(1)	(1) 74
Amarillo, Texas	110	262	197	122	91		103	
Atlanta, Ga			2	4	1	3	2	6
Augusta, Ga Baltimore, Md	7	1	.3	3	2	3	2 3	2 3
		8 5	11 4	5 9	5	0	3	0
Billings, Mont				1	1			
Birmingham, Ala	1 26	2 25	(¹) 31	39	(1)	(¹) 8	7	(1)
Buffalo, N. Y	26	20	31	39	2	4	4	3
Chattanooga, Tenn	ore-	358		509	417	332	343	295
Chicago, Ill	256 26		401 30	28	28	22	26	293
Cincinnati, Ohio		22	4	-20 6	49	6	5	4
Cleveland, Ohio		(1)		(1)	9	U	9	*
Columbus, Ohio		(9)	(1) (1)	(1)				
Dayton, Ohio	(¹) <sub>2</sub>	(1)	1	8	(1) (1)			
Denver, Colo	386	397	402	483	407	274	413	361
Detroit, Mich	9	8	6	17	16	14	14	11
Dublin, Ga.		î	(1)	(1)	(1)	1	17	11
East St. Louis, Ill	161	221	225	234	168	185	275	281
El Paso, Tex.		159	178	151	115	102	84	40
Emeryville, Calif		100	(1)	(1)	110	102	0.	10
Evansville, Ind		1	3	`´1	1	1	、 3	3
Fort Wayne, Ind.		-	•	-		-	, ,	(i) T
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	50	48	41	44	44
Jacksonville, Fla	1	ĭ	ĭi	(1)	(1)		1 1	(1)
Kansas City, Mo	893	948	1,053	1, 036	`778	788	1, 151	1, 162
Knoxville, Tenn	1	6	8	8	4	3	6	<b>4</b>
Lafayette, Ind.	(1)	1 1	1 1	2	1	1	1	1
Lancaster, Pa			93	95	87	1		53
Laredo, Tex.								10
Logansport, Ind	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Los Angeles, Calif								9
Louisville, Ky			24	36	31	37	42	32
Marion, Ohio			1	. 1	(1)	(1)	(1)	(1)
Memphis, Tenn				(1)	2	1	2	7
Milwaukee, Wis	5	. 9	11	16	15	12	13	16
Mobile, Ala		(1)						
Montgomery, Ala		(1)	6 1	9 1	28	10	9	7

<sup>1</sup> Less than 500.

Table 412.—Cattle and calves: Receipts, local slaughter, and stock er and feeder shipments, public stockyards, calendar years, 1915-1923.—Continued.

STOCKER AND FEEDER SHIPMENTS-Continued.

Market.	1916	1917	1918	1919	1920	1921	1922	1923
	Thou- sands.	Thou- sands.	Thou-	Thou-	Thou-sands.	Thou- sands.	Thou-	Thou-
Moultrie, Ga					00.000	(1)	(1)	(1)
Nashville, Tenn	6	3	3	11	14	`′12	15	l '' 9
Nebraska City, Nebr		Í	(1)	1	(1)	(1)	1	1
Newark, N. J.			l	!				3
New Brighton, Minn	(1)	1	3	1	1	(1)	3	l
New Orleans, La		5	6	18	17	`16	21	21
North Salt Lake, Utah	2	25	23	25	16	12	15	īi
Ogden, Utah	l	5	27	48	28	25	23	45
Oklahoma, Okla Omaha, Nebr	88	172	155	136	106	80	80	70
Omaha, Nebr	533	561	526	656	451	443	621	586
Pasco, Wash			(1)	i	(1)			
eoria, III	1 2	2	`´2	(1)	1 1	4	7	4
Portland, Oreg	12	18	18	`´21	26	9	12	10
Pueblo, Colc			79	7	5	4	16	45
Richmond, Va	1	1	1	2	1 2	2	2	3
Roanoke, Va								Ĭ
t. Joseph, Mo	95	127	116	124	103	103	176	170
t, Paul, Minn	358	357	337	416	316	270	439	348
an Antonio, Tex	59	43	53	138	96	26	83	. 66
eattle, Wash		(1)	(1)	(1)		(1)	(1)	(1)
ioux City, Iowa	328	348	`á03	`á29	238	240	`á35	```′308
ioux Falls, S. Dak		6	4	1	1	4	11	14
pokane. Wash		9	12	28	23	7	12	. 8
'acoma, Wash			1	3	(1)	(1)	(1)	
oledo, Ohio	1	2	5	4	5	· '′ 4 l	4	4
Vashington, D. C			(1)	î	(1)	(1)		
oledo, Ohio Vashington, D. C Vichita, Kans	107	192	`í88	116	`104	`í32	203	198
Total	3, 847	4, 803	5, 013	5, 286	4. 102	3, 504	4, 864	4, 553

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

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.
	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou- sands.	Thou-	Thou-	Thou-	Thou-	
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	<b>2</b> 36	238	214	209	122	355	<b>39</b> 5	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.

Table 414.—Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1923.

Stockyards.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
													Thou-
				sands. 57			sanas.	sanas. 45		sanas.	sanas. 54	sanas. 51	sanas. 589
Receipts Local slaughter	49 13	40 11	49 15	19	49 14	50 15	17	16	40 15	21	17	16	189
Stocker and	19	11	15	19	14	10	11	10	10	21	1 1	10	100
feeder ship-							l		i .		l	,	,
ments	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2	1	1	4
Chicago, Ill.:	•	\ \ \	\ \ \ \	` ` '	,	` '	ļ ` '	. ` '		_	_		_
Receipts	340	278	293	335	356	286	315	319	319	411	331	335	3, 918
Local slaughter.	242	198	217	256	278	217	228	224	219	281	227	226	2, 813
Stocker and			1.50	-:	1 - 1				74.5				
feeder ship-					1996	A						100	
ments	16	14	16	17	14	14	13	24	40	54	41	32	295

<sup>1</sup> Less than 500

<sup>1</sup> Less than 500.

<sup>&</sup>lt;sup>1</sup> Complete information for 1916 not obtainable from many markets.

Table 414.—Cattle and calves: Receipts, local slaughter, stocker and feeder shipments at public stockyards, 1923—Continued.

		at p	ublic	stocky	ıards,	1923	Co:	ntinu	ied.				
Stockyards	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
	Thou-	Thou-	Thou-	Thou-	Thou	Thou	Thou-	Thou	Thou	Those	Thou-	Thou-	Thou-
Cincinnati, Ohio:	sands.	sands.	sands.	sands.	sands.	sands.	sands.	sands	sands.	sands.	sands.		sands.
Receipts	29	28	32	31	36	34	41	39	38	49	37	32	426
Local slaughter Stocker and	18	17	17	19	20	17	21	21	20	24	18	18	230
feeder ship-	İ						1		ł	l			
ments	1	1	'1	1	1	1	2	2	3	6	3	1	23
Cleveland, Ohio:								ļ	1		Į	}	l
Receipts Local slaughter_	20 19	18 17	22	25 24	25 24	23	24	25	23	23	26	24	278
Stocker and	19	1 11	21	24	24	21	21	23	20	20	24	22	256
feeder ship-				l									İ
ments		(1)	(1)	(1)	(1)	(1)	(1)	(1)	1	1	1	1	4
Denver, Colo.: Receipts	60	26	28	29	59	22	25	20	40	100	444	ar.	
Local slaughter	11	9	11	12	12	33 10	25 11	30 12	48 10	106 13	111 11	65 9	620 131
Stockerand						10		12	10	10	**		101
feeder ship-													
ments East St. Louis, Ill.:	29	14	11	10	46	25	12	14	29	57	76	38	361
Receipts	99	72	73	75	99	94	139	162	165	197	125	99	1,399
Local slaughter	38	26	27	37	51	37	57	51	48	80	46	46	544
Stocker and						-		••		-	-0		0
.feeder ship-	14							•					
Fort Worth, Tex.:	14	13	12	11	11	16	17	38	46	50	36	17	128
Receipts	79	43	44	62	120	114	141	164	122	162	121	86	1, 258
Local slaughter	52	32	28	30	51	59	82	109	87	110	88	67	795
Stocker and											1		
feeder ship- ments	9	6	9	20	24	10	8	9	15	29	20	10	169
Indianapolis, Ind.:		١		20	24	10	٥	9	10	29	20	. 10	109
Receipts	44	35	39	39	48	44	45	47	50	54	39	44	<b>528</b>
Local slaughter	22	19	20	21	24	20	21	20	20	21	18	21	247
Stocker and feeder ship-					]		}		ŀ	- 1	- 1	1	
ments	2	2	2	2	2	3	5	4	7	8	4	3	44
Jersey City, N. J.:			- 1	1	_ [		- 1		- 1	ĺ	- 1	1	
Receipts	56	50	57	73	52	50	50	64	55	69	47	50	673
Local slaughter Kansas City, Mo.:	56	50	57	73	52	50	50	64	55	69	47	50	673
Receipts	236	171	156	161	191	182	284	453	432	437	288	217	3, 208
Local slaughter	122	100	97	100	118	103	139	182	159	193	136	110	1,559
Stocker and		1	1	l	- 1		- 1		- 1		- 1		
feeder ship- ments	71	54	49	44	45	49	63	193	187	187	141	79	1, 162
Oklahoma, Okla.:		- 1				. 1			į	- 1	. 1	1	
Receipts	38	28	28	24	23	24	46	54	44	31	48	27	415
Local slaughter Stocker and	26	20	18	14	12	18	30	39	30	19	34	19	279
feeder ship-	i	- 1	1	- !	- 1	1		ł		1	1	ł	
ments	5	5	7	7	5	2	4	5	. 7	6	12	5	70
Omaha, Nebr.:	158	119	129	149	148	100	110		200	010	148	100	1 700
Receipts Local slaughter	198	68	80	97	95	130 89	118 82	147 73	85	218 89	68	129 72	1, 793 997
Stocker and		50		١. ١	•	00	-			- 1	-		
feeder ship-													
ments	40	32	23	26	24	18	17	63	107	109	78	49	586
Pittsburgh, Pa.: Receipts	61	51	54	56	60	58	80	83	81	84	76	77	821
Local slaughter.	13	10	13	17	17	16	16	16	13	16	14	i4	175
St. Joseph, Mo.:	[				1			[	[·	{_	1.	1	
Receipts Local slaughter	61 41	51 37	51 36	52 36	51 35	42 29	57 35	77 42	71 41	86 45	60 35	50 32	709 444
Stocker and	41	9,	30	30	99.	29	90	42	41	40	33	82	. 111
feeder ship-	- 1	- 1	. 1	- 1	- 1	- [		- 1			- 1	- 1	
ments	. 9	8	6	6	5	7	11	26	26	31	24	11	170
St. Paul, Minn.: Receipts	101	78	91	88	110	89	109	108	145	185	139	106	1, 349
Local slaughter.	73	56	66	65	83	65	66	61	65	97	84	70	851
Stocker and						~				]			
feeder ship-		١.,.	,,	,_		ا _,_ ا	ا ـــ			.	20	الم	.0.40
ments Sioux City, Iowa:	18	15	19	17	18	17	27	36	54	61	39	27	348
Receipts	69	48	51	58	61	60	50	56	86	100	60	60	759
Local slaughter	31	26	29	31	36	31	26	25	26	30	25	25	341
Stocker and	- 1	1	į	- 1		.	1		- 1	1.	1		
feeder ship- ments	19	14	14	13	18	19	12	24	51	61	36	27	308

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.

<sup>1</sup> Less than 500.

Table 415.—Cattle: Shipments of feeder cattle from public stockyards, 1923.

	•				ORIGIN		_	J	•		•		
Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Chicago, Ill. Denver, Cofo. Fort Worth, Tex. Indianapolis, Ind. Kansas City, Kans Louisville, Ky. National Stock Yards, Ill. Oklahoma, Okla. Orfiaha, Nebr. Sioux City, Iowa. South St. Joseph, Mo. South St. Paul, Minn. Wichita, Kans. All other.	Number. 15, 569 25, 145 8, 800 3, 208 84, 291 2, 522 9, 322 6, 967 37, 420 18, 247 5, 439 12, 369 16, 698 10, 708	Number. 13, 682 11, 103 6, 019 2, 465 48, 462 1, 796 9, 691 5, 864 29, 317 13, 218 3, 707 12, 199 14, 030 6, 162	Number. 15, 829 8, 318 8, 521 2, 866 43, 575 1, 500 7, 335 8, 057 20, 214 11, 218 3, 283 11, 388 13, 223 6, 199 161, 526	Number. 15, 939 10, 696 19, 313 1, 869 40, 192 2, 288 6, 379 6, 545 22, 361 11, 809 3, 550 12, 913 34, 352 10, 201	Number. 11, 822 42, 588 23, 532 1, 815 46, 996 1, 922 6, 886 4, 234 18, 425 14, 742 1, 979 13, 412 20, 798 11, 152	Number. 13, 375 18, 471 10, 059 4, 223 48, 977 1, 263 7, 427 2, 625 15, 118 13, 377 3, 122 7, 667 4, 441 10, 926	Number. 11, 931 11, 707 7, 651 7, 185 58, 067 2, 808 10, 111 4, 497 13, 660 10, 500 6, 547 12, 211 8, 573 9, 791	Number. 20, 746 12, 652 8, 610 5, 309 187, 261 2, 289 25, 500 5, 527 57, 273 23, 791 16, 346 22, 132 2, 132 2, 480 415, 605	Number. 36, 203 35, 451 13, 541 18, 923 193, 326 6, 767 27, 865 7, 345 100, 383 47, 978 13, 877 35, 126 14, 040 18, 996	Number. 50, 642 61, 220 28, 262 11, 689 180, 410 6, 107 28, 240 6, 859 103, 383 58, 918 19, 350 39, 076 20, 447 46, 460 661, 063	Number. 39, 376 71, 981 18, 484 5, 210 130, 668 2, 534 18, 883 13, 514 76, 672 33, 607 12, 326 27, 946 22, 371 32, 156	Number. 29, 988 37, 943 9, 532 4, 399 76, 182 1, 180 5, 140 5, 315 23, 964 7, 005 16, 088 12, 944 18, 611	Number. 275, 102 347, 275 162, 324 59, 161 1, 138, 407 77, 174 544, 541 281, 389 96, 531 222, 527 197, 606 193, 842
			<u> </u>	·	STINAT			1 0, 110	1	000,000	1	000,201	3,103,022
State.		<del></del>	<u> </u>	, DE	SIINAI	ION.	<u> </u>		1	1	1	1	
Colorado Illinois Indiana Iowa Kansas Kentucky Michigan Minnesota Missouri Nebraska Ohio Oklahoma Pennsylvania South Dakota Texas Wisconsin All other	43, 531 37, 182 5, 084 8, 447 1, 778 2, 816 6, 861 734 6, 690	6, 478 24, 970 4, 937 37, 397 26, 405 2, 550 1, 817 833 21, 088 27, 079 4, 994 6, 913 596 3, 214 4, 240 338 3, 866	3, 027 19, 619 6, 074 27, 788 30, 048 2, 208 1, 985 1, 168 15, 365 22, 844 6, 621 10, 347 1, 072 2, 723 3, 097 1, 809 5, 736	4, 294 17, 435 4, 143 30, 446 50, 422 2, 861 2, 264 622 14, 343 28, 399 5, 672 19, 295 388 2, 301 4, 745 3, 276 7, 502	7, 437 22, 278 3, 972 32, 215 36, 218 2, 194 2, 657 1, 667 11, 732 51, 588 6, 128 14, 135 366 6, 878 4, 435 4, 636 11, 267	5, 466 17, 433 7, 753 24, 247 16, 223 1, 945 3, 622 1, 002 20, 076 28, 197 6, 305 5, 072 1, 242 7, 766 4, 619 1, 159 8, 944	6, 958 23, 462 10, 010 31, 261 22, 269 3, 760 4, 189 1, 637 17, 345 26, 317 7, 282 6, 282 2, 001 3, 306 2, 186 1, 213 5, 761	4, 157 65, 915 20, 757 100, 096 48, 759 5, 086 3, 965 1, 634 58, 766 70, 723 13, 123 5, 076 2, 143 3, 992 3, 235 1, 242 6, 936	17, 831 86, 074 26, 291 140, 837 50, 886 8, 208 4, 589 2, 407 64, 463 102, 836 116, 556 8, 100 2, 959 9, 829 7, 336 1, 404 9, 215	28, 531 98, 595 28, 403 132, 579 75, 676 7, 663 8, 542 3, 739 69, 832 107, 655 21, 606 10, 970 5, 304 14, 207 23, 124 2, 962 21, 675	44, 072 57, 508 17, 326 80, 887 70, 192 7, 608 7, 259 4, 286 52, 944 85, 082 13, 433 14, 306 5, 025 7, 639 18, 758 2, 649 (16, 774	22, 764 35, 970 10, 364 54, 179 44, 748 1, 274 3, 385 1, 932 28, 919 60, 346 6, 051 4, 569 4, 912 12, 712 1, 070 7, 237	158, 979 500, 136 148, 638 742, 236 511, 464 49, 222 46, 027 21, 504 418, 404 648, 248 112, 602 114, 994 27, 443 69, 533 95, 349 22, 492 111, 608
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

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.	Мау.	June.	Total.
	Num-	Num- ber.					Num- ber.		Num- ber.				Num- ber.
1909-10													139, 430
1910-11													150, 100
	16, 821		9,867	9, 950	8, 540	11, 799	11, 825	6, 177	6, 673	5, 376	3, 189	2,580	105, 506
1912-13		2, 493					1,009	1,006					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 1915–16 1916–17 1917–18 1918–19	467 374 427	2, 837 713 1, 077 542	1, 908 972 837 243	431 551 890 418	520 917 704 3, 598	944 527 6, 887 4, 608	877 488 669 516	428 313 508 529	1, 171 1, 314 1, 245 <b>7</b> 32	1, 243 1, 918 1, 457 <b>20, 2</b> 91	978 882 1, 108 4, 336	4, 325 2, 457 6, 105	21, 287 13, 387 18, 213 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
													155, 281
1922-23	9,588							2, 138	2,880	2, 924	1,706	1,520	61, 486
1923-24	2, 394	5, 709	3, 378	4, 629	2, 946	3, 051							

### IMPORTS.

		,	<del></del>	1		<del></del>		1				·	,
1909-10	2, 724	5, 707	7, 199	7, 789	32, 464	19, 475	7, 440	4. 283	5, 815	36, 125	56, 336	10, 581	195, 938
1910-11	1, 267	1, 788	7, 592	20, 377	33, 663	25, 963	13, 376	3, 237	3, 136	19, 525	38, 245	14, 754	182, 923
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 63	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 03	47 014	64 605	130 630	123 118	78, 470	90 694	72 558	54 786	65, 772	58, 647	43, 128	868, 368
1010 14	00, 00	21,01	102,000	100,000	120,110	10, 110	00, 001	. 2, 000	02, 100		00, 01.	10, 200	000,000
1914-15	20 .212	54 450	53 574	77 210	73 427	53 410	38 233	51 018	23 891	14 538	15 159	43 022	538, 167
1915–16	58 370	49 98	57 050	82 276	83 037	25 901	9 762	8 662	9 409	17 285	23 992	13 447	439, 185
1916-17	15 210	26 121	37 476	48, 007	51 526	33 841	22 266	22 004	23 444	32 181	33 049	28 702	374, 826
1917-18	10, 210	20, 121	20 244	40, 061	27 250	20, 440	0 286	11 024	14 603	22, 563	29 119	27 457	293, 719
													440, 399
1919-19	41, 514	32, 017	41, 900	49, 400	02, 403	30, 002	20, 001	30, 013	21,001	31, 552	11,000	20, 410	110, 555
1010 00	00 000	40 000	00 004	100 004	100 150	00 000	00 071	04 500	10 700	10 074	10 004	04 201	E7E 200
1919-20	34, 800	40, 000	00, 004	100,024	100,109	40, 002	20, 971	24, 000	110, 700	00 074	14 400	4, 150	575, 328
													329, 974
1921-22													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							
	ł	i	i	1	l	i	l	l	l		1	1	

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.

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	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.
	1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906	5. 91 6. 72 7. 47 10. 02 11. 15 12. 35 11. 18 10. 05 10. 59 9. 44 8. 91 9. 04 10. 00	9. 94 11. 49 12. 51 16. 17 17. 78 19. 35 17. 92 16. 56 17. 54	18. 69 20. 97 21. 69 26. 85 29. 10 31. 89 27. 57 26. 41 24. 69 21. 74 20. 05 21. 40 22. 93	1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923	11. 72 12. 14 14. 90 17. 84 19. 06 19. 08 20. 71 23. 44 24. 97 24. 50 17. 42 13. 41 14. 76	19. 37 20. 09 25. 11 29. 77 31. 21 31. 48 33. 93 38. 63 41. 74 40. 69 29. 01 22. 29 24. 35	\$25. 96 27. 90 29. 12 36. 38 42. 77 45. 92 45. 81 48. 65. 62 60. 41 59. 66 43. 72 32. 77 34. 79 33. 89

Table 418.—Cattle, live: Imports, exports, and prices, 1896-1923.

		Imports.			Exports.	
Year ending June 30.	Number.	Value.	Average import price.	Number.	Value.	Average export price.
1895–96 1896–97 1897–98	217, 826 328, 977 291, 589	\$1, 509, 856 2, 589, 857 2, 913, 223	\$6. 93 7. 87 9. 99	372, 461 392, 190 439, 255	\$34, 560, 672 36, 357, 451 37, 827, 500	\$92. 79 92. 70
1898-99 1899-1900	199, 752 181, 006	2, 320, 362 2, 257, 694	11. 62 12. 47	389, 490 397, <b>2</b> 86	30, 516, 833 30, 635, 153	86. 13 78. 3 77. 1
1900–1901 1901–2 1902–3	146, 022 96, 027 66, 175	1, 931, 433 1, 608, 722 1, 161, 548	13. 23 16. 75 17. 55	459, 218 392, 884 402, 178	37, 566, 980 29, 902, 212 29, 848, 936	81. 8 76. 11 74. 2
1903–4 1904–5	16, 056 27, 855	310, 737 458, 572	19. 35 16. 46	593, 409 567, 806	42, 256, 291 40, 598, 048	74. 2. 71. 2. 71. 50
1905-6 1906-7 1907-8	29, 019 32, 402 92, 356	548, 430 565, 122 1, 507, 310	18. 90 17. 44 16. 32	584, 239 423, 051 349, 210	42, 081, 170 34, 577, 392	72. 0 81. 7
1908-9 1909-10	139, 184 195, 938	1, 999, 422 2, 999, 824	14. 37 15. 31	207, 542 139, 430	29, 339, 134 18, 046, 976 12, 200, 154	84. 0 86. 9 87. 5
1910–11 1911–12 1912–13	182, 923 318, 372 421, 649	2, 953, 077 4, 805, 574 6, 640, 668	16. 14 15. 09 15. 75	150, 100 105, 506	13, 163, 920 8, 870, 075	87. 70 84. 0
1913–14 1914–15	868, 368 538, 167	18, 696, 718 17, 513, 175	21. 53 32. 54	24, 714 18, 376 5, 484	1, 177, 199 647, 288 702, 847	47. 63 35. 22 128. 16
915–16 916–17 917–18	439, 185 374, 826 293, 719	15, 187, 593 13, 021, 259	34. 58 34. 74	21, 666 13, 387	2, 383, 765 949, 503	110. 02 70. 93
918–19	440, 399	17, 852, 176 36, 995, 921	60. 78 84. 01	18, 213 42, 345	1, 247, 800 2, 092, 816	68. 51 49. 42
919-20 920-21 921-22	575, 328 329, 974 151, 533	45, 081, 179 23, 634, 361 3, 055, 201	78. 36 71. 62 20. 16	83, 039 145, 673 155, 281	11, 921, 518 11, 050, 507 9, 877, 596	43. 57 75. 86 63. 61
922-23	263, 887	6, 630, 119	25. 12	61, 486	2, 954, 729	48. 06

Division of Statistical and Historical Research.

Table 419.—Milk cows: Farm price per head, 15th of month, United States 1910-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910 1911 1912 1913	41. 18 44. 70	40. 35 44. 48 43. 40	41.75 45.42 44.09	42, 22 44, 81 45, 14	42. 38 44. 54 45. 63	43. 86 45. 84	42, 86 42, 44 45, 41	42.77 42.26 46.11	42. 68 42. 22 46. 79	43. 20 42. 69 47. 30	43. 34 42. 70 47. 38	43. 41 42. 72 48. 62	42. 47 43. 57 45. 72
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 1915 1916 1917 1918 1919 1920 Av. 1914-1920	58. 47 57. 79 63. 92 76. 54 86. 10 94. 42	57. 99 57. 99 65. 93 78. 36 86. 15 95. 27	58. 00 59. 51 68. 46 80. 71 88. 15 94. 94	57. 78 60. 68 72. 09 82. 45 90. 91 95. 36	58. 29 60. 98 72. 78 84. 11 93. 43 94. 56	58. 59 61. 63 72. 87 84. 74 93. 84 94. 56	60. 31 62. 04 72. 81 84. 97 94. 51 91. 23	58. 34 61. 32 72. 53 84. 06 94. 72 90. 50	58. 38 61. 41 73. 93 85. 21 93. 42 89. 40	58. 76 62. 19 75. 79 85. 41 93. 43 85. 90	57. 35 62. 67 75. 00 84. 51 93. 27 77. 56	56. 79 63. 18 76. 16 85. 78 95. 54 70. 42	58. 25 60. 95 71. 86 83. 07 91. 96 89. 51
1921							75, 08 56, 55						
1 <b>922</b> 19 <b>23</b>	52. 83 54. 01		54.87	54. 46	54. 76		54. 20	52. 67		52. 86	51. 62	53. 21	59. 10 53. 56 55. 43

Division of Crop and Livestock Estimates.

85813°--- увк 1923----- 57 + 58

Table 420.—Beef cattle: Farm price per 100 pounds, 15th of month, United States, 1910–1923.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Weight ed av- erage.
	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls	Dolls	Dolls	Dolls.	Dolle	Dolle	Dolls.	Dolls.
1916-11	4.64	4.65	4. 64	4.48	4. 45	4. 58	4. 57	4. 66					
1911-12	4. 39				4. 37	4. 46							
1912-13	5. 37	5. 35											5. 60
1913-14	5. 91	5. 92	6.05						6. 29	6. 33			6. 12
												0.00	
Av. 1910-1913	5. 08	5. 09	5. 09	5. 01	5. 03	5. 12	5. 22	5.39	5. 55	5. 57	5. 50	5. 45	5. 24
1914-15	6. 47	6, 38	6. 23	6, 02	6. 01	5. 99	5. 93	5. 92	5. 96	6. 13	6. 20	6. 07	6. 12
1915-16	6. 18		6. 04						6, 66	6. 73	6. 91	6. 78	6. 24
1916-17	6. 51	6. 55	6. 37	6. 44	6. 56	6. 86		7. 91	8. 57	8. 70	8. 65		7. 31
1917-18	8. 17	8.40	8. 35	8, 21	8. 24	8, 33			9. 73	10. 38	10. 40		8. 92
1918-19	9. 71	9. 63	9. 33	9. 14	9. 28	9. 65			10. 81	10. 84	10. 20	9. 96	9. 85
1919-20	9. 82	9.02	8. 65	8. 65	8. 63	8. 99	8. 98		9. 20	8. 97	9. 32	8. 93	9. 09
1920-21	8. 56	8. 29	7. 77	7. 15	6. 36	6. 32	6.02	6.36	6.08	5. 98	5. 65	5. 40	6. 76
Av. 1914-1920	7. 92	7. 76	7. 53	7.35	7. 26	7. 43	7. 55	7. 83	8. 14	8. 25	8. 19	7. 93	7. 76
1921-22	5. 39	4. 98	4. 81	4. 69	4. 62	4. 75	5, 07	5. 46	5, 53	5. 70	5. 84	5. 76	5 10
1922-23	5. 51	5. 44	5. 48	5. 29	5. 28	5. 51			5. 78	5. 70 5. 77	5. 82	5. 72	5. 18
1923-24	5. 60	5. 70	5. 48	5. 23	5. 26	0. 51	0. 55	0. 02	0.78	5.77	0. 82	5. 72	5. 55

Table 421.—Veal calves: Farm price per 100 pounds, 15th of month, United States, 1910-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weight- ed average.
1910	Dolls. 6. 41 6. 50 6. 06 7. 06	Dolls. 6. 28 6. 38 6. 07 7. 23	Dolls. 6. 59 6. 48 6. 11 7. 49	Dolls. 6. 54 5. 96 6. 22 7. 38	Dolls. 6. 30 5. 98 6. 23 7. 17	Dolls. 6. 57 5. 72 6. 33 7. 53	Dolls. 6. 37 5. 74 6. 33 7. 46	Dolls. 6. 29 5. 93 6. 62 7. 53	Dolls. 6. 43 6. 11 6. 83 7. 73	Dolls. 6. 41 6. 15 6. 90 7. 72	Dolls. 6. 39 6. 10 6. 77 7. 70	Dolls . 6. 38 5. 98 6. 88 7. 74	Dolls. 6. 42 6. 04 6. 45 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. 66 7. 67 9. 15 11. 16 12. 39 12. 89	12. 18	12.65	7. 68 7. 31 8. 00 10. 49 11. 71 12. 78 12. 72	12. 11	11. 88 12. 40	12. 33 13. 38	12. 22 13. 43	12. 57 13. 39	12.87	7. 78 7. 69 8. 60 10. 66 11. 94 12. 65 10. 77	7. 61 7. 61 8. 79 10. 98 12. 31 12. 67 9. 27	7. 83 7. 63 8. 35 10. 51 11. 91 12. 76 11. 80
Av. 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 1922 1923	9. 34 7. 23 8. 05	9. 08 7. 84 8. 37	9. 05 7. 85 8. 20	7. 73 7. 26 7. 78	7. 55 7. 28 7. 69	7. 43 7. 67 7. 66	7. 37 7. 49 8. 00	7. 31 7. 67 8. 00	7. 67 8. 10 8. 34	7. 61 8. 17 8. 37	7. 20 7. 92 7. 85	7. 14 7. 78 7. 75	7. 81 7. 68 7. 99

		,		<b>,</b>	,	<del>,</del>					,		
State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	A verage.
Maine	4. 80 5. 50	Dolls. 7. 00 5. 90 4. 70 6. 00 5. 70	Dolls. 6. 80 5. 70 4. 30 6. 40 5. 50	Dolls. 7. 00 6. 00 5. 00 5. 70 6. 50	Dolls. 7. 50 6. 20 4. 40 5. 90 6. 00	Dolls. 7. 50 6. 10 4. 20 6. 30 5. 50	Dolls. 7. 40 6. 30 5. 20 6. 00 6. 00	Dolls. 7. 20 6. 10 4. 90 5. 00 6. 10	Dolls. 7. 60 5. 90 4. 70 6. 00 6. 00	Dolls. 7. 10 6. 10 4. 60 5. 90 6. 50	Dolls. 6. 50 6. 20 5. 10 5. 60 6. 50	Dolls. 6. 60 6. 00 4. 80 5. 80	Dolls. 7. 10 6. 05 4. 72 5. 84 6. 00
Connecticut New York New Jersey Pennsylvania Delaware	5. 50	5. 50 5. 50 7. 00 7. 10	5. 60 5. 20 7. 00 7. 20	5. 40 7. 20 8. 20	5. 80 5. 00 6. 30 7. 20	5. 50 5. 20 7. 50	6. 50 5. 80 7. 50 8. 60	6. 10 6. 50 7. 50 7. 70	5. 50 6. 50 7. 40 8. 50	5. 50 5. 20 7. 20 7. 50	5. 00 5. 40 7. 00 6. 90 8. 00	5. 20 6. 80 7. 00 7. 20	5. 63 5. 42 6. 68 7. 23 7. 88
Maryland Virginia West Virginia North Carolina South Carolina	6.00	6. 70 6. 00 6. 70 5. 20 3. 80	6. 80 6. 20 6. 50 5. 10 4. 20	6. 70 6. 30 6. 40 5. 20 4. 00	6. 80 6. 50 6. 40 5. 10 4. 30	8. 00 6. 50 6. 80 5. 20 4. 00	7. 70 6. 40 6. 90 5. 10 4. 20	7. 10 6. 50 7. 00 5. 20 4. 00	6. 90 6. 30 6. 20 5. 10 3. 90	6. 90 6. 30 6. 30 5. 10 4. 00	6. 40 5. 70 6. 00 5. 30 3. 80	7. 00 5. 60 5. 90 5. 10 4. 00	7. 00 6. 19 6. 45 5. 17 4. 02
GeorgiaFloridaOhioIndianaIllinois	4.60	3. 40 4. 60 6. 90 6. 40 6. 40	3. 20 4. 80 6. 70 6. 30 6. 70	3. 90 4. 70 6. 70 6. 40 6. 50	3. 60 4. 60 6. 90 6. 50 6. 60	3. 80 4. 60 7. 10 6. 70 6. 70	3. 40 4. 10 6. 90 6. 70 6. 50	3. 50 4. 40 6. 90 6. 40 7. 30	3. 50 3. 90 7. 10 7. 00 7. 00	3. 50 4. 90 6. 60 6. 60 6. 50	3. 40 4. 50 6. 30 6. 00 6. 00	3. 30 4. 30 6. 20 6. 20 6. 60	3. 48 4. 50 6. 76 6. 46 6. 60
Michigan Wisconsin Minnesota Iowa Missouri	5. 60 4. 30 4. 70 7. 00 6. 40	5. 70 4. 30 5. 10 7. 00 6. 20	6. 10 4. 80 5. 20 6. 70 6. 50	6. 00 5. 00 5. 30 7. 40 6. 30	6. 10 5. 00 5. 50 7. 10 6. 50	6. 30 4. 70 5. 50 7. 90 6. 70	6.00 4.90 5.40 7.70 6.70	6. 20 4. 60 5. 20 7. 50 6. 40	6. 40 4. 50 5. 40 8. 20 6. 80	6,00 4,60 4,90 7,60 6,30	5. 80 4. 20 4. 40 7. 00 6. 20	5. 50 4. 00 4. 60 7. 00 6. 00	5. 98 4. 58 5. 10 7. 34 6. 42
North Dakota South Dakota Nebraska Kansas Kentucky	5. 10 5. 60 . 6. 50 6. 00 5. 70	5. 20 5. 70 6. 50 6. 20 5. 50	5. 30 5. 80 6. 70 5. 80 6. 00	5. 30 6. 10 6. 80 6. 40 5. 80	5. 10 6. 00 6. 90 6. 60 5. 60	5. 30 6. 10 7. 00 6. 20 5. 60	5. 30 6. 00 7. 10 6. 10 5. 50	4. 90 6. 00 7. 00 5. 60 5. 40	4. 90 6. 50 7. 00 5. 70 5. 60	4, 90 6, 10 7, 00 5, 50 5, 20	4. 00 5. 50 6. 50 5. 30 5. 00	4. 30 5. 50 6. 50 5. 50 5. 10	4. 97 5. 91 6. 79 5. 91 5. 50
Tennessee Alabama Mississippi Louisiana Texas Texas	3. 00 3. 00	4. 50 3. 30 3. 00 4. 40 4. 20	4. 70 3. 40 3. 10 4. 10 4. 50	4. 80 3. 70 3. 10 4. 00 4. 70	4. 90 3. 50 3. 00 4. 10 4. 50	4. 60 3. 70 3. 10 4. 10 4. 30	4. 70 3. 40 3. 10 5. 00 4. 30	4.70 3.40 3.10 4.80 4.00	4. 50 3. 30 2. 90 4. 70 4. 00	4. 20 3. 20 2. 90 4. 60 4. 00	3. 90 3. 10 2. 40 4. 20 4. 30	3. 90 3. 00 2. 90 4. 50 4. 20	4. 51 3. 33 2. 97 4. 39 4. 26
Oklahoma Arkansas Montana Wyoming Colorado		4. 40 3. 30 6. 00 6. 40 5. 70	4, 50 3, 20 5, 70 7, 00 6, 20	5. 00 3. 40 6. 30 6. 50 6. 30	4. 40 3. 50 6. 30 5. 90 6. 50	4. 50 3. 40 6. 40 6. 50 6. 50	4, 30 3, 60 6, 00 6, 40 6, 40	4. 00 3. 20 6. 50 6. 30 5. 70	4. 30 3. 40 5. 90 6. 50 6. 00	4. 00 3. 30 5. 70 5. 50 5. 30	3. 80 3. 20 5. 00 5. 50 5. 30	4. 30 3. 10 5. 30 6. 00 5. 20	4, 32 3, 33 5, 88 6, 21 5, 91
New Mexico	4. 90 5. 70 6. 60	5. 60 5. 30 5. 60 6. 50	5. 60 5. 30 5. 30 6. 10	5. 00 5. 30 5. 30 6. 40	5. 60 5. 40 5. 70 6. 50	5. 50 5. 40 5. 60	5. 00 5. 00 5. 40 5. 60	5. 00 5. 10 5. 40 5. 00	4. 70 5. 30 5. 00	4. 60 5. 50 4. 90 6. 20	4. 00 5. 40 4. 90 5. 90	4. 20 5. 10 5. 00 5. 60	5. 07 5. 25 5. 32 6. 04
Idaho	5. 40 4. 90 5. 50 7. 10	5. 30 5. 20 5. 40 6. 60	5. 40 5. 50 5. 70 6. 40	5. 40 5. 50 5. 70 6. 30	6. 10 6. 30 6. 30 6. 10	5. 50 5. 10 6. 30 6. 00	5. 30 5. 20 6. 00 5. 70	5. 20 5. 10 5. 20 6. 00	5. 20 5. 00 5. 80 5. 90	5. 10 5. 10 4. 80 6. 10	4. 80 5. 00 5. 70 6. 10	4. 40 4. 60 5. 00 6. 10	5. 26 5. 21 5. 62 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

Table 423.—Calves, veal: Farm price per 100 pounds, 15th of month, by States, 1923.

State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Maine	9. 20 11. 80	9. 00 11. 00 9. 20 10. 40	9. 40 11. 00 9. 30	9. 70 10. 00 8. 40 10. 50	9. 90 10. 50 8. 10 9. 90	9. 10 10. 90 8. 30 11. 00	Dolls. 10. 00 10. 60 8. 50 10. 60 11. 50	9. 50 9. 70 9. 20 10: 20	10. 10 10. 40 9. 10 11. 10	9. 80 10. 00 9. 20 11. 00	9. 50 11. 30 9. 50 11. 70	9. 00 9. 70 9. 50 9. 10	10. 46 8. 96 10. 73
Connecticut New York New Jersey Pennsylvania Delaware	10. 70 11. 50	11.40	11. 10	9. 80 13. 60 10. 00	12.40	9.70	10.60 12.00	10. 70 12. 00 10. 20	12.50	11. 40 10. 90	11. 50 11. 50 10. 70	11.00 10.70	10. 68 11. 98 10. 42
Maryland	11. 00 9. 30 9. 00 6. 80 5. 00		9. 20 9. 30 6. 70	9. 90 9. 10 8. 60 6. 40 6. 00	9. 90 8. 60 8. 60 6. 40 5. 90	8. 00 8. 20 6. 70	9. 90 8. 00 8. 80 6. 50 6. 00	9. 90 8. 10 9. 20 6. 20 5. 80	11. 10 8. 60 8. 40 5. 90 5. 90	11. 00 8. 50 8. 90 6. 50 5. 50	10. 50 9. 00 8. 60 6. 30 4. 50	8. 00 8. 20 6. 60	10. 58 8. 64 8. 79 6. 45 5. 57
Georgia Florida Ohio Indiana Illinois	5. 00 6. 50 10. 00 9. 80 9. 00	5. 30 6. 60 11. 10 9. 90 9. 40	5. 30 7. 00 10. 80 9. 60 8. 90	5. 30 6. 20 9. 10 8. 60 8. 20	5. 50 6. 10 9. 00 8. 30 7. 80	5. 50 6. 00 9. 00 8. 20 8. 00	5. 00 5. 90 9. 40 8. 90 8. 50	5. 30 6. 10 9. 90 9. 10 8. 80	4. 90 7. 00 10. 30 9. 60 9. 50	5. 10 8. 30 10. 50 10. 00 9. 60	5. 00 7. 00 9. 90 9. 10 8. 50	5. 00 7. 50 9. 40 9. 00 8. 40	5. 18 6. 68 9. 87 9. 18 8. 72
Michigan Wisconsin Minnesota Iowa Missouri	10. 10 8. 00 7. 30 8. 20 7. 90	10. 70 8. 60 7. 30 8. 40 8. 50	7. 90 7. 10 8. 30	9. 00 7. 10 7. 00 8. 20 7. 50	8. 70 7. 20 7. 10 8. 00 7. 60	9. 00 7. 40 7. 10 8. 30 7. 20	7. 60	10. 10 8. 40 7. 70 8. 20 7. 30	10. 80 9. 00 8. 30 9. 10 7. 80	10. 40 9. 00 8. 20 8. 70 7. 70	9. 60 7. 60 7. 00 8. 20 7. 50	9. 80 7. 60 6. 90 7. 80 7. 30	9. 83 7. 99 7. 38 8. 32 7. 65
North Dakota South Dakota Nebraska Kansas Kentucky	6. 80 7. 80 7. 50 7. 40 8. 20	7. 00 7. 30 8. 20 7. 90 8. 30	6. 70 7. 90 7. 70 7. 20 8. 20	6. 50 7. 80 7. 70 7. 20 7. 30	7. 40 7. 10 7. 70 7. 50 7. 00	6. 60 7. 60 7. 50 7. 00 7. 00	7. 00 7. 60 7. 90 7. 10 7. 40	6. 70 8. 10 7. 90 6. 60 7. 30	7. 00 8. 20 7. 60 7. 20 7. 90	7. 30 7. 90 7. 90 7. 40 7. 70	6. 30 7. 30 7. 30 6. 70 7. 50	6. 30 7. 00 7. 40 6. 80 7. 40	6. 80 7. 63 7. 69 7. 17 7. 60
Tennessee	5. 80 4. 70 4. 30 5. 10	5. 70 4. 60 4. 90 5. 10 5. 50	6. 10 4. 70 4. 90 5. 20 6. 00	5. 60 5. 00 5. 00 5. 10 6. 20	6. 00 5. 10 4. 70 5. 60 5. 60	5. 50 5. 10 4. 50 5. 20 5. 30	5. 70 5. 50 5. 10 5. 50 5. 70	5. 60 5. 00 4. 60 5. 40 5. 00	5. 40 4. 50 4. 20 5. 10 5. 20	5. 40 4. 40 4. 70 5. 20 5. 40	5. 00 4. 30 4. 20 5. 00 5. 40	5. 40 4. 40 3. 80 5. 00 5. 40	5. 60 4. 78 4. 58 5. 22 5. 48
OklahomaArkansasMontanaWyomingColorado	5. 00 4. 90 7. 20 8. 70 6. 90	5. 70 4. 90 7. 50 8. 20 8. 00	5. 90 5. 00 8. 50 8. 30 8. 20	6, 00 5, 30 8, 00 8, 70 8, 50	6. 00 4. 90 8. 80 9. 10 8. 40	5. 60 5. 00 9. 00 9. 50 8. 50	5. 20 5. 40 8. 30 9. 10 8. 10	5. 30 5. 40 8. 50 8. 50 7. 40	5. 30 5. 10 8. 40 7. 80 8. 00	5. 40 5. 40 8. 90 7. 50 7. 30	5. 20 4. 50 7. 50 7. 80 6. 80	5. 80 4. 70 7. 00 8. 00 7. 10	5. 53 5. 04 8. 13 8. 43 7. 77
New Mexico Arizona Utah Nevada	7. 60 6. 20 9. 00 8. 00	6. 00 6. 00 9. 00 7. 70	7. 10 6. 40 9. 10 8. 20	7. 70 6. 40 9. 10 9. 00	5. 80 9. 50 9. 00		6. 20 6. 20 8. 70 8. 00	7. 00 9. 00 8. 10	6. 80 6. 30 9. 10	6. 10 6. 40 8. 00	6. 00 6. 50 8. 40 8. 00	6. 50 6. 30 8. 20 7. 10	6. 73 6. 33 8. 84 8. 12
Idaho Washington Oregon California	7. 30 7. 40 8. 10 8. 10	8. 50	7. 20 7. 80 9. 10 8. 40	6, 80 8, 30 9, 10 8, 50	7. 20 8. 20 10. 50 8. 30	7. 10 7. 50 9. 00 8. 10	7. 30 7. 90 7. 80 8. 60	6. 70 7. 60 8. 50 8. 30	6. 80 8. 00 8. 60 8. 00	6. 50 7. 30 8. 50 8. 50	6. 50 8. 50 9. 70 8. 10	6. 00 7. 80 9. 20 7. 90	6. 87 7. 84 9. 01 8. 28
United States	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

Division of Crop and Livestock Estimates.

Table 424.—Cattle and calves: Monthly average price per 100 pounds, Chicago, 1900-1923.

#### GOOD BEEF STEERS.1

·													
Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.2
1900	Dolls. 5. 20 4. 85 5. 70 4. 80	4. 85 4. 80 5. 55	4, 95 6, 05	4.95	5. 10 5. 30 6. 60	5. 20 5. 55	5. 10 7. 10	Dolls. 5. 40 5. 10 7. 05 5. 00	5. 50 6. 65	5. 25	5. 15 5. 50 5. 20	5. 65 4. 80	
1904	4. 65 4. 65 5. 00 5. 60 5. 30	4. 75	4. 60 5. 00 5. 15 5. 55 6. 00	4, 65 5, 75 5, 05 5, 65 6, 50	4. 85 5. 45 5. 20 5. 65 6. 60	5. 60 5. 25 5. 20 6. 20 6. 90	4.95	5. 10 5. 00 5. 45 6. 25 6. 00	5. 10 5. 05 5. 50 6. 10 5. 95	5. 20 4. 80 5. 60 6. 10 5. 70	4, 95 4, 65 5, 60 5, 40 5, 90	4.75	4. 92 5. 00 5. 31 5. 80 6. 06
1909 1910 1911 1912 1913	6, 20	5. 85 6. 35 6. 15 6. 60 8. 25	6. 10 7. 35 6. 20 7. 20 8. 30	6. 10 7. 55 6. 10 7. 65 8. 15	6. 45 7. 50 5. 95 7. 95 8. 00	6. 45 7. 50 6. 05 8. 00 8. 15	6. 45 7. 10 6. 30 7. 90 8. 25	6. 70 6. 85 6. 95 8. 50 8. 30	6. 75 6. 80 6. 80 9. 15 8. 50	6. 60 6. 60 6. 75 7. 90 8. 40	6. 45 6. 20 6. 70 8. 10 8. 25	6. 20 6. 00 6. 65 7. 85 8. 20	6. 34 6. 83 6. 40 7. 80 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 1915 1916 1917 1918 1919 1919	8. 45 8. 05 8. 35 10. 15 12. 10 15. 80 13. 95	12.00	8. 35 7. 65 8. 75 11. 25 12. 60 16. 05 13. 10	8. 50 7. 70 9. 10 11. 75 14. 70 15. 85 12. 30	8, 40 8, 35 9, 50 11, 90 15, 40 15, 00 12, 25	8. 60 8. 80 9. 85 12. 15 15. 85 13. 55 14. 95	8. 80 9. 20 9. 25 12. 35 16. 05 15. 60 14. 68	9. 10 9. 05 9. 45 12. 70 15. 75 16. 45 14. 30	9. 35 8. 95 9. 40 13. 10 16. 00 15. 50 14. 95	9. 05 8. 80 9. 75 11. 70 14. 80 16. 15 14. 61	8. 60 8. 70 10. 15 11. 10 15. 05 15. 10 11. 65	8. 35 8. 35 10. 00 11. 40 14. 90 14. 35 10. 08	8. 65 8. 43 9. 33 11. 67 14. 60 15. 45 13. 32
A♥. 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
1921 1922 1923	8. 94 7. 37 9. 17	8. 57 7. 60 8. 86	9. 41 8. 01 8. 83	8. 22 7. 94 9. 01	8. 33 8. 20 9. 41	7. 94 8. 83 9. 94	8. 09 9. 48 10. 05	8. 32 9. 62 10. 48	7. 67 9. 98 10. 12	7. 59 10. 53 9. 90	7. 52 9. 42 9. 36	7. 31 8. 89 8. 92	8. 16 8. 82 9. 50
· · · · · · · · · · · · · · · · · · ·					CALV	ES.							
1901	5. 85 6. 30 7. 10 5. 85	5. 95 6. 75 7. 15 6. 35	5. 75 6. 00 6. 50 5. 65	5. 15 5. 50 5. 75 4. 60	5. 25 5. 75 5. 60 4. 60	6. 00 5. 75 6. 20 4. 90	5. 75 6. 50 5. 65 5. 75	5. 25 6. 75 6. 40 5. 60	5. 85 7. 00 6. 65 5. 90	5. 90 6. 80 6. 40 6. 10	5. 60 6. 60 5. 75 6. 00	5. 00 6. 60 4. 95 6. 00	5. 61 6. 36 6. 18 5. 61
1905	6. 15 7. 00 7. 00 6. 75	6. 50 6. 40 6. 50 6. 60	5. 70 6. 25 6. 60 6. 20	5. 10 5. 60 6. 00 5. 50	5. 25 5. 65 6. 35 5. 60	5. 85 5. 80 6. 15 5. 80	5. 75 5. 60 6. 40 6. 00	5. 90 6. 00 6. 35 6. 75	6. 00 6. 75 6. 50 7. 60	6. 00 6. 50 6. 00 7. 20	6, 00 6, 25 6, 25 6, 50	6. 60 7. 00 6. 00 7. 40	5, 90 6, 23 6, 34 6, 49
1909 1910 1911 1912 1913	7. 60 8. 60 8. 75 8. 75 9. 75	6. 85 8. 65 8. 40 7. 50 9. 85	7. 00 9. 00 7. 40 8. 00 10. 50	6. 30 7. 85 6. 60 7. 40 8. 50	6. 35 7. 35 7. 25 7. 75 9. 25	6. 50 7. 85 7. 60 8. 00 9. 75	7. 00 7. 60 7. 40 8. 75 10. 40	7. 50 7. 75 8. 00 9. 75 11. 50	7. 60 8. 50 8. 75 11. 25 11. 25	8. 10 8. 65 8. 60 10. 00 10. 50	7. 40 8. 75 8. 35 9. 85 10. 35	8. 25 8. 50 7. 85 10. 25 10. 75	7. 20 8. 25 7. 91 8. 94 10. 20
Av. 1909–1913	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
1914 1915 1916 1917 1918 1918 1919	11, 00 9, 85 10, 15 13, 40 15, 35 15, 62 17, 74	10. 75 10. 35 10. 65 12. 65 14. 15 15. 75 16. 73	9. 00 10. 00 9. 65 13. 40 15. 25 15. 01 16. 73	8. 85 8. 40 8. 75 12. 50 14. 50 14. 31 14. 22	9. 50 9. 15 10. 40 13. 25 13. 50 14. 66 12. 12	9. 40 9. 60 11. 25 13. 40 16. 02 16. 37 13. 68	10. 60 10. 25 11. 40 13. 00 16. 67 17. 88 13. 98	11. 00 11. 50 12. 00 15. 15 17. 28 19. 62 15. 08	11. 40 11. 25 12. 40 15. 00 18. 63 20. 52 16. 39	10. 65 10. 85 11. 50 14. 85 16. 83 18. 05 14. 18	10. 35 10. 15 11. 85 13. 50 16. 86 17. 60 13. 74	8. 65 9. 65 11. 75 15. 25 16. 01 16. 56 10. 39	10. 10 10. 08 10. 98 13. 78 15. 92 16. 83 14. 59
Av. 1914-1920	13. 30	13. 00	12. 72	11.65	11.80	12. 82	13. 40	14. 52	15. 08	13. 84	13. 44	12.61	13. 18
1921 1922 1923	11. 49 8. 36 10. 08	11. 02 9. 16 10. 63	10. 33 8. 26 9. 32	8. 12 6. 97 8. 68	8. 66 8. 46 9. 51	8. 72 8. 89 9. 31		9. 39 10. 88 10. 01	10. 71 11. 92 9. 98	8. 68 9. 65 9. 39	7. 70 8. 91 7. 82	7. 81 9. 42 8. 69	9. 36 9. 15 9. 42

Division of Statistical and Historical Research.

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.

Bulk of sales, 1,100 lbs. up.
 Simple average of monthly average prices.

Table 425.—Cattle and calves: Monthly average price per 100 pounds, 1923.

	CHICA	LGO.					
Classification.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Aver- age Jan. 1- June 30.
Beef steers:  Medium and heavyweight (1,100 lbs. up)— Choice and prime Good Medium Common Lightweight (1,100 lbs. down)— Choice and prime	Dollars. 11. 85 10. 40 8. 76 7. 14	Dollars. 10. 87 9. 84 8. 82 7. 21	Dollars. 10. 18 9. 55 8. 74 7. 47	Dollars. 10. 04 9. 42 8. 65 7. 58	Dollars 10. 38 9. 77 9. 03 8. 09	Dollars. 10. 99 10. 19 9. 12 7. 92	Dollars. 10, 72 9, 86 8, 85 7, 57
Good	11. 61 10. 21 8. 62 6. 91	10. 86 9. 77 8. 68 7. 02	10. 25 9. 60 8. 70 7. 32	9. 99 9. 36 8. 54 7. 40	10. 26 9. 65 8. 87 7. 85	10. 81 10. 00 8. 90 7. 30	10. 63 9. 76 8. 72 7. 30
Butcher cattle: Heifers, common to choice. Cows, common to choice. Bulls, bologna and beef. Canners and cutters:	1	7. 54 5. 96 5. 54	7. 61 6. 06 5. 73	7. 66 6. 16 5. 82	7. 95 6. 50 6. 16	7. 95 6. 14 5. 78	7. 70 6. 11 5. 74
Cows and heifers	3. 25 3. 90	3. 64 4. 19	3. 82 4. 44	3. 88 4. 54	4. 06 5. 00	3. 24 4. 76	3. 65 4. 47
choice	i	10. 63 7. 08	9. 32 6. 08	8. 68 5. 96	9. 51 6. 48	9. 31 6. 38	9. 59 6. 35
Heavy (1,000 lbs. up), common to choice_ Light and medium (750 to 1,000 lbs.), common to choice	7. 05 7. 01	7. 08 6. 96	7. 46 7. 25	7. 41 7. 17	7. 76 7. 39	7. 89 7. 41	7. 44 7. 20
Stock cattle: Steers, common to choice Cows and heifers, common to choice Calves—	6. 14 4. 34	6. 21 4. 32	6. 42 4. 59	6. 50 4. 75	6. 83 5. 17	6. 69 4. 98	6. <b>46</b> 4. <b>69</b>
Good and choiceCommon and medium							
Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec.31
Slaughter cattle:  Beef steers (1,100 lbs. up)— Choice and prime	Dollars. 11. 13 10. 20 9. 08 7. 70	Dollars. 12. 08 10. 87 9. 31 7. 45	Dollars. 12, 43 10, 95 8, 99 7, 09	Dollars. 12. 01 10. 90 9. 27 6. 94	Dollars. 11. 82 10. 58 8. 99 6. 76	Dollars. 11. 97 10. 58 9. 04 6. 93	Dollars. 11. 91 10. 68 9. 11 7. 14
Good	10. 85 9. 88 8. 77 6. 98 4. 53	11. 82 10. 64 9. 12 6. 99 4. 48	12. 21 10. 80 8. 86 6. 81 4. 41	12. 03 10. 96 9. 29 6. 80 4. 34	11. 95 10. 65 9. 09 6. 68 4. 28	12. 15 10. 78 9. 13 6. 69 4. 25	11. 84 10. 62 9. 04 6. 82 4. 38
Light yearling steers and heifers (800 lbs. down), good and prime	10.04	10. 33	10.62	10. 82	10.74	11. 08	10. 60 9. 39
850 lbs. up—good and choice	8. 96 6. 61	9. 22 6. 04	9. 58 6. 24	9. 62 6. 27	9. 32 5. 99	9. 63 6. 26	6. 24
Good and choice Common and medium Canner and cutter Bulls—	7. 30 4. 78 3. 14	7. 48 4. 56 2. 99	7. 15 4. 40 3. 00	7. 08 4. 57 2. 93	6. 89 4. 43 2. 77	6. 72 4. 55 2. 92	7. 10 4. 55 2. 96
Good and choice 1Canner to medium (canner and bologna)	6. 21 4. 78	6. 14 4. 14	6. 15 4. 18	5. 77 3. 88	5. 56 3. 64	5. 74 4. 08	5. 93 4. 12
Slaughter calves:   Medium to choice—   190 lbs. down	10. 14 9. 67 7. 33	10. 36 9. 63 6. 73	10. 57 9. 40 6. 56	9. 82 8. 96 6. 35	8. 15 7. 50 5. 66	9. 31 8. 07 6. 29	9. 72 8. 78 6. 49
Cull and common— 1901bs. down 1901bs. up. Feeder and stocker cattle and calves: Steers—		6. 60 5. 07	7. 02 5. 20	6. 73 5. 17	5. 76 4. 18	6. 40 5. 00	6. 55 4. 98
Common to choice—750 lbs. up	7. 10 6. 40 4. 16 4. 56	7. 24 6. 32 4. 07 4. 39	7. 26 6. 38 4. 06 4. 29	6. 67 5. 99 3. 80 4. 06	6. 50 6. 04 3. 92 3. 77	6. 64 5. 97 3. 76 3. 94	6, 90 6, 18 3, 96 4, 17

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 425.—Cattle and calves: Monthly average price per 100 pounds, 1923—Con. EAST ST LOUIS

EA	ST ST.	Louis					
Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1- June 30.
Beef steers:  Medium and heavyweight (1,100 lbs. up)— Choice and prime	11. 81	Dollars. 10, 77 9, 76 8, 44 6, 86	Dollars. 10. 16 9. 47 8. 48 7. 19	Dollars. 9. 97 9. 32 8. 44 7. 30	Dollars. 10. 31 9. 76 8. 90 7. 56	Dollars. 10. 96 10. 21 9. 17 7. 31	Dollars. 10. 66 9. 80 8. 65 7. 14
Choice and prime	11. 80 10. 30 8. 48 6. 67	10. 77 9. 66 8. 26 6. 68	10. 16 9. 38 8. 33 7. 00	9. 90 9. 20 8. 29 7. 10	10. 22 9. 58 8. 66 7. 31	10, 78 9, 99 8, 90 6, 89	10. 60 9. 68 8. 49 6. 94
Heifers, common to choice.  Cows, common to choice.  Bulls, bologna and beef.  Canners and cutters:  Cows and heifers.	7. 14 5. 40 5. 28 2. 96	7. 28 5. 49 5. 42 3. 14	7. 46 5. 98 5. 68 3. 60	7. 54 6. 14 5. 68	7. 87 6. 32 5. 96	8. 14 5. 82 5. 58 3. 09	7. 57 5. 86 5. 60 3. 34
Canner steers Veal calves: Light to medium weight, medium to choice	3. 46 9. 46	3. 73 9. 89	4. 06 8. 30	4. 12 7. 72	4. 35 8. 17	3. 90 8. 03	3. 94 8. 60
Heavyweight, common to choice Feeder steers: Heavy (1,0001bs. up), common to choice Light and medium (750 to 1,000 lbs.), com-	6. 61 6. 74	7. 46 6. 81	6. 95 7. 12	6. 69 7. 34	6. 67 7. 53	6. 89 7. 27	6. 88 7. 14
mon to choice	6. 26 5. 68	6. 44 5. 63	6. 75 6. 00	7. 04 6. 20	7. 36 6. 47	7. 02 5. 96	6. 81 5. 99
Cows and heifers, common to choice Calves— Good and choice	4. 07	4. 42	4. 74	4.75	4. 84	4, 40	4. 54
Classification.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec.31.
Slaughter cattle:  Beef steers (1,100 lbs. up)—  Choice and prime.  Good.  Medium.  Common.  Beef steers (1,100 lbs. down)	Dollars. 10. 96 10. 19 8. 96 6. 96	Dollars. 11. 85 10. 90 9. 13 6. 95	Dollars. 12, 14 10, 97 9, 02 6, 86	Dollars. 11. 85 10. 70 8. 87 6. 84	Dollars. 11. 73 10. 56 8. 67 6. 72	Dollars. 11. 72 10. 54 8. 61 6. 66	Dollars. 11. 71 10. 64 8. 88 6. 83
Choice and prime Good Medium Common Canner and cutter	10. 82 9. 89 8. 66 6. 61 4. 10	11. 57 10. 59 8. 86 6. 31 3. 78	11, 92 10, 72 8, 78 6, 25 3, 75	11. 73 10. 58 8. 69 6. 15 3. 77	11. 92 10. 80 8. 77 6. 26 3. 93	11, 84 10, 58 8, 66 6, 31 4, 12	11. 63 10. 53 8. 74 6. 32 3. 91
Light yearling steers and heifers (800 lbs. down), good and prime	9. 40 7. 90	10. 08 8. 04	10. 57 8. 53	10. 80 8. 75	10. 88 8. 80	10. 61 8. 28	10. 39
850 pounds up—good and choice All weights—common and medium Cows— Good and choice	5. 67 6. 38	5. 46	5. 67 6. 30	5. 23	4. 95 5. 92	5. 25 5. 89	8. 38 5. 37 6. 13
Good and choice	4. 62 2. 85	4. 38 2. 65	4. 28 2. 74	4. 20 2. 69	4. 28 2. 70	4. 16 2. 74	4. 32 2. 73
Good and choice 1 Canner to medium (canner and bologna)	6. 12 4. 08	6. 00 3. 79	5. 88 3. 72	5, 88 3, 64	5. 66 3. 28	5. 46 3. 31	5, 83 3, 64
Slaughter calves:  Medium to choice—  190 lbs. down————————————————————————————————————	9. 05 7. 72 6. 91	8. 95 7. 02 6. 41	9. 80 7. 32 6. 99	9. 40 7. 58 6. 57	8. 16 6. 29 5. 51	8. 80 6. 58 5. 89	9. 03 7. 08 6. 38
Cull and common— 190 lbs. down— 190 lbs. up————————————————————————————————————	5. 10 3. 92	4. 52 3. 69	4. 50 3. 62	5. 79 3. 56	4. 45 3. 04	4. 63 3. 10	4. 83 3. 49
Steers— Common to choice—750 lbs. up Common to choice—750 lbs. down Inferior (all weights) Cows and heifers—common to choice Calves—common to choice	6. 75 6. 30 3. 83 4. 08	6. 50 6. 00 3. 56 3. 90	6. 46 5. 98 3. 60 4. 09	6. 04 5. 72 3. 48 3. 86	5. 74 5. 36 3. 49 3. 52 5. 25	5. 88 5. 50 3. 62 3. 52	6. 23 5. 81 3. 60 3. 83

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.

Table 425.—Cattle and calves: Monthly average price per 100 pounds, 1923—Con. FORT WORTH.

Medium to choice—         6.35         6.02         6.11         5.93         5.70         6.17         6.05           190-280 lbs.         5.56         5.56         5.87         5.60         6.36         5.78         5.62           260 lbs. up.         4.99         5.10         5.47         5.31         5.03         5.41         5.22           Cull and common—         190 lbs. down         3.25         3.11         3.26         3.24         3.29         3.62         3.30           190 lbs. up.         2.62         2.70         3.14         3.03         2.83         3.22         2.92           Feeder and stocker cattle and calves:         Steers—         Common to choice—750 lbs. up.         4.25         4.34         4.88         5.12         5.15         5.38         4.85           Common to choice—750 lbs. down         4.25         4.34         4.79         4.96         4.92         5.12         4.73           Inferior (all weights)         2.25         2.40         2.91         3.00         3.06         2.77           Cows and heifers—common to choice         3.25         3.25         3.25         3.25         3.26         3.65         2.94         3.08           Calves—com	I	ORT W	ORTH					
Medium and heavyweight (1,100 lbs. up)		Jan.	Feb.	Mar.	Apr.	Мау.	June.	age Jan. 1-
Common   C	Medium and heavyweight (1 100 lbs up)-	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Common   C	Good	8. 28	8.00	8. 02	7.88	8. 00	7.87	8.01
Medium	MediumCommon	7.00	6.87 5.19	6.98	7.00	7.07	6.77	6.95
Medium	Lightweight (1,100 lbs. down)—	0.10	"	0.20	0.00	0.00	0.10	0.21
Medium	Choice and prime	7 00						
Common	Medium	6.62	6.50		6.62	7. 14	6.80	6.72
Heifers, common to choice	Common	4.80					5. 12	5. 02
Cows, common to choice	Heifers, common to choice	5. 32	5.34	5.44	5.50	5 45	5 16	5 37
Canners and cutters:   Cows and heifers.   2.27   2.65   2.68   2.74   2.82   2.46   2.60	Cows, common to choice	4.11	4.10	4. 29	4.62	4.79	4.52	4.40
Cows and heifers.	Bulls, bologna and beef	3, 59	3, 57	3.62	3.75	3. 70	3. 53	3.68
Canner steers	Cows and heifers	2. 27	2.65	2. 68	2.74		2.46	2.60
Light to medium weight, medium to choice.	Canner steers	2, 36	2, 70	2.68	2.75	2.82	2. 56	2.64
Choice and prime   Choice	Light to medium weight, medium to	1		·				
Feeder steers:   Heavy (1,000 lbs. up), common to choice   5,69   5,72   5,75   5,75   5,70   5,30   5,65   Light and medium (750 to 1,000 lbs.), common to choice   5,45   5,47   5,50   5,50   5,50   5,16   5,43	choice							7.45
Heavy (1,000 lbs.up), common to choice   5,69   5,72   5,75   5,76   5,70   5,30   5,65	Feeder steers	5.03	5.08	5. 52	5.46	6.32	4.94	5. 22
Stock cattle:   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers   Steers, common to choice   Steers, common to cho	Heavy (1,000 lbs. up), common to choice	5.69	5.72	5.75	5.75	5.70	5.30	5. 65
Stock cattle:   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers, common to choice   Steers   Steers, common to choice   Steers, common to cho	Light and medium (750 to 1,000 lbs.),	5.45	5.47	5 50	5 50	5 50	5 16	5.42
Calves	Stock cattle:							
Calves	Steers, common to choice	5. 13			5. 36	5.33		
Common and medium	Calves—	3. 47	0. 00	5. 59	<b>5.</b> 15	3. 70	ð. 34	3.00
Classification.	Good and choice	6.02		6. 12			5. 72	6. 02
Classification.   July.   Aug.   Sept.   Oct.   Nov.   Dec.   July   Dec. 31.	Common and medium.	4. 18	4. 24	4. 25	4. 12	3.88	3. 78	
Beef steers (1,100 lbs. up)—	Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	age July 1–
Choice and prime	Roof stoors (1 100 lbs up)	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Choice and prime	Good	7. 60						
Choice and prime	Medium	6.25		6. 29			6.88	
Choice and prime			2, 20			0.11	0.20	2.00
Medium	Choice and prime		7 00	8. 96		9. 12		
Common	Medium	5.84	5. 82			6. 20	6. 73	
Light yearling steers and heifers (800 lbs. down), good and prime.  850 lbs. up—good and choice.  15.50  18.08  18.26  18	Common	4.12	4. 10	4.49	4.68	4.78	5.07	4.54
Gown, good and prime	Light yearling steers and heifers (800 lbs.	2.38	2.38	2. 08	2. 89	2. 92	3.20	2. 74
S50 lbs. up—good and choice	down), good and prime			8.08	8. 26	8. 26	8.66	
Cows— Good and choice	850 lbs. up—good and choice	5.50	5.28	5.39	5, 56	5.47	6.20	5.57
Good and choice	All weights—common and medium		3. 57	3.62				3. 73
Common and medium. 3.38 3.17 3.20 3.17 2.96 3.47 3.22 Canner and cutter. 2.15 1.96 2.06 2.07 1.92 2.30 2.08 Bulls—  Good and choice 1 3.88 3.88 4.07 4.16 4.08 4.12 4.08 canner to medium (canner and 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 6.05 190-260 lbs. 5.56 5.56 5.56 5.57 5.60 5.36 5.78 5.60 2.20 lbs. up 4.99 5.10 5.47 5.31 5.03 5.41 5.22 Cull and common— 190 lbs. down. 3.25 3.11 3.26 3.24 3.29 3.62 3.30 190 lbs. up 2.62 2.70 3.14 3.03 2.83 3.22 2.92 Feeder and stocker cattle and calves: Steers— Common to choice—750 lbs. up. 4.25 4.34 4.88 5.12 5.15 5.38 4.85 Common to choice—750 lbs. down. 4.25 4.34 4.79 4.96 4.92 5.12 4.73 Inferior (all weights) 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 3.25 3.16 2.65 2.94 3.08 Calves—common to choice 4.25 4.28 4.63 4.63 4.20 4.49 4.41	Good and choice	4 50	4 40	4 61	4.60	4 32	4 74	4 54
Bulls— Good and choice 1 3.88 3.88 4.07 4.16 4.08 4.12 4.03 Canner to medium (canner and bologna). Slaughter calves: Medium to choice— 190 lbs. down. 6.35 6.02 6.11 5.93 5.70 6.17 6.05 190-260 lbs. up. 4.99 5.10 5.47 5.31 5.03 6.41 5.22 Cull and common— 190 lbs. down. 3.25 111 3.26 3.24 3.29 3.62 3.30 129 lbs. up. 2.62 2.70 3.14 3.03 2.83 3.22 2.92 Feeder and stocker cattle and calves: Steers— Common to choice—750 lbs. up. 4.25 4.34 4.88 5.12 5.15 5.38 4.85 Common to choice—750 lbs. down. 4.25 4.34 4.79 4.96 4.92 5.12 4.73 Inferior (all weights). 2.25 2.40 2.91 3.00 3.00 3.06 2.77 Cows and heifers—common to choice 4.25 4.28 4.28 4.63 4.63 4.63 4.20 4.49 4.41	Common and medium	3.38	3.17	3. 20	3. 17	2.96	3. 47	3. 22
Good and choice 1 3.88 3.88 4.07 4.16 4.08 4.12 4.08 Canner to medium (canner and 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 6.05 190-260 lbs. up 5.56 5.56 5.86 5.87 5.60 5.36 5.78 5.62 260 lbs. up 5.10 5.47 5.31 5.03 5.41 5.22 Cull and common— 190 lbs. down 3.25 3.11 3.26 3.24 3.29 3.62 3.30 190 lbs. up 2.62 2.70 3.14 3.03 2.83 3.22 2.92 Feeder and stocker cattle and calves: Steers— Common to choice—750 lbs. up 4.25 4.34 4.88 5.12 5.15 5.38 4.85 Common to choice—750 lbs. down 4.25 4.34 4.79 4.96 4.92 5.12 4.73 Inferior (all weights) 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 3.25 3.25 3.16 2.66 2.94 3.08 Calves—common to choice 4.25 4.28 4.63 4.63 4.20 4.49 4.41	Canner and cutter	2.15	1.96	2.05	2. 07	1, 92	2.30	2, 08
Slaughter calves:	Good and choice 1	3.88	3.88	4. 07	4. 16	4.08	4. 12	4. 03
Slaughter calves:	Canner to medium (canner and	2 38	2 41	2 70	2 63	2.40	2 71	2 55
190 lbs. down	Slaughter calves:	2.00			2.00	2.10		2.00
190 lbs. up.   2.62   2.70   3.14   3.03   2.83   3.22   2.92	Medium to choice—	6 35	8.02	6 11	5 03	5 70	6 17	6.05
190 lbs. up.   2.62   2.70   3.14   3.03   2.83   3.22   2.92	190-2601bs.	5. 56	5, 56	5. 87	5. 60	5. 36	5. 78	5.62
190 lbs. up.   2.62   2.70   3.14   3.03   2.83   3.22   2.92	260 lbs. up	4. 99	5, 10	5. 47	5. 31	5. 03	5, 41	5, 22
Feeder and stocker cattle and calves:  Steers—  Common to choice—750 lbs. up		3. 25	3, 11.		3. 24	3. 29	3. 62	
Common to choice—750 lbs. up.   4. 25   4. 34   4. 88   5. 12   5. 15   5. 38   4. 85	190 lbs. up.	2.62	2, 70	3. 14	3. 03	2.83	3, 22	2, 92
Common to choice—750 lbs. up.       4.25       4.34       4.88       5.12       5.15       5.38       4.85         Common to choice—750 lbs. down.       4.25       4.34       4.79       4.96       4.92       5.12       4.72         Inferior (all weights).       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       4.25       4.28       4.63       4.63       4.20       4.49       4.41	Steers-	1	l	İ	1	1	1	
Inferior (all weights)       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. 25       3. 25       3. 26       3. 26       3. 26       3. 26       3. 26       3. 25 <t< td=""><td>Common to choice—750 lbs. up.</td><td>4. 25</td><td>4. 34</td><td>4.88</td><td>5. 12</td><td>5. 15</td><td>5. 38</td><td></td></t<>	Common to choice—750 lbs. up.	4. 25	4. 34	4.88	5. 12	5. 15	5. 38	
Cows and heifers—common to choice 3.25 3.25 3.25 3.16 2.68 2.94 3.08 Calves—common to choice 4.25 4.28 4.63 4.63 4.63 4.20 4.49 4.41	Inferior (all weights)	2. 25	2.40	2. 91	4.90 3.00	3, 00	3.06	4. 13 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		<del></del>			4. 20		

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.

<sup>&</sup>lt;sup>1</sup> Beef yearlings excluded.

Table 425.—Cattle and calves: Monthly average price per 100 pounds, 1923—Con.

Kansas city

К	ANSAS	CITY.			•	,	
Classification.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	A ver- age Jan. 1- June 30
Beef steers:  Medium and heavyweight (1,100 lbs. up)— Choice and prime Good. Medium	Dollars 10. 87 9. 56	9. 21	7. 87 8. 96	9. 69 8. 95	10, 20 9, 54	10. 83 10. 14	Dollars 9. 98 9. 39
Lightweight (1,100 lbs, down)—	6.68	8. 14 6. 94	8. 13 7. 11	8. 34 7. 46	8. 90 7. 90	9. 22 7. 88	8. 49 7. 33
Choice and prime Good Medium Common Butcher cattle:	9.35	10. 22 8. 99 7. 87 6. 60	9. 78 8. 79 7. 90 6. 80	9. 67 8. 86 8. 06 7. 06	10. 08 9. 36 8. 50 7. 36	10. 65 9. 84 8. 72 7. 20	10. 18 9. 20 8. 16 6. 89
Heifers, common to choice  Cows, common to choice  Bulls, bologna and beef  Canners and cutters	5. 12 4. 67	6. 40 5. 21 4. 76	6. 55 5. 53 5. 06	6. 69 5. 81 5. 25	6. 94 5. 98 5. 47	7. 02 5. 73 5. 16	6. 64 5. 56 5. 06
Cows and heifers Canner steers Veal calves:	3.48	3. 14 3. 60	3. 44 3. 88	3. 53 4. 00	3. 50 4. 09	3. 18 3. 84	3. 31 3. 82
Light to medium weight, medium to choice. Heavy weight, common to choice Feeder steers:	8. 95 6. 37	9. 55 6. 74	8. 50 6. 37	7. 58 6. 20	8. 03 6. 75	7. 85 6. 48	8. 41 6. 48
Heavy (1,000 lbs. up), common to choice.  Light and medium (750 to 1,000 lbs.),  common to choice.	6. 91	7. 25	7. 38	7. 36	7. 66	7. 90	7.41
Steers, common to choice	6. 94 6. 46	7. 22 6. 61	7. 34 6. 78	7. 31 6, 81	7. 57 5. 00	7. 78 6. 94	7. 36 6. 43
Cows and heifers, common to choice Calves— Good and choice	4. 28 7. 12	4. 44 7. 20	4. 65 7. 44	4. 77 7. 50	4.74	4. 47	4. 56
Common to medium	5. 27	5. 32	5. 48	5. 61	7. 56 5. 82	7. 44 5. 57	7. 38 5. 51
Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec	Average July 1- Dec.31.
Slaughter cattle:  Beef steers (1,100 lbs. up)—  Choice and prime	Dollars. 10. 83 9. 92 8. 90	Dollars. 11. 87 10. 06 8. 73	Dollars. 11. 68 10. 16 8. 59	Dollars. 11. 34 9. 78 8. 20	Dollars. 11. 25 9. 64	Dollars. 11. 36 9. 88	Dollars. 11. 39 9. 91
Good	7. 59	7. 28 11. 10	6. 96 11. 40	6. 65 11. 11	7. 87 6. 31 11. 35	8, 19 6, 41 11, 48	8. 41 6. 87 11. 17
Choi ce and prime Good Good Cannon and cutter Light yearling steers and heifers (800 lbs.	9. 61 8. 50 6. 96 4. 34	9. 76 8. 45 6. 64 4. 12	9. 84 8. 38 6. 41 4. 11	9. 59 8. 08 6. 09 4. 00	9. 68 7. 96 6. 00 4. 00	10, 01 8. 32 6. 16 4. 00	9. 75 8. 28 6. 38 4. 10
down), good and prime	9. 45	9. 74	9. 89	9. 88	10. 00	10. 14	9. 85
850 lbs. up, good and choice	7. 82 5. 50	7. 85 5. 54	7. 80 5. 39	7. 82 5. 26	7. 62 4. 88	8. 04 5. 04	7. 82 5. 27
Good and choice Common and medium Canner and cutter Bulls—	6. 55 4. 34 2. 68	6. 53 4. 27 2. 59	6. 40 4. 28 2. 66	6. 25 4. 23 2. 74	5. 88 3. 80 2. 43	5, 90 3, 92 <b>2, 66</b>	6. 25 4. 14 2. 63
Good and choice <sup>1</sup> Canner to medium (canner and bologna	5. 65 4. 08	5. 26	5. 26	5.00	4. 92	4. 93	5. 17
Slaughter calves:  Medium to choice—  190 lbs. down		3. 54	3. 52	3. 27	3. 06	3. 20	3. 44
260 lbs. up Cull and common—	7. 82 7. 53 6. 72	8. 04 7. 42 6. 30	8. 02 7. 41 6. 42	8. 15 7. 27 6. 12	7. 71 6. 75 5. 62	7. 75 6. 88 5. 61	7. 92 7. 21 6. 13
190 lbs. down 190 lbs. up	4. 58 4. 08	4. 62 3. 65	4. 68 3. 62	4. 67 3. 53	4. 38 3. 25	4. 50 3. 17	4. 51 3. 55
Common to choice—750 lbs. up	6. 77 6. 40 3. 72 4. 60 6. 12	7. 07 6. 47 3. 75 4. 46 6. 12	7. 13 6. 32 3. 75 4. 38 5. 84	6. 61 6. 06 3. 75 4. 09 5. 66	6. 60 6. 11 3. 75 3. 88 5. 58	6. 53 6. 04 3. 70 3. 98 5. 56	6. 78 6. 23 3. 74 4. 23 5. 81

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.

<sup>&</sup>lt;sup>1</sup> Beef yearlings excluded.

Table 425.—Cattle and calves: Monthly average price per 100 pounds, 1923—Con.

	OMAI	IA.					
Classification.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Average Jan. 1- June 30.
Beef steers:  Medium and heavyweight (1,100lbs. up)— Choice and prime	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars	Dollars.
	10. 94	10. 28	9. 74	9. 50	9. 90	10, 58	10. 16
	9. 50	9. 24	8. 88	8. 72	9. 30	9, 83	9. 24
	7. 99	8. 05	8. 05	8. 08	8. 65	8, 84	8. 28
	6. 39	6. 67	6. 86	7. 08	7. 69	7, 66	7. 06
Good Medium Common	9. 33 7. 80	10. 14 9. 08 7. 87 6. 45	9. 74 8. 88 7. 93 6. 61	9. 50 8. 72 7. 96 6. 84	9. 79 9. 10 8. 29 7. 19	10, 38 9, 62 8, 54 7, 09	10. 04 9. 12 8. 06 6. 72
Butcher cattle:  Heifers, common to choice.  Cows, common to choice.  Bulls, bologna and beef.  Canners and cutters:	6. 67	6. 75	6. 79	6. 80	6. 96	7. 09	6. 84
	5. 28	5. 43	5. 60	5. 95	6. 31	6. 29	5. 81
	4. 68	4. 98	5. 43	5. 47	5. 84	5. 68	5. 35
Cows and heifers Canner steers Veal calves: Light to medium weight, medium to		3. 35 3. 75	3. 54 3. 97	3. 77	4.00	3.46	3. 57
choice  Heavyweight, common to choice  Feeder steers:  Heavy (1,000 lbs. up), common to choice	9, 05	9. 55	9. 24	7. 96	8. 86	7.87	8. 76
	6, 04	6. 50	6. 24	6. 13	6. 56	6.05	6. 25
	6, 87	7. 12	7. 06	7. 24	7. 47	7.64	7. 23
Light and medium (750 to 1,000 lbs.), common to choice	6.85	7.00	6.92	7.04	7. 15	7.04	7.00
Stock cattle: Steers, common to choice Cows and helfers, common to choice Calves—	6. 15	6. 25	6. 24	6. 37	6, 53	6. 38	6. 32
	4. 29	4. 38	4. 38	4. 42	4, 66	4. 60	4. 46
Good and choice	6, 95	7. 10	7. 06	7. 11	7. 28	7. 38	7. 15
	5, 26	5. 40	5. 41	5. 38	5. 59	5. 75	5. 46
- Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec. 31.
Slaughter cattle:  Beef steers (1,100 lbs. up)— Choice and prime. Good. Medium. Common	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
	10. 81	11. 50	11. 80	11. 41	11. 28	11. 52	11. 39
	9. 93	10. 18	10. 20	9. 91	9. 74	10. 00	9. 99
	8. 87	8. 69	8. 55	8. 32	8. 12	8. 28	8. 47
	7. 46	7. 13	6. 90	6. 74	6. 56	6. 29	6. 85
Beef steers (1,100 lbs. down)— Choice and prime Good Medium Common Canner and cutter Light yearling steers and heifers (800 lbs.	10. 62 9. 69 8. 54 6. 94	11. 23 9. 85 8. 41 6. 56 4. 21	11. 59 9. 93 8. 27 6. 28 4. 02	11. 27 9. 77 8. 12 6. 12 4. 00	11. 50 10. 02 8. 26 6. 12 4. 00	11. 63 10. 14 8. 34 6. 13 4. 02	11. 31 9. 90 8. 32 6. 36 4. 05
down), good and prime Heifers—	9. 66	9, 67	9. 66	9. 73	10.08.	10. 29	9. 85
850 lbs. up—good and choice All weights—common and medium Cows—	8. 27 5. 98	8. 30 5. 82	8. 14 5. 42	8. 31 5. 46	8. <b>2</b> 8 5. <b>2</b> 8	8. 61 5. 58	8. 32 5. 59
Good and choice Common and medium Canner and cutter Bulls—	6. 87	7. 00	6. 56	6. 32	5. 71	5. 80	6. 38
	4. 75	4. 56	4. 18	4. 06	3. 78	4. 25	4. 26
	3. 04	2. 87	2. 72	2. 79	2. 64	3. 01	2. 84
Good and choice 1Canner to medium (canner and bologna)	6. 02	6. 18	5. 82	5. 53	5. 08	5. 05	5. 61
	4. 28	4. 08	3. 70	3. 53	3. 03	3. 24	3. 64
Blaughter calves:  Medium to choice—  190 lbs. down. 190-260 lbs. 260 lbs. up. Cull and common— 190 lbs. down.	8. 68	8. 19	8. 41	8. 60	8. 30	7. 96	8. 36
	7. 54	7. 31	7. 25	7. 07	6. 80	6. 68	7. 11
	6. 78	6. 31	6. 25	6. 16	6. 14	5. 84	6. 25
	5. 94	5. 25	5. 25	5. 25	5. 10	5. 34	5. 36
	5. 26	4. 69	4. 62	4. 35	3. 99	3. 83	4. 46
1901 bs. up	7. 22	7. 30	7. 32	6. 75	6. 50	6. 54	6. 94
	6. 60	6. 24	6. 28	6. 04	6. 04	6. 18	6. 23
	4. 49	4. 13	4. 06	3. 88	3. 87	3. 80	4. 04
	4. 55	4. 56	4. 62	4. 34	3. 81	3. 96	4. 31
	6. 36	6. 25	6. 19	5. 80	5. 55	5. 40	5. 92

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.

<sup>&</sup>lt;sup>1</sup> Beef yearlings excluded.

Table 425.—Cattle and calves: Monthly average price per 100 pounds, 1923—Con. SOUTH ST. PAUL.

Boef steers:   Medicin: and heavyweight (1,100 lbs. up)	sou	TH ST	. PAUL					
Medium and heavyweight (1,100 lbs. up)	Classification.	Jan.	Feb.	Mar.	Apr.	May.	June.	age Jan. 1-
Butcher cattle:   Heifers, common to choice	Beef steers:  Medium and heavyweight (1,100 lbs. up)— Choice and prime	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Butcher cattle: Heifers, common to choice	Good				. <b></b>	8.96	9. 38	
Butcher cattle: Heifers, common to choice	Medium	8. 26	7. 93	7. 71	7. 98	8. 20	8. 26	8.06
Butcher cattle: Heifers, common to choice	Common	6. 70	6.64	6.69	6. 98	7. 31	7.04	6.89
Butcher cattle: Heifers, common to choice	Lightweight (1,100 lbs. down)—							1
Butcher cattle:   Heifers, common to choice	Choice and prime	1		i	l	. <b></b>		1
Butcher cattle:   Heifers, common to choice	Good					8. 98	9. 38	l
Butcher cattle:   Heifers, common to choice	Medium	8. 26	7. 92	7.71	7. 98	8. 20	8. 26	8.06
Heifers, common to choice		6. 57	6. 52	6. 56	6.86	7. 17	6. 92	6.77
Cows, common to choice								
Canners and cutters: Cows and heifers	Heilers, common to choice	6.05						
Canners and cutters: Cows and heifers	Cows, common to choice	5. 29	5. 33	5. 43	5.86	5. 98	5.54	5. 57
Cows and heliers	Buils, bologna and beel	4.66	4.57	4.70	4.78	4. 94	4.76	4.74
Veal caives: Light to medium weight, medium to choice	Come and heifers	9.00	2.09	2 10	9 90	9.49	9.99	9 19
Veal caives: Light to medium weight, medium to choice	Connon atoms	2.90	3.02	3. 19	a. 30			9.13
Light to medium weight, medium to choice	Vanlasivas	3.30	3. 30	3.00	4.10	4. 21	3. 60	3.77
Choice	Light to modium weight modium to	}	1					1
Heavyweight, common to choice	choice	7 20	7 66	6 57	6 31	6 40	6 55	6.81
Feeder steers:   Heavy (1,000 lbs. up), common to choice   6. 00   6. 21   6. 25   6. 44   6. 54   6. 26   6. 28	Heavyweight common to choice	5 26		5 48	5 10	5.00	5.00	
Heavy (1,000 lbs.up), common to choice   6,00   6,21   6,25   6,44   6,54   6,26   6,28   6.28   6.28   6.28   6.28   6.28   6.00   6.19   6.30   6.00   6.04   6.28   6	Feeder steers	0.20	0.00	0. 10	0.10	0.00	9.00	0.20
Light and medium (1900 to 1,000 los.), common to choice   5. 79   5. 96   6. 00   6. 19   6. 30   6. 00   6. 04	Heavy (1.000 lbs. up), common to choice	6.00	6. 21	6. 25	6.44	6. 54	6. 26	6.28
Common to choice	Light and medium (750 to 1,000 lbs.).	0.00	0.21	0.20	0. 11	0.01	3. 20	3.20
Stock cattle:	common to choice	5. 79	5. 96	6.00	6. 19	6.30	6.00	6.04
Steers, common to choice	Stock cattle:							
Cows and helifers, common to choice   3.88   4.00   4.17   4.44   4.49   3.99   4.16	Steers, common to choice	5.42	5. 58	5. 62	5.82		5. 57	5. 66
Calves	Cows and heifers, common to choice	3.88	4.00	4.17	4.44	4. 49	3. 99	4. 16
Classification.	Calves—							
Classification.   July.   Aug.   Sept.   Oct.   Nov.   Dec.   Average   July   Dec. 31.	Good and choice							
Classification.   July.   Aug.   Sept.   Oct.   Nov.   Dec.   Average   July   Dec. 31.	Common and medium							
Classification.   July.   Aug.   Sept.   Oct.   Nov.   Dec.   July   Dec. 31.		•						A wor-
Siaughter cattle:   Dollars   Doll				-			-	
Slaughter cattle:   Beef steers (1,100 lbs. up)—   Dollars.   Do	Classification.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	July 1-
Slaughter cattle:   Beef steers (1,100 lbs. up)—	•							Dec. 31.
Beef steers (1,100 lbs. up)—   Dollars.	01							
Choice and prime	Destates (1 100 lbs. up)	Dollara	Dollars	Dollare	Dollars	Dollare	Dollare	Dollare
Medium	Choice and prime	10.26	11 02	11 51				
Cance and prime	Good	0.46	0.83			0.75		0.78
Cance and prime	Medium	8 36			7. 75	7. 88	7. 98	8.08
Cance and prime	Common	6.92	6.80	6. 28	5. 90			
Cance and prime	Beef steers (1.100 lbs. down)—		5. 55	***				
Good	Choice and prime	10.36	11.03	11. 51	11. 15	11.00	11.07	11.02
Medium	Good	9.46		10.05	9.83	9.75	9.68	9. 76
Common	Medium	8. 30	8. 16	7.86	7. 62	7. 75	7. 90	7.93
Light yearling steers and heifers (800 lbs. down), good and prime.  850 lbs. up—good and choice.  850 lbs. up—good and choice.  Good and c	Common	6.67	6.07	5. 56	5. 26	5. 37	5. 66	5.76
Light yearling steers and heifers (800 lbs. down), good and prime	Canner and cutter	4. 13	3. 70	3. 50	3. 28	3. 19	3. 50	3. 55
Heifers	Light yearling steers and heifers (800 lbs.	i l						
850 lbs. up—good and choice	down), good and prime	9. 52	9.45	9. 50	9. 50	9. 56	9. 98	9.58
All weights—common and medium 6.05 5.42 5.22 5.00 4.92 5.35 5.33 Cows—Good and choice—6.667 6.29 5.99 5.96 6.01 6.06 6.16 Common and medium 4.50 3.92 3.69 3.64 3.74 3.86 3.89 Canner and cutter—2.49 2.51 2.46 2.42 2.47 2.46 Bulls—Good and choice 1.5.36 4.72 5.06 4.56 4.26 4.50 4.74 Canner to medium (canner and bologna)—3.78 3.38 3.33 3.12 3.06 3.25 3.32 Slaughter calves:  Medium to choice— 190 lbs. down—7.63 8.18 8.18 7.90 6.64 6.96 7.58 190-260 lbs. up—6.65 6.53 6.87 6.99 6.90 6.16 6.08 6.59 260 lbs. up—6.665 6.55 5.49 5.50 5.31 5.08 5.63 Cull and common—190 lbs. down—4.90 5.17 5.04 5.00 4.62 4.50 4.87 190 lbs. down—4.90 5.17 5.04 5.00 4.62 4.50 4.87 190 lbs. up—7.63 8.18 8.18 7.90 6.64 6.96 7.58 190-260 lbs. up—7.65 6.65 6.25 5.49 5.50 5.31 5.08 5.63 Cull and common—190 lbs. down—4.90 5.17 5.04 5.00 4.62 4.50 4.87 190 lbs. up——3.56 3.79 3.55 3.50 3.06 3.08 3.42 Feeder and stocker cattle and calves:  Steers—Common to choice—750 lbs. up—6.01 6.03 6.43 5.55 5.10 5.17 5.72 Common to choice—750 lbs. down—5.61 5.47 5.71 4.84 4.62 4.67 5.15 Inferior (all weights)—3.30 3.30 3.38 3.33 3.33 3.33 3.33 3.33	Heifers—						0.01	0.00
Cows	850 lbs. up—good and choice			8. 24	8. 25	8. 15	8. 31	
Good and choice	All weights—common and medium	6.05	5.42	5. 22	5.00	4. 92	5. 35	5. 33
Common and medium	Cows—	0.05	0.00	- 00	5.00	6.01	e 00	0.10
Canner and cutter. 2. 49 2. 51 2. 46 2. 42 2. 42 2. 47 2. 46 Bulls— Good and choice! 5. 36 4. 72 5. 06 4. 56 4. 26 4. 50 4. 74 Canner to medium (canner and bologna). 3. 78 3. 38 3. 33 3. 12 3. 06 3. 25 3. 32 Slaughter calves: Medium to choice— 190 lbs. down. 7. 63 8. 18 8. 18 7. 90 6. 64 6. 96 7. 58 190-260 lbs. up. 6. 53 6. 87 6. 99 6. 90 6. 16 6. 08 6. 59 260 lbs. up. 6. 16 6. 25 5. 49 5. 50 5. 31 5. 08 5. 63 Cull and common— 190 lbs. down. 4. 90 5. 17 5. 04 5. 00 4. 62 4. 50 4. 87 190 lbs. down. 3. 56 3. 79 3. 55 3. 50 3. 06 3. 08 3. 42 Feeder and stocker cattle and calves: Steers— Common to choice—750 lbs. up. 6. 01 6. 03 6. 43 5. 55 5. 10 5. 17 5. 72 Common to choice—750 lbs. down. 5. 61 5. 47 5. 71 4. 84 4. 62 4. 67 5. 15 Inferior (all weights). 3. 69 3. 30 3. 38 3. 33 3. 33 3. 32 2. 94 2. 93 3. 30	Good and enoice		0.29			9.01	2.96	
Bulls—     Good and choice 1	Common and mediam		3.92			9.74	9.47	
Good and choice	Cannel and Cutton	2.49	2. 31	2, 40	2.42	2.42	2. 11	2. 40
Slaughter calves:   Medium to choice—	Good and shaise I	5 26	4 79	5.06	4.56	4.96	4 50	4 74
Slaughter calves:   Medium to choice—	Cannar to madium (cannar and	0.00	1. 12	0.00	2.00	1.20	2.00	
Slaughter calves:   Medium to choice—	hologna)	3 78	3 38	3 33	3.12	3.06	3, 25	3. 32
Medium to choice—         190 lbs. down         7. 63         8. 18         8. 18         7. 90         6. 64         6. 96         7. 58           190-260 lbs.         6. 53         6. 87         6. 99         6. 90         6. 90         6. 90         6. 16         6. 88         6. 59           260 lbs. up.         6. 16         6. 25         5. 49         5. 50         5. 31         5. 08         5. 63           Cull and common—         190 lbs. down.         4. 90         5. 17         5. 04         5. 00         4. 62         4. 50         4. 87           190 lbs. up.         3. 56         3. 79         3. 55         3. 50         3. 08         3. 42           Feeder and stocker cattle and calves:           Steers—           Common to choice—750 lbs. up.         6. 01         6. 03         6. 43         5. 55         5. 10         5. 17         5. 72           Common to dehoice—750 lbs. down.         5. 61         5. 47         5. 71         4. 84         4. 62         4. 67         5. 15           Inferior (all weights)         3. 69         3. 30         3. 83         3. 33         2. 94         2. 93         3. 30	Slaughter calves	0.10	0.00	0.00	0.1-	0.00		0.02
190 lbs. down	Medium to choice—				Ì			
Cull and common—       190 lbs. down     4.90     5.17     5.04     5.00     4.62     4.50     4.87       190 lbs. up     3.56     3.79     3.55     3.50     3.06     3.08     3.42       Steers—       Common to choice—750 lbs. up     6.01     6.03     6.43     5.55     5.10     5.17     5.72       Common to choice—750 lbs. down     5.61     5.47     5.71     4.84     4.62     4.67     5.15       Inferior (all weights)     3.69     3.30     3.58     3.33     2.94     2.93     3.30	190 lbs. down	7. 63	8. 18	8, 18	7, 90	6, 64	6, 96	7, 58
Cull and common—       190 lbs. down     4.90     5.17     5.04     5.00     4.62     4.50     4.87       190 lbs. up     3.56     3.79     3.55     3.50     3.06     3.08     3.42       Steers—       Common to choice—750 lbs. up     6.01     6.03     6.43     5.55     5.10     5.17     5.72       Common to choice—750 lbs. down     5.61     5.47     5.71     4.84     4.62     4.67     5.15       Inferior (all weights)     3.69     3.30     3.58     3.33     2.94     2.93     3.30	190-260 lbs			6, 99		6. 16	6.08	6. 59
Cull and common—       190 lbs. down     4.90     5.17     5.04     5.00     4.62     4.50     4.87       190 lbs. up     3.56     3.79     3.55     3.50     3.06     3.08     3.42       Steers—       Common to choice—750 lbs. up     6.01     6.03     6.43     5.55     5.10     5.17     5.72       Common to choice—750 lbs. down     5.61     5.47     5.71     4.84     4.62     4.67     5.15       Inferior (all weights)     3.69     3.30     3.58     3.33     2.94     2.93     3.30	260 lbs, up		6. 25	5. 49	5. 50	5. 31	5, 08	5, 63
1901bs. down	Cull and common—							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	190 lbs. down		5. 17		5. 00	4.62	4. 50	
Feeder and stocker cattle and calves:   Steers	190 lbs. up	3. 56	3. 79	3. 55	3. 50	3.06	3, 08	3. 42
Common to choice—750 lbs. up 6.01 6.03 6.43 5.55 5.10 5.17 5.72 Common to choice—750 lbs. down 5.61 5.47 5.71 4.84 4.62 4.67 5.15 Inferior (all weights) 3.69 3.30 3.58 3.33 2.94 2.93 3.30	Feeder and stocker cattle and calves:							
Common to choice—750 lbs. down 5. 61 5. 47 5. 71 4. 84 4. 62 4. 67 5. 15 Inferior (all weights) 3. 69 3. 30 3. 58 3. 33 2. 94 2. 93 3. 30	Steers-					أميي	,	F 80
Inferior (all weights) 3. 69   3. 30   3. 58   3. 33   2. 94   2. 93   3. 30	Common to choice—750 lbs. up		6.03	6. 43	5. 55	5. 10		
Interior (all weights)	Common to choice—750 lbs. down	5. 61	5. 47	5. 71	4.84	4.62		
Cows and hellers—common to choice 3.42 3.34 3.38 3.26 3.02 3.88 3.30 Calves—common to choice 5.25 5.30 5.25 4.97 4.75 4.75 5.04	Inferior (all weights)		3. 30	3.58	3. 33	2.94	2.93	3.30
Carves—common to choice————————————————————————————————————	Cows and heiters—common to choice	3. 42	3. 34	3.38				
	Carves—common to choice	5. 25	5.30	ə. 25	4.97	4. 10	4.70	0.04

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.

<sup>&</sup>lt;sup>1</sup>Beef yearlings excluded.

Table 426.—Cattle and calves: Trend of average farm prices and average market prices at Chicago, 1910-1923.

	Farm	price.	Average price at	market Chicago.	Price relatives, 1913=100.						
Calendar year.	Beef	Veal	Beef cattle.	Veal	Farm	price.	Marke	t price.			
	cattle, weighted average.	calves, simple average.	simple average.	calves, simple average.	Beef cattle.	Veal calves.	Beef cattle.	Veal calves.			
1910		Dollars. 6. 41 6. 06 6. 45 7. 48 7. 83	Dollars. 6. 83 6. 40 7. 80 8. 21 8. 65	Dollars. 8. 25 7. 91 8. 94 10. 19 10. 10	80. 5 75. 3 87. 1 100. 0 105. 6	85. 7 81. 0 86. 2 100. 0 104. 7	83. 2 78. 0 95. 0 100. 0 105. 4	81. 0 77. 6 87. 7 100. 0 99. 1			
1915 1916 1917 1918 1919	6. 47 8. 16	7. 63 8. 33 10. 47 11. 88 12. 74	8. 43 9. 33 11. 67 14. 60 15. 45	10. 08 10. 98 13. 78 15. 92 16. 85	101. 5 109. 5 138. 1 159. 7 161. 8	102. 0 111. 4 140. 0 158. 8 170. 3	102. 7 113. 6 142. 1 177. 8 188. 2	98. 9 107. 8 135. 2 156. 2 165. 4			
1920		11. 81 7. 87 7. 69 7. 99	13. 32 8. 16 8. 82 9. 50	14, 58 9, 36 9, 15 9, 42	140. 8 92. 4 92. 7 94. 2	157. 9 105. 2 102. 8 106. 8	162. 2 99. 4 107. 4 115. 7	143. 1 91. 9 89. 8 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.

			Beef, wh	olesale.							Beef,	retail.					
·				**	.,.			Sirloin	steak.				•	Round	l steak.		
Calendar year.	Live steers good to choice.	steer, C	native hicago.	Native New		Chic	eago.	New	York.	Ave leading		. Chic	ago.	New	York.		rage, g cities.
	Chi- cago.	Price per pound.	Whole- sale as per cent of live steer price.	Price per pound.	Whole- sale as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.
1913	Cents. 8.5 9.0 8.7 9.6 12.8 16.4 17.5 14.5 8.8 9.5	Cents. 13. 0 13. 6 12. 9 13. 8 16. 7 22. 1 23. 3 23. 0 16. 3 15. 0	Per cent. 153 151 148 144 130 135 133 159 185 158	Cents. 12. 5 13. 5 12. 6 13. 4 16. 4 20. 9 21. 5 20. 8 14. 8 14. 5	Per cent. 147 150 145 140 128 127 123 143 168 145 145 145	Cents. 23. 2 25. 3 25. 7 26. 8 29. 3 35. 3 38. 3 43. 0 38. 0 37. 2 39. 8	Per cent. 273 283 295 279 229 215 219 297 432 392 398	Cents. 25. 9 26. 8 26. 8 28. 1 32. 6 40. 9 43. 9 46. 9 42. 1 41. 1 42. 5	Per cent. 305 298 308 293 255 249 251 323 478 433 425	Cents. 25. 4 25. 9 25. 7 27. 3 31. 5 38. 9 41. 7 43. 7 38. 8 37. 4 39. 1	Per cent. 299 288 295 284 246 237 238 301 441 394 391	Cents. 20. 2 22. 4 22. 1 22. 6 25. 8 32. 3 34. 3 36. 3 31. 0 29. 1 30. 7	Per cent. 238 249 254 235 202 197 196 250 352 306 307	Cents. 25.0 26.3 26.0 27.4 32.6 42.3 45.7 47.3 41.4 39.6 40.8	Per cent. 294 292 299 285 255 258 261 326 469 417 408	Cents. 22. 3 23. 6 23. 0 24. 5 29. 0 36. 9 38. 9 39. 5 34. 4 32. 3 33. 5	Per cent. 262 264 255 227 225 222 272 391 340 335
1923. January February March April May June July September Docember December	9. 8 9. 4 9. 3 9. 0	15. 4 14. 8 14. 5 14. 5 15. 1 15. 8 15. 8 17. 5 17. 5	157 157 156 161 153 147 149 145 164 168 179	14. 0 13. 5 12. 7 13. 9 14. 5 14. 3 16. 0 14. 9 14. 8 15. 1 14. 2 16. 6	143 144 137 154 153 139 151 137 138 145 145	38. 1 37. 6 37. 3 38. 2 38. 5 39. 3 40. 5 41. 6 43. 0 41. 6 40. 7 40. 9	389 400 401 424 405 382 382 402 400 415 417	40. 5 39. 9 39. 9 40. 4 41. 4 45. 3 45. 5 45. 0 44. 3 42. 6 42. 3	413 424 429 449 436 421 427 417 421 426 435 432	37. 2 37. 1 37. 3 37. 9 38. 7 40. 1 41. 0 41. 1 40. 0 38. 9 38. 6	380 395 401 421 407 389 387 377 384 385 397 394	29. 3 28. 9 28. 8 29. 4 29. 6 30. 2 31. 6 32. 7 32. 3 31. 7 31. 6	299 307 310 327 312 293 298 295 306 311 323 322	38. 6 38. 3 38. 1 38. 7 39. 6 40. 9 43. 7 43. 5 42. 8 41. 2 40. 6	394 407 410 430 417 397 412 401 407 412 420 414	31. 6 31. 5 31. 7 32. 3 33. 0 34. 5 35. 5 35. 5 34. 4 33. 1 32. 9	322 335 341 356 347 335 336 326 337 337 338 338

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—Continued.

						B <b>eef, r</b> etail	Continu	ed.				
			Chuck	roast.					Rib	rgast.		
Calendar year.	Chi	cago.	New	York.		rage, g cities.	Chie	cago.	New	York.	A ve leading	erage, g cities.
	Price per peund.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound,	Retail as per cent of live steer price.	Price per pound.	Retail as per cent of live steer price.	Price per pound,	Retail as per cent of live steer price,
918		Per cent. 181 188 192 173 159 158 169 169 179 201	Cents. 16.0 16.8 16.5 17.3 21.3 28.5 29.9 98.9 98.1	Per cent. 188 187 190 180 166 174 171 199 262 225 224	Cents. 16. 0 16. 7 16. 1 20. 9 26. 6 27. 0 26. 2 21. 2 19. 7 20. 2	Per cent. 188 186 185 178 163 162 154 181 241 207	Cents. 19. 5 20. 7 21. 8 21. 9 24. 9 24. 1 33. 7 80. 2 28. 8	Per cent. 239 980 245 228 188 181 179 9392 343 303	Cents.  \$1.8 22.1 22.2 23.2 25.3 39.1 40.5 36.4 35.3 \$6.3	Per cent. 256 246 255 242 211 215 223 279 414 377 365	Cents. 19.8 20.4 20.1:2 21:2 24:9 30.7 32.5 99.9 28.1 27.6	Per cent.  33 22: 23: 22: 19: 18: 24: 24: 25: 25: 25: 25: 25: 25: 25: 25: 25: 25
anuary. Pebruary March ppril May une uly uugust eptember October November	18. 1 18. 9 19. 5	198 200 203 917 905 193 184 179 196 203 214	21. 5 21. 2 21. 8 21. 6 22. 23. 2 23. 2 23. 2 23. 3 23. 5 23. 0 25. 1	219 228 228 242 227 216 219 213 218 226 235	19. 6 19. 5 19. 6 19. 7 19. 9 20. 8 21. 0 20. 8 21. 0 20. 4	209 198 196 191 196	29. 3 29. 2 30. 1 29. 8 30. 1 29. 9 31. 4 31. 6 31. 3	299 311 313 331 317 285 285 274 293 304 319	35. 1 34. 7 34. 9 35. 1 35. 8 36. 7 38. 1 37. 5 37. 3 36. 5 36. 6	358 369 375 390 377 356 344 349 355 372 973	27. 5 27. 5 97. 6 27. 8 28. 2 28. 2 29. 3 29. 2 29. 4 28. 3 28. 3	28 29 59 30 29 28 27 26 27 27 27 28

I Brising of Statistical and Historical Resparch. All prices from Bureau of Labor Statistics,

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Table 428.—Cattle and calves: Monthly slaughter under Federal inspection, 1907-1923.

CATTLE.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	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
	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
	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
	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
	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
	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
	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
	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
						CALVE	es.						
1907 1908 1909 1910	128, 178 116, 868 134, 800 132, 412 135, 440	99, 283 87, 891 95, 221 116, 899 120, 845	122, 451 137, 120 149, 150 188, 441 180, 386	205, 410 196, 976 200, 106 221, 557 218, 434	224, 405 205, 225 228, 192 251, 746 243, 247	203, 916 210, 692 235, 741 237, 937 232, 261	220, 697 192, 034 213, 217 198, 425 198, 471	205, 840 184, 719 195, 623 206, 000 206, 971	197, 811 187, 400 205, 468 197, 135 184, 421	186, 620 180, 317 205, 064 187, 567 179, 838	126, 141 142, 560 171, 288 168, 323 155, 135	103, 635 116, 471 155, 147 131, 845 128, 094	2, 024, 387 1, 958, 273 2, 189, 017 2, 238, 287 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

Bureau of Animal Industry.

Table 429.—Beef: 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.
	239, 743	153, 118 226, 800	1,000 lbs. 151, 912 207, 453	144, 089 184, 794	112, 045 147, 800	90, 349 133, 838	74, 024 145, 033	77, 456 141, 130	76, 753 130, 743	87, 972 150, 468	122, 828 211, 254	196, 106 273, 989
1919	<b>335, 0</b> 85	330, 324	313, 689 296, 539 260, 147	252, 415	212, 407	191, 002	191, 883	190, 222	197, 595	203, 571	221, 791	258, 858
	142, 813 84, 808	142, 891 78, 295	146, 409 73, 782 100, 591	138, 345 69, 516	122, 188 64, 507	109, 553 56, 852	96, 220 50, 706	84, 091 47, 031	67, 334 48, 291	59, 822 53, 572	63, 486 67, 814	80, 333 95, 628

Table 430.—Cattle: Monthly statement of the livestock and meat situation, 1923.

Cattle, Calves, Beef, and Veal.

Item.	Unit.	Jan.	Feb.	Mar.	Apr.	Мау.	June.
Inspected slaughter:							
CattleCalves	Thousands.	745 351	634 297	688 368	697 400	762 467	727 388
Average live weight: Cattle		001					
Cattle	Pounds	980	974	973	971	950	955
Calves	do	168	163	149	142	146	162
Average dressed weight: Cattle	do	529	534	536	539	530	525
Calves	do		97	88	82	82	94
Total dressed weight (carcass):							
Beef	1,000 lbs	394, 192	338, 103		375, 378	403, 975	382, 004
Veal	ao	34, 970	28, 688	32, 437	32, 850	38, 394	36, 277
Storage first of month: Fresh beef	do	91, 805	89, 272	75, 604	65, 292	54, 522	41, 207
Cured beef	do	24, 450	24, 841	24, 987	25, 210	24, 013	23, 816
Exports: 1			•	000		000	•
Fresh beef and veal	do	357 1, 205	386 1,929	368 2,312	161 1, 937	390 1,612	213 2, 107
Carned beef	do	1, 203	253	104	1, 337	238	171
Oleo oil and stearin	ldo	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:							
Fresh beef and veal	Oborganda	669 1, 877	565 1, 427	947 1, 502	1, 590 1, 670	1, 485 1, 900	1, <b>0</b> 58 1, <b>62</b> 9
Receipts, cattle and calves 2Stocker and feeder shipments 2	do do	281	210	1, 302	233	300	234
Prices per 100 pounds:		201	210	100		000	
Cattle—							
Average cost for slaughter	Dollars	6. 58	6.89	7. 19	7. 51	7.82	7.90
Calves— Average cost for slaughter	do	8, 51	9. 34	8, 80	7. 98	8, 97	8, 24
At Chicago—		6, 51	9. 04	0. 00	1.00	0. 91	0. 44
Cattle. good steers	do	10.30	9. 80	9. 58	9. 39	9. 71	10. 10
Veal calves	do	10.08	10.63	9. 32	8, 68	9. 51	9. 31
At eastern markets—		14 47	14.06	13.74	14. 12	15, 42	16, 41
Beef carcasses, good grade Veal carcasses, good grade	do	18. 14	18.07	16.45	15. 97	16.68	16. 41
Cattle on farms Jan. 1	Thousands	67, 240	10.01	10. 10	10.01	10.00	20.00
		.,					

Table 430.—Cattle: Monthly statement of the livestock and meat situation, 1923— Continued.

CATTLE, CALVES, BEEF AND VEAL-Continued.

	<del>,                                    </del>	<del>;</del>	<del>,</del>		7			,
Item.	Unit.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Inspected slaughter:								
Cattle	Thousands.		820	810	953	846	756	9, 163
Calves	do	378	403	338	416	370	324	4, 500
Average live weight: Cattle Calves	l							
Cattle	Pounds	942	933	939	940	934	952	8 953
			196	204	200	189	181	3 173
Average dressed weight: Cattle	١.				1			
Cattle	do	509	504	501	496	502	499	8 516
Calves	do	102	110	112	111	109	104	3 99
Total dressed weight (carcass):	1 000 22	000 700	440 000	105 000	470 005	104 000	0== 040	
Bee1	1,000 lbs	368, 733	413, 367	405, 966	472, 805		377, 346	4, 725, 366
Veal. Storage first of month:	ao	38, 449	44, 254	37, 870	46, 294	40, 182	33, 703	444, 368
Storage first of month:		04 005	04 110	04 605	07 500	40 770	71 004	4 = 2 000
Fresh beef	ao	34, 385	24, 112	24, 625	27, 590	43, 772	71,024	4 53, 601
Cured beel	ao	22, 835	21, 781	21, 416	20, 597	19, 649	22, 142	4 22, 978
Exports: 1		202	367	280	232	267	256	3, 479
Fresh beef and veal	do	2.061	1, 551	2,854	2, 210	1.804	1, 460	23, 042
Cured beel	do	174	92	132	122	1, 804	103	1, 734
Cured beef Canned beef Oleo oil and stearin	do	7,080	11, 734	8,752	9,010	7, 199	6. 299	107, 720
Tallow	do	6,000	5, 195	3, 273	3, 209	3, 262	1, 811	35, 876
Imports:	ao	6, 135	0, 195	3, 213	3, 209	3, 202	1,011	30,070
Fresh beef and veal	do	1, 650	1, 932	3, 542	3, 174	1, 387	1, 357	19, 356
Descripts cottle and colver?	Thousands	1,903	2, 214	2, 295	,2,802	2, 182	1,810	23, 211
Receipts, cattle and calves 2Stocker and feeder shipments 2_	I nousanus.	223	480	631	785	624	353	4, 553
Prices per 100 pounds:	uo	220	400	031	100	024	300	4,000
Cattle—					1	Ì		l
Average cost for slaugh-			1	ł	i	l	ł	l
	Dollars	7, 26	7.03	6, 59	6.01	5.64	6, 23	8 6. 82
ter Calves—	Donais	1.20	1.05	0.05	0.01	J 5. 02	0.25	- 0, 02
Average cost for slaugh-			1		i	l		
ter	do	8, 60	7, 53	7.30	6.94	6, 39	7. 19	8 7. 86
At Chicago—		0.00			0.01	0.00		
Cattle good steers	do	10.04	10.76	10.88	10.93	10.62	10.68	4 10. 23
Cattle, good steers Veal calves	do	9. 60	10.01	9. 98	9. 39	7. 82	8, 69	4 9, 42
		2.00	25.01	2.00	1.00	.,,,,	3,00	
Roof earcasses good								
grada	do -	17. 32	17.84	17, 90	16.76	15.71	15, 95	4 15, 81
grade Veal carcasses, good								
grade	do	16.96	17. 74	19. 18	18. 27	15. 52	15. 89	4 17. 08
Brack								

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.

Including reexports.Public stockyards.

3 Weighted average. Simple average, not total.

Table 431.—Beef products: 1 Exports, all products combined, United States, 1910-1924.

							.,.						
Year ending June 30.	July.	Au- gust.	Sep- tem- ber.	Octo- ber.	No- vem- ber.	De- cem- ber.	Janu- ary.	Feb- ru- ary.	March.	April.	Мау.	June.	Total.
1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1916-17 1917-18 1918-19 1919-20 1920-21	18, 090 29, 171 16, 754 15, 388 12, 410 50, 154 28, 242 19, 911 53, 583 25, 496 18, 716	18, 826 25, 841 15, 574 13, 280 10, 960 43, 166 24, 679 42, 278 69, 217 28, 184 9, 387	16, 146 25, 130 10, 871 11, 895 17, 131 39, 404 25, 783 31, 773 49, 124 25, 400 10, 530	21, 002 10, 518 10, 670 16, 495 28, 930 36, 024 17, 737 43, 523 45, 744 15, 180	14, 962 8, 068 10, 778 31, 587 36, 702 31, 724 10, 743 83, 803 28, 663 14, 088	15, 598 15, 373 8, 908 10, 361 18, 895 42, 155 26, 908 36, 443 49, 504 19, 711 14, 999	16, 540 14, 266 12, 863 10, 499 32, 879 21, 461 32, 680 43, 475 42, 078 30, 576 24, 767	16, 265 15, 739 13, 657 9, 283 35, 308 28, 422 25, 932 31, 892 30, 685 20, 497 14, 523	23, 412 19, 203 16, 424 11, 073 41, 125 26, 378 35, 895 87, 199 27, 164 17, 635 12, 626	30, 692 19, 838 14, 203 14, 181 49, 961 33, 361 51, 974 72, 882 39, 559 29, 852 14, 625	40, 030 15, 967 15, 686 15, 326 40, 190 35, 105 51, 950 96, 982 28, 990 24, 925 15, 911	32, 904 13, 804 19, 971 13, 221 71, 340 53, 830 33, 296 92, 150 43, 964 27, 861 13, 065	1,000 lbs. 282, 876 262, 128 230, 296 163, 497 145, 955 378, 281 378, 281 343, 068 405, 087 583, 465 561, 194 324, 544 178, 417
1921-22 <sub>-</sub> 1922-23 <sub>-</sub> 1923-24 <sub>-</sub>	18, 019 15, 271 14, 229	13, 751	13, 832		10, 044 14, 554 12, 086	10, 778				13, 735 12, 149			179, 350 161, 184

Division of Statistical and Historical Research. Compiled from reports of Bureau of Foreign and Domestic Commerce.

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<sup>&</sup>lt;sup>1</sup>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 King- dom.	Other Eu- rope.	Total Eu- rope.	Canada.	New found- land and Labra- dor.	Ber- muda.	Pan- ama.	Cuba.	Other coun- tries.	Grand total.
		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.	1,000 lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1909-10		86	70, 795	5	70,886	136	4	394	4, 042		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, 261
1912-13		1 1	127	22		640	20	380	5, 935	125	113	7,362
1913-14				-5	5	254		483	5, 534		. 80	
_						i .						
1914-15					164, 620	545	82	656	3, 707	533		170, 441
1915-16	49, 100			241	214, 638	3, 192	111	885	1, 505	53		231, 214
1916-17	38, 042	13, 066	125, 688	576	177, 372	17, 771	263	1,327	235	58		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				318, 773	3,019	20	932	257	201		332, 205
1919-20	200	'			148, 193	0.010	198	1, 020	84	314	924	153, 561
	329			104, 901	7 500	2, 918	2 190					
1920-21	401		3, 140			695		1, 143	198	515		
1921-22			1, 044			128	82	1, 116	236	176	865	
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.	Bel- gium.	France.	Ger- many.	Italy.	Neth- er- lands.	United King- dom.	Other Eu- rope.	Total Eu- rope.	Can- ada.	New- found- land and Labra- dor.	Other countries.	Grand total.
1909-10 1910-11 1911-12 1912-13 1913-14	1,000 lbs. 2, 140 1, 843 1, 829 554 556	171 124 34	4, 581 4, 616 3, 081	2		10, 263 8, 747 5, 930	1,000 lbs. 2,353 2,749 3,383 2,253 1,036	20, 454 19, 490 12, 322	1, 818 1, 752 712	5, 821 5, 077 3, 807	1,000 lbs. 10, 485 12, 191 11, 769 9, 016 9, 232	25, 857
1914-15 1915-16 1916-17 1917-18 1918-19	1, 908 4, 546 19, 987 31, 236 20, 596	312 60 1, 937	(1)	499 5 600 3, 496	96 4, 987	12, 003 7, 490 4, 205 3, 995	3, 570 2, 925 5, 739 5, 940	20, 847 35, 706 41, 840 35, 964	5, 101 9, 395 2, 623 1, 603	5, 027 6, 803 5, 505 4, 251	6, 944 7, 140 6, 150 4, 500 3, 248	38, 115 58, 054 54, 468 45, 066
1919-20 1920-21 1921-22 1922-23	1, 962 702 693 364		1,166 954	408 83 5		5, 336 4, 115 3, 513 3, 085	4, 619 457 4, 084 2, 113	18, 791 7, 572 9, 516 6, 265		6, 214 5, 516 6, 942 6, 627	5, 124 8, 493 9, 236 9, 832	32, 384 23, 313 26, 774 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.

Bel- um.	France.	Italy.	Neth- er- lands.	United King- dom.	Other Eu- rope.	Total Eu- rope.	Can- ada.	land- and	pine Is-	Other coun- tries.	Grand total.
,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.
		22	298								14, 805
	78	10	210								
		12	241							2, 931	11,026
								26	206	2, 638	
381	40	4	56	1, 194	65	1,740	63	40	52	1, 570	3, 465
28	6, 440	965	68	64, 701	1, 359	73, 561	72	13	143	1, 454	75, 243
											50, 804
											67, 536
6, 461			1, 341				339	249			108, 460
959	187	397	1, 038	9, 718	16, 677	28, 976	461	262	278	1, 157	31, 134
(1)		1									10, 763
(i)			` 1					47	95		
` 2	(1)			728			94	65		1,050	2, 301
- ii	000 bs. 406 283 286 178 381 28 , 461 959	000 1,000 bs. lbs. lbs. 226 283 78 286 107 178 119 381 40 28 6,440 17,653 30,417 461 19,458 959 187 1) (1)	1m. France: Italy.  000 1,000 lbs. lbs. lbs. lbs. lbs. lbs. lbs. lbs.	France   Italy   erlands	Hands   Haly   er   lands	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c} \text{iel-lim.} \\ \text{lim.} \\ \end{array} \\ \begin{array}{c} \text{France.} \\ \text{lim.} \\ \end{array} \\ \begin{array}{c} \text{Italy.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{Neth-er-lands.} \\ \text{er-lands.} \\ \end{array} \\ \begin{array}{c} \text{United of King-four.} \\ \text{King-four.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{Can-land.} \\ \text{Los.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{Ibs.} \\ \text{lbs.} \\ \end{array} \\ \begin{array}{c} \text{lbs.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{lbs.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{lbs.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{lbs.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{lbs.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{lbs.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{lbs.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \end{array} \\ \begin{array}{c} \text{los.} \\ \end{array} \\ \begin{array}{$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

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.

Table 435 .- Beef, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909-1922.

	1	mports				Exports.						
Calendar year.	France.	Ger- many.	United King- dom.	Den- mark.	Neth- er- lands.	United States.	Canada.	Argen- tina.	Brazil.	Uru- guay.	Aus- tralia.	New Zea- land.
1909 1910 1911 1912 1914 1915 1916 1917 1918 1919 1920 1921	1,000 lbs. 3,257 3,783 1,267 2,042 7,114 28,032 379,988 412,310 473,894 501,110 286,018 107,764 69,551	39, 460 78, 838 66, 524 	785, 736 824, 443	35, 659 26, 302 56, 865 32, 826 36, 702 48, 884 34, 220 35, 370 21, 337 17, 730 38, 670 16, 496	32, 542 38, 036 32, 915 29, 097 44, 563 33, 297	55, 539 28, 782 9, 026 28, 972 222, 897 144, 224 142, 204 194, 347 491, 002 135, 965 39, 467 22, 037	874 815 7, 584 15, 558 27, 544 41, 609 69, 713 124, 101	755, 849 807, 388 813, 427 799, 694 942, 907 870, 458 1, 092, 631 883, 452 917, 784 859, 578	18, 770 74, 209 146, 500 133, 397 113, 831 134, 255 129, 689	16, 933 44, 847 109, 268 153, 016 215, 115 157, 568 150, 522 106, 247 176, 019 215, 181	109, 421 108, 774 142, 186 218, 911 292, 056 114, 655 242, 040 180, 222 119, 938 120, 940	30, 803 30, 636 69, 927 86, 477 112, 071 99, 740 81, 960 86, 991 84, 883 102, 691

## DAIRY PRODUCTS.

Table 436 .- Dairy products: Weighted average price and value on farms, calendar years, 1919-1923.

			Prie	e per u	nit.				Value.		
Product.	Unit.	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923
Milk sold <sup>1</sup> Milk consumed on farm <sup>1</sup>	Gallon -	Cts. 29. 24 29. 24			Cts. 19, 09	Cts. 22, 36	1,000 dols. 1,041,236 817,938				1,000 dols. 910,723 784,836
Total whole milk 1  Butter made Cheese made Cream sold 2  Butter fat sold. Buttermilk  Whey  Skim milk from butter made,	Found Gallon Gallon Pound 100 lbs. Code Gallon Code Ga	29. 24 50: 35 36. 00 136. 00 57. 00 77. 65 38. 83	54. 25 37. 06 140. 00 58. 68 69. 10	37. 16 27. 32 103. 20 43. 26 28. 35	35. 23 23. 50	40. 38 25. 17 111. 80 40. 00 40. 81	1, 859, 174 344, 877 2, 376 109, 359 398, 003 13, 402 231	366, 174 2, 334 116, 588 404, 384	241, 560 1, 639 80, 579 364, 180 4, 644	220, 187 1, 175 70, 274 344, 285	246, 318 1, 183 97, 721 379, 200
creamsold, and butter fat sold.	do	77. 65	69. 10	28. 35	27. 25	40. 81	233, 012 2, 960, 434	205, 480 3, 017, 980			

Division of Crop and Livestock Estimates.

Includes milk equivalent of cream sold for household use.
 For cream powder and ice cream.

Table 437 .-- Milk: Production and uses in the United States, 1919-1922.

			•	Calend	lar year.			
Purpose for which milk is		19	19			19	20	
used.	Whole milk used.	Per cent of total milk.	Milk used per pound of product.		milk	Per cent of total milk.	Milk used per pound of product.	Product manu- factured
Butter: Creamery Farm. Cheese, all kinds Milk: Condensed and evapo-	Million pounds. 18, 375. 0 14, 385. 0 4, 200. 0	Per cent. 20. 404 15. 973 4. 664	Pounds 21. 0 21. 0 10. 0	Million pounds. 875. 0 685. 0 420. 0	Million pounds. 18, 135. 1 14, 175. 0 3, 624. 3	Per cent. 20. 226 15. 810 4. 042	Pounds. 21. 0 21. 0 10. 0	Million pounds. 863. 6 675. 0 362. 4
rated Powdered Malted Sterilized, canned Chocolate	4, 813. 0 72. 0 40. 0 4. 5	5. 344 . 080 . 045 . 005	2. 5 8. 0 2. 2 1. 0	1, 925. 0 9. 0 18. 0 4. 5	3, 945. 0 82. 7 43. 4 5. 6 60. 0	4. 400 . 092 . 048 . 006 . 067	2. 5 8. 0 2. 2 1. 0	1, 578. 0 10. 3 19. 7 5. 6
Cream, powdered Ice cream	12. 0 3, 450. 0	. 013 3. 831	19. 0 1 13. 75	3 230. 0	5. 9 3, 575. 0	. 007 3. 987	19. 0 1 13. 75	2 260. 0
Total milk for manu- facture	45, 351. 5	50. 359			43, 652. 0	48, 685		
Milk accounted for otherwise: Household purposes Fed to calves Waste, loss, and unspecified	38, 619. 0 3, 500. 0 2, 587. 0	42. 882 3. 886 2. 873			39, 090. 0 4, 202. 0 2, 713. 3	43, 600 4, 688 3, 027		
Total milk produced	90, 057. 5	100. 000			89, 657. 3	100.000		
		19	21			19	22	
D 44								
Butter: Creamery Farm Cheese, all kinds Milk:	22, 153. 7 13, 650. 0 3, 558. 4	22. 408 13. 807 3. 599	21. 0 21. 0 10. 0	1, 054. 9 650. 0 355. 8	24, 223. 8 13, 125. 0 3, 749. 8	23. 619 12. 797 3. 656	21. 0 21. 0 10. 0	1, 153. 5 625. 0 375. 0
Condensed and evap- orated Powdered Malted Sterilized, canned	3, 660. 4 33. 9 34. 4 5. 1	3. 703 . 034 . 035 . 005	2. 5 8. 0 2. 2 1. 0	1, 464. 2 4. 2 15. 7 5. 1	3, 578. 4 44. 8 30. 0	3. 489 . 044 . 029	2. 5 8. 0 2. 2 1. 0	1, 431. 3 5. 6 13. 7 . 3
Chocolate Cream, powdered Ice cream	40. 0 2. 5 3, 355. 0	. 041 . 002 3. 396	19. 0 1 13. 75	.1 244.0	100. 0 2. 2 3, 623. 4	. 098 . 002 3. 533	19. 0 1 13. 75	. 1 263. 5
Total milk for manu- facture	46, 493. 4	47. 030			48, 477. 7	47. 267		
Milk accounted for other- wise:				-				
Household purposes Fed to calves Waste, loss, and un-	45, 143. 0 4, 260. 0	45. 660 4. 310			46, 672. 6 4, 335. 0	45. 507 4. 226		
specified Total milk produced.	2, 965. 9 98, 862. 3	3.000			3, 076. 9 102, 562. 2	3.000		

Division of Statistical and Historical Research. Compiled from data of Division of Dairy and Poultry Products.

<sup>&</sup>lt;sup>1</sup> Milk per gallon of ice cream.
<sup>2</sup> Gallons.

Table 438.—Dairy products and oleomargarine: Production, calendar years, 1918–1922.

	1	918	1	919	1	920	1	921	1	922
Product.	Num- ber fac- tories re- port- ing.	Quan- tity pro- duced.	Num- ber fac- tories re- port- ing.	Quan- tity pro- duced.	Num- ber fac- tories re- port- ing.	Quan- tity pro- duced.	Num- ber fac- tories re- port- ing.	Quan- tity pro- duced.	Num- ber fac- tories re- port- ing.	Quan- tity pro- duced.
Creamery butter	4, 118	1,000 lbs. 818, 175	3, 742	1,000 lbs. 868, 125	3, 447	1,000 lbs. 863, 577	3, 463	1,000 lbs. 1,054,938	3, 497	1,000 lbs 1, 153, 515
Whey butter (made from whey cream)	440	4, 544	412	5, 782	314	3, 155	285	2, 176	<b>2</b> 35	2, 291
Renovated or process	36	19, 257	17	12, 189	12	7, 530	10	5, 877	9	4, 448
American cheese: Whole milk Part skim Full skim Swiss cheese (including	2, 485 141 112	253, 634 8, 313 6, 110	91 101	295, 144 6, 854 7, 256		254, 774 4, 467 6, 458	23	261, 727 1, 455 1, 733	1, 808 20 33 290	282, 806 2, 164 2, 500
block) Brick and Munster cheese Limburger cheese	367 592 210	19, 363 41, 377 8, 467	339 529 167	21, 602 38, 776 7, 844	270 514 125	20, 430 44, 126 7, 503	406 100	22, 678 42, 073 7, 035	438 104	19, 983 37, 194 7, 383
Cream and Neufchatel	67	5, 862	61	5, 639	40	7, 601	35	9, 279	. 38	9, 936
All Italian varieties of cheese	66	<b>4,83</b> 5	64	4, 391	41	4,779	35	3, 793	34	2, 627
All other varieties of cheese	123	8, 986	94	11, 733	76	12, 383	48	6, 065	51	5, 387
Total cheese (not including cottage, pot, and bakers')		356, 9 <del>4</del> 7		<b>399,</b> 239		362, 521		355, 838		<b>369,</b> 980
Cottage, pot, and bakers' cheese	479	28, 350	489	31, 614	357	29, 887	329	27, 316	363	32, 389
Case goods— Skimmed Unskimmed	31 104	8, 258 409, <b>4</b> 49	30 104	7, 468 573, 044	15 75	7, 700 340, 391	7 59	3, 861 199, 985	8 49	3, 915 230, 456
Bulk goods— Skimmed Unskimmed Evaporated milk (un-	126 108	47, 075 36, 969	118 101	65, 377 38, 394	111 58	84, 223 23, 524	85 43	66, 051 22, 324	92 46	76, 049 30, 292
sweetened: Case goods— Skimmed Unskimmed	27 161	5, 160 1, <b>002</b> , 874	18 156	3, 626 1, 194, 496	9 130		136	1, 405 1, 028, 172	132	l
Bulk goods— Skimmed Unskimmed	140 140		133 126	71, 039 77, 514	118 93		113 92	69, 220 73, 145	114 78	67, 066 70, 088
Total condensed and evaporated milk		1, 674, 898		2, 030, 958	3	1, 578, 018	5	1, 464, 163		1, 431, 349
Evaporated, part or full skimmed modified with foreign fat:	19	50, 619	11	62, 262	15	84,044	15	59, 050	14	38, 538
Case goodsBulk goods	i	3, 861	10		3 7	2, 517	7			1, 915
Sterilized milk (canned same as condensed)	_ 16	2,613	14	4, 42	1 8	5, 62	5	5, 074	5	330
buttermilk	_ 31	12,04	. 25	24, 28	2 1	32, 539	24	29, 314	36	44, 343
Dried or powdered but- termilk Powdered whole milk Powdered skimmed milk Powdered cream	_ 10	4,000 26,200	20 20	9, 045 34, 94	5 50	10, 334 6 41, 893	50	38, 540	18 53	5, 599 40, 617
Dried casein (skim-milk product)	_ 156	10, 930	136	13, 68	5 8	11, 44	1 73	8,066	74	6, 907
Dried casein (buttermilk product)	19	15, 62	3 1	17, 430	3 8	19, 71	5 7	15, 652 2, 890	2 7	13,659
Ice cream of all kinds (gal- lons)	2, 983	125, 642	2, 758	133, 05	2, 42	148, 29	2, 642	147, 94	2, 673	161, 609
•		-		-	,	-1	1	7	1	1

Table 438.—Dairy products and oleo margarine: Production, calendar years, 1918-1922 —Continued.

		1918	:	1919	:	1920		1921		1922
Product.	Num- ber fac- tories re- port- ing.	Quan- tity pro- duced.	Num- ber fac- tories re- port- ing.	Quan- tity pro- duced.	Num- ber fac- tories re- port- iug.	Quau-	Num- ber fac- tories re- port- ing.	Quau- tity pro- duced.	Num- ber fac- tories re- port- ing.	Quan-
Oleomargarine (uncol-										
ored): Animal and vegetable oil	45	1,000 lbs. 255, 197		1,000 lbs. 214, 759		1,000 lbs; 161, 636		1,000 lbs. 103, 962	57	1,000 lbs. 104, 285
Exclusively vege- table oil Exclusively animal	54	88, 861	58	132, 906	71	190, 280	71	99, 265	69	74, 127
Oleomargarine (colored): Animal and vege-	2	3, 307	5	3, 391	7	3, 843	3	624	3	303
table oil	31	7, 056	33	9, 303	36	8, 951	36	5, 960	36	4, 976
Exclusively vege- table oil	22	112	23	9, 793	34	5, 359	35	2, 026	33	1, 384
Exclusively animal oil	1	1,003	2	1, 165	3	94	2	30	1	. 1
Total oleomarga- rine (colored and uncolored)		355, 536		371, 317		370, 163		211, 867		185, 076

Division of Dairy and Poultry Products. Compiled from reports made by manufacturers.

Table 439.—Condensed milk: International trade, 1909-1922.

				Calenda	r years.			
Country.		rage, -1913.	19	920	19	21		22, ninary.
	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.	Im- ports.	Ex- ports.
PRINCIPAL EXPORTING COUNTRIES.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
ustralia <sup>1</sup>	4, 463 259	727 4, 575	524 83	35, 420 52, 036	93 147	33, 287 35, 401	232	24. 81
Denmarktaly	<sup>2</sup> 11 806	3 4, 724 5, 913	531	13, 793 405	6 1, 129	37, 523 289	664	50, 29 1, 04
Netherlands New Zealand 1	4 39 261	55 132	75 812	115, 804 1, 792	281 41	66, 899 3, 029	534 48	190, 58 1, 48
Vorway witzerland	201	32, 106 80, 539	3, 697 6, 168	9, 756 46, 513	1, 210 1, 432	6, 556 46, 825	831 5 5, 294	15, 45 45, 47 187, 49
Jnited States PRINCIPAL IMPORTING COUNTRIES.		3 16, 200	23, 756	411, 078	8, 668	289, 725	3, 294	107, 49
rgentina	742		833					
Belgium Brazil	(5)	(5)	(5) 2, 737	(5)	2, 671 579	46	768	13
British India <sup>1</sup>	11, 236		8, 673 5, 883	191	7, 895 6, 185	116	7, 222 8, 025	14
Duba Egypt	28, 457		51, 932 1, 736	(7)	898	(7)	2,310	
France Jermany <sup>8</sup>	2, 458 66	4, 140 12, 080	83, 562 9, 180	18, 576 525	37, 261 9 6, 689	11, 723 9 2, 890	32, 923 9, 294	7, 35 1, 02
anan	10.061	2 74	6, 269 7, 449		8, 010 10, 443	132	11, 052	
ava and Madura Philippine Islands Spain	5,605		16, 689 1, 675		12, 239 5, 639		12, 177 83	
weden	21, 227	92 ( <sup>7</sup> ) 48, 221	2, 192 12, 376 199, 145	971 9 6, 670	94 7, 282 235, 349	467 ( <sup>7</sup> ) 4, 065	166 6, 932 207, 792	15, 59
Jnited Kingdom Total 25 countries	240, 351	209, 578		713, 539	354, 241		306, 352	540, 86

Division of Statistical and Historical Research. Official sources.

<sup>1</sup> Includes some preserved milk.

<sup>&</sup>lt;sup>2</sup> Two-year average. <sup>3</sup> Four-year average.

<sup>Three-year average.
Not separately stated.
One year only.</sup> 

<sup>7</sup> Less than 500 pounds.
8 Includes some powdered milk.
9 Eight months, May-December.

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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Boston: 1920	$Cts.$ 17 17 13 $\frac{1}{2}$ 14 $\frac{1}{2}$	$Cts.$ 17 16 $\frac{1}{2}$ 13 $\frac{1}{2}$ 14 $\frac{1}{2}$	$Cts.$ 17 16 13 $\frac{1}{2}$ 14 $\frac{1}{2}$	$Cts.$ 17 15 $\frac{1}{2}$ 13 $\frac{1}{2}$ 13 $\frac{1}{2}$	Cts. 16 15 12½ 13½	$Cts.$ 16 15 12 $\frac{1}{2}$ 13 $\frac{1}{2}$	Cts. 17 15 13½ 14	$Cts.$ $17\frac{1}{2}$ $16$ $13\frac{1}{2}$ $14\frac{1}{2}$	$Cts.$ 18 15 $\frac{1}{2}$ 13 $\frac{1}{2}$ 14 $\frac{1}{2}$	Cts. 18 15 141 141 141	Cts. 18 15 14½ 15½	Cts.  18 15 14½ 13½
New York: 1920 1921	18 17	16½ 16	16½ 15	15	15 	15 14	16 14	17 15	18 15 15	18 15 15	18 15 15	17 15 16
1922 1923 Philadelphia:	15 16 14	15 15 14	15 15 14	15 14	14	13 14 14	14 14	15 14 15	15 15	15 15	16 15	16
1920 1921 1922 1923	13 11 11 <u>1</u>	13 11 12	13 11 12	13 11 12	11 11 11 13	11 11 13	11 11 13	11 11 13	11 11 13	11 12 13	11 12 12	11 12 12 <u>1</u>
Pittsburgh: 1920	16 15 13	16 15 12	16 14 12 14	15 14 12 14	15 14 12 14	15 14 12 14	15 14 12 14	16 14 12 14	16 14 14	16 14 	16 14 14 15	16 13 14 15
Cincinnati: 1920 1921 1922	15 15 13	15 14 12	15 14 12	15 14 12	15 13 12 12	15 13 12 12	15 13 12 12	15 13 12 12	15 13 12 12	16 13 12 14	15 13 12 14	15 13 12 14
1923	16 15 11	12 16 14 11	12 16 14 11	12 15 14 10	15 14 10½ 13½	15 13 10½	15 13 10½	16 13 11	16 13 11	16 13 13	15 13 13	15 13 14
1923	14 14 14 11½	14 14 14 11	14 14 13 11	14 14 13 10½	14 13 10½	13 14 12 10	14 14 12 10	14 14 12 10	14 14 12 10	13½ 14 12	14 14 11½ 10	12 14 11 10
1923 Chicago: 1920 1921 1921	10 <sup>2</sup> 15 14 12	12 15 14 12	12 14 14 12	12 14 14 12	12 14 14 12	12 14 14 12	12 15 14 12	16 14 12	12 16 12 12	12 16 12 12	12 15 12 12	12 14 12 12
1923 Detroit: 1920 1921	12½ 16 13	13 16 13	13 16 13	13 16 13	13 15 <del>1</del> 13	13 15½ 13	14 16 13	14 16 13	14 16 13	14 16 13 13	14 16 13 13	14 14 13 14
1922 1923 Milwaukee: 1920	13 13½ 13	13 13½	12 13½ 12	11½ 14	11½ 14 12 9	11½ 14 12 9	12 13 9	13 15 13 10	13 15 13 9	15 15 13 9	14 14 11 9	13½ 11 9
1921 1922 1923 Minneapolis:	9	10 9 10	10 9 10	10 9 10	9 10	9 10 13	9 10 13	9 11 14	9 11 14	9 11 14	10 11 14	10 10½ 14
1920 1921 1922 1923	13 13 10 11	13 12½ 10 11	13 12 10 10 <sub>2</sub>	13 12 10 11	11 10 11	10 10 10 11	10 10 10	11 10 12	11 11 12	11 11 12	11 11 12	$10\frac{1}{2}$ $11\frac{1}{2}$ $11\frac{1}{2}$
St. Paul: 1920. 1921. 1922. 1923.	13 13 10 11	13 13 10 11	13 12 10 11	13 12 10 11	13 11 10 11	13 10 10 11	13 10	14 11 10 12	14  11 12	14 11 	14 11 11 12	14 10½ 
Sioux City: 1920	16 15 11	16 14 10	16 13 10	16  10 10	16 12½ 10 10	15 12½ 10 10	15 12½	15 12½ 11 11	16 12½	16 12½	16 12½ 	16 12
St. Louis: 1920 1921 1922	16 16 10	16 15 10	16 14 10	15 14 10	15 13 10	15 14 10	15 13 12	16 13 12	16 13 12 13	16 13 12 13	16 <u>1</u> 13 12 13	16 10 13 13
1923 Kansas City: 1920 1921	13 15 <del>1</del> 14 <del>1</del> 14	13 15½ 14 13	13 16 131 12	13 16 13½ 11	13 15½ 13½ 11	13 15½ 13 11½	13 15 14 11½	13 15½ 14 12	15 14 10	15½ 14 12	$15\frac{1}{2}$ $14$ $12$	15½ 14 12½ 12½
1923	13 18 16½ 13½ 14	13 17½ 15 13 14	13 17½ 16 13 14	13 17½ 16 13½ 14	13 16 13 13 14	13 16 13½ 13 14	13 16 13½ 13 14	13 16 13½ 13 14	13 16½ 14 13 14	13 174 15 14 14	13 17½ 15 14 15	17½ 17½ 15 14 15

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	141	13	14	14	14	14	14	14	14	14
1922	14	14	142	13	13	13	13	13	13	13	14	14
1923	15	14	14	14	14	14	14	14	14	14	15	1.4
acksonville:	10	1 1 1	1.4	1.4	14	17	14	1.4	1.4	14	10	
1920	20	20	20	20	20	20	25	25	25	24	221	22
1921	. 20	18	18	20	,20	20	20	19	20	20	181	18
1922	171	10	17	14	14	14	161	151	17	161	17	17
1923	172	171	181	16		151	161	16	17	16 <del>1</del> 181	18	17
ouisville:	1/2	1,2	102	10	.15½	102	$16\frac{1}{2}$	10	11	103	10	. 10
	16	16	16	16	16	16	16	16	16	16	16	l
1920			10	10	10	10						1
1921	15	20		9			11	12	11	11	11	11
1922	11	9	9		9	9	9	10	11	111	12	13
1923	13	12	12	12	12	12	12	121	121	13	13	13
ashville:						!						l
1920	17	17	17	17	17	17	17	17	17	19	17	17
1921	16	16	16	14	14	14	14	14	15	14	14	14
1922	11	11	11	11	11	11	11	11	11	11	11	
1923	12	12	12	12	12	12	12	12			14	14
irmingham:											i	1
1920	211	20	20	20	23	20	20	$\begin{array}{c} 22\frac{1}{2} \\ 17\frac{1}{2} \\ 17\frac{1}{2} \end{array}$	$\frac{22\frac{1}{2}}{17\frac{1}{2}}$	20	20	<b>2</b> 2
1921	$22\frac{2}{2}$	$22\frac{1}{2}$		20		18	20	171	17 -	171	171	17
1922	20	18		171	15	16		171	- 2		16	
1923	14	16	17	162	16	16	16	16	16	16	15	15
ew Orleans:			••									
1920	19	19	19	19	17	17	17	17	19	19	19	18
1921	17	17	16	16	16	16	16	16	16	16	14	14
1922	14	14	14	14	14	14	14	14	10	14	14	. 14
	14	14	14	14		14	14	14	14	15	15	
1923	14	14	14	14	14	14	14	1.4	14	10	10	15
allas:	- 1		-00	01	0.	0.1	01	01	01	01	01	01
1920		23	23	21	21	21	21	21	21	21	21	21
1921	==	19	17		15		15	::	15	::	::1	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
utte:	- 1						1		1	- 1		
1920	15	15	15		15	15	15	15		15	15	15
1921	15	15	15		13		121	121	$\frac{12\frac{1}{2}}{12}$	13	13	13
1922	121	13	121	12	121	111	$11\frac{7}{2}$	12		12	13	12
1923	$12\frac{7}{2}$	124	13	121	124	12	$\frac{11\frac{7}{2}}{12\frac{7}{2}}$	121	131	13	13	13
enver:	- 1	- 1		-	- 1	i	- 1	- 1	- 1		- 1	
1920	121	121	13	13	13	13	13	13	13	13	13	13
1921	13	13	13	12	11	11	11	11	10	10	10	10
1922	10	10	91	10	10	91	10	10		10	10	12
1923	12	12	122	12	12	12	12	12	$\frac{9\frac{1}{2}}{12}$	12	12	10
lt Lake City:		-~	^-					~~			~~	
1920	121	121	121	121	121	121	13	121	124	121	121	12
1001	127	127	127		127	123	123	121	121	123	123	12
1921	$\frac{12\frac{1}{2}}{10}$	123	$\frac{12\bar{1}}{9}$	$\frac{12\frac{1}{2}}{9}$	$12\frac{1}{2}$	81	81	01	122	92	91	9
1922		$\begin{bmatrix} 8\frac{7}{2} \\ 10 \end{bmatrix}$		9	$\frac{8\frac{7}{2}}{10}$	02	02	$8\frac{7}{2}$   $10\frac{7}{2}$	91	10	$\frac{8\frac{7}{2}}{10}$	11
1923	10½	10	10		10			102	32	10	10	11
attle:	i			10	}	10	- 1 i	14	14	14	ł	13
1920	14	141	131	12		13	14		14			
1921	13	11	13	13	12		==	12		12	12	11
1924	13	13	13	12	12	12	12	13	13	$12\frac{1}{2}$	13	13
1923	13	13	13	13	12	12	12	12	13	13	13	10
rtland, Oreg.:	- 1			-	- 1	1				- 1		
1920	15	15	15	13	131	13	13	14	14	14	144	14
1921	14	14	14		13	12	12	121	121	121	12	12
1922	12	11	11		11	11	11	12	12	12	12	12
1923	121	12	124	12	12	12	13	12	12	121	12	11
s Angeles:			2	}						2		
	16	16	16	16	16	16	18	18	18	18	18	18
1920 1921	18	16	16	16	10	16	15	14	14	14 .	14	14
		14	14	14	14	14	14	14	14	14	15	15
1922	143						15	15	15	15	15	15
1923	15	15	15	15	15	15	10	10	10	10	10	10
n Francisco:	10	10	.,, 1	10	10	10	151	17	17	17	17	17
1920	16	16	151	15	16	16	151 131	17				
1020				15	15	144	134	14	14	134	131	13 <del>1</del>
1921	151	151	15	10 1	10	1131	1021			103		122
1921 1922 1923	$15\frac{1}{2}$ $12\frac{1}{2}$	12½ 12½ 12½	$12\frac{1}{2}$ $12\frac{1}{2}$	121 121	121	$14\frac{1}{2}$ $12\frac{1}{2}$ $12\frac{1}{2}$	$12\frac{1}{2}$ $12\frac{1}{2}$	$\frac{12\frac{1}{2}}{12\frac{1}{2}}$	121	$13\frac{1}{2}$ $12\frac{1}{2}$	12½ 14	13° 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.	Мау.	June.	July.	∆ug.	Sept.	Oct.	Nov.	Dec.
Boston: 1920	Cts. 15 151 11 12	Cts. 15 15 101 101 12	Cts. 15 13 $\frac{1}{2}$ 10 $\frac{1}{2}$ 12	Cts. 15 13½ 10½ 11½	Cts. 14 13½ 10½ 11½	Cts. 14 13½ 10 11½	Cts. 15 13½ 11 12	Cts. 15 14 11 124	Cts. 16½ 14 11 12½	$Cts.$ $16\frac{1}{2}$ $14$ $12$ $12\frac{1}{2}$	Cts. 16½ 14 12 13½	Cts. 16½ 14 12 13
New York: 1920 1921	17 <del>1</del>	16 16	16 . 15 13½	15	15 	15 12½	14 14	17 15 14½	18 14 <del>1</del> 14 <u>1</u>	18 14½ 14½	18 141 141	17 14 <u>1</u> 15 <u>1</u>
1922 1923 Philadelphia: 1920	14½ 15½ 13	14½ 14	14	14	13½ 13	13	13 13	13	14	14 15	14 14	14
1921 1922 1923 Plttsburgh:	12 10 10 <u>1</u>	12 10 11	12½ 10 11½	10 12	10 10 12	10 10 12	10 10 12	10 10 12½	10 10½ 12½	10 11 12	10 11½ 11½	10 111 111
1920 1921 1922 1923 1923 Cincinnati:	15½ 14½ 12½ 13½	15 14½ 11½ 13½	15 13½ 11½ 13½	14½ 13½ 11½ 13½	14½ 13½ 11½ 13½	14½ 13½ 11½ 13½	14½ 13½ 11½ 13½	15½ 13½ 12 13½ 13½	15½ 13½ 13½	15½ 13½ 12½ 14½	15½ 13½ 13½ 14½ 14½	15 <u>1</u> 12 <u>1</u> 13 <u>1</u> 14 <u>1</u>
1920 1921 1922 1923 Cleveland:	14½ 14 12 11	14 13 11 11	14 13 11 11	11 11	14 12 11 11	14 12 11 11	14 12 11	14 12 11 10	14 12 11 10 <del>1</del>	14 12 11 12	14 12 11 12	14 12 11 12
1920	14½ 13½ 9 11½	14½ 12½ 9 11½	141/2 121/2 9 111/2	13½ 12½ 9 11½	13½ 12½ 8½ 11½	13 <del>1</del> 11 <u>1</u> 8 <u>1</u> 11	13½ 11½ 8½ 11	14 <u>1</u> 11 <u>1</u> 8 <u>1</u> 11 <u>1</u>	14½ 11½ 8½ 11½	14½ 11½ 10½ 11½	13½ 11½ 10½ 11½	13 <u>1</u> 11 11 <u>1</u> 11 <u>1</u>
1920	12 12 10 81	12 12 9 10 <del>1</del>	12 11 9 101	12 11 9 11 <u>1</u>	12 11 9 10 <u>1</u>	12 10 8 10 <del>1</del>	12 10 8 10 <del>1</del>	12 10 8 10	12 10 8 10 <del>1</del>	12 10 8 10 <del>1</del>	12 10 8 10½	12 9 81 101
1920	141 131 11 11	141 131 11 12	131 131 11 12	13½ 13 9½ 12	13½ 13 11 11	131 131 11 12	14½ 13½ 11 13	15½ 13 11 13	15 <u>1</u> 11 <u>1</u> 11 13	15½ 11½ 10 13	14 11½ 11 13½	13½ 11½ 11 13½
1920	15 12 12 12	15 12 12 11 11	15 12 11 12	15 12 11 121	141 12 101 101 121	14½ 12 10½ 12	15 12 10	15 12 11 13	15 12 11 13	15 12 11 <del>1</del> 13	15 12 10 12	13 12 11 12 <u>1</u>
1920 1921 1922 1923	12 71 81	12 81 71 81	11 81 71 82	11 81 71 81	11 71 71 81	11 7½ 7½ 8½	12 71 71 81	12 8 7 <del>1</del> 91	12 71 71 71 91	12 71 71 91	10 7½ 8½ 9½	10 7 <u>1</u> 8 <u>1</u> 9 <u>1</u>
Minneapolis: 1920 1921 1922 1923	111 111 81 91	11½ 11 8½ 9½	11 <del>1</del> 101 81 91	113 103 83 93	11½ 9½ 8 9½	111 81 81 81 91	11½ 8½ 8 9½	12½ 9½ 8½ 10½	12½ 9½ 9 10½	12½ 9½ 9 10½	12½ 9½ 9 10½	12½ 9 10 10½
St. Paul: 1920 1921 1922 1923	12 11½ 8½ 9½	12 11½ 8½ 9½	12 10½ 8½ 9½	11½ 10½ 8½ 9½	11½ 9½ 8½ 9½	81 81 91	12 81 91 92	$12\frac{1}{2}$ $9\frac{1}{2}$ $8\frac{1}{2}$ $10\frac{1}{2}$	12½ 9½ 10½	12½ 9½ 9½	12½ 9½ 9½ 9½	12½ 9½ 10½
Sioux City: 1920	14½ 13½ 9½	14½ 12½ 8½	14½ 11½ 8½	14½ 11 8½ 8	14½ 11 8½ 8	13½ 11 8½ 8	13½ 11	13½ 11 9 9	14 <u>1</u> 11	14 <u>1</u> 11	14½ 11 10	14 <del>1</del>
St. Louis: 1920	15 15 8	15 13 <u>1</u> 8 11	15 13 8 11	12 8 11	14 13 8 11	11 ; 8 11	14 11 10 11	15 11 	15 11 10 11	15 11 10 11	15 11 10 11	15 11 11
Ransas City: 1920 1921 1922 1922	14 12½ 11½ 10½	14 13 11 10	14 11½ 10 10	14 <u>1</u> 11 <u>1</u> 9 10 <u>1</u>	14 11½ 8½ 10	$13\frac{1}{2}$ $12$ $9$ $10\frac{1}{2}$	14 12 9 11	$14\frac{1}{2}$ $12\frac{1}{2}$ $9\frac{1}{2}$ $10$	$13\frac{1}{2}$ $12$ $8\frac{1}{2}$ $10$	14½ 12 9½ 11	$13\frac{1}{2}$ $11\frac{1}{2}$ $9\frac{1}{2}$ $10$	14½ 11 10 10½
Washington, D. C.: 1920. 1921. 1922. 1923.	15½ 14½ 11 11	15 13 12 11	15½ 14 10 11	15 14 10 11	13½ 11 10 11	13½ 11 10 11	13½ 10 10 11	14  10 11	14 11 10 11	15 12 11 11	15½ 12 11 12	$15 \\ 12 \\ 11\frac{1}{2} \\ 12$

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		141	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		18	18		22	22	22	18	18	18
1921		15	15			16		16	14	16	16	16
1922	13	1	15	11	121	10	13	121	144	144	15	144
1923	141	141	141	13	121	123	121	13	13	15	15	14
Louisville:	2	1.2	1 112	1	1~2	122	122		10	1 -0	1	12
1920	14	1	14	14	14	14	14	14	14	14	14	1
1921	13	14	1 **	1 **		**	9	îô	9	9	9	9
1922	9	7	7	7	7	7	7	8	9	91	10	11
1923	11	10	10	10	10	10	10	101	101	112	11	11
Nashville:	11	10	10	10	10	10	10	102	102	11	11	111
	10	10	10	1.0	10	10	10	10	10	10	10	1 1 -
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:											ļ	
1920	15	18	15	15	$15\frac{1}{2}$	18	15	15	15			18
1921	18	15		15	14	14	14	13	$13\frac{1}{2}$	$13\frac{1}{2}$	131	131
1922	13	12		11	14			10			13	
1923	14	131	$13\frac{1}{2}$	13 <del>1</del>	131	$13\frac{1}{2}$	131	13 <del>1</del>	131	13½	12	12
New Orleans:		- 1		-	-	-	- 1		-			
1920	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:												
1920		124	$12\frac{1}{2}$			121	124	121		15		
1921	124	125	123		10	2	1-2	102	9	10	10	10
1922	102	102	$\tilde{10}^2$	10	10	91	91	91	ğ l	10	îŏ	10
1923	10	10	10	10	10	102	102	102	11	îĭ	iĭ	ii
Denver:	10	10	10	10	10	10	10	10				
1920	113	111	12	12	1	11	12	11	11	11	11	11
1921	112	13	12	10	9	9	81	9	8	8	84	83
1922	8	8	71	8	8	71	82	8	8	8	8	102
1923	•	10	$\frac{7\frac{1}{2}}{10}$	10	10	102	9	10	10	10	15	10
Salt Lake City:		10	10	10	10	10	"	10	10	10	15	10
	11	11	11	11	11	11	11	11	11	11	11	11
1920	11	11				11	ii	11	ii	11	ii	11
1921	12	11	11	11	11				11			
1922	8	8	8	8	8	91	8 9	8	9	8 9	8 9	8 9
1923	9	9	9	9	9	9	9	9	9	9	9	9
Seattle:		1			. 1		1			101		
1920	111	11	10	9		10	11	11	11	101		,
1921	9	81	9	9	8½ 8½ 9½			81 91 91		81	81	8
1922	91	$9\frac{1}{2}$	91	8	83	8 <del>1</del> 91	81 91	94	9 <u>1</u> 101	9	101	101
1923	$10\frac{7}{2}$	$10\frac{7}{2}$	101	101	91	91/2	93	91	101	101	101	
Portland, Oreg.:	1		1		- 1						- 1	
1920	131	131	131	12	121	12	12	12	13	131	13	13
1921	124	12	12		9	9	9	8	9	9	9	9
1922	9	81	8½ 9		8	8	8	9	9	9	9	9
1923	9	9~ [	9	9	9	9	9	10	10	10	101	91
Los Angeles:			i	ŀ	1				- 1	1	- 1	_
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	131	13	13	13	13	13	13	13	13	13	14	14
1923	14	14	14	14	14	14	14	14	14	14	14	14
an Francisco:	**	**	**	**	**							
1920	14	14	131	131	14	14	131	14	14	144	144	15
1001	13	13		122	12	12	112	11	11	11	11	11
1921	11	101	13		12			10	10		10	11
		11/2	101	11		104	10	10	10	10	10 1	
1922 1923	îî l	101	10	101	10	10%		11	1	1	12	113

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Table 442.—Creamery butter: Production, United States, 1917-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1918 1919	44, 357 52, 189 49, 044 58, 906 73, 505	1bs. 38, 459 42, 389 44, 343 46, 355 56, 556 67, 405	49, 086 54, 822 56, 303 67, 677 79, 532	lbs. 53, 809 57, 332 67, 487 60, 622 82, 763 86, 623	1bs. 75, 108 85, 564 103, 941 86, 845 119, 077 132, 351	98, 898 104, 385 119, 357 114, 695 130, 633 150, 034	1,000 lbs. 94,151 97,440 104,156 110,844 111,898 135,231 143,671	83, 936 85, 148 84, 458 90, 669 111, 638 114, 160	76, 744 72, 397 68, 815 77, 106 89, 932 92, 359	56, 176 63, 886 58, 723 65, 129 84, 374 83, 070	42, 705 45, 741 45, 041 53, 570 70, 024	48, 157 45, 560 46, 662 52, 395 71, 460	793, 285 849, 994

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Table 443.—Butter: Receipts at five markets, 1918-1923.

Market, and calen- dar year.	Jan.	Feb.	Mar.	Apr.	Мау.	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
New York:	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1918	13, 725	14, 100	15, 750	14, 325	17, 550	27, 900	25, 875	20, 250	15, 600	18, 375	13, 125	13, 725	210, 30
1010	16 430	116, 119	16, 232	17, 125	22, 904	28, 419	23.372	22, 893	19, 650	16, 219	15, 285	12,041	226, 69
1020	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, 60
1021	12 101	111.027	112, 969	114. 265	121, 339	27, 233	21, 635	23,664	21, 187	17, 072	15, 564	14,892	212, 94
1022	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, 17
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, 76
Thicago:	,	1 '	1	1	1						t .	1 1	
1018	18 142	22, 169	24, 051	21, 039	20, 780	36, 173	34, 554	27, 037	21, 134	21,916	16, 122	14, 544	277, 66
1010	12.324	10. 177	111.458	112, 891	123, 168	133, 373	24, 627	118, 556	13, 156	10, 758	1, 722	7,509	180, 77
1920	10,085	9 447	11, 398	10, 344	17, 118	25, 344	27, 633	20, 200	15, 455	11, 417	9, 528	8, 797	176, 74
1001	10 054	lo one	19 105	14 513	121 785	128 571	121 551	121. 290	114.864	14.664	111, 185	113, 011	1193, 59
1029	12 628	112 047	14 184	14 378	23. 568	31.640	127, 166	21. 582	15, 664	13, 394	111. 652	14, 196	213.09
1923	16 577	14 323	15 817	15 040	23 379	32 803	26, 120	18 673	16, 760	15, 386	14, 083	15, 932	225, 89
Philadelphia:	10, 577	119, 020	10, 01.	10, 010	, 0.0	<b>01,</b> 000	-0,0	20, 0.0	,	20,000	,		
1918		'	9 890	2, 484	3, 591	4 041	4, 721	4 069	3.419	3. 445	2, 693	2.898	134, 88
	9 004	3, 250	2, 740	4, 101		6, 660	5 026	4 356	4, 141	3, 847	4, 181		
1919			2 200	2, 964	3, 980	6, 237		4 773	4, 698	3 771	3,010		
. 1920	3, 264			4, 084	6, 139		6 496	5 712	5, 107	4 780	4, 184		
1921	3, 250				0, 100	8, 791	6 079	5, 110	4, 571	4 220	4,075		
1922	5, 487		4,877	4, 449			6 410	6 045	5, 262	F 255	4, 267		
1923	5, 111	4,372	6, 077	5, 307	0, 470	9, 499	0, 410	0, 010	0, 202	0, 300	7, 201	7, 710	00, 00
Boston:		0 750	4 202	4,071	0 150	11 074	12, 237	7, 569	5, 377	6, 218	5, 079	3, 429	71, 44
1918	2, 345	2,759		4,071	0, 100					3, 412	2, 210		
1919	4, 014				9,009	19, 107	13, 699	0,740		4, 372			
1920	3, 216			3, 709	0, 323	12, 000	14, 406	0, 748		6, 296			
1921			4, 147	3,881	8,040	12, 000	9, 433	9, 357	6, 009				
1922	4, 787		4, 794	4, 381	110, 907	10, 909	11, 562	0,009	0,009	2, 570	4 741		
1923	4, 285	4, 539	5, 431	6, 142	7,940	13, 536	12, 403	7,900	0, 110	0, 174	4, 741	9, 101	04,00
San Francisco;			1		1				1 170	1 015	1 050	1, 201	22, 90
1918	2, 278					2, 170	1,762	1,531	1, 178	1, 215	1, 258	1, 201	44, 90
1919	1, 266				2,979	2, 434	2, 202	1,832	1,094	1, 337	1, 333	1, 269	
1920	1,488	1,665	2, 178	3, 140	2, 767	2, 197		1, 789	1,722	1, 739			23, 56
1921	1, 652	4 1, 431	1,982	2, 345	2, 255	2, 306	2, 359	2, 710	2,064	2, 538			
1922	1,742	1,582	2, 152	2,619	2, 731	2, 742				2, 228			
1920	2, 05	1, 524	1,960	2, 405	2, 462	2,882	2, 616	2, 224	1,878	1, 906	1,656	1, 942	25, 51
Total 5 markets:	1 '	1	1	1	1	1	1	ı	l	1	l	l	
1918	l		49, 308	45, 048	50, 851	83, 058	79, 149	60, 456	46, 708	51, 169	38, 277	35, 797	539,82
1919	37, 867	34, 846	26 502	41 227	183 880	Q4 QQ3	68 926	55 246	43. 282	135, 573	130. 731	125, 910	1558, 92
1920	20 82	120 000	135 314	28, 002	43, 571	166, 043	171, 167	153, 714	43, 551	133, 378	26, 917	126, 050	466, 54
1921	20 770	<b>ചായ വാ</b> ജ	125 152	120 088	UKO 563	178 44U	NR1 484	.KZ 734	UMD. 216	14h. 3hli	136. 4ZI	137. 257	1000. TU
1922	41 83!	130 030	145 263	142.065	irs. 434	194. 71	178, 493	61.527	46, 487	41, 413	38, 089	39, 063	1930, 42
1923	47 94	39, 877	48 056	47 046	R4 329	20 07	75 337	56 243	49 307	45, 393	39, 759	41.459	646, 42

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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 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
Canada	33					1			103.	100.	103		137
Chicago	1, 277				1, 520	1,064	1,012	697	403	390			10, 91
Illinois		1,003		1,693	2, 085	4,056	3, 953	1,699	2, 199				22, 600
Indiana	60	164	18	57	172	758	670	263	180	155			
Iowa	249	128	136	152						176	241	207	3, 023
Kansas	24	23	65	29		70	45	21	17	7	39		402
Maine	2	1	4	2		4	2	1		24	42	4	8
Massachusetts	185	7	39	29	31	60		46	10	23	88		
Michigan	42	28	48	55				205	91	77	62		
Minnesota	307	582	758	1, 205				2, 133		1, 411	855		15, 880
Missouri	52	21	9	3	33	77	90	93	97	31	113		646
Nebraska	262	185	381	278	318		251	267	147	89	166		
New Hampshire New York	24 22	25 33	28	25	39	26	21	16	14	18	18	9	263
New York City	64	33 76	109	178	114		618	278	392	308	341	365	
	8	23	208 27	191	$\frac{93}{118}$	401	562	157	125	101	225	20	
North Dakota Ohio	119	135	156	85 82	318		234	364	235	171	108		1, 545
Oklahoma	22	29	150	18	51	464	470	424	411	<b>2</b> 56	127	102	
Pennsylvania	6	39	21	19	51	О					3	22	166
South Dakota	16	83	106	145	274	417	484	208		74 59			143
Vermont	351	367	459	698	801	894	551	854	46 300	349	11 332	42	
Wisconsin	116	86	104	99	145	413	293	198	124	119	56 56	298	
Other States	110	1	104	44	11	153	50	46	41	119	24	60 24	1, 813
Outer States	-	-1	-	**	11	133	30	40	41		24	24	397

## NEW YORK.

Alabama	40 31	19			43	32			10	5	6	10	
California			59		59		60						2
Canada	513	24	32	118	218			84	259	431	1, 280	672	
Jeorgia	22	0.714	0 000	9	16				3	2 21	1 2	2 22	
llinois	3, 047	2, 714			2, 806								
Indiana	647	553		311	600			180		360	159	82	
owa	3, 525			3, 572									
Xansas	274	50			109		195		56	90	244	4	
Kentucky	31	42	61	14	51		42		101	19	16	11	
Maryland	32	12	13		6		. 16		40	2			1
Massachusetts	9	5	44	17	25			44	3	22	39	30	
Michigan	751	600		590	722			417	294	513	329		7,0
Minnesota	5,412	4,689					10, 831	8, 215		5, 976	4, 107	4,673	
Mississippi	9	7	6	8	14	28	29	30	3	4	2	2	1
Missouri	558	255	251	159	540	655	606	512	172	321	390	230	
Vebraska	2,002	1,550		1,648	2, 133	2,080	1, 528	2,016	1,069	1,502	1,488	1,688	20, 3
New Jersey	4	5	3			1	2		42	16		57	1:
New York	274	219		400	653	837	539	812	365	558	547	522	6, 1
North Carolina	28	19	26	23	50	55	33	41	21	27	22	13	3
North Dakota	36	1	3	3	3	24	24	11	14	2	4	9	1:
)hio	897	450	534	412	527	1,531	1,348	1,016	1,059	849	721	490	9, 8
klahoma	152	25	2	1	80							1	2
ennsylvania	125	97	156	157	77	150	57	42	151	62	114	91	1, 2
outh Carolina	2	2	2	3	2	2	22	1			1	-1	-,-
outh Dakota	34	24	16	3	1	61	46	47	5	3	3	17	2
ennessee	107	49	41	36	153	130	163	132	122	69	56	74	1, 13
Jtah	8		91	24	25		-00			"	24	38	2
ermont	12		9		8						~ 1	17	
'irginia	29	18	11	9	25	42	83	38	70	36	33	23	41
Vashington		- 19	1	58		15	94	۳	27	-	00	20	19
Vest Virginia			1	1		9	4	7	-1		1		12
Visconsin	1.047	926	1, 122	1, 228	1, 375	1, 536	1, 147	748	757	663	411	811	11, 7
ther States	157	25	25	1, 220	31	51	-,	1 10	19	300	54	43	41

Table 444.—Butter: Receipts at five markets, by States of origin, 1923—Contd. PHILADELPHIA.

State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
labama							22	22	27		11		82
alifornia	22		11									26	
anada	48				63			88					252
Delaware	14	6		11	9	4	1	==	3				7
llinois	745	516		982	2,049	1, 219	2, 155	870			842		11, 75
ndiana	383				439								
owa	181			91	62	111	61	112	105	136	112	130	
Cansas	5	35	38		92	30					l i		22
Centucky	1	3	1		4	75					2	3	
Maryland	36	22	25		56	5					82	40	
Aichigan	222	121			281		282	129		86		48	1,81
Innesota	2, 401	2, 354	2, 470	2, 284				2, 530	2, 337	2,061	1,615	2, 2/1	27, 19 40
//ississippi	12				96	196				21		43 128	
/Iissouri	24	25	110								24 51	74	
lebraska	98	84	157	175	143	307	165	195					28
lew Jersey	2	1	2	1					25 591	744		204	
lew York	36	114		449	452		416			199	107	111	
hio	214	167	158	142	218	562	312	243	204	199	107	111	2, 03
klahoma	3		100	005			223		243	226	236	200	
ennsylvania	240	125				473		62	80	3	29	15	
ennessee	35	47	10		61 101		101				106	86	
irginia	73	72		71 2	101			31	149	44	100	3	
Vest Virginia	2	2			323							283	
Visconsin	289 23	234 38	292 18	268	323	15		504	394	200	109	223	124
ther States													

### CHICAGO.

					اء		5	,		1		3	22
Arkansas		1			Ü	-	٥		,				319
California			152	167							158	57	215
Canada	=	=						93	119	48		135	
Colorado	73	. 55	118	. 76	162	159	125	93	119	20	(8	100	1, 208
Georgia	. 4					. 1	1		1			78	
Idaho			68		29			:::					
Illinois	623						707	551			459		7, 392
Indiana	131	69	68	47	106					47	30	25	
Iowa	3, 306	2,788	2,868	3,065	3,800							2, 677	42, 108
Kansas	1, 207	711	689	735		1, 736		562					10, 300
Kentucky	19	18	21	21	108						39		
Michigan	189	144	118	114	230	437	316	98	31		85		1,966
Minnesota	2, 634			2, 551	3,772	5, 299	4,655	3, 121	3, 049	2,674	2,928	3, 303	<b>39,</b> 611
Mississippi	1 7,001	1	27	_,	57	3	l	51	2	1	1		144
Missouri	1, 164	748		515	1, 312	1,604	757	1, 109	777				11, 188
Montana	2, 200	111	10			62		23	25		120		
Nebraska	1, 251	1. 707	1, 259			1,975	2,019	1,029	1, 133	1, 247	1, 210	2, 118	17, 433
New Mexico	1, 201	3, 10,	4	1 -, - i	,		2	7	3	7	1	3	
North Dakota	120	96	142	98	285	490	512	483	526	208	251	207	3, 418
Ohio	115					29		52		1	41	- 112	425
Oklahoma	209				636					60	81	106	1,894
	200	30	1,2	1 "	1 000		î		1 3		13	5	36
Pennsylvania		784	1, 120	1,017	1, 227	2, 257	2, 160	1,378	1, 100	886			14, 249
South Dakota	941		1, 120	1,014	22		2, 100	1,000	2, 22		2	3	112
Tennessee	6	1 . 1	ס	91			1 .	-		1	1 -	Ιĭ	216
Texas	1						8, 953	5, 959	5, 181	4, 695	3, 685	3, 708	70, 588
Wisconsin	4, 570	4,003				10, 703	0, 900	0, 909	0, 101	7,000	2,000	29	
Other States	ļ <b>-</b>	5	51	25	2	1		l 1	1 1		°		1 110
	ł	1	1	I	] -	1	!	f	l	1	1	1	1

# SAN FRANCISCO.

California Canada Idaho	1, 707 28	1, 442	1, 922	2, 321 30	2, 305 6		87 152	38 30	101 52	29 56	27 21	1, 630 34 26 28	21, 805 316 502 361
Montana Nebraska Nevada Oregon	16 167	55	17	11 34	32 71	333	228	114 54 60	24 51	28 36	<u>-</u>	11 48	25 293 1,177
Utah	134	13	7	10	7 41	30 163	40 14 81	9 80 75	15 21	20 49 15	27	25 141	179 682 171

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.1.	Oct. 1.	Nov. 1.	Dec. 1.
1916 1917 1918 1919	pounds 48, 977 46, 134 50, 726	pounds 31, 139 30, 474	pounds 15, 033 16, 952 18, 808	pounds 3, 346 6, 805 14, 629	pounds 1, 082 3, 607 9, 536	pounds 7, 017 9, 953 12, 698	pounds 53, 863 49, 982 49, 140	1,000 pounds 102,537 88,992 88,305 123,546	pounds 105, 836 108, 179 99, 334	pounds 100, 522 109, 154 87, 883	pounds 85, 260 100, 115 80, 874	pounds 67, 292 79, 928 65, 111
1920 1921 1922 1923	48, 412	41, 486	27, 103 22, 582	14, 732 9, 113	7, 712 3, 830	12, 872 21, 682 13, 202	52, 526 61, 991 67, 410	101, 455 82, 838 103, 151 101, 774	11 <b>5</b> , 558 92, 292 112, 039	113, 385 90, 116 96, 680	101, 778 77, 983 73, 857	79, 750 65, 129 47, 773

Table 446.—Butter: International trade, calendar years, 1909-1922.

Countries.	Average	1909–1913.	19	20	19	21		22, ninary.
Countries.	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	10	47, 368		52, 187		<b>52, 39</b> 5
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		195, 530	6	164, 959	403	202, 953	2, 769	210, 542
Finland	2, 370	26, 337	5	2, 508	14	14, 253	29	18, 373
Netherlands		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		400			•196	
Union of South Africa	3, 913	26	622	488	382	2,698		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	1, 162	20	1, 356	34		
Austria	<b>-,</b>		781		452			
Austria-Hungary	6, 281	4, 267						
Belgium	14, 024	3, 125	18, 461	127	22, 663	1, 337	41, 750	290
Brazil	4, 551	24	167	10	3	51		
China	3 1, 677		1, 410		1, 456		1, 421	
Cuba	1, 459		3,036			[		
Dutch East Indies	4, 152		6,793	23	6,824		4 4, 784	
Egypt	2, 350	<sup>2</sup> 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	§ 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 Islands	1,665		1, 309		730			
Spain	939	259	808	879	620	354	694	231
Sweden	330	45, 870	16, 917	53	14, 171	340	5, 650	3, 043
Switzerland	11, 106	44	18, 140	3	15, 994	10	15, 088	8
Trinidad and Tobago	847		717	1	857	5		
United Kingdom	455, 489	1, 179	187, 799	363	372, 895	1, 105	427, 403	1, 674
Other countries	12, 273	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.

<sup>&</sup>lt;sup>2</sup> Two-year average. <sup>1</sup> Less than 500 pounds.

Four-year average.Java and Madura only.

<sup>&</sup>lt;sup>5</sup> Eight months, May-December.

Table 447.—Butter: Farm price per pound, 15th of month, United States, 1910-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weight- ed av- erage.
1910	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
	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
	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
	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
	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. 1910-1913	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. 1
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	375	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. 7
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
1 <b>92</b> 0	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. 3
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. 4
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, 1904-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
•	Cents.	Cents.				Cents.	Cents. 21. 3	Cents. 24. 5	Cents. 25. 2	Cents. 26. 7	Cents. 27. 5	Cents. 29. 1	Cents. 25. 2
1904 1905	26. 9 28. 4	27. 9 28. 4	27. 0 26. 4	24. 3 25. 3	21. 1 22. 3	23. 3	24. 3	27. 4	28. 4	28. 4	29. 4	31.4	27.0
1906 1907	30. 9 31. 4	30. 4 30. 4	29. 4 29. 4	27. 9 27. 9	25. 9 25. 9	24. 3 23. 8	25. 4 24. 8	27. 9 26. 4	29. 9 26. 9	30. 9 28. 9	31. 4 30. 4	31. 9 31. 4	28.8 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 27. 9	29. 4 28. 9	30. 4 29. 4	31. 4 30. 4	28. 7 28. 7
1910 1911	30. 9 30. 4	31. 4 29. 9	30. 9 29. 4	29. 4 27. 9	27. 4 25. 9	25. 3 24. 8	25. 9 25. 9	26. 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 29. 4	30. 9 30. 4	31. 9 31. 4	29. 5 29. 2
1913	31. 9	31. 9	31. 4	28. 9	26. 9	25. 4	26. 4	27. 9	28. 9				
Av. 1909-1913	31. 2	31. 2	30. 5	28. 7	<b>2</b> 6. 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 33. 2
1915 1916	33. 8 38. 1	34. 6 37. 7	33. 5 37. 7	32. 0 36. 7	29. 4 34. 7	29. 3 32. 7	30. 8 34. 2	32. 4 38. 2	33. 2 40. 6	35. 6 42. 1	36. 0 44. 6	37. 9 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 1919	55. 9 58. 0	56. 4 58. 0	56. 4 56. 8	57. 0 56. 2	56. 0 56. 3	55. 5 55. 7	54. 9 53. 5	54. 5 51. 6	54. 5 50. 5	55. 0 50. 4	57. 0 49. 3	58. 0 45. 5	55. 9 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		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 1923	43. 6 53. 6	42. 3 52. 8	39. 7 51. 7	40. 5 47. 5	38. 4 36. 6	36. 6 33. 8	43. 5 33. 9	46. 5 40. 3	47. 1 43. 1	48. 1 44. 8	50. 4 46. 4	52. 8 49. 1	44.1 44.5

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.

Table 449.—Butter, 92 score creamery: Average wholesale price, 1910-1923.

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
New York: 1910	Cts. 33 26 39 35	Cts. 30 26 32 36	Cts. 33 24 31 37	Cts. 31 21 33 35	Cts. 28 22 30 29	Cts. 28 23 27 28	Cts. 28 25 27 27	Cts. 29 26 27 28	Cts. 30 27 30 32	Cts. 30 30 31 31	Cts. 31 34 34 34	Cts. 30 37 37 36	Cts. 30 27 32 32
1914 1915 1916 1917 1918 1919	33 34 33 40 52 62 65	29 32 34 44 50 52 66	28 30 37 42 44 62 67	25 31 36 44 42 64 71	26 29 31 40 42 58 61	27 28 30 39 44 52 57	28 27 29 39 45 53 57	30 26 31 41 46 55 55	31 27 34 44 56 59 59	32 29 35 45 58 68 60	35 31 39 46 63 71 63	34 35 40 50 69 72 55	30 30 34 43 51 61 61
Av. 1914-1920	46	44	44	45	41	40	40	41	44	47	50	51	44
1921 1922 1923 Chicago:	52 37 52	47 37 50	48 38 49	46 38 46	32 38 42	33 37 39	40 36 39	43 35 44	43 41 46	47 46 48	45 51 53	44 54 55	43 41 47
1918	60 63 48 34 50	49 63 47 37 50	41 60 66 47 38 49	42 62 64 44 37 45	42 57 57 29 34 40	42 51 55 32 36 39	43 51 55 39 34 38	45 53 54 40 34 43	55 57 57 42 39 46	56 64 57 45 44 47	62 69 60 44 50 52	67 68 51 43 53	50 58 58 42 39 46
1918	62 65 53 37 52	52 67 48 37 50	62 68 49 38 . 50	65 71 47 38 46	46 59 62 33 37 42	· 44 53 58 33 37 40	45 54 58 40 37 40	46 56 56 43 36 45	56 59 60 43 42 47	59 68 60 47 47 49	63 70 63 46 52 53	69 73 55 45 55 55	54 61 62 44 41 47
1918	63 65 52 37 52	51 66 48 37 50	62 68 48 39 51	65 69 46 38 47	46 59 61 32 37 43	44 53 58 34 37 40	45 53 58 41 37 40	46 56 57 43 36 44	55 58 59 43 40 46	59 64 59 46 46 48	62 69 60 45 50 51	67 71 54 44 54 53	53 60 61 44 41 47
San Francisco: 1918	56 62 42 36 48	49 62 46 40 46	56 59 38 33 42	56 56 34 32 41	56 53 31 35 42	54 54 34 38 44	54 57 39 39 42	55 59 42 39 45	60 64 44 46 48	59 63 58 46 49 47	58 64 53 46 45 48	62 65 48 41 47 48	60 57 57 40 40 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.

					00 <i>z</i> –.	1020.							
Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver-
1882 1883	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents. 130.1 31.3	Cents. 30. 5 30. 1	Cents.
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	22. 8	22. 8	23. 0	21, 6	20. 4	21. 1	23. 0	24. 6	24. 8	24. 7	2 25. 4	25. 2	23. 3
	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
	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
	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
	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
	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
	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
	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. 9
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	25. 9	24. 4	25. 0	27. 8	27. 3	29. 9	25. 8
	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
	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
	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. 9
	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
	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
	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
	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
	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
	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.

Table 451.—American cheese: Production in the United States, 1917-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1917 1918 1919 1920 1921 1922 1922	lbs. 8, 519 8, 143 10, 956 10, 457 11, 889	lbs. 9, 415 7, 860 11, 855 11, 509 12, 857 13, 927	11, 918 11, 992 19, 009 14, 954 17, 678 18, 774	lbs. 17, 577 17, 931 21, 642 18, 856 23, 521 21, 740	31, 285 34, 849 29, 832 34, 556 31, 349	<i>lbs</i> . 38, 796 40, 184 44, 599 41, 376 36, 444 36, 254	lbs. 35, 296 34, 332 35, 465 34, 313 26, 977 33, 265	\$\begin{aligned} tbs. & 32, 248 & 29, 996 & 30, 940 & 26, 787 & 27, 652 & 29, 496 & \end{aligned}	\$\lfloor lbs.\$ 37, 613 25, 424 26, 257 22, 935 23, 612 25, 581	lbs. 22, 303 18, 862 23, 114 20, 054 21, 496 25, 785	lbs. 14, 262 12, 172 13, 107 13, 308 13, 426 18, 382	lbs. 8, 070 9, 097 10, 044 10, 303 11, 618 15, 416	247, 278 281, 837

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

<sup>&</sup>lt;sup>1</sup> 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.

During November, 1905, and subsequent 11 months, quotations represent prices paid creameries as reported to the statistical bureau of the Federal Creameries Associations.
 Beginning of official Copenhagen butter quotations.
 Conversions July, 1914, to date at average monthly exchange rate as quoted by Federal Reserve Board.

<sup>+85813°---</sup> чвк 1923----- 59

TABLE 452.—Cheese: Monthly receipts at four markets, 1918-1923.

Calendar year.    1,000   1,00	Market, and	1	ı	[	Ī	1		1	1	1	1	1	1	
New York: bs. bs. bs. bs. bs. bs. bs. bs. bs. bs.		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1918.	37. 37. 1						1,000	1,000		1,000				
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, 041   1920.   3, 387   2, 431   3, 803   1, 398   4, 698   6, 152   5, 703   5, 278   3, 481   3, 208   3, 755   3, 762   47, 007   1921.   3, 274   3, 337   2, 863   4, 687   6, 693   6, 152   5, 703   5, 278   3, 481   3, 208   3, 755   3, 762   47, 007   1922.   2, 788   2, 775   4, 603   4, 467   6, 676   6, 576   5, 379   4, 642   3, 942   3, 866   3, 607   3, 207   50, 109   1918.   5, 494   4, 968   4, 610   5, 208   6, 110   4, 767   3, 845   3, 791   3, 544   2, 731   49, 428   1919.   5, 925   4, 854   5, 495   6, 287   7, 833   9, 778   8, 539   8, 322   7, 362   6, 648   5, 073   4, 902   81, 018   1919.   5, 925   4, 854   5, 495   6, 287   7, 744   11, 194   9, 183   6, 599   5, 707   6, 255   6, 795   5, 556   81, 597   1921.   6, 642   5, 423   7, 147   6, 840   9, 209   9, 832   7, 111   6, 369   5, 707   6, 255   6, 795   5, 556   81, 597   1922.   5, 940   6, 139   8, 963   7, 875   10, 262   11, 384   10, 121   10, 669   9, 419   10, 452   8, 893   8, 477   107, 724   1918.   629   1, 228   1, 148   2, 315   1, 389   339   379   391   320   873   1, 040   1, 489   626   1, 743   2, 104   1, 657   2, 189   1, 362   1, 301   1, 431   1, 221   16, 865   1921.   1, 116   1, 644   1, 280   1, 396   2, 223   2, 602   2, 400   2, 311   4, 343   1, 479   1, 268   1, 297   1922.   1, 144   1, 120   1, 506   1, 523   1, 750   1, 827   1, 846   1, 887   1, 343   1, 479   1, 256   483   1, 299   1922.   447   590   663   1, 297   1, 361   1, 371   1, 411   1, 101   1, 104   1, 10			108.	108.										
1920			9 173	4 303	5 114				5 490	3, 0/0	9 267			
1921	1920													
1922	1921	3, 274						6 655	4 772	4 308				
1923	1922			4.063							3, 866			
Chicago:  1918	1923	2, 908												
1919.	Chicago:	1	,		•	,	<b>'</b>	,	.,	.,	-,	,,,,,,,	_,	,
1920					5, 549	4, 958	7, 614	8, 536	6, 675	6,016			5, 019	54, 536
1921				5, 495	6, 287	7,833	9,778	8, 539	8, 322	7, 362	6, 648	5, 073	4, 902	81,018
1922		5, 328			5, 067	7,744	11, 194	9, 183	6, 599	5, 707	6, 255	6, 795		81, 597
1923	1921	6,042			6,840	9, 290	9, 832	7, 111	6, 930	6,734	8, 091	6, 147	6, 261	85, 848
Philadelphia:  1918			6, 139	8,093	7,875	10, 262	11,384	10, 121	10, 669	9, 419	10, 452	8, 893	8, 477	
1918		7,775	7, 243	8, 125	9, 053	10, 745	15, 639	13, 874	11, 750	10, 652	12, 608	9, 216	7, 566	123, 646
1919					200	1 000	1 140	0 215	1 200	020	1 001	700	077	10 400
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 1923 882 1,236 1,297 1,361 1,915 2,114 2,000 1,972 2,217 1,310 995 18,363 1918	1010	530	991	1 590		1, 220	9 997	2, 313	1, 389	1 740				
1921	1020			1 480	626	1 743	2, 221	1 657		1,740				
1922					1 396	9 993	2 602	9 400	9 211	9 086				
1923					1 593	1 750	1 827	1 846	1 887	1 815	2 101	1 738		
Boston:  1918.	1923	964										1, 310		
1918	D	1	***	-, -00	-,	-, 001	-,	-,	-, 000	-,	-,	2,010	***	20,000
1919	1918				453	1.462	2, 559	2, 305	1, 721	972	779	574	365	11, 190
1920. 620 274 622 511 948 1, 422 2, 290 1, 749 1, 343 1, 479 1, 256 483 12, 997 1921. 435 574 691 685 978 2, 503 1, 701 1, 173 1, 262 1, 456 1, 249 501 13, 208 1922. 407 590 663 1, 005 1, 201 2, 220 1, 963 1, 401 1, 410 1, 104 910 587 13, 521 1923. 828 436 947 1, 029 1, 195 2, 074 2, 304 1, 936 1, 165 1, 777 1, 302 921 15, 914 1918. 9, 475 11, 547 11, 72 17, 171 19, 843 14, 741 11, 597 12, 698 9, 747 10, 417 117, 386 1919 10, 284 9, 425 12, 517 14, 143 18, 806 21, 454 20, 560 17, 545 17, 6	1919	351	517	1, 100	1.088	2,000	2, 374	2, 897	2, 091		1.859			17, 721
1921	1920	620					1, 422	2, 290	1,749	1, 343	1,479	1, 256	483	12, 997
1923	1921	435					<b>2</b> , 503	1, 701	1, 173	1, 262	1,456	1, 249		13, 208
Potal 4 markets:     9, 475 11, 547 17, 271 19, 843 14, 741 11, 597 12, 698 9, 747 10, 417 171, 336 1919 10, 284 9, 425 12, 517 14, 143 18, 806 21, 454 20, 560 17, 545 17, 645 14, 761 13, 855 11, 172 182, 177 1920 10, 188 8, 845 12, 983 7, 602 15, 128 20, 872 18, 833 15, 815 11, 895 12, 072 13, 237 11, 022 158, 462 1921 10, 867 10, 398 12, 001 12, 989 18, 494 20, 794 17, 957 15, 186 14, 390 15, 882 12, 422 10, 609 171, 989 1922 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														13, 521
9, 475   1, 547   17, 271   19, 843   14, 741   11, 597   12, 698   9, 747   10, 417   11, 336   1919   10, 294   9, 425   12, 517   14, 143   18, 806   21, 454   20, 560   17, 454   17, 465   14, 761   13, 855   11, 172   182, 177   1920   10, 158   8, 845   12, 983   7, 602   15, 128   20, 872   18, 833   15, 815   11, 895   12, 072   13, 237   11, 022   158, 402   1921   10, 867   10, 388   12, 01   12, 989   18, 494   20, 794   17, 957   15, 186   14, 390   15, 882   12, 422   10, 609   171, 939   1922   10, 229   10, 624   14, 325   14, 870   18, 269   21, 807   19, 309   18, 659   16, 586   17, 523   15, 148   13, 338   190, 678   18, 186   1		828	436	947	1,029	1, 195	2, 074	2, 304	1, 936	1, 165	1,777	1, 302	921	15, 914
1919 10, 294 9, 425 12, 517 14, 143 18, 806 21, 454 20, 560 17, 545 17, 645 14, 761 13, 855 11, 172 182, 177 1920 10, 168 8, 845 12, 983 7, 602 15, 128 20, 872 18, 833 15, 815 11, 895 12, 072 13, 237 11, 022 158, 462 1921 10, 867 10, 388 12, 001 12, 989 18, 494 20, 794 17, 957 15, 186 14, 300 15, 882 12, 422 10, 609 171, 989 1922 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			1	- 1		!								
1920. 10, 1881 8, 845112, 9831 7, 602115, 128120, 872118, 833115, 815111, 895112, 072113, 237111, 0221 158, 462 1921 10, 86710, 398112, 00112, 989118, 494120, 794117, 957115, 186114, 390115, 882112, 422110, 6091 171, 989 1922 10, 229110, 624114, 325114, 870118, 260121, 807119, 309118, 659116, 586117, 523115, 148113, 3381 190, 678			-=-:==		9, 475	11, 547	17, 271	19, 843	14, 741	11, 597	12, 698	9, 747	10, 417	
192110, 867 10, 398 12, 001 12, 989 18, 494 20, 794 17, 957 15, 186 14, 390 15, 882 12, 422 10, 609  171, 989 192210, 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	1919	10, 294	9, 425	12, 517	14, 143	18, 806	21, 454	20, 560	17, 545	17, 645	14, 761	13, 855	11, 172	
1922[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]	1920	10, 108	5, 845	12, 983	1, 602	10, 128	20, 872	10, 633	10, 815	11,695	12, 072	13, 237	11, 022	
	1921	10, 007	10, 694	12, 001	14 970	10, 494	20, 794	10, 200	10, 100	12, 590	17 500	12, 422		
132012, 110 12, 010 11, 010 11, 311 21, 230 21, 100 20, 110 11, 031 20, 393 13, 312 12, 213  201, 348														207 249
	1940	12, 475	12, 010	17, 048	10, 373	17, 911	Z1, Z30	21, 102	20, 443	11,004	20, 393	10, 372	12, 213	201, 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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	1,000 lbs.	1,000 tbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
Chicago	158	113		125									
Illinois	79	71	173		186	408	322	154	134	314	57		1, 990
Maine	2	1	1	26	4						4		38
Massachusetts				23		1	J	1				2	27
Michigan	52		4			84	103						191
New Hampshire	15				2			555		7710		450	50
New York	302	160 11		363 31	566 55			905 120	579 66	719 44	677 34	453	6, 943 459
New York City	. 38	11	1	31	33	46	1	120	00	14	34	6	23
Pennsylvania	14	9	16	9		11	16	20	14	18	17	17	174
Philadelphia	4		3		1	11	10		4.2			2	10
Vermont	18	17			109	94	119	59	2	67	27	18	623
Wisconsin	192	35				461	522		271	458	248		3, 392
Other States	6	11	6	9	32	33	1		2	1	1		102
				N	EW Y	ORK							
Illinois	560	1,086	763	688	993	631		474	793	543	670		8, 535
Indiana					2	30	1	.5	74		143	22	277
Iowa	1	36	6		69			43	47		4		206
Maryland		;	35	1				37	29 9	26	9		102 228
Massachusetts	24 4	11 6	29 29	24 53	20 14	90	46 107	17 88	52 52	141	30	11 5	619
Michigan Minnesota	4	5	52 52	21	33	31	107	71	32	141	30	36	249
Missouri		13	32	1	00	51	70	22		2		11	170
New Hampshire	3	1			14	01	16			-		14	48
New Jersey	4	4	12	5	5	2	1	2		2	ĩ	2	40
New York	1,046	1, 073	1, 226	1, 525	1,639	1,631	1,879	1, 567	1, 217	1, 348	1, 426	1, 332	16,909
Ohio.	131	21	21	2		3	. 8	63	23	40		9	321
Pennsylvania	56	112	112	61]	201	94	.99	40	72	51	32	25	955
Vermont.	]	_1	3	70	141	31	1	29		29			305
Washington		51			-3-355	55	26		42				174
Wisconsin	1,072	957	2, 040	1, 737	1, 455	2, 247	3, 077	2, 297	1,472	1,601	1, 149		19, 758
CanadaOther States	3	5	11	41	5 19	305	42 10	. 1	3 11	3	49 33	5	428 101
Other states	4	1]	11	*	19	4	19		11	*	-00		101

Table 453.—Cheese: Receipts at five markets, by States of origin, 1923—Continued. PHILADELPHIA.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Illinois	1,000 lbs. 186	1,000 lbs. 266 50		1,000 lbs. 252 39	1,000 lbs. 211 47	1,000 lbs. 291	1,000 lbs. 668	1,000 lbs. 437	1,000 lbs. 450	1,000 lbs. 414		1,000 lbs. 310	1,000 lbs. 4,127 142
Michigan New Jersey New York	329	234	i		336	35 277	52 1 404	489	20 423	24 7 513	<u>2</u> 5	371	131 36 4, 558
Ohio Pennsylvania Wisconsin Other States	24 4 416 4		44 425	4 654	2 44 720	4	43 898	49	2 1, 051 26	8 1, 218 28	13 576	25 11 278	136 245 8, 884 125
	l		l	1	СНІС	AGO.		<u> </u>					
CanadaColorado	5				28		12	110	5	24	24 2	48 4	246 16
Idaho Illinois Indiana	281 5	366	49 266 6	237 2	328 2	483	37 438 15	504 6	65 453 3	17 458 5	398 5	285 6	168 4, 497 66
Iowa Kansas Kentucky	44	59	68 23 5	19 1 21	58	62		50	26	83 24 1	55 3 1	57 <u>2</u>	705 51 31
Michigan Minnesota Missouri	69 73	126 191 15	41 193 2	53 290	87 541 1	27 538 1	18 394 2	23 166 52	$\substack{\begin{array}{c} 38 \\ 261 \\ 6 \end{array}}$	47 158 2	82 187 1	118 185 1	729 3, 177 83
Montana Nebraska New Jersey		2 1	10		2	8	26	24	43	63 24	31	38	203 45 24
New York Ohio Pennsylvania	170 21 3	100 2 148	123 3 13	300 14 22 3	261 4 64	286 2 2	271 6 1	129 1	207 38 1 13	255 1 28	143 27 5	184 29 1	2, 429 147 289 16
South Dakota Tennessee Texas Utah	21 14	1			13							1	21 15 14
Wisconsin Other States	7, 066 8	6, <b>22</b> 6	7, 321 2	8, 090	9, 353 2	13, 624 3	12, 525 4	10, 680 3	9, 493	11, 416 2	8, 250 2	6, 604 3	110, 648 26
				SAN	I FRA	ANCIS	sco.						
California Colorado Idaho Illinois	253 11 	260 21 	292 15	424 21 89	372 11 71 64	390 19 106 148	253 23 105 180	280 18 77 184	271 19 194	248 21 71 55	286 27 261 94	321 16 348 31	3, 650 222 1, 039 1, 441
Illinois Minnesota Montana New York	27		<u>2</u> 9	30	31 14	30 4	28 72 48	74 <b>2</b> 6	31 45 32	38	49	38	63 338 249
Oregon Washington Wisconsin Other States	56 1 126	76 8 87	98 11 88	244 9 40 1	426 2 62	315 43 117	280 19 348 4	181 12 383 2	135 1 257	306 3 182 8	296 3 162 3	144 	2, 557 112 1, 979 51
OPERE DERFER		4		1	•								

Division of Statistical and Historical Research. Compiled from reports of Division of Dairy and Poultry Products.

Table 454.—Cheese: Cold storage holdings in United States, 1916-1923.

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.
1916 1917 1918 1919 1920 1921 1922 1922	1,000 lbs. 28,558 31,855 66,784 19,823 53,168 34,115 27,691 33,617	22, 113 56, 298 15, 486 43, 631 25, 000	15, 560 37, 743 9, 837 34, 039 17, 477 15, 006	9, 842 27, 965 6, 750 23, 431 14, 294 10, 745	7, 928 17, 736 6, 027 16, 963 13, 466	11, 626 20, 395 12, 478 13, 502 17, 814 15, 481	34, 159 30, 054 37, 501 29, 654 34, 948 33, 130	67, 595 48, 804 62, 645 51, 512 41, 284 46, 580	91, 545 55, 742 76, 661 60, 372 46, 635 53, 625	90, 671 42, 065 81, 359 55, 007 45, 163 49, 473	78, 087 33, 402 72, 889 48, 566 42, 969	75, 166 25, 625 62, 508 39, 921 34, 055 37, 291

Table 454.—Cheese: Cold storage holdings in United States, 1916-1923—Con. ALL CHEESE OTHER THAN AMERICAN.

	_	Nov. 1. Dec. 1.
1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1bs. lbs. lbs. lbs. lbs. lbs. lbs.	1,000 1,000 lbs. lbs.	1,000 1,000 lbs. lbs.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	15, 928 15, 234	10, 963 11, 848 15, 091 13, 906
	13, 250 13, 450	12, 963 11, 329

Table 455.—Cheese: International trade, calendar years, 1909-1922.

Country.		rage, -1913.	19	920	19	21	1922, preliminary.		
•	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	
PRINCIPAL EXPORTING COUNTRIES.  Argentina	1,000 pounds. 10,447 360 2 63	1,000 pounds. 1 6 799 5,584	1,000 pounds. 625 72	1,000 pounds 13,575 9,530	1,000 pounds.	1,000 pounds. 12,513 12,671	1,000 pounds.	1,000 pounds. 14,407	
Canada Czechoslovakia Denmark Finland Italy Netherlands New Zealand Russia Switzerland	1, 054 1, 414 478 13, 308 522 3 3, 911 7, 150	527 2, 086 60, 560 127, 379 55, 561 7, 011 70, 075	132 2 5,893 489 18	142, 768 21, 281 2, 108 2, 790 99, 738 136, 870 3, 202	908 183 521 3 1, 780 802 (3)	137, 180 3, 226 27, 653 4, 686 16, 664 115, 279 153, 304	1, 355 1, 214 15, 571 750 1, 792	120, 177 2, 275 19, 673 5, 989 32, 057 143, 769 130, 054 	
PRINCIPAL IMPORTING COUNTRIES.  Algeria	6, 592 12, 298 31, 771 4, 178	138 966 354 1 1	5, 126 7, 698 28, 091 1, 224	7, 397	5, 778 7, 342 34, 329 148	170  1,750 8	48, 139		
British India. Cuba. Dutch East Indies. Egypt. France. Germany Norway. Spain. Sweden Tunis Union of South Africa United Kingdom	1, 314 4, 520 757 8, 182 49, 056 48, 687 663 5, 032 946 1, 382 4, 991 257, 407	7 5 48 26, 880 1, 967 377 53 41 19 3 950	1, 509 5, 554 1, 336 1, 657 25, 289 50, 344 3, 147 3, 748 5, 398 116 1, 200 305, 832	(3) 48 15, 130 173 165 354 397 16 314 454	755 3, 452 35, 146 6 39, 848 1, 157 4, 504 2, 239 49 312, 783	165 14, 381 6 1, 022 256 689 296 40 459 479	4 1, 249 6, 793 60, 272 51, 984 1, 541 4, 222 1, 991 997 268 294, 951	102 22, 023 2, 235 658 453 19 152 591	
United StatesOther countries	46, 346 12, 585 535, 417	5, 142 4, 330 538, 124	15, 994 5, 737 481, 479	16, 292 414 473, 170	26, 866 4, 078 486, 775	11,772 821 526,080	46, 573 1, 556 550, 172	5, 007 863 547, 807	

Division of Statistical and Historical Research. Official sources. All cheese made from milk, including "cottage cheese."

Four-year average.
 Two-year average.

<sup>3</sup> Less than 500 pounds.
4 Java and Madura only.

<sup>&</sup>lt;sup>5</sup> One year. <sup>6</sup> Eight months, May-December.

Table 456.—Cheese, No. 1 American: Average wholesale price per pound, New York, 1910-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	\$0. 17 . 15 . 16 . 17	\$0. 17 . 15 . 17 . 17	\$0. 17 . 14 . 18 . 16.	\$0. 17 . 14 . 19 . 15	\$0. 14 . 11 . 15 . 13	\$0. 14 . 11 . 14 . 14	\$0. 15 . 12 . 15 . 14	\$0. 15 . 12 . 16 . 15	\$0. 15 . 14 . 16 . 16	\$0. 15 . 14 . 18 . 16	\$0. 15 . 15 . 17 . 16	\$0. 16 . 16 . 17 . 16	\$0. 16 . 14 . 16 . 15
1914 1915 1916 1917 1918 1919	. 17 . 15 . 17 . 24 . 24 . 35 . 32	. 16 . 16 . 18 . 25 . 26 . 30 . 30	. 18 . 16 . 18 . 26 . 24 . 32 . 29	. 16 . 16 . 18 . 26 . 23 . 31 . 30	. 14 . 17 . 18 . 26 . 24 . 32 . 30	. 15 . 15 . 15 . 23 . 23 . 32 . 28	. 15 . 15 . 15 . 24 . 25 . 33 . 27	. 16 . 13 . 17 . 23 . 26 . 31 . 27	. 16 . 14 . 19 . 25 . 28 . 31 . 28	. 15 . 15 . 21 . 25 . 33 . 31 . 28	. 15 . 16 . 23 . 23 . 32 . 32 . 32 . 28	. 15 . 17 . 24 . 24 . 35 . 32 . 28	. 16 . 15 . 19 . 24 . 27 . 32 . 29
Av. 1914-1920	. 23	. 23	. 23	. 23	. 23	. 22	. 22	. 22	. 23	. 24	. 24	. 25	. 23
1921 1922 1923	. 24 . 21 . 28	. 21 . 20 . 28	. 25 . 20 . 25	. 22 . 18 . 23	.17 .17 .23	.16 .19 .24	. 19 . 21 . 25	. 21 . 21 . 25	. 21 . 21 . 26	. 22	. 21	. 21	. 21 . 20 . 25

# OLEOMARGARINE.

Table 457.—Oleomargarine production and consumption in the United States, 1887-1923.

			-			
		Stocks,			Consump	tion.
Year ending June 30.	Production.	beginning of year.	Exports.	Stocks, end of year.	Total.	Per capita.
1886-87	35, 664, 026	Pounds.  2 181, 090 423, 855 1, 575, 293 1, 978, 094 978, 650	Pounds. 834, 574 1, 729, 327 2, 192, 047 2, 535, 926 1, 986, 743	Pounds. 423, 855 1, 575, 293 1, 978, 094 978, 650 779, 368	Pounds. 20, 436, 198 31, 444, 762 33, 069, 178 30, 787, 550 42, 604, 948	Pounds. 0.35 .53 .54 .49
1891-92 1892-93 1893-94 1894-95 1895-96	44, 365, 155 67, 224, 298 69, 622, 246 56, 958, 105 50, 853, 234	779, 368 1, 021, 555 322, 911 437, 287 393, 597	1, 610, 837 3, 479, 322 3, 898, 950 10, 100, 897 6, 063, 699	1, 021, 555 322, 911 437, 287 393, 597 396, 404	42, 512, 131 64, 443, 620 65, 608, 920 46, 900, 898 44, 786, 728	. 65 . 97 . 97 . 68 . 64
1896-97	57, 516, 136	396, 404 223, 308 444, 745 787, 503 817, 806	4, 864, 351 4, 328, 536 5, 549, 322 4, 256, 067 4, 990, 699	223, 368 444, 745 787, 503 817, 806 722, 237	40, 839, 892 52, 966, 163 77, 238, 394 102, 758, 658 100, 048, 726	. 57 . 73 1. 04 1. 36 1. 30
1901-2	73, 285, 946 50, 203, 495	722, 237 653, 174 490, 822 600, 060	5, 721, 254 7, 645, 652 6, 137, 251 7, 863, 164 11, 794, 174	653, 174 490, 822 600, 060 483, 780	121, 317, 410 64, 987, 120 44, 228, 596 - 44, 039, 314 43, 757, 006	1. 54 . 81 . 54 . 53 . 51
1906-7	74, 188, 320 92, 282, 815	483, 780 700, 823 692, 225 748, 318 1, 165, 446	5, 397, 609 2, 938, 175 2, 889, 058 3, 418, 632 3, 794, 939	700, 823 692, 225 748, 318 1, 165, 446 942, 440	65, 752, 123 71, 258, 743 89, 337, 664 138, 026, 520 117, 590, 862	. 76 . 81 . 99 1. 51 1. 26
1911-12 1912-13 1913-14 1914-15	145, 227, 862 144, 021, 276 145, 810, 048	942, 440 1, 249, 246 1, 650, 897 1, 261, 245	3, 627, 425 2, 967, 582 2, 532, 821 5, 252, 183	1, 249, 246 1, 650, 897 1, 261, 245 1, 661, 559	124, 666, 822 141, 858, 629 141, 878, 107 140, 157, 551 146, 752, 525	1. 32 1. 48 1. 46 1. 42
1915–16 1916–17 1917–18 1918–19	326, 528, 839 359, 216, 571	1, 661, 559 1, 992, 726 2, 988, 197 3, 577, 733	5, 426, 221 5, 651, 267 6, 309, 896 18, 570, 400	1, 992, 726 2, 988, 197 3, 577, 733 2, 562, 597	226, 523, 373 319, 629, 407 341, 661, 307 368, 783, 386	2. 23 3. 11 3. 28 3. 49
1919-20 1920-21 1921-22 1922-23	281, 081, 514 190, 950, 373	2, 562, 597 4, 110, 174 1, 979, 543 2, 265, 895	20, 952, 180 6, 219, 165 1, 989, 421 2, 027, 546	4, 110, 174 1, 979, 543 2, 265, 895 2, 647, 297	368, 783, 386 276, 992, 980 188, 674, 600 206, 773, 240	2. 59 1. 74 1. 88

Division of Statistical and Historical Research. Production and stocks from Bureau of Internal Revenue. Exports from Bureau of Foreign and Domestic Commerce.

<sup>&</sup>lt;sup>1</sup> Eight months, Nov. 1, 1886-June 30, 1887.

<sup>3</sup> Stocks on Nov. 1, 1886.

Table 458.—Oleomargarine: Production in the United States, 1918-1923.

	Unco	lored; mad	le of—	Colo			
Calendar year.	Animal and vegetable oil.	Exclu- sively vegetable oil.	Exclusively animal oil.	Animal and vegetable oil.	Exclu- sively vegetable oil.	Exclusively animal oil.	Total.
	1,000	1.000	1.000	1,000	1,000	1,000	1,000
	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.
1918		88, 862	3, 307	7,056	112	1,003	355, 537
1919	214, 759	132, 906	3, 391	9, 303	9, 793	1, 165	371, 317
1920		190, 280	3, 843	8,951	5, 359	94	370, 163
1921		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
. 1923.							
January	10, 484	9, 393	23	653			20, 778
January 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, 299
June		5, 483	46	451	183		14, 109
July		4,881	25	441	160		13, 409
August		5, 716	74	502	178		16, 16
September	10, 575	7, 603	46	593	237		19, 054
October	11, 492	9, 869	39	656	281		22, 337
November		9,640	60	622			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.	Sep <b>t.</b>	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Total.
1908-9	1,000 lbs. 393	1,000 lbs. 333	1,000 lbs. 360	1,000 lbs. 468	1,000 lbs. 463	1,000 lbs. 587	1,000 lbs. 526	1,000 lbs. 497	1,000 lbs. 586	1,000 lbs. 543	1,000 lbs. 507	1,000 lbs. 447	1,000 lbs. 5,710
1909-10	381 414 359 449 477	454	469 393 439		610 539 501		524 663 602	518 501 630 618 503	606 614 638	463 588	389	362 387	6, 177 5 831 6, 236 6 520 6, 384
Av. 1909-1913	416	441	464	527	555	609	585	554	617	565	498	399	6, 230
1914-15	422 472 447 496 408 1,705 934	436 569 512 433 1,807	538 681	548 719 677 608 1,087	557 741 542 552 1,719		560 703 508 1, 111 1, 540	1, 082 569 628 471 1, 642 960 816	684 742 615 2, 243 1, 250	677 738 582 2, 716	652 731 587 1, 930 1, 114	497 554 592 511 921 996 328	7, 595 6, 749 8, 012 6, 595 13, 849 15, 624 11, 600
Av. 1914-1920	698	<b>7</b> 5 <b>5</b>	693	785	850	840	881	881	1, 088	1,039	865	628	10, 003
1921-22 1922-23	424 415		577 488	692 565		656 790	556 <b>7</b> 72	482 801		498 854		418 662	6, 604 8, 260

Table 459.—Oleomargarine: Production in the United States, 1908-1922—Con. UNCOLORED.

Year beginning July 1.	July.	Aug.	Sept.	Oct.	Nov.	Dec,	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Total.
1908-9	1,000 lbs. 4,394	1,000 lbs. 4,669	1,000 lbs. 5,812	1,000 lbs. 7,907	1,000 lbs. 8, 266	1,000 lbs. 8, 463	1,000 lbs. 8,470	1,000 lbs. 8,453	1,000 lbs. 9,697	1,000 lbs. 7,976	1,000 lbs. 6,707	1.000 lbs. 5,759	1,000 lbs. 86, 573
1909-10	5, 499 6, 902 4, 788 6, 785 7, 947	9, 307 6, 701 8, 526	12,702 7,816 9,397	12, 627 9, 245 13, 807	13, 823 11, 228 12, 623	13, 002 12, 652 14, 802	10, 885 15, 639 13, 199	8, 936 13, 738 13, 213	13, 456 9, 676 11, 654 13, 139 12, 317	6, 866 10, 988 13, 892	5, 424 10, 629 11, 036	5, 182 7, 287 8, 288	135, 685 115, 332 122, 365 138, 707 137, 687
Av. 1909–1913	6, 384												129, 945
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	16, 490 19, 888 22, 700	9, 183 11, 272 19, 519 17, 959 25, 168	10, 491 15, 516 26, 181 28, 428 26, 424	12, 394 19, 246 33, 374 43, 543 34, 357	11, 782 21, 899 29, 009 32, 434 35, 502	13, 380 23, 287 30, 227 36, 662 39, 005	11, 993 18, 272 32, 496 40, 166 35, 312	13, 034 19, 593 35, 855 19, 741 31, 701	15, 243 22, 128 31, 512 27, 431 36, 337	13, 974 22, 740 22, 912 31, 448 30, 667	13, 746 24, 314 23, 410 29, 135 34, 760	11, 830 17, 943 18, 949 18, 533 23, 726	138, 215 145, 761 225, 158 319, 934 345, 368 375, 659 269, 481
Av. 1914-1920	-	<u> </u>	<u> </u>										259, 939
1921-22 1922-23	10, 581 11, 866	16, 612 12, 623	16, 920 13, 684	20, 588 17, 389	17, 985 18, 615	17, 754 20, 269	15, 610 <b>20, 10</b> 5	14, 139 17, 889	15, 375 <b>20,</b> 1 <b>3</b> 7	13, 432 18, <b>0</b> 83	13, 356 16, 690	11, 994 13, 582	184, 346 <b>200</b> , 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.

	Year beginning July 1.												
Material.	1915-16	19 <b>16-17</b>	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23					
	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.					
Oleo oil Co conut oil Cottonseed oil		96, 652 19, 763 63, 652 24, 410	96, 378 61, 773 36, 454 61, 128	97, 464 69, 640 37, 846 68, 000	89, 842 80, 784 39, 450 76, 000	49, 676 103, 112 18, 533 79, 716	40, 980 57, 394 15, 420 53, 939	46, 64 65, 65 18, 75 59, 83					
Milk Peanut oil	21, 331 5, 335	10, 498	21, 593	38, 764	48, 346	16, 332	11, 625	6, 92					
SaltOleo stearine NeutrallardOleo stock	4, 088 2, 036 33, 446 397	6, 115 2, 494 42, 401 3, 458 3, 303	18, 279 3, 427 45, 702 7, 526 4, 548	21, 432 2, 456 45, 764 6, 342 5, 680	24, 864 2, 132 38, 456 5, 804 6, 845	25, 365 4, 858 29, 268 2, 065 1, 499	16, 282 4, 574 27, 057 2, 143 1, 107	17, 99 4, 81 29, 56 2, 32 1, 57					
Butter Vegetable oil	2, 152	<i>a</i> , aus	4, 910	<i>3</i> , 000	0,010	6, 559	1	1,01					
Corn oil Soya-bean oil Edible tallow	147	859	60	40	35	926 461 233							
Mustard-seed oil Mutton oil			14	11	14	110							
Coloring Miscellaneous						3, 217	3, 417	2, 91					
Total	188, 444	273, 754	356, 882	398, 439	412, 572	341, 956	233, 929	257, 92					

Division of Statistical and Historical Research. 1915-1919 Institute Margarine Manufacturers. 1928-1922, Bureau of Internal Revenue.

# OLEO OIL.

Table 461.—Oleo oil: Exports from the United States, by countries, 1910-1923.

Year ending June 30.	Bel- gium.	Ger- many.	Italy.	Neth- er- lands.	Swe- den.	United King- dom.	Other Eu- rope.	Total Eu- rope.	Can- ada.	New- found- land and Lab- rador.	Other coun- tries.	Total.
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1909-10 <sup>1</sup> 1910-11	720 1,741				2, 178 2, 140			122, 065 134, 777		2, 526 1, 532	2, 388	125, 892 138, 697
1911-12	2, 720	18, 042			3, 128	9,960	20, 725	122, 372		1,712	2, 383	126, 467
1912-13	1,590	17, 481	402		2, 145					1,372	827	
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 1915–16	<b>54</b> 5	1, 001	337 3, 234	32, 768 29, 762	4, 190 9, 234			78, 802 98, 987	37	1, 030 1, 896		102, 646
1916-17			760				21, 498	64, 349	476	1, 761	524	
1917-18			68		13	48, 244	2, 028			1, 624 1, 612	279	
1918-19	6, 759	768	74	30	3, 860	27, 920	16, 769	56, 180		1, 012	1,500	59, 292
1919-20	2, 083				3, 315 3, 945	19, 227 14, 273	25, 847	67, 812 101, 671		1, 993 1, 662		74, 529 106, 415
1920-21 1921-22	1, 370 1, 472	15, 983 14, 878			2, 677	11, 082		113, 181		1, 168		117, 174
1922-23	1, 666		892		2, 383			101, 500		1, 522		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.

Table 462.—Creameries: Farmers' associations reporting, membership, 1923, and volume of business for 1922.

					,		,
Geographic division and State.	Number reporting, 1923.	Number reporting member- ship, 1923.	Number members reported, 1923.	Average member- ship per associa- tion, 1923.	Number reporting volume of business, 1922.	Amount of business re- ported, 1922.	Average amount of business per asso- ciation, 1922.
Maine Vermont Massachusetts Rhode Island Connecticut	5 35 5 1 6	4 32 5 1 5	262 3, 334 309 50 333	65. 5 104. 1 61. 8 50. 0 66. 6	4 30 5 1 4	\$342, 000 4, 049, 000 255, 000 100, 000 220, 000	85, 500 134, 966 51, 000 100, 000 55, 000
New England	52	47	4, 288	91. 2	44	4, 966, 000	112, 863
New York Pennsylvania	22 34	20 32	1, 606 2, 237	80. 3 69. 9	15 31	1, 375, 000 2, 452, 000	91, 666 79, 096
Middle Atlantic	56	52	3, 843	73. 9	46	3, 827, 000	83, 195
Ohio Indiana Illinois Michigan Wisconsin	10 8 4 65 212	9 7 4 62 197	408 971 324 14, 599 28, 643	45. 3 138. 7 81. 0 235. 3 145. 3	10 7 3 59 193	898, 000 678, 000 281, 000 6, 417, 000 27, 636, 000	89, 800 96, 857 93, 666 108, 762 143, 191
East North Central	299	279	44, 945	161. 0	272	35, 910, 000	132, 022
Minnesota	510 216 7 8 25 11	472 199 6 7 20 11	62, 367 29, 026 902 936 7, 993 10, 689 507	132. 1 145. 8 150. 3 133. 7 399. 6 971. 7 507. 0	460 195 6 8 20 11	41, 009, 000 19, 106, 000 634, 000 379, 000 1, 565, 000 2, 566, 000 83, 000	89, 150 97, 979 105, 666 47, 375 78, 250 23, 327 83, 000
West North Central	778	716	112, 420	157. 0	701	65, 342, 000	93, 212
Delaware Virginia North Carolina Florida	1 5 1	1 5 1	17 883 31 76	17. 0 176. 6 31. 0 76. 0	1 5 1 1	15, 000 393, 000 79, 000 56, 000	15, 000 78, 600 79, 000 56, 000
South Atlantic	8	8	1, 007	125. 8	8	543, 000	67, 875

<sup>1</sup>Includes "Neutral lard."

Table 462.—Creameries: Farmers' associations reporting, membership, 1923, and volume of business for 1922—Continued.

Geographic division and State.	Number reporting, 1923.		Number members reported, 1923.	Average member- ship per associa- tion, 1923.	Number reporting volume of business, 1922.	Amount of business re- ported, 1922.	Average amount of business per asso- ciation, 1922.
Kentucky Tennessee Alabama Mississippi	13 2 2	2 12 1 2	288 3, 157 114 114	144. 0 263. 0 114. 0 57. 0	2 12 1 2	46, 000 1, 473, 000 51, 000 342, 000	23, 000 122, 750 51, 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 Idaho	4 6 1 8 2	4 6 1 6 2	286 3, 937 66 1, 156 78	71. 5 656. 1 66. 0 192. 6 39. 0	3. 6 1 6 1	238, 000 1, 516, 000 23, 000 808, 000 9	79, 333 252, 666 23, 000 134, 666 9, 000
Mountain	21	19	5, 523	290. 6	17	2, 594, 000	152, 588
Washington Oregon California	11 11 16	9 9 15	1, 459 2, 538 5, 953	162. 1 282. 0 396. 8	8 9 15	760, 000 1, 426, 000 10, 277, 000	95, 001 158, 444 685, 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.

	Cattle	Number	Per cent	Accre	dited.	Passed one test.	
Year ending June 30.	tested.1	of reac- tors.	of reac- tors.	Herds.	Cattle.	Herds.	Cattle.
1916-17 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 Total	20, 101 134, 143 329, 878 700, 670 1, 366, 358 2, 384, 236 3, 460, 849	645 6, 544 13, 528 28, 709 53, 768 82, 569 113, 844	3. 2 4. 9 4. 1 4. 1 3. 9 3. 5 3. 5	204 578 2, 588 4, 831 8, 015 12, 310 28, 526	6, 945 12, 076 63, 965 110, 634 170, 282 251, 254 615, 156	883 5, 652 9, 064 34, 215 111, 719 150, 748	22, 212 95, 031 80, 334 445, 656 904, 950 1, 176, 314 2, 724, 497

Bureau of Animal Industry.

<sup>&</sup>lt;sup>1</sup> Includes testing under area plan.

Table 464.—Cattle: Status of tuberculosis eradication work, by States, June 30, 1923.

Alabama	<b>(</b>	,		,				-		,		
Herds		Accre	dited.	Passed	l one test.	Era	adicatio	n from	areas.1	Total tu 1917 to	berculin July 1,	tests, 1923.
Herds   Cattle   Herds   Cattle   Herds   Cattle   Cattle   One of more tests of all intest of all	QL 4	1				ties	ties	m.+-1			Reac	tors.
Arkansas.	State.	Herds.	Cattle.	Herds.	Cattle.	com- pleted one or more tests of all	sively en- gaged in test- ing	ties en-				Per cent.
Arkansas.	Alabama			878						107, 751	1, 416	1. 3
California	Arizona	1 45				1	2	1	14, 206	20, 76	1,002	4. 8 1. 5
Colorado	California	4			80, 585	l	3		106, 942	116, 620	802	
Delaware	Colorado	4	221	62	1,496					5, 031	224	4. 5
Dist. Columbia	Connecticut	247	5, 211	918	17,016					67, 287	8,828	13. 1 10. 7
Florida	Dist Columbia	30							1 368	9, 081	3,000	1. 2
Georgia 40 2,900 2,535 40,196 78,994 1,651 Idaho 141 4,422 8,675 83,622 2 2 4 104,523 172,682 2,214 Illinois 439 9,780 928 18,317 1 5 6 78,726 220,627 13,846 Indiana 3,425 50,292 16,168 117,491 2 5 7 76,923 341,648 9,227 Ilowa 1,982 50,637 5,133 81,692 3 3 47,529 424,797 23,067 Kansas 669 20,256 465 12,759 4 75,527 157,683 3,223 7,87 Kentucky 222 6,645 14,807 88,912 4 4 75,527 157,683 3,223 Louisiana 103 5,407 834 17,060 6 74,5527 157,683 3,223 Maryland 134 14,146 11,822 95,281 1 1 2 12 72,137 136,804 2,923 Maryland 513 10,171 2,484 22,631 1 1 30,354 127,625 10,210 Massachusetts 89 3,197 194 3,432 1 1 1 30,354 127,625 10,210 Mississippi 161 4,525 387 12,198 3 0 3 2,999 126,617 679 Missouri 534 18,456 36,021 338,118 12 6 18 227,447 484,563 4,892 Montana 135 8,081 81 3,775 195,198 2 3 5 159,668 325,041 4,573 Nebraska 387 13,464 11,858 142,332 4 8 12 152,577 255,073 7,488 Newada 13 1,282 1,651 10,945 10,945 New Hampshire 229 4,750 1,388 12,129 5261 11 11,660 13,390 87 1,489 New Jersey 143 3,094 253 2,167 North Dakota 1,354 30,312 5,429 91,317 1 0 1 34,058 26,2614 6,813 Oregon 222 5,662 14,014 124,342 10 2 12 84,292 234,751 North Dakota 1,354 30,312 5,429 91,317 1 0 1 34,058 26,2614 6,813 Oregon 222 5,602 14,014 124,342 10 2 12 84,292 234,751 North Dakota 1,354 30,312 5,429 91,317 1 0 1 34,058 26,638 2,071 North Dakota 1,354 30,312 5,429 91,317 1 0 1 34,058 26,638 2,071 North Dakota 1,364 30,312 5,429 91,317 1 0 1 34,058 26,638 2,071 North Dakota 227 6,916 335 10,641 223				3, 952	29, 959				1,000	94, 163	1.823	1.9
Illinois	Georgia	40	2,900	2, 535	40, 196					78, 994	1,651	2. 1
Indiana	Idaho	141		8,675	83, 622	2	2	4	104, 526			1.3 6.3
Town         1,982         50,637         5,133         81,692         3         3         47,529         424,797         23,067           Kansas         659         20,256         465         12,759         3         3         47,529         424,797         23,067           Kentucky         232         6,654         14,807         89,912         4         4         75,527         157,683         3,283           Louisians         103         5,407         834         17,080         4         4         75,527         157,683         3,283           Louisians         103         5,407         834         17,080         12         12         12         72,137         136,804         2,923           Maryland         513         10,171         2,484         22,631         1         1         30,354         127,625         10,210         10           Michigan         467         9,379         27,954         205,200         8         6         14         328,387         504,121         13,550           Mississippi         161         4,525         387         12,168         8         0         3         2,929         120,617         679	Indiana	2 439	50 202	16 169	117 401		5	5	76 923	341 648	9 227	2.7
Mississippi	Towa				81, 692			a	47, 529	424, 797	23, 067	5. 4
Mississippi	Kansas			465	12,759			i		136, 332	2, 787	2.0
Mississippi	Kentucky	232		14, 807	89, 912		4	4	75, 527	157, 683	3, 283	2.1
Mississippi	Louisiana	108					19	19	79 127	136 804	2, 421	3. 8 2. 1
Mississippi	Maryland	513			22 631	1	12		30, 354	127, 623	10. 210	8.0
Mississippi	Massachusetts	89			3, 432					47, 454	4,906	10.3
Mississippi	Michigan	467	9,379	27, 954	205, 200	8	6	14	328, 387	504, 121	13, 550	2.7
Missouri	Minnesota	2, 613	57, 544	2, 408	46,066			- <b></b>	9 090		1 10, 010	2.8 0.5
Montana	Mississippi		19 456		338 118				227 447	484 563	4.892	1.0
Nevada	Montana			13, 775	195, 198			5	159,698	325, 041	4, 573	1.4
New Hampshire   229   4,750   1,388   12,129   .	Nebraska	387	13, 464	11,858	142, 332	4	8	12		285, 073	7,488	2.6
New Jersey         143         3,094         253         2,167         1         1,606         65,330         4,004           New Mexico         2         65         1,506         12,123         1         1         11,600         13,903         87           New York         1,429         28,611         11,095         130,133         2         12         14         197,222         471,408         62,369         82,309           North Carolina         51         2,381         63,114         187,514         10         11         21         161,365         226,638         2,071           North Carolina         1,066         18,942         2,500         34,494         10         1         34,640         168,456         7,133           Oregon         2222         5,602         14,014         124,342         10         2         12         84,292         234,7631         1,579           Rhode Island         18         442         17         339         39,760         337,631         1,579           South Carolina         127         4,349         398         11,123         66,828         927           South Dakota         257         6,916 <th< td=""><td>Nevada</td><td></td><td></td><td>1,651</td><td>10, 945</td><td></td><td></td><td> </td><td>18, 559</td><td>46, 065</td><td>1, 298</td><td>2.8</td></th<>	Nevada			1,651	10, 945				18, 559	46, 065	1, 298	2.8
New York.   1,429   25,611   1,090   331   63,114   187,514   10   11   21   161,365   226,638   2,071   North Dakota   1,354   30,312   5,429   91,317   1   0   1   34,058   262,614   6,813   Oklahoma   372   11,162   214   6,845				1,388	12, 129					65 330	4, 319	8. 2 7. 0
New York.   1,429   25,611   1,090   331   63,114   187,514   10   11   21   161,365   226,638   2,071   North Dakota   1,354   30,312   5,429   91,317   1   0   1   34,058   262,614   6,813   Oklahoma   372   11,162   214   6,845	New Jersey				12, 123		1	ii	11, 660	13, 903	87	0.6
Onto Oklahoma	New York	1, 429		11, 095	130, 133	2		14	197, 222	471.408	62, 369	13. 2
Onto Oklahoma	North Carolina		2, 381	63, 114	187, 514				161, 365	226, 638	2, 071	0.9
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	North Dakota	1,354	30, 312		91, 317	1	0	1 1		168 456	7 113	2. 6 4. 2
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Oklahoma	372	11 162	214	6.845				1,010	106, 418	3, 093	2. 9
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Oregon	222	5, 602	14, 014	124, 342	10	2		84, 292	234, 727	4,550	1. 9
South Carolina         127         4,349         898         11,123         66,828         927           South Dakota         257         6,916         335         10,641         79,005         3,634           Tennessee         291         10,161         577         13,338         2         2         66,012         161,160         1,243           Texas         109         6,914         154         4,690         1         34         35,979         94,243         1,116           Vermont         1,848         32,246         1,414         22,813         2         263,335         16,314           Virginia         957         21,138         1,119         1,4743         1         1         2         7,684         207,175         5,549           West Virginia         360         7,628         3,906         25,655         1         0         1         15,327         68,967         1,644           Wysoming         7         457         4,235         50,048         13         13         40,522         62,838         61           Indian schools 3         7         457         4,235         50,048         13         13         40,522         62	Pennsylvania		32, 323	6, 243	61, 270	1	2	3	39, 760	237, 631	11,579	4.9
South Dakota   257   6,916   335   10,641   79,005   3,634     Tennessee	Rhode Island							- <b></b> -		66 828	027	8, 8 1, 4
Temessee. 291 10, 161 577 13, 338 2 2 2 66, 012 161, 160 1, 243 104 105 104 104 105 104 105 104 105 104 105 104 105 105 105 105 105 105 105 105 105 105	South Dakoto									79, 005	3, 634	4.6
Texas         109         6, 914         154         4, 690         103, 566         1, 638           Utah         99         3, 014         7, 211         32, 301         1         3         4         35, 979         42, 43         1, 116           Vermont         1, 848         32, 246         1, 414         22, 813         1         2         7, 684         207, 175         5, 549           Washington         142         4, 405         14, 996         110, 011         4         13         17         85, 102         266, 966         66, 123           West Virginia         360         7, 628         3, 906         25, 655         1         0         1         11, 042         68, 434         15, 462           Wyoming         7         457         4, 235         50, 048         13         13         40, 522         62, 828         631           Indian schools         Purebred herds in         433         27						2		2	66, 012	161, 160	1, 243	0.8
Utah     99     3,014     7,211     32,301     1     3     4     35,979     94,243     1,116       Vermont     1,848     32,246     1,414     22,813     —     —     263,335     16,314       Virginia     957     21,138     1,119     14,743     1     1     2     7,684     207,175     5,549       Washington     142     4,405     14,996     110,011     4     13     17     85,102     266,966     6,123       West Virginia     360     7,688     3,906     25,655     1     0     1     11,042     68,957     1,644       Wysoning     7     457     4,235     50,048     13     13     40,522     62,288     631       Indian schools 3     7     457     4,235     50,048     13     13     40,522     62,288     631       Purebred herds in     7     457     4,235     50,048     13     13     40,522     62,288     631			6, 914	154	4, 690					103, 566	1,638	1.6
Washington	Utah		3, 014	7, 211	32, 301	1	3	4	35, 979	94, 243	1, 116	1.2
Washington	Vermont			1,414	22,813				7 694	200, 330	5 540	6. 2 2. 7
West Virginia     360     7, 628     3, 906     25, 655     1     0     1     15, 327     68, 967     1, 644       Wisconsin     3, 061     69, 236     3, 548     66, 533     11     0     11     111     042     638, 434     15, 462       Wyoming     7     457     4, 235     50, 048     13     13     40, 522     62, 828     631       Indian schools     1     1     1     1     27       Purebred herds in     2     2     2	Washington			14, 996	110, 011		13	17	85, 102	266, 966	6, 123	2. 3
Wisconsin 3, 061 69, 236 3, 548 66, 353 11 0 11 111, 042 638, 434 15, 462 Wyoming 7 457 4, 235 50, 048 13 13 40, 522 62, 828 631 Indian schools 3 413 27 Purebred herds in 413 27	West Virginia	360	7,628	3, 906	25, 655	1	0	1	15, 327	68.957	1.644	2. 4
Wyoming 7 457 4, 235 50, 048 13 13 49, 522 62, 828 631 Indian schools 3 413 27 Purebred herds in 15 27	Wisconsin	3, 061	69, 236	3, 548	66, 353	11				638, 434	15, 462	2. 4
Purebred herds in	Wyoming	7	457	4, 235	50, 048		13	13	40, 522			1. 0 6. 5
	Indian schools 3									413	2"	0. 0
U. S. <sup>3</sup> 4, 486 157	U. S.3	·							<b></b>	4, 486	157	3. 5
Total 28, 526 615, 156 312, 281 2, 724, 497 81 117 198 2, 407, 659 8, 396, 235 299, 607	Total	28, 526	615, 156	312 <b>, 2</b> 81	2, 724, 497	81	117	198	2, 407, 659	8, 396, 235	299, 607	3. 6

Bureau of Animal Industry.

Accredited work begun in 1917; area work in 1921.
 Includes area testing in units smaller than counties.
 Testing in 1917 before work was organized by States.

TABLE 465.—Cattle: Tick eradication, progress and status of the work June 30, 1923.

	Gti	g	$\mathbf{Rel}$	eased coun	Cattle dipped, year ending June 30, 1923.		
State.	Counties quaran- tined July 1, 1906.	Counties quaran- tined June 30, 1923.	Released counties tick free.	Released counties with one or more infested herds.	Total counties released.	Herds.	Cattle.
Alabama Arkansas	67 75	5 42	18 15	44 18	62 33	729, 405 392, 633	4, 464, 744 2, 566, 296
California Florida	15 58	0 54 9	15 3 104	0 1 44	15 4 148	54, 052	314, 975
Georgia Kentucky	157 2	Ŏ	2 3	0	2	367, 435	5, 284, 361
Louisiana Mississippi	65 81	32 21	37	30 23	33 60	301, 270 240, 122	4, 905, 933 2, 485, 507
Missouri North Carolina	- 75	0 19	46	3 10	56 56	44, 298	198, 735
Oklahoma South Carolina	61 44	6	36 30	19 14	55 44	213, 969 141, 879	1, 978, 336 826, 169
Tennessee	42 199	90	41 42	67	42 109	9, 291 2, 055, 976	62, 320 51, 846, 260
Virginia	975	282	419	274	693	442	4, 021 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.

			Number	of head.		
State, and range of prices.	Heavy.	Medium.	Year- lings.	Calves.	Other cattle.	All cattle.
Indiana: \$4.00-\$5.00	462	120 859	139 199	54 68	123 55	436 1, 643
\$5.00-\$6.00 \$6.00-\$7.00 \$7.00-\$8.00	595 84	1, 113 86	176 72	371 239		2, 255 481
\$8.00-\$9.00 \$9.00-\$10.00	30	32				30
Average price paid	\$6. 08	\$6.04	\$6.04	\$6. 53	\$4. 48	\$6.02
\$3.00-\$4.00 \$4.00-\$5.00 \$5.00-\$6.00	44 198	93 649 946	35 436 633	25 247	77 62	205 1, 216 2, 024
\$6.00-\$7.00 \$7.00-\$8.00 \$8.00-\$9.00	67 95	262 99	101 25	80 28		510 247
Average price paid	\$6. 16	\$5. 30	<b>\$</b> 5. 19	\$5.80	\$3. <del>9</del> 2	\$5. 36
Iowa: \$3.00-\$4.00\$4.00-\$5.00	37	50			111	111 87
\$5.00-\$6.00. \$6.00-\$7.00. \$7.00-\$8.00. \$8.00-\$9.00.	277 311	1, 105 785 40	319 566 117	145 337 99	21 <del>0</del> 129	<b>2</b> , 056 <b>2</b> , 128 335
A verage price paid	\$5. 91	\$5.85	\$6. 29	\$6.48	\$5. 13	<b>\$</b> 5. 91
Nebraska: \$3.00-\$4.00	-	**************************************		<del></del>	88	- 83
\$4.00-\$5.00 \$5.00-\$6.00 \$6.00-\$7.00 \$7.00-\$8.00 \$8.00-\$9.00	597 341 136	606 622 45 38	22 371 505 131 18	77 293 53	88 30 161	110 1,681 1,922 365 56
Average price paid	\$6. 15	\$6.08	<b>\$6. 12</b>	<b>\$</b> 6. 48	\$5. 01	\$6.05
Missouri: \$4.00-\$5.00	21	459	240 539	109 222		829 1, 954
\$5.00-\$6.00 \$6.00-\$7.00 \$7.00-\$8.00	49 50 132 42	1, 144 893 176 174	270 155	100 139		1, 313 602 216
• \$8.00-\$9.00 A verage price paid	\$6.77	\$5. 93	\$5. 6 <b>6</b>	** \$6. 04		\$5. <b>95</b>

Division of Cost of Production.

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.

	EASI	CENTA	CAL INDIANA.		
Item.	Winter 1919–20.	Winter 1920-21.	Items.		Winter 1920-21.
Feeds consumed: Corn, shelled basis_pounds_	553	679	Days on pasture Straw and beddingpounds	14 347	14 326
Ryedododo	7	12	Labor: Man hours	4.8	4. 97
Linseed mealdo Cottonseed mealdo	2 41	1 40	Horse hours The per cent which all other ex-	1.5	2.05
Molasses feeddo Miscellaneous concentrates 1	6	1	penses were of feed and labor costs 3	16.5	28. 6
Alfalfa haydo		(²) 5	Feed lot by-products: Pounds of pork	21. 0	24. 7
Clover haydo	60	64 35	Loads of manure	1.5	1.4
Mixed haydo Timothy haydo	9	(2)			
Corn Stover and fodder_do Silagedo		224 1, 281	·		
	DEI	CALB CO	DUNTY, ILL.	<u> </u>	<u>'</u>
Feeds consumed: Corn, shelled basis_pounds_	573	590 1	Days on pasture Straw and bedding Labor:	10 859	11 653
Barley do do do do do do do do do do do do do	2	5	Man hours	5.7	4.8
· Cottonseed mealdodo		34 17	Horse hours The per cent which all other ex-	3. 1	2.9
Molasses feed		4. 17	penses were of feed and labor costs 3	11. 5	24. 2
Clover haydo Mixed haydo	168	65 117	Feedlot by-products: Pounds of pork	19. 7	13. 1
Prairie haydo	l	(2)	Loads of manure	2. 3	2.0
Timothy haydo Corn stover and fodder_do Silagedo	15 48 2, 426	7 139 1, 771			
POTTAWAT	TAMIE	AND S	HELBY COUNTIES, IOWA.		I
ceds consumed: Corn, shelled basis_pounds_ Oatsdodo	808 11	890 18	Days on pasturepounds Straw and beddingpounds Labor:	17 80	19 89
Barleydo		1 2	Man hours	2. 6 2. 2	2. 3 1. 5
Cottonseed mealdo Linseed mealdo	(2) 4	3	Horse hours The per cent which all other ex-	2. 2	1. 5
Molasses mealdo Miscellaneous concentrates	16	9	penses were of feed and labor costs 3	12.4	29. 8
Alfalfa haydo	(2) 146	2 138	Feed lot by-products: Pounds of pork	45, 5	25. 7
Clover haydo	43	75 27	Loads of manure	. 9	. 5
Mixed haydo Prairie haydo	. 7	( <sup>2</sup> )			
Timothy haydo Corn stover and fodder_do	3	5 16			
Silagedo		78			}

Silage .....do....

<sup>&</sup>lt;sup>1</sup>Consisting principally of Schumacher feed and molasses.

<sup>2</sup>Less than one-half pound.

<sup>1</sup>Including interest, equipment charge, death loss, veterinary, insurance, taxes, incidentals, and marketing.

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.		Item.		Winter 1920–21.
Feeds consumed: Corn, shelled basis_pounds_ Ryedo	518	707	Days on pasture Straw and beddingpounds Labor:	44 120	39 53
Oatsdo	8	2	Man hours	3.5	3. 1
Linseed mealdo	30 15	4 31	Horse hours	3. 6	3. 2
Molasses feeddo	14	3	penses were of feed and labor		
Miscellaneous concentrates			Costs 3	12.6	16.0
Alfalfa haydo	2 64	10   21	Feed lot by-products: Pounds of pork	20.0	26.0
Clover haydo	87	124	Loads of manure	.5	. 25
Mixed haydo	21	25			
Timothy haydo Corn stover and fodder_do	99	104			
Silagedo	764	513			

BURT COUNTY, NEBR.

	Winter	1919–20.	Winter	1920-21.
Item.	Survey.	Route.	Survey.	Route.
Feeds consumed:				
Corn, shelled basispounds_		759	915	728
Barley do do			1	
Oatsdo		17	8	11
Linseed mealdo		7	4	2
Molasses feeddo		. 1		
Miscellaneous millfeedsdodo		(²)		
Alfalfa haydo	367	365	346	334
Clover haydo	90	50	35	104
Mixed haydo	35	25	47	26
Prairie haydo	15	4	48	20
Timothy haydo	3			
Miscellaneous dry roughagesdo	105		4	
Silage			50	
Days on pasture	18	16	8	17
Straw and bedding	199	205	252	160
Labor:	3.0	0.0		
Man hours	2.0	3. 2	3.4	2. 0
Horse hours	2.0	2. 9	2.6	.7
The per cent which all other expenses were of feed and labor	14.4	11.4		
Costs 3	14.4	11, 4	29. 3	<b>35. 2</b>
Feed lot by-products:	00.7	04.0		
Pounds of pork		24. 2	24.5	16.3
Loads of manure	1.2	1.45	.8	. 3

Division of Cost of Production.

<sup>2</sup> Less than one-half pound.

Table 468.—Cattle: Average quantity of feed and other factors used in production of 100 pounds gain in corn-fed cattle, 1921-22.

INDIANA.

	Class	of feeder c	attle.		4.11
. Item.	Heavy.	Heavy. Medium.		Calves.	All cattle.
Feed:	1, 161 3 14 22 720 1, 031 14 3. 9 4. 0 19. 6 59. 4 1. 7	870 14 21 19 767 1,304 14 4.0 3.0 22.5	723 19 38 36 720 911 22 4. 4 2. 7 17. 2 27. 8 1. 5	521 31 28 46 428 889 8 3.6 2.6 22.1	843 16 23 26 691 1,114 14 4.0 3.1 22.4 37.0

<sup>1</sup> From hogs following steers.

<sup>3</sup> 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—Continued.

#### ILLINOIS.

ILLI	vois.				
T1.	Class	s of feeder o	attle.		All
Item.	Heavy.	Medium.	Year- lings.	Calves.	cattle.
Feed: Grain pounds Concentrates do Alfalfa and clover hay do Other hay do Stover and straw do Silage do Pasture days Labor:	869 32 75 184 791 1,459	663 19 118 116 525 1,787	580 10 83 76 682 1,735	525 14 79 65 442 1,261	4
Man hours Horse hours Per cent which all other expenses were of feed and	5 2	4 3	3	<b>4</b> 1	
labor Feed lot by-products; Pounds of pork <sup>1</sup> Loads of manure	24. 3 22 . 2	25. 4 17	21. 0 15	24. 4 10 1	
10W					
Feed:	1, 062 2 227 222 102 50 5 5 2.6 41.6 41.6 26.6 4 .4 .SKA.	906 4 257 18 165 8 11 2.1 1.1 31.4 27.2 .6 883 370 48 190 8 2.4 .9	873 4 176 600 124 177 17 17 2.2.2 1.1 24.1 24.4 .5  793 319 41 178 14 2.1 1.0 29.2	695 170 72 94 83 10 2.0 .45 25.8 16.8 .4 833 354 31 198 111 2.4 1.4 39.9	876 4 215 39 132 78 12 2 2 1.1 30.0 24.4 .5
Feedlot by-products: Pounds of pork 1 Loads of manure	26. 4 . 6	27. 1	21.3	23. 0 . 7	
MISSO	URI.		·		
Feed:         Grain         pounds           Cottonseed meal         .do         .do           Alfalfa and clover hay         .do         .do           Other hay         .do         .do           Silage         .do         .do           Pasture         .days         .days           Labor:         .days         .days	823 54 41 57 44 3. 4	753 16 78 30 175 157 42 2.9	746 23 111 83 75 212 43	586 46 115 21 50 135 32 2.5	734 23 89 31 128 162 41 2.8 3.6
Horse hours Per cent which all other expenses were offeed and labor Feedlat by products	28. 9	20.6	19.9	21.3	20.9
Feedlot by-products: Pounds of pork 1 Loads of manure	26 . 1	24 . 3	21 . 3	21 . 2	23 . 3

Division of Cost of Production.

<sup>&</sup>lt;sup>1</sup> From hogs following steers.

Table 469.—Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918–1921.

### INDIANA.

INDIANA.				
	s	eason catt	le were fed	• ,
Item.	1918–19	1919–20	1920-21	1921-22
Number of droves	47 1, 499 684 343 1, 027	97 3, 016 784 287 1, 071	89 2, 899 829 265 1, 094	117 4,877 843 244 1,087
Original cost of feeder animal	\$76. 49 2. 39	\$79. 94 2. 40	\$70. 09 2. 10	\$50. 71 1. 45
On money in cattle On money in equipment Operating costs per head: Feed, charged at eash farm prices	2. 88 77. 06	2. 73 76. 10	2. 26 35. 35	. 70 26. 81
reed, charged at cash farm prices  Man and horse labor charge  Building and equipment charge  Death loss Veterinary  Insurance  Taxes  Incidentals  Marketing	6.04 2.62 .82 .15 .15 1.80 .67 1.58	6. 03 2. 24 . 78 . 13 . 07 . 81 . 54 2. 70	5. 22 1. 73 1. 04 . 06 . 01 . 61 . 45 2. 99	2. 90 . 74 . 39 . 05 . 01 . 44 . 34 2. 23
Total operating, interest, and original cost per head	172. 65	174. 47	121. 91	86, 77
Manure credit per head	5. 70 11. 86 155. 09 148. 15	10. 14 11. 06 153. 27 136. 01	4. 76 5. 32 111. 83 90. 28	5. 81 8. 97 71. 99 82. 55 10. 56
Manure credit per head.  Pork credit per head.  Net cost per head.  Sales price per head.  Loss per head (feed charged at cash farm price).  Loss per head.  Cost of feeder cattle per hundredweight.  Net cost of pound gain.  Net cost per hundredweight of beef laid down at market.  Price received for corn fed to cattle, per bushel.  Average cash farm price of corn, per bushel.	6. 94 11. 18 . 23 15. 10 1. 20 1. 46	17. 26 10. 20 . 26 14. 31 . 89 1. 43	21. 55 8. 45 .16 10. 22 11 . 54	6. 02 . 09 6. 62 . 79 . 42
ILLINOIS.				
Number of droves	2, 590 787 296 1, 083	108 4,607 821 247 1,068	96 3, 652 843 258 1, 101	106 4, 202 779 241 1, 020
Original cost of feeder animal. Interest per head: On money in cattle. On money in equipment.	\$81. 59 2. 43	\$77. 52 2. 19	\$66. 49 2. 11	\$41. 80 1. 23
On money in equipment Operating costs per head: Feed, charged at cash farm prices Man and horse labor charge. Buildings and equipment charge Death loss Veterinary Insurance Taxes Incidentals. Marketing	2. 66 . 33 . 09 . 04 1. 00	2. 14 84. 12 6. 68 1. 95 .41 .07 .03 .78 .64 2. 23	2.35 38.17 5.73 1.98 .30 .07 .01 .54 .44 2.81	1. 51 26. 61 3. 38 1. 52 26 06 01 36 30 2. 12
Total operating, interest, and original costs per head	186. 71	178. 76	121. 00	79. 16
Manure credit per head	107.00	12. 25 6. 91 159. 60 131. 05	5. 09 2. 80 113. 11 88. 52	3. 45 3. 59 72. 12 77. 22 5. 10
Loss per head.  Cost of feeder cattle per hundredweight.  Net cost of pound gain.  Net cost per hundredweight of beef laid down at market.  Price received for corn fed to cattle, per bushel.  Average cash farm price of corn, per bushel.	10. 37 . 280 15. 18 1. 12	28. 55 9. 45 . 332 14. 94 . 30 1. 42	24. 59 7. 89 . 181 10. 29 . 32 . 53	5. 36 , 126 7. 05 . 63 . 45

Table 469.—Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918-1921—Continued.

### IOWA.

	£	Season catt	le were fed	l.
. Item.	1918-19	1919–20	1920-21	1921-22
Number of droves	78 3, 771 740 277 1, 017	113 4, 294 786 324 1, 110	134 5, 534 841 352 1, 193	117 4,717 785 344 1,129
Original cost of feeder animal	\$74. 78	\$77. 10	\$74. 68	\$46. 43
Interest per head: On money in cattle On money in equipment	2. 29 1. 53	2. 77 1. 61	3, 02 1, 40	1. 68 1. 29
Operating costs per head: Feed, charged at eash farm prices Man and horse labor charged Building and equipment charged Death loss Veterinary Insurance Taxes Incidentals Marketing	82.70 4.56 1.39 .65 .13 .06 .28 .37 2.54	82. 30 4. 12 1. 69 . 40 . 04 . 14 . 56 . 28 2. 98	36. 89 3. 82 1. 14 . 57 . 05 . 08 . 53 . 35 4. 79	27. 78 2. 18 1. 32 . 45 . 08 . 07 . 42 . 28 3. 42
Total operating, interest, and original cost per head	171. 28	173. 99	127. 32	85. 40
Manure credit per head	3. 12 14. 36 153. 80 144. 15	4. 94 16. 27 152. 78 143. 85	2. 08 7. 06 118. 18 101. 93	1. 68 7. 66 76. 06 90. 84 14. 78
Cost of feeder cattle per hundredweight  Net cost of pound gain  Net cost per hundredweight of beeflaid down at market  Price received for corn fed to cattle, per bushel  Average cash farm price of corn, per bushel	9. 65 10. 11 . 285 15. 12 1. 21 1. 49	8. 93 9. 81 . 234 13. 76 . 85 1. 31	16. 25 8. 88 . 124 9. 91 . 16 . 46	5, 91 . 086 6, 71 . 67 . 39
MISSOURI.				
Number of droves	50 3, 473 729 268 997	100 5, 184 807 258 1, 065	105 5, 139 843 342 1, 185	101 4, 914 769 339 1, 108
Original cost of feeder animal	\$71.38	\$77. 25	\$67.81	\$45.72
Interest per head: On money in cattle On money in equipment	2.55 .85	2, 70 . 86	3. 25 . 79	2. 16 . 68
Operating costs per head: Feed, charged at cash farm prices. Man and horse labor charge. Building and equipment charge. Death loss Veterinary Insurance Taxes Incidentals. Marketing.	56. 91 4. 89 . 66 . 89 . 16 . 25 . 16 . 22 2. 67	65. 69 4. 66 . 79 . 52 . 08 . 03 . 28 . 31 2. 96	48. 04 4. 64 . 62 . 46 . 04 . 07 . 32 . 29 4. 70	\$4. 26 3. 20 . 72 . 42 . 08 . 06 . 33 . 27 3. 12
Total operating, interest, and original cost per head	141. 59	156. 13	131. 03	91.02
Manure credit per head Pork credit per head Net cost per head Sales price per head Profit per head (feed charged at cash farm prices) Loss per head Cost of feeder cattle per hundredweight	. 24 6. 78 134, 57 133, 71	1. 98 8. 22 145. 93 126. 61	. 82 7. 15 123. 06 91. 06	1. 31 7. 25 82. 46 93. 09 10. 63
Loss per head Cost of feeder eattle per hundredweight Net cost of pound gain Net cost per hundredweight of beeflaid down at market Price received for corn fed to cattle, per bushed Average cash farm price of corn, per bushel	. 86 9. 79 . 236 13. 50 1. 60 1. 49	19. 32 9. 57 . 266 13. 70 . 80 1. 42	32.00 8.04 .161 10.38 .10 .60	5. 95 . 108 7. 42 . 71 . 485

Table 469.—Cattle: Financial results of feeding operations, per steer, when charging feed to cattle at farm prices, 1918-1921—Continued.

### NEBRASKA.

	s	Season catt	le were fed	•
Item.	1918–19	1919–20	1920-21	1921-22
Number of droves. Number of cattle	67 2, 207 712 298	125 3, 857 797 269	95 2, 827 873 308	122 4, 222 828 330
Final weight per headdo	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 On money in equipment Operating costs per head:	2. 27 1. 74	2. 40 1. 66	2. 79 1. 75	1. 82 1. 17
Feed, charged at cash farm prices  Man and horse labor charge  Buildings and equipment charge  Death loss	(.13	66. 84 3. 83 1. 48	34. 17 4. 34 1. 39 . 41	21, 80 2, 11 1, 05
Deathloss Veterinary Insurance Taxes	.04	. 05	.06 .01	. 08 . 01 . 21
Incidentals. Marketing	. 50 2. 28	. 45 2. 44	. 61 4. 88	. 38 3. 28
Total operating, interest, and original cost per head	165. 94	160. 13	129. 25	82. 6 <b>2</b>
Manure credit per head	14. 45	4. 61 10. 23 145. 29 133. 32	1. 80 5. 64 121. 81 105. 24	1.39 6.69 74.54 90.49 15.95
Loss per head	2.40	11. 97 10. 10 . 241	16. 57 9. 01	
Net cost of pound gain Net cost per hundredweight of beeflaid down at market Price received for corn fed to cattle, per bushel Average cash farm price of corn, per bushel	14. 66 1. 45	13. 63 1. 03 1. 37	10, 31 . 14 . 50	6. 40 . 65 . 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).

Item.	Corn, protein meal, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder, silage.	Item.	Corn, protein meal, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder.	Corn, alfalfa and clover, stover and fodder, silage.
Number of droves Initial weight per head lbs. Final weight per head lbs. Total gain per headdo. Average daily gain per head: Corn (shelled basis) lbs. Protein mealdo. Alfalfa and clover hay lbs. Stover and fodder lbs. Silagedo.	48 858 1,232 374 1.82 18.1 1.2 4.8	164 812 1, 152 340 1. 82 16. 0 4. 5	20 753 1,051 298 1.67 9.4 	Feed per 100 pounds gain: Corn (shelled basis)lbs. Protein mealdo. Alfalfa and clover haylbs. Stover and fodder Silagedo. Days on pasture  Pork produced per steer 1	1,001 67 270 26 15 39.5	891 250 24 19 33. 2	568 243 29 1, 272 17 31. 9

<sup>1</sup> 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 and timothy, stover and fodder, silage.	clover and tim- othy, stover and fodder,	Corn, clover and tim-othy, stover and fodder.	Item.	Corn, protein meal, clover and tim-othy, stover and fodder, silage.	Corn, clover and tim- othy, stover and fodder, silage.	Corn, clover and tim- othy, stover and fodder.
Number of droves	95	21	18	Feed per 100 pounds gain:			
Initial weight per head	i		1 1	Corn (shelled basis)			1
lbs	790	760	840	lbs	511	613	931
Final weight per head				Protein mealdo	85		
lbs	1,083	1,023	1, 188	Clover and timothy	- 00	100	100
Total gain per head lbs.	293	263	348	hay lhs	.89	188	169
Average daily gain per	1.65	1.42	1. 56	Stover and fodder	119	78	334
headdo	1.00	1.42	1. 50	Silagedo	1, 779	1, 694	994
Daily feed per head: Corn (shelled basis)				Days on pasture	1, 119	20	28
Corn (shelled basis)	8. 2	8.3	14.0	Days on pastero			
Protein mealdo.	1.3	0.0	11.0	Pork produced per steer 1			
Clover and timothy				lbs	63. 8	52. 2	116.3
havlbs	1.4	2. 5	2.5				ļ
Stover and fodder			1				
lbs	1.9	1.1	5.0				
Silagedo	28. 1	23. 0					
				I			<u></u>

# THREE PRINCIPAL ILLINOIS RATIONS (DE KALB COUNTY, ILL.).

						,	<del>,</del> .
Item.	Corn, protein meal, clover and timothy, stover and fodder, silage.	Corn, clover and tim-othy, stover and fodder, silage.	Corn, protein meal, clover and timothy, stover and fodder.	Item.	Corn, protein meal, clover and timothy, stover and fodder, silage.	Corn, clover and tim- othy, stover and fodder, silage.	Corn, protein meal, clover and timothy, stover and fodder.
Number of droves Initial weight per head	153	15	12	Feed per 100 pounds			
lbs	822	823	868	Corn (shelled basis)			
Final weight per head	1 001	1, 055	1, 133	Protein mealdo_	530 74	572	1, 059 66
Total gain per head _ do	1, 081 259	232	265	Clover and timothy			
Average daily gain per			1 00	haylbs	161	495	400
headlbs_ Daily feed per head:	1. 51	1. 32	1. 62	Stover and fodder	69	186	302
Corn (shelled basis)			-	Silagedo	2, 278	2, 294	
lbs	8. 2	7.4	17. 0	Days on pasture	8	19	17
Protein meal do	1.1		1.1	Pork produced per steer 1	37.3	31.6	62.4
Clover and timothy haylbs	4.0	4.1	6.4				
Stover and fodder							
lbs	1. 0 33. 5	. 24 38. 9	4.9				
Silage do	33. 0	20. 9					

<sup>&</sup>lt;sup>1</sup> From hogs following steers.

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.).

Item.	Corn, pro- tein meal, clover and timothy, stover and fodder, silage.	Corn, clover and timothy, stover and fodder, silage.	stover and	clover and timothy, stover and fodder, less than one-
Number of droves	330	15 874 1, 187 313	38 833 1, 214 381	28 815 1,144 329
Daily feed per head:	1. 39	1.56	1. 52	1.78
Corn (shelled basis)do Protein mealdo	7. 2 1. 1	8. 8	11.4	17. 5
Clover and timothy haydo	2.8	3. 0	2.7	4.7
Stover and fodderdo	1. 5	I. 4	1.7	1.6
Silagedo	18. 0	15. 0		
Feed per 100 pounds gain:	***			
Corn (shelled basis)do Protein mealdo	519 83	577	750 31	1,002
Clover and timothy haydo	202	197	179	29 272
Stover and fodderdo	106	93	115	89
Silagedo	1, 304	985	110	
Days on pasturePork produced per steer 1do	43	43	46	16
Pork produced per steer 1do	59	82	100	115

Division of Cost of Production.

Table 471.—Cattle: Number of days on feed and gain per head, Nebraska, 1918-1919.

	1918-19 1919-20 Daily gain no			1918-19		1919-20			
Length of feeding period.	Droves.	Cattle.	Droves.	Cattle.	Daily gain per head.	Droves.	Ani- mals.	Droves.	Ani- mals.
DAYS.					POUNDS.	·			
210 and over	14 9 13 14 10 7 3	632 258 425 411 306 192 69	11 14 15 16 26 17 4	421 449 426 481 693 422 149	3 and over2 to 3	3 8 14 28 13 4	117 221 402 920 513 120	11 13 27 29 20 3	329 345 716 867 623 161
Average days on feed	10	32	144		gain, pounds	1. 90		2, 08	

Division of Cost of Production.

<sup>&</sup>lt;sup>1</sup> From hogs following steers.

### CATTLE SHIPMENTS.

Table 472.—Cattle and calves: Percentage of shrinkage 1 in shipments by cooperative associations, 1921.

#### BY DISTANCE.

		DI DISIA					
		Ca	ttle		Calves, mixed ship-		
77.	Straight sh	ipments.2	Mixed sh	ipments.³	mer	nts.3	
Distance.	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 100 to 150 miles 150 to 200 miles	1, 661 3, 518 3, 158	2. 56 2. 26 3. 46	6, 261 4, 117 7, 151	2. 34 2. 99 3. 30	16, 869 9, 781 8, 114	3. 49 4. 99 4. 85	
200 to 250 miles 250 to 300 miles 300 to 350 miles	1, 623 350 1, 888	3. 16 2. 91 4. 09	2, 295 179 917	4. 06 3. 03 4. 86	1, 767 102 2, 194	6. 48 4. 83 5. 96	
350 to 400 miles 400 to 450 miles 450 to 500 miles	1, 070 376	5. 03 3. 94 4. 20	2, 627 1, 419 345	5. 28 4. 09 4. 27	5, 641 2, 063 495	5. 96 7. 40 6. 20	
500 to 550 miles 550 to 600 miles	72 220	5. 04 4. 60	330	6. 26 4. 80	42	7. 78	
		BY MON	rus.				
January February March	1, 822 1, 401 1, 416	4. 20 3. 34 3. 66	2, 795 2, 591 3, 210	4. 00 4. 13 3. 39	3, 858 4, 172 6, 183	5. 26 5. 22 5. 58	
April May June	2, 063 1, 728 2, 339	3. 54 2. 78 2. 62	2, 400 2, 413 2, 281	3. 14 2. 69 2. 97	5, 517 5, 632 4, 386	5. 64 5. 20 5. 67	
JulyAugustSeptember	828 616 680	2. 66 2. 72 3. 47	1, 056 1, 429 1, 283	2. 78 2. 74 3. 18	2, 541 2, 691 2, 332	5. 00 5. 08 4. 98	
October November December	1, 000 736	3. 81 4. 30 2. 84	1, 636 2, 505 2, 036	3. 24 3. 68 4. 07	2, 794 3, 919 3, 053	5. 30 4. 62 4. 87	

Division of Cost of Marketing.

Table 473.—Calves: Percentage crippled and percentage dead in mixed shipments by cooperative associations, 1921.1 BY MARKETS.

-	Number of			Crippled.		Dead.			
Market.	animals upon which figures are based.	Average weight of animals.	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.			Pounds.			Pounds.	
Buffalo	7, 906	167	0. 29	0. 28	162	0.32	0. 32	167	
Chicago East St. Louis	7, 803 868	153 259	. 49 . 11	. 34	106 120	. 36	. 11	120	
Kansas City	2, 627	201	. 19	. 18	190	. 19			
Milwaukee Pittsburgh	20, 928 3, 976	110 160	. 13 . 13	. 11	130	. 23	. 13	117	
Sioux CitySt. Paul	130 10, 555	219 136	. 77 . 03	. 35 . 02	100 93	. 70 . 13	.35	100 120	

<sup>1</sup> Mixed shipments contain more than one species of livestock.

<sup>&#</sup>x27;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—Continued.

BY DISTANCE.

	Number	·		Crippled.			Dead.	
Market.	animals upon which figures are based.	A verage weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percent- age of total weight shipped.	Average weight of animals.
Less than 100 miles	20, 629 15, 646 9, 776 2, 980	Pounds. 124 137 145 203	0. 07 . 25 . 09 . 20		Pounds.	0. 16 . 30 . 14 . 13		Pounds.
250 to 300 miles 360 to 350 miles 350 to 400 miles 400 to 450 miles	102 2, 194 6, 313 2, 145	196 162 165 177	. 23 . 35 19	0. 18 . 31 . 19	132 146 178	. 23 . 41 . 33	0. 27	14
450 to 500 miles 500 to 550 miles 550 to 600 miles	514 42	171 166	. 78 2. 38	. 92 1. 42	230 100	1. 94 2. 38	1. 42	10
	<u> </u>	<u> </u>	BY MO	NTHS.		<u> </u>	1	•
January February March	4, 968 5, 093 8, 122	141 140 125	0. 28 . 14 . 11	0, 23 , 12	116 126	0. 36 . 16 . 25		
April May June	6, 991 6, 794 5, 514	126 132 150	. 14 . 15 . 15	.11	118	. 36 . 27 . 27		
July August September	3, 095 3, 547 3, 231	152 175 178	. 19 . 23 . 34	. 15 . 21 . 28	117 161 145	. 22 . 14 . 31	0. 13	16
October November December	4, 115 4, 904 3, 967	163 150 138	.15 .16 .18	. 19	208	. 12 . 16 . 15		

Division of Cost of Marketing.

Table 474.—Cattle: Percentage crippled in shipments by cooperative associations, 1921.

### BY MARKETS.

-		Straigl	ht shipm	ents.1	:	Mixed shipments. <sup>2</sup>				
Market.	Num- ber of ani- mals upon which figures are based.	Average weight of animals.	crip- pled of total number	Per- centage crip- pled of total weight shipped.	Average weight of crippled animals.	Number of animals upon which figures are based.	Average weight of animals.	crip-	Per- centage crip- pled of total weight shipped.	Average weight of crippled animals.
Buffalo	652 7, 462 912 1, 229 673 480 1, 601 2, 333 259 238	Pounds. 1, 050 888 735 679 985 846 1, 010 814 814 655	0. 15 . 12 . 22 	0, 18, . 07 . 23 	Pounds. 1, 220 543 760 540 665	1, 840 14, 973 573 3, 794 2, 127 909 729 1, 020 1, 728 6, 047	Pounds. 956 862 815 770 999 823 873 792 803 872	9. 27 . 18 . 35 . 08 . 09 . 11 . 27 . 10 . 06 . 07	0. 16 . 39 . 07 . 07 . 13 . 16 . 06 . 03 . 05	Pounds. 546 905 703 790 989 500 480 400 708

See footnotes end of table.

<sup>1</sup> Mixed shipments contain more than one species of livestock.

Table 474.—Cattle: Percentage crippled in shipments by cooperative associations, 1921—Continued.

#### BY DISTANCE.

		Straig	ght shipr	nents.1			Mix	ed shipn	nents.2	
Market.	Number of animals upon which figures are based.	age weight of ani- mals.	Per- centage crip- pled of total number shipped	total weight	Average weight of crippled animals.	Num- ber of ani- mals upon which figures are based.	Average weight of animals.	crip- pled of total number	Per-centage crip- pled of total weight shipped	Average weight of crippled animals.
Less than 100 miles 100 to 150 miles 150 to 200 miles 200 to 250 miles 250 to 300 miles 300 to 350 miles 300 to 450 miles 400 to 450 miles 450 to 500 miles 500 to 500 miles 500 to 500 miles	2, 330 5, 130 3, 437 2, 427 395 2, 004 1, 805 1, 119 699 101 220	Pounds. 799 934 829 953 1,055 929 854 897 879 723 923	0.09 .10 .09 .17 .22 .15	0.06 .08 .07 .10 .13 .08	Pounds. 540 796 694 578 502 705	7, 888 8, 086 8, 030 3, 720 187 4, 052 1, 460 501 46 330	Pounds. 874 847 826 873 550 860 880 873 896 718	0. 06 . 17 . 10 . 27 . 11 . 17 . 14 . 20	0. 05 . 17 . 08 . 18 . 13 . 13 . 05 . 22	Pounds. 667 815 683 605 1,000 643 345 1,000
•			В	Y MON	THS.					
January. February. March. April. May. June. July August. September. October. November.	2, 088 1, 775 1, 981 2, 421 2, 052 3, 201 914 818 941 1, 082 1, 302 1, 071	838 870 873 945 951 936 938 835 796 811 815 908	0. 19 . 05 . 20 . 16 . 14 . 03 . 11 . 12	0. 17 . 06 . 14 . 14 . 02 . 05 . 06	738 950 808 957 600 460 450 530 840	4, 097 3, 541 4, 359 8, 280 3, 284 3, 103 1, 321 2, 032 1, 863 2, 288 3, 358 2, 625	844 825 838 842 862 879 857 882 838 868 878	0. 12 . 20 . 16 . 21 . 12 . 26 . 05	0. 10 .18 .13 .18 .08 .27 .10 .04	690 733 663 713 595 925 433 640

Division of Cost of Marketing.

Table 475.—Cattle: Principal terminal marketing costs, nine markets, 1921.

	Num-											ts.			
	ber of head upon which	Con	Commission.		Y	ardag	e.		Feed.	•	yar	nmiss dage, comb	and	Average yardage cost	Aver- age feed cost
	fig	Average.1	Low.1	High.1	Average.1	Low.1	High.1	Average.1	Lów.1	High.1	Average.	Low.1	High.1	per head.	per head.
Pittsbugh Buffalo. East St. Louis Cleveland Sioux Falls Kansas City Chicago Sioux City Milwaukee	1, 445 603 1, 968 2, 224 797 81 6, 963 1, 097 596	99. 7 86. 9 92. 5 90. 6 98. 1 84. 3	78. 3 93. 7 86. 2 82. 1 80. 2 74. 0 77. 2	119. 4 109. 2 138. 9 106. 4 110. 1 98. 4 118. 7 104. 7 64. 4	34. 0 46. 3 31. 2 41. 0 40. 2 36. 8 41. 4	26. 2 42. 6 80. 8 37. 4 37. 4 20. 0 40. 1	89. 0 53. 4 52. 0 56. 8 43. 8 45. 6 44. 1	44. 2 19. 2 43. 1 26. 7 20. 7 18. 5 16. 0	24. 1 11. 7 42. 4 16. 6 14. 6 8. 4 12. 9	63.7 21.5 72.6 48.1 31.3 36.1 19.7	170. 4 165. 2 161. 2 160. 1 154. 4 153. 2	165. 5 184. 2 157. 9 159. 5 142. 2 181. 7 121. 4 196. 7	192. 1 199. 6 231. 6 214. 9 173. 6 197. 0	33 44 29 35 38 38 55 34	48

<sup>1</sup> Straight shipments contain but one species of livestock.

<sup>&</sup>lt;sup>2</sup> Mixed shipments contain more than one species of livestock.

Division of Cost of Marketing.

Data from 237 Cooperative Shipping Associations in the Corn Belt (shipments through central market commission agents).

<sup>1</sup> Averages 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.

# SWINE.

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.
			Thousands				Thousands
	Thousands.	Dolls.	of dollars.		Thousands.	Dolls.	of dollars.
1867	24, 694	4.03	99, 637	1897	40, 600	4.10	166, 273
1868		3. 29	79, 976	1898	39, 760	4.39	174, 351
1869	23, 316	4.65	108, 431	1899	38, 652	4.40	170, 110
1870, June 1	25, 135	5. 59	140, 532	1900, June 1	62, 868	5. 50	846, 014
1871	,	5. 61	165, 312	1901	56, 982	6. 20	353, 012
1872	31, 796	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	28, 062	4.80	134, 581	1905	47, 321	5. 99	283, 255
1876	25, 727	6.00	154, 251	J			
				1906	52, 103	6. 18	321, 803
1877		5.66	158, 873	1907	54, 794	7.62	417, 791
1878	32, 262	4.85	156, 577	1908	56, 084	6. 05	339, 0 <b>3</b> 0
1879	34, 766	3.18	110, 508				254 504
,1880, June 1	47,682	4.43	211, 036	1909	54, 147	6. 55	354, 794
1881	36, 248	4.70:	170, 535	1910, Apr. 1		9. 17	533, 309
			1	1911	65, 620	9.37	615, 170
1882	44, 122	5. 97	263, 543	1912	65, 410	8.00	523, 328
1883	43, 270	6.:75	291, 951	1913	61, 178	9.86	603, 109
1884	44, 201	5. 57	246, 301				
1885	45, 143	5.02	226, 402	Av. 1909-1913	60, <del>9</del> 08	8.64	525, 942
1886	46, 092	4. 26	196, 570	{· ·			
				1914	58, 933	10.40	612, 951
1887	44, 613	4.48	200, 043	1915	64, 618	9.87	637, 479
1888	44, 347	4.98	220, 811	1916	67, 766	8.40	569, 573
1889	50, 302	5.79	291, 307	1917	67, 503	11. 75	792, 898
1890, June 1	57, 410	4.91	281, 686	1918	70, 978	19. 54	1, 387, 261
1891	50, 625	4.15	210, 194	1919	74, 584	22.02	1, 642, 598
	7-7,	2		1920	. 59, 344	19. 07	1, 131, 674
1892	.52,:398	4.60	241, 031	1 1			
1893	46, 095	6.41	295, 426	Av. 1914-1920	66, 247	14, 61	967, 776
1894	45, 206	5.98	270, 385	1			
1895	44, 166	4. 97	219, 501	1921	:56, 097	12.97	727, 380
1896	42, 843	4. 35	186, 530	1922	58, 327	10.10	589, <b>20</b> 2
	7,777		7	1923	68, 427	11. 58	792, 565
				1924 1	65, 501	9.75	638, 793

Division of Crop and Livestock Estimates; figures in italies are census returns.

Table 477.—Swine: Number and value on farms, by States, January 1, 1922-1924.

State.	Nu	mber Jar	ı. 1.	Averag	e price p Jan. 1.	er head	Farn	ı value J	fan. 1.
* .	1922	1923	1924 1	1922	1923	1924	1922	1923	19241
Maine New Hampshire Vermont Massachusetts Rhode Island Compedicut New York New Jersey Pennsylvania	Thou- sand. 69 30 53 76 12 47 520 132 1,143	Thou-sand. 68 59 72 12 45 546 132 1, 200	Thou-sand. 76 31 62 75 11 44 557 133 1,212	Dolls. 14.70 15.00 12.40 16.30 17.50 14.50 14.50 14.50	Dolls. 18. 30 17. 00 14. 00 17. 00 18. 10 17. 70 15. 50 17. 50 16. 00	Dolls. 17. 00 16. 00 13. 80 17. 00 18. 00 14. 70 17. 00 14. 50	Thou-sand dollars. 1,014 450 657 1,239 210 799. 7,540 2,244 16,574	Thou- sand dollars. 1,244 510 826 1,224 217 796 8,463 2,310 19,200	Thou-sand dollars. 1, 292 498 856 1, 275 198 792 8, 188 2, 261 17, 574

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>1</sup> Preliminary.

Table 477.—Swine: Number and value on farms, by States, January 1, 1922-1924—Continued.

		192	4	ntinue	1.				
State.	Nu	mber Ja	n. 1.	Averag	e price p Jan. 1.	er head	Farr	n value J	an. 1.
	1922	1923	1924	1922	1923	1924	1922	1923	1924 1
Mary and	Thou- sand. 285	Thou- sand. 299	Thou- sand. 299	Dolls. 11. 50	Dolls. 13, 00	Dolls.	Thou- sand dollars. 3, 278	Thou- sand dollars. 3,887	Thou- sand dollars. 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
	725	703	633	7. 00	7. 50	7. 00	5, 075	5, 272	4, 431
	2, 862	3, 205	3, 077	10. 90	12. 10	10. 00	31, 196	38, 780	30, 770
	3, 200	4, 000	3, 880	11. 00	11. 90	9. 80	35, 200	47, 600	38, 024
	4, 046	5, 422	5, 368	10. 50	12. 50	10. 10	42, 483	67, 775	54, 217
Michigan Wisconsin Minnesota Lowa Missouri	1, 051	1, 177	1, 165	11. 30	12. 50	10. 00	11, 876	14, 712	11, 650
	1, 500	1, 725	1, 673	10. 50	13. 10	9. 90	15, 750	22, 598	16, 563
	3, 333	3, 800	3, 800	11. 20	13. 20	10. 30	37, 330	50, 160	39, 140
	8, 218	11, 094	10, 539	11. 00	12. 80	10. 30	90, 398	142, 003	108, 552
	3, 915	4, 698	4, 463	8. 50	9. 80	8. 50	33, 278	46, 040	37, 936
North Dakota South Dakota Nebraska Kansas Kentucky	435	566	651	11. 00	13. 50	10. 00	4, 785	7, 641	6, 510
	2, 200	2, 970	3, 029	10. 00	13. 50	10. 10	22, 000	40, 095	30, 593
	4, 100	5, 330	5, 223	10. 00	12. 00	10. 00	41, 000	63, 960	52, 230
	2, 388	3, 104	2, 980	9. 50	11. 00	9. 00	22, 686	34, 144	26, 820
	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
	1, 307	1, 281	1, 089	8. 60	9. 30	8. 80	11, 240	11, 913	9, 583
	1, 183	1, 207	1, 063	8. 00	8. 00	7. 40	9, 464	9, 656	7, 866
	756	756	665	8. 60	7. 80	7. 60	6, 502	5, 897	5, 054
	2, 226	2, 092	1, 904	8. 50	8. 80	9. 00	18, 921	18, 410	17, 136
Oklahoma Arkansas Montana Wyoming Colorado	1, 334	1, 401	1, 121	8. 50	8. 80	6. 70	11, 339	12, 329	7, 511
	1, 125	1, 058	952	7. 10	6. 90	6. 10	7, 988	7, 300	5, 807
	180	225	270	13. 10	13. 20	11. 20	2, 358	2, 970	3, 024
	73	99	119	12. 00	12. 50	10. 00	876	1, 238	1, 190
	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
	50	57	57	12. 00	13. 00	9. 50	600	741	542
	90	108	121	10. 00	10. 90	10. 10	900	1, 177	1, 222
	25	25	28	10. 00	14. 00	9. 00	250	350	252
IdahoOregonCalifornia	225	315	378	11. 00	11. 50	9. 40	2, 475	3, 622	3, 553
	197	217	239	12. 50	14. 80	13. 00	2, 462	3, 212	3, 107
	200	214	220	10. 70	11. 20	10. 50.	2, 140	2, 397	2, 310
	834	842	834	11. 70	11. 80	10. 50	9, 758	9, 936	8, 757
United States	58, 327	68, 427	65, 501	10. 10	11. 58	9. 75	589, 202	792, 565	638, 793

Division of Crop and Livestock Estimates.

Table 478.—Hogs on farms: Cumulative percentage changes, 1920-1923.

Item.	To Feb. 1.	To Mar. 1.	To Apr. 1.	To May 1.	To June 1.	To July 1.	To Aug.	To Sept. 1.	To Oct. 1.	To Nov. 1.	To Dec. 1.	To Jan. 1 of suc- ceed- ing year.
Increases:		ļ							_			
Births 1—	P.ct.		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.		
1920	5.8	14.5	36.0	64. 4	83. 1	93. 3	102.0	113.6	129.4	140.7	147. 3	152.8
1921	5.8	14.5	38, 0	67.4	86. 1 88. 5	95. 9	105. 2	118.4	136. 6	148.8		
1922	5. 3	14. 2			88. 5	99. 4	107. 6	121. 4	142, 2	156.0	163. 5	168.9
1923	6. 2	17. 2				105. 1	113.6	127. 2	147. 8	158. 4	164.1	
Brought on farms 1-										-		
1920	3.3	6.2	9. 2	11.9	14. 9	17. 1	19. 2	22. 1	25. 4	28.8	32.0	35.0
1921	3 0	6.6	9. 9	12.7							31. 5	35. 1
1922	3. 0 3. 2	6.6	9. 7			19.0		24.0			34. 9	39. 5
1923	3.4	5. 9		11. 7	14.0							
Total increases 1-	0. 1	0.0	۳.		12.0	20.0	1	10, 2				
1920	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			101. 1	112.6	123. 9	139. 5	160.7	176.9	188. 4	198. 5
1922	8. 5	20.8	51. 5	83. 7	105. 0	118.4	129. 2	145. 4	169. 3	187. 2	198. 4	208.4
1923	9.6									182. 7		
	, 0.0	,	,			,						

<sup>&</sup>lt;sup>1</sup> Corrective factor 0.905 applied to births and brought on farms figures.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 478.—Hogs on farms: Cumulative percentage changes, 1920-1923—Contd.

Item.	To Feb. 1.	To Mar. 1.	To Apr. 1.	To May 1.	To June 1.	To July 1.	To Aug. 1.	To Sept. 1.	To Oct. 1.	To Nov. 1.	To Dec. 1.	To Jan. 1 of succeeding year.
Decreases:		n .	n	n .	D -4	n	n	n	n	D -4	P. ct.	n
Moved off—	P. ct.		P. ct.	P. ct.		P. ct.		P. Ct.	P. ct.			
1920	11.7			40. 7 42. 8			70. 4 70. 2		90.0		. 115. 9	
1921	10.8						70. 2	79. 6 81. 5	90. 9	105.2	117.3 118.4	130.0
1922	10.4					62.6	69.7	77.4	84.3	97.1	111.6	
1923	11.1	20.4	31.0	42.8	03.4	04.0	69.7	11.4	84. 3	97.1	111.0	
Slaughtered on farms—	6.1	10.0	11.7	12.8	13. 5	13.9	14.4	15.1	15. 6	17. 1	22. 4	35. 2
1920 1921	6.8											
1921	0.8	10. 0		13. 0 11. 7	12.5	12.7	13. 1			15. 3		
1922	6.3	9.3				12.7	13. 1					<b>30.</b> 3
1923	5.7	9. 2	10.9	11.8	12.3	12.7	15. 1	15.4	14. 1	15.4	19.0	
Died— 1920	2.0	4.8	8.1	12.6	15. 2	17.3	19.4	21. 5	24. 1	26. 5	28. 5	30, 2
1920		3.9		10.8		15.6						31.3
1921	2. 2	4.4	9. 6	14.5				25. 6		32.8	34. 9	
1923	2. 1	5.7	12.9									31.2
Total decreases—	2. 1	5. 7	12. 9	19. 2	20.0	20.0	20. 1	32. 9	31.1	<b>40.</b> 4	32.0	
1920	19.8	35. 5	50.0	66. 1	82.0	04 1	104 9	116. 2	120 2	145 0	166.8	104 8
1920	19. 6					01 6	101. 0	114 9	190. 8	146.4	168. 5	105 1
1921					84.1	07.5	107.6	120.5	135 0	153.3	172 7	199.6
1922			55. 4			101.0	112.2	123.7	125.5	152. 7	174.0	100.0
	10. 9	30.3	00. 4	13.0	09. 2	101. 0	112. 2	120. 1	100.0	102.	1120	
Net change: 1920	10.7	_14 8	_4 0	<b>L10 9</b>	<b>116 0</b>	116 3	<b>±17</b> 0	<b>⊥10</b> 5	124 5	1-23 6	+12.5	-7.0
1920		-15.2	2.0	1 12 5	10.0	121.0	122 0	195 3	730 0	130.5	+19.9	13 4
1922	-10. 8	12. 5	-3.4	116.0	T21. 1	120.0	122.0	120.0	734.3	T33 0	+25.7	18.8
1922	-10.4	13. 0	-0.4	1 12 0	120. 8	T20. 9	119 7	199 7	T33 3	130. O	+17.8	1 0.0
On hand compared with	-9. 3	-12.2	-2.2	T13. 8	T 20. 0	T 15. 2	7 10. 1	T 22.	1 55. 5	1 50. 0	111.0	
											1	
Jan. 1 1 1920	89. 3	85. 2	05.9	110 2	116.0	116 3	117 0	119 5	124 5	123 6	112.5	93. 0
1920	89. 2	84. 8	96.6	113 5	121 1	121.0	122 0	125.3	130. 9	130. 5	119. 9	103. 4
1922			QQ 6	116.0	120 9	120 9	121 6	124 9	134.3	133. 9	125. 7	108.8
1923	90.7	87. 8	97 2	113 0	120.0	119. 2	118.7	122.7	133. 3	130.0	117.8	200.0
1040	ou. 1	01.0	01.0	110. 5	120.0	1.0.2	110.		200.0	100.0		
1	,											

Division of Crop and Livestock Estimates. Based on reports of about 7,500 farmers reporting monthly for their own farms.

Table 479.—Swine: Yearly losses per 1,000 from disease, 1888-1924.

Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.
1887-88 1888-89 1889-90 1890-91 1891-92	77. 5 61. 7 76. 1 83. 7 54. 4	1897-98	92. 8 82. 1 64. 4 74. 7 51. 5	1907-8	52. 4 51. 0 45. 1 44. 8 89. 2	1917-18	42. 1 41. 4 49. 8 43. 0 54. 4
1892-93 1893-94 1894-95 1895-96 1896-97	63. 1 48. 6 92. 3 127. 0 144. 0	1902-3 1903-4 1904-5 1905-6 1906-7	58. 2 57. 9 50. 8 51. 1 48. 9	1912-13 1913-14 1914-15 1915-16 1916-17	110. 1 118. 9 66. 2 48. 6	1922–23 1923–24	51. 3 52. 9

Division of Crop and Livestock Estimates. As reported by erop reporters May 1 for year ending April 30.

<sup>1</sup> Number on hand, January 1, each year=100%.

Table 480.—Hogs: Summary of spring and fall pig surveys.

		Sows farrowed.				Average r	umber of p	pigs saved	per litter.			Intended i	arrowing.3				
State.	Spring, 1922 com-	Fall, 1922 com-	Spring, 1923 com-	Fall, 1923 com-	199	21	19	22	199	28	Fall, 1922 com-	Spring, 1923 com-	Fall, 1923 com-	Spring, 1924 com			
	pared with spring 1921.	pared with fall, 1921.	pared with spring 1922.	pared with fall, 1922.	Spring.1	Fall. <sup>1</sup>	Spring.1	Fall.1	Spring.2	Fall. <sup>2</sup>	pared with actual 1921.	pared with actual 1922.	pared with actual 1922.	pared with actual 1923.			
Maine		Per cent. 117. 0 160. 1 120. 9 85. 4 72. 7	Per cent. 82. 0 103. 6 127. 2 90. 2 100. 0	Per cent. 125. 8 158. 4 112. 8 132. 9 124. 2				6. 7 6. 9 6. 9 6. 3 6. 8	6. 1 6. 2 5. 5 5. 8 6. 5	6. 7 5. 3 6. 9 6. 4 6. 0	Per cent.	Per cent. 137. 4 146. 6 128. 3 115. 3 64. 9	Per cent. 160. 2 192. 2 165. 8 134. 4 165. 2	Per cent. 130. 3 111. 0 124. 0 134. 4 92. 3			
Connecticut New York New Jersey Pennsylvania Delaware.	102.8	152. 2 100. 3 106. 9 114. 2 98. 7	108, 1 105, 9 98, 6 107, 4 104, 1	114. 8 113. 9 106. 8 103. 8 117. 4	8. 2 7. 2	7. 8 7. 0	7. 4 6. 9	6. 6 6. 9 6. 2 6. 6 6. 0	5. 0 5. 8 5. 2 5. 7 5. 4	5. 4 6. 4 5. 7 5. 9 5. 1	124, 0 125, 2	96. 2 110. 4 119. 1 119. 2 96. 1	111. 6 149. 3 128. 9 137. 4 112. 4	90. 8 117. 3 104. 4 109. 4 112. 2			
Maryland	104. 9	107. 4 97. 5 114. 1 90. 4 89. 1	95. 7 98. 9 99. 8 92. 6 102, 6	108. 9 100. 7 110. 1 97. 3 86. 3	7.4	6. 9	7.1	6. 6 6. 7 6. 7 6. 4 6. 0	5. 9 5. 8 6. 2 5. 6 5. 1	6. 0 5. 8 6. 5 5. 4 4. 8	118.4	107. 2 106. 3 101. 2 102. 7 106. 7	137. 0 127. 6 125. 9 133. 8 140. 7	106. 1 98. 9 108. 5 113. 3 124. 2			
Georgia Florida Ohio Indiana Illinois	112. 5 116. 8 122. 0	85. 3 86. 0 111. 4 109. 1 125. 5	85. 5 89. 5 107. 0 107. 0 108. 3	84. 0 97. 7 96. 3	6. 9 6. 7	6. 3 6. 8 6. 2 6. 0	6. 1 6. 5 6. 1 5. 9	5. 8 5. 7 6. 6 6. 6 6. 2	4. 9 4. 7 5. 4 5. 0 4. 9	4, 5 4. 0 5. 6 5. 5 5. 0	134. 0 131. 7 137. 1 149. 3	102. 5 110. 1 112. 6 119. 4 120. 7	118. 9 127. 3 123. 2 119. 6 122. 3	111. 0 117. 9 93. 8 92. 4 91. 6			
Michigan Wisconsin Uninesota Uowa Uowa Uowa Uowa Uowa Uowa Uowa Uow	110. 5- 122. 3 120. 7	122. 6 128. 8 132. 5 149. 2 117. 1	116. 9	101. 9 93. 7 93. 7	7. 1 6. 5 5. 8 5. 7 6. 6	6. 5 6. 2 5. 6 5. 8 6. 3	5. 2 5. 5	6. 6 6. 4 5. 9 5. 7 6. 4	5. 5 5. 3 4. 9 4. 5 5. 0	6. 0 5. 4 4. 7 4. 8 5. 1	148. 2 141. 2 149. 3 148. 1 144. 4	107. 4 106. 7 109. 6 111. 9 117. 7	131. 8 123. 9 119. 5 112. 4 124. 3	98. 0 94. 7 96. 7 95. 3 92. 7			
North Dakota	130. 5 126, 5 139. 8	133. 9	109. 0 114. 8	90. 4 86. 5 89. 3	5. 6 5. 4 6. 0	5. 4 5. 3 5. 6	5. 2		4. 5 5. 1	4. 9 4. 4 4. 5 5. 0 5. 5	173, 1 159, 7 165, 0	138. 9 119. 5 118. 2 123. 2 110. 9	203. 0 150. 4 142. 0 132. 4 115. 2	87. 0			

Tennessee	108. 6 91. 0 88. 8 85. 7 80. 2	97. 7 85. 0 89. 7 79. 5 76. 7	79. 0 75. 6 85. 5 74. 2 81. 8	6. 3 6. 2		6. 6 6. 0 6. 0 5. 7 5. 9	5. 5 5. 0 4. 9 4. 4 5. 1	4 6 1	124. 4 124. 8	107. 4 96. 0 99. 9 90. 5 97. 1	129. 9 129. 1 134. 1 122. 1 130. 4	91. 2 112. 1 113. 3 117. 7 97. 0
Oklahoma Arkansas Montaha Wyoming Colorado	110.0 88.2 172.5 183.1 148.6	93. 8 90. 1 120. 2 131. 2 117. 6	75. 1 106. 9 132. 0		 	6.1 6.1 6.2 6.8 5.6	5. 0 5. 2 5. 4 5. 4 4. 8	4.9 5.9 5.4		109. 9 107. 3 117. 1 179. 6 127. 2	133. 5 147. 0 173. 8 222. 4 153. 9	82. 6 115. 2 128. 7 110. 0 111. 1
New Mexico	188. 0 78. 3 146. 3 93. 4	65, 5 116, 5 130, 9 130, 0	91. 9 112. 8		 	5. 8 6. 0 6. 6 6. 5	5. 0 6. 2 6. 0 5. 4	5. 2 6. 5		183. 4 136. 8	110. 5 110. 4 232. 1 158. 0	78. 3 115. 7 133. 3 140. 0
Idaho Washington Oregon California	133. 2 123. 3 128. 7 144. 3	130. 5 126. 0 113. 6 122. 8	109. 3 107. 8 95. 3 74. 2		 	6. 2 6. 8 6. 9 6. 6	5. 2 5. 7 6. 2 5. 8			127. 1 118. 5 111. 9 132. 9	161. 2 145. 7 124. 0 140. 0	111. 8 133. 0 111. 8 101. 4
United States	118. 6	103. 9	91. 8		 	6.1	5.0	5. 1		113. 1	128. 3	<b>98.</b> 8

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 December 1 (fail).

Based on estimated number per sew as reported by farmers.
 Total pigs saved divided by sows farrowed as reported by farmers, and probably not strictly comparable with 1921 and 1922 data.
 Intentions are as of the close 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

	RECEIPTS.													
Calendar year.	Chi- cago.	Den- ver.	East St. Louis.	Fort Worth.	Kan- sas City.	Oma- ha.	St. Joseph.	St. Paul.	Sioux City.	Total nine mar- kets.	All other markets reporting.	Total all mar- kets re- port- ing.		
1900 1901 1502 1903	Thou- sands. 8, 109 8, 290 7, 895 7, 326 7, 239	Thou- sands. 116 109 87 147 162	Thou- sands. 1, 792 1, 924 1, 330 1, 568 1, 955	Thou-sands. (1) (1) (2) 151 281	Thou- sands. 3, 094 3, 716 2, 279 1, 969 2, 227	Thou- sands. 2, 201 2, 414 2, 247 2, 231 2, 300	Thou- sands. 1, 679 2, 105 1, 698 1, 701 1, 657	Thou- sands. 500 617 668 760 882	Thou- sands. 833 960 1,008 1,008 1,113	Thou- sands. 18, 324 20, 135 17, 291 16, 861 17, 816	Thou- sands. (2) (2) (2) (2) (2) (2)	Thou-sands. (2) (2) (2) (2) (2) (2) (2)		
1905 1906 1907 1908	7, 726 7, 275 7, 201 8, 131 6, 619	191 193 241 280 242	2, 026 1, 923 2, 065 2, 560 2, 473	463 551 487 703 868	2, 508 2, 676 2, 924 3, 715 3, 093	2, 294 2, 394 2, 254 2, 425 2, 135	1, 900 1, 908 1, 923 2, 349 1, 694	855 861 867 1, 133 725	1, 299 1, 158 1, 289 1, 381 1, 077	19, 262 18, 939 19, 251 22, 677 18, 926	(2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2) (2)		
1910 1911 1912 1913		187 220 222 247 256	2, 054 3, 124 2, 530 2, 584 2, 559	541 556 388 404 515	2, 086 3, 168 2, 523 2, 568 2, 265	1, 894 2, 367 2, 886 2, 543 2, 259	1, 353 1, 922 1, 970 1, 869 1, 725	836 911 984 1, 257 1, 590	1, 044 1, 349 1, 698 1, 533 1, 257	15, 582 20, 720 20, 382 20, 576 19, 044	(2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2) (2)		
1915	7, 652 9, 188 7, 169 8, 614 8, 672	344 467 352 384 368	2, 592 3, 057 2, 706 3, 256 3, 651	464 968 1,062 762 588	2, 531 2, 979 2, 277 3, 328 3, 141	2, 643 3, 117 2, 797 3, 430 3, 179	1, 698 2, 199 1, 920 2, 351 2, 126	2, 155 2, 675 1, 928 2, 061 2, 190	1,761 2,131 2,149 2,421 2,322	3 .	14, 373 16, 484 15, 682 18, 256 18, 232	36, 213 43, 265 38, 042 44, 863 44, 469		
1920 1921 1922 1922		341 334 395 495	3, 399 3, 330 3, 606 4, 831	413 382 510 486	2, 466 2, 205 2, 655 3, 615	2, 708 2, 665 2, 839 3, 649	1, 914 1, 785 2, 061 2, 457	2, 247 2, 210 2, 523 3, 338	2, 173 1, 739 1, 856 2, 989	23, 187 22, 798 24, 601 32, 320	18, 934 18, 303 19, 466 23, 010	42, 121 41, 101 44, 067 55, 330		
				s	нірм	ENTS.								
1900 1901 1902 1903 1904	1, 452 1, 301 1, 252 1, 238 1, 626	(2) (3) (2) (2) (2)	418 370 143 249 373	(2) (2) (2) (2) (2) (2)	(2) (2) (3) (2) (2) (2)	37 49 170 51 211	83 117 91 122 93	45 55 29 50 72	110 123 143 539 614	2, 145 2, 015 1, 828 2, 249 2, 989	(3) (3) (3)	(2) (2) (2) (2)		
1905 1906 1907 1908 1909		(2) (2) (2) (2) (2)	487 583 753 711 891	(2) (2) (2) (2) (2)	(3) (3) (3) (3) (3)	172 171 119 284 278	68 60 117 84 47	38 20 73 253 137	279 145 240 237 180	3, 067 2, 722 3, 014 3, 439 3, 197	(a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	(2) (2) (3) (3)		
1910 1911 1912 1913 1914	1, 202 1, 527	(2) (2) (2) (2) (2)	615 880 679 918 989	(2) (2) (2) (2) (2)	(2) (3) (2) (2) (2)	238 217 407 381 331	34 41 167 70 153	194 244 228 320 531	186 320 522 453 230	2, 469 2, 229 3, 576 3, 815 3, 525	(3)	(2) (2) (3) (2) (2)		
1915 1916 1917 1918	1, 133 1, 405 1, 219 971 1, 101	22 27 18 33	991 1, 071 1, 026 980 1, 420	61 98 264 166 102	417 445 295 527 523	631 726 796. 889 648	174 92 87 285 209	795 1, 181 868 877 868	571 824 891 911 913	4, 784 5, 864 5, 473 5, 624 5, 817	3, 836 6, 115 7, 098 8, 749 8, 549	8, 620 11, 979 12, 571 14, 373 14, 356		
1920		32 22 28 102	1, 721 2, 044 2, 378 2, 990	65 98 94 108	602 486 588 889	710 695 613 869	330 267 355 455	342 511 482 609	879 690 666 1, 205	6, 338 6, 983 7, 056 9, 597	8, 960 7, 726 8, 276 9, 545	15, 298 14, 709 15, 332 19, 142		

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stock-yard 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 Merchants' Exchange Annual Report); subsequent figures from data of the reporting service of the Live stock, Meats and Wool Division.

Not in operation.
 Figures not available prior to 1915.

Table 482.—Hogs: Receipts at all public stockyards, 1915-1923.

Calen- dar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1915 1 1916 1 1917	Thou-sands. 3, 959 5, 309 5, 084 4, 444 5, 855 5, 262 4, 700 4, 278 5, 306	Thou-sands. 3, 449 4, 233 3, 933 4, 486 4, 412 3, 422 4, 009 3, 613 4, 492	Thou-sands. 3, 199 3, 489 3, 369 4, 424 3, 643 3, 940 3, 386 3, 411 4, 927	Thou-sands. 2, 487 2, 852 2, 961 3, 696 3, 648 3, 024 3, 229 3, 066 4, 318	Thousands. 2, 768 3, 332 3, 264 3, 345 4, 210 3, 328 3, 787 4, 524	Thou-sands. 2, 874 3, 054 2, 791 2, 979 3, 773 3, 709 3, 579 3, 776 4, 204	Thou- sands. 2, 368 2, 524 2, 563 3, 099 2, 974 2, 811 2, 727 2, 980 4, 181	Thou-sands. 2, 024 2, 634 1, 853 2, 467 2, 095 2, 491 2, 656 3, 037 3, 714	Thou-sands. 1, 966 2, 386 1, 615 2, 376 2, 397 2, 391 2, 655 3, 062 3, 607	Thou- sands. 2, 457 3, 640 2, 676 3, 399 3, 121 2, 789 3, 214 3, 682 4, 816	Thou- sands. 3, 728 4, 873 3, 941 4, 594 3, 740 3, 872 3, 687 4, 421 5, 416	Thou- sands. 4, 934 4, 939 3, 992 5, 554 4, 980 4, 200 3, 931 5, 004 5, 825	Thousands. 36, 213 43, 265 38, 042 44, 863 44, 469 42, 121 41, 101 44, 067 55, 330

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

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.
1900 1901 1902 1903	Thou- sands. 1,502 1,528 1,609 1,316	Thou- sands. 1, 265 1, 457 1, 489 1, 175	Thou- sands. 1, 240 1, 174 1, 197 938	Thou- sands. 1, 190 1, 222 995 1, 016	Thou- sands. 1, 424 1, 523 1, 148 1, 195	Thou- sands. 1, 333 1, 275 1, 174 1, 171	Thou- sands. 1, 043 1, 461 824 1, 107	Thou- sands. 1, 025 1, 110 827 961	Thou- sands. 1, 029 940 778 875	Thou- sands. 1, 303 1, 150 1, 068 836	Thou- sands. 1, 428 1, 694 1, 229 1, 068	Thou- sands. 1, 414 1, 811 1, 374 1, 437
1904 1905 1906 1907 1908	1, 440 1, 610 1, 608 1, 499 2, 225	1, 445 1, 269 1, 356 1, 332 1, 672	1, 113 1, 249 1, 206 1, 165 1, 445	1, 125 1, 043 1, 075 1, 210 1, 086	1, 213 1, 297 1, 306 1, 455 1, 454	1, 200 1, 357 1, 372 1, 312 1, 315	660 999 1,144 1,298 1,072	1, 035 935 1, 149 1, 020 992	762 884 837 925 937	940 1, 128 947 930 1, 353	1, 369 1, 315 1, 046 894 1, 580	1, 417 1, 473 1, 221 1, 403 1, 703
1909 1910 1911 1912	1,703 1,179 1,270 1,908 1,640	1, 359 1, 128 1, 302 1, 612 1, 315	1, 602 934 1, 516 1, 358 1, 170	1, 161 788 1, 304 1, 252 1, 154	1, 299 1, 057 1, 521 1, 381 1, 257	1, 187 1, 138 1, 487 1, 218 1, 328	929 892 1, 200 1, 092 1, 129	823 893 976 846 1,095	846 687 970 763 1,081	966 768 1, 231 1, 093 1, 153	1, 184 1, 020 1, 533 1, 207 1, 288	1, 261 1, 134 1, 451 1, 387 1, 655
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
1914	1, 479 1, 669 2, 313 2, 199 1, 657 2, 418 2, 136	1, 328 1, 640 1, 950 1, 697 1, 888 1, 978 1, 357	1, 182 1, 511 1, 516 1, 367 1, 963 1, 631 1, 630	1,001 1,080 1,154 1,205 1,697 1,571 1,059	1, 065 1, 234 1, 366 1, 320 1, 464 1, 644 1, 686	1, 167 1, 222 1, 283 1, 125 1, 246 1, 680 1, 433	927 1, 037 1, 090 1, 083 1, 356 1, 314 1, 131	832 921 1, 221 757 1, 047 829 988	827 803 954 545 932 913 795	1,093 848 1,407 902 1,376 1,129 894	1, 158 1, 387 1, 996 1, 286 1, 794 1, 485 1, 381	1, 640 2, 066 2, 091 1, 461 2, 207 2, 049 1, 611
Av. 1914-1920	1, 982	1, 691	1, 543	1, 252	1, 397	1, 308	1, 134	942	824	1, 093	1, 498	1, 875
1921 1922 1923	1, 916 1, 785 2, 173	1, 708 1, 454 1, 879	1, 346 1, 303 2, 017	1, 276 1, 130 1, 778	1, 340 1, 520 1, 840	1, 493 1, 646 1, 730	1, 122 1, 263 1, 827	1, 092 1, 216 1, 616	946 1, 104 1, 515	1, 092 1, 299 1, 917	1, 459 1, 631 2, 049	1, 558 1, 905 2, 215

Division of Statistical and Historical Research. Prior to 1915 from yearbooks of stockyard companies, subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division.

<sup>&</sup>lt;sup>1</sup> Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many of these markets.

Table 484.—Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, calendar years, 1915-1923.

RECEIPTS.

	T		i	ī	,		1		
Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Thou- sands.	Thou-	Thou-	Thou-	Thou-	Thou- sands.	Thou-	Thou-	Thou-
Albany, N. Y		. 26	50	5	2	2	1	(1)	(1)
Amarillo, Tex	. 11	26	. 19 36	11 47	-83	68	91	106 124	65 201
Augusta, Ga			. 7	8	9	1 . 7	10	111	11
Albany, N. Y Amarillo, Tex Atlanta, Gx Augusta, Ga Baltimore, Md		1,002	810	805	963	1, 154	1, 238	1, 343	1, 547
Billings, Mont Birmingham, Ala Boston, Mass Buffalo, N. Y Chattanooga, Tenn	.	(1)	5	5	10	1	1		
Boston Mass	8	6 22	20	14 14	24 22	24 14	27	8	1 5
Buffalo, N. Y	1,806	1,692	1, 114	1,301	1,352	1, 494	1,603	1, 475	1,831
Chattanooga, Tenn	.	16	14	13	14	.11	17	13	16
Cheyenne, Wyo Chicago, Ill Cincinnati, Ohio Cleveland, Ohio	7,652	9, 188	7 180	8, 614	8,672	10 7, 526	45 8, 148	35	69 <b>10, 4</b> 60
Cincinnati, Ohio	1, 180	1, 260	7, 169 1, 239	1, 463	1.674	1, 478	1, 435	8, 156 1, 347	1, 401
Cleveland, Ohio	977	970	898	1, 463 1, 314	1,084	1,012	960	1,092	1, 185
Columbia, S. C.	1	8	4	3	6	7	4	9	15
Columbus, Ohio	69	63 101	55 87	65 62	52 45	69	61	53 71	74 111
Dayton, Ohio	118	91	88	118	108	56 129	52 131	139	167
Dayton, Ohio Denver, Colo Detroit, Mich	344	467	352	384	368	341	334	395	495
		650	431	408	389	444	359	445	538
Dublin, Ga		3, 057	2,706 21	4	3	3	3, 330	9 000	4, 831
El Paso Tar	2, 592	3, 037	2,700	3, 256 19	3, 651 17	3, 399 15	3, 330	3, 606 35	4, 831 27
Emeryville, Calif			.18	5	10	16	21	32	
Dublin, Ga. East St. Louis, III. El Paso, Tex. Emeryville, Calif. Erie, Fa.	<del> </del>			78	42	61			
Evansville, Ind		139	148	222	<b>25</b> 5	243	219	235	256 58
Fort Worth, Tex.	464	968	1,062	763	588	413	382	510	486
Fostoria, Ohio	68 2, 435	76	67	96	79	99 2,897	107 2,695	105 2, 267	111 2,876
		2, 576	2, 351	2,750	2, 936		, i	·	
Jacksonville, Fla Jersey City, N. J Kansas City, Mo Knoxville, Tenn Lafayette, Ind	1, 175	12 1, 137	16 744	72 566	78 468	100 629	99 509	81 458	107 513
Kansas City, Mo	2, 531	2, 979	2, 277	3, 328	3, 141	2, 466	2, 205	2,655	3, 615
Knoxville, Tenn	11	11	15	12	37	- 42	14	57	44
Larayette, Ind	98	119	123	186	198	204	166	105	129
Lancaster, Pa Laredo, Tex Logansport, Ind Los Angeles, Calif Louisville, Ky	19	26	398	578	63	185	• 44	76	155 2
Logansport, Ind	21	13	10	15	.16	23	26	19	11
Los Angeles, Calif Louisville, Ky	393	738	680	758	750	428	382	497	227 626
Marion Ohio	1	İ		49	155	:217	95	109	103
Memphis, Tenn		1	(1)	3	11	30	. 8	10	85
Milwaukee, Wis	583 5	536 7	411	545	585	554	489	466	555
Memphis, Tenn Milwaukee, Wis Mobile, Ala Montgomery, Ala			10	48	171	109	97	95	73
Moultrie, Ga							42	52	33
Nashville, Tenn		337	479	581 274	727 298	615 311	436 324	517 346	492
Newark, N. J			,	2/4	298		324	340	576
Moultrie, Ga Nashville, Tenn Nebraska City, Nebr Newark, N. J New Brighton, Minn		3	8	4	3	7	1	1	
New Orleans, La New York, N. Y North Salt Lake, Utah Ogden, Utah Oklahoma, Okla		61	58	50	63	_63	50	41	46
New York, N. Y	363	349 59	552 42	651 45	677 53	755 <b>34</b>	902 56	1,091	1, 160 234
Ogden. Utah		39	57	59	104	78	177	198	266
		759	634	571	470	3414	371	504	488
Omaha, Nebr	2, 643	3, 117	2, 797	3, 430	3, 179	2, 708	2, 665	2, 839	3,649
Pasco. Wash				9	2 7	2	<u>2</u> -		2
Peoria, Ill	281	370	262	395	390	354	424	386	573
Philadelphia, Pa	168	227	219	273	345	481	485	473	358
Pittsburgh, Pa	1, 091	878	1,746	1,808	1,779	2, 439	2, 277	2, 690	3, 054 287
Pueblo, Colo	303	323 19	222 17	228 23	205   24	175   14	150	224 11	287 16
Portland, Oreg Pueblo, Colo Richmond, Va Roanoke, Va	73	99	78	60	156	212	170	219	273
Roanoke, Va							)	1	9

<sup>1</sup> Less than 500.

Table 484.—Hogs: 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. Joseph, Mo	Thou- sands. 1,698	Thou- sands. 2, 199	Thou- sands. 1,920	Thou- sands. 2,351	Thou- sands. 2, 126	Thou- sands. 1,914	Thou- sands. 1,785	Thou- sands. 2,061	Thou- sands. 2, 457
St. Louis, Mo St. Paul, Minn San Antonio, Tex Seattle, Wash	350 2, 155 36	392 2,674 59 179	340 1, 928 40 130	331 2,061 30 127	2, 190 25 126	2, 247 39 95	2, 209 70 134	2, 523 63 151	3, 338 61 218
Sioux City, Iowa Sioux Falls, S. Dak Spokane, Wash Springfield, Ohio	1,761 6	2, 131 37	2, 149 6 38	2, 421 62 44	2,322 174 60	2, 173 247 47	1,739 452 33	1,856 533 48	2, 989 508 82 64
Tacoma, Wash		38	19	32	30	35	59	65	
Toledo, Ohio Washington, D. C Wichita, Kans	250 476	304 82 573	.278 58 495	255 56 618	232 72 494	264 102 382	148 113 369	140 132 570	158 166 706
Total	36, 213	43, 265	38, 042	44, 863	44, 469	42, 121	41, 101	44, 067	55, 33€

# LOCAL SLAUGHTER.

Albany, N. Y. Atlanta, Ga. Augusta, Ga. Baltimore, Md Billings, Mont.	726	747 (¹)	3 27 5 558 2	1 24 3 514 1	37 5 661 (¹)	2 42 5 874 (1)	(1) 61 7 1, 013 (1)	(1) 62 9 1,020	95 7 1, 202
Birmingham, Ala. Buffalo, N. Y Chattanoega, Tenn Chicago, Ill. Cincinnati, Ohio	6, 519	784 7, 784 601	2 488 5, 950 688	14 617 7 7,643 796	730 13 7,572 823	24 631 11 5,870 789	27 670 17 5, 977	663 13 6, 323 669	834 16 8, 092 784
Cleveland, Ohio	5	776 7 18 101 67	578 (¹) 12 87 57	850 3 7 62 60	729 6 4 45 61	610 7 14 56 76	688 4 14 52 83	750 9 6 71 99	927 15 3 111 101
Denver, Colo	1,600	444 561 1,987	327 297 (1) 1,680 15	366 287 (1) 2, 276 7	336 336 2, 231 9	310 360 (1) 1, 678 11	311 269 1, 289 14	367 279 (1) 1, 229 17	394 358  1,842 22
Emeryville, Calif Erie, Pa Evansville, Ind Fort Wayne, Ind Fort Worth, Tex		24 860	18 36 797	5 15 40 568	10 16 31	16 15 80 322	21 73 277	32 65 416	78 18 377
Fostoria, Ohio	1, 496 1, 175	1, 511 1, 137 2, <b>52</b> 7	27 1,326 15 744 1,978	13 1, 394 68 566 2, 655	10 1, 434 66 468 2, 600	10 1,359 72 629 1,838	11 1, 377 47 509 1, 713	7 1, 528 26 458 2, 052	9 1, 792 26 518 2, 721
Knoxville, Tenn		57 1	(1) 39 8	33 8 (1)	37 37 13	2 40 11 2	9 44 17 1	18 56 20	22 61 20 22 11
Los Angeles, Calif. Louisville, Ky. Marion, Ohio. Memphis, Tenn. Milwankee, Wis.	566	1 <del>0</del> 8 529	182	138 2 463	173 10 2 534	156 13 1 509	180 16 4 482	231 29 6 459	211 365 28 65 548
Mobile, Aia. Montgomery, Ala. Moultnie, Ga Nashville, Tenn. Nebraska City, Nebr		29	2 46	57 <b>2</b> 64	3 67 271	5 82 258	2 26 113 267	3 45 125 287	25 26 180

<sup>1</sup> 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
	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Newark, N. J. New Orleans, La. New York, N. Y. North Salt Lake, Utah. Ogden, Utah.	363	52 349 1	41 552 31 3	36 651 39 52	43 677 39 67	45 755 25 47	40 902 36 47	34 1, 091 42 47	576 42 1, 166 51
Oklahoma, Okla Omaha, Nebr Orangeburg, S. C	l	732 2, 391	530 2,001	504 2, 541 9	360 2, 531 2	288 1, 998	331 1, 971	449 2, 226	419 2, 780
Pasco, Wash Peoria, Ill	125	132	96	(1) 1 <b>4</b> 3	(1) 153	(¹) 135	164	105	118
Philadelphia, Pa Pittsburgh, Pa Portland, Oreg Pueblo, Colo Richmond, Va	157 173 70	155 189 5	202 290 129 74	264 279 137 (1) 58	329 279 103	457 413 91 210	457 505 112 1 169	439 507 158 (¹) 216	331 597 187 (¹) 260
Roanoke, Va	1, 524 337 1, 370	2, 107 347 1, 499	1, 833 295 1, 068	2, 064 301 1, 307	1, 919 1, 317	1, 584 1, 905	1, 517 1, 668	1, 706 2, 039	2, 001 2, 728
San Antonio, Tex			28	1, 307	7	1, 300	33	41	2, 720
Seattle, Wash Sioux City, Iowa Sioux Falls, S. Dak Spokane, Wash Springfield, Ohio	1, 189 3	179 1, 307	130 1, 257 (1) 25	125 1, 511 (1) 34	124 1, 411 (1) 42	92 1, 296 5 32	132 1,047 57 21	149 1, 194 74 32	214 1, 781 69 58 5
Tacoma, Wash Toledo, Ohio Washington, D. C Wichita, Kans		38 102 82 564	19 53 55 392	30 46 54 503	31 53 71 469	34 86 101 356	58 - 24 112 348	65 14 129 527	21 165 623
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 stock-yards 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) 4 1 1 (¹)	(1) 4 1 3	1 8 (¹) (¹)	(1)	1	(¹)
Buffalo, N. Y		2	1 2 25 2 1	(1) 14 14 1	(¹) 1 3 1	(¹) 2 4 1	3 2	2 4
Dayton, Ohio Denver, Colo Detroit, Mich Dublin, Ga East St. Louis, Ill	(1)	22 1 12	(¹) 17 2 (¹) 77	32 8 (¹) 98	30 5 (1) 47	22 5 (¹) 44	26 (1) 1 63	93 (¹)
El Paso, Tex.  Evansville, Ind.  Fort Wayne, Ind.  Fort Worth, Tex.  Fostoria, Ohio.			8 10 89 5	4 10 55 3	3 4 24 1	8 4 52 2	5 9 34 4	2 6 1 22 4
Indianapolis, Ind. Jacksonville, Fla. Kansas City, Mo. Knoxville, Tenn Lafayette, Ind.	$\frac{2}{22}$	35 (1) 18 (1) 5	45 3 175 1	41 1 244 1 3	17 2 200 (1) 5	21 94 1 7	17 (¹) 162 2 5	18 283 3

<sup>1</sup> 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		Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Los Angeles, Calif Louisville, Ky Marion, Ohio Memphis, Tenn			17 1	28 4 (¹)	11 2 4	8 2 1	19 3 2	2 2 2 6
Milwaukee, Wis		(1) 1	(1) 1	(1) 22	15	9	12 1	1 <b>6</b>
Nashville, Tenn Nebraska City, Nebr	23		(1)36	(1)	18	(1) 2	$\frac{1}{3}$	1
Newark, N. J. New Brighton, Minn. New Orleans, La. North Salt Lake, Utah. Ogden, Utah.	(1)	4 4 5 1	1 3 1 1	2 3 4 13	4 3 3 11	1 1 2 2	(¹) 1 1 5	(1) 3 1 4
Oklahoma, Okla Omaha, Nebr Pasco, Wash	26	70 73	69 13 1 4	43 8 (1)	21 7	13 4	9 6	17 14 7
Peoriá, Ill Philadelphia, Pa			1					
Portland, Oreg Pueblo, Colo Richmond, Va St. Joseph, Mo	3  11	14  33	(1) (1) (1) 34	15 1 27	(1) (1) (1) 24	(1) (1) 9	17 (¹) 11	18 2 17
St. Paul, Minn	23 29	232	173 <sub>:</sub>	103 2 2	161 2 3	104 4 1	109 13	151 16
Seattle, WashSioux City, IowaSioux Falls, S. Dak	8,	109 5	41 3	33 2	28 2	19 3	9	9
Spokane, Wash Tacoma, Wash		8	(¹)	15 (¹)	12	6	7	9
Toledo, Ohio	6	44	87	20	23	(¹) 13	20	(1) 3 <b>2</b>
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.

Table 485.—Swine: Shipments of feeder swine from public stockyards, 1923.

#### ORIGIN.

Market.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	·Total.
Denver, Colo	ber. 1,880 2,076 1,020 21,100 1,425	ber. 1,710 3,270 617 18,243 1,782 1,107 1,460 1,131	ber. 547 3, 568 887 17, 967 1, 937 4, 488 5, 117 1, 443	ber. 1, 042 2, 763 1, 097 18, 352 1, 676 7, 096 2, 400	ber. 1, 273 1, 286 2, 600 15, 525 339 5, 526 1, 586 1, 502	ber . 758 852 3, 668 11, 255 236 3, 541	978 1,557 892 6,114 692 1,044 360 1,070	5er. 673 3, 360 750 27, 621 1, 118 1, 815 4, 379 817	1, 836 1, 615 55, 589 758 4, 089 3, 184 766	520 840 1, 584 43, 442 1, 658 867 2, 563 1, 242	865 1, 612 1, 116 21, 834  592 2, 486 1, 201	1,071 915 462 8,416 207 836 2,165 1,635	11, 923 23, 935 16, 308 265, 458 11, 828 32, 505 27, 564 15, 149
Sioux City, Ia SouthSt. Joseph, Mo SouthSt. Paul, Minn Wichita, Kans All other	13, 436 1, 642 4, 896	144 13, 647 852 <b>2,</b> 704	172 13, 898 2, 546 4, 821	138 12, 996 2, 582 3, 294	14, 095 1, 421 3, 330	1, 941	5, 463 1, 025 2, 483	3, 011 1, 470 3, 858	82 7, 594 6, 373 3, 190	328 15, 949 5, 033 2, 823	50 15, 219 3, 855 2, 353	332 11, 199 3, 808 2, 688	1,562 136,142 31,279

<sup>1</sup> Less than 500.

Table 485.—Swine: Shipments of feeder swine from public stockyards, 1923—Continued.

# DESTINATION.

State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
California Colorado Illinois Indiana Iowa	ber. 1,627 1,160 7,982 1,860	ber. 1, 782 1, 560 6, 200 846	547 6, 359	ber. 1, 676 882 9, 553 2, 526	5, 565	ber. 493 463 5, 543 3, 804	ber. 692 844 3, 243 892	ber. 706 673 8, 434 987	ber. 2, 149 606 20, 435 4, 048	ber. 3, 189 317 14, 334 3, 585	ber. 384 1,008 5,236 1,534	ber. 1, 159 1, 071 3, 125 1, 059	ber. 16, 133 10, 128 96, 009
Kansas Michigan Minnesota Missouri Nebraska	3, 036	940 1,614 7,295	4, 088 492 4, 057 10, 173 3, 120	1,096 2,197 6,158	2,624 2,723 5,662	1,042 3,654	237 2, 392 2, 938	264 1, 989 5, 928	2, 122 231 1, 156 8, 053 14, 002	2, 595 2, 558 5, 200	397 4, 305 4, 974	4, 524 2, 335	9, 918 34, 205 69, 874
OhioOklahomaOregonTennesseeTexasAll other		260 1, 918 660 962	3, 686 1, 439 1, 514 1, 374	1,004 327 1,503	1,111 2,021 404 998	376 1, 167 2 857	216 1,682 183 1,360	2, 279 1, 444 455 2, 059	729 1, 521 404	489 1,997 154 1,881	864 1,690 244 <b>2,</b> 487	2, 143 1, 180 673 2, 396	18, 059 6, 195 18, 996
Total	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

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.

Stockyards.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Buffalo, N. Y.: ReceiptsLocal slaughter	Thou- sands. 164 68	Thou- sands. 132 54		Thou- sands. 161 67	Thou- sands. 144 66	Thou- sands. 117 59	Thou- sands. 127 57	Thou- sands. 116 52	Thou- sands. 120 56	Thou- sands. 176 80	Thou- sands. 200 96		Thou- sands. 1,831 834
Chicago, Ill.: Receipts Local slaughter_ Stocker and feed-	1, 000 661	870 595	877 671	721 591	803 663	835 692	9 <b>2</b> 9 689	732 533	622 484	844 685	1, 058 887	1, 169 941	10, 460 8, 092
er shipments	(1)		(1)	(1)	1	1		(1)	(1)	(1)	(1)	(1)	2
Cincinnati, Ohio: Receipts Local slaughter	108 70	106 58	114 69	107 64	121 67	102 64	96 58	98 62	100 51	155 70	149 73	145 78	1, 401 784
Stocker and feed- er shipments	(1)	(1)	1	(1)	1	(1)	(1)	1	(1)	1	(1)	(1)	4
Cleveland, Ohio: Receipts Local slaughter	91 63	77 54	109 83	100 77	96 72	93 75	72 54	69 55	77 60	97 76	147 123	157 135	1, 185 927
Denver, Colo.: Receipts Local slaughter	56 47	46 36	44 40	49 40	50 36	39 27	34 23	31 23	25 19	37 27	41 36	43 39	495 393
Stocker and feed- er shipments East St. Louis, Ill.:	7	8	3	7	11	14	10	9	6	8	5	5	93
Receipts Local slaughter Stocker and feed-	453 169	382 125	422 170	393 176	420 186	349 151	339 131	336 109	375 115	480 165	451 170	432 175 1	4, 831 1, 842
er shipments	4	4	5	7	4	3	1	2	6	3	1		41
Fort Worth, Tex.:  Receipts  Local slaughter  Stocker and feed-	43 34	44 34	68 56	50 41	38 28	20 14	21 17	27 18	42 34	44 29	45 33	44 39	486 377
er shipments Indianapolis, Ind.:	્ 3	3	3	2	1	1	1	3	1	1	2	1	22
ReceiptsLocal slaughter	234 169	166 114	191 139	184 116	238 146	242 152	244 136	210 122	195 · 113	259 155	337 204	376 2 <b>2</b> 6	2, 876 1, 792
Stocker and feed- er shipments_	1	1	1	2	2	3	1	1	2	3	1	(1)	18
Jersey City, N. J.: Receipts Local slaughter	54 54	42 42	41 <b>41</b>	45 45	34 34	30 30	29 29	44 44	35 35	57 57	51 51	51 51	513 513

<sup>1</sup> Less than 500.

Table 486.—Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923—Continued.

Stockyards.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	m1	m.	777	(T)	<i>m</i> 1	m	m	mit	Thou-	Thou-	m	/T/2	<b>6777</b> -
Kansas City, Mo.:	Thou- sands.		Thou- sands.		1 nou-	Thou- sands.	1 nou-	Trou-	I nou-	sands.		sands.	Thou-
Receipts	352	289	297	331	330	231		221	323	397	328		sands.
		239		277			200			280		316	3,615
Local slaughter	276	239	261	211	278	173	140	123	197	280	258	219	2, 721
Stocker and feed-			1										
er shipments	22	19	18	20	16	11	6	30	60	46	24	11	283
Oklahoma, Okla.:												1	
Receipts	. 38	40	66	. 48	43	24	19	42	54	28	38	48	488
Local slaughter	35	37	59	43	40	22	16	34	46	20	28	39	419
Stocker and feed-				1	Ì							1	1
er shipments	1	1	3	2	1	1	(1)	2	2	2	2	(1)	17
Omaha, Nebr.:		1	ĺ		ŀ								
Receipts	368	338	421	333	287	315	359	327	196	196	211	298	3,649
Local slaughter	312	233	261	245	227	238	261	223	157	166	185	272	2,780
Stocker and feed-	l		1		1							ļ	
er shipments	1	1	1	2	2	1	1	1	1	1	1	1	14
Pittsburgh, Pa.:	_		l									ĺ	
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.:													,
Receipts	266	231	259	185	197	205	189	167	146	171	210	231	2, 457
Localslaughter	218	190	212	152	173	168	154	116	109	144	180	185	2,001
Stocker and feed-	210	100	212	102	1.0	100	101	110	100		100	1 200	_, 001
er shipments	(1)	1	1	2	2	2	1	1	1	2	2	2	17
St. Paul, Minn.:	(1)	1 -	1	-	-	-	-	. •	-	-	-	_	1 -
Receipts	375	283	269	222	278	255	203	125	158	331	409	430	3, 338
	292	228	225	191	237	219	173	108	130	268	321	336	2,728
Localslaughter	202	225	220	191	201	219	119	100	130	200	321	230	2,120
Stocker and feed-		14	14	13	16	11	6	3	8	18	19	15	151
er shipments	14	14	14	19	10	11	U	. 0	•	10	19	10	131
Sioux City, Iowa:		~~~		200	005	000	007	040	141	190	207	267	2, 989
Receipts	243	236	338	220	265	332	3.07	243	141	129			
Local slaughter	152	153	203	133	153	166	148	141	96	129	140	167	1,781
Stocker and feed-							(1)	41	715	(1)	(1)		
er 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.

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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Weight- ed aver- age.
1910-11	Dolls. 7. 61 5. 86 7. 05 7. 33	Dolls. 7. 16 5. 72 6. 89 7. 16	Dolls . 7. 44 5. 74 6. 77 7. 45	Dolls. 7. 04 5. 79 7. 17 7. 75	Dolls. 6. 74 5. 94 7. 62 7. 80	Dolls. 6. 17 6. 78 7. 94 7. 80	Dolls. 5. 72 6. 79 7. 45 7. 60	Dolls. 5. 66 6. 65 7. 61 7. 43	Dolls. 5. 92 6. 64 7. 81 7. 72	Dolls. 6. 54 7. 11 7. 79 8. 11	Dolls. 6. 53 7. 47 7. 68 8. 11	Dolls. 6. 69 7. 70 7. 60 7. 43	Dolls: 6. 61 6. 43 7. 39 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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21		15.82	6. 57 6. 32 9. 16 15. 26 15. 69 13. 36 8. 72	15. 03 15. 53	15. 58	15. 76 17. 39	15. 84 18. 00	15. 37 17. 80 13. 18	15. 58 19. 22	16. 89 19. 30	17. 50 15. 81	7. 18 8. 67 16. 15 16. 50 13. 88 13. 57 7. 31	6. 69 7. 61 12. 10 15. 78 16. 60 13. 43 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 1922-23 1923-24	6. 66 7. 78 6. 66	6. 52 7. 63 6. 39	6. 89 7. 77	8. 24 7. 65	9. 08 7. 52	8, 83 7, 45	9. 05 7. 13	9: 11 6: 37	9. 12 6. 68	8. 54 6. 85	8. 23 7. 81	8. 33 7. 23	8. 10 7. 34

Division of Crop and Livestock Estimates.

<sup>1</sup> Less than 500.

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.
1909–10	Num- ber. 283	Num- ber		Num- ber. 304	Num- ber. 166	Num- ber. 101	Num- ber. 340	Num- ber.	Num- ber.	Num- ber. 810	Num- ber.	Num- ber. 783	Num- ber.
1910-11 1911-12 1912-13 1913-14	484 1, 823 305 174	103 1; 230 271 130	25 662 617 101	41	29 182 216 173	170 1, 213 1, 710 72	67 2, 100	18	758 3, 508 2, 530 1, 770	1, 989 2, 335 2, 256	1, 126 1, 807 2, 314 1, 223 1, 240	3, 060 1, <b>087</b> 310	8, 551 19, 038 15, 332
1914-15 1915-16 1916-17 1917-18	1, 488 579 2, 388 559	426 147 683 403	286 379 671 105	211 346 1,416 403	526 448 1, 170 205	113 613 2, 437 752	73 2, 116 3, 207 594	229 4, 299 2, 520 411	570 9, 300 2, 136 919	1, 476 1, 977 2, 827 2, 028	1, 536 584 1, 540 1, 267	865 1, 260 931 1, 634	7, 799 22, 048 21, 926 9, 280
1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	747 755 5, 890 6, 006 4, 639 7, 629	393 413 2, 959 8, 072 4, 840 7, 403	4, 813 6, 316 4, 305	1, 893 6, 718 7, 581	379 3, 840 4, 624 10, 079 5, 221 7, 271	788 2, 792 4, 949 11, 774 4, 780 7, 163	1, 757 2, 093 10, 643 10, 841 6, 182	10, 369 9, 711	1, 651 3, 520 13, 129 8, 805 9, 061	13, 008	2, 840 6, 027 13, 987 6, 036 9, 304	6, 444 12, 103	36, 107 103, 192 97, 755

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.
1900 1901 1902 1903	Lbs. 229 227 203 208	Lbs. 226 222 208 209	Lbs. 223 222 216 215	Lbs. 223 226 214 222	Lbs. 228 227 219 227	Lbs. 229 231 223 231	Lbs. 236 229 230 235	Lbs. 246 238 243 243	Lbs. 247 248 241 257	Lbs. 234 236 227 241	Lbs. 240 218 224 228	Lbs. 238 202 217 219
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
1914	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
				EAS	ST ST.	LOUIS	3.					
1910	178	165	171	176	198	206	184	193	215	205	205	191
1911	188	195	202	197	170	180	190	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.

				11.	ANGAG	OIII	•					
Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
• *	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	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	218 179	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
1903 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 1908	220 216	221 215	221 208	219 213	212 206	207 197	209 195	212 191	216 189	208 181	199 194	206 199
1000	210		200		200	107	100		100			150
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	223 182
1911 1912	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
1916 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
1001	900	000	. 022	900	224	911	223	995	216	222	216	999
1921	236 226	236 215	233 213	229 220	215	211 211	216	225 217	211	206	208	220
1922 1923	222	221	221	215	207	216	222	228	225	206	212	223 212 218
	'	!										
					OMA	HA.						
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 1903	209	211	220	228	230	232	233	242	253	259	262	255
1903	242	235	236	247	248	253	254	<b>2</b> 65	273	278	268	<b>2</b> 65
1904	250	231	235	236	232	233	232	244	252	251	267	265
1005	050	000	239	236	927	241	233	238	245	251	252	248
1905	256 234	236 226	239 228	200	237 232	232	233	246	253	254	248	246
1906	244	237	244	230 252	250	250	254	260	263	260	244	249
1907 1908	233	228	230	233	228	226	227	229	226	222	238	237
1900	200		230	200								
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	262
1911	245	243	254	255	254	245	242	253	265	265	243	225
1912	217	222	222	<b>2</b> 31	233	234	232	238	241	235	235	<b>2</b> 38
1913	234	229	238	241	244	<b>24</b> 5	247	244	249	233	219	218
Av. 1909-1913.	231	229	234	239	242	240	241	. 247	255	252	244	235
1014	224	232	238	242	247	250	255	261	268	265	253	242
1914	241		244	252	256	248	249	264	274	265	252	230
1915		238 216	224	228	232	236	243	247	249	249	224	211
1916	216 218	223	224	229	233	239	245	245	256	257	260	243
1917			249	242	233 246	248	261	260	264	264	240	227
1918	240 229	243	992	242 245	238	248	245	255	275	281	271	249
1919	229 242	235	236 250	245 251	238 247	244	256	263	272	271	260	248
1920	242	242	200	201	241	41	200	200	212	211	200	<del></del>
Av. 1914-1920.	230	233	238	241	243	245	<b>2</b> 51	<b>2</b> 56	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	<b>2</b> 63	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 service of the Livestock, Meats, and Wool Division.

Table 490.—Hogs: Monthly farm price per 100 pounds, 15th of month, by States, 1923.

a	_	i	1 -	1	1	1	-		,			,	
State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Maine New Hampshire Vermont Massachusetts Rhode Island	Dolls. 8. 90 8. 10 9. 30 9. 60	Dolls. 9. 20 9. 20 8. 20 9. 00 10. 20	Dolls. 8. 50 8. 40 8. 10 8. 70 9. 00	Dolls. 8. 50 8. 60 8. 00 9. 10 9. 30	Dolls. 8. 50 8. 00 7. 70 8. 00 9. 50	Dolls . 8. 00 7. 60 7. 00 9. 00 9. 00	Dolls. 8. 40 7. 70 8. 00 8. 00 9. 10	Dolls . 8. 30 7. 20 7. 20 8. 10 8. 00	Dolls, 8. 10 8. 50 8. 10 8. 50 7. 80	Dolls 8. 20 8. 50 7. 80 8. 20 8. 50	Dolls 8. 30 8. 80 7. 20 8. 70 8. 60	Dolls 8. 00 8. 20 7. 20 8. 50 8. 60	Dolls. 8. 41 8. 25 7. 72 8. 59 8. 93
New York New Jersey	10. 00 9. 40	7. 50 9. 30 9. 80 9. 70 10. 00	8. 00 8. 70 10. 70 9. 00 9. 10	7. 50 8. 30 8. 70 10. 00	8. 50 8. 00 9. 00 8. 80	8. 10 7. 60 8. 00	8. 00 7. 70 9. 00 7. 80 8. 60	8: 00 7: 80 9: 10 8: 00 9: 00	8. 20 8. 50 8. 90 9. 90	8. 80 8. 60 8. 80 10. 00	8. 10 8. 50 10. 30 8. 80 11. 00	8. 30 8. 20 9. 60 8. 30 10. 60	8. 16 8. 32 9. 56 8. 68 9. 84
Virginia West Virginia North Carolina	9, 20 8, 80 8, 60 10, 20 8, 70	8. 40 8. 70 8. 70 10. 00 8. 40	8. 80 8. 40 8. 50 9. 70 8. 40	8. 40 8. 90 8. 50 9. 40 7. 80	8. 20 8. 00 8. 30 9. 70 8. 30	7. 50 7. 80 8. 20 9. 20 8. 00	7. 80 7. 60 7. 80 9. 20 8. 20	7. 80 7. 80 8. 10 8. 90 8. 10	9. 00 8. 50 8. 10 9. 80 8. 30	8. 20 8. 50 8. 30 10. 10 8. 70	7. 90 8. 20 7. 90 9. 50 8. 80	7. 70 7. 50 8. 00 9. 30 8. 60	8. 24 8. 22 8. 25 9. 58 8. 36
Florida Ohio Indiana	7. 30 7. 00 8. 20 8. 00 7. 80	7. 30 6. 60 8. 20 7. 90 7. 70	7. 10 6. 90 8. 00 7. 80 7. 60	7. 40 6. 70 7. 80 7. 80 7. 60	7. 00 7. 00 7. 60 7. 40 7. 10	7. 10 6. 60 6. 50 6. 40 6. 10	7. 20 6. 70 7. 10 6. 90 6. 70	6. 90 6. 30 7. 40 7. 40 7. 20	7. 30 6. 90 8. 30 8. 50 8. 20	7. 50 7. 00 7. 60 7. 50 7. 30	7. 40 6. 80 6. 70 6. 60 6. 50	7. 20 6. 30 6. 40 6. 30 6. 20	7. 22 6. 73 7. 48 7. 38 7. 17
Wisconsin Minnesota Iowa	7. 90 7. 70 7. 60 7. 70 7. 60	8. 30 7. 70 7. 40 7. 50 7. 50	7. 80 7. 60 7. 30 7. 40 7. 40	7. 90 7. 50 7. 30 7. 40 7. 20	7. 40 7. 10 6. 90 7. 00 6. 80	6. 70 6. 20 6. 00 6. 00 6. 00	7. 00 6. 30 6. 10 6. 40 6. 30	7. 20 6. 50 6. 50 6. 60 6. 50	8. 10 7. 60 7. 50 7. 90 7. 60	7. 60 7. 10 6. 60 7. 00 6. 70	6. 90 6. 30 6. 10 6. 20 6. 10	6. 40 6. 00 5. 70 6. 10 5. 80	7. 43 6. 97 6. 75 6. 93 6, 79
South Dakota Nebraska Kansas	6. 80 7. 40 7. 40 7. 30 8. 10	6. 80 7. 20 7. 20 7. 20 7. 70	7. 00 7. 10 7. 00 7. 20 7. 60	6. 70 7. 10 7. 00 7. 20 7. 40	6. 50 6. 50 6. 60 6. 70 6. 80	5. 80 5. 50 5. 50 6. 00 6. 10	5. 40 5. 90 6. 00 6. 30 6. 70	5. 50 6. 20 6. 30 6. 40 6. 90	6. 30 7. 30 7. 60 7. 70 7. 90	5. 90 6. 60 6. 70 6. 80 7. 20	5. 50 6. 00 6. 00 6. 00 6. 70	5. 30 5. 60 5. 80 5. 70 6. 20	6. 12 6. 53 6. 59 6. 71 7, 11
Alabama Mississippi Louisiana	7. 90 7. 10 7. 20 7. 20 7. 20 7. 10	7. 70 7. 30 7. 00 7. 30 7. 00	7. 50 7. 10 7. 20 6. 80 6. 70	7. 40 7. 40 6. 80 6. 80 6. 60	7. 30 7. 20 6. 70 6. 50 6. 60	6. 30 7. 10 6. 40 7. 00 6. 20	6. 80 7. 00 6. 30 7. 20 6. 40	6. 70 7. 00 6. 20 7. 30 6. 20	7. 70 7. 20 6. 90 8. 00 6. 90	7. 10 7. 60 6. 70 7. 60 6. 80	6. 60 7. 30 6. 50 6. 30 7. 00	6. 30 7. 20 6. 50 6. 80 6. 80	7. 11 7. 21 6. 70 7. 07 6. 69
Arkansas Montana Wyoming Colorado	7. 00 6. 80 7. 60 7. 10 7. 30	6. 90 6. 60 7. 60 7. 30 7. 20	6. 80 6. 60 7. 60 7. 40 7. 10	6. 80 6. 40 7. 70 7. 20 7. 10	6. 30 6. 50 7. 60 6. 80 6. 50	5. 60 6. 00 7. 50 6. 00 6. 00	6. 10 5. 90 7. 50 6. 70 6. 30	6. 10 5. 90 7. 10 7. 20 6. 50	7. 00 6. 30 7. 40 7. 56 7. 70	6. 40 6. 40 7. 60 6. 70 7. 00	6. 00 6. 50 6. 50 6. 50 6. 50	5. 60 6. 10 6. 60 6. 00 6. 10	6. 38 6. 33 7. 36 6. 87 6. 78
Arizona 8 Utah 8 Nevada 8	7. 90 9. 00 7. 30 8. 90	7. 10 8. 50 7. 60 9. 00	7. 10 8. 60 7. 40 9. 00	7. 10 8. 90 7. 30 8. 70	7. 20 8. 40 7. 30 8. 40	6. 10 8. 50 6. 90	6. 50 7. 50 6. 90 8. 10	6. 90 7. 10 6. 80 7. 70	7. 00 7. 50 6. 80	7. 30 8. 60 7. 40 8. 60	6. 50 8. 40 7. 30 8. 00	6. 90 8. 00 6. 50 7. 90	6. 97 8. 25 7. 12 8. 43
Washington 8 Oregon 8 California 9	3. 10 9. 30	8. 30 9. 00	8. 70	8. 40 8. 60	8. 20 8. 40			6. 90 7. 80 8. 20 8. 30	7. <b>59</b> 8. 80 7. 80 8. <b>70</b>	7. 40 8. 80 7. 70 8. 66	6. 70 8. 00 8. 10 8. 60	6. 00 7. 50 7. 29 7. 50	7. 20 8. 19 8. 01 8. 52
United States 7	7. 77	7. 65	7. 52	7. 45	7. 13	6. 37	6. 68	6. 85	7. 81	7. 23	6. 66	6. 39	7. 13

Division of Crop and Livestock Estimates.

Table 491.—Hogs: Corn and hog ratios, United States, 1910-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1910 1911 1912 1913	Bush. 12. 2 15. 3 9. 1 13. 6 10. 8	Bush. 12. 0 14. 4 8. 8 13. 9 11. 3	13. 6	Bush. 14. 4 12. 1 9. 0 14. 4 10. 9	Bush. 13. 3 10. 7 8. 4 12. 7 10. 3	Bush. 12. 9 9. 8 8. 1 12. 3 9. 9	Bush. 12.2 9.4 8.3 12.1 10.1	Bush. 11.7 9.9 9.1 11.1 10.3	Bush. 13. 6 9. 9 10. 1 10. 2 10. 3	Bush. 14. 2 9. 3 12. 0 10. 4 10. 0	Bush. 15. 1 9. 3 13. 2 10. 5 10. 4	Bush. 14. 9 9. 2 14. 1 10. 3 10. 2	Bush. 13.3 11.1 9.9 12.2 10.5
1915	9. 5 9. 8 9. 9 11. 2 11. 1 9. 3 13. 5 15. 4 11. 1	8. 6 10. 5 10. 5 10. 3 11. 3 9. 2 13. 5 16. 5 10. 9	8. 4 11. 4 11. 5 10. 1 11. 2 8. 9 14. 3 15. 8 10. 2	8. 5 11. 5 10. 3 10. 2 11. 1 8. 4 13. 0 15. 7 9. 8	8. 7 11. 4 8. 8 10. 3 10. 8 7. 6 12. 5 15. 0 8. 8	8. 7 11. 0 8. 3 10. 0 10. 2 7. 1 11. 0 14. 7 7. 9	8. 7 10. 9 7. 4 9. 9 10. 5 7. 8 13. 1 14. 7 7. 5	8.5 10.6 7.7 10.1 10.2 8.5 14.8 13.7 7.7	9. 2 11. 1 9. 0 10. 8 9. 3 10. 1 14. 0 13. 4 8. 5	10. 8 10. 4 10. 1 11. 0 9. 7 13. 0 15. 9 13. 4 8. 8	10. 6 10. 1 11. 2 11. 5 9. 2 15. 0 16. 0 12. 8 8. 2	10. 1 9. 8 12. 0 11. 3 9. 2 13. 2 15. 2 11. 7 9. 0	9.2 19.7 9.7 10.6 10.3 9.8 14.0 14.4

Division of Crop and Livestock Estimates.

 $<sup>^{1}</sup>$  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.	Мау	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weight- ed aver- age.
1901 1902	Dolls 5. 25 6. 20	Dolls 5. 35 6. 10	Dolls, 5. 85 6. 35	Dolls 5. 90 6. 95	Dolls 5. 80 7. 00	Dolls 5. 90 7. 35	Dolls. 5. 90 7. 65	Dolls 5. 95 7. 15	6.60	<b>Dolls</b> 6. 10	Dolls . 5. 65	5. 95	Dolls. 5.85
1903 1904	6. 40	6. 75 5. 15	7. 30 5. 35	7. 20 5. 10	6. 45 4. 65	6. 00 5. 05	5. 55 5. 40	5. 45 5. 30	7. 55 5. 85 5. 75	7. 00 5. 55 5. 40	6. 30 4. 65 4. 80	6. 20 4. 45 4. 50	6. 85 6. 00 5. 15
1905 1906 1907	5. 40	4. 85 6. 00 7. 05	5. 15 6. 30 6. 65	5. 45 6. 55 6. 65	5. 40 6. 45 6. 50	5. 35 6. 55 6. 10	5. 65 6. 65 6. 05	5. 95 6. 25 6. 00	5. 50 6. 25 6. 00	5. 25 6. 40 6. 15	4. 85 6. 20 4. 90	4. 90 6. 25 4. 70	5. 25 6. 25 6. 10
1908	6. 10	6. 35	6. 00	7. 20	5. 50 7. 30	7. 65	7.85	7. 75	8. 20	5. 95 7. 75	5. 80 8. 00	5. 65 8, 35	5. 70 7. 35
1910 1911 1912	7.95	9. 05 7. 40 6. 20	10. 55 6. 85 7. 10	9. 90 6. 25 7. 80	9. 55 6. 00 7. 65	9. 45 6. 25 7. 50	8. 75 6. 70 7. 65	8. 35 7. 30 8. 25	8, 90 6, 90 8, 45	8. 50 6. 45 8. 75	7. 60 6. 30 7. 75	7. 65 6. 40 7. 40	8. 90 6. 70 7. 55
1913 Av. 1909-1913	7. 45	8. 15 7. 43	8. 90 8. 02	9. 05 8. 04	8. 55 7. 81	8. 65 7. 90	9. 05 8. 00	8. 35 8. 00	8. <b>30</b> 8. <b>15</b>	8. 20 7. 93	7. 75	7. 70	8. 35 7. 77
1914 1915 1916	8. 30 6. 90 7. 20	8. 60 6. 80 8. 20	8. 70 6. 75 9. 65	8. 65 7. 30 9. 75	8. 45 7. 60 9. 85	8. 20 7. 60 9. 70	8. 70 7. 75 9. 80	9. 00 6. 90 10. 30	8, 85 7, 25 10, 70	7.65 7.90 9.80	7. 50 6. 65 9. 60	7. 10 6. 40 9. 95	8. 30 7. 10 9. 60
1917 1918	10. 90 16. 30	12. 45 16. 65	14. 80 17. 10	15. 75 17. <b>4</b> 5	15. 90 17. 45	15. 50 16. 60	15. 20 17. 75	16. 90 19. 00	18. 20 19. 65	17. 15 17. 70	17. 40 17. 70	16. 85 17. 55 13. 60	15. 10 17. 45 17. 85
1920 Av. 1914-1920	14. 97	14. 55	14. 94				14. 84	14. 74	15. 88		11.83	9. 55	13. 91 12. 76
1921 1922 1923	9. 41 8. 02			8. 50° 10. 31		8. 19 10. 33 6. 92	9. 69 9. 70	9. 26 8. 01 7. 65	7. 61 8. 75 8. 35	7. 72 8. 80 7. 42	7. 01 8. 07 6. 85	6. 92 8. 18 6. 87	8. 51 9. 22 7. 55
1940	8. 29	8.02	8. 18	8.08	7. 53	0. 92	7.04	1.00	0. 33	1.42	0.00	0.01	. 4. 99

Division of Statistical and Historical Research. Figures prior to 1920 from Drovers Journal Yearbook; 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 to p price per 100 pounds, at six markets, 1923.

CHICAGO.

<u> </u>	CHICA	.00.					
Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	A ver- age, Jan. 1 June 30.
Butcher, bacon, and shipper hogs:  Medium to choice—  Heavyweight (250 pounds up)  Mediumweight (200-250 pounds)  Common to choice—	8. 21	Dollars. 7. 96 8. 14	Dollars. 8. 15 8. 32	Dollars. 8. 03 8. 26	Dollars. 7. 46 7. 67	Dollars. 6. 94 7. 06	Dollars. 7. 79 7. 97
Lightweight (150-200 pounds) Light lights (130 to 150 pounds) Packing sows:	8. 55 8. 51	8. 31 8. 22	8. 44 8. 22	8. 26 7. 72	7. 66 7. 25	7.02 6.82	8. 04 7. 79
Smooth (250 pounds up)	7. 23	7. 1 <del>8</del> 6. 87 7. 68	7. 49 7. 24 7. 57	7. 14 6. 85 7. 05	6. 67 6. 24 6. 58	6. 16 5. 85 6. 04	7. 03 6. 71 7. 18
Bulk of sales		8. 06 8. 85	8. 21 8. 85	8. 13 8. 75	7. 53 8. 40	6. 91 7. 75	7. 86 1 9. 00
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average. July 1- Dec. 31.
Butcher, bacon, and shipper hogs:  Medium to choice—  Heavyweight (250-350 pounds)———  Mediumweight (200-250 pounds)———  Common to choice—	7. 18 7. 40	7. 91 8. 23	Dollars. 8, 50 8, 80	Dellars. 7. 64 7. 68	Dollars. 7.04 7.04	Dellars. 7.03 6.97	Dollars. 7. 55 7. 69
Lightweight (160-200 pounds) Light lights (130-160 pounds) Packing hogs:	7. 32 7. 17 6. 26	7. 98 7. 80 6. 61	8. 52 8. 23 7. 62	7. 41 6. 95 6. 86	6. 76 6. 25 6. 59	6. 74 6. 46 6. 60	7. 46 7. 14 6. 76
Smooth	6. 26 5. 92 6. 74	6. 22 7. 34	7. 22 7. 22	6. 59 6. 26	6. 32 5. 56	6. 38 5. 87	6. 44 6. 50
Feeder and stocker pigs (70-130 pounds), com- mon to choice. Bulk of sales. Top.	7. 11 8. 10	7. 70 9. 70	8. 30 9. 75	7. 39 8. 55	6. 86 7. 65	6. 86 7. 40	7.37 1 9.75

I Top price for six months.

Table 493.—Hogs: Monthly average and top price per 100 pounds, at six markets, 1923—Continued.

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H: A	gr	gr	LOUIS.	

LA	DI DI.	DOUIS.					
Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1– June 30.
Butcher, bacon, and shipper hogs:		1					
Medium to choice—	Dollars.	Dollars.	Dollars	Dollars.	Dollars.	Dollars	Dollars.
Heavyweight (250 pounds up)	8.39	8.04	8. 30	8.08	7.61	7. 05	7, 91
Mediumweight (200-250 pounds)	8. 54	8. 25	8.40	8. 26	7, 69	7.14	8. 05
Common to choice—	1	ĺ	l	ĺ			
Lightweight (150–200 pounds)		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:	1	j	1	j	1		
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. 67	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				l	l		
_ choice	7. 69	7. 34	6.44	6.11	5. 63	5, 50	6.45
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	1 9. 15
Kind and grade.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- 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	7. 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:	1	- 1	1		i	-	
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
RoughSlaughter pigs (130 pounds down), medium to	1	I	(	1	•		
choice	6, 85	7, 35	7. 50	6. 55	5. 95	6. 12	6. 72
Feeder and stocker pigs (70-130 pounds), com-	- 1						
				6, 04	F F1 1	5, 71	5. 95
mon to choice	6. 15	6. 25	6.05		5. 51		
mon to choice Bulk of sales Pop	6. 15 7. 62 8. 40	6. 25 8. 53 9. 80	8. 74 9. 85	7. 53 8. 55	6. 90 7. 55	6. 92 7. 60	7. 71 19. 85

### FORT WORTH.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1- June 30.
Butcher, bacon and shipper hogs:							
Medium to choice—	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
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—	ı		1	1	1		1
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:	1			1		1	1
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	- 37.20	0	1	0.01	0	0.12	1 0
choice	1.	1	Į.	1	ĺ	1	ĺ
Bulk of sales	8. 14	8. 01	8. 02	7. 87	7, 36	7.06	7, 74
Top		8. 50	8. 40	8. 25	7. 90	7. 75	1 8, 65
10P		0.00	1 3. 20		1	10	5.00
Kind and grade	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec. 31.
Butcher, bacon and shipper hogs:							
Medium to choice—	Dollars.	Dollars.	Dollars.	Dollare	Dollars.	Dollars.	Dollars.
Heavyweight (250–350 pounds)	7. 66	8. 12	8, 55	7. 44	6. 98	7. 16	7, 65
Medium weight (200–250 pounds)		8. 24	8.63	7. 53	7.04	7. 20	7, 73
Common to choice—	1 ". "	0. 24	0.00	7.55	7.01	1. 20	1.10
Lightweight (160-200 pounds)	7, 40	7, 95	8, 44	7. 27	6, 61	6.70	7.40
Light lights (130-160 pounds)		7. 02	7, 40	6.74	6.05	6.09	6. 73
Packing hogs:	1.01	1.02	7. 40	0.74	0.00	0.00	0.19
Smooth	5, 96	5, 91	6, 22	6, 27	6, 07	6, 02	6.08
Rough	5. 24	5. 12	5. 36	5. 30	5. 07	5. 12	5. 20
Slaughter pigs (130 pounds down), medium to	0.24	0, 12	0.30	0, 00	0.07	0.12	0.20
choice	5, 87	5, 26	5, 94	6, 05	5, 13	5, 22	5, 58
Feeder and stocker pigs (70-130 pounds), com-		0. 20	0.94	0.00	J. 13	0. 24	0.00
mon to choice	i 1						ł
Bulk of sales	7. 74	8. 12	8, 46	7. 41	6, 98	7, 10	7. 64
Top		9. 35	9.65	8. 30	7. 65	7, 70	1 9, 65

<sup>&</sup>lt;sup>1</sup> 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.	A verage Jan. 1- June 30.
Butcher, bacon and shipper hogs:  Medium to choice—  Heavyweight (250 pounds up)———  Mediumweight (200-250 pounds)———	Dollars. 8. 16 8. 25	Dollars. 7. 89 8. 01	Dollars. 8. 07 8. 14	Dollars. 7, 90 7, 96	Dollars. 7. 36 7. 42	Dollars. 6. 78 6. 81	Dollars. 7. 69 7. 76
Common to choice— Lightweight (150–200 pounds) Light lights (130–150 pounds) Packing sows, smooth (250 pounds up) Rough (200 pounds up)	8. 21 8. 19	8. 03 7. 99 7. 02 6. 85	8. 08 7. 90 7. 32 7. 20	7. 79 7. 45 6. 95 6. 84	7. 19 6. 90 6. 18 6. 08	6. 58 6. 24 5. 82 5. 72	7. 65 7. 44 6. 78 6. 65
Pigs (130 pounds down), medium to choice Stock pigs (130 pounds down), common to choice Bulk of sales Top	7.81	7. 30 7. 98 8. 35	7. 05 8. 10 8. 55	7. 03 7. 90 8. 30	6. 43 7. 33 7. 95	6. 19 6. 72 7. 25	6. 97 7. 70 1 8. 60
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec. 31.
Butcher, bacon and shipper hogs:  Medium to choice—  Heavyweight (230-355 pounds)————  Mylly Weight (200-355 pounds)————————————————————————————————————	Dollars. 7. 22	7.87	Dollars. 8. 27	7. 35	6.76	Dollars. 6. 75	Dollars. 7.37
Mediumweight (200-250 pounds)	7. 02 6. 69	7. 99 7. 83 7. 51	8. 48 8. 18 7. 62	7. 33 6. 88 6. 44	6. 72 6. 32 5. 86	6. 70 6. 30 5. 94	7. 41 7. 09 6. 68
Smooth Rough Slaughter pigs (130 pounds down), medium to choice	6. 05 5. 89	6. 28 6. 00	6. 94 6. 43	6. 37 6. 05	6. 27 5. 98	6. 30 6. 06	6. 37 6. 07
Feeder and stocker pigs (70–130 pounds), com- mon to choice	6. 12 7. 14 7. 60	6. 23 7. 81 9. 25	6. 30 8. 25 9. 40	5, 39 7, 14 8, 05	4. 79 6. 64 7. 30	4. 99 6. 62 7. 20	5. 64 7. 27 1 9. 40

### OMAHA.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average Jan. 1- June 30
Butcher, bacon, and shipper hogs:  Medium to choice—  Heavyweight (250 pounds up)  Mediumweight (200-250 pounds)	Dollars. 8. 07 8. 11	Dollars. 7.82 7.86	Dollars. 7. 98 7. 97	Dollars. 7. 76 7. 78	Dollars. 7. 13 7. 19	Dollars 6. 50 6. 58	Dollars. 7. 54 7. 58
Common to choice— Lightweight (150-200 pounds) 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) Rough (200 pounds up) Pigs (130 pounds down), medium to choice Stock pigs (130 pounds down), common to	7. 39 7. 19	7. 12 6. 92	7. 40 7. 22	6. 93 6. 75	6. 19 6. 03	5, 68 5, 39	6. 78 6. 58
Stock pigs (130 pointes down), common to choice  Bulk of sales  Top		7. 03 7. 83 8. 15	6. 62 7. 96 8. 25	6. 35 7. 75 8. 10	5. 51 7. 14 7. 80	4. 97 6. 41 7. 05	6. 33 7. 52 1 8. 45
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec. 31.
Butcher, bacon, and shipper hogs:  Medium to choice—  Heavyweight (250-350 pounds)  Mediumweight (200-250 pounds)  Common to choice—  Lightweight (160-200 pounds)  Light lights (130-160 pounds)	6. 83 6. 98	Dollars. 7. 60 7. 77 7. 57	Dollars. 8. 12 8. 32 8. 10	Dollars. 7. 15 7. 17 7. 00	Dollars. 6. 60 6. 61 6. 50	Dollars. 6. 72 6. 71 6. 45	Dollars. 7. 17 7. 26 7. 07
Packing hogs: Smooth Rough Slaughter pigs (130 pounds down), medium to choice	6. 08 5. 76	6. 74 6. 38	7. 55 7. 32	6. 79 6. 61	6. 26 5. 86	6. 42 6. 24	6. 64 6. 36
Feeder and stocker pigs (70-130 pounds), common to choice Bulk of sales. Top	4. 92 6. 62 7. 60	5. 43 7. 27 9. 10	6. 10 7. 94 9. 35	5. 82 7. 00 7. 85	5. 23 6. 45 7. 15	5. 06 6. 59 7. 15	5. 43 6. 98 1 9. 35

<sup>&</sup>lt;sup>1</sup> Top price for six months

Table 493.—Hogs: Monthly average and top price per 100 pounds, at six markets, 1923—Continued.

SOUTH ST. PAUL.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Average Jan. 1- June 30.
Butcher, bacon, and shipper hogs: Medium to choice—	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Heavyweight (250 pounds up)		7.64	7.84	7.76	6, 95	6.34	7.42
Mediumweight (200–250 pounds)	8. 12	7.82	7.94	7.88	7.09	6.46	7. 55
Common to choice—						0.10	
Lightweight (150-200 pounds)	8. 24	8.00	8.03	7.94	7. 20	6.64	7.68
Light lights (130-150 pounds)	8. 29	8.05	7.88	7. 76	7.09	6.63	7.62
Packing sows: Smooth (250 pounds up)	7. 19	6, 69	6, 87	6, 69	5, 88	5, 48	6.47
Rough (200 pounds up)	6, 91	6.44	6. 59	6.51	5. 54	5. 14	6. 19
Pigs (130 pounds down), medium to choice	8. 35	8.00	7.67	7.46	6.77	6. 24	7. 42
Stock pigs (130 pounds down), common to	l					0.11	1
choice	8. 37	8. 01	7.76	7. 66	6.89	6. 16	7.48
Bulk of sales		7. 84	7. 93	7.86	7. 05	6. 34	7, 52
Тор	8.60	8. 35	8. 35	8. 35	8. 10	7.25	1 8. 60
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov	Dec.	Average July 1- Dec. 31.
Butcher, bacon, and shipper hogs:							
Medium to choice—	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Heavyweight (250-350 pounds)	6.75	7.49	7. 99	6. 93	6. 44	6. 49	7.02
Mediumweight (200-250 pounds)	6.89	7.67	8.14	6. 97	6.44	6.48	7.10
Common to choice— Lightweight (160-200 pounds)	7 05			4 00	0.50	6, 43	7, 17
Tight lights (120, 160 norm da)	7.05	7. 92	8.26	6. 98	6. 39		
Light lights (130-160 pounds)	7.01	7. 92 7. 79	8. 26 8. 13	6. 80	5. 98	6. 22	
Light lights (130-160 pounds)	7.01						6. 99
Light lights (130-160 pounds)  Packing hogs; Smooth.	7.01	7. 79	8. 13	6. 80	5. 9 <del>8</del>	6. 22	
Light lights (130-160 pounds)  Packing hogs; Smooth	7. 01 5. 96 5. 58	7. 79 6. 51 6. 14	7. 16 6. 87	6. 80 6. 42 6. 25	5. 98 6. 02 5. 88	6. 22 6. 01 5. 86	6. 99 6. 35 6. 10
Light lights (130-160 pounds) Packing hogs; Smooth. Rough. Slaughter pigs (130 pounds down), medium to choice	7. 01 5. 96	7. 79 6. 51	8. 13 7. 16	6. 80 6. 42	5. 98 6. 02	6. 22 6. 01	6. 99 6. 35
Light lights (130-160 pounds)  Packing hogs; Smooth	7. 01 5. 96 5. 58	7. 79 6. 51 6. 14	7. 16 6. 87	6. 80 6. 42 6. 25	5. 98 6. 02 5. 88	6. 22 6. 01 5. 86	6. 99 6. 35 6. 10
Light lights (130-160 pounds)  Packing hogs: Smooth Rough Sfaughter pigs (130 pounds down), medium to choice Feeder and stocker pigs (70-130 pounds).	7. 01 5. 96 5. 58 5. 94	7. 79 6. 51 6. 14 6. 26	8. 13 7. 16 6. 87 7. 24	6. 42 6. 25 6. 21	5. 98 6. 02 5. 88 5. 22	6. 22 6. 01 5. 86 5. 74	6. 99 6. 35 6. 10 6. 10

Division of Statistical and Historical Research. Compiled from data o the reporting service of the Livestock, Meats, and Wool Division.

Classification of livestock changed July 1, 1923.

Table 494.—Hogs: Trend of average farm prices and average market prices per 100 pounds, at Chicago, 1910–1923.

Calendar year.	Weight- ed aver-	Aver- age market	Price relatives 1913=100.		Calendar year.	Weight- ed aver-	age market		
Calondar year.	farm price.	price at Chic- ago.	Farm price.	Market price.	}	farm (	price at Chic- ago.	Farm price.	Market price.
1910	Dollars. 8. 12 6. 29 6. 64 7. 44 7. 51 6. 56 8. 11	Dollars. 8. 90 6. 70 7. 55 8. 35 8. 30 7. 10 9. 60	169. 1 84. 5 89. 2 100. 0 100. 9 88. 2 109. 0	166. 6 80. 2 90. 4 100. 0 99. 4 85. 0 115. 0	1917 1918 1919 1920 1921 1921 1922 1923	Dollars. 13. 41 15. 82 16. 04 12. 85 7. 85 8. 32 7. 11	Dollars. 15. 10 17. 45 17. 85 13. 91 8. 51 9. 22 7. 55	180, 2 212, 6 215, 6 172, 7 105, 5 111, 8 95, 6	180. 8 209. 0 213. 8 166. 6 101. 9 110. 4 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 Wool Division.

<sup>1</sup> Top price for six months.

Table 495.—Hogs: Prices of live hogs in Chicago, and of wholesale and retail prices of certain pork products, 1913-1923.

•			На	ms.		Bacon.				
Calendar year.	Price of live hogs,		, whole-	Retail.1			ear sides, esale.	Retail.		
	Chicago. (Per 100 lbs).	Chicago, (Price per pound.)	Per cent of live hog price.	In lead- ingcities. (Price per. pound.)	Per cent of live hog price.	Chicago, (Price per pound.)	Per cent of live hog price.	In lead- ingcities. (Price per pound.)	Per cent of live hog price.	
1913 1914 1915 1916 1917	Dollars. 8. 35 8. 30 7. 10 9. 60 15. 10	Cents. 16. 6 16. 7 15. 3 18. 5 25. 2	Per cent. 199 201 215 193 167	Cents. 26. 9 27. 3 26. 1 29. 4 38. 2	Per cent. 322 329 368 306 253	Cents. 12. 7 13. 2 11. 6 14. 9 24. 8	Рет cent. 152 159 163 155 164	Cents. 27. 0 27. 5 26. 9 28. 7 41. 0	Per cent. 323 331 379 299 272	
1918 1919 1920 1921 1922 1923	17. 45 17. 85 13. 91 8. 51 9. 22 7. 55	31. 8 34. 3 33. 4 26. 8 26. 5	182 192 240 315 287 281	47. 9 53. 4 55. 5 48. 8 48. 8 45. 5	274 299 399 573 529 603	27. 9 29. 1 20. 7 13. 5 14. 1 12. 0	160 163 149 159 153 159	52. 9 55. 4 52. 3 42. 7 39. 8 39. 1	303 310 376 502 432 518	
1923. January February March April	8. 29 8. 02 8. 18 8. 08	20. 2 20. 3 20. 6 21. 2	244 253 252 262	45. 1 45. 0 45. 0 45. 1	544 561 550 558	13. 2 12. 7 13. 1 12. 3	159 158 160 152	39. 8. 39. 4 39. 2 39. 1	480 491 479 484	
May June July August	7. 53 6. 92 7. 04 7. 65	21. 1 21. 1 21. 7 22. 3	280 305 308 292	45. 3 45. 4 46. 0 46. 3	602 656 653 605	11. 4 11. 3 11. 2 11. 0	151 163 159 144	39. 1 39. 0 39. 1 39. 2	519 564 555 512	
September October November December	8. 35 7. 42 6. 85 6. 87	22. 3 21. 9 20. 9 20. 5	267 295 305 298	46. 6 46. 4 45. 5 44. 7	558 625 664 651	11. 8 12. 0 12. 3 11. 5	141 162 180 167	39. 4 39. 3 38. 5 37. 5	472 531 • 562 546	

		Fresh	pork.		Lard.				
Calendar year	Pork loins, wholesale.			chops, ail.		contract, esale.	Retail.		
	Chicago, (Price per pound.)	Per cent of live hog price.	In leading cities. (Price per pound.)	Per cent of live hog price.	New York. (Price per pound.)	Per cent of live hog price.	In leading cities. (Price per pound.)	Per cent of live hog price.	
1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1922	Cents. 14. 9 15. 4 14. 3 16. 2 24. 4 29. 5 31. 5 30. 7 22. 5 21. 7 18. 0	Per cent. 178 186 201 169 162 169 176 221 264 235 238	Cents. 21. 0 22. 0 20. 3- 22. 7 31. 9 39. 0 42. 3 42. 3 34. 9 33. 0 30. 4	Per cent. 251 265 286 236 211 223 237 304 410 358 403	Cents. 11. 0 10. 4 9. 4 13. 5 21. 7 25. 5 29. 0 20. 0 11. 1 11. 5 12. 3	Per cent. 132 125 132 141 144 146 162 144 130 125 163	Cents. 15. 8 15. 6 14. 8 17. 5 27. 6 33. 3 36. 9 29. 5 18. 0 17. 0 17. 7	Per cent. 189 188 208 182 183 191 207 212 212 184 234	
1923. January. February. March. April. May. June. July. August. September October. November.	15. 5 15. 6 14. 8 15. 3 19. 3 16. 0 19. 5 23. 0 27. 3 21. 0 15. 6 13. 3	187 195 181 189 256 231 277 301 327 283 228*	29. 3 28. 7 28. 3 28. 4 30. 0 29. 9 31. 2 32. 1 36. 7 34. 2 28. 9 26. 5	353 358 346 351 398 432 443 420 440 461 422 386	11. 8 11. 8 12. 6 12. 0 11. 6 11. 7 11. 3 11. 6 12. 8 13. 3 14. 1 13. 2	142 147 154 149 154 169 161 152 153 179 206	17. 4 17. 4 17. 4 17. 5 17. 3 17. 2 17. 1 17. 1 17. 1 18. 6 18. 9	210 217 213 217 230 249 243 224 214 251 276	

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.

<sup>1</sup> Mostly on sliced ham.

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 1908 1909 1910	3, 409, 531 4, 961, 421 3, 875, 858 2, 692, 780 2, 742, 393	2, 920, 505 3, 889, 864 2, 653, 412 2, 323, 582 2, 632, 830	2, 665, 112 3, 111, 115 3, 012, 659 1, 891, 000 2, 972, 692	2, 667, 170 2, 304, 271 2, 342, 999 1, 778, 410 2, 589, 454	3, 317, 281 3, 087, 525 2, 629, 418 2, 206, 472 3, 007, 507	3, 240, 786 3, 093, 889 2, 718, 569 2, 612, 116 3, 462, 063	2, 928, 806 2, 415, 570 2, 097, 241 1, 988, 403 2, 560, 236	2, 300, 785 2, 231, 182 1, 821, 934 1, 824, 006 2, 031, 911	1, 988, 210 2, 230, 684 1, 955, 445 1, 563, 846 2, 171, 798	2, 218, 979 3, 368, 060 2, 397, 039 1, 850, 765 2, 719, 927	2, 134, 622 3, 802, 740 2, 800, 080 2, 455, 654 3, 639, 269	3, 093, 590 4, 146, 780 3, 090, 242 2, 826, 749 3, 602, 875	32, 885, 377 38, 643, 101 31, 394, 896 26, 013, 783 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, 326	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, 984, 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 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1916 1917 1918.	420, 736 559, 041	556, 369 642, 755	666, 263 701, 258	646, 097 662, 323	617, 668 675, 782	615, 386 694, 521	643, 959 7 <b>2</b> 9, 185	641, 667 732, 258	550, 013 596, 907	430, 762 435, 238	352, 006 328, 883	426, 392 379, 293
1919	<b>722</b> , 556	968, 715		1,004,109	'	987, 853	959, 387	882, 448	770, 504	691, 915	568, 921	513, 982
1921	533, 980	669,832	903, 350 837, 158 547, 450	842, 906	960, 706 802, 190 594, 241	801, 387	799, 261		623, 967	471, 901	359,656	
			783, 680		940, 071	908, 771						

Division of Statistical and Historical Research.

## PORK PRODUCTS.

Table 498.—Monthly statement of the livestock and meat situation, 1923.

HOGS, PORK, AND PORK PRODUCTS.

Item.			Unit.	Jan.	Feb.	Mar.	Apr.	May.	June.
Inspected slaughter hogs. Average live weight. Average dressed weight. Total dressed weight (car Lard per 100 pounds live	cass)	Pot 1,000	.do pounds_	5, 134 227 177 907, 645 16	4, 231 228 178 752, 492 17	4, 838 228 177 856, 386 18	4, 179 229 176 737, 545 17	4, 325 224 - 171 739, 251 17	4, 303 228 175 751, 610 18
Storage, 1st of month: Fresh pork Cured pork Lard Exports: 1		1,00	0 pounds do do	72, 278 498, 232 48, 808	120, 196 568, 728 56, 266	154, 377 629, 303 59, 101	189, 115 675, 559 66, 743	213, 224 726, 847 85, 251	210, 645 698, 126 84, 530
Fresh pork Cured pork Canned pork Sausage Lard Imports: Fresh pork Receipts of hogs <sup>2</sup> Stocker and feeder shipm			dodo	6, 612 78, 240 131 879 111, 157 106 5, 306 66	3,772 68,351 87 603 91,536 43 4,492 64	171 4, 927	4, 178 71, 291 218 1, 002 88, 601 141 4, 318 76	2, 601 67, 051 547 884 95, 343 108 4, 524 67	3, 093 62, 450 449 941 65, 788 71 4, 204 63
Average cost for slaug At Chicago—Live he	hter		lars	8. 35	8. 22	8. 17	8. 04	7. 44	6. 83
dium weight At eastern markets— Fresh pork loin			do	8. 36	8. 14	8, 32	8. 26	7. 67	7.06
pounds Shoulders, skinn Picnics, 6-8 poun Butts, Boston sty Bacon, breakfast	eddsyleyle		do do do	15. 38 13. 28 11. 32 15. 15 26. 93	14. 88 13. 08 11. 72 15. 16 26. 17	14. 49 12. 26 10. 18 14. 14 24. 04	14. 46 11. 78 10. 00 13. 40 23. 50	16. 88 11. 44 10. 34 12. 50 23. 40	14. 78 10. 43 8. 82 11. 80 22. 86 21. 88
Lard, tierces Hogs on farms, Jan. 1		Tho	do ousands	12. 56 68, 227	12. 62	12.85	12. 67	12. 45	12. 16
Item.	Unit		July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Inspected slaughter hogs Average live weight	Thousar Pounds.		3, 983 232 177	3, 556 236 181	3, 212 229 173	4, 328 219 165	5, 341 216 164	5, 904 218 166	53, 334 <sup>3</sup> 225 <sup>3</sup> 173
(carcass) Lard per 100 pounds live	1,000 por		705, 586	644, 603	555, 094	714, 848	876, 726		9, 221, 574
weight Pound  storage, 1st of month: Fresh pork 1,000 p  Cured pork de Lard de  Exports: 1		ınds	17 217, 074 691, 431 123, 896	17 195, 002 671, 157 143, 579	16 148, 753 605, 509 115, 860	98, 795 514, 348 72, 608	71, 640 434, 306 35, 225	82, 068 495, 428 35, 317	3 16 4 147, 764 4 600, 748 4 77, 265
Exports: 1 Fresh pork Cured pork Canned pork Sausage Lard	do do do		242 1, 268	4, 183 73, 504 178 874 85, 082	3, 215 82, 069 153 766 85, 194	3, 728 76, 669 153 777 77, 646	7, 946 74, 712 230 715 76, 020	8, 748 78, 988 246 942 100, 712	54, 691 870, 731 2, 801 10, 735 1, 059, 510
<sup>1</sup> Including reexports.	² Publi	e sto	ckyards.	<sup>8</sup> Weig	hted aver	age. 48	Simple av	erage, not	total.

## PORK PRODUCTS—Continued.

Table 498.—Monthly statement of the livestock and meat situation, 1923—Contd.

HOGS, PORK, AND PORK PRODUCTS—Continued.

Item.	Unit.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Imports: Fresh pork	1,000 pounds.		37	89	182	66	40	1, 101
Receipts of hogs 1 Stocker and feeder ship-	Thousands	4, 181	3, 714	3, 607	4,816	5, 416	5, 825	55, 330
ments 1	do	34	62	102	101	70	46	820
Prices per 100 pounds:		-				, ,		
Average cost for	70 - 11	0.01	7.50	0.40	<b>-</b> 00	0.00	0.00	2 5 50
slaughterAt Chicago—Live	Dollars	6. 91	7. 78	8. 49	7. 38	6.83	6, 82	<sup>2</sup> 7. 59
hogs, medium								
weight	do	7.40	8, 23	8, 80	7.68	7.04	6, 97	<sup>3</sup> 7. 83
At eastern markets— Fresh pork loins.								
10-14 bounds	do	17, 20	18.69	24, 77	20. 10	13, 96	13, 76	3 16, 61
Shoulders,	_							
skinned Picnics, 6-8	do	10. 64	11. 32	12. 99	13. 10	11. 20	10. 30	³ 11. 8 <b>2</b>
pounds	do	4 10, 10	9. 68	11. 17	10.69	10. 13	9. 42	<sup>3</sup> 10, 30
Butts, Boston								
style	do	12. 38	12. 62	15. 78	15. 96	12. 64	11.44	3 13, 58
Becon, breakfast Hams, smoked,	do	22. 91	23. 13	23. 38	22, 33	21. 88	20. 79	<sup>3</sup> 23. 44
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 Animal Industry. Weights and storage holdings 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 Economics.

<sup>1</sup> Public stockyards. <sup>2</sup> Weighted average. <sup>3</sup> Simple average, not total. <sup>4</sup> 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.1.	Sept.1.	Oct. 1.	Nov.1.	Dec. 1.
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1916 1917	63, 304	92, 342	111, 897	97, 237	108, 731	85, 113	87, 127	95, 991	82, 028 102, 172	71, 570	56, 929	58, 950
1918	54, 539	59, 310	65, 355	89,854	103, 373	106, 194	107, 871	102, 411	104, 668 87, 947	90, 398	76, 124	81,676
1920 1921	62, 614	97, 649	111, 975	132, 993	141, 819	152, 307	193, 316	191, 531	170, 774 149, 886	109, 258	47, 329	36, 683
1922 1923	47, 541	61, 202	61, 297	86,031	96,055	123, 798	154, 254	143, 084	119, 755 115, 860	75, 338	36, 750	32, 506

Division of Statistical and Historical Research.

Table 500.—Pork: Exports from the United States, by months, 1910-1924.

Year end- ing June 30.	July.	Au- gust.	Sep- tem- ber.	Octo- ber.	No- vem- ber.	De- cem- ber.	Janu- ary.	Febru- ary.	March.	April.	Мау.	June.	Total.
1000 10	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1909-10. 1910-11. 1911-12.	65, 364 60, 183 83, 514	67, 351 82, 387	56, 685 107, 082	49, 280 79, 551	50, 136 77, 114	71, 512 97, <b>9</b> 67	93, 601	79, 351 102, 591	85, 076 104, 742	87, 486 85, 895	100, 768 92, 609	96,562 65,800	879,457 1 <b>071,</b> 953
1912-13 1913-14 1914-15	72, 295 81, 962 53, 086	82, 726	77, 964	77, 309	79, 717	86, 597	101, 683	73, 958	96, 771 70, 046	60, 783	66, 067	67,436	921,912
1915-16. 1916-17.	95, 029 76, 567	90, 128 93, 101	100, 207 106, 329	113, 464 95, 287	107, 744 113, 579	143, 262 156, 723	133, 222 199, 397	162, 376 122, 571	119, 963 167, 861	133, 534 137, 772	148, 245 127, 193	112,361 103,093	1,106,180 1,459,535 1,499,473
1917-18. 1918-19. 1919-20.	252, 767	170, 647	114, 555	132, 237	123, 266	205, 601	197, 965	236, 421	341, 295	348, 040	180, 890	400,393	, , , , ,
19 <b>20</b> -21 1921-22	94, 117 171, 555	67, 701 174, 916	102, 470 173, 989	123, 102 99, 186	132, 698 90, 240	187, 091 106, 449	161, 695 127, 613	151, 361 138, 047	143, 085 124, 411	118, 192 90, 125	111, 040 99, 440	128,941 119,855	1,521,493 1,515,826
1922-28 <sub>-</sub> 1923-24 <sub>-</sub>							196, 139	163, 745	185, 197	164, 288	165, 543	131,780	1,794,143

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.

Table 501 .- Bacon: Exports from the United States, by months, 1910-1924.

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Total.
1909-10 - 1910-11 - 1911-12 - 1913-14 - 1914-15 - 1916-17 - 1917-18 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1918-19 - 1910-1918-1918-19 - 1910-1918-19 - 1910-1918-19 - 1910-1918-19 - 1910-1918-19 - 1910-1918-1918-1918-1918-1918-1918-1918-	10, 894 17, 906 16, 518 16, 555 10, 905 38, 503 30, 074 19, 462	<i>ibs</i> . 15, 061 13, 746 18, 857 18, 688 19, 551 14, 405 37, 579 43, 954 28, 311 68, 858 84, 151	1bs. 15, 535 12, 642 25, 038 15, 360 16, 358 17, 596 43, 371 49, 223 35, 501 41, 540 57, 209	lbs. 13, 422 9, 437 16, 368 13, 681 17, 968 13, 838 53, 410 41, 284 29, 363 58, 132 56, 462	8, 646 15, 864 13, 870 16, 688 18, 825 45, 876 43, 571 72, 862 65, 288	lbs. 14, 978 14, 435 18, 104 16, 567 19, 367 21, 221 55, 472 73, 932 42, 021 126, 437 58, 983	12, 876 18, 152 19, 819 20, 814 27, 156 50, 087 91, 812 53, 851 102, 679 77, 501	10, 752 16, 954 20, 325 17, 518 37, 177 63, 810 51, 993 50, 904 114, 840 75, 891	11, 038 17, 468 20, 880 13, 618 66, 828 41, 892 67, 502 155, 604 151, 086 75, 003	16, 091 17, 934 17, 051 12, 603 41, 692 53, 443 57, 310 127, 400 141, 814 24, 356	17, 008 16, 270 14, 423 11, 618 33, 598 58, 343 60, 676 142, 012 67, 664 50, 413	19, 110 10, 559 13, 812 11, 306 43, 477 38, 023 50, 606 87, 294	815, 294 1, 238, 247 803, 667
1921-22 1922-23 1923-24	48, 172 32, 584 27, 581	<b>32,</b> 591	<b>30, 44</b> 8	28, 850	26,170	39, 486	26, 108 43, 352				19, 070 34, 525	24, 067 28, 641	350, 549 408, 282

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

Table 502.—Lard: Exports from the United States, by months, 1910-1924.

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Total.
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,0 <b>0</b> 0 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,00 <b>0</b> lbs.
1909-10 _ 1910-11 _ 1911-12 _ 1912-13 _ 1913-14 _	28, 639 31, 658 35, 446 32, 536 39, 567	34, 171 34, 912	26, 987 53, 670 43, 273	24, 625 43, 003 36, 746	40, 829	38, 790 52, 548 45, 591	40, 688 45, 465 44, 281	47, 595 54, 143 61, 211	55, 043 54, 797 49, 226	48, 726 40, 179 42, 114	54, 685 44, 900 48, 787	45, 284 32, 364 41, 961	362, 928 476, 108 532, 256 519, 025 481, 458
1914-15 _ 1915-16 _ 1916-17 _ 1917-18 _ 1918-19 _	24, 987 21, 555 26, 088 9, 364 68, 600	25, 146 22, 891 23, 553	28, 774 32, 707	28, 256 21, 242 9, 639	31, 470 30, 742	46, 404 46, 162	34, 040 65, 091 20, 706	39, 558	37, 146 59, 081 68, 721	39, 017 45, 602 53, 885	48, 773 30, 621 79, 751	45, 862 24, 257 29, 248	475, 532 427, 011 444, 770 392, 506 724, 771
1919-20 - 1920-21 - 1921-22 - 1922-23 1923-24 -	68, 192 47, 061 83, 329 66, 058 69, 478	31, 021 87, 411 68, 907	46, 326 104, 741 61, 120	54, 174 56, 886 66, 333	57, 316 51, 854 62, 321	90, 080 64, 542 78, 596	38, 824 76, 185 73, 194 107, 786	91, 841 75, 520	82, 617 64, 377	53, <b>276</b> 42, 459	48, 604 50, 817	67, 656 57, 249	587, 225 746, 157 812, 379 952, 642

Division of Statistical and Historical Research. 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 King- dom.	Other Europe.	Total Europe.	Ber- muda.	Can- ada.	Pan- ama.	Mex- ico.	Philip- pine Is- lands.	Cuba.	Other coun- tries.	Total.
1909-10	1,000 lbs. 	1,000 lbs. 395 75 968 1,354 2,832 26,403 23,787 8,235 2,036 3,146 15,090 4,697 22,995	1,000 lbs, 44 10 22 165 522 707 10,551 18,130 6,162 3,056	1,000 lbs. 395 119 968 758 1,364 3,178 22,838 24,707 9,399 2,781 13,756 33,497 10,859 26,052	1,000 lbs. 26 31 15 50 13 72 103 115 9 26 37 36 48 83	1,000 lbs. 78 207 891 580 232 46 32,962 24,833 11,396 16,328 7,158 17,058 112,281 14,588	1,000 lbs. 231 440 565 685 687 370 380 398 44 41 171 394 353 500	1,000 lbs. 1 (1) (1) 4 1 1 4 7 8 4 10 14 89 93 82	1,000 lbs. 51 48 76 257 153 77 22 60 43 	1,000 lbs. 235 89 82 99 151 137 338 178 372 379 373 653 2,147 2,204	1,000 lbs. 23 421 1 25 67 24 356 137 123 79 5,694 5,304 70	1,000 lbs. 1,040 1,355 2,598 2,458 2,668 3,908 63,006 50,436 21,390 19,644 27,225 57,075 25,911 43,772

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.

I Less than 500 pounds.

Table 504.—Pork, pickled: Exports from the United States by countries, 1910-1923.

Year ending June 30.	Bel- gium.	Nor- way.	United King- dom.	Other Europe.	Total Europe.	Can- ada.	Pan- ama.	New- found- land and Labra- dor.	Haiti.	Cuba.	Other countries.	Total.
1909-10 1910-11 1911-12 1912-13 1913-14	1,000 lbs. 139 159 348 458 166	1,000 lbs. 703 787 278 261 355	1,000 lbs. 8,679 8,754 13,501 14,620 5,572	1,000 lbs. 1,424 2,397 1,466 1,881 1,408	1,000 lbs. 10,945 12,097 15,593 17,220 7,501	1,000 lbs. 8,085 9,084 11,157 9,437 12,826	1,000 lbs. 1,424 1,233 1,420 1,438 1,620	1,000 lbs. 4,445 5,001 6,571 5,673 7,912	1,000 lbs. 1, 257 1, 360 2, 335 2, 626 1, 513	1,000 lbs. 5,830 7,383 9,989 9,141 4,091	1,000 lbs. 8,046 9,571 9,256 8,214 10,080	1,000 lbs. 40, 032 45, 729 56, 321 53, 749 45, 543
1914–15 1915–16 1916–17 1917–18 1918–19	1, 014 163 1, 209	174 825 325 (1) 956	6, 534 13, 124 6, 059 1, 903 2, 981	11, 466 5, 445 878 474 1, 515	18, 174 20, 408 7, 425 2, 377 6, 661	8, 500 17, 835 16, 929 13, 689 8, 189	1, 304 1, 116 618 277 105	5, 244 7, 070 6, 262 3, 221 5, 706	636 949 772 481 625	3, 875 7, 847 7, 700 8, 935 6, 694	7, 923 8, 236 7, 287 4, 242 3, 524	45, 656 63, 461 46, 993 33, 222 31, 504
1919-20 1920-21 1921-22 1922-23	554 698 628 328	2, 753 336 1, 258 1, 568	3, 142 2, 908 4, 914 5, 853	4, 243 3, 039 3, 071 5, 378	10, 692 6, 981 9, 871 13, 127	14, 500 13, 644 10, 857 13, 349	229 212 248 329	5, 560 4, 147 4, 756 5, 266	790 929 1, 223 1, 270	5, 775 2, 458 1, 319 1, 379	4, 097 4, 915 5, 236 6, 214	41, 643 33, 286 33, 510 40, 934

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1916-1918; Monthly Summaries of Foreign Commerce, June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

Table 505.—Pork, canned: Exports from the United States by countries, 1910-1923.

Year ending June 30.	France.	Italy.	United King- dom.	Other Europe.	Total Europe.	Can- ada.	Pana- ma.	Mex- ico.	Cuba.	Argen- tina.	Other countries.	Total.
1909-10 1910-11 1911-12 1912-13 1913-14	1,000 lbs. 120 51 104 33 28	1,000 lbs. 5 14 5 2	1,000 . lbs. 3,156 3,109 4,905 3,211 2,369	1,000 lbs. 258 202 230 229 184	1,000 lbs. 3,539 3,376 5,244 3,475 2,582	1,000 lbs. 9 1 5 85	1,900 lbs. 29 37 32 63 19	1,000 lbs. 23 65 57 54 25	1,000 lbs. 14 16 91 27 92	1,000 lbs. 122 103 163 214 233	1,000 lbs. 326 413 248 230 113	1,000 lbs. 4,062 4,011 5,840 4,148 3,074
1914-15 1915-16 1916-17 1917-18 1918-19	257 645 1, 103 2, 423 950	4 3 259 139 389	3, 757 7, 843 3, 355 2, 044 2, 244	61 324 109 (1) 1,040	4, 079 8, 815 4, 826 4, 606 4, 623	45 28 393 132 245	27 3 4 10 4	11 18 74 31 67	77 123 51 73 13	80 128 52 53 33	325 496 496 289 288	4, 644 9, 611 5, 896 5, 194 5, 273
1919–20 1920–21 1921–22 1922–23	159 9 6	179	2,318 829 1,924 2,383	161 54 15 16	2, 817 883 1, 948 2, 405	51 61 77 142	1 1 10	31 45 39 29	79 33 33 26	30 24 61 24	253 73 104 125	3, 262 1, 119 2, 263 2, 761

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 506.—Bacon: Exports from the United States, by countries, 1910-1923.

Year ending June 30.	Bel- gium.	France.	Italy.	Nether- lands.	Nor- way.	United King- dom.	Other Eu- rope.	Total Eu- rope.	Can- ada.	Cuba.	Other coun- tries.	Total.
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1909-10	2, 206		1.605			133, 995		140, 180				
1910-11	3, 547	1,711	6, 529	4, 351	3, 784			146, 077	1,691	6, 224	2, 683	
1911-12	4, 503		8, 156	7, 271	4,560	147, 449	15, 598	196, 955	3, 342	4,823	3, 454	
1912-13	9, 141		11,781	7,639				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
191415	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			2, 296	
1916-17	65, 220		19, 378	10, 625	8, 296	346, 758	3, 952	531, 265			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, 630	1, 201, 871	26, 186	9, 154		1, 238, 247
1919-20	37,654	27, 997	13, 398	122, 984	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		244, 716		449, 538	12, 718		1,740	
1921-22	16, 743	9, 363	2, 481	20, 847		184, 703		313, 277	11, 022		2, 788	350, 549
1922-23	23,215	7, 758	9, 259	30, 972	12, 269	188, 274	99,009	370, 756			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.

<sup>1</sup> Less than 500 pounds.

<sup>1</sup> Less than 500 pounds.

Table 507.—Hams and shoulders: Exports from the United States, by countries, 1910-1923.

Year ending June 30.	Bel- gium.	France.	Nether- lands.	United King- dom.	Other Europe.	Total Europe.	Can- ada.	Cuba.	Mex- ico.	Pan- ama.	Other countries.	Total.
1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 1921-22	1,000 lbs. 5,305 9,092 15,018 5,822 4,081 6,596 2,793 32,583 6,489 6,891 9,690 13,979	1,000 lbs. 8 26 2588 316 122 609 7, 598 25, 864 18, 436 112, 813 29, 870 1, 473 894 2, 142	226 256 131 95 1, 689 570 1 	179, 377 251, 026 217, 435 372, 723 415, 620 182, 563	720 1, 295 560 412 2, 839 591 2, 028 842 83, 703 25, 146 1, 662 2, 438	186, 502 140, 846 150, 717 191, 110 262, 878 245, 328 392, 001 648, 739 250, 180 145, 896 246, 784	2, 918 6, 282 6, 785 4, 007 1, 515 2, 674 5, 617 14, 287 6, 974 5, 669 8, 441 10, 664	5, 085 6, 002 5, 638 6, 842 11, 493 9, 868 9, 990 7, 641 14, 185 12, 489 9, 071	463 821 465 951	1, 029 761 623 976 630 221 181 332 434 473	1,000 lbs. 3,517 3,675 4,149 4,101 3,362 3,725 4,393 2,608 2,754 4,257 3,760 4,538	204, 044 159, 545 165, 882 203, 701 282, 209 266, 657 419, 572 667, 240 275, 456 172, 012 271, 642

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, 1910-1923.

Year ending June 30.	Bel- gium.	Den- mark.	Ger- many.	Italy.	Nether- lands.	United King- dom.	Other Europe.	Total Europe.	Can- ada.	Cuba.	Other coun- tries.	Total.
1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1915-16 1916-17 1918-19 1918-19 1919-20 1920-21 1921-22	1,000 lbs. 9,060 19,900 21,744 18,762 15,915 5,129 70,132 96,761 116,154 190,770 55,970 57,963 43,591 50,472	2, 874 841 75 22, 256 13, 528 9, 527 6, 923	3, 878 9, 579 49, 733 231, 528 260, 716	3, 488 4, 982 2, 137 1 16, 502 14, 172 9, 051	33, 221 38, 675 43, 384 43, 470 22, 245 13, 282 20, 446 17, 683 78, 354 113, 868 42, 831	168, 380 164, 633 189, 350 192, 076 178, 111 159, 959 286, 451 165, 374 169, 464 244, 465	25, 083 32, 764 21, 178 8, 067 98, 640 48, 903 57, 559 46, 471 145, 016 100, 058 36, 415 59, 300	402, 513 445, 083 420, 484 385, 717 395, 422 330, 755 358, 700 324, 796 671, 756 479, 519 632, 937 666, 877	6, 556 7, 968 11, 080 15, 996 7, 722 6, 330 5, 376 894 3, 565 11, 618 12, 226 8, 852	34, 969 42, 549 46, 526 49, 610 45, 349 53, 812 48, 733 52, 574 25, 572 68, 734 59, 939 73, 926	27, 039 36, 114 31, 961 14, 242 23, 878 27, 354 41, 055 62, 724	427 011 444,770 392,506 724,771 587,225 746,157

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.

		1	mports	•				]	Exports			
Calendar year.	Bel- gium.	France.	Ger- many.	Switz- erland.	United King- dom.	Den- mark.	Nether- lands.	Rus- sia.	Swed- en.	United States.	Can- ada.	Argen- tina.
1909		6, 670 14, 001 9, 497 1, 716 903 14 2, 079 9, 128 7, 136 6, 449 6, 407 4, 701	8, 117 2, 687 28, 880 35, 695 	3, 907 14, 583 22, 082 12, 489 7, 461 3 138 102 46 60 4, 759 6, 159	35, 027 55, 358 96, 455 30, 162 32, 847 18, 015 11, 150 15, 220 52, 705 65, 779	12, 486 2, 547 1, 972 32, 728 29, 919 15, 983	52, 070 64, 415 53, 103 79, 010 109, 854 97, 827 34, 693 6, 469 1 8, 583 3, 238	9, 091 8, 276 5, 869 4, 453 1, 011	14, 124 4, 776 7, 660 18, 263	2, 924 17, 701 20, 732 54, 157 46, 792 9, 911 23, 998 36, 764	229 497 16, 981 6, 134 44, 629 89, 156 34, 218 42, 558 10, 401 32, 610 33, 973	736 1, 969 2, 965 1, 684 2, 269 9, 915

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.

i		1	mports					3	Exports			
Calendar year.	France.	Ger- many.	Swit- zer- land.	United King- dom.	Cuba.	Den- mark.	Nether- lands.	Rus- sia.	Swe- đen.	United States.	Can- ada.	Aus- tralia,
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1909	4, 559		1,050	631, 546		205, 293						151
1910	2, 687	368	1,063	499, 926		207, 867						
1911	16, 158	950	1, 345			245, 864				387. 727		
1912	19, 399		1, 378	604, 235		263, 450		19, 663				
1913	10, 467	1, 950	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		246, 894						131
1916	77, 708		723	997, 645		195, 154			6, 970			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		749	1,010,482	9, 033	554	52, 053	ļ	55 840	1, 784, 447	244 004	3,026
1920		188, 102	789		23, 458	87, 988			15, 438			3, 099
1921	16, 462		680	699, 256		186, 654	10, 406		15, 251	647, 680		2, 687
1922	7, 769					1240, 583			(2)	631, 452		_,

Division of Statistical and Historical Research. Compiled from official sources.

Table 511.—Lard: Net imports and net exports of principal countries, 1909-1922.

			3	mports						Exports.		•
Calen- dar year.	Bel- gium.	Ger- many.	France.	Swed- en.	Swit- zer- land.	United King- dom.	Cuba.	Den- mark.	Nether- lands.	United States.	Bra- zil.	Aus- tralia.
1909 1910 1911 1912 1913 1914 1915 1916	1,000 lbs. 6,944 4,142 10,974 7,371 7,255	1,000 lbs. 206, 606 128, 638 212, 723 233, 810 236, 708	16, 821 17, 116 15, 220 1, 894 5, 848 17, 719 29, 371	1, 616 2, 065 1, 542 1, 486	1,000 lbs. 3, 164 2, 418 4, 591 4, 416 3, 651 2, 925 8, 497 5, 819	162, 051 202, 992 199, 450 223, 908 196, 567 244, 890	60, 708 59, 485 63, 745 67, 984 64, 631 69, 796	4, 704 6, 217 8, 489 8, 843 15, 441 3, 578 13, 816	2, 579 25, 910 31, 395 11, 641 3, 208 35, 912	368, 832 552, 430 495, 093 536, 180 438, 016 451, 286 426, 660	453 180 172	1,000 lbs. 1,259 2,906 3,012 1,296 3,395 1,219 3,531 1,273
1917 1918			43, 537 42, 345	79	8, 732 14, 325	162,072	55, 615	4, 677 44	329 7	372, 721 548, 818	22, 502	1, 458 5, 987
1919 1920 1921 1922	25, 501 14, 283 28, 665 27, 378	272, 016 192, 078 143, 729	56, 544	22, 119 6, 125 5, 923 7, 580	27, 131 14, 178 18, 078 12, 608	155, 234 250, 454	76, 645	5, 032 597 3, 446 1, 656	3, 995 8, 105 16, 919 24, 520	612, 250	24, 597	7, 909 3, 075 2, 793

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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
1909	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
Av. 1909-1913	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. <b>2</b>	28. <b>2</b>	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	<b>2</b> 6. 8	1 31.0	1 36.0	41.0	37. <b>2</b>	36. 1	37. 6	35. 4	36. 3	36. 4	34. 9	34. 2	35. 2
Av. 1914-1920	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	<b>2</b> 2. 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

<sup>&</sup>lt;sup>1</sup> Interpolated.

<sup>&</sup>lt;sup>1</sup> Includes all pork meat.

<sup>&</sup>lt;sup>2</sup> Pork not separated.

Table 512.—Pork, carcass: Average prices per pound in Great Britain, 1909-1923—Continued.

FIRST	QUALITY	FROZEN	PORK.
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Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1909 1910 1911 1912 1913	Cts. 12. 7 14. 5 13. 7 11. 7 15. 0	Cls. 11. 7 14. 0 13. 2 12. 2 15. 4	Cts. 11. 9 14. 9 14. 0 12. 5 15. 8	Cts. 12. 0 15. 2 13. 6 13. 2 15. 3	Cts. 11. 9 14. 7 12. 5 12. 9 15. 0	Cts. 12. 1 14. 2 11. 4 13. 2 15. 0	Cts. 12. 6 14. 2 11. 2 13. 4 14. 6	Cts. 12. 7 14. 3 11. 3 13. 0 14. 8	Cts. 13. 5 14. 7 12. 4 15. 4 14. 9	Cts. 14. 5 14. 9 11. 9 14. 7 14. 5	Cts. 14. 7 14. 5 11. 9 14. 9 14. 2	Cts. 13. 4 14. 2 12. 1 15. 1 14. 5	Cts. 12.8 14.6 12.4 13.5 14.9
Av. 1909-1913	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 1915 1916 1917 1918 1919 1920 1921 1922 1923	15. 1 15. 0 15. 8 20. 5 2 25.2 32. 1 21. 8 24. 2 13. 4 18. 1	14. 3 15. 8 16. 3 21. 6 25. 2 31. 8 20. 0 21. 3 13. 7 16. 1	14. 5 16. 7 16. 6 21. 8 26. 9 2 31.2 22. 4 20. 2 13. 7 14. 7	14. 1 18. 6 22. 2 31. 8 31. 0 23. 2 20. 0 13. 8 15. 2	13. 6 17. 6 21. 4 31. 8 2 31.1 22. 8 19. 6 13. 9 14. 3	13. 3 18. 4 20. 8 31. 7 2 30.8 23. 4 18. 2 13. 9 14. 7	24. 3	13. 5 18. 1 23. 7 31. 8 25. 0 216. 2 16. 8 15. 1	12. 8 19. 8 25. 2 2 31.8 24. 8 28. 8 16. 2 18. 4 14. 8	21. 0 25. 2 35. 7 24. 8 28. 7 16. 2 2 18. 8 15. 7	20. 2 25. 2 25. 2 2 35. 7 24. 2 28. 4 14. 4 19. 2 16. 2	20. 6 25. 2 2 35.7 22. 4 27. 3 13. 8 19. 5 15. 2	13. 9 18. 4 22. 9 31. 2 28. 0 24. 6 18. 1 16. 0 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 cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

2 Interpolated.

Table 513.—Lard, pure: Monthly average price per 100 pounds, Chicago, 1905–1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1905	Dolls. 6. 73 7. 44 9. 29 7. 70	6. 74 7. 55 9. 70	6. 92 8. 03 9. 03	7. 12 8. 59	7. 18 8. 49 8. 95	8. 74 8. 69	7. 09 8. 93 8. 91	7. 70 8. 66 8. 89	7. 51 7. 79 8. 98	7. 12 9. 33 8. 86	7. 08 9. 36 8. 16	7. 51 8. 75 7. 98	8.47
1909 1910 1911 1912 1913	9. 57 12. 43 10. 32 9. 24 9. 88	12. 50 9. 50 8. 90	14. 08 8. 83 9. 37	12. 33 7. 93 10. 06	12. 95 8. 03 10. 77	11. 54 12. 27 -8. 17 10. 87 10. 99	11. 85 8. 30 10. 57	11. 82 8. 97 10. 73	12. 44 9. 32 11. 08	12. 93 8. 85 11. 47	10. 82 9. 07 11. 15	10.31 9.00 10.46	12. 23 8. 86 10. 39
Av. 1909–1913	10. 29	10. 18	10. 60	10. 33	10, 68	10. 77	<b>10.</b> 75	10.89	11. 24	11. 20	10.92	10. 71	10.72
1914	10.69 10.32	10. 53 9. 99 17. 00 26. 05 24. 88	10. 79 19. 30 26. 07 27. 35	9. 95 11. 77 21. 00 25. 44 30. 09	9. 71 12. 80 22. 30 24. 53 33. 58	12. 87 21. 41 24. 50 34. 15	8. 05 13. 12 20. 77 26. 09 34. 76	7. 92 13. 44 22. 40 26. 78 30. 01	8. 13 14. 47 24. 03 26. 98 26. 19	9. 07 15. 34 24. 29 26. 66 27. 41	8.94 16.91 27.13 26.69 25.86	16. 66 25. 46 25. 31 23. 11	9. 31 13. 21 21. 73 25. 79 28. 40
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
1921 1922 1923		12. 59	13. 50	12.62	13. 15	12. 03 13. 22 13. 18	13.06	13. 30	13.00	14. 12	13. 78	13. 31	13.07

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.

<sup>1</sup> Designated "Foreign" prior to 1917.

Table 514.—Bacon, Wiltshire sides,¹ green, firsts: Average prices per pound at Bristol, England, calendar years, 1909-1923.

	2.0		·graira,	,	J-11	•,		-		
	A	verage fo	r 5 years	, 1909–19	13.			1909		
Month.	Amer- ican.	Cana- dian.	Dan- ish.	Irish.	Brit- ish.	Amer- ican.	Cana- dian.	Dan- ish.	Irish.	Brit- ish.
January February March April May June July August September October November December	Cents. 13. 2 13. 3 13. 9 13. 8 14. 0 14. 2 15. 0 15. 4 15. 0 14. 1 13. 4	Cents. 13. 7 13. 9 14. 5 14. 6 14. 9 15. 1 16. 0 15. 9 14. 9 14. 2 13. 6	Cents. 14. 5 14. 5 15. 1 15. 3 15. 8 15. 9 17. 2 16. 5 15. 4 15. 3 14. 9	Cents. 15.0 15.2 15.7 15.8 16.6 16.9 17.3 17.6 17.2 15.9 15.2	Cents. 16. 2 16. 4 16. 9 16. 9 17. 4 17. 4 17. 9 18. 3 17. 9 16. 6 16. 0 16. 1	Cents. 10. 9 11. 3 12. 6 13. 0 13. 5 13. 3 13. 9 14. 6 15. 2 15. 0 14. 6	Cents. 12.2 12.2 13.5 14.6 15.2 13.9 14.2 15.9 15.0 14.1	Cents. 12.8 12.2 13.5 15.2 16.1 14.6 16.3 16.5 16.1 15.6 15.9	Cents. 13. 9 14. 1 15. 2 16. 1 16. 9 16. 5 16. 5 17. 4 16. 9 15. 6 16. 1 15. 6	Cents. 14.8 14.8 16.1 16.1 17.4 16.9 16.9 17.4 16.9 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 February March April May June July August September October November. December	14.8 14.8 15.9 15.4 2 16.2 2 17.1 2 16.1 2 16.6 2 13.6 2 12.5	14. 8 15. 2 16. 4 15. 9 16. 7 17. 6 16. 6 16. 6 15. 4 14. 1	15. 4 15. 2 16. 5 15. 4 16. 1 16. 9 18. 0 17. 2 16. 9 14. 8 14. 8	16. 1 16. 1 17. 4 16. 3 17. 4 18. 2 17. 8 17. 8 15. 9 15. 6 14. 8	17. 2 17. 6 18. 5 18. 0 18. 2 18. 2 18. 7 18. 9 16. 5 16. 9	13. 5 13. 0 12. 8 11. 9 12. 8 13. 5 14. 6 13. 5 12. 2 11. 3 11. 3	13. 9 13. 7 12. 6 11. 7 14. 1 15. 2 13. 7 12. 2 11. 5	14. 6 14. 8 14. 3 13. 5 15. 2 15. 6 16. 0 13. 3 12. 2 11. 9	15. 2 15. 0 14. 8 14. 8 15. 9 16. 1 16. 3 16. 1 13. 9 11. 9	17. 2 16. 7 15. 9 15. 6 16. 9 16. 9 16. 3 14. 1 13. 0
Average	15. 2	15. 6	15. 9	16. 6	17. 8	12.8	13. 1	14. 3	14.8	15.8
			1912					1913		
January February March April May June July August September October November December	11. 5 11. 7 12. 4 13. 0 13. 3 13. 3 13. 9 15. 2 15. 6 15. 9 15. 0 14. 3	11. 5 12. 6 12. 8 14. 3 15. 0 14. 8 15. 4 15. 9 16. 1 16. 3 15. 0 14. 6	12. 4 13. 7 13. 7 15. 2 15. 6 16. 9 17. 8 16. 9 17. 8 16. 9	13. 0 13. 7 14. 1 15. 2 16. 1 16. 3 16. 9 17. 6 17. 2 17. 4 16. 1	13. 5 14. 1 14. 8 16. 1 16. 5 17. 4 17. 8 17. 8 18. 0 16. 1 16. 9	15. 2 15. 6 15. 6 16. 1 15. 6 16. 7 16. 5 16. 7 16. 3 15. 4	15. 9 15. 9 16. 1 16. 9 16. 1 18. 2 16. 9 17. 2 15. 6 15. 2	17. 2 16. 7 17. 2 16. 5 17. 8 17. 2 19. 1 18. 0 17. 8 16. 1 16. 1	16. 9 16. 9 17. 2 16. 7 18. 7 18. 2 18. 9 18. 7 16. 7 16. 1	18. 2 18. 7 18. 2 19. 1 18. 7 19. 6 20. 0 19. 6 17. 4 16. 7 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 February March April May June July August September October November December	15.0 14.4 15.0 14.8 14.4 14.6 18.3 17.8 16.4 15.8	15. 2 14. 4 15. 0 14. 6 14. 2 14. 4 19. 2 18. 7 15. 8 16. 1	16. 1 14. 8 15. 8 16. 7 15. 3 15. 7 19. 9 19. 1 15. 9 16. 2 16. 7	17. 2 16. 8 18. 0 16. 7 16. 4 16. 6 16. 8 20. 1 19. 9 17. 3 17. 8	17. 8 17. 2 18. 2 17. 4 17. 4 17. 7 20. 1 20. 5 18. 1 17. 9 18. 7	16. 0 15. 3 15. 4 16. 7 16. 8 15. 7 16. 4 18. 4 20. 1 19. 8 18. 5	16. 9 15. 9 15. 9 17. 9 17. 9 18. 6 18. 8 18. 7 18. 9 20. 3 19. 8 19. 2	18. 2 17. 0 17. 6 19. 3 20. 5 20. 3 20. 6 22. 3 22. 4 22. 4 21. 7 21. 9	18. 6 17. 9 18. 4 20. 3 21. 0 20. 9 20. 0 22. 6 22. 6 22. 5 21. 9	19. 5 18. 7 18. 9 21. 0 21. 4 21. 3 20. 8 22. 9 23. 4 22. 9 22. 8
Average	15. 5	15. 7	16. 4	17. 6	18. 2	17. 0	18. 4	20. 4	20. 8.	21.4
		·								

<sup>&</sup>lt;sup>1</sup> Entire half of hog in one piece, head off, backbone out, ribs in.
<sup>2</sup> Interpolated.

Table 514.—Bacon, Wiltshire sides, green, firsts: Average prices per pound at Bristol, England, calendar years, 1909-1923.—Continued.

DTi	stot, En	iyiuna,	cateno	iar yeu	78, 190	9-1020		иниеи	•	
77. ()			1916					1917		
Month.	Amer- ican.	Cana- dian.	Dan- ish.	Irish.	Brit- ish.	Amer- ican.	Cana- dian.	Dan- ish.	Irish.	Brit- ish.
January February March April May June July August September October November December	Cents. 17. 4 17. 0 18. 7 19. 8 18. 9 17. 6 18. 5 22. 1 22. 5 21. 9 22. 1 20. 8	Cents. 19. 3 19. 1 20. 8 21. 7 20. 4 20. 8 22. 5 25. 1 24. 2 22. 9 24. 0 23. 7	Cents. 22. 1 21. 2 23. 0 21. 9 23. 1 23. 6 24. 6 27. 5 24. 8 25. 5 25. 9	Cents. 22. 3 22. 1 23. 4 22. 5 24. 2 23. 8 25. 1 28. 0 26. 8 25. 5 26. 3 25. 9	Cents. 22. 5 22. 5 25. 1 26. 0 25. 1 25. 1 25. 9 28. 0 27. 2 28. 0 28. 0	Cents. 22.9 27. 6 28. 2 28. 5 28. 4 25. 9 28. 9 31. 2 3 33. 3 36. 5 37. 7	Cents. 24. 8 28. 9 28. 7 29. 3 26. 3	Cents. 27. 6	Cents. 28. 5 32. 7 30. 1 30. 8 31. 2 31. 4 32. 7 34. 4 36. 7 30. 7 38. 6 38. 6	Cents. 29. 7 33. 5 31. 8 32. 5 32. 5 32. 5 34. 6 34. 6 37. 3 37. 3
Average	19. 8	22, 0	24. 0	24. 7	26. 0	30. 1			33. 0	33. 6
			1918					1919		
January February March April May June July August September October November December	37. 6 37. 6 37. 7 37. 7 37. 7 39. 2 39. 3 39. 3 39. 3 39. 3	37. 7 37. 7 39. 2 39. 3 39. 3 39. 3 39. 3 39. 3		t	37. 3 37. 3 37. 3 38. 6 39. 9 39. 9 40. 2 40. 2 40. 2 40. 2 40. 2	39. 3 39. 3 38. 8 38. 0 38. 0 38. 3 36. 3 36. 6 35. 6 35. 0 32. 3	39. 3 39. 3 38. 8 39. 5 39. 5 39. 5 39. 5 39. 8 35. 6 35. 0 32. 3		40. 2 40. 2 39. 8 40. 6 40. 6 40. 3 38. 6 37. 3 36. 5 36. 4 35. 6 34. 6	40, 2 40, 2 39, 8 40, 6 40, 6 40, 3 38, 6 37, 3 36, 5 36, 4 35, 6 34, 6
Average	38. 5				39. 3	37. 1	37. 9		38. 4	38. 4
			1920					1921		
January February March April May June July August September October November December	31. 5 28. 9 32. 3 33. 5 33. 0 33. 8 33. 1 31. 1 30. 8 30. 5 30. 0 30. 6	31. 5 28. 9 32. 3 33. 5 33. 0 33. 8 35. 3 33. 2 32. 2 32. 2 35. 1 35. 8	32. 3 29. 7 2 33. 1 2 34. 4 33. 9 34. 7 36. 0 33. 9 33. 3 36. 2 39. 5	33. 7 31. 0 34. 6 48. 9 40. 4 43. 2 49. 0 48. 5 46. 3 42. 6 41. 3	33. 7 31. 0 34. 6 49. 8 43. 8 43. 2 49. 0 48. 5 47. 0 46. 5 42. 8 43. 6	27. 2 28. 0 27. 2 23. 9 20. 4 18. 5 21. 1 21. 2 18. 6 18. 0 18. 4 18. 9	34. 1 30. 3 30. 7 28. 1 24. 0 26. 1 30. 0 26. 9 21. 9 21. 6 21. 3 22. 8	35. 6 37. 8 38. 2 39. 5 32. 9 32. 0 33. 2 31. 0 30. 3 27. 7 27. 1 28. 4	37. 7 39. 8 41. 1 41. 2 34. 3 35. 0 37. 0 34. 9 31. 3 28. 0 27. 7 28. 9	38. 6 41. 5 41. 9 42. 1 37. 3 38. 4 37. 6 35. 9 31. 6 28. 5 29. 8
Average	31. 6	33. 1	34. 2	41.7	42.8	21.8	26. 5	32, 8	34. 7	36, 2
			1922					1923		
January February March April May June July August September October November December	17. 9 23. 4 20. 7 20. 1 20. 6 21. 5 23. 4 24. 3 21. 4 20. 6 21. 5	21. 7 26. 3 22. 7 24. 8 27. 8 27. 8 28. 3 27. 7 23. 0 25. 6 19. 8	27. 9 30. 2 26. 4 28. 4 32. 8 32. 0 32. 1 32. 6 27. 3 29. 2 25. 1	29. 4 32. 3 29. 3 33. 1 34. 5 35. 4 35. 3 35. 9 32. 9 32. 0 30. 0	31. 1 33. 1 31. 3 34. 5 34. 7 35. 4 35. 7 36. 9 33. 6 30. 3 32. 4 30. 9	17. 9 15. 7 16. 4 16. 6 17. 3 17. 3 16. 7 23. 6 19. 5 18. 6 16. 0 14. 4	20. 8 19. 9 21. 0 22. 0 22. 3 20. 2 20. 8 25. 4 21. 1 20. 2 19. 6 17. 9	24. 5 23. 5 23. 9 25. 4 24. 0 23. 5 23. 2 29. 7 23. 1 21. 4 20. 7 20. 0	30, 3 29, 3 27, 5 28, 1 25, 8 23, 9 23, 7 230, 4 22, 6 21, 9 21, 8	32. 4 29. 3 27. 2 26. 2 24. 9 25. 9 32. 6 26. 4 24. 6 23. 9 23. 9
Average	21. 2	25, 2	29. 7	32, 5	33. 3	17. 5	20. 9	23. 6	25. 8	27.0
	<u>'</u>	<u></u>	·	!	·'		·			

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 pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

<sup>1</sup> Entire half of hog in one piece, head off, backbone out, ribs in.

<sup>&</sup>lt;sup>2</sup> Interpolated.

Table 515.—Hams: Prices per pound in Liverpool, 1909-1923.

AMERICAN, SHORT CUT, GREEN, FIRSTS 1

	1	1	f	1	1	1					7		,
Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1000	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	16.6	15. 7	17. 0	17. 5	17. 3	16.0	16.0	14.7	15. 5	14. 9	15.9
1911		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		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		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. 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	<b>3</b> 9. 3	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. 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		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
									20.0	20.0	22.1	10.0	20. 1
	$\mathbf{A}$	MERI	CAN,	LON	G CU	T, GF	REEN	, FIR	STS.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		17.7				18.3	17.0	17 3	17 6	16.1	14 3	16.8

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	20. 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	<b>2</b> 5. <b>2</b>	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		230.8	28. 0	23. 7	20. 2	20. 0	20. 4	19.6	24. 3
1923	19. 1	18.9	19. 3	221.9	21. 1	21. 4	22. 6	22. 6	21. 9	20. 8	22. 7	18. 5	20. 9
		1 1							-2.0	-0.0	~~	10. 0	20.0

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 average rate of exchange as given in Federal Reserve Bulletins.

Table 516.—Lard, American prime western steam: Average price per pound in Liverpool, 1909-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1909 1910 1911 1912	Cents. 10. 7 14. 1 11. 5 10. 2	Cents. 10. 6 14. 0 11. 4 10. 0	Cents. 11. 2 15. 5 10. 0 10. 2	Cents. 11. 4 14. 8 9. 1 10. 9	Cents. 11. 8 14. 5 9. 2 11. 4	Cents. 12. 7 13. 7 9. 1 11. 6	Cents. 12. 8 13. 3 9. 1 11. 4	Cenis. 12. 8 13. 1 9. 9 11. 8	Cents. 13. 4 13. 6 10. 4 12. 4	Cents. 13. 6 13. 8 9. 9 13. 0	Cents. 14. 7 12. 7 10. 2 12. 6	Cents. 14. 9 11. 5 10. 1 11. 9	Cents. 12. 6 13. 7 10. 0 11. 4
1913 Av. 1909-1913 1914	11. 2 11. 5 12. 3	11. 8 11. 6 11. 8	12. 2 11. 8 11. 5	12. 4 11. 7 11. 3	12. 3 11. 8 10. 8	12. 2 11. 9 10. 9	12. 7 11. 9 11. 0	12. 7 12. 1 12. 6	12. 6 12. 5 11. 4	12. 1 12. 5 11. 3	12. 2 12. 5 12. 2	$   \begin{array}{r}     12.1 \\     \hline     12.1 \\     \hline     11.7   \end{array} $	$ \begin{array}{r} 12.2 \\ \hline 12.0 \\ \hline 11.6 \end{array} $
1915 1916 1917 1918	12. 0 12. 7 20. 4 28. 6	11. 6 12. 4 124. 8	11. 1 13. 8 29. 3	11. 2 15. 4 27. 7	11. 1 16. 5 26. 3 31. 7	10. 6 15. 7 23. 8 31. 7	9. 3 15. 4 23. 8	8. 3 15. 7 25. 0	8. 9 17. 3 <sup>2</sup> 25. 9 33. 2	10. 2 18. 3 127. 1 33. 0	10. 8 20. 3 28. 2	11. 7 20. 1 28. 6	10. 6 16. 1 25. 9
1919	32. 0 23. 4 11. 3 13. 3	29. 5 <sup>2</sup> 23. 3 12. 9 13. 0	32. 9 15. 7 13. 1 13. 7	27. 2 13. 2 12. 8 13. 6	11. 7 13. 6 12. 9	88. 1 27. 4 12. 1 13. 5 13. 0	37. 1 26. 7 13. 6 13. 2 12. 7	36. 3 13. 4 13. 3 12. 7	36. 5 13. 2 12. 7 14. 0	36. 8 12. 2 13. 2 14. 5	35. 6 23. 8 12. 6 14. 1 15. 7	32.9 24.2 11.7 13.6 15.1	14. 7 13. 1 13. 7

Division of Statistical and Historical Research. Compiled from Manchester Guardisn. An average of Friday quotations. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

Short cut, regular American commercial ham; long cut longer both in the butt and shank. Green, cured in pickle or salt but not smoked.
 A verage of London and Bristol prices, and closely approximates Liverpool price.

<sup>&</sup>lt;sup>1</sup> Interpolated. <sup>2</sup> Government control of prices began Sept. 3, 1917, and ended on Feb. 28, 1921.

## HOG-CHOLERA CONTROL.

Table 517.—Hogs: Cholera-control work by Bureau of Animal Industry, 1918-1922.

	Bureau	D	Demons	trations.		Farms	Farms	Out- breaks
Year beginning July 1, and State.	veterina- rians en- gaged in work.1	Premises investi- gated.	Number.	Hogs treated.	Autop- sies per- formed.	quaran- tined or carded.	cleaned and dis- infected.	reported to bureau veterina- rians.
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	2. 67	2, 211	588	9, 927	93	į.		288
Arkansas	2. 07	1, 236	206	4, 834	95 56		2	169
California		275	50	1,896	245		2	111
Colorado	li	129	30	1,000	86	<b></b>		45
Delaware	i	934	4	19	132	6	30	109
Florida	4, 50	2, 956	834	19, 513	158	ľĭ	32	335
Georgia	4	4, 276	1,138	26, 757	185		4	334
Idaho	$\tilde{2}$	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	<b></b>		338
Kansas	1	855			258	17	17	435
Kentucky	3.42	2, 823	163	2, 158	128		3	139
Louisiana	1 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	19	333
Mississippi	2.70	1, 338	151	2, 104 142	50	38		.203 188
Missouri	1.42	1, 453 85	6 7	345	56 10	29	8 4	47
Montana Nebraska	. 14 1. 50	586	'	940	420	29	*	213
North Carolina	3, 33	6,608	1, 158	17, 266	150	59	70	332
North Dakota	1 3. 33	230	1, 156	229	71	385	91	.504
Ohio	3	3, 670	-	220	211	500	ii	541
Oklahoma	3, 33	2, 138	73	2, 158	$\tilde{1}\tilde{5}\tilde{2}$	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	$3\bar{2}$	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	16	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.

# HOGS-FEEDING, SHIPMENT, AND MARKETING.

Table 518.—Hogs: Percentage of shrinkage in shipments by cooperative associations, 1921.1

				10713, 1					
		By dis	tance.				By me	onths.	
	Strai shipm		Mixed shipments.3			Strai shipm		Mixed shipments.3	
Distance.	Number of animals upon which figures are based.	Shrink- age per- centage of weight shipped	animals upon which figures	Shrink- age per- centage of weight shipped	Month.	Number of animals upon which figures are based.	Shrink- age per- centage of weight shipped	animals upon which figures	Shrink- age per- centage of weight shipped
Less than 100 miles 100-150 miles 100-200 miles 200-250 miles 250-300 miles 300-350 miles 300-350 miles 350-400 miles 400-450 miles 500-550 miles 500-550 miles 550-600 miles 350-600 mi	86, 060 112, 419 103, 605 109, 438 4, 612 36, 639 56, 156 41, 021 11, 787 2, 778 2, 775	1. 48 1. 10 1. 25 1. 24 2. 10 2. 11 1. 80 1. 71 1. 62 2. 13 3. 07	64, 327 38, 039 14, 860 36, 591 1, 692 18, 629 54, 299 24, 004 23, 557 173	1. 91 2. 23 1. 91 2. 76 2. 89 3. 47 4. 00 3. 62 1. 94 3. 60	January February March April May June July August September October November December	67, 822 57, 056 40, 047 48, 419 40, 918 55, 399 38, 485 37, 594 38, 132 45, 077 47, 464 51, 101	1. 14 1. 03 1. 31 1. 39 1. 49 1. 77 1. 40 1. 90 1. 86 1. 68 1. 34	25, 710 19, 680 18, 948 23, 069 25, 500 22, 860 11, 840 16, 031 21, 862 27, 313 25, 638 18, 970	1. 50 0. 72 2. 29 2. 44 1. 78 2. 57 2. 93 3. 12 2. 43 3. 18 2. 09

Division of Cost of Marketing.

<sup>&</sup>lt;sup>1</sup> Fractions denote veterinarians devoting a portion of their time to the work.

<sup>1</sup> 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.

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 wear	ned pigs.	100 pounds market- able pork.		
rems.	Quanti- ties.	Farm value.	Quanti- ties.	Farm value.	
Kinds of feed: Corn (shelled basis)	277. 0 8. 4 . 8 3. 4 49. 1 8. 7 15. 8 263. 5 11. 7 5. 6  8. 9 21. 0 1. 1		Pounds. 413. 6 23. 29 1. 1 . 04 . 4 8. 8 3. 2 1. 5 . 4 28. 3 . 2 . 5 7. 0 1. 7 . 3	\$2. 62 	
head expenses, incidentals, and interest  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).

Table 520 .- Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.

BY MARKETS-STRAIGHT SHIPMENTS.1

	Number			Crippled.		Dead.			
Market.	of animals upon which figures are based.	Average weight of animals.	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.			Pounds.			Pounds.	
Buffalo	23, 305	195	0.91	0. 93	199	0. 31	0. 25	157 246	
Chicago	317, 621	250	. 64	. 63	247 197	. 26 . 21	. 25 . 22	208	
Cleveland East St. Louis	8, 895 50, 176	203 207	. 57 . 38	. 55 . 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	. 15	216	
St. Joseph	21, 293	238	. 24	. 25	250	. 13	. 13	237	
St. Paul	12, 517	238	. 22	. 24	255	. 28	, 33	285	

<sup>1</sup> Straight shipments contain but one species of livestock.

Shorts and Red Dog flour.
 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—Continued.

# BY MARKETS-MIXED SHIPMENTS.2

	Number	Average		Crippled.			Dead.	
Market.	of animals upon which figures are based.	Average weight of animals.	Percentage of total number shipper.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			Pounds.			Pounds.
Buffalo	80, 437	198	1.10	1. 14	203	0. 53	0. 44	165
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	. 25	. 30	178
Sioux Falls	1, 159	235	. 43	. 51	280	. 26	. 21	183
St. Joseph	5, 785	245	. 26	. 28	269	. 22	. 18	202
St. Paul	50, 216	238	28	. 26	224	. 17	. 17	242

Division of Cost of Marketing.

Table 521.—Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.

$\mathbf{BY}$	DISTANCE-STR	AIGHT	SHIPMENTS.1
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	Number			Crippled.			Dead.	
Market.	of animals upon which figures are based.	Average weight of animals.	Percent- age 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.
Less than 100 miles 100-150 miles 150-200 miles 200-250 miles		Pounds. 242 231 235 230	0. 33 . 40 . 41 . 44	0. 31 . 43 . 40 . 45	Pounds. 229 238 232 234	0. 12 . 20 . 24 . 18	0. 11 . 22 . 18 . 16	Pounds. 235 254 210 210
250–300 miles 300–350 miles 350–400 miles 400–450 miles		219 254 250 247	. 21 . 89 . 74 . 82	. 18 . 83 . 72 . 79	183 236 244 234	. 21 . 34 . 38 . 33	. 20 . 34 . 41 . 31	209 258 270 236
450–500 miles 500–550 miles 550–600 miles	12, 790 2, 997 2, 751	241 238 237	. 86 . 60 1. 27	. 86 . 79 1. 38	240 314 258	. 18 . 37 . 29	. 17 . 31 . 33	230 203 274
	В	V DISTA	NCE-MI	XED SH	PMENT	3,2		
Less than 100 miles	18, 567 42, 120 1, 752 18, 684 62, 016	232 224 237 190 213 200 204 195 203	0. 37 . 47 . 34 . 39 . 45 1. 16 1. 11 1. 02 1. 06	0. 35 . 45 . 36 . 39 . 41 1. 07 1. 15 1. 02 1. 03	217 209 250 185 194 184 210 196 198	0. 18 . 27 . 36 . 20 . 11 . 35 . 44 . 49 . 32	0. 18 . 28 . 40 . 20 . 18 . 31 . 40 . 33 . 31	229 222 263 184 344 178 186 166

<sup>&</sup>lt;sup>2</sup> Mixed shipments contain more than one species of livestock.

Straight shipments contain but one species of livestock.
 Mixed shipments contain more than one species of livestock.

Table 521.—Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921—Continued.

## BY MONTHS-STRAIGHT SHIPMENTS.1

	Number			Crippled.	:		Dead.	
Market.	of animals upon which figures are based.	Average weight of animals.	Percent- age of total number shipped.	Percent- age of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percent- age of total weight shipped.	Average weight of animals.
		Pounds.			Pounds.			Pounds.
Jenuary	76, 266	234	$\begin{array}{c} 0.69 \\ .65 \\ .57 \end{array}$	0. 73	248	0. 19	0. 18	222
February	64, 486	235		. 67	246	. 17	. 16	222
March	45, 055	244		. 58	245	. 21	. 20	241
April	54, 188	238	. 46	$\begin{array}{c} .47 \\ .43 \\ .35 \end{array}$	244	. 24	. 25	244
May	46, 721	234	. 44		233	. 43	. 53	290
June	63, 673	237	. 36		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
The second secon	ВУ	MONTH	IS-MIX	ED SHIP	MENTS.			
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.

Table 522.—Hogs: Principal terminal marketing costs, eight markets, 1921.

	Num-			Cent	s per 1	,0 <b>00</b> 1b	s., hom	e weigl	nt, s <b>tr</b> a	ight shi	pment	s.	
Market. ber of head upon which figures are	Commission.			Yardage.			Feed.			Commission, yard, and feed com- bined.			
	are based.	Avg.1	Low.1	High.	Avg.1	Low.1	High.1	Avg.1	Low.1	High.	Avg.1	Low.1	High.1
Chicago St. Paul St. Joseph Kansas City Omaha Sioux Falls Buffalo Pittsburgh	124, 338, 10, 334 21, 663 16, 589 14, 638 14, 394 18, 564 37, 366	82. 6 88. 6 83. 6 86. 8 93. 8 77. 7	75. 4. 77. 6 75. 7 69. 7 80. 6 68. 3	102. 4	42. 1 48. 7 50. 5 44. 0 47. 7	36. 3 41. 8 37. 8 37. 4 42. 3 51. 7	53. 0 56. 6	50. 2 42. 1	33. 0 34. 6	70. 0 70. 2 57. 1	174. 9 179. 4 171. 9 159. 7 180. 2	160. 1 156. 5 161. 4 132. 8	208. 8 240. 3 218. 7 181. 0 187. 9

Division of Cost of Marketing. Data from 237 cooperative shipping associations in the Corn Belt.

<sup>1</sup> Straight shipments contain but one species of livestock.

Mixed shipments contain more than one species of livestock.

<sup>&</sup>lt;sup>1</sup> Averages 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.	Farm value Jan. 1.	Jan. 1.	Number.	Price per head Jan. 1.	Farm value Jan. 1.
1867 1868 1869 1870, June 1	Thousands. 39, 385 38, 992 37, 724 28, 478 31, 851	Dollars. 2, 50 1, 82 1, 64 1, 90 2, 14	Thousand dollars. 98, 644 71, 053 62, 037 54, 062 68, 310	1897	Thousands. 36,819 37,657 39,114 61,504 59,757	Dollars. 1. 82 2. 46 2. 75 3. 03 2. 98	Thousand dollars. 67, 021 92, 721 107, 698 186, 271 178, 072
1872 1873 1874 1875 1876	31, 679 33, 002 33, 938 33, 784 35, 935	2. 61 2. 71 2. 43 2. 55 2. 37	82, 768 89, 427 82, 353 86, 278 85, 121	1902 1903 1904 1905 1906	62, 039 63, 965 51, 630 45, 170 50, 632	2. 65 2. 63 2. 59 2. 82 3. 54	164, 446 168, 316 133, 530 127, 332 179, 056
1877 1878 1879	35, 804 35, 740 38, 124	2. 13 2. 21 2. 07	76, 362 78, 898 78, 965	1907 1908	53, 240 54, 631	3. 84 3. 88	204, 210 211, 736
1880, June 1 1881 1882 1883	35, 192 43, 570 45, 016 49, 237	2. 29 2. 39 2. 37 2. 53	80, 757 104, 071 106, 596 124, 366	1909	56, 084 52, 448 53, 633 52, 362 51, 482	3. 43 4. 12 3. 91 3. 46 3. 94	192, 632 216, 030 209, 535 181, 170 202, 779
1884 1885 1886	50, 627 50, 360 48, 322	2. 37 2. 14 1. 91	119, 903 107, 961 92, 444	Av. 1909-1913	53, 202	3.77	200, 429
1887 1888 1889 1890, June 1	44, 759 43, 545 42, 599 35, 935 43, 431	2. 01 2. 05 2. 13 2. 41 2. 50	89, 873 89, 280 90, 640 86, 447 108, 397	1914 1915 1916 1917 1918 1919 1920	49, 719 49, 956 48, 625 47, 616 48, 603 48, 863	4. 02 4. 50 5. 17 7. 13 11. 82 11. 63	200, 045 224, 687 251, 594 339, 529 574, 575 568, 265
1892 1893 1894 1895	44, 938 47, 274 45, 048 42, 294	2. 58 2. 66 1. 98	116, 121 125, 909 89, 186	Av. 1914-1920	39, 025	7. 72	408, 586 366, 754
1896	38, 299	1. 58 1. 70	66, 686 65, 168	1921 1922 1923 1924 <sup>1</sup>	37, 452 36, 327 37, 223 38, 361	6.30 4.80 7.51 7.88	235, 855 174, 545 279, 464 302, 092

Division of Crop and Livestock Estimates. Figures in italics are census returns.

Table 524.—Sheep: Yearly losses per 1,000 from disease and exposure, 1890-1924.

Year	Loss pe	er 1,000.	Year	Loss pe	er 1,000.	Year	Loss pe	er 1,000.		Loss pe	er 1,000.
ending Apr. 30.	From dis- ease.	From expos- ure.	ending Apr. 30.	From dis- ease.	From expos- ure.	ending Apr. 30.	From dis- ease.	From expos- ure	Year ending Apr. 30.	From dis- ease	From expos- ure
1889-90 - 1890-91 - 1891-92 - 1892-93 - 1893-94 - 1894-95 - 1895-96 - 1896-97 - 1897-98 -	24. 0 23. 0 19. 0 24. 0 20. 0 26. 0 27. 0 23. 0 26. 0	51. 0 17. 0 14. 0 20. 0 15. 0 29. 0 21. 0 32. 0 27. 0	1898-99_ 1899-1900 1900-1_ 1901-2_ 1902-3_ 1903-4_ 1904-5_ 1905-6_ 1906-7_	21. 0 20. 0 24. 0 25. 0 27. 8 26. 0 24. 6 22. 2 25. 6	35. 0 18. 0 22. 0 31. 6 53. 6 37. 7 30. 8 37. 0 35. 4	1907-8 1908-9 1909-10. 1910-11. 1911-12. 1912-13. 1913-14. 1914-15. 1915-16.	22. 5 26. 6 27. 5 25. 5 26. 7 24. 8 21. 9	22. 9 28. 3 43. 9 23. 0 47. 0 25. 0 22. 0	1916-17 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	21. 8 19. 8 19. 7 23. 7 23. 1 21. 4 22. 4 20. 0	32. 4 19. 3 24. 4 34. 6 15. 6 23. 4 24. 1 17. 5

Division of Crop and Livestock Estimates. As reported by crop reporters May 1, for year ending  ${\rm April}\,30.$ 

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 525.—Sheep, including lambs: Number and value on farms January 1, 1922-1924.

State.	. Nu	mber Ja	n. 1.	Averag	e price p Jan. 1.	er head	Farm	value Ja	an. 1.
	1922	1923	1924 1	1922	1923	1924	1922	1923	19241
Maine	Thou-sands. 95 20 48 17	Thou-sands. 90 18 43 16	Thou- sands. 90 18 44 14	Dollars. 4. 80 5. 60 5. 00 6. 60 6. 30	Dollars. 6. 70 7. 80 7. 00 6. 90 7. 90	Dollars. 7. 10 7. 30 7. 40 7. 90 8. 00	Thou-sand dollars. 456 112 240 112 19	Thou- sand dollars. 603 140 301 110 24	Thou- sand dollars. 639 131 326 111 24
Connecticut New York New Jersey Pennsylvania Delaware	9	8	8	7. 50	7. 80	7. 90	68	62	63
	512	532	543	5. 80	8. 50	9. 30	2, 970	4, 522	5, 050
	10	10	10	7. 40	7. 50	8. 90	74	75	89
	468	477	482	5. 80	7. 10	7. 80	2, 714	3, 387	3, 760
	3	3	3	6. 00	7. 40	7. 00	18	22	21
Maryland Virginia West Virginia North Carolina South Carolina	89	93	96	6. 20	7. 50	8. 50	552	698	816
	322	338	355	5. 60	7. 60	8. 10	1, 803	2, 569	2, 876
	480	504	504	4. 80	6. 90	7. 30	2, 304	3, 478	3, 679
	84	81	82	4. 90	5. 60	6. 40	412	454	525
	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
	64	63	64	3, 10	3. 50	2. 90	198	220	186
	1,957	2,094	2, 115	4, 60	7. 10	7. 30	9, 002	14, 867	15, 440
	606	648	700	5, 20	8. 00	8. 40	3, 151	5, 184	5, 880
	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
	367	341	341	4. 60	7. 50	8. 10	1, 688	2, 558	2, 762
	445	400	428	4. 70	7. 20	8. 00	2, 092	2, 880	3, 424
	775	829	928	5. 40	8. 40	8. 30	4, 185	6, 964	7, 702
	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	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
Kansas	285	285	299	4. 80	7. 30	7. 10	1, 368	2,080	2, 123
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
	83	90	86	2. 70	3. 40	4. 00	224	306	344
	142	142	135	3. 00	2. 60	2. 80	426	369	378
	124	122	116	2. 80	2. 90	3. 10	347	354	360
	3,077	2,862	3,091	3. 40	5. 20	5. 90	10, 462	14, 882	18, 237
Oklahoma Arkansas Montana Wyoming Colorado	91	73	80	4. 30	5. 80	5. 90	391	423	472
	90	81	81	2. 90	3. 10	3. 20	261	251	259
	2, 270	2, 270	2,370	4. 70	8. 70	8. 70	10, 669	19, 749	20, 619
	2, 420	2, 686	2,767	5. 50	9. 00	9. 00	13, 310	24, 174	24, 903
	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
Washington	500	520	598	5. 40	8. 00	8. 70	2, 700	4, 160	5, 203
Oregon	1, 860	1, 860	1, 916	4. 50	6. 40	8. 20	8, 370	11, 904	15, 711
California	2, 310	2, 402	2, 450	5. 30	8. 10	9. 00	12, 243	19, 456	22, 050
Umited States	36, 327	37, 223	38, 361	4. 80	7. 51	7. 88	17 <b>4, 54</b> 5	279, 464	302, 092

Division of Crop and Livestock Estimates.

<sup>1</sup> Preliminary

Table 526.—Sheep: Receipts and shipments at principal markets and at all markets, 1900-1923.

#### RECEIPTS.

					ICEC	JEII IS	•					
Calendar year.	Chi-cago.	Den- ver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total nine mar- kets.	All other markets reporting.	Total all mar- kets report- ing.
1900 1901 1902 1903 1904	Thou- sands. 3, 549 4, 044 4, 516 4, 583 4, 505	Thou- sands. 306 226 317 465 519	Thou- sands. 416 520 523 528 688	Thou-sands. (2) (2) 10 125 104	Thou- sands. 860 980 1, 154 1, 152 1, 004	Thou- sands. 1, 277 1, 315 1, 743 1, 864 1, 754	Thou- sands. 390 526 561 599 794	Thou- sands. 490 332 602 876 773	Thou- sands. 61 67 61 42 28	Thou- sands. 7, 349 8, 010 9, 487 10, 234 10, 169	Thou-sands. (1) (1) (1) (1) (1) (1)	Thou-sands. (1) (1) (1) (1) (1) (1)
1905 1906 1907 1908	4, 737 4, 805 4, 218 4, 352 4, 441	738 826 828 675 634	645 579 565 679 776	125 98 113 120 188	1, 319 1, 617 1, 582 1, 641 1, 645	1, 971 2, 165 2, 039 2, 106 2, 167	981 827 764 592 621	818 735 568 359 496	57 64 65 59 78	11, 391 11, 716 10, 742 10, 583 11, 046	00000	(1) (1) (1) (1)
1910 1911 1912 1913 1914	5, 229 5, 736 6, 056 5, 903 5, 378	596 617 777 620 692	736 992 1,031 950 749	163 187 284 328 408	1, 841 2, 175 2, 134 2, 095 2, 002	2, 985 2, 978 2, 951 3, 222 3, 114	560 718 729 812 830	865 712 628 785 795	151 212 207 271 404	13, 126 14, 327 14, 797 14, 986 14, 372	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	3.5.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3
1915 1916 1917 1918 1919	3, 510 4, 291 3, 595 4, 630 5, 244	765 1, 409 2, 060 1, 652 2, 087	648 671 531 536 724	363 431 406 335 453	1, 815 1, 758 1, 499 1, 667 1, 945	3, 268 3, 171 3, 017 3, 386 3, 789	878 804 679 827 1,007	704 623 430 630 912	337 321 267 387 686	12, 288 13, 479 12, 484 14, 050 16, 847	6, 147 7, 213 7, 732 8, 435 10, 409	18, 435 20, 692 20, 216 22, 485 27, 256
1920 1921 1922 1923	4, 005 4, 734 3, 874 4, 098	2,079 1,468 1,867 1,857	605 636 628 561	394 357 325 386	1, 687 1, 780 1, 574 1, 671	2, 891 2, 753 2, 533 2, 970	843 931 730 979	729 633 499 454	358 288 223 216	13, 591 13, 580 12, 253 13, 192	9, 947 10, 588 10, 111 8, 833	23, 538 24, 168 22, 364 22, 025
					sнірм	ENTS.						
1900 1901 1902 1903 1904	487 763 832 1,000 1,362	9.5.5.6.6	62 75 72 77 101	(2) (3) (1) (1) (1)	(1) (1) (1) (1) (1)	552 563 863 892 819	103 102 129 144 275	404 208 485 682 622	28 20 25 23 21	1, 636 1, 731 2, 406 2, 818 3, 200	(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	(1) (1) (1) (1)
1905 1906 1907 1908 1909	1, 356 1, 341 1, 149 1, 214 940	0.00.00 0.00.00	90 108 91 119 114	(1) (1) (1) (1)	. (1)	1, 016 1, 176 1, 023 1, 098 959	292 195 181 138 127	612 580 489 241 348	38 27 32 28 34	3, 404 3, 427 2, 965 2, 838 2, 522	(1) (1) (1) (1)	9999
1910 1911 1912 1913 1914	1, 494 1, 283 1, 175 1, 450 1, 273	9999	77 108 97 70 44	(1) (1) (1) (1)	3333	1, 694 1, 565 1, 343 1, 586 1, 198	137 152 154 175 170	689 542 431 596 565	79 63 35 70 87	4, 170 3, 713 3, 235 3, 947 3, 337	9999	9999
1915 1916 1017 1918 1919	258 829 836 1, 205 1, 309	653 1, 291 1, 958 1, 484 1, 822	72 86 69 68 125	163 259 248 175 276	611 556 583 744 783	1, 369 1, 301 1, 638 1, 953 2, 150	264 181 207 248 301	536 485 319 463 676	124 114 97 178 408	4, 050 5, 102 5, 955 6, 518 7, 850	2, 700 4, 091 5, 055 5, 686 6, 735	6, 750 9, 193 11, 010 12, 204 14, 585
1920 1921 1922 1923	1, 202 1, 352 1, 273 1, 414	1, 864 1, 288 1, 693 1, 685	140 245 223 207	204 207 244 231	623 485 558 554	1, 474 1, 124 1, 094 1, 288	228 200 154 226	416 298 176 194	160 98 69 80	6, 311 5, 207 5, 484 5, 879	6, 252 6, 036 6, 193 5, 851	12, 563 11, 333 11, 677 11, 730

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stock-yard 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.

<sup>&</sup>lt;sup>1</sup> Figures prior to 1915 not obtainable. <sup>2</sup> Not in operation.

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Table 527.—Sheep: Receipts at all public stockyards, 1915-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1915 1 1916 1 1917	Thou-sands. 1, 517 1, 450 1, 578 1, 354 1, 594 1, 614 1, 792 1, 835 1, 636	Thou- sands. 1, 257 1, 280 1, 384 1, 096 1, 157 1, 416 1, 516 1, 399 1, 366	Thou-sands. 1, 248 1, 156 1, 256 1, 270 1, 268 1, 315 1, 750 1, 465 1, 430	Thou-sands. 1, 019 1, 144 1, 152 1, 159 1, 438 1, 466 1, 677 1, 227 1, 447	Thou- sands. 1,050 1,347 1,059 1,214 1,468 1,488 1,916 1,692 1,794	Thou- sands. 1, 080 1, 394 1, 240 1, 429 1, 775 1, 640 1, 849 1, 700 1, 426	Thou-sands. 1, 264 1, 451 1, 353 1, 639 2, 287 2, 034 1, 776 1, 677 1, 661	Thou-sands. 1, 725 1, 984 1, 763 2, 270 3, 360 2, 606 2, 500 1, 951 1, 800	Thou-sands. 2, 501 2, 650 2, 554 3, 496 3, 854 2, 895 2, 618 2, 303 2, 659	Thou-sands. 2, 359 3, 231 3, 195 3, 327 3, 754 3, 027 3, 042 3, 311 3, 464	Thou-sands. 2, 942 2, 126 2, 099 2, 605 2, 845 2, 471 2, 068 2, 288 1, 816	Thou-sands. 1, 373 1, 479 1, 583 1, 626 2, 456 1, 566 1, 664 1, 516 1, 526	Thou-sands. 18, 435 20, 692 20, 216 22, 485 27, 256 23, 538 24, 168 22, 364 22, 025

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

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- sands.				Thou- sands.			Thou-	Thou-	Thou- sands.	Thou- sands.	Thou-
.900	491	449	492	490	515	431	445	613	577	743	479	380
901	455	424	462	613	562	467	588	581	749	830	652	477
902	504	401	448	423	440	519	580	734	998	1, 203	871	815
903	559	523	562	551	482	434	546	721	1,022	1, 143	936	646
904	637	715	683	533	507	567	312	675	976	1,080	751	513
905	623	609	643	633	668	515	604	693	1, 105	1, 225	784	570
996	729	655	775	672	658	539	612	763	990	1, 268	849	658
907	755	644	658	687	514	499	575	685	1,042	1, 191	638	519
908	598	575	562	590	589	614	616	800	1, 287	982	822	741
909		565	700	593	465	607	636	862	1, 206	1, 281	841	700
910	651	522	551	477	577	631	794	1, 199	1,609	1,820	1, 258	702
911	822	686	740	686	763	796	807	1,085	1,566	2,003	1,115	810
912		849	856	770	665	671	837	1,052	1,528	1,906	1, 113	905
913	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
914	934	863	909	858	707	716	723	979	1,558	1,512	705	779
915	799	670	723	540	469	531	637	931	1, 337	1,000	868	736
916	742	697	632	586	632	659	634	991	1,301	1,403	854	761
917	796	693	682	592	441	470	526	650	1, 111	1, 210	715	756
918	716	525	620	518	538	554	726	989	1,770	1,569	952	741
919	780	547	564	623	612		1,098	1, 461	1,968	1,400	951	957
920	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
921	813	700	819	754	729	725	645	1, 100	1, 173	1,095	686	664
922	753	602	640	517	659	690	695	826	835	1,072	726	594
923	782	665	735	690	672	529	711	807	1,179	1, 231	612	685

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 Livestock, Meats, and Wool Division.

 $<sup>^1\</sup>mathrm{Complete}$  information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many markets.

Table 529.—Sheep: 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
	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Albany, N. Y. Amarillo, Tex.	75	23 56	$\frac{45}{158}$	1 155	236	(1) 189	(1) 38	$ \begin{array}{c} sands. \\                                    $	101
Atlanta, Ga Augusta, Ga Baltimore, Md	1	279	$\begin{array}{c} 2 \\ {}^{(1)} \\ 349 \end{array}$	$^{(1)}_{359}$	(1) 371	$^{(1)}_{367}$	(1) 466	(1) 306	(1) 284
			22	25	77	26	3		
Billings, Mont. Birmingham, Ala. Boston, Mass. Buffalo, N. Y. Chattanooga, Tenn.	3	53 2 3 1,024 4	$\begin{array}{c c}  & 22 \\  & 1 \\  & 3 \\  & 756 \\  & 2 \end{array}$	25 1 4 904 3	1, 100 3	1 5 1, 052 2	1, 2 1, 380	$ \begin{array}{c} (^{1}) \\ 2 \\ 1, 191 \\ 4 \end{array} $	(i) 4 1, 226 2
		_	210	371	442	223	148	139	169
Cheyenne, Wyo	3, 510 356 259	4, 291 332 254 (1)	3, 595 270 320 (1)	4, 630 275 370	5, 244 335 467	4, 005 366 420 (1)	4, 734 438 370 (1)	3, 874 394 360 (¹)	4, 098 345 333 1
Columbus, Ohio	1	1 1	(1) (1)	(1)	(¹)	1	1 1	$\frac{2}{1}$	(!)
Dallas, Tex Dayton, Ohio	11 765	1, 409	2, 060	5 1, 652	2, 087	9 2, 079	7 1,468	8 1,867	7 1,857
Denver, Colo Detroit, Mich	1	284	297	279	344	328	343	356	298
Dublin, Ga East St. Louis, Ill	648	671	531	536	$^{(1)}_{724}$	(1) 605	636	(1) 628	561
Dublin, Ga East St. Louis, Ill El Paso, Tex Emeryville, Calif Erie, Pa	99	117	211 136	88 98 109	252 156 38	136 157 38	71 170	49 165	73
Eveneville Ind		7	9	11	14	14	8	11	8 5
Fort Wayne, Ind	363	431	406	335	453	394	357 21	325	386 12
Fort Wayne, Ind	13 113	12 98	$\frac{12}{102}$	10 114	11 131	17 136	145	14 147	124
Jacksonville, Fla Jersey City, N. J Kansas City, Mo Knoxville, Tenn Lafayette, Ind		$\begin{array}{c c} 1\\ 1,546\\ 1,758\\ 2\\ 2\\ 2 \end{array}$	1, 329 1, 499 3 4	1, 095 1, 667 2 5	1, 532 1, 945 2 8	1, 554 1, 687 1 8	(1) 1, 994 1, 780 1 8	(1) 1, 854 1, 574 2 4	(1) 1, 276 1, 671 1 4
Lancaster Pa	2	1	160	257	74	122	12	27	53
Laredo, Tex	(1)	(1)	(1)	1	(1)	1	1	1	1
Laredo, Tex Logansport, Ind Los Angeles, Calif Louisville, Ky	308	343	272	257	273	277	286	318	75 265
Marion Ohio				2	32	50	15	13	11
Memphis, Tenn	86	55	(1) 48	57	$\frac{1}{65}$	61	(1)	1 45	2 40
Memphis, Tenn Milwaukee, Wis Mobile, Ala Montgomery, Ala	(1)	1	1	7	7	4	2	2	3
Moultrie, Ga	-	47	94	114	147	129	138	152	(1) 129
Nebraska City, Nebr Newark, N. J				(1)	1	1	(1)		29
Newark, N. J New Brighton, Minn	146	169	83	203	276	166	293	290	
New Orleans, La New York, N. Y	179	94	6 80	9 271	6 291	6 158	221	143	74
New York, N. Y North Salt Lake, Utah Ogden, Utah Oklahoma, Okla	-	404	357 380	424 423	388 516	481 603	368 576	459 704	449 849
		115	50	32	19	15	18	18	9
Omaha, Nebr Pasco, Wash Peoria, Ill	3, 268	3, 171	3, 017	3, 386	3, 789 131	2, 891 92	2, 753 72	2, 533 66	2, 970
Peoria, Ill	312	1 282	1 185	231	4 298	3 349	7 454	3 352	248
Philadelphia, Pa Pittsburgh, Pa	419	337	563	553	767	922	1, 197	1, 204	1, 045
Portland, Oreg Pueblo, Colo	197 794 7	171 806 10	141 800 8	149 762 7	215 837 10	236 734 10	329 541 13	205 645 12	179 704 9
Koanoke, Va St. Joseph, Mo	878	804	679	827	1,007	843	931	730	

<sup>&</sup>lt;sup>1</sup> Less than 500.

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	Thou- sands.	Thou- sands.	Thou- sands. 62	Thou- sands. 25	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
St. Paul, Minn San Antonio, Tex Seattle, Wash	704 17	623 26 20	430 51 9	630 41 52	912 88 102	729 70 91	633 49 91	499 66 70	45: 23: 86
Sioux City, Iowa Sioux Falls, S. Dak Spokane, Wash Springfield, Ohio	337 2	321 32	267 (1) 39	387 2 102	686 37 117	358 5 127	288 2 73	223 2 63	210 22
Pacoma, Wash Poledo, Ohio Washington, D. C Wichita, Kans	41	12 29 15 21	28 34 7 27	28 29 8 40	33 54 20 59	44 69 27 39	55 23 35 <b>32</b>	39 20 21 82	1: 1' 12
Total	18, 435	20, 692	20, 216	22, 485	27, 256	23, 538	24, 168	22, 364	22, 02

## LOCAL SLAUGHTER.

Albany, N. Y	105		(1) (1) (60 (1)	(1) (1) (1) 85	(1) 1 (1) 103 (1)	(¹) 1 (¹) 121	(1) 1 (1) 186 1	1 (¹) 144	3 (1) 131
Birmingham, Ala Buffalo, N. Y Chattanooga, Tenn Chicago, Ill Cincinnati, Ohio		1 183 3, 462 79	1 119 2,759 51	1 142 2 3, 425 52	(1) 231 2 3, 935 84	263 2 2,803 81	243 3 3, 383 121	(1) 193 4 2, 601 91	(1) 161 2 2, 684 62
Cleveland, Ohio Columbia, S. C Columbus, Ohio Dallas, Tex Dayton, Ohio	1	144 (¹) 1 1 2	(1) (1) (1) 2	(1) (1) (1) (1) 2	176 (1) (1) (1) (1) 4	168 (1) (1) 1 6	234 (¹) 1 1 5	189 (¹) 1 1 5	185 1 - 1 (1) 5
Denver, Colo Detroit, Mich East St. Louis, Ill El Paso, Tex Emeryville, Calif	576	116 209 584	95 156 462 3 135	174 138 468 6 101	241 212 599 8 156	239 216 465 7 157	180 168 391 7 170	172 196 405 7 165	169 194 354 8
Erie, Pa Evansville, Ind Fort Wayne, Ind Fort Worth, Tex Fostoria, Ohio		189	1 144 4	3 1 131 (1)	4 1 164 (1)	206 (1)	3 157 (¹)	80 2	2 1 155 (¹)
Indianapolis, Ind	40 1, 029 1, 194 1	31 1, 546 1, 177 (1)	21 (¹) 1 329 886 (¹)	16 1 1,095 951 1	26 1 1, 532 1, 176	31 (1) 1, 554 1, 066	(1) 1, 994 1, 307	(1) 1, 854 1, 000	(1) 1, 276 1, 101
Lafayette, IndLancaster, PaLaredo, TexLogansport, IndLos Angeles, Calif		(1)	(¹)	1 1	2 1	1 2 (¹)	2 2 (1)	1 1 (1)	(1) 2 1 (1) 71
Louisville, Ky		25 38 (1)	20 38 (1)	(¹) 34	24 (1) (1) 42	29 1 45	26 (1) (1) 47	(1) (1) 34	(1) (1) 29
Montgomery, Ala Nashville, Tenn Newark, N. J		1	9	13	1 15	1 18	(1) 23	(¹) 27	(¹) 21 29
New Orleans, La		4	5 83	7 271	291	3 158	221	143	75

<sup>1</sup> Less than 500

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
	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou-	Thou- sands.	Thou- sands.
North Salk Lake, Utah Ogden, Utah		13	46	26 43	17 24	15 17	67	20	19
Oklahoma, Okla Omaha, Nebr Pasco, Wash	39 1, 899	72 1,870	27 1, 378	14 1,433 (1)	8 1, 639 (1)	1, 417	12 1, 626	12 1, 440	1, 682
Peoria, Ill Philadelphia, Pa Pittsburgh, Pa Portland, Oreg	56 146	1 111 112	1 170 85 87	220 95 77	286 103 109	2 343 125 104	3 446 148 151	1 345 117 95	1 244 117 104
Richmond, Va	6	2	4	5	6	ν	10	9	8
Roanoke, Va St. Joseph, Mo St. Louis, Mo	615	624 18	472 11	580 8	706	615	730	576	(1) 754
St. Paul, Minn San Antonio, Tex	181	152	118 9	176 1	251 1	$\overset{300}{2}$	$\begin{array}{c} 316 \\ 2 \end{array}$	319 4	253 2
Seattle, Wash Sioux City, Iowa Sioux Falls, S. Dak	210	20 216	9 170 (¹)	52 210 (¹)	101 282 (1)	90 199 2	91 191 1	69 153 (1)	83 136 (¹)
Spokane, Wash Springfield, Ohio	1	1	4	9	13	16	26	11	(1) (1)
Tacoma, Wash Toledo, Ohio Washington, D. C Wichita, Kans		12 3 15 4	28 3 6 2	24 2 8 4	37 4 20 6	37 2 27 5	55 3 34 6	40 3 20 13	1 17 17
Total	10, 254	11, 228	9, 142	10, 266	12, 646	10, 981	12, 858	10, 669	10, 271

## STOCKER AND FEEDER SHIPMENTS.

Amarillo, Tex Atlanta, Ga Augusta, Ga Baltimore, Md Billings, Mont	 <u>2</u>	79 1 1 6	50 1 1 14	116 (1) (1) 2 17	(1) 1 9	(1) (1) (1) (1)	(1) (1) 1	62
Birmingham, Ala	 14	1 18 634 1	21 1 968 5	(1) 14 1 1, 106 8	23 (1) 899 8	521 13	3 688 15	682 15
Cleveland, Ohio Denver, Colo Detroit, Mich East St. Louis, Ill El Paso, Tex	 741	1,030 5 48 164	3 921 3 48 43	1, 290 8 70 189	(1) 1,349 20 60 95	4 643 14 33 . 21	1, 088 12 50 30	1,068 12 51 37
Evansville, Ind	 72	(1) 127 	(¹) 	(1) 164 (1)	(¹) 71 1 5	(1) 80 1 10	(1) 136 (1) 9	(1) (1) 39 1 5
Jacksonville, Fla	 (1)	510 2 (¹)	(1) 602 1 1	672 1 1	474 (¹) 1	324 1	(1) 385 2 1	407 1
Logansport, Ind Los Angeles, Calif Louisville, Ky Marion, Ohio Memphis, Tenn	 (1)		(¹) 27 (¹)	(1) 31 2	(1) 20 1	(1) 25 1 (1)	(1) 34 2 (1)	(1) 4 34 2 (1)
Milwaukee, Wis	 1	(1) 1	(1) 2	1 (1) 19 1	1 1 6	(¹) 4	(1) 4	(1) 2

<sup>&</sup>lt;sup>1</sup> Less than 500.

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	1923
Newark, N. J	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
New Brighton, Minn New Orleans, La North Salt Lake, Utah Ogden, Utah		47	(1) 159 1	2 215 41	33 1 277 171	3 1 211 133	75 1 142 197	46 1 276 281	1 234 360
Oklahoma, Okla Omaha, Nebr Pasco, Wash		24 1, 026	13 1, 302	6 1, 592 59	6 1,787 131	3 1, 124 68	670	3 757	3 889
Pasco, Wash Peoria, Ill Portland, Oreg		15	27	(¹) 18	$\begin{array}{c} 1 \\ 27 \end{array}$	1 40	4 13	1 7	3 5
Pueblo, Colo Richmond, Va St. Joseph, Mo St. Paul, Minn San Antonio, Tex		1 97 140 9	1 124 92 1	20 1 126 109 17	(1) 2 200 201 46	1 142 113 33	(1) 107 78 5	3 1 113 66 38	212 1 150 91 7
Sioux City, Iowa Sioux Falls, S. Dak Spokane, Wash		87	(1) 16	129 (¹) 24	272 28 35	90 1 75	(¹) 12	(1) <sup>4,5</sup> 22	42 1 12
Tacoma, Wash Toledo, Ohio Wichita, Kans		1	11	2 16	(¹) 19	2 3 3	(1) (1) 2	(1) (1) 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.

Table 530.—Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923.

Stockyard.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
		Thou-							Thou-				
Buffalo, N. Y.:	sanas. 133	sands.	sanas. 107	125	88 88	39	45	62	sands. 85	123	152	165	1, 226
Receipts.	155	102	107	125	15	6	13	14	15	17	14	13	161
Local slaughter Stocker and feeder	19	11	14	10	10	0	10	14	10	1,	17	1 10	101
		1		İ			1	1	(1)	1	(1)		2
shipments Chicago, Ill.:								1 1	( )	1 .	( )		_
Receipts	358	283	315	338	261	200	290	365	478	539	325	346	4.098
Local slaughter	243	188	212	238	201	189	237	228	227	266	217	235	2,684
Stocker and feeder	240	100	212	200	201	100	201	1 220		200			2,001
shipments	24	25	21	11	5	7	23	81	186	203	62	34	682
Cincinnati, Ohio:	24	20		1 11		١.		1 01	1			0.	
Receipts	3	2	3	3	33	83	70	83	30	20	9	6	345
Local slaughter	3	2	2	3	10	5	9	10	3	7	4	ı ă	62
Stocker and feeder		"	_		10	"	"	1		١.	· .	- 1	
shipments	(1)	1	l	1		1 1	1	6	6	1	(1)		15
Cleveland. Ohio:	(5)					1	_		"	· .	` '		
Receipts	24	15	16	32	24	16	21	22	36	34	46	47	333
Local slaughter	16	1 13	13	18	16	14	15	18	18	16	8	21	186
Stocker and feeder	10	1	10	1 -									
shipments	ŀ		1			(1)	(1)	(1)	2	1.	1	(1)	4
Denver, Colo.:						l ''	\ \ \ /	`′		l		l .``	
Receipts	128	101	121	114	62	20	53	48	221	707	219	63	1,857
Local slaughter	16	19	20	19	14	8	10	10	10	19	13	11	169
Stocker and feeder		1					1	l	1			1	
shipments	54	24	20	10	9	3	29	11	127	538	213	30	1,068
East St. Louis, Mo .:	1			1	Í .	ł	1	1	ł		1	1	
Receipts	32	19	24	20	54	92	79	60	60	53	34	34	561
Local slaughter	18	14	17	12	39	68	56	40	27	27	18	18	354
Stocker and feeder		1	1			l .	i	ł	1	. '			
shipments	(1)	1	(1)		(1)	2	8	5	20	10	3	2	51
	,	•	,	•	• •	-							

<sup>1</sup> Less than 500.

<sup>1</sup> Less than 500.

Table 530.—Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1923—Continued.

										,			
Stockyard.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-
Fort Worth, Tex.:	sands.	sands.	sands.	sands.	sands.	sands.				sands.			sands. 386
Receipts	12	6 5	8	16 11	86 40	42 23	23	9	9	12	10	1 2	155
Local slaughter Stocker and feeder	9	°		11	40	20	۔	ľ	ľ	1	10	-	100
shipments	2	(1)	(1)	1	4	3	5	5	8	6	2	3	39
Indianapolis, Ind.:	1 -		1 '	_	1 -	"		1	_	_			1
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	İ	Í	1	1		1 .		1 -		1 _		/10	_ ا
shipments	(1)	(1)	(1)	(1)	(1)	. 1	1	1	1	1	(1)	(1)	5
Jersey City, N. J.:		1	l		000		100	193	118	117	98	90	1, 276
Receipts	81	55	57	68	88 88	145 145	166 166	193	118	117	98	90	1, 276
Local slaughter	81	55	57	68	00	1.45	100	190	110	121		30	1, 210
Stocker and feeder	1	1	1	1	1			1	ł	1			
shipments		ļ											
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	100	"	1		1	1	1			l			
shipments	27	23	17	8	23	24	21	37	98	81	28	20	407
Oklahoma, Okla.:	1 -				1	1	1		_	-			١ ،
Receipts	. 1	1	(1)	(1)	(1)	1	1	1	1	(1)	(1)	3	9
Local slaughter	1	1	(1)	(1)	(1)	1.	1	(1)	(1)	(1)	(1)	(1)	4
Stocker and feeder	1	]	}	1	l	1	1	1		ļ	1	3	3
shipments			.				J					٥	1 3
Omaha, Nebr.:			050	005	209	118	215	264	422	424	163	196	2,970
Receipts	247	251 139	256 176	205 168	168	94	133	112	148	134	106	134	1,682
Local slaughter	170	139	1/0	190	100	0.2	100	112	140	101	100	101	-, 002
Stocker and feeder	25	38	19	15	23	21	46	125	257	252	49	19	889
shipments Pittsburgh, Pa.:	20	00	10	1	-						ł		1
Receipts	63	54	62	82	92	121	139	131	88	75	57	78	1, 045
Local slaughter	8	6	6	11	12	10	12	12	10	12	10	9	118
Stocker and feeder		1	1	1	1	1	1	1	1	I	l	1 :	
shipments					ļ			.]		]			
St. Joseph, Mo .:	1	1	į		l			1	_	100	0.5	72	979
Receipts	101	110	121	92	77	61	57	51	72 43	100 62	65 49	63	754
Local slaughter	. 82	82	94	80	66	49	47	37	43	02	49	05	102
Stocker and feeder	1 _	1 _		1 .	9		8	14	26	36	12	7	150
shipments	. 7	6	7	8	9	10	٥	14	20	30	1 12	•	
St. Paul, Minn.:	37	18	16	9	5	5	17	27	73	134	83	30	454
Receipts	23	12	13	8	5	5	12	22	38	50	42	23	253
Local slaughter	- 20	14	10		, ,			1		1		1	
Stocker and feeder shipments	4	2	2	(9)	(1)	(1)	1	3	10	43	22	4	91
Sioux City, Iowa:	1 *	-	1 -		1 ''	1	1	1		1	l	1	1
Receipts	25	16	14	11	4	3	6	9	17	53	34	24	216
Local slaughter	20	13	12	7	3	3	5	4	10	15	24	20	136
Stocker and feeder		1				1		1 -	١.	000		2	42
shipments	2	3	(1)	(1)	(1)	(1)	1	1	1	26	6	2	42
•	1	i	į.	1	1	1	I	1	1		<u> </u>	1	<u> </u>

Division of Statistical and Historical Research. Campiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.

Table 531.—Sheep: Shipments of feeder sheep from public stockyards, 1923.

ORIGIN.

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.
Chicago, Ill. Denver, Colo Fort Worth, Tex. Kansas City, Kans Louisville, Ky National Stock Yards, Ill	Number. 29, 361 36, 831 2, 291 16, 364	Number. 24, 367 20, 197 290 13, 857	Number. 20, 809 9, 020 124 5, 095	Number. 10, 850 4, 495 1, 344 2, 380	Number. 4, 330 6, 610 4, 054 11, 499 1, 390 203	Number. 5, 847 2, 399 1, 966 9, 746 5, 529 1, 637
Omaha, Nebr Sioux City, Iowa South St. Joseph, Mo South St. Paul, Minn All other	20, 468 1, 954 1, 722 2, 770 2, 704	30, 600 1, 304 825 2, 253 1, 025	18, 655 150 1, 220 1, 926 507	14, 585 16 565 612	21, 101 23 1, 798	18, 430 648 2, 501 125 2, 182
Total	114, 949	95, 003	57, 628	34, 847	52, 582	51,010

<sup>1</sup> Less than 500.

Table 531.—Sheep: Shipments of feeder sheep from public stockyards, 1923—Continued.

## ORIGIN-Continued.

Market.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
a	Number.	Number.	Number.	Number.	Number.	Number.	Number.
Chicago, Ill Denver, Colo	25, 040 21, 906	83, 368 12, 903	186, 428 119, 815	189, 772 564, 409	63, 561 173, 227	39, 547 29, 906	683, 280 1, 001, 718
Fort Worth, Tex	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		6	34, 090
National Stock Yards, Ill	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 Ćity, Iowa	623	847	7, 141	28, 690	4,777	2,038	48, 21
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.
Colorado		Number. 25, 556 6, 874 977 6, 934 3, 639	Number. 8, 961 5, 243 1, 505 7, 731 3, 726	Number. 3, 877 1, 759 607 2, 698 2, 383	Number . 4, 016 4, 366 1, 008 797 1, 246	Number 5, 087 1, 128 10 4, 648 4, 856	Number 2, 097 2, 403 2, 234 6, 927 704
Kentucky Michigan Minnesota Missouri Nebraska		21, 769 313 6, 559 34, 989	17, 597 787 4, 952 40, 978	13, 914 463 914 21, 737	2, 995 422 15, 560	1,770 3,601 3,253 23,996	5, 156 3, 556 167 5, 281 17, 352
Ohio		801 134 1, 503 2, 314 2, 587	1, 556 172 15 678 1, 102	1, 085 397 124 5, 922 1, 748	250 1, 344 2, 320 523	303 2, 392 200 1, 338	769 3 1, 816 385 2, 160
Total		114, 949	95, 003	57, 628	34, 847	52, 582	51, 010
State.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Colorado Illinois Indiana Iowa Kansas Kentucky Michigan Minnesota Missouri Nebraska Ohio South Dakota Texas	Number. 21, 599 9, 776 7, 327 20, 632 4, 788 11, 496 16, 172 1, 615 13, 108 19, 743 2, 126 2, 919	Number. 4, 668 40, 637 39, 322 66, 212 9, 661 13, 329 21, 216 1, 259 25, 952 46, 199 5, 888 3, 349 590	Number. 77, 051 91, 323 53, 231 132, 544 27, 195 5, 480 66, 686 5, 705 68, 953 124, 699 18, 605 2, 655 1, 508	Number. 398, 695 66, 143 36, 517 129, 846 36, 280 1, 571 96, 066 10, 409 44, 466 291, 844 15, 516 3, 741 1, 311	Number. 148, 522 19, 282 5, 876 19, 722 11, 876 32, 041 9, 542 7, 127 72, 863 3, 749 1, 376 1, 283	Number. 27, 207 7, 131 1, 469 5, 965 13, 726 6 17, 979 1, 393 9, 113 26, 363 1, 036 1, 658 1, 370	Number. 727, 336 256, 065 150, 083 404, 656 120, 080 38, 808 313, 592 31, 653 190, 100 736, 323 51, 684 13, 485 16, 166
Wisconsin All other Total	760 5, 247 137, 299	728 4, 277 283, 287	1, 151 15, 568	12, 512 25, 798 1, 170, 715	4, 786 17, 599 355, 644	8, 619 8, 256	40, 375 86, 203 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.

		Imports.			Exports.	
Year ending June 30.	Number.	Value.	Average import price.	Number.	Value.	Average export price.
895–1899	351, 602	\$972, 444 1, 082, 047 886, 150 696, 879 377, 625	\$2. 77	296, 882	\$1, 861, 231	\$6. 27
900–1904	303, 990		3. 56	252, 138	1, 525, 800	6. 05
905–1909	195, 983		4. 52	143, 011	839, 219	5. 87
909–10	126, 152		5. 52	44, 517	209, 000	4. 69
910–11	53, 455		7. 06	121, 491	636, 272	5. 24
911–12	23, 588	157, 257	6. 67	157, 263	626, 985	3. 99
912–13	15, 428	90, 021	5. 83	187, 132	605, 725	3. 24
913–14	223, 719	532, 404	2. 38	152, 600	534, 543	3. 50
914–15	153, 317	533, 967	3. 48	47, 213	182, 278	3. 86
915-16	235, 659	917, 502	3. 89	52, 278	231, 535	4. 43
916-17	160, 422	856, 645	5. 34	58, 811	367, 935	6. 25
917-18	177, 681	1, 979, 746	11. 14	7, 959	97, 028	12. 19
918-19	163, 283	1, 914, 473	11. 72	16, 117	187, 347	11. 62
919-20	199, 549	2, 279, 949	11. 43	59, 155	711, 549	12. 03
920-21	161, 292	1, 541, 793	9. 56	80, 723	532, 510	6. 60
921-22	96, 086	514, 424	5. 35	62, 354	294, 442	4. 72
922-23	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, 1910-1924.

## IMPORTS.

Year ending June 30.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Total
1909-10 - 1910-11 - 1911-12 - 1912-13 - 1913-14 -	Num- ber. 765 1,885 86 37 457	Num- ber. 8, 683 6, 715 2, 650 413 1, 173	Num- ber. 33, 002 8, 287 2, 241 1, 648 960	Num- ber. 32, 896 21, 401 5, 779 3, 466 26, 035	Num- ber. 29, 604 11, 559 8, 042 5, 077 46, 995	224 881 792	89 33 95	Num- ber. 403 90 9 13 871	Num- ber. 2, 014 6 7 782 13, 995	Num- ber. 1, 415 860 131 2 73, 169	Num- ber. 978 1, 976 2, 390 2, 769 5, 834	363 1, 339 334	23, 588
1914–15 - 1915–16 - 1916–17 - 1917–18 - 1918–19 -	4, 403 12, 377 4, 731 1, 439 672	15, 464 23, 637 8, 625 6, 980 4, 691	19, 683 48, 650	13, 680 86, 765 23, 755 38, 540 32, 105	13, 835 38, 436	15, 458 1, 640 6, 859	1, 423	53, 747 193 42, 880 7, 085 8, 103	33 3, 884 3, 193 13, 200 5, 146	1, 340 5, 785 885 1, 899 12, 203	748 5, 632 2, 258 3, 512 10, 631	6, 462 1, 524 6, 887	153, 317 235, 659 160, 422 177, 681 163, 283
1919-20 - 1920-21 - 1921-22 - 1922-23 - 1923-24 -	1, 039 1, 633 856 1, 415 2, 021	15, 092 15, 835 10, 075 12, 714 3, 428	27, 557 37, 534 31, 938 22, 160 3, 774	77, 705 39, 687 18, 607 31, 096 11, 023	37, 448 36, 689 11, 380 4, 512 8, 690	19, 666 1, 483 1, 164	5, 347	3, 263 261 3, 499 447	5, 247 1, 241 5, 537 12	1, 763 1, 234 2, 375 2, 599	1, 114 416 2, 034 1, 478	1,864	199, 549 161, 292 96, 386 82, 959
						EXPO	RTS.		·				
1909-10 - 1910-11 - 1911-12 - 1912-13 - 1913-14 -	5, 584 6, 532 12, 984 10, 786 16, 537	4, 030 10, 542		6, 818 11, 863 15, 281 20, 090 27, 843	3, 221 10, 666 14, 524 18, 589 19, 050	21, 838 31, 823	7, 458 12, 039 7, 645	1, 289 8, 504 12, 359 9, 437 5, 803	452 15, 452 7, 829 5, 906 4, 940	957 15, 738 9, 643 9, 774 5, 462	790 20, 537 6, 234 10, 152 8, 173	12, 899 12, 678 13, 037	44, 517 121, 491 157, 263 187, 132 152, 600
1914-15 . 1915-16 . 1916-17 . 1917-18 . 1918-19 .	8, 632 4, 076 3, 152 570 6, 196	9, 300 5, 449 4, 833 1, 103 108	7, 216 2, 987 3, 281 334 39	8, 531 10, 518 14, 400 423 889	6, 172 6, 919 6, 913 266 75	236 3, 426 3, 577 5, 008 400	206 541 1, 253 6 30	125 4, 981 703 48 12	1, 130 1, 500 309 6 153	531 519 8, 226 11 4, 595	2, 485 6, 969 10, 333 96 3, 406	2, 649 4, 393 1, 831 88 214	47, 213 52, 278 58, 811 7, 959 16, 117
1919-20 _ 1920-21 _ 1921-22 _ 1922-23 _ 1923-24 _	6, 557 890 15, 744 3, 387 2, 305	1, 695 246 16, 605 1, 582 1, 980	5, 934 3, 407 8, 737 1, 136 484	5, 075 2, 558 6, 244 575 818	6, 653 1, 806 3, 031 546 141	207 6, 937 2, 156 109 2, 695	149 4, 059 174 131	13, 320 8, 486 1, 952 53	4, 034 4, 005 770 783	147 14, 749 2, 414 3, 942	426 10, 098 1, 320 1, 727	14, 958 23, 482 3, 207 1, 820	59, 155 80, 723 62, 354 15, 791

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.	Weight- ed av.
1910 1911 1912 1913	\$5. 63 4. 47 3. 89 4. 35	\$5. 09 4. 34 4. 01 4. 63	\$5. 64 4. 45 4. 12 4. 97	\$6. 10 4. 55 4. 57 5. 16	\$5. 79 4. 51 4. 74 4. 91	\$5. 44 4. 24 4. 52 4. 84	\$5. 47 4. 19 4. 21 4. 20	\$4. 68 3. 98 4. 26 4. 32	\$4. 81 3. 91 4. 11 4. 23	\$4. 68 3. 68 4. 19 4. 16	\$4. 63 3. 65 4. 05 4. 27	\$4. 54 3. 71 4. 21 4. 46	\$5. 24 4. 16 4. 24 4. 55
Av. 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 1915	4. 67 4. 95 5. 52 7. 33 10. 55 9. 68 9. 34	9.95	4. 77 5. 36 6. 35 9. 21 11. 41 10. 45 10. 25	11. 98 11. 33	4. 87 5. 54 6. 66 10. 15 12. 32 10. 93 10. 34		9. 25 8. 21	10. 99 9. 06 7. 54	10. 79 8. 69 7. 24	4. 81 5. 18 6. 20 10. 24 10. 35 8. 46 6. 62	4. 68 5. 18 6. 41 10. 20 10. 11 8. 35 6. 20	4. 95 5. 38 6. 77 10. 44 9. 46 8. 53 5. 54	4. 79 5. 27 6. 29 9. 45 10. 95 9. 63 8. 51
AV. 1914–1920	5, 30	5. 01	5. 27	5. 11	5. 11	4.74	7. 75 4. 34	7. 60 4. 38	7. 55 4. 11	3.96	3. 84	4. 10	7.84 4.65
1922 1923	4. 57 6. 88	5. 71 6. 83	6. 51 7. 06	6. 43 7. 20	6. 65 6. 92	6. 09 6. 43	6. 11 6. 43	5. 98 6. 22	5. 70 6. 57	5. 93 6. 33	6. 02 6. 20	6. 27 6. 39	5. 96 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.	Мау.	Weight- ed av.
1910-11	\$7. 13 5. 51 6. 02 6. 36	\$6.71 5.42 5.74 6.05	\$5.70 5.29 5.60 5.50	\$5. 85 5. 02 5. 49 5. 51	\$5. 78 4. 68 5. 42 5. 51	\$5. 54 4. 68 5. 37 5. 64	\$5. 60 4. 93 5. 70 5. 85	\$5. 71 5. 22 6. 03 6. 16	\$5. 44 5. 15 6. 34 6. 18	\$5. 49 5. 38 6. 56 6. 31	\$5. 77 5. 98 6. 59 6. 47	\$5. 74 6. 16 6. 66 6. 49	\$5. 62 5. 33 5. 99 6. 05
Av. 1910-1913	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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	14. 98 13. 89	13. 09	12. 91	13.73	13. 20	6. 14 6. 76 8. 41 13. 79 12. 54 11. 45 9. 37	12. 44	12.71	13. 17	6. 06 8. 10 11. 46 14. 11 14. 03 14. 17 7. 90	14. 61	7. 32 8. 49 12. 51 15. 39 14. 34 14. 26 7. 78	6. 57 7. 49 9. 93 13. 84 13. 54 12. 94 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
1921-22 1922-23 1923-24	7. 59 9. 87 10. 72	7. 37 9. 55 10. 60	6. 99 9. 39 9. 96			6. 12 10. 30 10. 01	6. 60 10. 49 10. 10	7. 33 10. 69	8. 87 10. 83			10, 39 11, 00	8. 06 10. 38

Divison of Crop and Livestock Estimates.

Table 536.—Farm prices of sheep, per head, by ages, United States, Jan. 1, 1912-1924.

Jan. 1.	Under 1 year old.	Ewes 1 year and over.	Wethers 1 year and over.	Rams.	Jan, 1.	Under year 1 old.	Ewes 1 year and over.	Wethers 1 year and over.	Rams.
1912 1913 1914 1915 1916 1917	\$2.64 3.11 3.22 3.62 4.13 5.63 9.06	\$3. 45 3. 98 4. 09 4. 59 5. 35 7. 48 12. 70	\$3. 43 3. 93 4. 06 4. 48 5. 02 6. 78 11. 26	\$8. 26 8. 80 8. 49 9. 01 10. 32 13. 62 20. 84	1919 1920 1921 1922 1923 1924	\$8. 82 8. 06 5. 34 4. 24 6. 66 6. 89	\$12, 44 11, 03 6, 37 4, 84 7, 69 8, 08	\$11. 02 9. 60 5. 93 4. 07 6. 05 5. 95	\$21. 90 21. 63 15. 10 11. 37 14. 23 15. 49

Division of Crop and Livestock Estimates.

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.	No <b>v</b> .	Dec.	Aver age.
Maine New Hampshire		Dolls. 6. 30 6. 70	Dolls. 6. 50 6. 50	Dolls. 6. 50 7. 00	Dolls. 7. 60 7. 00	Dolls. 7. 00 7. 50	6. 60 8. 20	Dolls. 7. 50 6. 70	Dolls. 6. 00 5. 00	Dolls. 6. 10 6. 50	Dolls. 6. 00	Dolls. 5. 40 6. 80	Dolls. 6. 49 6. 79
Vermont	.	5. 00 8. 80	4. 90 8. 50 5. 50	6. 40 6. 00 5. 50	6. 00 5. 60 6. 50	5. 60 6. 50	5. 00 6. 20 8. 00	4. 70 5. 70	5. 10 7. 00 5. 50	5. 70 7. 00 5. 50	5. 00 6. 50	5. 00 6. 60	5. 35 6. 79 6. 12
New York New Jersey		6. 00	5. 20	6. 00	5. 50	5. 20	5. 80	5. 20 6. 00	5. 00	5. <b>4</b> 0	5. 60	6. 00	5. 54
Pennsylvania Delaware	6. 50	6. 70	6. 10	6. 20	6. 40	6. 20	5. 80	6. 00	6. 60	6. 80	6. 50 5. 60	6. 10 6. 50	6. 32
Maryland Virginia West Virginia North Carolina South Carolina	5. 40 5. 50	5. 90 5. 30 5. 50 6. 20 6. 50	5. 30 5. 80 6. 40 5. 60 7. 20	5. 10 6. 50 6. 00 5. 20 7. 50	5. 00 6. 00 6. 00 6. 80 7. 00	5. 20 5. 50 6. 20 7. 00	4. 50 5. 00 5. 70 5. 60 8. 30	4. 60 5. 20 5. 60 6. 40 8. 40	5. 30 5. 70 6. 20 6. 20 6. 50	5. 70 6. 00 5. 50 7. 80 7. 20	5. 80 5. 80 6. 20 7. 00 6. 70	5. 00 5. 00 5. 50 6. 10 7. 90	5. 24 5. 58 5. 88 6. 32 7. 27
Georgia Florida Obio Indiana Illinois	4. 50	5. 60 5. 10 6. 00 4. 80 5. 40	6. 00 5. 50 6. 10 4. 90 6. 00	5. 20 5. 60 5. 90 5. 10 5. 70	6. 00 5. 80 5. 80 5. 10 5. 70	7. 50 5. 30 5. 30 4. 50 5. 00	6. 70 5. 50 5. 10 4. 00 5. 20	5. 90 6. 00 5. 30 4. 20 4. 70	5. 60 5. 20 4. 80 5. 90	6. 50 6. 00 5. 80 4. 80 5. 40	5. 50 6. 00 5. 50 4. 50 5. 40	5. 50 5. 50 5. 60 4. 80 5. 70	6. 01 5. 66 5. 64 4. 67 5. 48
Michigan Wisconsin Minnesota Iowa Missouri	6. 50 5. 50	7. 10 5. 30 6. 20 6. 40 5. 90	6. 60 6. 00 6. 10 6. 50 6. 40	6. 90 6. 00 6. 40 6. 50 6. 20	6. 00 5. 50 6. 50 5. 90 6. 30	6. 20 4. 90 6. 10 6. 40 5. 40	5. 60 5. 00 5. 30 6. 10 5. 00	5. 60 4. 70 5. 80 5. 60 5. 10	5. 60 4. 90 5. 80 5. 80 5. 20	6. 10 5. 00 5. 40 6. 70 5. 10	5. 30 4. 50 5. 10 6. 30 5. 00	5. 40 4. 60 5. 70 6. 50 5. 20	6. 08 5. 16 5. 87 6. 26 5. 57
North Dakota South Dakota Nebraska Kansas Kentucky	5. 70 6. 10 6. 60 6. 90 4. 60	6. C0 7. 10 8. 00 7. 40 4. 90	6. 30 6. 80 8. 00 6. 60 5. 30	6. 80 7. 60 7. 10 6. 60 4. 70	6. 70 7. 50 7. 70 7. 00 5. 00	6. 00 5. 80 6. 00 6. 00 4. 50	6. 00 6. 00 6. 00 6. 80 4. 40	5. 40 6. 00 7. 00 7. 00 4. 30	5. 70 6. 10 7. 60 7. 00 5. 00	5. 60 6. 40 7. 90 6. 00 4. 70	6. 00 5. 90 6. 70 5. 50 5. 00	5. 70 6. 70 6. 90 6. 10 4. 50	5. 99 6. 50 7. 12 6. 58 4. 74
Tennessee Alabama Mississippi Louisiana Texas	5. 10 6. 00 4. 60 6. 50	4. 80 7. 00 4. 70 6. 30 5. 30	5. 30 6. 60 4. 50 6. 10	5. 60 6. 80 4. 30	5. 70 7. 10 4. 90	4. 70 6. 30 4. 60	4. 70 6. 30 4. 10 7. 30 6. 60	4. 70 6. 00 4. 20 6. 00	4. 90 6. 30 4. 10	4. 40 6. 50 5. 00 4. 30 5. 60	5. 20 5. 50 4. 00	4. 40 6. 09 3. 50 5. 30 6. 00	4. 96 6. 37 4. 38 5. 80 6. 18
Oklahoma	5. 80 7. 40	4. 80 7. 40 7. 50	4. 30 7. 50 7. 80	5. 20 7. 50 8. 20 8. 20	5. 10 7. 90 9. 00 7. 70	4. 20 6. 00 7. 50 8. 00	5. 00 4. 00 6. 70 8. 00 7. 00	3. 30 7. 30 7. 50 6. 40	4. 50 7. 40 7. 00 7. 30	6. 90 4. 90 7. 90 6. 00 7. 30	5. 80 4. 10 6. 30 6. 00 6. 70	6. 00 4. 30 7. 20 7. 50 6. 90	5. 92 4. 54 7. 21 7. 47 7. 38
New Mexico Arizona Utah	8. 00 7. 00	7. 50 7. 60	8. 30 8. 40	8. 70 7. 50	6. 70 7. 30	7. 00 7. 30	7. 70 8. 30 6. 70	7. 00 6. 60	7. 80 7. 00 7. 20	6. 00 8. 10 6. 70	7. 00 7. 40	6. 50 7. 50 7. 50	7. 45 7. 43 7. 27
Nevada Idaho Washington Oregon	7. 00 8. 00	6. 60 6. 90 6. 70 7. 20	5. 50 7. 70 7. 30 7. 60	8. 00 7. 60 7. 60	8. 00 6. 60 6. 80 7. 00	6. 50 6. 90 7. 10	5. 50 6. 90 6. 40 6. 30	6. 00 6. 30 6. 00	6. 30 6. 10 7. 70	5. 00 6. 30 6. 90 7. 00	5. 70 6. 70 6. 70	7. 70 5. 60 6. 30 6. 50	6. 38 6. 67 6. 75 7. 06
California United States	7. 80 6. 88	8. <b>40</b> 6. 83	9. 00 7. 06	7. 20	7. 70 6. 92	7. <b>00</b> 6. <b>43</b>	7. 20 6. 43	7. 70 6. 22	7. 50 6. 57	6. 90	6. 80 6. 20	7. 30 6. 39	7. 61 6. 62

## LAMBS.

Maine	10. 50 11. 00 12. 00	11.50 10.60 11.00	12.00 10.00	11.60	12.00 10.10 8.30	13.00 10.30	15. 20 10. 50 10. 90	12. 70 9. 70 11. 70	11. 30 10. 50 10. 00 10. 30 12. 00	12.00 10.00 11.60	10. 10 11. 00	11. 20 9. 90	12, 17 10, 30 10, 46
Connecticut New York Pennsylvania Delaware	11. 90	12. 10 11. 20	11. 60	12. 20	11. 80					11. 50	11. 10 10. 30		11. 74 10. 93
Maryland	11. 50 10. 00 10. 00 8. 10 8. 00	11. 00 8. 00	11, 50 12, 00 7, 70	12. 10 11. 40 8. 20	12. 70 11. 30 8. 70	11. 40 11. 00	11. 20 10. 60 8. 90	10. 30 10. 00 8. 60	10. 90 9. 90 9. 20	10. 20 9. 90 8. 80	10. 70 9. 80 8. 20	9. 80 9. 90 8. 00	10. 92 10. 57 8. 42

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.	Aver- age.
Georgia	11. 00 10. 60 12. 00 10. 50 11. 00 11. 00	7. 60 10. 80 10. 10 12. 20 10. 70 10. 70	8. 00 6. 00 11. 40 10. 70 10. 30 12. 30 11. 50 11. 00 10. 80	7. 30 6. 50 10. 30 11. 40 10. 40 11. 20 10. 60 13. 30	6. 50 11. 00 11. 50 10. 30 11. 20 11. 20 11. 10 11. 00	10. 00 6. 00 10. 80 9. 70 11. 00 12. 00 11. 50 11. 20	8. 80 6. 00 10. 80 10. 70 10. 80 11. 50 11. 30 10. 90	7. 80 6. 30 10. 10 9. 80 9. 50 11. 20 9. 70 10. 00 10. 00	7. 30 10. 50 10. 20 10. 40 11. 50 10. 00 10. 20 10. 70	9. 00 6. 60 10. 70 10. 30 10. 30 11. 30 10. 30 9. 80	6. 50 7. 10 10. 30 9. 70 9. 90 10. 50 9. 60 10. 00 10. 40	7. 00 10. 20 10. 00 10. 10 10. 80 10. 00 9. 80 10. 50	7. 82 6. 44 10. 79 10. 48 10. 31 11. 48 10. 55 10. 78 10. 87
North Dakota South Dakota Nebraska Kansas Kentucky	9. 50 11. 00 11. 00 11. 50 9. 30	10. 30 10. 50 11. 50	10. 00 10. 90 11. 60 11. 00	10. 30 10. 00 9. 80 10. 80	9. 00 11. 00 10. 80 11. 80	9. 60 11. 20 10. 50 10. 40	9. 60 11. 00 11. 10 11. 50	9. 20 10. 50 10. 50	9, 10 10, 90 11, 00	9. 50 10. 00 10. 70 9. 60 8. 90	9. 40 10. 70 10. 30 9. 50	9. 10 9. 70 10. 30 9. 50	9. 55 10. 62 10. 76 10. 56
Tennessee Alabama Mississippi Louisiana Texas	8. 40 8. 30 6. 80	8. 30 8. 80 8. 10 8. 00 7. 00	9. 00 8. 50 7. 40 8. 00	10. 60 8. 30 6. 00 9. 00	9. 00 7. 10	9. 70 9. 90 7. 50 8. 10	9. 00 9. 10 7. 50 8. 10 9. 50		8. 60 9. 00 6. 30 	7. 40 7. 80 7. 70 	7. 50 6. 50	8. 00 8. 00 5. 60 6. 40 8. 50	8. 88 8. 62 6. 96
Oklahoma Arkansas Montana Wyoming Colorado	6. 30 9. 60 11. 20 11. 20	6. 50 10. 80 11. 20 11. 50	7. 40 10. 60 12. 30	11.30	11.00 11.70	6. 60 10. 50 11. 70 12. 00	10. 20 11. 60		9. 90 10. 50	9. 20 6. 80 10. 50 10. 50 11. 80		8. 00 6. 50 10. 20 10. 60 11. 50	
New Mexico Arizona Utah Nevada		10. 90 11. 30 11. 70	12.00		11. 50	10. 10	11. 30 10. 60 9. 60	10. 70 9. 50 10. 00	11. 20 10. 50	10. 10 10. 70 9. 90 10. 00	10. 40 9. 80	9. 50 10. 50 10. 60 10. 50	10. 63 10. 64
Idaho Washington Oregon California	9. 40 10. 10	9. 80 10. 00 10. 70 12. 60	11. 00 12. 70	11.00 10.80	10. 50	10. 00 10. 00 10. 20 11. 10	9, 80 9, 50 9, 10 10, 80	9, 00 9, 40 9, 80 10, 80	9. 50 9. 10 9. 00 11. 00	9. 00 9. 50 9. 10 10. 80	8. 80 9. 50 9. 20 10. 80	9. 00 9. 60 9. 00 11. 10	9. 68 9. 82 9. 88 11. 33
United States	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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.1
1905 1906 1907 1908	Dolls. 5. 15 5. 40 5. 15 4. 82	5. 55 5. 12 5. 20	5. 28 5. 50	5. 08 5. 35 5. 65	4. 75 5. 55 5. 78	4. 72 5. 45 5. 90	5. 10 5. 25 5. 32	4. 95 4. 98 5. 32	4. 72 5. 15 5. 18	5. 10 4. 90 4. 82	5. 10 5. 05 4. 38	5. 08 4. 18	5. 08 5. 21 5. 20
1909 1910 1911 1912 1913	5. 55 4. 10 4. 30 5. 35	6. 50 4. 15 4. 15 5. 90	7. 60 4. 70 5. 30 6. 40	7. 60 4. 20 5. 90 6. 45	6. 55 4. 45 6. 15 5. 85	5. 10 3. 80 4. 50 5. 05	4. 20 3. 95 4. 25 4. 50	4. 20 3. 50 4. 05 4. 35	4. 25 3. 80 4. 15 4. 30	3. 95 3. 65 4. 00 4. 55	3. 70 3. 45 4. 05 4. 60	3. 90 3. 55 4. 45 4. 95	5. 26 3. 94 4. 60 5. 19
Av. 1909–1913 1914 1915 1916	5. 50 5. 80 7. 20	5. 70 6. 45 7. 75	5. 95 7. 45 8. 25	6. 25 7. 70 8. 15	5. 65 7. 35 8. 20	5. 50 7. 35	5. 40 6. 05 7. 25	5. 55 6. 25 7. 35	5. 30 5. 75 7. 80	5. 30 6. 00 7. 50	5. 65 5. 85 8. 00	5. 40 6. 20 9. 00	5. 56 6. 36 7. 82
1917 1918 1919 1920	12. 20 10. 35 11. 80	12. 35 11. 35 13. 35	13. 60 14. 05 13. 40	15. 65 14. 50 14. 25	14. 75 12. 25 12. 25	9. 30 8. 50	12. 65 9. 70 8. 90	13. 15 9. 75 7. 70	11. 80 8. 30 6. 85	6. 45	9. 85 8. 30 5. 75	9. 40 9. 60 4. 70	12. 44 10. 47 9. 49
Av. 1914–1920 1921	5. 07	4. 90 8. 28	6. 14 9. 17		6. 33 7. 35 6. 74	4. 46 5. 59	5. 08 6. 12	4. 53 5. 63	8. 14 4. 49 6. 05 7. 25	7. 93 4. 71 6. 25 6. 35	4. 40 7. 48	7.28	9. 03 5. 13 7. 15 7. 10

<sup>&</sup>lt;sup>1</sup> 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.	Aver-
-													age.
	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls	Dolls.	Dolls.	Dolls.	Dolls.
1901	5. 30						5. 10	4.80					
1902	5. 55						5. 55		4.85	4. 70	4. 55	4.80	5, 49
1903							5. 30					4.85	
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	
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				6.65	6.75	6.90	7.00					
1907	7.30		7. 55		7.80	7. 20	7.05	6. 90	6. 90	6. 80			
1908	6. 80	6. 70	7. 20	7. 25	6.65	5. 75	6. 20	6.05	5. 35	5. 50	5.85		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				8.40		7. 10			6. 65		7. 50 6. 10	
1911			6. 10		5. 85		6. 30	6.35		5. 75		5. 75	7. 59
1912	6. 50		7. 30		8. 30		7. 25			6. 75			5. 93 7. 18
1913	8. 55				7. 40				7. 15	7. 05	7. 25	7. 60	7. 69
1910	0, 00	0.00	0.00	0.40	7. 40	0, 60	7.00	7. 40	7. 13	7.00	1. 20	7.00	7.09
Av. 1909-1913	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			10. 75	9. 55	10. 55	10. 75	10.60	10. 15		12. 70	10. 77
1917	13. 85	14. 30		14, 40	16. 90	15. 25	15. 65	15. 50		17. 40		16. 45	15. 68
1918	17. 20	16, 60	17, 55	19. 20	18, 00	16.85		17. 50		15, 35		14.60	16. 98
1919	16. 25	17.40	19.05	18, 15	16, 25	14.05	17. 10	16. 75		15, 00	14. 50	16, 40	16, 31
1920	19. 50	19. 95	18.80	18. 80	17.40	<b>14. 2</b> 5	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
	1	1	,		j.	1	ì	1	- 1	1	- 1	- 1	

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.

Table 539.—Sheep: Monthly average price per 100 pounds at six markets, 1923. CHICAGO.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Average Jan. 1- June 30.
Lambs:							
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. 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-			l <u>-</u>				
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				
	1	[			I	1	Aver-
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	age July 1- Dec. 31.
Slaughter sheep and lambs:	July.	Aug.	Sept.	Oct.	Nov.	Dec.	July 1-
Slaughter sheep and lambs:						Dec.	July 1- Dec. 31.
Slaughter sheep and lambs:			Dollars. 12.86	Dollars.	Dollars. 11. 94	Dollars.	Dec. 31.  Dec. 31.  Dollars. 12. 48
Slaughter sheep and lambs: Lambs— Light and handy weight (84 pounds down) medium-prime.	Dollars. 13. 54 9. 98	Dollars. 12. 07 9. 51	Dollars. 12. 86 10. 33	Dollars. 12, 30 9, 90	Dollars. 11. 94 9. 84	Dollars. 12. 18 10. 00	Dec. 31.  Dec. 31.  Dollars. 12. 48 9. 93
Slaughter sheep and lambs: Lambs— Light and handy weight (84 pounds down) medium-prime.  All weights, cull and common Yearling wethers, medium-prime.	Dollars.	Dollars.	Dollars. 12.86	Dollars.	Dollars. 11. 94	Dollars.	Dec. 31.  Dec. 31.  Dollars. 12. 48
Slaughter sheep and lambs: Lambs— Light and handy weight (84 pounds down) medium-prime. All weights, cull and common. Yearling wethers, medium-prime. Wethers (2 years old and over) medium-	Dollars. 13. 54 9. 98 10. 92	Dollars. 12.07 9.51 9.73	Dollars. 12. 86 10. 33 9. 92	Dollars. 12, 30 9, 90 9, 70	Dollars. 11. 94 9. 84 9. 62	Dollars. 12. 18 10. 00 9. 75	Dollars. 12. 48 9. 93 9. 94
Slaughter sheep and lambs: Lambs— Light and handy weight (84 pounds down) medium-prime. All weights, cull and common Yearling wethers, medium-prime Wethers (2 years old and over) medium-	Dollars. 13. 54 9. 98 10. 92	Dollars. 12. 07 9. 51 9. 73 7. 32	Dollars. 12. 86 10. 33 9. 92 7. 30	Dollars. 12. 30 9. 90 9. 70	Dollars. 11. 94 9. 84 9. 62 7. 16	Dollars. 12. 18 10. 00 9. 75 7. 48	Dollars. 12. 48 9. 93 9. 94 7. 18
Slaughter sheep and lambs:  Lambs—  Light and handy weight (84 pounds down) medium-prime.  All weights, cull and common  Yearling wethers, medium-prime  Wethers (2 years old and over) medium-prime  Ewes, common-choice	Dollars. 13. 54 9. 98 10. 92 6. 56 5. 13	Dollars. 12. 07 9. 51 9. 73 7. 32 6. 04	Dollars. 12. 86 10. 33 9. 92 7. 30 5. 44	Dollars. 12. 30 9. 90 9. 70 7. 23 5. 21	Dollars. 11. 94 9. 84 9. 62 7. 16 5. 44	Dollars. 12. 18 10. 00 9. 75 7. 48 6. 01	Dollars. 12.48 9.93 9.94 7.18 5.54
Slaughter sheep and lambs:  Lambs—  Light and handy weight (84 pounds down) medium-prime.  All weights, cull and common  Yearling wethers, medium-prime.  Wethers (2 years old and over) medium-prime.  Ewes, common-choice  Ewes, canner and cull	Dollars. 13. 54 9. 98 10. 92	Dollars. 12. 07 9. 51 9. 73 7. 32	Dollars. 12. 86 10. 33 9. 92 7. 30	Dollars. 12. 30 9. 90 9. 70	Dollars. 11. 94 9. 84 9. 62 7. 16	Dollars. 12. 18 10. 00 9. 75 7. 48	Dollars. 12. 48 9. 93 9. 94 7. 18
Slaughter sheep and lambs: Lambs— Light and handy weight (84 pounds down) medium-prime. All weights, cull and common. Yearling wethers, medium-prime. Wethers (2 years old and over) medium-prime Ewes, common-choice Ewes, canner and cull. Feeding sheep and lambs:	Dollars. 13. 54 9. 98 10. 92 6. 56 5. 13 2. 05	Dollars. 12. 07 9. 51 9. 73 7. 32 6. 04 2. 56	Dollars. 12. 86 10. 33 9. 92 7. 30 5. 44 2. 39	Dollars. 12. 30 9. 90 9. 70 7. 23 5. 21 2. 38	Dollars. 11. 94 9. 84 9. 62 7. 16 5. 44 2. 56	Dollars. 12.18 10.00 9.75 7.48 6.01 2.97	Dollars. 12. 48 9. 93 9. 94 7. 18 5. 54 2. 48
Slaughter sheep and lambs:  Lambs—  Light and handy weight (84 pounds down) medium-prime.  All weights, cull and common  Yearling wethers, medium-prime.  Wethers (2 years old and over) medium-prime.  Ewes, common-choice  Ewes, canner and cull	Dollars. 13. 54 9. 98 10. 92 6. 56 5. 13	Dollars. 12. 07 9. 51 9. 73 7. 32 6. 04	Dollars. 12. 86 10. 33 9. 92 7. 30 5. 44	Dollars. 12. 30 9. 90 9. 70 7. 23 5. 21	Dollars. 11. 94 9. 84 9. 62 7. 16 5. 44	Dollars. 12. 18 10. 00 9. 75 7. 48 6. 01	Dollars. 12.48 9.93 9.94 7.18 5.54

Classification of livestock changed July 1, 1923.

<sup>&</sup>lt;sup>1</sup> Simple average of monthly average prices.

Table 539.—Sheep: Monthly average price per 100 pounds at six markets, 1923.—Continued.

EAST ST. LOUIS.

EA	ST ST.	LOUIS	•				
Kind and grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Aver- age Jan. 1- June 30.
Lambs:  Medium to prime—  84 pounds down————————————————————————————————————	Dollars. 13. 90 11. 23	Dollars. 13. 96 11. 25	Dollars. 13. 96 11. 25	Dollars. 13. 78 11. 17	Dollars. 13. 02 10. 31 15. 25	Dollars. 13. 65 10. 32 14. 56	Dollars. 13. 71 10. 92
Medium to prime: Yearling wethers Wethers	10. 71 7. 99	11. 35 8. 50	11. 25 8. 62	11. 25 8. 62	10. 03 7. 33	10. 81 6. 22	10. 90 7. 88
Ewes: Medium to choice Culls and common Breeding ewes, full mouth to yearling Feeder lambs, medium to choice	3. 37	6. 86 4. 00	7. 18 4. 08	7. 80 4. 35	6. 23 3. 18	4, 54 2, 25	6. 48 3. 54
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age July 1- Dec. 31.
Slaughter sheep and lambs:  Lambs—  Light and handy weight (84 pounds down) medium-prime  All weights, cull and common.  Yearling wethers, medium-prime.  Wethers (2 years old and over) medium-prime.  Ewes, common-choice.  Ewes, common-choice.  Ewes, canner and cull.  Feeding sheep and lambs:  Feeding lambs, medium-choice.	Dollars. 13.00 9.34 10.30 6.25 4.53 2.03	Dollars. 11. 63 8. 64 9. 13 6. 50 4. 98 2. 19	Dollars. 12. 10 9. 14 9. 26 6. 34 5. 18 2. 29	Dollars. 11. 85 9. 11 9. 21 6. 40 4. 92 2. 25	Dollars. 11. 68 9. 12 9. 30 6. 50 4. 98 2. 25	Dollars. 11. 88 9. 42 9. 33 6. 52 5. 06 2. 32	Dollars. 12.02 9.13 9.42 6.42 4.94 2.22
FC	RT W	DRTH.			1	<u> </u>	1
Kind and grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Aver- age Jan. 1- June 30.
Lambs:  Medium to prime— 84 pounds down— Culls and common— Spring lambs, medium to choice— Medium to prime: Yearling wethers— Wethers————————————————————————————————————	ı	13. 30 10. 14  9. 64	13. 22 10. 09  10. 24	Dollars. 13. 00 10. 00	Dollars. 11. 86 8. 54 6. 50	Dollars. 12. 56 9. 50 12. 12 8. 96 5. 89	Dollars 9. 66 6. 93
Wethers	6. 05 3. 15	7. 14 6. 33 3. 25	7. 50 6. 54 3. 42	7. 50 6. 34 3. 38	5. 45 3. 14	4. 38 2. 38	5. 85 3. 12
Feeder lambs, medium to choice	11. 68	11. 90	12 17	12. 12			
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec. 31.
Slaughter sheep and lambs:  Lambs—  Light and handy weight (84 pounds down) medium-prime.  All weights, cull and common  Yearling wethers, medium-prime.	Dollars. 12.73 9.61 9.41	Dollars. 11. 62 9. 15 9. 00	Dollars. 11. 72 9. 20 9. 44	Dollars. 11. 10 8. 91 8. 26	Dollars.	Dollars.	Dollars.
Wethers (2 years old and over) medium- prime  Ewes, common-choice  Ewes, canner and cull  Feeding sheep and lambs: Feeding lambs, medium-choice	6. 41 4. 75 2. 56	6. 55 4. 95 2. 64	6. 57 5. 37 2. 79	5. 95 4. 57 2. 21 8. 78	5. 92 4. 18 1. 88	6. 27 4. 85 2. 03	6. 28 4. 78 2. 35
2 0000000000000000000000000000000000000						<u> </u>	

Table 539.—Sheep: Monthly average price per 100 pounds at six markets, 1923—Continued.

#### KANSAS CITY.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Average Jan.1- June 30.
Lambs—  Medium to prime—  84 pounds down  Culls and common  Spring lambs, medium to choice  Medium to prime:	13, 78	Dollars. 13. 78 11. 14	Dollars. 13. 66 11. 14	Dollars 13. 56 11. 12	Dollars 13. 07 10. 48	Dollars 13. 86 10. 38 14. 62	Dollars. 13. 62 10. 88
Yearling wethers Wethers Ewes:	10. 84 7. 62	11. 10 7. 92	11. 20 8. 63	11. 31 9. 36	10. 59 7. 53	10. 44 6. 42	10. 91 7. 91
Medium to choice Culls and common Breeding ewes, full mouth to yearling.	3.47	6. 88 3. 98	7. 72 4. 64	8. 24 5. 12	6. 27 3. 48	4. 56 2. 26	6. 68 3. 82
Feeder lambs, medium to choice	13. 28	13. 52	13. 30	12.98			
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec. 31.
Slaughter sheep and lambs:  Lambs— Light and handy weight (84 pounds down) medium-prime.  All weights, cull and common Yearling wethers, medium-prime.  Wethers (2 years old and over) medium-prime.  Ewes, common-choice Ewes, common-choice Ewes, canner and cull Feeding sheep and lambs: Feeding lambs, medium-choice.	Dollars. 13. 03 9. 32 10. 04 6. 76 5. 03 2. 23	Dollars. 11, 82 8, 81 9, 22 6, 94 5, 52 2, 33	Dollars. 12.18 9.28 9.32 6.70 5.04 2.29	Dollars. 11. 91 9. 08 9. 12 6. 73 4. 85 2. 22	Dollars. 11. 86 9. 40 9. 24 6. 78 4. 95 2. 28	Dollars. 11. 66 9. 39 9. 44 6. 90 5. 31 2. 50	Dollars. 12.08 9.21 9.40 6.80 5.12 2.31

## OMAHA.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Ave- age Jan. 1- June 30.
Lambs:  Medium to prime—  84 pounds down  Culls a ·d common.  Spring lambs, medium to prime  Medium to prime—	13. 74 11. 02	Dollars. 13. 79 11. 15	Dollars. 13. 69 11. 20	Dollars. 13. 55 11. 25	Dollars. 13. 29 10. 82 15. 50	Dollars 13. 86 10. 86 15. 00	Dollars. 13. 65 11. 05
Yearling wethers Wethers Ewes:	8.06	11. 00 8. 16	11. 34 8. 50	11. 37 8. 70	10. 35 7. 33	10. 98 6. 32	10. 98 7. 84
Medium to choice Culls and common Breeding ewes, full mouth to yearling	3.82	6. 65 4. 16	7. 58 5. 02	7. 88 5. 24	6. 33 3. 26	4. 38 2. 16	6. 52 3. 94
Feeder lambs, medium to choice	13. 67	14.00	13. 76	13. 26			
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average July 1- Dec. 31.
Slaughter sheep and lambs: Lambs—							
Light and handy weight (84 pounds down) medium-prime.  All weights, cull and common.  Yearling wethers, medium-prime.  Wethers (2 years old and over) medium-prime.	13.01 9.70 10.66	Dollars. 11. 96 9. 23 9. 45 6. 70	12. 25 9. 81 9. 38 6. 88	12. 14 9. 94 9. 07 6. 89	11. 72 9. 64 9. 17 7. 01	11. 68 9. 56 9. 55 7. 18	12. 13 9. 65 9. 55 6. 79
Ewes, common-choice Ewes, canner and cull Feeding sheep and lambs: Feeding lambs, medium-choice	2.00	5. 35 2. 25 11. 21	4. 66 2. 08 12. 28	4. 69 2. 18 11. 94	5. 05 2. 48 11. 60	5. 70 2. 80 11. 32	5. 01 2. 30 11. 56

Classification of livestock changed July 1, 1923.

Table 539.—Sheep: Monthly average price per 100 pounds at six markets, 1923—Continued.

#### SOUTH ST. PAUL.

Kind and grade.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	Aver- age Jan. 1- June 30.
Lambs:  Medium to prime—  84 pounds down————————————————————————————————————	13. 44	Dollars. 13. 53 10. 72	Dollars. 13. 53 10. 84	Dollars. 13. 23 10. 85	Dollars. 12. 87 9. 72	Dollars. 13. 06 9. 84	Dollars. 13. 28 10. 48
Yearling wethers, medium to prime	10. 74 7. 65	10.82 7.88	10. 94 8, 29	10. 77 8. 86	9. 91 7. 23	10. 57 5. 62	10. 62 7. 59
Medium to choice Culls and common Breeding ewes, full mouth to yearling Feeder lambs, medium to choice.	3. 93	6. 55 4. 26	6. 98 4. 50	7. 54 4. 66	6. 15 3. 48	4. 22 2. 04	6. 28 3. 81
Kind and grade.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age July 1-
							Dec. 31.
Slaughter sheep and lambs:  Lambs— Light and handy weight (84 pounds down) medium-prime All weights, cull and common	Dollars. 12. 49 9. 38	Dollars. 11. 30 8. 86	Dollars. 11. 93 9. 40	Dollars. 11. 37 9. 16	Dollars. 11. 30 9. 12	Dollars. 11. 46 9. 21	Dollars. 11. 64 9. 19
Yearling wethers, medium-prime  Wethers (2 years old and over) medium- prime	10. 27 5. 52	9. 10 6. 50 5. 29	9. 08 6. 56 4. 76	8. 73 6. 51 4. 47	8. 85 6. 68 4. 67	9. 00 6. 78 5. 27	9. 17 6. 42 4. 80
Ewes, common-choice  Ewes, canner and cull  Feeding sheep and lambs:	4. 34 1. 66	2. 12	2. 26	2. 07	4. 67 2. 34	5. 27 2. 51	2. 16

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.

	Farm	price.		market Chicago.	Price relatives (1913=100).					
Calendar year.	Sheep,	Lambs,	GI	T	Farm	price.	Market price.			
	weighted a verage.	simple average.	Sheep.	Lambs.	Sheep.	Lambs.	Sheep.	Lambs.		
910	4. 07 4. 20	Dollars. 6. 40 5. 30 5. 60 6. 05 6. 31	Dollars. 5. 26 3. 94 4. 60 5. 19 5. 56	Dollars. 7. 59 5. 93 7. 18 7. 69 7. 99	113. 9 91. 3 94. 2 100. 0 107. 4	105. 8 87. 6 92. 6 100. 0 104. 3	101. 3 75. 9 88. 6 100. 0 107. 1	98.7 77.1 93.4 100.6 103.9		
915		6. 85 8. 19 12. 23 13. 98 12. 98	6. 36 7. 82 11. 04 12. 44 10. 47	9. 05 10. 77 15. 68 16. 98 16. 31	117. 3 140. 6 213. 9 242. 6 209. 6	113. 2 135. 4 202. 1 231. 1 214. 5	122. 5 150. 7 212. 7 239. 7 201. 7	117. 140. 203. 220.		
920 921 922 923	8. 11 4. 55 5. 96 6. 65	11. 94 7. 20 9. 70 10. 50	9. 49 5. 13 7. 15 7. 10	15. 47 9. 86 13. 68 13. 89	181. 8 102. 0 133. 6 149. 1	197. 4 119. 0 160. 3 173. 6	182. 9 98. 8 137. 8 136. 8	201. 5 128. 5 177. 6 180. 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.

 $\begin{array}{ll} \textbf{Table 541.--} Sheep \ and \ lambs: \ \ Monthly \ slaughter \ under \ Federal \ inspection, \\ 1907-1923. \end{array}$ 

	,	,		<del>,</del>			
Calendar year.	January.	February.	March.	April.	May.	June.	July.
1907	1, 016, 701 871, 642 906, 338 903, 242 1, 129, 800	837, 329 724, 857 805, 561 770, 796 1, 018, 696	841, 526 677, 048 903, 369 726, 675 1, 059, 388	861, 005 663, 624 839, 010 692, 897 974, 072	768, 571 731, 785 712, 103 795, 699 1, 085, 306	735, 065 841, 716 842, 528 926, 900 1, 146, 429	864, 940 891, 112 964, 114 967, 378 1, 149, 617
1912 1913 1914 1915	1, 383, 239 1, 192, 485 1, 296, 625 1, 196, 268	1, 151, 431 960, 882 1, 112, 500 945, 912	1, 105, 620 883, 197 1, 143, 188 986, 203	970, 574 1, 048, 656 1, 149, 928 829, 906	962, 679 1, 127, 345 1, 084, 577 739, 051	1, 028, 426 1, 134, 615 1, 113, 437 882, 662	1, 181, 246 1, 273, 496 1, 171, 105 983, 684
1916 1917 1918 1919	976, 417 956, 416 779, 934 1, 003, 880	903, 755 818, 640 655, 015 753, 940	861, 470 861, 331 735, 595 737, 836	768, 683 777, 346 613, 814 807, 766	854, 014 632, 451 659, 063 894, 324	989, 824 710, 031 737, 298 931, 466	930, 169 688, 205 869, 403 1, 160, 470
1920 1921 1922 1923	954, 607 1, 068, 346 954, 329 1, 021, 211	828, 426 958, 019 775, 841 836, 473	787, 867 1, 075, 213 837, 216 977, 426	713, 796 1, 040, 628 739, 117 959, 697	670, 674 984, 903 872, 069 972, 291	817, 553 1, 116, 069 1, 028, 136 914, 372	1, 048, 428 1, 059, 902 964, 109 961, 791
Calendar y	ear.	August.	September.	October.	November.	December.	Total.
1907 1908 1909 1910		900, 462 932, 367 1, 018, 698 1, 095, 036 1, 268, 405	891, 953 1, 064, 376 1, 153, 327 1, 154, 289 1, 256, 948	972, 656 1, 047, 568 1, 169, 232 1, 206, 237 1, 428, 228	793, 155 928, 266 1, 028, 673 1, 124, 698 1, 303, 770	768, 707 930, 305 999, 684 1, 044, 173 1, 199, 787	10, 252, 070 10, 304, 666 11, 342, 637 11, 408, 020 14, 020, 446
1912		1, 389, 635 1, 243, 440 1, 169, 430 1, 139, 236	1, 439, 630 1, 486, 305 1, 379, 097 1, 219, 649	1, 722, 955 1, 513, 922 1, 330, 529 1, 116, 002	1, 424, 063 1, 257, 546 1, 111, 857 1, 132, 499	1, 219, 756 1, 283, 870 1, 167, 069 1, 040, 693	14, 979, 254 14, 405, 759 14, 229, 342 12, 211, 765
1916		1, 172, 838 765, 939 936, 683 1, 233, 883	1, 158, 116 740, 122 1, 028, 645 1, 291, 979	1, 172, 118 821, 933 1, 194, 208 1, 413, 805	1, 120, 852 763, 781 1, 139, 292 1, 227, 190	1, 033, 110 808, 799 970, 927 1, 234, 577	11, 941, 366 9, 344, 994 10, 319, 877 12, 691, 116
1920 1921 1922 1923		1, 041, 580 1, 236, 992 1, 023, 787 956, 580	1, 150, 776 1, 249, 032 1, 013, 281 989, 560	1, 067, 821 1, 285, 430 981, 232 1, 046, 239	968, 235 1, 040, 390 882, 213 915, 229	932, 417 889, 980 857, 611 977, 681	10, 982, 180 13, 004, 904 10, 928, 941 11, 528, 550
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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.	June 1.	July 1.	Aug. 1.	Sept.1.	Oct.1.	Nov.1.	Dec. 1.
1916	1,000 lbs. 4,976 4,886 7,403 12,760 10,290 68,032 6,444 4,523	5, 895 6, 315 11, 360 7, 787 78, 082 3, 914	4, 949 7, 855 8, 013 5, 781 59, 304	4, 872 5, 599 6, 505	4, 369 3, 348 7, 623 2, 579 25, 129 2, 071	1bs. 2, 525 3, 508 3, 860 7, 718 5, 735 15, 877 2, 310	4, 380 2, 429 7, 279 4, 311 8, 714 3, 720	3, 912 3, 150 7, 263 2, 299	2, 716 4, 046 7, 817 11, 021 5, 903 3, 376	2, 768 5, 275 8, 318 25, 325 5, 993	4, 194 8, 645 7, 894 48, 997 6, 840 3, 458	5, 406 9, 035 9, 409 56, 702 7, 520

Division of Statistical and Historical Research.

Table 543.—Monthly statement of the livestock and meat situation, 1923.

SHEEP, LAMB, AND MUTTON.

<b>T</b> .			Τ_	T	Τ	1 .	1	1
Item		Unit.	Jan.	Feb.	Mar.	Apr.	May.	June.
Inspected slaughterAverage live weight	The	usands_	1,021	836	978	960	972	914
Average live weight	Pou	nds	. 88	88	85	82	78	76
Average drossed weight  Total dressed weight (carcass)		do	. 42	42	40	39	39	37
Total dressed weight (carcass).	1.00	01bs	42, 574	34, 831	39, 410	37, 726	37, 482	33, 676
Eresh Jamb and mutton.	1		1	1	1	1	,	],
Storage 1st of month		do	4, 523	5, 980	5, 758	6,635	5, 774	4, 445
Exports 1	1	d٥	927	248	99	64	170	322
Imports  Receipts of sheep <sup>2</sup> Stocker and feeder shipments <sup>2</sup>		do	1,607	388	1, 280	49	79	75
Receipts of sheep 2	Tho	usands	1,636	1,366	1,430	1,447	1,794	1, 426
Stocker and feeder shipments 2.		do	171	169	114	82	216	117
Prices per 118) polinds:			1			l		
Average cost for slaughter	Doll	lars	12, 67	12, 50	12.85	12, 41	12, 31	11.14
At Chicago—	- 1		ĺ	1		i .		
Lambs, 84 pounds down	, medi-		1		i			
um-prime		do	14.06	14. 24	14. 24	13.76	13, 67	14.02
um-primeSheep, medium-choice		do	7. 63	7. 90	8. 51	8.74	7.00	5, 69
At eastern markets—	ı		i .	1	[			
Lamb carcasses, good gr	ade	do	24. 51	23, 16	23. 47	23, 59	26, 54	27, 57
Mutton, good grade		doo	14.75	14, 73	13, 80	16.04	17.03	14, 72
Mutton, good grade Sheep on farms, Jan. 1	Tho	usands	37, 223					
		1	1	<u> </u>	<u>'</u>			
Item.	Unit.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Inspected slaughter Average live weight	Thousands	962	957	990	1,046	915	978	11, 529
A verage live weight	Pounds	75	77	78	80	77	83	3 81
Average dressed weight	do	37	37	37	38	39	39	3 39
Average dressed weight Total dressed weight (carcass)	1.000 lbs	35, 163	35, 192	37, 099	39, 799	35, 547	38, 286	446, 785
Fresh lamb and mutton:		Į.	, , , , ,	,	,	,	,	,
Storogo let of month	do	3, 556	2,752	1,785	1, 719	1,997	2,014	4 3, 912
Exports 1	do	335	245	144	99	73	98	2, 124
Exports 1 Imports. Receipts of sheep 2 Stocker and feeder shipments 2	do	43	332	694	359	222	87	5, 215
Receipts of sheep 2	Thousands	1,661	1,800	2, 659	3, 464	1,816	1,526	22, 025
Stocker and feeder shipments 2	do	188	341	897	1, 489	540	154	4, 478
Prices per 100 pounds:					,			-,
Average cost for slaughter	Dollars	11.99	11. 52	11.81	11.37	11.96	11. 54	3 12, 03
At Chicago—								-=. 00
Lambs 84-nound down.			i i	1	- 1	1	1	
medium-prime	do	13. 54	12.07	12.86	12.30	11.94	12.18	4 13, 24
Sheep, medium-choice	do	5.84	6.68	6.37	6. 22	6.30	6.74	4 6, 97
At eastern markets—								,,,,,
Lamb carcasses. good				I		1		
Lamb carcasses, good grade	do	26. 12	26.95	26, 29	22, 73	23. 90	23. 13	4 24, 83
Mutton, good grade	do	16.90	18. 80	15.63	14.77	14.86	15. 57	4 15. 63
		- 1						

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 the 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.

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.	Мау.	June.	To- tal.
	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.	lbs.	lbs.	lbs.	lbs.	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, 160
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, 266
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
	378	234	385	305	299	275	319	497	948	905	638	370	5, 553
	237	248	310	236	288	262	394	298	195	277	234	217	3, 196
	69	329	141	233	84	391	114	123	168	165	116	165	2, 098
	192	117	100	115	58	198	236	283	160	198	195	322	2, 174
1919-20 1920-21 1921-22 1922-23 1923-24	239 242 395 203 321	302 175 411 169 245	229 145 264 100 140	309 135 100 52 97	220 109 176 76 72	315 425 146 55 98	286 563 195 225	318 372 112 246	539 431 81 96	217 1, 960 89 63	862 996 303 167	122 1,702 230 317	3, 958 7, 255 2, 502 1, 769

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

<sup>&</sup>lt;sup>1</sup> Including re-exports. <sup>2</sup> Public stockyards. <sup>3</sup> Weighted average. <sup>4</sup> Simple average, not total.

Table 545.—Mutton, fresh, chilled and frozen: Net imports and net exports of principal countries, 1909-1922.

	. Imports.							Exports.				
Calendar Year.	France.	Ger- many.	Swe- den.	United King- dom.	United States.	Can- ada.	Union of South Africa.	Den- mark.	Nether- lands.	Argen- tina.	Aus- tralia.	New Zea- land.
1909	1,000 lbs. 1 104 1 82 339 875 575 6,098 20,177 29,079 35,040 29,830	200 365 1, 522	348 187 124 9 1 139 1 46 1 1 1 5 (*)	604, 406 596, 968, 562, 411, 596, 992 582, 370, 527, 280, 407, 360, 287, 211, 233, 425	1 2, 574 1 5, 076 1 4, 236 16, 029 7, 648 11, 977 2, 762 1 1, 023 5, 200	5, 298 5, 352 3, 138 2, 822 2, 597 1, 164 4, 580	2, 775 3, 403 2, 513 2, 088 674 1 311 1 538 1 1, 020 1 774	361 226 329 201 184 806 365	19, 780 15, 478 21, 012 15, 038 19, 844 25, 094 4, 562 4, 125 2 5, 254	165, 570 189, 411 154, 708 101, 253 129, 384 77, 250 113, 136 87, 787 111, 145	190, 228 129, 568 115, 366 204, 919 193, 264 38, 333 66, 811 19, 174 59, 672 246, 957	1,000 lbs. 222,726 227,865 211,595 248,569 246,363 280,324 302,218 251,245 169,644 139,575
1920 1921 1922	36, 432 22, 628 13, 616	3 2, 029	1, 222 372	694, 150 754, 749 648, 497		1 2, 162	1, 495 1 375 1 64	40	9,001	115, 492	91, 712	428, 000 375, 946 331, 288

Division of Statistical and Historical Research. Compiled from official sources.

## WOOL.

Table 546.—Wool, raw: Production, imports, exports, and apparent consumption, United States, 1870–1923.

	. 1	Production	n.	Im-	Reex-	Net	of	Excess of	ent con-
Calendar year.	Fleece.	Pulled.	Total.	ports.	ports.1	imports.1	domestic wool.	over all exports.	
	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.
1870	162,000		162,000	54, 459	1,966	52, 493	46	52, 447	214, 447
1871	160,000			87, 740	2, 221	85, 519	147	85, 372	245, 372
1872	150, 000			116, 386	4, 189	112, 197	65	112, 132	262, 132
1873	158,000	1		60, 231	8,016	52, 215	271	51, 944	209, 944
1874	170,000			51, 5 <b>65</b>	3, 698	47,867	66	47, 801	217, 801
1875	181,000	l		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	l		51, 335	4,306	47, 029	66	46, 963	246,963
1878	208, 250	l		35, 799	5, 303	30, 496	286	30, 210	238, 460
1879	. 211, 000			70, 248	2, 793	67, 455	241	67, 214	278, 214
1880	232, 500			112, 761	4,925	107, 836	75	107, 761	340, 261
1881	240,000	l	240,000	57, 511	4,959	52, 552	101	52, 451	292, 451
1882	272,000	l		70, 661	3, 904	66, 757	42	66, 715	338, 715
1883	290,000		290,000	77, 183	3, 135	74,048	51	73, 997	363, 997
1884	300,000			70, 229	2, 793	67, 436	33	67, 403	367, 403
1885	.1.308, 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			108, 113	2, 982	105, 131	28	105, 103	374, 103
1889	265, 000	l	265, 000	128, 683	3,888	124, 795	301	124, 494	389, 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	421, 476
1892	294,000		294, 000	167, 784	3, 315	164, 469	230	164, 239	458, 239
1893	348, 538		348, 538	111,752	6,778	104, 974	229	104, 745	453, 283
1894	325, 211			115, 837	2, 801	113, 036	1,694	111, 342	436, 553
1895	294, 297		294, 297	248, 989	3, 015	245, <b>974</b>	5,707	240, 267	534, 564
1896 1897	272, 475		272, 475	159,776	6,512	153, 264	8, 483	144, 781	417, 256
1897	259, 153		259, 1 <b>53</b>	356, 839	2, 184	354, <b>6</b> 55	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
1900 1901	259, 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, 976
1903	245, 450	42,000	287, 450	173, 594	3, 267	170, 327	384	169, 943	457, 393
1904	249, 783	42,000	291, 783	186, 573	2, 165	184, 408	184	184, 224	476,007

<sup>1</sup> Net exports.

<sup>&</sup>lt;sup>2</sup> Less than 500 pounds.

<sup>&</sup>lt;sup>3</sup> Eight months, May-December.

Table 546.—Wool, raw: Production, imports, exports, and apparent consumption, United States, 1870-1923—Continued.

Calendar year.	P	roduction	1.	Im-	Reex-	Net		Excess of imports 1	
- 1	Fleece.	Pulled.	Total.	ports.	ports.1	imports.1	domestic wool.	over all exports.	sump- tion.
1905 2 1906 2 1907 2 1908 2 1908 2 1909 2 1910 2 1911 2 1912 2 1913 2 1914 2 1915 2 1916 2 1918 2 1918 2 1919 2 1919 2 1920 2 1921 2 1922 2	1,000 pounds. 253, 488 256, 915 256, 925 270, 138 287, 111 281, 363 277, 548 262, 543 262, 675 244, 890 244, 192 241, 892 244, 890 244, 890 244, 890 249, 958 225, 6870 229, 682 223, 602 223, 610	1,000 pounds. 42,000 42,000 41,000 41,000 41,000 41,500 43,500 43,500 43,600 40,000 43,600 44,000 48,300 42,000 48,500 42,900 42,500	1,000 pounds. 295, 488 298, 915 298, 915 298, 295 312, 363 318, 548 304, 043 296, 175 290, 192 285, 726 285, 726 285, 726 277, 905 271, 562 264, 560 266, 150 271, 562 266, 150	1,000 pounds. 246,821 196,844 188,306 142,559 312,131 180,135 155,923 238,118 151,814 260,151 449,190 442,995 453,727 445,893 259,618 320,666 376,673 394,259	1,000 pounds. 4,278 4,412 3,109 6,985 1,084 9,055 3,511 1,816 1,816 2,098 2,128 1,421 5,689 12,636 1,605 4,425 24,188	1,000 pounds. 242,543 192,432 185,197 131,047 171,080 172,303 110,627 419,574 447,062 449,574 449,574	1,000 pounds. 72 351 86 169 248 (3) (2) 2 77 2 335 2 8,158 3,919 1,827 4,827 4,827 4,827 4,827 4,840 8,845 1,927 4,53 555	1,000 pounds. 242, 471 192, 081 185, 111 135, 405 311, 001 171, 032 147, 877 253, 404 402, 465 443, 143 417, 747 452, 805 437, 364 238, 137 371, 738 371, 738 371, 738	1,000 pounds. 537,959 490,996 446,543 639,112 492,395 470,960 540,345 543,596 688,191 731,633 699,639 751,675 735,622 516,042 588,696 636,35,637

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.

Table 547.—Wool, fleece: Estimated production, by States, 1921-1923, and United States totals, 1914-1923.

Qt. I.	]	Production	n.	Wei	ght per f	leece.	Nur	nber of fle	eces.
State.	1921	1922	19231	1921	1922	19231	1921	1922	19231
Maine	1,000 pounds. 600 161 365 102 18	1,000 pounds. 589 128 312 102 19	1,000 pounds. 567 119 275 100 20	Pounds. 6. 0 6. 7 6. 3 6. 0 5. 9	Pounds6. 2 -6. 4 -6. 5 -6. 0 -6. 3	Pounds. 6. 3 6. 6 6. 4 6. 2 6. 5	Thou- sands. 100 24 58 17	Thou-sands. 95 20 48 17	Thou-sands. 90 18 43 16 3
Connecticut New York New Jersey Pennsylvania Delaware	2, 941 55 3, 403	2, 882 55 3, 087	2, 968 47 3, 148	6. 0 6. 7 6. 0 6. 4 3. 5	6. 0 6. 8 5. 8 6. 7 5. 8	5. 5 6. 9 5. 0 6. 5 5. 5	10 439 9 532 4	9 424 9 461 2	8 430 9 484 2
Maryland Virginia West Virginia North Carolina South Oarolina	440 1, 541 2, 300 395 97	486 1, 578 2, 346 395 102	512 1, 622 2, 600 397 103	6. 0 4. 6 4. 9 4. 2 3. 5	6. 4 4. 9 4. 9 4. 5 4. 0	6. 4 4. 8 5. 2 4. 9 4. 5	73 335 469 94 28	76 322 479 88 26	80 338 500 81 23
Georgia Florida Ohio Indiana Illinois	160 150 13, 200 3, 458 3, 496	157 157 13, 596 3, 527 3, 426	156 163 14, 313 3, 820 3, 290	2.8 3.1 7.2 7.0 7.6	2. 9 3. 2 7. 4 7. 0 7. 5	3. 0 3. 4 7. 3 7. 1 7. 6	57 48 1, 833 494 460	54 49 1,837 504 457	52 48 1,961 538 433
Michigan Wisconsin Minnesota Iowa Missouri	7, 714 2, 701 2, 340 5, 369 5, 202	7, 868 2, 279 2, 457 5, 208 5, 098	7, 282 2, 271 2, 225 4, 973 5, 411	7. 2 7. 0 7. 2 7. 5 6. 5	7. 3 7. 3 7. 2 7. 9 6. 6	7. 4 7. 4 7. 5 7. 5 7. 0	1,071 386 325 716 800	1, 078 312 341 659 772	984 307 297 663 773

<sup>&</sup>lt;sup>1</sup> Preliminary.

 <sup>&</sup>lt;sup>1</sup> 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.
 <sup>2</sup> Exports for fiscal years ending June 30 of the years shown.
 <sup>4</sup> No transactions.
 <sup>3</sup> Included in all other articles.

Table 547.—Wool, fleece: Estimated production, by States, 1921-1923, and United States totals, 1914-1923—Continued.

	]. ]	Productio	n.	Wei	ght per í	leece.	Nur	nber of fle	eccs.
State.	1921	1922	1923 1	1921	1922	1923 1	1921	1922	1923 1
North Dakota South Dakota Nebraska Kansas Kentucky	4, 324 1, 641 1, 878	1,000 pounds. 1,715 4,021 1,395 1,690 2,678	1,000 pounds. 1,648 4,021 1,738 1,933 2,715	Pounds. 7. 7 7. 2 7. 4 7. 0 4. 7	Pounds 7. 9 7. 5 8. 0 7. 5 5. 0	Pounds. 8. 0 7. 6 7. 9 7. 7 4. 9	Thou- sands 212 601 222 268 553	Thou- sands. 217 536 174 225 536	Thou-sands. 206 529 220 251 554
Tennessee Alabama Mississippi Louisiana Texas	189 470	1, 294 185 446 381 19, 300	1, 300 227 454 385 19, 700	4. 5 3. 0 3. 5 3. 7 7. 7	4. 5 3. 5 3. 0 3. 7 7. 2	4. 5 3. 6 3. 2 3. 4 7. 4	293 63 134 137 2, 338	288 53 149 103 2, 681	289 63 142 113 2, 662
Oklahoma Arkansas Montana Wyoming Colorado	482 355 16, 400 21, 200 6, 839	458 344 16, 770 20, 400 6, 976	490 320 17, 775 18, 800 6, 580	7. 3 4. 3 8. 3 8. 2 7. 0	7. 3 4. 5 8. 0 8. 0 6. 5	7. 0 4. 7 8. 4 7. 7 7. 0	66 83 1, 976 2, 585 977	63 76 2, 096 2, 550 1, 073	70 68 2, 116 2, 442 940
New Mexico Arizona Utah Nevada	10, 100 5, 616 16, 500 7, 000	11, 246 6, 000 16, 800 7, 650	10, 890 5, 798 17, 210 7, 942	6. 4 6. 0 8. 0 7. 3	6. 0 6. 5 7. 4 6. 5	6. 6 6. 5 7. 9 7. 6	1, 578 936 2, 062 959	1, 874 923 2, 270 1, 177	1, 650 892 2, 178 1, 045
Idaho Washington Oregon California	16, 800 4, 421 14, 435 14, 070	16, 642 3, 802 12, 992 13, 455	15, 455 4, 409 13, 200 14, 181	8. 0 8. 8 8. 6 7. 5	7. 8 7. 7 7. 5 6. 9	8. 1 8. 8 9. 0 7. 2	2, 100 502 1, 678 1, 876	2, 134 494 1, 732 1, 950	1, 908 501 1, 467 1, 970
United States	223, 062	222, 560	223, 610	7. 3	7. 1	7. 3	30, 584	31, 516	30, 457
1914		247, 192 245, 726 244, 890 241, 892 256, 870 249, 958 235, 005 223, 062 222, 560 223, 610			6.8 6.8 7.0 7.1 7.4 7.3 7.3 7.1 7.3			36, 354 35, 908 35, 202 34, 414 36, 178 33, 899 32, 301 30, 584 31, 516 30, 457	

Division of Crop and Livestock Estimates.

Table 548.—Wool: Estimated production, by countries and grand divisions.

				•	Cale	endar y	ears.			•	
Country.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Australasia	Mil- lion lbs. 833 555 322 143 320 78 26 21 225 273 175	Mil- lion lbs. 750 315 133 320 78 26 22 225 273 208	Mil- lion lbs. 827 455 309 125 320 80 26 22 227 273 208	Mil- lion lbs. 767 477 308 121 320 75 26 22 239 273 208	Mil- lion lbs. 645 480 307 121 320 75 26 22 240 273 208	Mil- lion lbs. 742 470 304 121 320 65 26 22 240 273 208	Mil- lion . 742 4 470 125 320 65 26 22 240 273 208	Mil- lion lbs. 825 484 336 118 320 50 26 22 236 327 150	Mil- lion lbs. 852 487 328 99 150 50 37 35 380 327 220	Mil- lion lbs. 718 592 298 100 320 40 43 79 317 327 169	Mil- lion lbs. 818 399 281 103 110 52 50 308 265 278
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 Association of Wool Manufacturers.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 549.—Wool: International trade, calendar years, 1909-1922.

Country.	Average	1909–1913.	19	920	19	921	prelin	22, ninary.
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING	1.000	1.000	1.000	1.000	1.000	1.000	1,000	1,000
COUNTRIES.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.
Algeria	2, 445	19,871	2,456	14, 598	1,865	19, 372	2,866	15, 566
Argentina	214	328, 204	110	229, 019		316, 484		402, 688
Australia	324	676, 679	324	511, 653	773	868, 362	1 141	711, 116
Brazil British India	1.511	2 2, 959	1 694	3, 573	1 148	7, 127	20, 586	1 7, 851
British India	23, 721	56, 496	22,766	28, 956	17, 937	22, 814	20, 586	51, 738 1 17, 453
Chile		28, 223 42, 684	675	30, 392 20, 147	188	26, 902 68, 205		77, 792
Greece		294	593	20, 147	871	1, 397		1, 439
Hungayy			383	1 7, 896	1 177	1 14, 830		1 9, 134
Hungary Morocco New Zealand		8, 607		3, 638	- 1	1, 575		
New Zealand	168	194, 801	37	162, 327	126	159, 419		306, 295
Persia	3 2, 753	10,023	303	3, 647	1 144	1 1, 286		<b></b>
Peru	3.3	9, 333	35	7, 450	2	4, 454	81	10, 088
Spain Union of South	2, 446	28, 505	4, 488	14,846	2, 113	5, 257	5,044	13, 449
Union of South								
Africa	7	164, 633	183	191, 218	176	247, 536	51	235, 576
Uruguay		139, 178		69, 393		1 122, 045		1 102, 328
PRINCIPAL IMPORTING				1		'	1	
COUNTRIES.				i			1 '	
Austria			3, 963	889	15, 362	2,432	1 13, 517	1 2, 143
Austria-Hungary	63, 942	9, 622				<b></b>	l	
Belgium	300, 367	196, 440	272, 206	154, 314	204, 015	141, 393	194, 918	76, 095
Canada	7,794	1, 323	12, 268	6, 289	9, 204	3, 310	15, 907	7, 159
Czechoslovakia			1 28, 715	í 450	1 37, 171	1 462	1 36, 080	1 3, 656
Denmark	2, 337	1, 124	707	677	1, 363	140	1,711	304
Finland	1, 794	30	2,482		1,934	11	4, 047 681, 252	50, 598
France	601, 628 481, 988	84, 973 42, 817	363, 545 122, 779	1 33, 696 1, 230	335, 899 1 277, 589	33, 403 4 4, 554	443, 327	16, 676
Germany	30, 145	3,933	64, 893	2,518	44, 279	5, 224	85, 253	9, 402
Italy	10. 223	3, 933	71, 541	2, 010	30, 531	0, 244	1 66, 923	e, <del>1</del> 02
Japan Netherlands	31, 991	26, 362	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	0, 011		14, 778	38	1 21, 351	1 129	1 34, 378	1 1 030
Russia	106, 184	32, 406	í 289	1 25	4 437	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 Kingdom	550, 931	42, 027	720, 457	22, 536	<b>466, 6</b> 68	36, 569	751, 628	62, 302
United States	203, 298	6 46	259, 618	8,845	<b>820, 6</b> 66	1,927	376, 795	453
Other countries	10, 467	38, 702	1, 882	22, 594	<b>5, 9</b> 07	18, 960	3, 630	17, 632
Total	2, 459, 331	2, 190, 905	2, 008, 884	1, 561, 455	<b>1, 832, 6</b> 01	2, 141, 390	2, 789, 832	2, 229, 103

Division of Statistical and Historical Research. Official sources except where otherwise noted. "Wool" in this table includes: Washed, unwashed, scoured, and pulled wool; slipe, sheep's wool on skins (total weight of wool and skins taken); and all other animal fibers included in United States classification 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.

Table 550.—Wool (unwashed): Farm price per pound, 15th of month, United States, 1910-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weight- ed av- erage.
1910	-Cents. 24. 5 17. 3 16. 2 18. 6 19. 2 15. 7 18. 6 28. 3 31. 8 58. 1 55. 2 53. 3	Cents. 24. 6 17. 3 16. 3 18. 7 19. 2 15. 7 20. 2 24. 2 32. 7 57. 1 51. 1 52. 5	Cents. 24. 9 16. 8 16. 9 18. 4 19. 2 16. 4 22. 8 25. 9 36. 7 60. 0 51. 3 51. 5	Cents. 22. 3 15. 7 17. 3 17. 7 18. 2 16. 8 22. 7 26. 3 38. 8 60. 0 47. 9 51. 3	Cents. 22.8 14.7 17.8 16.3 17.9 17.2 22.0 28.0 43.7 58.2 48.0 50.3	Cents. 19. 5 15. 5 18. 7 15. 6 17. 3 18. 4 23. 7 28. 7 49. 8 57. 4 50. 5 38. 6	Cents 19. 0 15. 4 18. 9 15. 9 17. 3 18. 5 24. 2 28. 6 54. 3 57. 5 51. 8 29. 5	Cents. 19. 5 16. 0 18. 8 15. 8 17. 5 18. 7 23. 8 29. 0 54. 8 57. 4 52. 2 28. 3	Cents. 17. 7 15. 8 18. 7 15. 8 17. 0 18. 6 23. 3 28. 4 2 57. 7 51. 3 28. 0	18. 1 15. 5 18. 5 15. 5 16. 9 18. 0 22. 7 28. 7 55. 5 57. 7 50. 6 27. 5	17. 9 15. 6 18. 6 15. 6 16. 9 18. 1 22. 7 29. 4 55. 9 56. 4 51. 0 24. 9	Cents. 17.8 15.5 18.6 16.1 17.0 18.6 23.3 30.8 58.2 56.2 51.6 21.9	Cents. 20. 5 15. 6 18. 1 16. 4 17. 6 17. 7 22. 8 27. 9 47. 8 57. 9 50. 3 39. 1
Av. 1914–1920 1921 1922 1923	36. 6 19. 6 18. 0 35. 3	36. 2 19. 8 22. 3 35. 3	37. 8 18. 9 25. 0 37. 3	37. 2 17. 9 24. 8 39. 2	38. 2 16. 0 29. 0 41. 7	38. 2 15. 4 32. 8 41. 5	37. 8 15. 5 32. 5 38. 3	37. 7 15. 4 31. 6 37. 0	37. 4 15. 5 31. 6 37. 1	37. 2 15. 8 32. 2 36. 9	36. 9 15. 6 33. 2 36. 4	37. 2 16. 9 35. 3 36. 2	37. 6 16. 4 29. 8 38. 9

International Institute of Agriculture.
 Four-year average.

<sup>&</sup>lt;sup>3</sup> Three-year average. <sup>5</sup> One year only. <sup>4</sup> Eight months, May-December.

Table 551.—Stocks of wool, tops, and noils held by dealers and manufacturers in United States, 1918–1923.

		Held	by deal	ers.			Held by	manufac	turers.	
Date.	Grease.	Scoured.	Pulled.	Tops.	Noils.	Grease.	Scoured.	Pulled.	Tops.	Noils.
1918. Jan. 1 Apr. 1 July 1 Oct. 1	1,000 pounds. 156, 639 91, 209 202, 241 219, 659	1,000 pounds. 27,849 22,887 11,721 12,926	1,000 pounds. 12, 229 14, 444 10, 478 10, 701	1,000 pounds. 4, 642 3, 555 2, 074 347	1,000 pounds. 7,565 6,054 3,848 3,655	1,000 pounds. 172,342 135,685 136,267 101,900	1,000 pounds. 29, 912 23, 672 19, 601 16, 236	1,000 pounds. 9,627 9,322 9,433 8,449	1,000 pounds. 18, 677 16, 117 14, 251 12, 288	1,000 pounds. 13, 567 11, 387 13, 064 12, 467
1919.  Jan. 1  Apr. 1  July 1  Oct. 1	81, 923 28, 690 198, 298	12, 347 7, 952 22, 155 27, 921	10, 215 5, 984 10, 108 14, 497	1, 422 898 1, 801 3, 446	5, 104 2, 823 2, 577 3, 184	58, 602 72, 637 147, 678 181, 301	13, 816 13, 654 16, 117 17, 705	5, 233 6, 663 11, 740 7, 829	10, 395 10, 962 11, 388 15, 286	12, 385 10, 381 9, 826 9, 825
1920. Jan. 1 Apr. 1 July 1 Oct. 1	123, 247 144, 837	24, 630 26, 279 27, 963 29, 988	17, 907 17, 710 15, 207 11, 229	4, 735 3, 646 4, 487 5, 564	3, 893 4, 305 6, 041 4, 754	148, 239 135, 645 112, 434 75, 288	20, 030 28, 100 23, 078 15, 612	10, 152 9, 339 6, 762 12, 067	13, 875 14, 328 15, 439 16, 839	7, 310 8, 670 9, 000 9, 12
1921. Jan. 1	194, 891	27, 814 22, 807 19, 703 19, 480	14, 352 15, 505 12, 127 11, 201	6, 616 7, 623 4, 883 4, 005	5, 434 3, 690 4, 139 3, 009	119, 766 159, 599 164, 713 180, 727	17, 291 18, 442 18, 042 19, 736	6, 895 17, 095 10, 787 10, 484	18, 851 19, 325 20, 247 23, 184	9, 99 9, 31 8, 10 7, 46
1922. <sup>1</sup> Jan. 1 Apr. 1 July 1 Oct. 1	101, 384 70, 415 156, 523	13, 468 10, 995 13, 447 16, 521	10, 222 6, 969 6, 988 7, 384	2, 866 2, 296 2, 627 3, 327	2, 453 1, 373 1, 619 2, 695	171, 597 171, 026 165, 810 191, 351	21, 097 25, 406 22, 201 20, 336	9, 312 10, 419 9, 642 8, 686	17, 536 18, 029 20, 720 19, 227	7, 13 7, 17 6, 79 5, 90
1923. <sup>1</sup> Jan. 1 Apr. 1 July 1 Oct. 1	134, 644 126, 158 186, 730 175, 843	22, 150 24, 734 21, 075 21, 679	11, 106 13, 503 13, 126 10, 531	3, 658 3, 378 5, 125 3, 136	6, 158 6, 378 5, 977 5, 675	193, 492 175, 422 161, 435 130, 935	20, 596 21, 787 18, 464 15, 992	8, 824 11, 930 11, 148 8, 961	20, 211 18, 402 16, 579 16, 998	7, 64 8, 24 8, 36 7, 51

Division of Statistical and Historical Research.

Table 552.—Wool: Quarterly average price per pound on farms, by districts, 1910-1923.

Date.	Ohio, Penn- syl- vania, and West Vir- ginia.	Michigan, Wisconsin, and New York.	Ken- tucky and Indi- ana.	Missouri, Iowa, and Illinois.	Texas.	Cali- fornia.	Montana, Wyo- ming, Utah, Idaho, Oregon, Neva- da, Ari- zona.	New Mexico.	Florida, Ala- bama, Missis- sippi, Louisi- ana, and Geor- gia.
January-March April-June July-September October-December	Cts. 31 27 23 22	Cts. 29 24 22 22	Cts. 29 26 24 22	Cts. 28 24 21 20	Cts. 21 20 19 17	Cts. 16 17 16 14	Cts. 22 19 17 17	Cts. 29 20 15 14	Cts. 29 25 23 20
1911. January-March April-June July-September October-December	22 19 20 20	20 17 18 19	21 19 18 19	19 17 17 17	16 15 15 14	12 12 12 11	• 16 14 15 15	13 12 12 13	20 18 18 18
1912.  January-March April-June July-September October-December	29 22 24 24	19 20 23 22	20 21 22 22	18 19 21 20	15 15 16 15	13 14 15 15	15 17 17 17	13 13 14 15	18 17 20 19

<sup>&</sup>lt;sup>1</sup> Figures do not include estimates for firms not reporting.

Table 552.—Wool: Quarterly average price per pound on farms, by districts, 1910–1923—Continued.

		1000	0.01	iomacc					
Date.	Ohio, Penn- syl- vania, and West Vir- ginia.	Michigan, Wisconsin, and New York.	Ken- tucky and Indi- ana.	Missouri, Iowa, and Illi- nois.	Texas.	Cali- fornia.	Montana, Wyoming, Utah, Idaho, Oregon, Nevada, Arizona.	New Mexico	Florida, Ala- bama, Missis- sippi, Louisi- ana, and Geor- gia.
1913. January-March April-June July-September October-December	Cts 24 20 20 20 20	Cts. 21 18 19 19	Cts. 22 19 19 19	Cts. 20 18 17 17	Cts. 15 14 13 13	Cts. 15 14 15 12	Cts. 17 15 14 14	Cts. 15 13 12 12	Cts. 19 17 17
1914. January–March April-June July–September October–December	20	18	19	17	13	12	15	13	17
	21	20	21	18	15	15	16	15	16
	23	21	22	<b>20</b>	16	15	17	16	17
	23	21	20	19	14	15	17	15	17
January–March April–June July–September October–December	24 26 28 28	23 26 29 28	23 26 28 27	20 24 26 26	15 18 19 18	16 20 20 17	21 22 22 22 21	17 18 19 19	17 18 21 20
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
January–March April-June July–September October–December	38	37	35	33	26	31	35	27	25
	48	48	48	45	35	45	44	37	32
	64	61	59	57	44	52	53	46	44
	66	64	62	58	47	51	56	48	46
January–March April-June July–September October–December	69	65	62	59	50	53	57	47	45
	69	65	66	61	51	49	55	54	49
	67	65	65	61	52	50	55	49	53
	67	65	64	60	51	50	54	44	54
January-March April-June July-September October-December	62	58	62	56	45	42	51	35	50
	58	52	53	49	42	43	48	42	44
	63	58	55	53	46	47	49	46	45
	63	57	55	51	44	42	48	48	44
January-March April-June July-September October-December	63	58	54	52	46	45	50	45	48
	58	50	48	44	45	44	44	44	41
	33	30	34	28	30	28	28	25	25
	28	26	27	22	24	23	26	22	· 19
Av. 1914–1920	44	42	42	38	32	33	36	32	32
1921. January-March April-June July-September October-December	27	23	22	18	20	13	19	15	17
	22	19	17	17	15	10	16	.14	16
	19	18	16	15	14	-12	16	12	13
	20	18	17	15	14	13	16	14	14
January-March April-June July-September October-December	25	23	19	19	17	23	24	18	14
	33	29	27	25	26	31	31	26	18
	38	33	31	30	33	35	31	30	24
	38	35	32	32	34	31	34	32	23
January-March April-June July-September October-December	39	36	33	32	37	38	37	36	23
	43	42	40	39	40	42	42	40	27
	43	41	38	38	37	35	38	34	29
	42	41	38	36	34	33	36	34	33

Division of Statistical and Historical Research. Compiled from data of the Division of Crop and Live-stock 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.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910 1911 1912 1913	\$0. 28 . 23 . 22 . 24	\$0. 28 . 22 . 22 . 24	\$0. 27 . 21 . 22 . 23	\$0. 25 . 20 . 22 . 22 . 22.	\$0. 24 . 19 . 22 . 21	\$0. 22 . 19 . 22 . 21	\$0. 22 . 20 . 24 . 21	\$0. 21 . 20 . 24 . 21	\$0. 21 21 . 24 . 21	\$0. 23 21 . 24 . 21	\$0. 23 . 21 . 24 . 21	\$0. 23 . 22 . 24 . 21	\$0. 24 . 21 . 23 . 22
1914 1915 1916 1917 1917 1918 1919	. 21 . 25 . 28 . 39 . 65 . 57 . 70	. 21 . 29 . 28 . 42 . 65. . 56 . 75	. 22 . 29 . 29 . 45 . 65 . 54 . 76	. 22 . 26 . 31 . 44 . 67 . 53 . 70	. 23 . 26 . 31 . 47 . 64 . 53 . 65	. 24 . 26 . 31 . 55 . 62, . 58 . 60	. 25 . 27 . 31 . 58 . 67 . 68 . 57	. 25 . 27 . 31 . 63 . 64 . 70 . 54	. 25 . 27 . 31 . 66 . 62 . 70 . 54	. 24 . 27 . 33 . 63 . 67 . 67 . 42	. 24 . 27 . 34 . 65 . 64 . 68 . 38	. 24 . 27 . 37 . 65 . 62 . 70 . 38	. 23 . 27 . 31 . 54 . 64 . 62 . 58
Av. 1914–1920	. 44	.45	. 46	. 45	. 44	. 45	. 48	: 48	. 48.	46	. 46	. 46	. 46
1921 1922 1923	. 31 . 34 . 52	. 31 . 38 . 52	.32 .38 .51	. 32 . 38 . 51	.31 .40 .52	. 30 . 46 . 53	. 28 . 47 . 51	. 28 . 47 . 49	. 28 . 47 . 49	. 28 . 49 . 49	. 29 . 50 . 49	.31 .50 .49	.30 .44 .51

#### TERRITORY-FINE STAPLE, SCOURED.

1910	\$0. 74	\$0. 73	\$0. 71	\$0. 68	\$0.63	\$0.61	\$0. 61	\$0.62	\$0.62	\$0. 63	\$0. 63	\$0.63	\$0.65
	. 61	. 59	. 54	. 53	.52	.52	. 55	.56	.59	. 60	. 61	.61	.57
	. 61	. 61	. 61	. 61	.61	.61	. 63	.68	.68	. 68	. 67	.67	.64
	. 66	. 64	. 59	. 56	.55	.54	. 54	.54	.54	. 53	. 53	.52	.56
1914	. 52	. 56	. 57	. 59	. 60	. 61	. 61	. 63	. 61	. 59	. 61	. 61	. 59
1915	. 63	. 73	. 73	. 71	. 69	. 71	. 71	. 71	. 71	. 71	. 71	. 73	. 71
1916	. 74	. 77	. 77	. 79	. 79	. 81	. 82	. 85	. 89	. 89	. 97	1. 05	. 84
1917	1. 13	1. 23	1. 28	1. 33	1. 38	1. 74	1. 74	1. 78	1. 81	1. 80	1. 80	1. 80	1. 57
1917	1. 80	1. 80	1. 83	1. 85	1. 80	1. 80	1. 85	1. 80	1. 80	1. 85	1. 80	1. 80	1. 82
1918	1. 60	1. 52	1. 58	1. 65	1. 65	1. 75	1. 85	1. 85	1. 85	2. 00	2. 00	2. 00	1. 78
1919	2. 00	2. 05	2. 05	2. 90	2. 00	1. 75	1. 60	1. 45	1. 30	1. 20	. 95	. 90	1. 60
Av. 1914-1920	1.20	1. 24	1.26	1. 27	1. 27	1.31	1.31	1.30	1. 28	1. 29	1. 26	1. 27	1.27
1921	. 84	. 90	. 89	. 88	. 86	. 82	. 82	. 82	. 82	. 82	. 84	. 88	. 85
1922	. 97	1. 10	1. 10	1. 09	1. 27	1. 34	1. 35	1. 31	1. 30	1. 34	1. 39	1. 40	1. 25
1923	1. 43	1. 44	1. 44	1. 49	1. 53	1. 50	1. 44	1. 37	1. 32	1. 30	1. 30	1. 34	1. 41

Division of Statistical and Historical Research. 1910–1920 data from National Association of Wool Manufacturers. 1921–1923 data from Boston Commercial Bulletin.

Table 554.—Wool: Average prices per pound in England, 1909-1923.

#### LINCOLN HOGGETS.1

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1909 1910 1911 1911	Cents. 17. 5 20. 0 20. 0 21. 3	Cents. 18. 0 21. 0 20. 5 20. 8	Cents. 18. 0 21. 0 20. 5 20. 8	18. 0 21. 0 20. 5 20. 8	Cents. 18. 0 20. 5 20. 2 20. 3	Cents. 19. 5 19. 5 20. 0 20. 8	Cents. 19. 5 19. 0 20. 0 21. 3	Cents. 19. 0 20. 0 20. 0 21. 8	19. 5 20. 0 20. 0 22. 3	Cents. 19. 5 20. 0 20. 0 22. 8	Cents. 20. 0 20. 0 21. 0 23. 2	Cents. 20. 5 20. 0 20. 2 23. 7	Cents. 18. 9 20. 2 20. 2 21. 7
Av. 1909–1913	25. 4 20. 8 25. 8	25. 9 21. 2 27. 3	26. 4 21. 3 27. 4	26. 4 21. 3 27. 4	26. 4	26. 9 21. 3 26. 5	26. 9 21. 3 25. 5	27. 9 21. 7 26. 0	25. 8 21. 5 25. 9	25. 8 21. 6 26. 8	25. 8 22. 0 28. 6	25. 3	23. 2 21. 4 26. 9
1915 1916 <sup>2</sup> 1920 1921	28. 5 37. 6 42. 8 21. 9	34. 1 37. 7 39. 4 21. 0	34. 5 39. 7 44. 0 17. 9	35. 0 39. 7 45. 7 17. 2	33. 4 38. 7 38. 5 16. 6	35. 8 37. 7 34. 5 13. 4	35. 7 37. 7 32. <b>1</b> 12. 5	33. 8 37. 7 33. 2 13. 3	33. 7 38. 7 30. 7 14. 0	34. 2 39. 6 27. 5 14. 5	36. 0 41. 6 25. 7 15. 7	36. 9 43. 5 20. 4 15. 2	34. 3 39. 2 34. 5 16. 1
1922	17. 2 23. 8	17. 7 24. 4	17. 8 24. 5	18. 8 24, 2	19. 5 24. 1	20. 9 24. 5	22. 2 25. 8	22. 3 25. 7	22. 2 25. 5	22. 7 25. 0	22. 3 24. 2	23. 0 24. 5	20. 6 24. 7

<sup>&</sup>lt;sup>1</sup> First-shorn fleece, but not lambs' wool.

<sup>&</sup>lt;sup>1</sup> Prices June-December, 1920, largely nominal.

<sup>&</sup>lt;sup>2</sup> Period of price control. Approximate issue prices: 1917, 50 cts.; 1918, 55 cts.; 1919, 46-48 cts

Table 554.—Wool: Average prices per pound in England, 1909-1923-Contd. LINCOLN WETHERS.3

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	A verage.
1000	Cents.	Cents.					Cents.				Cents.		Cents.
1909	15. 5 18. 5	16. 0 20. 0	16. 0 20. 0	16. 0	16. 0	16. 5	15. 5	16. 0	17. 0	17. 0	18. 0	18. 5	16. 5
1911	19. 7	20. 0	20. 0	19. 5 20. 0	19. 0 19. 5	18. 5 19. 5	17. 5	19. 0	20.0	19. 5	19. 0	20.0	19. 2
1912	20. 2	20. 0	19. 8	19. 7	19. 5	19. 8	19. 5 20. 8	19. 0 21. 3	19. 0 21. 8	19. 0	19. 5	19. 5	19. 5
1913	23. 8	25. 4	25. 9	25. 9	25. 8	25. 9	25. 4	24. 8	24. 8	22. 3 24. 8	22. 7 24. 8	23. 2 24. 7	20. 1 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. 1
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	23. 2 33. 9
19162	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	30. 8
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.

### SHEEP SHIPMENT AND MARKETING.

Table 555.—Sheep: Percentage of shrinkage 1 in shipments by cooperative associations, 1921.

		By di	stance.				Ву m	onths.	
· •	Straigh		Mixed men	ship- its.3		Straigh	t ship-	Mixed men	ship-
Distance.	Number of ani- mals upon which figures are based.	Shrink- age per cent- age of weight shipped	mals upon which figures	Shrink- age per cent- age of weight shipped		Number of ani- mals upon which figures are based.	Shrink- age per cent- age of weight shipped	mals upon which figures	Shrink- age per cent- age of weight shipped
Less than 100 miles. 100–150 miles. 150–200 miles. 200–250 miles.	2, 479 6, 472 5, 139 1, 978	8. 90 7. 10 7. 02 7. 22	10, 881 8, 373 1, 676 9, 904	7. 56 6. 86 5. 92 8. 01	January February March April	1, 922 567 1, 736 1, 013	5. 20 5. 88 6, 95 8. 55	4, 865 2, 250 3, 538 5, 081	6. 18 6. 55 7. 42 7. 84
250-300 miles 300-350 miles 350-400 miles 400-450 miles	860 1, 026 2, 237 2, 073	8. 65 9. 92 10. 40 8. 77	1, 297 5, 204 18, 538 2, 288	9. 17 7. 92 8. 56 8. 93	May June July August	1, 060 1, 723 1, 873 <b>3, 28</b> 5	9. 20 10. 13 8. 32 8. 90	3, 401 2, 941 2, 510 5, 863	7. 74 8. 88 9. 30 10. 08
450-500 miles 500-550 miles 550-600 miles	648 1, 186	6. 87 8. 22	359	10.02	September October November Decamber	3, 098 2, 983 3, 349 1, 489	8. 11 7. 79 7. 93 7. 60	6, 468 9, 168 8, 386 4, 049	10.01 8.02 7.08 5.56

Division of Cost of Marketing.

 <sup>&</sup>lt;sup>2</sup> Period of price control. Approximate issue prices: 1917, 50 cts.; 1918, 55 cts.; 1919, 46-48 cts.
 <sup>3</sup> Includes all fleeces shorn after the first.

<sup>&</sup>lt;sup>1</sup> 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 o crippled and dead.

Straight shipments contain but one species of livestock.

Mixed shipments contain more than one species of livestock.

Table 556.—Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.

### BY MARKETS-STRAIGHT SHIPMENTS.1

				Crippled.			Dead.	
Market.	Number of animals upon which figures are based.	weight of animals.	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	1, 676	Pounds.	0. 24	0. 20	Pounds.	0.72	0. 67	Pounds.
Chicago	16, 770	87	. 20			. 51		
East St. Louis Kansas City	1,926 3,390	73 74	.11.	. 06	80	.52		
Sioux City	1,856	95	. 27	. 37	128	. 33	. 38	110
	BY	MARKET	rs-MIXI	ED SHIP	MENTS.			
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	72	. 09	10	195	21	0.21	01

Division of Cost of Marketing.

St. Paul....

99

Table 557 .- Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921. BY DISTANCE

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125

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				DI Di	SIANO	ь.				
			Straight s	hipments	.1			Mixed s	nipments.	2
	Num- ber of	Aver-	(	Crippled.		Percent- age of	Num- ber of animals	Aver-	Percent-	Percent-
Distance.	animals upon which figures are based.	age weight of ani- mals.	Percent- age of total number shipped.	age of total weight	Average weight of animals.	total number shipped dead.	upon which figures are based.	age weight of ani- mals.	total number shipped crippled.	total number shipped dead.
Less than 100 miles 100-150 miles 150-200 miles 200-250 miles	3, 210 7, 702 6, 255 4, 551	Pounds. 75 83 87 85	0. 03 . 04 . 16 . 10	0. 04 . 04 . 18	Pounds. 100 77 97 52	0. 18 . 35 . 30 . 31	11, 174 10, 788 1, 890 10, 973	Pounds. 69 74 86 88	0. 01 . 06 . 16 . 07	0.39 .36 .16
250-250 miles 250-300 miles 300-350 miles 350-400 miles 400-450 miles	860 1, 266 2, 898 2, 190	70 84 88 81	. 08 . 41 . 64	. 05	60	. 46 . 23 . 72 . 39	1, 297 5, 223 21, 424 2, 457	75 80 77 89	. 08 . 15 . 27 . 45	1. 34 . 25 . 59 1. 47
450-500 miles 500-550 miles 550-600 miles	648 1, 186	82 80	. 15	. 24	130	2. 36	375 	81	1. 07	1.87

#### BY MONTHS.

Month.		8	traight s	hipments.1		M	ixed shi	pments.2	
January February March	2, 097 816 1, 834 1, 137	82 77 73 70	0. 09 . 12		0. 19 1. 59 27 35	5, 309 2, 575 3, 966 5, 352	83 82 75 66	0. 21 . 47 . 15 . 24	0. 87 . 97 . 45 . 37
May June July August	1, 161 2, 548 2, 446 4, 218	76 75 74 87	. 04 . 53 . 19		.17 .16 .16 .57	3, 742 3, 351 2, 741 6, 408	74 71 69 74	. 11 . 03 . 07 . 16	. 08 . 27 . 15 . 20
September October November December	4, 200 4, 123 4, 287 1, 899	83 86 87 88	. 09 . 07 . 09 . 58		.38 .34 .56 .85	7, 289 10, 548 9, 291 5, 029	75 67 79 79	. 11 . 13 . 11 . 18	. 51 . 60 . 43 . 60

Division of Cost of Marketing.

Straight shipments contain but one species of livestock.

<sup>&</sup>lt;sup>2</sup> Mixed shipments contain more than one species of livestock.

<sup>1</sup> Straight shipments contain but one species of livestock.

<sup>&</sup>lt;sup>2</sup> Mixed shipments contain more than one species of livestock.

Table 558.—Sheep: Principal terminal marketing costs, six markets, 1921.

	Num- ber of		C	ents pe	r 1 <b>,0</b> 00	pound	ls, home	e weigl	ıt, stra	ight shi	pment	s.	
Market.	head upon which figures are	Co	mmiss	ion.	,	Yardag	ge.		Feed		age		
	based.	Avg.1	Low.1	High.1	Avg.1	Low.1	High.1	Avg.1	Low.1	High.1	Avg.1	Low.1	High.1
Chicago East St. Louis Kansas City Sioux City Buffalo St. Joseph	15, 874 1, 926 3, 390 1, 856 1, 271 2, 443	166. 0 214. 6	140. 0 143. 0 116. 6 118. 2	243. 0 295. 0 167. 0 146. 6	102, 4 101, 2 81, 1 95, 8	91. 1 72. 0 60. 8 75. 2	125. 4 107. 5 104. 0 201. 0	10. 7	(3) (3) (3) 7. 0 35, 7 (3)		277. 8 321. 9 267. 6	223. 0 184. 4 235. 9	327. 0 431. 4

Division of Cost of Marketing. Data from Cooperative Shipping Associations in the Corn Belt.

<sup>3</sup> Feed cost seldom incurred.

Table 559.—Livestock: Estimated number raised on farms, and value, 1919-1923.

Classes of ani-	]	1919	]	1920	]	1921	]	1922		prelimi- ary.
mals.	Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.
Cattle	Thous. 24, 517 1, 199 389 15, 769 64, 336 1, 579	Thous. dolls. 1, 578, 189 145, 706 59, 980 134, 739 2, 230, 498 9, 001		1, 194, 185 152, 065 46, 335 94, 512 1, 575, 251	1, 682 287 15, 495 61, 500		1, 803 467 17, 575 78, 878	Thous. dolls. 974, 657 152, 196 42, 357 124, 248 1, 272, 880 7, 169	1, 707 397 18, 402 77, 526	Thous. dolls. 924, 284 140, 810 35, 848 142, 771 1, 144, 681 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.

		Cattle.			Hogs.			Sheep.	
Calendar year.	Receipts.	Local slaughter.	Stocker and feeder ship- ments.		Local slaughter.	Stocker and feeder ship- ments.	Receipts.	Local slaughter.	Stocker and feeder ship- ments.
1011	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-
	sands.	sands.	sands.	sands.	sands	sands.	sands.	sands.	sands.
1915 1916 1917	14, 553 17, 676 23, 066 25, 295	7, 912 10, 294 13, 275 14, 874	3, 847 4, 803 5, 013	36, 213 43, 265 38, 042 44, 863	24, 893 30, 984 25, 440 30, 441	(1) 194 788 989	18, 435 20, 692 20, 216 22, 485	10, 254 11, 228 9, 142 10, 266	(1) 3, 277 4, 448 5, 208
1919	24, 624	13, 633	5, 286	44, 469	30, 018	902	27, 256	12, 646	6, 956
	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
	23, 217	12, 435	4, 929	44, 067	28, 737	593	22, 364	10, 669	4, 167
	23, 211	13, 030	4, 553	55, 330	36, 172	8 <b>20</b>	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.

<sup>&</sup>lt;sup>1</sup> Averages 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.

<sup>2</sup> Feed cost if any, where not shown, is included in Commission or Yardage.

<sup>1</sup> Complete information for 1915 and 1916, particularly cft disposition of stock, is not obtainable from many markets.

### LIVESTOCK VALUES.

Table 561.—Livestock: Combined farm values, by States, Jan. 1, 1918-1924.

									•		•
	Catt	le, hogs sheep.	, and	Hors	es and 1	mules.		(cattle ep, hors les).		to	ık in tal lue.
Etate.	Aver- age, 1918- 1922.	1923	1924	Aver- age, 1918- 1922.	1923	1924	A ver- age, 1918- 1922.	1923	1924	1923	1924
Maine	Mil- lion dolls. 19 12 30 21	Mil- lion dolls. 15 9 24 16	Mil- lion dolls. 15 9 25 17	Million dolls.	Million dolls.	Million dolls.	Mil- lion dolls. 34 17 41 29 4	Mil- lion dolls. 26 · 13 32 23 4	Mil- lion dolls. 26 13 33 23 4	42 46 40 44 48	42 46 39 44 48
Connecticut New York New Jersey Pennsylvania Delaware	22	13 128 17 102 3	14 129 16 103 3	6 75 12 72 3	5 60 10 60 3	56 9 54 2	21 255 34 207 7	18 188 27 162 6	18 185 25 157 5	45 10 41 12 47	45 10 43 13 47
Maryland Virginia West Virginia North Carolina South Carolina	26	20	20	19	15	14	45	35	34	38	38
	63	41	39	45	34	32	108	75	71	24	25
	42	30	28	20	16	14	62	46	42	37	37
	53	35	35	63	51	50	116	86	85	22	19
	34	17	18	51	33	36	85	50	54	35	30
Georgia	73	37	35	78	49	48	151	86	83	23	20
Florida	37	23	22	13	10	10	50	33	32	39	40
Ohio	200	141	133	94	74	64	294	215	197	7	8
Indiana	164	118	110	86	59	52	250	177	162	11	11
Illinois	247	189	180	140	96	91	387	285	271	3	3
Michigan	129	93	96	65	55	47	194	148	143	15	14
Wisconsin	225	170	168	74	67	61	299	237	229	5	5
Minnesota	199	157	157	86	69	62	285	226	219	6	6
Iowa	418	339	308	137	107	99	555	446	407	1	1
Missouri	206	146	144	115	69	64	321	215	208	8	7
North Dakota	66	49	49	67	45	39	133	94	88	20	16
South Dakota	139	113	101	59	41	37	198	154	138	14	15
Nebraska	231	188	173	88	60	56	319	248	229	4	4
Kansas	191	137	131	113	61	55	304	198	186	9	9
Kentucky	76	48	43	68	46	39	144	94	82	19	23
Tennessee Alabama Mississippi Louisiana Texas	67	44	36	72	51	46	139	95	82	18	22
	58	31	28	56	41	41	114	72	69	26	26
	61	31	28	61	43	44	122	74	72	25	24
	45	23	22	42	32	28	87	55	50	32	34
	280	175	175	176	122	127	456	297	302	2	2
OklahomaArkansas Montana Wyoming Colorado	98 52 90 81 104	55 24 72 54 73	42 20 68 53 69	85 58 40 13 35	47 37 25 7 21	40 29 20 6 19	183 110 130 • 94 139	102 61 97 61 94	82 49 88 59 88	16 29 17 30 21	21 35 17 29 18
New Mexico	75	43	44	14	10	8	89	53	52	33	33
Arizona	58	47	44	11	9	9	69	56	53	31	31
Utah	46	40	41	11	9	8	57	49	49	36	36
Nevada	33	24	24	4	2	3	37	- 26	27	43	41
Idaho	64	49	49	23	16	14	87	65	63	27	28
	41	31	36	29	19	17	70	50	53	34	32
	67	44	49	26	21	17	93	65	66	28	27
	157	128	129	46	34	33	203	162	162	13	12
United States	4, 737	3, 409	3, 281	2, 491	1,772	1, 634	7, 228	5, 181	4, 915		<b>-</b>

Division of Crop and Livestock Estimates.

Table 562.—Livestock: Animals slaughtered at Federal-inspected plants, 1907-1923.

Year ending June 30.	Cattle.	Calves.	Sheep.	Goats.	Swine.	Horses.	Total.
1906-7. 1907-8. 1908-9. 1909-10. 1910-11. 1911-12. 1912-13. 1913-14. 1914-15.	7, 621, 717 7, 116, 275 7, 325, 337 7, 962, 189 7, 781, 030 7, 532, 005 7, 155, 839 6, 724, 117 6, 964, 502	1, 763, 574 1, 995, 487 2, 046, 711 2, 295, 099 2, 219, 908 2, 242, 929 2, 098, 484 1, 814, 904 1, 735, 902	9, 681, 876 9, 702, 545 10, 802, 903 11, 149, 937 13, 005, 502 14, 208, 724 14, 724, 465 14, 958, 834 12, 909, 089	52, 149 45, 953 69, 193 115, 811 54, 145 63, 983 56, 556 121, 827 165, 533	31, 815, 900 35, 113, 077 35, 427, 931 27, 656, 021 29, 916, 363 34, 966, 378 32, 287, 538 33, 289, 705 36, 247, 858		50, 935, 216 53, 973, 337 55, 672, 075 49, 179, 057 52, 976, 948 59, 014, 019 56, 322, 882 56, 909, 387 58, 022, 884
1915–16 1916–17 1917–18 1918–19 1919–20 1920–21 1921–22 1922–23	7, 404, 288 9, 299, 489 10, 938, 287 11, 241, 991 9, 709, 819 8, 179, 572 7, 871, 457 9, 029, 536	2, 048, 022 2, 679, 745 3, 323, 077 3, 674, 227 4, 227, 558 3, 896, 207 3, 924, 255 4, 337, 780	11, 985, 926 11, 343, 418 8, 769, 498 11, 268, 370 12, 334, 827 12, 452, 435 11, 968, 434 11, 403, 703	180, 356 174, 649 149, 503 125, 660 77, 270 20, 027 13, 758 25, 129	40, 482, 799 40, 210, 847 35, 449, 247 44, 398, 389 38, 981, 914 37, 702, 866 39, 416, 439 48, 600, 069	1, 089 1, 335 1, 898 1, 459	62, 101, 391 63, 708, 148 58, 629, 612 70, 708, 637 65, 332, 477 62, 252, 442 63, 196, 241 73, 397, 676

Bureau of Animal Industry.

#### MEAT PRODUCTS.

Table 563.—Meat and meat products prepared under Federal inspection, 1907-1923.

Year ending June 30.	Placed in cure.	Sau- sage chop- ped.	Canned meats.	Lard.	Lard com- pounds and substi- tutes.	Oleo prod- ucts.	Oleo- mar- garine.	All other prod- ucts.	Total.
1906-7 1907-8 1908-9 1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	1,000 lbs. 2,393,695 3,059,695 2,424,667 2,788,054 2,722,477 2,728,550 3,150,693 3,096,391 3,206,074 3,443,993 4,047,787 2,630,543 2,870,023	7,600 lbs. 267,760 416,200 457,095 485,864 488,814 523,893 531,626 542,017 502,675 565,047 635,860 624,827 667,602 682,521 583,777 568,626 679,315	1,000 lbs. 105, 196 92, 582 123, 810 127, 263 144, 942 153, 871 115, 237 120, 473 120, 473 124, 200 283, 319 468, 633 632, 259 211, 521 86, 240 109, 481 160, 132	1,000 lbs. 1,003,602 1,433,78,986 948,468 948,5603 1,309,140 1,222,857 1,187,967 1,119,315 943,851 1,256,043 1,316,918 1,487,820 1,696,331	1,000 lbs. 353,549 436,448 488,249 671,526 672,845 648,443 670,802 590,409 520,899 397,089 466,198 453,164 469,732 328,567 339,366 312,014	1,000 lbs. 283,971 293,425 295,889 296,429 330,688 297,038 264,705 274,625 273,049 287,047 263,630 266,808 364,992 253,397 268,034 278,137	1,000 lbs. 55,694 79,380 91,068 139,158 117,848 128,319 145,356 143,999 145,238 225,074 266,335 2251,170 217,561 151,638 118,197	1,000 lbs. 746 146,671 1,113,581 1,130,589 1,205,539 1,390,794 1,441,750 1,445,260 1,445,260 1,426,126 1,534,962 1,534,962 1,531,752 1,577,641 1,552,302 1,555,303 1,521,410,792	1,000 lbs. 4,464,213 5,958,298 6,791,437 6,223,964 6,934,233 7,279,559 7,033,296 7,533,070 7,474,994 7,663,633 7,905,185 9,169,042 7,755,158 7,127,820 7,427,116

Bureau of Animal Industry.

Table 564.—Livestock: Condemnations of animals and primal parts under Federal meat inspection, 1907-1923.

Year	Ca	ttle.	Cal	ves.	She	ep.	Go	ats.	Bw	ine.	Ho	rses.	T	otal.
ending June 30—	Car- casses.	Parts.	Car- casses.	Parts.	Car- casses.	Parts.	Car- casses.	Parts.	Car- casses.	Parts.	Car- casses.	Parts.	Car- casses.	Parts.
1906-7 1907-8 1908-9 1909-10 1910-11 1911-12 1913-14 1914-15 1916-17 1918-19 1918-19 1919-20 1921-22 1922-23	33, 216 35, 103 42, 426 39, 402 50, 675 50, 673 78, 773 68, 208 59, 636 59, 636 546, 881 55, 188	67, 482 99, 739 122, 167 123, 969 130, 139 138, 085 178, 409 188, 915 249, 637 178, 940 166, 791 194, 058 176, 762 166, 935	5, 854 8, 213 7, 524 7, 654 8, 927 9, 216 6, 696 6, 380 10, 168 9, 220 13, 820 7, 720 11, 409	396 409 500 781 1, 212 1, 377 1, 284 1, 750 1, 988 2, 927 2, 308 2, 479 2, 866 2, 323 2, 376		198 179 24, 714 7, 394 3, 871 939 1, 564 298 1, 007 413 227 330 627 270 496	33 82 226 61 84 76 658 667 1, 351 419 318 135 23	1 1 1 1 8 14 161 42 	52, 439 59, 477 129, 602 173, 937 204, 942 222, 605 206, 711 164, 682	636, 589 799, 300 728, 829 877, 528 323, 992 323, 792 373, 998 422, 275 464, 217 546, 290 528, 288 347, 036 455, 580 492, 132 697, 393	64 19	4 7	203, 778 250, 661 281, 303 299, 958 286, 954 271, 732 206, 265 214, 833 228, 148 191, 533 240, 071	704, 666 899, 628 874, 211 1, 009, 672 463, 859 506, 449 563, 166 644, 688 738, 361 781, 307 528, 481 603, 050 748, 136 671, 504

 $<sup>^{\</sup>rm 1}$  The above figures do not represent production, as a product may be inspected more than once in course of further manufacture

Table 565.—Meat: Yearly production, 1907-1923.

				•					
				Slau	ghter.				
	Beef.			Veal.		(Total	Lam	b and m	utton.
Under Federal inspec- tion.	Other.	Total.	Under Federal inspec- tion.	Other.	Total.	beef and veal.	Under Federal inspec- tion.	Other.	Total.
	Million pounds. 2, 983 2, 721	pounds. 7, 319	pounds. 210	Million pounds. 416 402	Million pounds. 626 605	Million pounds. 7, 945 7, 281			
4, 189 4, 054 3, 984 3, 731 3, 595	2, 882 2, 679 2, 513 2, 189 2, 318	7, 071 6, 733 6, 497 5, 920 5, 913	230 235 229 239 176	454 452 428 429 312	684 687 657 668 488	7, 755 7, 420 7, 154 6, 588 6, 401	466 463 569 608 569	138 137 169 180 169	604 600 738 788 738
3, 911	2, 516	6, 427	222	415	637	7,064	535	159	694
3, 601 3, 979 4, 362 5, 169 5, 638 4, 774 4, 578	2, 038 1, 837 1, 756 1, 517 1, 682 1, 509 1, 885	5, 639 5, 816 6, 118 6, 686 7, 320 6, 283 6, 463	158 168 220 296 352 378 402	275 260 316 366 413 426 436	433 428 536 662 765 804 838	6, 072 6, 244 6, 654 7, 348 8, 085 7, 087 7, 301	555 482 472 364 381 470 423	165 144 140 109 108 132 115	720 626 612 473 489 602 538
4, 586	1, 746	6, 332	282	356	638	6, 970	450	130	580
4, 113 4, 610 4, 725	2, 081 2, 137 2, 191	6, 194 6, 747 6, 916	367 396 444	381 397 427	748 793 871	6, 942 7, 540 7, 787	494 418 447	107 116 123	601 534 570
	Slaug	hter.			Percent	age of to	tal produ	action.	
	Pork.								
Under Federal inspec- tion.	Other.	Total.	Total all meats.1	Beef.	Veal.	Beef and veal.	Lamb and mutton.	Pork.	Total meats.
Million pounds. 4, 420 4, 853	Million pounds. 3, 071 3, 373	Million pounds. 7, 491 8, 226	Million pounds. 15, 995 16, 062	P. ct. 45. 8 41. 5	P. ct. 3. 9 3. 8	P. ct. 49. 7 45. 3	P. ct. 3. 5 3. 5	P. ct. 46. 8 51. 2	P. ct. 160 100
3, 946 3, 470 4, 431 4, 242 4, 420	2,744 2,411 3,980 2,947 3,072	6, 690 5, 881 7, 511 7, 189 7, 492	15, 049 13, 901 15, 403 14, 565 14, 631	47. 0 48. 5 42. 2 40. 6 40. 4	4. 5 4. 9 4. 2 4. 6 3. 3	51. 5 53. 4 46. 4 45. 2 43. 7	4. 0 4. 3 4. 8 5. 4 5. 1	44. 5 42. 3 48. 8 49. 4 51. 2	100 100 100 100 100
4, 102	2, 851	6, 953	14,710	43. 7	4.3	48. 0	4. 7	47. 2	100
4, 264 4, 749 5, 186 4, 071 5, 551 5, 584 5, 133	2, 964 3, 101 3, 323 2, 830 3, 303 3, 349 3, 060	7, 228 7, 850 8, 509 6, 901 8, 854 8, 933 8, 193	14, 020 14, 720 15, 775 14, 722 17, 429 16, 622 16, 032	40. 2 39. 5 38. 8 45. 4 42. 0 37. 8 40. 3	3. 1 2. 9 3. 4 4. 5 • 4. 4 4. 8 5. 2	43. 3 42. 4 42. 2 49. 9 46. 4 42. 6 45. 5	5. 1 4. 3 3. 9 3. 2 2. 8 3. 6 3. 4	51. 6 53. 3 53. 9 46. 9 50. 8 53. 7 51. 1	100 100 100 100 100 100 100
4, 934	3, 133	8, 067	15, 617	40. 5	4.1	44. 6	3. 7	51. 7	100
5, 363	3, 124	8, 487	16, 030	38. 6	4.7	43. 3	3. 7	52. 9	100
	Federal inspection.  Million pounds. 4, 336 3, 955 4, 189 4, 054 3, 791 3, 601 3, 962 5, 169 5, 638 4, 113 4, 610 4, 725   Under Federal inspection.  Million pounds. 4, 420 4, 420 4, 453 3, 946 3, 470 4, 431 4, 242 4, 420 4, 102 4, 264 4, 749 5, 551 4, 5, 551 5	Under Federal inspection.  Million Million 2, 983 3, 955 2, 721 3, 944 2, 613 3, 731 2, 189 3, 595 2, 318 3, 911 2, 516 3, 601 2, 038 3, 979 1, 387 4, 362 1, 756 5, 169 1, 517 5, 638 1, 885 4, 784 1, 509 4, 578 1, 885 4, 784 2, 191 Slauge  Pork.  Under Federal inspection.  Million Million pounds. 4, 420 2, 191 3, 600 2, 191 3, 600 2, 191 4, 853 3, 373 3, 946 2, 744 4, 420 3, 077 2, 411 4, 421 3, 680 4, 242 4, 947 4, 420 3, 077 2, 410 2, 2, 851 4, 264 4, 749 3, 101 2, 851 3, 303 5, 551 3, 303 5, 551 3, 303 5, 551 3, 303 5, 551 3, 304 5, 513 3, 349 5, 133 3, 600	Under Federal inspection.  Million Million bounds. 7, 319 3, 955 2, 721 6, 673 3, 984 2, 513 6, 497 3, 595 2, 318 5, 913 3, 911 2, 516 6, 427 3, 601 2, 038 5, 639 3, 979 1, 837 6, 118 5, 169 1, 517 6, 682 4, 362 1, 756 6, 118 6, 686 4, 362 1, 756 6, 18 6, 686 4, 774 1, 509 6, 283 4, 678 1, 885 6, 463 4, 586 1, 746 6, 332 4, 113 2, 081 4, 610 2, 137 6, 747 4, 725 2, 191 6, 916  Under Federal Other. Total. Slaughter.  Pork.  Under Federal Other. Total. 4, 133 2, 081 6, 194 4, 610 2, 137 6, 747 4, 725 2, 191 6, 916  William Milliam Milliam Milliam pounds. pounds. pounds. 1, 2, 137 6, 916 7, 491 4, 20 3, 071 7, 491 4, 853 3, 373 8, 228 3, 470 2, 411 5, 881 4, 431 3, 980 7, 511 4, 242 2, 947 7, 199 4, 420 3, 072 7, 492 4, 102 2, 851 6, 953 4, 701 2, 851 6, 953 4, 701 2, 851 6, 953 4, 264 2, 964 7, 228 4, 749 3, 101 7, 850 4, 971 2, 830 6, 901 5, 551 3, 303 8, 854 5, 554 3, 349 8, 833 5, 133 3, 060 8, 193	Under Federal inspection.  Million Million Million Million pounds. 2, 7319 210 3, 955 2, 721 6, 67 33 235 3, 934 2, 513 6, 497 229 3, 595 2, 318 5, 913 176 3, 911 2, 516 6, 427 222 3, 601 2, 738 5, 920 239 3, 595 2, 318 5, 913 176 3, 911 2, 516 6, 427 222 3, 601 2, 738 5, 920 239 3, 595 2, 318 5, 913 176 3, 911 2, 516 6, 427 222 3, 601 2, 738 5, 920 239 3, 595 2, 318 5, 913 176 3, 911 2, 516 6, 427 222 3, 601 2, 736 6, 467 2, 928 3, 799 1, 337 5, 816 168 3, 979 1, 837 5, 816 168 3, 979 1, 837 5, 816 168 3, 979 1, 837 5, 816 168 3, 979 1, 837 5, 816 168 3, 979 1, 837 5, 816 168 200 5, 169 1, 756 6, 118 220 3, 5169 1, 756 6, 118 220 3, 5169 1, 517 6, 686 296 5, 638 1, 682 7, 320 352 4, 774 1, 509 6, 283 378 4, 578 1, 885 6, 463 402 4, 586 1, 746 6, 332 282 4, 113 2, 081 6, 194 367 4, 610 2, 137 6, 747 396 4, 610 2, 137 6, 747 396 4, 725 2, 191 6, 916 444   Slaughter.  Pork.  Under Federal inspection.  Million Million Million Million Million pounds. pounds. pounds. pounds. pounds. pounds. 4, 420 3, 071 7, 491 15, 995 4, 853 3, 373 8, 228 16, 602 3, 470 2, 411 5, 881 13, 901 4, 431 3, 680 7, 511 15, 403 4, 242 2, 947 7, 199 14, 565 4, 420 3, 072 7, 492 14, 631 4, 102 2, 851 6, 953 14, 710 4, 224 4, 29 47 7, 288 14, 509 14, 720 5, 518 3, 323 8, 509 15, 775 5, 514 5, 514 3, 323 8, 509 15, 775 5, 514 5, 514 3, 308 6, 901 14, 722 5, 551 3, 303 8, 884 17, 722 5, 551	Beef.   Under Federal inspection.   Under Federal inspection.   William Mill	Under Federal inspection.	Under Federal inspection.	Under Federal inspection.	Under   Federal inspection.

Division of Statistical and Historical Research. Compiled from reports of Bureau of Animal Industry. Quantities based on carcass weight; edible offal net included because of the variable percentage used in edible products. Subject to revision.

<sup>1</sup> Not including goat meat.

Table 566.—Meat: Yearly consumption, 1907-1923.

			Consu	mption			F	Percenta	ge of to	tal cons	umptic	n.
Calendar year.	Beef.	Veal.	Total beef and veal.	Lamb and mut- ton.	Pork.	Total meats. 1	Beef.	Veal.	Total beef and veal.	Lamb and mut- ton.	Pork.	Total meats.
1907 1908	Mil- lion lbs. 6, 967 6, 448	Mil- lion lbs. 626 605	Mil- lion lbs. 7, 593 7, 053	Mil- lion lbs. 558 554	Mil- lion lbs. 6, 477 7, 607	Million lbs. 14, 628 15, 214	Per cent. 47. 6 42. 4	Per cent. 4: 3 4. 0	Per cent. 51. 9 46. 4	Per cent. 3.8 3.6	Per cent. 44. 3 50. 0	Per cent. 100 100
1909 1910 1911 1912 1913	6, 908 6, 623 6, 405 5, 864 5, 902	684 687 657 668 488	7, 592 7, 310 7, 062 6, 532 6, 390	602 598 735 783 733	6, 218 5, 568 7, 055 6, 749 7, 037	14, 412 13, 476 14, 852 14, 064 14, 160	47. 9 49. 1 43. 1 41. 7 41. 7	4. 8 5. 1 4. 4 4. 7 3. 4	52. 7 54. 2 47. 5 46. 4 45. 1	4. 2 4. 4 5. 0 5. 6 5. 2	43. 1 41. 4 47. 5 48. 0 49. 7	100 100 100 100 100
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 1915 1916 1917 1918 1919	5, 804 5, 559 5, 770 6, 243 6, 753 6, 090 6, 514	438 429 537 663 766 809 846	6, 242 5, 988 6, 307 6, 906 7, 519 6, 899 7, 360	733 631 619 473 483 607 537	6, 889 6, 969 7, 370 5, 975 6, 997 7, 200 7, 350	13, 864 13, 588 14, 296 13, 354 14, 999 14, 706 15, 247	41. 9 40. 9 40. 4 46. 8 45. 0 41. 4 42. 7	3. 2 3. 2 3. 8 5. 0 5. 1 5. 5 5. 5	45. 0 44. 1 44. 1 51. 8 50. 1 46. 9 48. 3	5. 3 4. 6 4. 3 3. 5 3. 2 4. 1 3. 5	49. 7 51. 3 51. 6 44. 7 46. 7 49. 0 48. 2	100 100 100 100 100 100 100
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 1922 1923	6, 230 6, 711 6, 918	752 798 873	6, 982 7, 509 7, 791	673 545 574	7, 869 8, 306 10, 113	15, 524 16, 360 18, 478	40. 1 41. 0 37. 4	4. 8 4. 9 4. 7	45. 0 45. 9 42. 2	4. 3 3. 3 3. 1	50. 7 50. 8 54. 7	100 100 100

Division of Statistical and Historical Research. Compiled from reports of Bureau of Animal Industry. Quantities based on careass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.

Table 567.—Meat and lard: Annual per capita consumption, 1907-1923.

Calendar year.	Beef.	Veal.	Mutton and lamb.	Pork, ex- cluding lard.	Total meat. <sup>1</sup>	Lard.	Total meat and lard.
1907	Pounds. 79. 7 72. 4	Pounds. 7. 1 6. 8	Pounds. 6. 4 6. 2	Pounds. 74. 1 85. 4	Pounds. 167. 3 170. 8	Pounds. 12. 5 14. 3	Pounds. 179. 8 185. 1
1909	76. 2 71. 8 68. 4 61. 7 60. 8	7. 5 7. 4 7. 0 7. 0 5. 0	6. 6 6. 5 7. 8 8. 2 7. 6	68. 6 60. 3 75. 1 70. 6 72. 5	158. 9 146. 0 158. 3 147. 5 145. 9	11. 6 10. 5 11. 8 11. 4 11. 7	170. 5 156. 5 170. 1 158. 9 157. 6
Av. 1909–1913	67. 8	6.8	7. 3	69. 4	151. 3	11. 4	162.7
1914 1915 1916 1917 1917 1918 1919	59. 3 56. 0 57. 3 61. 1 65. 2 58. 0 61. 2	4. 4 4. 3 5. 3 6. 5 7. 4 7. 7 7. 9	7. 5 6. 4 6. 2 4. 6 4. 7 5. 8 5. 0	70. 3 70. 2 73. 1 58. 5 67. 6 68. 6 69. 0	141. 5 136. 9 141. 9 130. 7 144. 9 140. 1 143. 1	12. 1 13. 2 14. 4 11. 9 13. 6 12. 8 13. 1	153. 6 150. 1 156. 3 142. 6 158. 5 152. 9 156. 2
Av. 1914–1920	59. 7	6. 2	5. 8	68. 2	139. 9	13. 0	152. 9
1921	57. 8 61. 4 62. 5	7. 0 7. 3, 7. 9	6. 2 5. 0 5. 2	72. 9 76. 0 91. 4	143. 9 149. 7 167. 0	11. 3 14. 1 16. 4	155. 2 163. 8 183. 4

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.

<sup>&</sup>lt;sup>1</sup> Not including goat meat.

<sup>1</sup> Not including goat meat.

Table 568.—Livestock and meat: Live and dressed weights, 1922 and 1923.

		Catt	le.			Calv	es.			Н	gs.		She	ep ar	d lan	nbs.
Month	Aver liv weig	e	weig a per	ssed ht as cent- flive ght.	li	rage ve ght.	Dres weig a per age o weig	ht as cent- flive	li	rage ve ght.	Dreweig a per age o weig	ht as cent- flive	li	rage 7e ght.	Dre weig a per age o wei	cent- flive
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
March	985. 5 972. 8 965. 4 957. 8 946. 2	973. 5 973. 1 970. 5	54 54 55 56 56 56 55 54 53 52	55 56 56 55 54 54 53 53	163. 9 156. 7 142. 7 134. 2 146. 6 156. 4 171. 6 192. 7	189. 4	56 57 57 58 57 56 57	59 58 56 58 57 56 55 56	222. 2 222. 9 224. 7 226. 5 231. 3 239. 4 241. 5 234. 2 219. 5 214. 8	227. 3 227. 6 227. 8 228. 8 223. 5 227. 7 232. 1 236. 2 229. 3 219. 5	Pct. 78 77 77 77 77 77 77 76 76 76 76	Pct. 78 78 78 77 76 77 76 78 75 76	83 0 77. 8 71. 9	88. 2 85. 1 82. 0 78. 1 76. 0 75. 4	47 47 48 49 49 49 48 48 48	Pct. 48 47 47 48 49 48 49 48 49 48 41 47
Weighted av- erage	981. 1	952. 9	. 54	54	169. 7	172. 8	56	57	226. 0	<b>22</b> 5. 3	76	77	80. 0	.80. 8	48	48

Division of Statistical and Historical Research.

Table 569.—Meats, fresh: Monthly supply at eastern markets, 1923.
RECEIPTS.

				:	RECEI	PTS.	-				
				Carcass	ses.				Cuts		
Market, and month	Steers.	Cows.	Bulls.	Veal.	Hogs.	Lambs.	Mut- ton.	Beef	Pork.	Veal.	Lamb
Boston: January February	Num- ber. 9, 893 8, 877	Num- ber. 10, 017 7, 663		Num- ber. 4, 455 3, 060	Num- ber. 114 42	Num- ber. 60, 116 46, 017	Num- ber. 4, 452 4, 254	Lbs. 7, 200	Lbs. 1,702,551 989,824		
March April May June	9, 664 10, 181 14, 482	6, 354 4, 359 3, 834	186	3, 840 6, 665 6, 416	10	52, 304	4, 173 1, 900 4, 394 3, 174	2, 997 	1, 031, 126 954, 933 865, 242 542, 986		
July August September October		1, 980 3, 765 4, 341	84 392 136 181	2, 724 4, 645 2, 725 5, 503	131	36, 924 51, 016 46, 587 67, 653	1, 866 1, 803 1, 832 3, 406	41, 383 8, 165 2, 448	994, 882 489, 124 778, 143		
November December Total	8, 373 9, 301 133, 115	5, 630	116 228 2, 686	5, 248 3, 450 53, 659	210 507	46, 145 48, 890 602, 832	1, 942 1, 793 34, 989	17, 788 16, 302 96, 308			
New York: January February March	28, 853 26, 323	4,728 4,011	3, 533 1, 806	32, 956	11, 789 9, 922	112, 317 91, 355 94, 983 106, 236	27,635	943, 837 690, 961 829, 910 670, 574	5, 369, 385 5, 835, 127	100 4, 984	118, 566 30, 680 1, 005
May June July August	41, 952 30, 878 29, 859 41, 902	2, 354 2, 324 2, 229 3, 525	5, 951 1, 874 950 2, 009	61, 005 47, 797 43, 279 51, 292	11, 425 8, 777 4, 809 10, 404	97, 213 68, 679 80, 089 82, 671	37, 101 24, 014 20, 741 17, 155	791, 626 766, 513 367, 951 706, 914	5, 093, 775 3, 146, 018 4, 361, 132	78, 244 86, 658 43, 543	33, 199 19, 090
September October November December	43, 876 28, 832 27, 990	4, 379 3, 798 3, 965	1, 440 765 773	43, 454 39, 023	23, 056 18, 708 14, 158	82, 133 118, 794 71, 808 73, 356	29, 795 19, 688 21, 267	530, 293 820, 914 637, 024 644, 601	6, 249, 599 6, 264, 130 5, 678, 328	57, 746 10, 010	34, 975
Total Philadelphia: January		-			143, 354	39, 469	12, 460		63, 877, 800 2, 934, 739		
February March April May	11, 732 9, 188 11, 200	1, 788 1, 870 1, 728	97 238 368	6, 512 7, 164 7, 371		25, 533 25, 971 32, 175	9, 637 6, 202 5, 412		1, 953, 692 1, 709, 717		
June July August	10, 241 9, 668 13, 047	1, 445 2, 207 3, 526	867 683 1, 519	6, 979 5, 545 7, 863		21, 444 22, 693 23, 857	6, 659 5, 220 3, 754		1, 297, 043 1, 151, 139 1, 689, 322		
September October November December	13, 685 9, 633 9, 785	2, 845 2, 246 3, 292	1, 056 712 838	7, 409 6, 394 6, 751		34, 021 23, 348 29, 324	6, 271 6, 661 6, 454		1, 724, 166 2, 231,269 2, 204, 831		
Total	138, 214	29, 036	9, 340	90, 374		330, 351	85,688	-2	21; 564, 547		

<sup>&</sup>lt;sup>1</sup> Includes 491 pounds of mutton for February, 19,345 pounds for May, and 8,990 pounds for August.

Table 569.—Meats, fresh: Montany supply at eastern markets, 1923—Continued.

SLAUGHTER.

Market, and	U	nder Fede	eral inspect	tion.		Under city	inspection	1.
month.	Cattle.	Calves.	Hogs.	Sheep.	Cattle.	Calves.	Hogs.	Sheep.
Boston:	Number.	Number.	Number.	Number.	Number.	Number.	Number.	Number.
January	7, 171	8, 766	136, 383		11	1, 155	7, 706	2
February	5,311	5, 213	84,086	21, 144	15	2,813	5, 206	16
March	5, 364	7, 339	74, 124		14	5, 448	4,954	l
April	5, 506	8, 680	71, 323	22, 310	12	4,481	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	3
November	10, 598	7, 621	116, 325	32,847	146	1,008	4, 113	. 18
December		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
June	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
Scptember	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, 685	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	6, 228	102, 202	19,653	1, 095	4, 557	2, 653	8, 267
February	9,756 7,986	4, 454	87, 641	15, 505	840	2,737	1, 475	5, 039
March	7,837	5, 295	85,075	14, 456	834	2,793	1, 005	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
Septemberi	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	9, 290
November	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.

	I	Beef.	Ve	al.	Po	ork.	Lamb and	mutton
Market, and month.	Car- casses.	Cuts.	Car- casses.	Cuts.	Car- casses.	Cuts.	Car- casses.	Cuts
Boston:	Number.	Pounds.	Number.	Pounds.	Number.	Pounds.	Number.	Pounds
January	27. 348	7, 200	14, 376	1 Oursus.	144, 203	1, 702, 551	93, 172	Lounas
February	22, 143	1,200	11,086		89, 334	989, 824	71, 431	1
March	21, 582	2, 997	16, 627		79, 078	1, 031, 126	72, 215	
April	20, 258	2, 551	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	20	10, 682		83, 923	392, 727	62, 359	
August	27, 975	41, 383	14, 362		97, 007	994, 882	94, 539	
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—Continued.

	В	eef.	Ves	1.	Po	rk.	Lamb and	mutton.
Market, and month.	Car- casses.	Cuts.	Car- casses.	Cuts.	Car- casses.	Cuts.	Car- casses.	Cuts.
New York:	Number.	Pounds.	Number.	Pounds.	Number.	Pounds.	Number.	Pounds.
January		943, 837	121,674	600	314, 364	7, 119, 415	347, 825	
February		690, 961	95, 199	9,372	<b>243</b> , 161	5, 369, 385	260, 098	18, 556 30, 686
March		829, 910	119, 027	100	227, 720	5, 885, 127	260, 971	1,005
April	81, 539	670, 574	136, 358	4, 984	213, 511	5, 157, 782	279, 692	32,700
May	100, 772	791, 626	157, 602	<b>6, 2</b> 39	259, 738	5, 768, 129	321, 853	48, 945
June		<b>766,</b> 513	112, 028	78,244	178, 749	5, 093, 775	251, 833	33, 199
July	70, 764	<b>367,</b> 951	102, 920	86,658	175, 325	3, 146, 018	274, 704	
August	95, 515	706, 914	121, 347	43, 543	225, 744	4, 361, 132	335, 428	9, 090
September	75, 197	530, 293	97, 203	30, 558	191, 087	3, 899, 980	290, 788	36, 729 34, 975
October		820, 914	130, 137	57, 746	302, 149	6, 249, 599	366, 321	34, 910
November	72, 030	637, 024	97, 252		265, 883	6, 264, 130	273, 530	
December	72, 424	644, 601	95, 659	10, 2010	299, 746	5, 678, 328	284, 351	
Total	984, 389	8, 401, 118	1, 386, 406	328, 054	2, 897, 177	63, 877, 800	3, 547, 389	246, 112
Philadelphia:								
January	29, 580		29, 155		104, 855	2, 934, 739		
February	22, 443		13, 70 <b>3</b>		89, 116	1, 953, 692	55, 714	
March			15, 252		86, 080	1, 709, 717	51,071	
April			18, 305		86, 230	1, 719, 197	62, 889	
May	29, 715		26, 388		109, 266	1,813,219	69, 736	
June			17,656		71, 299	1, 297, 043	52, 636	
July	20,774		15, 456		69, 326	1, 151, 139	52, 592	
August	28, 773		18, 418		90, 234	1, 689, 322	62, 295	
September	23, 660		14, 540		84, 083	1, 136, 213		
October	29, 625		18, 097		124, 113	1, 724, 166	67, 780	
November			15, 492		100, 185	2, 231, 269	54, 374	1
December	23, 146		13, 892		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 Division.

Table 570.—Meat and meat products: International trade, calendar years, 1911-1922.

:	Average	1911-1913.	19	20	19	21		22, iinary.
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.  Argentina. Australia. Brazil. Canada. Chile. China. Denmark. Netherlands. New Zealand. Sweden. Urnited States. Uruguay.	1, 967 54, 012 43, 327 11, 738 85 32, 184 359, 864 960 24, 215	1,000 pounds. 1,173,461 507,143 1,520 60,242 19,728 64,684 368,188 497,402 326,539 39,768 1,277,524 196,911	1, 025 10, 964 70, 111 13, 592 1, 757 8, 170 157, 179 1, 584 58, 828	1,000 pounds. 1, 284, 827 316, 228 195, 479 208, 013 38, 529 89, 599 167, 661 287, 185 593, 445 24, 999 1, 851, 692 289, 410	1,000 pounds. 722 10, 232 75, 436 3, 252 1, 363 18, 117 219, 781 1, 922 34, 919 79, 845	1,000 pounds. 1,155,799 338,700 174,160 56,556 71,190 237,755 316,437 553,426 66,513 1,897,992	1,000 pounds. 70, 211 2, 141 20, 832 201, 659 682 45, 717 77, 507	1,000 pounds. 1, 372, 097 331, 441 90, 998 142, 648 44, 703 330, 597 321, 983 458, 177 46, 322 1, 786, 696
PRINCIPAL IMPORTING COUNTRIES. Austria			<b>15</b> 5, 21 <b>0</b>	7, 516	131, 345	9, 287		<u>.</u> ,
Austria-Hungary Belgium Cuba	49, 268 179, 120 128, 362	12, 420 127, 057	220, 284 184, 678	58, 024	191, 536	48, 723	192, 809	23, 568
Czecheslovakia France Germany	111, 496 559, 752	98, 281	601, 678 884, 375	81, <b>475</b> 4, 466	66, 028 800, 528 3 514, 808	1, 314 66, 803 8 7, 298	114, 570 240, 906 494, 910	94, 547

<sup>1</sup> One year only.

<sup>&</sup>lt;sup>2</sup> Less than 500 pounds. •

Eight months, May-December.

Table 570.—Meats and meat products: International trade, calendar years, 1911-1922—Continued.

Country	Average 1911-1913.		19	)20	19	921		22, ninary.
Country	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL IMPORTING COUNTRIES.—Con. Italy Japan	1,000 pounds. 104,619 11,727	1,000 pounds. 15,708	1,000 pounds. 174,708 47,580	1,000 pounds. 8,507	1,000 pounds. 132,992 70,528	1,000 pounds. 7,418	1,000 pounds. 132,419	1,000 pounds. 25,208
Norway Philippine Islands Russia	42, 416 21, 902 130, 897	3, 365 53, 175	67, 401 12, 695	3, 362	73, 733 23, 503	3, 026	77, 906 17, 071	2, 918
Spain Switzerland Union of South Africa	37, 974 60, 174	3, 200 3, 169 404 117, 226 38, 016	28, 328 49, 913 17, 525 2, 854, 559 106, 303	2, 776 5, 415 16, 401 98, 296 84, 236	21, 070 62, 811 6, 276 3, 329, 020 78, 876	6, 578 2, 088 4, 658 90, 134 22, 661	21, 045 32, 026 9, 906 3, 197, 317 65, 946	6, 155 3, 726 2, 767 74, 699 23, 973
All countries: Beef	611, 744	2, 162, 336 560, 284 1, 638, 145 663, 891	876, 661	636, 426	835, 310	2, 097, 371 608, 891 2, 190, 727 400, 307	2, 046, 335 701, 881 1, 831, 212 436, 152	1, 960, 077 697, 313 2, 071, 412 474, 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.
1917	Mil- lion lbs. 804 981 1, 199 1, 016 820 567 754	Mil- lion lbs. 875 1, 118 1, 452 1, 187 976 624 876	Mil- lion lbs. 914 1, 266 1, 436 1, 279 1, 138 681 958	Mil- lion lbs. 852 1, 355 1, 389 1, 304 1, 108 717 1, 032	Mil- lion lbs. 828 1, 319 1, 332 1, 252 1, 043 713 1, 094	Mil- lion lbs. 832 1,300 1,284 1,209 1,017 745 1,045	Mil- lion lbs. 879 1, 149 1, 254 1, 194 989 817 1, 041	Mil- lion lbs. 893 1, 137 1, 171 1, 115 899 789 983	Million lbs. 778 1,036 1,061 977 727 868	Mil- lion lbs. 633 905 984 784 607 589 723	Mil- lion lbs. 587 882 881 670 491 512 629	Mil- lion lbs. 709 938 865 656 505 569 739

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 1923.

#### CHICAGO.

Class of meat.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Beef: Steer— Choice	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls.	Dolls, 18. 16	Dolls.	Dolls.
Good Medium Common	16. 27 13. 79	15. 70 13. 92	15. 21 13. 40	14. 79 13. 36	15. 34 14. 33	16. 22 14. 95	16. 59 15. 58	16. 80 15. 05	17. 62 15. 54	16. 76 14. 05	16. 62 13. 95 10. 40	17.62 15.52	16.30 14.45
Cow Good Medium Common	11. 47 9. 78 8. 17	10. 10	9. 50	9.82	10.70		11.60	11.47		10.72		11. 50	10.72
Buil— Common Veal:	7. 62	7. 76	7. 90	8. 08	8. 92	7. 77	8. 56		7.77				
Choice Good Medium Common	16. 98	18. 20 15. 62	16. 55 15. 18	15. 25	15. 67 13. 67	16. 35 14. 50	17.82 15 68	17. 50 14. 60	19. 05 15. 00	17. 16 14. 14	13. 36 11. 46	14.75	14. 27

Table 572.—Meats, fresh and smoked: Monthly average wholesale price per 100 pounds at Chicago and New York, calendar year 1923—Continued.

CHICAGO—Continued.

						Contai							
Class of meat.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Lamb and mutton:  Lamb— Choice Good Medium Common Mutton—	Dolls. 25. 06 24. 06 22. 06 19. 00	22. 70 20. 78	18. 82	22. 15 19. 12	25. 71 24. 07	24.45	27. 72 24. 95	25. 54 23. 56	25. 92 24. 18	25. 08 22. 94 20. 88	24. 26 22. 50 20. 53	21. 72 20. 08	26. 08 24. 10 21. 96
Good  Medium Common Fresh pork cuts: Hams—	14. 25 12. 27 8. 53	11.84	12. 50 11. 00 8. 50	11. 72	17.96 15.48 12.96	15. 55 13. 25 10. 62	15. 55 13. 12 9. 90	16. 67 14. 29 10. 58	18. 45 15. 56 11. 48		11.00		12.68
12-16 pounds average Loins—	18. 10	17. 81	18. 12	17. 75	17. 50	17. 38	17. 25	18. 30	18.06	16.75	15. 75	<b>1</b> 5. 38	17. 35
8-10 pounds. 10-12 pounds. 12-14 pounds. 14-16 pounds. 16 pounds	16. 14 15. 21 14. 26 13. 34	14. 40 13. 46	15. 39 14. 38 13. 46 12. 66	14. 32 13. 21	18. 65 17. 51 15. 99 14. 53	15. 70 14. 50 13. 38 12. 45	17. 16 15. 13	17. 50	24.78 21.57	20. 92 19. 08 17. 34 15. 38	13. 72 12. 74 11. 56 10. 36	11. 92 10. 98	17. 75 16. 39 14. 80 13. 37
and over Shoulders—	12.43	11. 78	11. 79	11. 55	13. 15	11. 19	11.80	12.83	15. 21	13. 47	9. 16	9. 36	11. 98
Skinned Picnics—	12. 55	11.72	11.71	11. 05	10. 70	9. 32	9.40	10. 26	12. 54	11.96	10. 41	9. 11	10. 89
4–6 lbs 6–8 lbs	11. 52 10. 64	11. 32 10. 72	10. 42 9. 76	10. 14 9. 22	9. 50 8. 50	8. 68 7. 89	9. 25 8. 75	9. 68 9. 18	11. 05 10. 22	10. 05 9. 47	9. 36 8. 40	9. 34 8. 34	10. 03 9. 26
Butts— Boston style_ Spare ribs Cured pork cuts: Hams, smoked,	13. 28 10. 34	13. 40 9. 94	12. 90 9. 45	11. 96 8. 31	11. 76 7. 62	10. 39 6. 52	11. 12 6. 67	12. 42 7. 46	17. 03 9. 33	14. 86 10. 00	10. 87 8. 86	9. 61 7. 55	12. 47 8. 51
14-16 pounds average Shoulders, pic-	19.85	19. 44	19. 47	20. 12	19.68	19. 56	19. 97	21. 20	21. 44	21. 31	20. 44	20. 34	20. 24
nics, smoked Bacon, breakfast Lard, tierces	14. 42 21. 85 13. 20	13. 19 21. 25 13. 25	12. 75 21. 88 13. 87	13. 12 22. 19 13. 42	12. 75 23. 25 13. 12	11. 81 23. 88 13. 18	12. 97 24. 12 12. 84	12. 80 24. 55 12. 83	13. 00 24. 00 15. 06	12. 84 22. 22 15. 22	13. 22 21. 15 15. 72	12. 83 18. 55 15. 04	12. 98 22. 41 13. 90
Lard substitutes, tierces	13. 35	13. 72	14. 03	14. 06	13. 95	13. 82	13. 47	-12. 87	14. 09	14. 63	14. 51	14. 39	13. 91
			· ·	NE	w Yo	RK.		<del>'</del>	'	1			
Beef:					1							1	
Steer— Choice* Good Medium Common Cow—	18. 50 15. 14 12. 50 10. 96	14. 32 13. 02	15. 01 13. 96 12. 61 11. 00	15. 48 14. 46 13. 44 12. 13	16. 75 15. 69 14. 58 12. 56	17. 60 16. 60 14. 66 10. 59	18. 82 17. 61 15. 88 13. 49	17. 98 14. 66	20. 20 18. 64 14. 92 11. 60	13. 44	18. 75 15. 85 12. 78 10. 41	19. 48 16. 50 13. 88 11. 88	17. 99 16. 15 13. 86 11. 40
Good Medium Common	11. 09 10. 27 8. 67	11. 35 10. 39 9. 35	10. 94 10. 06 9. 24	12. 21 11. 21 10. 31	13. 36 12. 34 11. 47	12. 90 11. 49 10. 36	14. 09 12. 86 11. 98	13. 48 11. 38 9. 18	12. 78 11. 52 9. 98	11. 36 9. 99 8. 58	11. 41 10. 35 9. 08	11. 89 10. 79 9. 60	12. 24 11. 05 9. 82
Bull— Common	7. 54	7. 59	8.06	8. 45	8. 81	8. 74	8. 75	8. 19	8. 28		7. 81	8. 12	8. 21
Veal: Choice Good Medium Common Lamb and mutton:	20. 24 17. 68 14. 68 11. 90	22, 39 20, 44 17, 18 13, 40	18. 65 17. 00 15. 38 12. 12	17. 25 15. 35 13. 38 10. 79	18. 62 16. 26 13. 76 10. 90	17. 80 15. 78 13. 52 11. 58	20. 65 18. 72 16. 09 13. 82	21. 40 18. 62 13. 69 9. 81	23. 90 20. 55 15. 35 12. 35	22. 36 19. 16 13. 25 10. <b>6</b> 4	17. 06 14. 80 11. 58 9. 54	19. 00 15. 95 13. 20 10. 90	19. 94 17. 53 14. 26 11. 43
Lamb— Choice Good Medium Common Mutton—	25. 77 24. 19 21. 90 19. 82	24. 31 22. 94 20. 97 19. 92	24. 95 23. 90 22. 85 21. 02	24. 94 23. 85 22. 60 20. 80	28. 40 26. 79 24. 80 23. 58	30, 22 28, 30 26, 18 22, 72	23. 64 19. 72	28. 27 26. 38 23. 60 20. 01	28. 20 26. 75 23. 39 19. 36	24. 30 22. 70 20. 84 18. 06	24. 76 23. 76 22. 26 19. 26	23. 12 21. 22 19. 00	26. 34 24. 89 22. 85 20. 27
Good Medium Common Fresh pork cuts: Hams—	15, 06 13, 11 10, 81	14. 01 12. 42 11. 03	14. 00 12. 88 10. 85	16. 54 15. 00 12. 56	16. 54 14. 73 12. 35	14, 52 12, 51 10, 26	17. 00 14. 65 12. 18	18. 93 15. 93 13. 84	15. 92 13. 45 10. 55	14. 28 12. 24 9. 76	15. 20 12. 70 10. 20	15. 49 13. 71 11. 72	15. 62 13. 61 11. 34
12–16 pounds average Loins— 8–10 pounds	20, 00	20.00	18. 75	19. 25	1		1	19. 50	19. 88	]	17. 75		18, 83
average 10-12 pounds 85813°				16. 60 15. 44	18. 99 17. 62	16. 86 15. 72	19. 59 17. 95	22. 34 20. 87	28. 50 26. 80	22, 69 21, 35	15. 16 14. 30	15. 15 14. 24	18. 80 17. 58
00010 IR	L 1926	,(	,,,										

Table 572.—Meats, fresh and smoked: Monthly average wholesale price per 100 pounds at Chicago and New York, calendar year 1923.—Continued.

NEW YORK-Continued.

Class of meat.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Fresh pork cuts-													
Continued.	D-77-	Dalla	Talla	Dolla	Dalla	Dalle	Dalle	Dalle	Dolls.	Dalle	Dolle	Thalle	Dolls
Loins—Contd.			D0118.	DULES.	10 25	14 54	16 20	17 81	23. 74	10 11	13 64	19 51	16. 07
12-14 pounds		14, 42			10. 00	19.04	14. 96	15 71	21. 71	17. 83	13. 02	13. 05	14. 90
14-16 pounds	14.02	13. 65	13. 28	13.06	10. 00	10. 24	14. 50	10.71	21. 11	17.00	10.02	10.00	14.00
16 pounds	40.45	10.00	10.00	10.04	14 00	10.00	19 70	14 02	19. 22	18 80	12, 22	11.07	13, 74
and over	13. 47	12.90	12, 28	12, 34	14. 02	12,00	15. 44	14.03	19. 22	10.09	12. 22	11. 51	10.77
Shoulders—	40.00	10.00	10.05	11 60	41 70	10.40	10 54	11 97	12. 41	19.00	11 59	10 63	11 01
Skinned	13. 32	13.03	12, 85	11.92	11. 72	10.48	10. 54	11. 51	14.41	10.08	11.02	10.00	11.01
Picnics, 6-8	10.00		10.05	0.50	0.00	0.05		0.50	10. 65	10.64	9.84	9. 52	9.95
_ pounds	10.96		10.05	9. 50	9. 90	8.90		9.00	10.00	10.04	9.01	8. 02	3. 30
Butts—	4			10 10	10 70	11 01	10.04	10 71	10 14	16 45	19 99	11. 83	12 92
Boston style_		15. 44			12.70	11.01	12.04	14. /1	16. 14 9. 62	10. 40			
Spare Abs	13.75	13. 31	11. 50	11. 12	10.00	9. 12	8.00	9. 10	9. 02	10. 40	8. 50	0.00	10. 40
Cured pork cuts:													1
Hams, smoked,											}		1
10-12 pounds :			~~ ==		04 00	01 00	00 00	04 00	02 00	00 00	09 05	21, 12	22.05
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	22.00
Shoulders, pic-						44 40	10.44	10 77	10.00	10 55	10 20	10.60	10 49
nics, smoked		13. 12						12.75	12. 62	12. 50	12. 00	20, 02	99 05
Bacon, breakfast.						22. 25		23. 50	24, 25		20.75		
Lard, tierces	12.80	12.81	12.78	12.69	12.42	11. 91	12.00	12. 10	13. 20	13.80	14. 78	14. 94	15.02
Lard substitutes,								10.00	10.00	10.00	19 95	14 90	10.00
tieroes	12.12	12.66	12.44	13. 03	12. 73	12.41	12.56	12.20	13. 22	13.90	13. 35	14. 58	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.

	Number of head	Fre	ight.	All oth	er costs.	
Item.	upon which figures are based.	Per 1,000 pounds.	Percentage of total.	Per 1,000 pounds.	Percent- age of total.	Total cost.
South Dakota sheep to Chicago  Iowa cattle to Chicago  South Dakota hogs to Sioux City  Indiana cattle to Buffalo  Indiana hogs to Buffalo  South Dakota cattle to Sioux City  South Dakota cattle to Sioux City  South Dakota cattle to Sioux City  Ohio hogs to Pittsburgh  Illinois hogs to Chicago  Kansas hogs to Kansas City  Illinois cattle to Chicago  Ohio cattle to Chicago  Ohio cattle to Chicago  Wisconsin cattle to Chicago  Wisconsin hogs to Milwaukee  Indiana hogs to Witsburgh  Chio ago to Chicago  Ohio cattle to Chicago  Ohio cattle to Pittsburgh  Minconsin hogs to St. Joseph  Ohio hogs to Cleveland  Iowa hogs to Chicago  Kansas hogs to St. Joseph  Ohio hogs to Cleveland  Indiana cattle to Pittsburgh  Wisconsin cattle to Milwaukee  Minnesota hogs to St. Paul  South Dakota hogs to St. Paul  South Dakota hogs to Sioux Falls  South Dakota cattle to Sioux Falls	288 1, 271 17, 879 1, 997 1, 723 31, 907 148, 108 14, 971 2, 200 1, 946 71 14, 711 5, 397 2, 424 4, 553 7, 595 8, 372	3. 22 2. 68 2. 14 2. 96 2. 24 2. 25 3. 73 2. 39 2. 23 2. 63 2. 69 3. 09 1. 73	66 64 62 60 60 59 59 56 54 53 52 52 52 52 52 52 52 54 49 49 48 48 48	\$3. 10 2. 12 2. 50 2. 52 2. 74 3. 56 3. 67 2. 29 3. 05 2. 69 2. 33 2. 01 2. 68 2. 25 2. 10 3. 39 2. 32 2. 22 2. 62 2. 75 3. 20 1. 88 2. 71 3. 49 2. 67 2. 36	34 38 38 40 40 41 41 44 46 47 48 48 48 49 50 50 51 51 52 54 59	\$9, 22 5, 92 6, 52 6, 78 9, 01 7, 50 5, 68 5, 91 4, 99 4, 10 4, 43 5, 64 4, 43 5, 24 6, 29 3, 61 6, 29 3, 61 6, 29 6, 23 6, 28

### HIDES AND SKINS.

TABLE 574.—Hides and skins: Quarterly stocks of hides in United States, 1921-1923.

RAW PACKER.

Steers					RAW	PACKER.				
Steers	Description and calendar year.			Sept. 30.						
1922		Thou	Thou	Thou	Thou-					Thou
Carrier   1922	Steers:	sands	. sands	8and8		Mixed cattle:	3ands.	sands		sands.
Carrier   1922	1922	1, 255	1, 492	1, 342	1, 370	1922	292	202	208	241
1921	1923	1, 448	1, 532	1, 590	1, 166	1923	239	188	164	210
Bulls:   188	Cows: 1921	2.251	1 537	1. 169	1.173	Caliskins:	913	1.073	775	531
Bulls:   188	1922	1, 145	1,054	1, 186	1,584	1922	703	713	670	596
1921	1923	1, 368	1, 182	1,279	1,492	1923	731	683	584	509
1922	1921	188	165	162	125	1 1921	377	290	240	193
Call, dry or dry salted:   384   456   590   564   1922   202   203   202   340   445   1923   202   203   202   340   445   202   203   202   203   202   203   202   203	1922	100	99	132	144	1922	124		196	274
Call, dry or dry salted:   384   456   590   564   1922   486   378   572   770   770   1921   1921   1923   1,004   968   1,020   1,143   1923   1,004   968   1,020   1,143   1923   1,271   1,144   1,579   1,222   1,004   4,004   1,004	1923	138	1111	148	161	1923	234	142	220	188
1921		ND !	FORE	IGN (	CATTI	<del>,</del>	AN P.	ACKE	ER).	,
1922	Calf, dry or dry salted:	294	458	500	564	Steers, green salted:	685	545	354	259
Calf, green salted:	1922	486			760	1922	291	202	340	405
1922	1923	316		544	318	1093	444	522	282	133
1922	Calf, green salted:	1 763	2 362	2 110	1 870	Mixed cattle, green	1	l	1	
1922	1922	1, 775	2, 507	2.432	1,942	1921	1, 109		1, 191	1,021
1922	1923	1, 643	2,362	1, 516	1, 357	11 1922	801			787
1922	Cattle, dry or dry salted:	084	885	937	1.012	Kin dry or dry salted:	1,081	813	098	705
1922	1922	1, 064			1, 143	1 1921	20			45
1922	1923	1, 217	1, 144	872	595	1922				319
1922	Bulls, green saited:	58	76	54	58	Kip, green salted:	200	300	200	1
1921	1922	54	44	37	37	1921	396	254		392
1921	1923	45	43	43	41	1922		334		570 453
1922	1921	703	1. 105	496	775	1929	010	901	300	200
Buffalo hides:   1921	1922	660	579	462	636	ŀ				
Buffalo hides:    1921	1923	768	991	41Z	, 582					
1921   138   139   156   109   1921   43   57   57   6   6   1923   117   180   1182   1192   121   121   121   121   122   180		M	ISCEI	LAN	EOUS :	HIDES AND SKINS.				
1921   138   139   156   109   1921   43   57   57   6   6   1923   117   180   1182   1192   121   121   121   121   122   180	Buffalo hides:					Horse, colt, ass, and mule			í I	
1923	1921					fronts:				
1921   1, 579   1, 219   791   547   1, 219   791   547   1922   361   878   810   930   1, 128   914   736   1921   72   109   65   64   65   64   65   65   65   65	1922	138		156	109	1921				
1921	Cabretta skins:	117	130	1		1000			97	101
1923	1921	1,579	1, 219			t Horse, colt. ass, and mule				
Calf and kip skins (domestic):  1921	1922				736	snanks:	72	109	65	60
1921	Calf and kip skins (do-		1, 120	011		1922	56	42	60	154
1922   3,881   3,700   4,360   3,429   2,935   1921   410   363   359   386   365   386   367   387   388   399   388   399   388   355   348   399   388   355   348   399   388   355   348   399   388   355   348   399   388   355   348   399   388   355   348   399   388   355   348   399   388   355   348   399   388   355   348   389		4 200	4 000	4 412	2 000	Vengeree and Wellshy	36	92	23	95
Cattle and krip hides and skins (foreign tenned):    1921		3, 881	4, 474	4, 664	4. 462	SKIDS:				
Cattle and krp fildes and skins (foreign tanned):  1921	1923	3, 700	4, 360	3, 429	2, 935	1921				389
1922   124   62   46   75   1921   251   120   89   97	Cattle and kip hides and					1922	268 335			243 486
1923   76   72   23   19   1922   111   111   106   99   99   1923   1922   111   111   106   99   99   1922   111   111   106   99   99   1922   1923   1922   1923   1923   1923   1924   1925   1925   1925   1926   1926   1927   1928   1928   1929   136   166   187   188   1921   1922   136   166   187   188   1921   1922   136   166   187   189   1922   11923   1922   11923   1923   1923   1924   1925   1925   1925   1926   1927   1928   1928   1929   111   1941   10,971   10,475   91   1928   192	1921		240	202	151	Pig and hog skins:				
Cattle hides:    1921	1922					1921				
1921	Cottle hides:	70	72	23	19	1922		55		71
1921	1921	7,807	7,078	6,086	5, 819	Pig and hog strips		- 1	1	
1921	1922	6,662	5,347	5,515	6, 346	(pounds):	1 162	250	340	517
1921   136   166   187   188   1922   136   166   187   188   1923   1922   136   166   187   188   1923   1923   12,971   13,755   12,666   12,6	Deer and elk skins:	0, 140	0,000	o, 460 / .	3,000	1922	226	483	390	319
1923	1921				275	1 1923	412	604	645	575
Goat and kid skins:  1921	1922	136	166	187		Sheep and lamb skins:	12 971	13.755	12.606	12.661
1921	Close and hid aline.			- 1		1922	11,941	10,971	10.475	9, 151
1923	1921	8,652	9,680	10,746	10, 380	1923	8, 510	9, 916	9, 203	7, 400
Horse, colt, ass, and mule butts:  1921	1922	7 770	10,799	8,641 10 000	8,730 1					
Horse, colt, ass, and mule butts:  1921	Horse, colt, ass, and	','''	20,10.	10,000	0,020	1921	1,611	1, 778	1,784	1,770
1922	muse mues:	- 1	-	200		1922	1,732	1,858	2,031	
1923 100 111  Horse, colt, ass, and mule butts: 1921 222 193 191 207 1922 220 224 310 456	1921	385 254	140	109		1825	1, 010	1, 600	1,001	±, ±00
Horse, colt, ass, and mule butts:  1921	1923						1		1	
1921 222   193   191   207   1922 220   224   310   456	Horse, colt, ass, and mule	1	- 1	1	- 1	· †	.	1	į	
1922 220 224 310 456	1921			191	207		1		]	
	1922	220	224	310	456	]	- 1		]	
1923 491 448 186 166	1923	491	448	120 (	100					

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Cansus.

Table 575.—Hides and skins: International trade, calendar years, 1909-1922.

1,000 pounds. 3, 103	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
pounds. 3, 103	1,000			ł	1		Exports.
pounds. 3, 103	1,000		1				
3, 103		1,000	1,000	1,000	1.000	1,000	1,000
	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.
	9, 335	1,290	8, 781	955	10, 484	2, 184	10, 425
207	293, 950		181, 138		210, 158		368, 259
			90, 744				
		10, 585	91, 971	8,040	92, 318		101, 738
		33, 772			36, 716	44, 131	50, 455
	13, 235		13, 985		9,886		
	72, 751	3, 222	68, 523	4,618	55, 598	6, 943	62, 552
			5,546	<del></del>			
	21, 998		9,000		22, 137	0, 243	26, 927
130					4,899	* 1	1 10, 797
2 107		1,910	5,000	400	4, 900		
		40 700	42 180	51 302	47 370	34 046	47, 681
						01,010	28, 025
	13, 852		6,608		9,009	7, 903	10, 295
. 10,010	6, 195	0,001		0, 100		., 000	4, 614
6, 659	22, 866	1, 944	4, 102	4, 379		7, 547	11, 649
219	50, 737	1, 199	49,057	417	45, 735	152	63, 312
	71, 105						
	9, 764		6,810		4, 624		
			1		l		
			l				
. <b></b>	- <b></b>	6, 517	860	15, 260	1,004		
	79, 265						
180, 930		54, 192	17, 494	73, 207		58, 864	19, 963
8 9, 332	<sup>3</sup> 6, 436	10, 937	5, 819	7,803			
==-				24, 281	1, 173		5, 573
				6,365	2,661		3, 404 88, 130
155, 508	131, 041		04,070	18,800	92, 129		4, 382
			2,000	9 164		0 199	4, 855
52 524	49 499	7, 001 55 791		47 567			51,650
		25 323	11,010		=1,110	10, 011	01,000
		20, 020		20, 510			
19, 119		30, 049	6,806	17, 442	11, 738	22, 560	18, 111
		26, 226	9, 120	21, 873	21, 879	29, 257	23, 726
107, 350	38, 100	123, 491	17, 069	76, 775	18, 500	104, 620	25, 576
514, 249	25, 432	510, 240	17, 402	348, 047	30, 577	551, 258	28, 700
54, 716	184, 654	14, 586	83, 122	7, 681	26, 771	4, 465	<b>26</b> , 139
, 959, 521	1, 991, 355	1, 184, 986	941, 275	1,061,553	1, 007, 561	1, 345, 725	1, 096, 938
	87, 566 180, 930 3 9, 332 10, 717 155, 508 440, 200 5, 770 53, 524 6, 321 110, 143 19, 119 25, 662 107, 350 514, 249 54, 716	20, 376 169, 857 46, 820 45, 469, 857 41 13, 235 2, 317 72, 751 166 14, 293 9, 842 21, 998 135 16, 708 10, 754 2 107 41, 012 73, 691 67, 636 752 25, 577 13, 979 13, 852 6, 659 22, 866 219 77, 17, 106 20, 707 17, 106 180, 930 17, 213 39, 332 36, 436 10, 717 7, 136 155, 508 131, 041 440, 200 152, 373 53, 524 68, 321 110, 143 96, 351 19, 119, 119 17, 457 19, 119 17, 457 19, 119 17, 457 19, 119 17, 457 19, 119 17, 457 19, 119 17, 457 19, 119 17, 457 19, 119 17, 457 19, 119 17, 457 184, 654	83, 252	20, 376	Signature	20, 376	207 293, 950

Division of Statistical and Historical Research. Official sources except where otherwise noted.

Java and Madura only.
 Four-year average.

Singapore only.
 Eight months, May-December.

# | Table 576.—Hides and skins: Imports into the United States, 1910-1923.

	Buffalo	Calf	skins.	Cattle	hides.	Goatskins.		
Year ending June 30.	hides, dry.	Dry.	Green or pickled.	Dry.	Green or pickled.	Dry.	Green or pickled.	
1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1915-16 1916-17 1916-17 1918-19 1918-19 1919-20 1920-21 1922-23		1,000 lbs. (2) 23, 522 41, 992 39, 974 27, 768 15, 678 26, 913 33, 936 8, 894 11, 602 43, 209 11, 810 16, 175 14, 988	1,000 lbs. 2 75, 593 36, 261 63, 260 54, 585 54, 636 30, 289 37, 222 12, 400 4, 268 9, 046 25, 151 23, 780 25, 383 30, 736	1,000 lbs. (1) 54, 630 78, 131 82, 595 71, 486 93, 001 153, 339 161, 237 76, 655 33, 182 111, 252 24, 814 18, 439 58, 770	1,000 lbs. 2 318,004 95,498 172,881 185,447 208,478 241,340 280,839 225,363 190,844 220,695 328,209 173,759 186,498 346,613	1,000 lbs. (2) 64, 338 69, 143 70, 563 63, 374 50, 713 85, 506 92, 425 56, 736 78, 159 103, 828 36, 816 68, 228 70, 763	1,000 lbs. 115, 845 22, 576 26, 198 25, 687 21, 385 15, 152 13, 215 10, 195 10, 845 23, 167 4, 912 15, 307 18, 607	

<sup>1</sup> Included in cattle hides.

<sup>&</sup>lt;sup>2</sup> Included in green or pickled.

<sup>3</sup> Includes dry hides.

Table 576.—Hides and skins: Imports into the United States, 1910-1923—Contd.

	Horse and	l ass skiņs.	Kangaroo	Sheep	skins.	All	
Year ending June 30.	Dry.	Green or pickled.	and wallaby skins.	Dry.	Green or pickled.	other.	Total.
1909-10	4, 551 7, 194 10, 979 7, 620 5, 425 6, 780 12, 185 2, 699 2, 762 13, 910 1, 142	1,000 lbs. 3 19, 512 5, 704 5, 675 8, 448 4, 645 3, 800 11, 347 15, 485 6, 360 3, 551 22, 407 5, 461 3, 430 10, 461	7,000 lbs. (4) (4) (5) (1,097 1,329 769 1,219 959 671 1,053 1,193 878 724 1,152	1,000 lbs. (2) 18, 787 25, 645 31, 132 29, 338 20, 886 54, 600 55, 284 32, 239 26, 464 42, 501 12, 593 8 3, 828	1,000 lbs. 2 67, 406 36, 930 34, 755 40, 663 40, 739 37, 834 46, 859 40, 447 23, 230 35, 431 58, 365 58, 869 36, 245 57, 864	1,000 lbs. 12, 259 8, 669 7, 988 4, 802 15, 780 10, 226 10, 890 10, 176 9, 226 5, 837 10, 695 5, 904 5, 503 29, 920	1,000 lbs 608, 619 374, 891 537, 768 572, 197 561, 071 538, 218 743, 670 790, 207 432, 517 448, 142 798, 569 352, 193 392, 904 658, 179

Division of Statistical and Historical Research.

Table 577 .- Hides, heavy native steer: Average price per pound at Chicago, 1910-1923.

### PACKER HIDES.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1911 1912	.13	.13	\$0. 14 . 13 . 16 . 17	\$0. 15 . 13 . 16 . 17	\$0. 16 . 14 . 17 . 17	\$0. 18 . 16 . 17 . 18	\$0. 16 . 16 . 18 . 18	\$0. 16 . 16 . 19 . 19	\$0. 16 . 16 . 20 . 19	\$0. 16 . 16 . 20 . 20	\$0. 15 . 16 . 20 . 20	\$0. 14 . 16 . 19 . 18	\$0. 16 . 15 . 18 . 18
1914 1915	. 19	.18	. 18	. 18	. 18	. 19	. 20	. 21	. 21	. 21	. 22	. 23	. 20
1916 1917 1918 1918	. 23 . 32 . 32 . 28	. 23 . 31 . 29 . 28	. 22 . 30 . 26 . 28	. 23 . 30 . 27 . 31	. 26 . 32 . 31 . 37	. 27 . 32 . 33 . 41	. 27 . 32 . 33 . 50	. 26 . 32 . 30 . 53	. 26 . 33 . 30 . 46	.28 .34 .30 .48	.32 .35 .29 .47	.33 .35 .29 .40	. 26 . 32 . 30 . 40
1920 Av. 1914–1920	. 28	. 27	. 26	. 36	. 36	. 36	. 31	. 28	. 28	. 26	. 22	. 20	. 32
1921	.17 .16 .20	. 15 . 16 . 20	. 13 . 14 . 19	.11 .14 .19	.12 .15 .19	. 14 . 17 . 16	. 14 . 18 . 15	. 14 . 20 . 15	. 14 . 21 . 14	. 15 . 23 . 15	.16 .23 .15	.16 .21 .14	. 14 . 18 . 17
				COU	NTRY	HID	ES.	·	<u></u>	•			
1910 1911 1912	\$0. 14 . 11 . 13 . 15	\$0. 13 . 11 . 13 . 15	\$0. 12 . 11 . 13 . 15	\$0. 13 . 11 . 13 . 15	\$0. 12 . 11 . 14 . 14	\$0. 12 . 12 . 14 . 14	\$0. 11 . 13 . 14 . 15	\$0. 12 . 13 . 15 . 15	\$0. 13 . 13 . 16 . 16	\$0. 12 . 13 . 16 . 17	\$0. 12 . 14 . 16 . 17	\$0. 11 . 13 . 16 . 16	\$0. 12 .12 .14 .15
1914 1915 1916	. 16 . 20 . 18	. 16 . 20 . 19	. 16 . 18 . 18	. 15 . 17 . 19	. 17 . 17 . 20	. 16 . 18 . 20	. 16 . 21 . 20	. 16 . 20 . 21 . 27	. 17 . 20 . 21 . 24	. 17 . 22 . 23 . 28	. 19 . 21 . 27 . 29	. 20 . 20 . 26 . 26	. 17 . 20 . 21 . 26
1917 1918 1919 1920	. 24 . 23 . 22 . 33	. 24 . 21 . 22 . 33	. 24 . 17 . 22 . 30	. 24 . 19 . 24 . 28	. 25 . 28 . 28 . 28	. 26 . 28 . 34 . 24	. 26 . 28 . 43 . 23	. 24 . 47 . 20	. 24 . 24 . 41 . 19	. 24 . 38 . 18	. 22 . 36 . 16	. 22 . 28 . 14	. 23 . 32 . 24
Av. 1914-1920	. 22	. 22	. 21	. 21	. 23	. 24	. 25	. 25	. 24	. 24	. 24	. 22	. 23
AV. 1914–1920	. 13	. 11	. 10	. 09	. 09	. 09	. 08	. 08	. 08	. 09	. 10	. 10	. 10

<sup>&</sup>lt;sup>2</sup> Included in green or pickled. <sup>3</sup> Includes dry hides.

Included in all other.
Except sheepskins with wool on.

### HORSES AND MULES.

Table 578.—Horses and mules: Number and value on farms, United States, Jan. 1, 1867-1924.

		Horses			Mules.	
Jan. 1.	Number.	Price per head Jan. 1.	Farm value Jan. 1.	Number.	Price per head Jan 1.	Farm value Jan. 1.
1867 1868 1869 1870, June 1	Thousands. 5, 401 5, 757 6, 333 7, 145 8, 702	Dollars. 59. 05 54. 27 62. 57 67. 42 71. 14	Thousand dollars. 318, 924 312, 416 396, 222 481, 719 619, 039	Thousands. 822 856 922 1,125 1,242	Dollars. 66. 94 56. 04 79. 23 90. 16 91. 98	Thousand dollars. 55, 048 47, 954 73, 027 101, 431 114, 272
1872 1873 1874 1875 1876	8, 991 9, 222 9, 334 9, 504 9, 935	67. 41 66. 39 65. 15 61. 10 57. 29	606, 111 612, 273 608, 073 580, 708 557, 747	1, 276 1, 310 1, 339 1, 394 1, 414	87. 14 85. 15 81. 35 71. 89 66. 46	111, 222 111, 546 108, 953 100, 197 94, 001
1877. 1878. 1879. 1880, June 1	10, 155 10, 330 10, 939 10, 357 11, 430	55. 83 56. 63 52. 36 54. 60 58. 44	567, 017 584, 999 572, 712 560, 916 667, 954	1, 444 1, 638 1, 713 1, 813 1, 721	64. 07 62. 03 56. 00 62. 19 69. 79	92, 482 101, 579 95, 942 112, 749 120, 096
1882 1883 1884 1885	10, 522 10, 838 11, 170 11, 565 12, 078	58. 53 70. 59 74. 64 73. 70 71. 27	615, 825 765, 041 833, 734 852, 283 860, 823	1, 835 1, 871 1, 914 1, 973 2, 053	71, 35 79, 49 84, 22 82, 38 79, 60	130, 945 148, 732 161, 215 162, 497 163, 381
1887 1888 1889 1890, June 1	12, 497 13, 173 13, 663 14, 969 14, 057	72. 15 71. 82 71. 89 70. 22 67. 00	901, 686 946, 096 982, 195 1, 051, 182 941, 823	2, 117 2, 192 2, 258 2, 296 2, 297	78. 91 79. 78 79. 49 78. 04 77. 88	167, 058 174, 854 179, 444 179, 176 178, 847
1892 1893 1894 1895 1896	15, 498 16, 207 16, 081 15, 893 15, 124	65, 01 61, 22 47, 83 36, 29 33, 07	1, 007, 594 992, 225 769, 225 576, 731 500, 140	2, 315 2, 331 2, 352 2, 333 2, 279	75. 55 70. 68 62. 17 47. 55 45. 29 41. 66	174, 882 164, 764 146, 233 110, 928 103, 204
1897	14, 365 13, 961 13, 665 18, 267 16, 745	31. 51 34. 26 37. 40 43. 68 52. 86	452, 649 478, 362 511, 075 797, 907 885, 209	2, 216 2, 190 2, 134 3, 265 2, 864	41. 66 43. 88 44. 96 51. 41 63. 97 67. 61	92, 302 96, 110 95, 963 167, 855 183, 232
1902	16, 531 16, 557 16, 736 17, 058 18, 719	58. 61 62. 25 67. 93 70. 37 80. 72	968, 935 1, 030, 706 1, 136, 940 1, 200, 310 1, 510, 890	2, 757 2, 728 2, 758 2, 889 3, 404	72. 49 78. 88 87. 18 98. 31	186, 412 197, 753 217, 533 251, 840 334, 681 428, 064
1907	19, 747 19, 992	93, 51 93, 41	1, 846, 578 1, 867, 530	3, 817 3, 869	112. 16 107. 76	416, 939
1909 1910, Apr. 15 1911 1912 1913	20, 640 19, 833 20, 277 20, 509 20, 567	95. 64 108. 03 111. 46 105. 94 110. 77	1, 974, 052 2, 142, 524 2, 259, 981 2, 172, 694 2, 278, 222	4, 053 4, 210 4, 323 4, 362 4, 386	107. 84 120. 20 125. 92 120. 51 124. 31	437, 082 506, 049 544, 359 525, 657 545, 245
Av. 1909–1913	20, 365	106. 34	<b>2</b> , 165, <b>4</b> 95	4, 267	119. 92	511, 678
1914 1915 1916 1917 1917 1918 1919	20, 962 21, 195 21, 159 21, 210 21, 555 21, 482 19, 766	109. 32 103. 33 101. 69 102. 89 104. 24 98. 45 96. 51	2, 291, 638 2, 190, 102 2, 149, 786 2, 182, 307 2, 246, 970 2, 114, 897 1, 907, 646	4, 449 4, 479 4, 593 4, 723 4, 873 4, 954 5, 427	123. 85 112. 36 113. 83 118. 15 128. 81 135. 83 148. 42	551, 017 503, 271 522, 834 558, 006 627, 679 672, 922 805, 495
Av. 1914–1920	21, 047	102. 38	2, 154, 764	4, 785	126. 62	605, 889
1921 1922 1923 1924 <sup>1</sup>	19, 208 19, 056 18, 627 18, 263	84. 31 70. 54 69. 83 64. 41	1, 619, 423 1, 344, 136 1, 300, 729 1, 176, 282	5, 455 5, 467 5, 485 5, 436	116. 69 88. 09 85. 94 84. 20	636, <b>568</b> 481, 578 471, 385 457, 697

Division of Crop and Livestock Estimates; figures in italies are census returns.

<sup>&</sup>lt;sup>1</sup> Preliminary.

### Farm Animals and their Products-Horses and Mules. 1025

Table 579.—Horses and mules: Number and value on farms, by States, Jan. 1, 1923 and 1924.

			)	Horses.			Mules.						
State.		aber, i. 1.	price he	erage e per ad,		value, i. 1.		aber, 1. 1.	price he	rage e per ad, a. 1.	Farm Jai	value,	
	1923	19241	1923	1924	1923	1924 <sup>1</sup>	1923	19241	1923	1924	1923	19241	
Maine	Thou- sands. 91 35 76 47	sands. 88 35	Dolls. 122. 00 114. 00 104. 00 138. 00	122.00 111.00	Thou- sand dollars. 11, 102 3, 990 7, 904 6, 486	Thou- sand dollars. 10, 736 3, 885 7, 696 6, 256	sands.				Thou-sand dolls.	Thou- sand dolls.	
Rhode Island	6	6	133. 00	123. 00	798	738							
Connecticut  New York  New Jersey  Pennsylvania  Delaware	36 510 72 491 25	505 70 486	128. 00 115. 00 129. 00 110. 00 78. 00	110.00 115.00 99.00	4, 608 58, 650 9, 288 54, 010 1, 950	4, 608 55, 550 8, 050 48, 114 1, 575	7 6	6 55	133. 00 131. 00 125. 00 88. 00	120. 00 110. 00	931 786 6, 875 792	791 720 6, 050 747	
Maryland Virginia West Virginia North Carolina South Carolina	136 294 161 166 70	135 288 159 163 70	82. 00 90. 00 108. 00	77.00	11, 696 24, 108 14, 490 17, 928 6, 440	10, 395 22, 176 12, 561 16, 789 7, 210	97 15 260	97 15 260	102, 00 128, 00	100.00	3, 663 9, 991 1, 530 33, 280 25, 916	3, 333 9, 700 1, 305 33, 280 28, 542	
Georgia Florida Ohio Indiana Illinois	95, 38, 771 696 1, 183	89 37 763 682 1, 171	105. 00	80. 00 66. 00	7, 885 3, 990 71, 703 51, 504 82, 810	7, 387 3, 737 61, 040 45, 012 78, 457	390 43 32 101 170	43 32 101	138. 00 97. 00	89. 00 70. 00	5, 934 3, 104 7, 777	40, 439 6, 063 2, 848 7, 070 12, 410	
Michigan Wisconsin Minnesota Iowa Missouri	594 643 887 1, 266 870	582 630 869 1, 241 861	104.00	96. 00 71. 00 74. 00	54, 648 66, 872 68, 299 100, 014 45, 240	46, 560 60, 480 61, 699 91, 834 41, 328	6 4 10 95 373		80.00	83. 00 78. 00	594 412 820 7,600 23,499	504 332 780 7, 161 23, 247	
North Dakota South Dakota Nebraska Kansas Kentucky	797 760 901 978 374	781 745 883 958 363	45.00	48. 00 55. 00 41. 00	44, 632 39, 520 52, 258 44, 010 24, 310	38, 269 35, 760 48, 565 39, 278 20, 328	8 14 114 292 287		68. 00 70. 00 58. 00	61. 00 69. 00 55. 00	552 952 7, 980 16, 936 21, 812	488 854 7, 866 15, 730 18, 348	
TennesseeAlabama Mississippi Louisiana Texas	309 129 211 171 990	300 128 211 168 980	78. 00 72. 00 71. 00	77. 00 69. 00 66. 00	22, 557 10, 062 15, 192 12, 141 52, 470	19, 800 9, 856 14, 559 11, 088 53, 900	176	336 314 308 180 854	99. 00 93. 00 113. 00	99. 00 95. 00 93. 00	28, 086 19, 888	26, 208 31, 086 29, 260 16, 740 73, 444	
Oklahoma Arkansas Montana Wyoming Colorado	680 225 643 198 408	653 218 643 198 400	53. 00 38. 00 33. 00	42.00 31.00 30.00	27, 260 11, 925 24, 434 6, 534 18, 768	22, 202 9, 156 19, 933 5, 940 16, 800	335 9 3	3	60. 00 58. 00	61. 00 55. 00 55. 00	24, 455 540 174	20, 008 495 165	
New Mexico Arizona Utah Nevada	181 131 128 49	176 130 128 49	62.00 69.00	62. 00 62. 00	i	6, 864 8, 060 7, 936 2, 646	12 3 2	3 2	62. 00 61. 00	93. 00 59. 00 55. 00	1, 386 912 186 122	1, 116 177 110	
Idaho Washington Oregon California	273 247 245 340	222 230	70. 00 81. 00	70.00 69.00	19, 845	13, 250 15, 540 15, 870 26, 809	22 14	21 13	83. 00 76. 00	78.00	520 1, 826 1, 064 6, 283	504 1, 638 923 6, 180	
United States	18, 627	18, 263	69. 83	64. 41	1, 300, 729	1, 176, 282	5, 485	5, 436	85. 94	84. 20	471, 385	457, 697	

Division of Crop and Livestock Estimates.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 580.—Horses and mules: <sup>1</sup> Estimated yearly losses per 1,000 from disease, 1888-1924.

Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.	Year ending Apr. 30.	Losses per 1,000.
1887-88 1888-89 1889-90 1890-91 1891-92	18. 3 14. 6 16. 4 16. 6 15. 3	1897-98	20. 0 23. 4 18. 3 18. 2 20. 2	1907-8 1908-9 1909-10 1910-11 1911-12	17. 1 18. 2 19. 9 19. 0 21. 9	1917-18 1918-19 1919-20 1920-21 1921-22	16. 5 15. 7 17. 8 14. 7 15. 7
1892-93	17. 0 21. 0 22. 3 20. 2 21. 3	1902-3 1903-4 1904-5 1905-6 1906-7	19. 7 19. 6 17. 9 17. 7 18. 9	1912–13 1913–14 1914–15 1915–16 1916–17	22. 6 20. 6 17. 5 16. 9	1922–23 1923–24	15. 0 15. 2

Division of Crop and Livestock Estimates. As reported by crop reporters on May 1 for year ending Apr. 30.

Table 581.—Horses and mules: Receipts at principal markets and at all markets reported, 1900–1923.

Calendar year.	Chi- cago.	Den- ver.	East St. Louis.	Fort Worth.	Kan- sas City.	Oma- ha.	St. Jo- seph.	St. Paul.	Sioux City.	Total.	All other mar- kets report- ing.	Total all mar- kets report- ing.1
1900	Thou- sands. 99 109 102 101 106	Thou- sands. 23 17 24 19 13	Thou- sands. 145 129 109 129 181	Thou-sands. (2) (2) (2) 5 10 18	Thou- sands. 103 97 77 67 68	Thou-sands. 60 36 42 53 47	Thou- sands. 13 23 20 20 20	Thou- sands. 27 15 8 8	Thou- sands. 31 18 19 12 4	Thou- sands. 501 444 406 419 472	Thou- sands.	
1905 1906 1907 1908	127 127 102 92 91	16 17 11 11 15	178 166 117 109 122	18 21 19 12 21	66 70 62 56 68	45 42 44 40 32	32 28 27 23 23	6 9 15 7 6	15 19 16 13 15	503 499 413 363 393		
1910 1911 1912 1913 1914	83 105 93 91 106	16 18 15 16 17	130 171 164 157 148	34 37 49 57 48	70 85 73 82 87	30 32 33 32 31	28 42 39 32 25	5 8 5 5 6	16 17 10 10 10	412 515 481 482 478		
1915 1916 1917 1918 1919	165 205 107 88 46	72 53 20 15 23	271 267 280 242 250	55 79 115 79 60	102 123 128 85 83	42 27 33 22 25	41 27 34 39 43	10 12 10 7 11	22 17 29 23 16	780 810 756 600 557	327 668 720 616 511	1, 107 1, 478 1, 476 1, 216 1, 058
1920 1921 1922 1923	43 34 32 26	18 10 13 23	141 68 95 102	45 13 29 58	72 30 38 43	19 7 9 17	30 12 16 15	10 5 2 3	23 7 8 15	401 186 242 302	324 131 201 249	725 317 443 551
1923. January February March April	3 3 5 3	1 1 1 2	23 11 11 6	6 2 2 1	8 4 5 4	1 2 1 1	3 1 1 1	(8) 1 (9)	1 1 2 1	46 26 29 19	40 28 32 17	86 54 61 36
May June July August	2 1 2 1	1 1 2 2	4 2 3 6	(8) 1 1 4	1 1 1 3	(3) 2 2	() 1 1	(9) (9)	(3) 1 2	12 5 14 21	8 9 3 11	20 14 17 32
September October November December	1 2 1 2	3 4 3 2	7 13 8 8	10 15 10 6	4 5 4 3	2 3 1 1	2 2 1 1	(8) (8) (3) (3)	2 2 1 1	31 46 29 24	19 29 30 23	50 75 59 47

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.

<sup>&</sup>lt;sup>1</sup> Including mules since 1912.

<sup>&</sup>lt;sup>1</sup> Figures prior to 1915 not available.

<sup>&</sup>lt;sup>2</sup> Not in operation.

<sup>3</sup> Less than 500.

### Farm Animals and their Products-Horses and Mules. 1027

Table 582.—Horses and mules: Receipts at public stockyards in the United States, calendar years, 1915–1923.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923
Albany N V	Number.	Number. 6, 014	Number. 3, 303	Number.	Number.	Number	Number 40	Number	Number
Amarillo, Tex	5, 006	14, 390	13, 367	14 655	15, 014	12,804	2, 050	3, 331	6, 230
Albany, N. Y Amarillo, Tex Atlanta, Ga Augusta, Ga Baltimore, Md			l	78, 160	60, 327 22, 089	25, 931 7, 055 4, 313	3, 119	3, 331 7, 955	33,865
Augusta, Ga	3, 956		23, 125 7, 442	33, 219	22, 089	7,055	900	269	4/1
		13, 901	7,442	8, 670	4, 961	4, 313	2, 284	2, 453	2, 714
Billings, Mont		3	777	1,363	1, 841	760	38		
Boston, Mass	3, 237 12, 280	8, 106 56, 482	627	253	276				
Buffalo, N. Y	12, 280	56, 482	16, 515	10, 034	18, 594	22, 526	23, 687	21, 159	18, 365
Billings, Mont			5, 539	3, 824	2,076	1, 782	965	3, 264	431 1, 365
				, í					
Chicago, Ill	165, 253	205, 449	107, 311 27, 279	87, 820	45, 762 18, 880	43, 020 14, 181	33, 723	31, 689 4, 248	26, 065 4, 244
Cleveland Ohio	30, 425	19, 671	9,060	18, 521 4 320	5, 260	5, 580	5, 699 2, 300	2, 020	1, 100
Columbia, S. C		1, 356	1, 351	1, 271	1. 174	847	2, 000		
Chicago, Ill		32	100	2, 035	1, 224	224			
Dollos Tor				58				ļ	
Dallas, Tex		221	58	74	47				52
Denver, Colo	71, 870	52,800	19,758	14, 599	22, 936	17, 591	9, 639	13, 485	22,591
Detroit, Mich			13, 755	3, 544 245	1, 835	2, 584	667	821	1,847
Dublin, Ga				245	13	26			
East St. Louis, Ill El Paso, Tex Emeryville, Calif Erie, Pa Evansville, Ind	270, 612	266, 818	279, 837	241, 751	250, 311	141, 230	67, 756	95,048	101, 535
El Paso, Tex	7,892	23, 385	15, 052	9, 126	250, 311 16, 295	13, 931	9, 574	6, 106	6,758
Emeryville, Calif				20					<b>-</b>
Erie, Pa		658	993	1,608 1,080	761 1, 135	1,706 962	43	192	412
		000	330	1,000	1, 100	002	10	102	112
Fort Wayne, Ind Fort Worth, Tex Indianapolis, Ind									2
Fort Worth, Tex	53, 640	79, 209 29, 444	115, 233 61, 692	78, 881 19, 608	60, 363 9, 080	45, 362 8, 814	13, 086 2, 710	28, 610 2, 481	58, 437 1, 409
Jacksonville Fla	28, 203	526	131	15,000	18	6	2, 110	14	154
Jacksonville, Fla Jersey City, N. J	62, 122	154, 721	70, 268	42, 185	10, 574	2, 624	1,602	1, 267	678
	100 150	100 141	107 000	04 600	00 050	71 707	20 452	90 910	42, 987
Kansas City, Mo	102, 153 7, 040	123, 141 7, 378	127, 823 8, 254	84, 628 6, 430	82, 852 7, 214	71, 797 4, 160	30, 453 2, 276	38, 310 4, 057	9, 122
La Favette. Ind	35								
Lancaster, Pa	1,017	1, 417	8, 342	11, 228	2,068	3, 432	1, 360	1,790	2,603
Kansas City, Mo Knoxville, Tenn La Fayette, Ind Lancaster, Pa Laredo, Tex									801
Logansport, IndLos Angeles, CalifLouisville, KyMarion, OhioMemphis, Tenn		1,068		[	[	52	1		
Los Angeles, Calif									130
Louisville, Ky	2,800	5, 200	14, 127	16, 967 141	11, 274 977	9, 031	1, 598 836	2, 718 914	2, 487 480
Marion, Onio		39, 816	60, 848	33, 116	32, 598	2, 444 8, 006	14,770	46, 249	60, 216
mompino, rominino				1	· ' i				
Milwaukee, Wis Mobile, Ala Montgomery, Ala	1, 126	1,714	1,849	2, 185	1, 879	2, 246	1, 243	1, 878	1, 502
Montgomery Als	27		7, 169	24, 102	22, 291	11. 969	4, 002	14, 133	4, 801
Nashville, Tenn		15, 855	74, 280	103, 818	97, 425	11, 969 29, 572	101 .		
Nashville, Tenn Nebraska City, Nebr				83	342	244	134	570	
Now Brighton Minn	2 970	616	809	1, 097	9, 489	3, 653	107	121	
New Orleans, La	3, 310	852	2, 614	556	368	1, 254	51	224	268
New York, N. Y	17, 447	8, 529	7, 574	307	1, 952	1, 254 1, 723	568	1, 007 1, 715	2, 340 2, 867
New Brighton, Minn New Orleans, La New York, N. Y North Salt Lake, Utah Ogden, Utah		1, 785	2, 614 7, 574 1, 981 25, 425	1, 573 18, 809	1, 484 6, 467	1, 641 5, 630	627 1, 460	1, 715 1, 387	2, 867 2, 359
			25, 425	10, 009	0, 407		1, 400	1, 361	•
Oklahoma, Okla Omaha, Nebr Pasco, Wash Peoria, Ill Philadelphia, Pa	36, 954 41, 679	47, 381	62, 306 32, 781	12, 687	9, 951	5, 847 18, 751 303	1,824	4, 798	8, 321
Omaha, Nebr	41, 679	27, 486	32, 781	22, 212	25, 201 380	18, 751	6,779 126	8, 871 320	16, 809 226
Pasco, Wash	389	764	637	159 125	171	535	501	475	351
Philadelphia, Pa	7, 214	11,002	9, 892	7,800	7, 222	5, 792	2, 731	2,836	2, 902
				05.005	15 000	- 1	10.740	14 191	10 440
Pittsburgh, Pa	48, 340	53, 505	39, 073 6, 933	35, 265	17, 992 2, 308	20, 472	10,742	14, 131	12, 442 1, 388
Pueblo Colo	4, 668 8, 359	53, 505 2, 904 8, 250	6, 665	2, 483 3, 798	3, 812	1, 887 3, 563	1, 042 857	1,076 1,314	1, 429
Richmond, Va		17, 514	25, 004	23, 970	25, 100	16, 167	10, 266	13, 161	16, 185
Pittsburgh, Pa Portland, Oreg Pueblo, Colo Richmond, Va Roanoke, Va				-	-		-		22
	41, 254	27, 206	33, 584	39, 260	43, 380	29, 768	11, 580	15, 961	15, 199
St. Louis. Mo.	3, 577	2, 108	1, 968	930			.		
St. Joseph, Mo St. Louis, Mo St. Paul, Minn San Antonio, Tex Seattle, Wash	10, 091	2, 108 11, 777	9, 959	6, 541	11, 228	10, 488	4, 848	2, 053 9, 212	3, 309
San Antonio, Tex	14, 094	41, 105 20	31, 898	29, 955 420	29, 881 923	24, 573 671	6, 314 292	9, 212	10, 531 <b>413</b>
seattle, wasn		201.		4201	740	0111	202	770	410

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
Sioux City, Iowa Sioux Falls, S. Dak Spokane, Wash Tacoma, Wash	Number. 21, 742 3, 657	16, 717	29, 391 49 7, 125	243	16, 272 253	23, 238 176 2, 535	7, 262 69	7, 954 375	14, 921 320
Toledo, Ohio	14, 472	1, <b>336</b> 178 <b>44,</b> 51 <b>4</b> 17, 146	1, 556 22, 084	396 6, 578	30 1,440	60	43	922 220 17, 936	64
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.

Calen- dar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
1915	97	95	95	88	98	103	94	74	85	111	97	70	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.

	Im	ports of hor	ses.	Ex	ports of hors	es.	Ex	ports of mul	es.
Year ending June 30—	Num- ber.	Value.	Average import price.	Number.	Value.	Average export price.	Number.	Value.	Average export price.
1895-96 1896-97 1897-98 1898-99 1899-1900 -	9, 991	\$662, 591	\$66. 32	25, 126	\$3, 530, 703	\$140. 52	5, 918	\$406, 161	\$68. 63
	6, 998	464, 808	66. 42	39, 532	4, 769, 265	120. 64	7, 473	545, 331	72. 97
	3, 085	414, 899	134. 49	51, 150	6, 176, 569	120. 75	8, 098	664, 789	82. 09
	3, 042	551, 050	181. 15	45, 778	5, 444, 342	118. 93	6, 755	516, 908	76. 52
	3, 102	596, 592	192. 32	64, 722	7, 612, 616	117. 62	43, 369	3, 919, 478	90. 38
1900-1	3, 785	985, 738	260. 43	82, 250	8, 873, 845	107. 89	34, 405	3, 210, 267	93. 31
1901-2	4, 832	1, 577, 234	326. 41	103, 020	10, 048, 046	97. 53	27, 586	2, 692, 298	97. 60
1902-3	4, 999	1, 536, 296	307. 32	34, 007	3, 152, 159	92. 69	4, 294	521, 725	121. 50
1903-4	4, 726	1, 460, 287	308. 99	42, 001	3, 189, 100	75. 93	3, 658	412, 971	112. 90
1904-5	5, 180	1, 591, 083	307. 16	34, 822	3, 175, 259	91. 19	5, 826	645, 464	110. 79
1905-6	6, 021	1, 716, 675	285. 11	40, 087	4, 365, 981	108. 91	7, 167	989, 639	138. 08
1906-7	6, 080	1, 978, 105	325. 35	33, 882	4, 359, 957	128. 68	6, 781	850, 901	125. 48
1907-8	5, 487	1, 604, 392	292. 40	19, 000	2, 612, 587	137. 50	6, 609	996, 667	149. 90
1908-9	7, 084	2, 007, 276	283. 35	21, 616	3, 386, 617	156. 67	3, 432	472, 017	137. 53
1909-10	11, 620	3, 296, 022	283. 65	28, 910	4, 081, 157	141. 17	4, 512	614, 094	136. 10
1910-11	9, 593	2, 692, 074	280. 63	25, 145	3, 845, 253	152. 92	6, 585	1, 970, 051	162. 50
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. 44
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. 97
1920-21	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

# Farm 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.

		Horses.			Mules.	
Jan. 1.	Under 1 year old.	1 and under 2 years.	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
1897	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
	19. 44	28. 67	53, 01	22. 71	32. 87	62. 21
	20. 44	30. 59	57, 63	26. 14	37. 74	69. 66
	22. 02	33. 39	63, 99	27. 01	39. 55	73. 61
	25. 08	39. 21	67, 46	31. 96	47. 73	78. 07
1904 1905 1906 1907 1908	26. 86 28. 05 32. 91 39. 12 (¹)	42. 19 43. 67 51. 36 61. 77	73. 68 76. 30 87. 35 101. 02	34. 39 37. 85 43. 46 51. 35 (1)	51. 73 56. 93 64. 36 74. 73	84. 94 94. 13 106. 04 120. 82 (¹)
1909	(1)	(1)	(1)	(1)	(1)	(1)
	46. 05	72, 63	116, 57	56. 76	84. 53	128, 96
	48. 09	75, 68	120, 04	59. 89	88. 13	135, 11
	45. 75	71, 96	114, 24	56. 12	83. 00	129, 46
	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
	45. 36	70. 62	113. 10	51. 80	76. 46	121. 46
	44. 30	69. 08	111. 34	51. 59	76. 82	123. 55
	45. 17	70. 21	112. 64	53. 98	80. 28	128. 17
	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
	37. 22	58. 88	103. 53	60. 12	90. 48	160. 54
	31. 57	49. 72	90. 70	47. 49	71. 76	126. 39
	26. 32	41. 24	76. 02	35. 18	53. 04	95. 44
	26. 14	41. 61	75. 07	34. 20	51. 54	93. 19
	23. 99	37. 81	69. 30	31. 72	48. 43	91. 60

Division of Crop and Livestock Estimates.

Table 586.—Horses: Farm price per head, 15th of month, United States, 1910-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weight- ed av- erage.
1910 1911 1912 1913	\$140 143 134 140	\$147 144 137 146	\$150 145 140 146	\$154 147 142 148	\$148 146 144 145	\$151 145 145 146	\$148 139 142 143	\$148 141 142 141	\$145 139 141 141	\$144 137 140 138	\$143 136 139 136	\$141 134 139 135	\$146 141 140 142
Av. 1910-1913	139	144	145	148	146	147	143	143	142	140	138	137	142
1914 1915 1916 1917 1917 1918 1919 1920 Av. 1914–1920	137 130 128 129 130 120 118	139 132 129 131 133 121 123 130	138 132 131 133 137 124 127	138 132 133 136 137 127 131	139 133 133 138 136 129 132	136 132 132 137 135 127 130	137 134 133 135 132 127 127 127	135 131 131 132 131 125 124	132 131 131 132 128 119 119	131 129 130 130 126 114 112	130 127 129 129 122 113 103	130 126 129 129 121 113 97	135 130 130 132 130 121 119
1921 1922 1923	96 82 81	98 84 85	101 86 85	100 87 86	98 89 88	98 88 87	94 88 85	93 86 78	89 84 82	85 81 80	82 79 78	81 79 75	92 84 82

Division of Crop and Livestock Estimates.

<sup>1</sup> No data.

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.	Aver- age.
Maine New Hampshire Vermont Massachusetts Rhode Island	Dolls. 124 129	Dolls. 154 111 145 150	Dolls. 156 128 145 150	Dolls. 160 130 130	Dolls. 165 125 140	Dolls. 170	Dolls. 165 150 130	Dolls. 155 150 145	Dolls. 160 140 140 100	Dolls. 162 135 137 125	Dolls. 156 136 140 130	Dolls. 160 130 135 140	Dolls, 157 134 138 132
Connecticut New York New Jersey Pennsylvania Delaware	128 147 124 75	175 132 142 124	132 137 124 92	165 140 133 127 100	168 135 135 124	162 130 138 120	170 125 140 126 103	170 130 138 120	165 133 140 115 90	170 130  110 85	127 150 105 87	150 120 130 100 85	166 130 139 118 90
Maryland Virginia West Virginia North Carolina South Carolina	95 89 107 112 86	100 89 106 112 82	104 91 95 114 82	106 93 100 114 90	100 92 100 118 100	88 104 112 94	89 90 100 110 96	80 85 98 105 92	75 82 95 100 95	72 83 92 105 100	80 80 87 105 100	78 79 82 107 105	89 87 97 110 94
Georgia Florida Ohio Indiana Il!inois	90 125 95 84 85	90 123 106 86 93	98 125 109 87 87	94 132 107 87 89	93 133 105 85 94	91 130 106 84 90	88 120 102 84 92	85 124 101 82 90	85 116 97 78 87	87 110 97 84 85	87 100 95 72 71	90 105 90 73 75	90 120 101 82 86
Michigan Wisconsin Minnesota Iowa Missouri	110 110 88 97 52	120 112 93 100 56	120 114 95 102 60	112 118 98 99 62	111 119 102 105 65	115 113 98 103 63	120 110 94 105 59	110 108 95 100 56	109 112 92 102 57	109 112 90 100 51	105 108 87 95 50	100 104 80 90 50	112 112 93 100 57
North Dakota South Dakota Nebraska Kansas Kentucky	70 71 68 57 76	74 74 75 58 77	73 70 72 58 80	80 75 70 61 75	84 78 75 63 76	80 74 77 63 72	78 75 74 61 72	75 70 72 60 70	70 72 72 72 55 71	66 70 75 53 68	63 65 74 52 65	58 62 72 51 64	73 71 73 58 72
Tennessee Alabama Mississippi Louisiana Texas	83 77 67 66 67	80 80 66 74 61	83 76 70 70 65	85 80 71 74 68	85 84 73 78 70	82 83 77 75 68	80 83 75 72 64	78 84 72 66 63	75 82 70 70 63	72 80 71 74 64	74 80 65 70 66	70 75 64 69 64	79 80 70 72 65
Oklahoma Arkansas Montana Wyoming Colorado	50 59 50 55 60	52 59 55 56 64	52 65 52 60 66	54 62 58 60 70	56 63 65 58 70	54 60 70 62 70	52 60 65 58 65	45 56 60 50 67	48 57 58 48 70	46 58 55 45 66	44 55 57 47 60	43 53 50 46 55	50 59 58 54 65
New Mexico Arizona Utah Nevada	53 100	58 106 72	56 104	60 76 100	65  95	67 70 100	65 65 97	67 98	60 75 90	58 80 85	58 85 90	60 87	61 75 96
Idaho Washington Oregon California	78 97 85 85	74 100 90 95	74 95 84 100	80 90 81 105	95 90 95	87 97 85 94	80 95 90 93	75 97 95 96	70 94 90 97	75 90 87 90	76 90 84 95	70 92 80 96	77 94 87 95
United States	81	85	85	86	88	87	85	78	82	80	78	75	82

Division of Crop and Livestock Estimates.

### LIVESTOCK, ALL CLASSES.

Table 588.—Livestock in undermentioned countries.

Country.	Date.	Cattle.1	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscel- laneous
United States: On farms Not on farms	Jan. 1, 1914 Jan. 1, 1924 Apr. 15, 1910.	Thou- sands. 56, 592 66, 801 1, 879	Thou- sands. 58, 933 65, 301 1, 288 2, 638	Thou- sands. 49, 719 38, 361 391 451	Thou- sands. <sup>2</sup> 2, 915 <sup>3</sup> 3, 459 115 105	Thou- sands. 20, 962 18, 263 3, 183 1, 706	Thou- sands. 4, 449 5, 436 270 378	Thou- sands. 2 106 3 72 17 15	Thou- sands.
Alaska (on farms and not on farms)	Jan. 1, 1920 Jan. 1, 1910 Jan. 1, 1920 Jan. 1, 1920	2, 112 1 (4)	(4)	(4) (4)	(4) (4)	2 1 4		(4) (4)	5 42 5 111
Hawaii (on farms and not on farms) Porto Rico (on	Apr. 15, 1910_ Jan. 1, 1920	149 142	<b>3</b> 1 <b>3</b> 9	77 44	Б	28 24	9 11		
farms and not on farms)	Apr. 15, 1910 Jan. 1, 1920 Jan. 1, 1920	\$16 279 (4)	106 137 <b>4</b>	6 4	49 58	58 57 (1)	5 7	1 1	
Virgin Is- lands— On farms Not on farms	Nov. 1, 1917 Nov. 1, 1917	12	2 (4)	1 (4)	2 (4)	£	2 (4)	(4)	
AlgeriaArgentina	Sept., 1913 1920 6	1, 108 1, 125 25, 867 37, 065	112 7 125 2, 901 1, 437	8, 811 9, 000 43, 225 30, 672	(4) 3, 848 3, 750 4, 325 8 4, 820	216 7 190 8, 324 8 9, 432	193 7 170 565 8 623		
Australia	Dec. 31, 1913	11, 484	801	85, 057	262	2, 522	8	3	9 13
Austria	Dec. 31, 1921 Dec. 31, 1910 Mar., 1923	14, 441 1,10 <i>9, 161</i> 2, 163	960 6, 432 1, 473	82, 226 2, 428 597	241 1, 257 382	2, 438 1, 803 282	4 21		
Azores and Ma- deira Islands Bahamas	1900 1913 1918	89 2 2	93	87 12 14	38 5 6		3	9	
Barbados	1913					2	9		
Basutoland	1921	487		1,369	989	88	4	·	
Bechuanaland Pro- tectorate Belgium	1911 Dec. 31, 1910_ Dec. 31, 1922		1, 139	358 185 11 126	218	230	3	8	 
Belgian Congo Bolivia Bosnia-Herzego- vina	1922 1910 Oct. 10, 1910	500 734	50 114	300 1, 499	468	97	45	1	
Brazil	Nov. 10, 1910. 1912-13 Sept. 1, 1920	1 30, 705	18, 401	10, 550	10, 049	7, 290	3,	208 865	
British Cameron British Guiana	1922 1913 1922	16 12 81 12 74	14	18	14	1	2 2		3

<sup>&</sup>lt;sup>1</sup> Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.

<sup>2</sup> Census 1910.

<sup>3</sup> Census 1920.

<sup>4</sup> Less than 500.

<sup>&</sup>lt;sup>5</sup> Includes 22,000 reindeer and 20,000 work dogs in 1910 and 93,000 reindeer and 18,000 work dogs in 1920.

<sup>Unofficial.
Year 1918.
Census figures for goats, horses, etc., not yet available, so figures for Dec. 31, 1921, are given.
Includes 10,822 camels and 1,908 ostriches in 1913 and 11,738 camels and 780 ostriches in 1921</sup> 

<sup>11</sup> Year 1920
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.

Country.	Date.	Cattle.1	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscel- laneous.
British South West		Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
German South- west Africa)	1913	206	8	555	517	16	14	1	13 1
Bulgaría 14	1922 Dec. 31, 1910.	750 1 2, 018	16 527	1, 350 8, 632	1,459	29 478	12	27 117	18 (4)
Cape Verde Islands (Portuguese)	1920	2, 438 8	1, 118 14	8,906	1, 659 30	<i>418</i>	27 1	161 10	
Canada	1916 June 30, 1913_	6, 656	17 3, 448	2, 129		2, 866	1		
Cayman Islands (British)	June 15, 1923.	9, <b>24</b> 6	4, 405 1	2, 754	(4) (4)	3, 531 (4) (4)			
Ceylon	1922 1913 1922	1 1 1, 484 1 1, 500	86 50	90 56	<b>20</b> 3	(4)	(4)		
Chile	1913 1919	2, 084 2, 163	184 292	4, 567 4, 500	288 460	489 392	<b>3</b> 4 51	30 36	15 42
Colombia	1914 1916 1916	21, 997 15, 973 4, 832	76, 819 44, 711 1, 139	22, 186 22, 232 246		4, 934 4, 401 858	324	4, 394 3, 660 168	
Costa Rica	1914 1922	336 477	64 114	(4) 1	1	52 . 95	. 2 6	(4)	
Croatia-Slavonia	Mar. 24, 1911.	1 1, 135	1, 164	850	96	350		3	<b></b>
Cuba	Dec. 31, 1913_ 1921	3, 141 4, 771		<b></b>		6 <b>2</b> 5 859	46 72		
Cyprus	Mar. 31, 1913.	61	40	256	253		69		13 1
Czechoslovakia Denmark	1922 Dec. 31, 1920_ July 15, 1914_ July 15, 1923 <sup>17</sup>	47 4, 377 2, 463 2, 537	14 18 2, 053 2, 497 2, 853	281 986 515 374	230 1, 221 41 42	<b>59</b> 1 <b>57</b> 6	10	44	18 1
Dominican Republic (Santo Domingo)	May 15, 1921_1903	647	674		706	163	65		
Dutch East Indies:	1922					î			
Java and Madura	1915	1 5, 784 1 5, 060	97	842	1, 421	<b>5</b> 04 273			<b>-</b>
Outer posses-	1915 1921	712 1 1,874	805	113	533	323 18 429			
Dutch West Indies: Curação and de pend en-	1913	3	4	12	46	1	(4)	4	
cies Dutch Guiana	1922	3	4	24	73	(4)	8	4	
or Surinam Egypt <sup>18</sup>	Dec. 31, 1913 Dec. 31, 1922 1914	8 13 1 1, 169	5 4	(1) (1) 816	3 3 331	(*) 40	(1) (1) 22	1 632	13 118
Esthonia	SeptOct., 1922 1913 19	<sup>1</sup> 1, 201 451	212	942 420	1	161	21	614	13 131
Eritrea (Italian)	1913	527 517	272	745	585	199 2 2	9	34 47	13 <u>51</u> 13 68
Falkland Islands	1922	553	(4)		701	2	10	47	10.08
(British)	1913 1922	8	(4)	698 667		4			

Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1), otherwise the figures are for cattle only.
 Less than 500.
 Camels.

 <sup>13</sup> 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 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 Animals belonging to British Army excluded.
 19 Preliminary estimate for numbers within present boundaries in 1913.

Table 588.—Livestock in undermentioned countries—Continued.

Country.	Date.	Cattle.1	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscel- laneous
Faroe Islands (Danish)	1914 1919	Thou- sands.	Thou- sands. (1)	Thou- sands. 112 69	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Fiji Islands (British).20	1913 1 <b>92</b> 2	49 59	2 2	3 1	14 17		7 8		
Finland	Sept., 1910	1,605	422	1, 330	11	366			21 127
France	1921 Dec. 31, 1913 10	1,792 14,788	7, 036	1, 572 16, 131	1, 435	293 3, 222	188	356	24 53
French Cameron	Dec. 31, 1922 1922	13, 576 290	5, 196	9, 782 298	1, 368	2, 778 15	186	291	
French Equatorial Africa (French Congo)	1922	750		1, 1	126	46		45	
French Establish-		,		10	04				
ments in India	1913 1922	1 51 1 85		13 26 (4)	24 30 (4)	( <sup>4</sup> )		(4)	
French Guiana French Indo-China	1916	14,616	2, 663 742	2	45	70 137			
French West Af-	1921	1 3, 099	192	2	10	107			
rica: Ivory Coast	1922 1922	56 102	17 43	111 86	164 105	1			<b></b>
Dahomey French Guinea Upper Volta	1922 1922	389 372	3	91 545	96 427	3 32		1 64	
Mauritania	1921	219		2, 1	106				13 38
Niger	1922	563		527	676	44 30		79 43	13 32 13 4
Senegal French Sudan_	1922 1922	427 1, 025	22 28	215 2, 030	259 1, 592	44	22 2	82 22 1	22
Germany	Dec. 1, 1913 10 Oct. 1, 1923	20, 994 16, 653	25, 659 17, 226	5, 521 6, 094	3, 548 4, 659	22,233,651	22 26	22 5	
Gold Coast (British)	1913 1921	50	11		50 52	2 3	(3)	8 9	
Grenada (British)	1911 1918	5			5	2		1	
Greece	1914 10	1 325	227	3, 547	2, 638	149	80	133	<b>-</b>
	1920	1 668	416	5, 811	3, 418	201	36	4	<b>-</b>
GuadelopeGuatemala	1923 1913	26 557	51 188	12 514	17 11	8 64	4 33	4	
Honduras, Repub-	July, 1922	319	96	185	17	86			
lic of	1913-14 1918	489 466	180	5	23	68	20	4	
Hongkong (Brit-	1913	1		(4) (4)	(4) (4)	(1)			
Hungary	1922 Apr. 30, 1913 10	16, 207	6, 825 <b>2, 473</b>	6,560	269	2,005	<u>î</u>	16	
Iceland	Apr. —, 1922. 1913.	1,828 27	2, 473	1, 352 635	1	717 47			
India (British)	1921 1913–14 1920–21	24 1 143,179 1 145,103		554 23, 081 22, 075	30, 694 24, 294	49 1, 644 1, 697	79 76	1, 5 <b>98</b> 1, 371	13 492 13 410
India (Native States)	1920-21	1 14, 046	1 :		326	176	18		13 54
,	1920-21	1 33, 398		12, 499	6, 276 2, 715	501	6	332	
Italy	Mar. 19, 1908. Apr. 6, 1918	1 6, 218 1 6, 264	2,339	11, 163 11, 754	3.083	1 <i>990</i>	<b>38</b> 8 497	850 949	
Jamaica	1913 1922	11 <del>6</del> 141	31	10	22 17	53 24 50		17	

 $<sup>^1</sup>$  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.

<sup>10</sup> Former boundaries.
18 Camels.

<sup>Animals owned by Europeans.
Number of reindeer in 1921.
Data for preceding year.
Army horses excluded. A coording to the Ministry for National Defense they numbered 40,289 in 1922.
Year 1917.</sup> 

Table 588.—Livestock in undermentioned countries—Continued.

Country.	Date	Cattle.1	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscel- laneous.
Japan	Dec. 31, 1913	Thou- sands. 1, 389	Thou- sands.	Thou-sands.	Thou- sands.	Thou- sands. 1,582	Thou- sands.	Thou- sands.	Thou- sands.
Chosen (Korea)	Dec. 31, 1913 Dec. 31, 1921 Dec. 31, 1913 Dec. 31, 1920	1, 437 1, 211	499 761	(4)	10	1, 511 51	1	13	
Formosa (Taiwan)	Dec. 31, 1920 Dec. 31, 1913	1, 490 1	977 1, 322	(4)	21 129	(4)	2	10	25 418
	Dec. 31, 1921	3	1, 281	(4) (5)	102	(*) (*)			25 419
Karafuto (Japan-	Dec. 31, 1913 Dec. 30, 1920	1 2	1 2			2 5			
Kwangtung (leased Province of Ja- pan): Within the									
leased pro-			20		.,,		10	27	
vince Outside the	Dec. 31, 1913 Dec. 31, 1921	31 33	60 90	(4)	12 8	2 4	12 15	28 28	
leased pro- vince	Dec. 31, 1913	(4)	6	(4)	(4) (4)	1 2	1	(4)	
Kenya Colony and Protectorate (British East	Dec. 31, 1921	1	0	-			1		
Àfrica)	Mar. 31, 1913 _ Mar., 1922	780 2,814	20 16	6, 500 2, 464	4, 020 3, 369	$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	2	36	13 120
Latvia	1913 19	912	557 484	996 1, 461	104	320 338			<b></b>
Lithuania	Aug., 1923 1913 <sup>19</sup>	899 671	403	514	17	323 440			
Luxemburg	Dec. 1, 1913 Dec. 31, 1922	950 102	1, 500 137	750 5	10	19 17			
Madagascar	1915	6, 606	.666	299		- 3			
Malta	1922 Mar. 31, 1913_ Mar. 31, 1922_	8, 500 4 6	400 4 6	175 15 25	14 32	22 3 3 3	3 4	3	
Mauritius 26	1913	. 22	. 8	1	22 6	1	(4)	.(4)	
	1922	17	. 4	2	7		1		
Mexico	June 30, 1902_ 1921	5, 142 2, 304	616 1,913	3, 424 27 <b>29</b> 3	4, 206 27 1, 254	859 635		288 168	
French Morocco	1915	676	16	3, 175	1,062	1	23	226	13 59
Mozambique (Por- tuguese East	1922	1, 558	78	6, 319	2, 060	150	61	449	13 100
Africa)	1913	25 38	15 24	10 10					
Netherlands	June, 1913 May – June,	2,097	1,350	842	232	334			
Newfoundland	1921 1911 1921	2, 063 52 28	1, 519 19 14	668 75 86	15	364 13 16			
New Zealand	Apr., 1911 Jan. 31, 1923	2,020 3,481	349 401	25, 996 28 23, 081	6 17	404 331	(4 (4	) )	
Nigeria (British) Norway <sup>29</sup>	1921 Dec. 31, 1907 Dec. 31, 1920	2, 824 1, 022 1, 095	158	1, 909 990 957	222	174 162 216		484	13 4
Nyasaland Protectorate	Mar. 31, 1913_ Mar. 31, 1921_	63 11 <b>4</b>	22			(4)	(4)		
Palestine Panama	1922 1916	1 22 110 200	1	262		22 7	22 4	22 33	13 22 18

Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by note (1); otherwise the figures are for cattle only.
 Less than 500.
 Camels.

Preliminary estimate for numbers within present boundaries in 1913.
 Animals owned by Europeans.
 Data for preceding year.
 Zebus.

<sup>&</sup>lt;sup>26</sup> Zedus.

<sup>26</sup> Animals on sugar estates only.

<sup>27</sup> In addition there were 216,400 designated as "sheep and goats."

<sup>28</sup> Apr. 30, 1923.

<sup>29</sup> 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.

Country.	Date.	Cattle.1	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Misce laneou
Papua (Territory		Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou sands
of British)	1913 1921	2 2	(4)	(4) (4)	1 1	(4) (4)		(4)	
Paraguay	1915 Dec. 31, 1918.	5, 249 5, 500	87	600 600	87 93	478 490		18	
Peru Philippine Islands.	Apr. 1, 1923 Dec. 31, 1913 _	1, 293 418		11, 034 104	73, 866 529				15 2, 20 80 1, 0
	1920	761	3, 639	196	822	20	39		80 1, 40
Poland 19	Summer, 1913 Sept. 30, 1921	1,953 7,895	455 5, 171	614 2, 178	9	1, 067 3, 201			
Portugal	Oct., 1906 Mar , 1920	703 741	1, 111 921	3, 073 3, 851	1,034 1,493	88		144	
Rhodesia	1912	855	20 2	22 300	22 602		22 20		 
	Dec. 31, 1922_	1,801	20.22	317	20 21	20 3	20 2	20 9	
Rumania	1910-11 81	1 3, 185	1, 496	6, 611	213	1, 256	4		
	1922	1 5, 933	3, 147	12, 321	552	1,802	3	10	
Russia: European, in- cluding Ukraine and					*.				-
Northern Caucasia	1913 <sup>19</sup>	30, 736 27, 747	11, 569 6, 722	42, 400 32, 476	1, 163 758	22, 437 14, 351			
Asiatic	1913 <sup>19</sup> 1922 <sup>82</sup>	15, 609 7, 278	2, 037 1, 038	33, 237 9, 314	4, 442 1, 745	10, 239			
Salvador	1906	284	423	21	<u>1</u>	74			
St. Helena (British)	1911	1 1	(4) (4)	<i>3</i>	1	(*) (*)	(4)	1	
St. Lucia (British)	1914 1922 Dec. 31, 1910					i	<u>1</u>		
Serbia Shetland Islands Seychelles Islands	Dec. 31, 1910 1919	1 964 14	(4) 866	3, 819 141	631	158 5			
(British)	1913	1	6	(4) (4)	(4) (4)	(4) (4)		····(4)	
Siam	Mar. 31, 1913 Mar. 31, 1923	1 4, 501 1 6, 137	749 22 864			81 156			33
Sierra Leone (Brit- ish)	1910	2 21	(4)	1		(4)			
Somaliland (Ital-			1 000	1		11			13 2, 10
ian)	Feb. 1, 1920 1913 1922	1, 246 2, 879 3, 297	1,666 2,710 4,229	16, 441 19, 377	3, 394 3, 971	542 594	948 1, 069	849 1,014	13
Straits Settlements and Labuan	1913 1919	46 67	158 267			2 2			
Swaziland (British)	1913	73	9	. 17	0	1	(4)	2	
Sweden	1922 Estimated	225	9	38	123	1	(4)	. 3	
OW ORDER	average, 1913-14	3, 069	1, 023	1, 205	119	660			
Switzerland	1920 Apr. 21, 1911	2, 736 1, 443	1,011 570 640	1, 568 161 245	113 341 330	728 144 134	3 4	<u>2</u>	
Syria	Apr. 21, 1921 1922	1, 425 293	040	1,092		104			13 3

<sup>&</sup>lt;sup>1</sup> Buffaloes are included with cattle for countries giving estimates for buffaloes. These are indicated by \*\*Humanes are included with cattle for countries giving estimates for surnote (1); otherwise the figures are for cattle only.

\*\*Less than 500.

\*\*Less than 500.

\*\*Liamas and alpacas.

\*\*Preliminary estimate for numbers within present boundaries in 1913.

\*\*Animals owned by Europeans.

\*\*Data for preceding year.

\*\*Corrections\*\*

<sup>&</sup>lt;sup>30</sup> Carabao.
<sup>31</sup> 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,

<sup>4,000.</sup>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.

Blephants.

Table 588.—Livestock in undermentioned countries—Continued.

Country.	Date.	Cattle.1	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.	Miscel- laneous.
Tanganyika Territory (former German E as t		Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Africa)	1911 1921	1, 489 3, 147		2, 793 3, 405		(4)	(4)	11	
Trinidad and To- bago	Mar. 31, 1913.		8 9	2 3	(4)	_	4		
Tunis	Dec. 31, 1913 1922	217 482			505 1,002	37 75			
Turkey, European and Asiatic	1907 and 190934 1919 6			27, 106 11, 200					
Turks and Caicos Islands	1913 1919		(4) (4)	(4) (4)		(4) (4)			
Uganda Protecto- rate	May 31, 1914_ 1922	775 920		537 267		(4) (4)	(1)	(4)	
Union of South Af- rica	Dec. 31, 1911_ Apr. 30, 1922 85	5, 797 8, 919				719 9 <b>2</b> 3	94 115	<i>337</i> 743	
United Kingdom: England and			0.100	15 100		1 400			
Wales	June 4, 1913 June 4, 1923	5, 717 5, 823	2, 102 2, 612 132	13, 836					
Scotland	June 4, 1913 June 4, 1923	1, 247 1, 190 4, 933	185	6,763		203		243	
Ireland	June 4, 1913 June 4, 1922 1908	5, 157 8, 193		3, 567	250	544	26	232	
Venezuela	Apr. 20, 1916		304	11, 473	12	555	14	3 313	
Yugoslavia	1912 1920 1922	36 2, 778 4, 090	512	113	2, 155	168		200 86	
Grand total: 37 Pre-war		536, 823	259, 492	<sup>38</sup> 588,939	<sup>38</sup> 125,163	40115,968	40 115,968	<sup>42</sup> 12,634	
Recent		579,923	221, 967	<sup>39</sup> 499,579	<sup>39</sup> 99, 727	1 97, 572	41,43 11,500	41,48 11,902	<b>-</b>

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 avail-Census returns are in italics, other returns are in roman.

<sup>1</sup> 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.

13 Camels. 34 Comprised of the 1907 estimate for European Turkey and the 1909 estimate for Asiatic Turkey

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.

muies, 1,015; asses, 125,200.

\*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 mate. Figures for Czechoslovakia and Yugoslavia are included in the total of recent estimates, 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.

48 219,000 designated as "horses, mules, and asses" and "horses and mules" included with horses.

49 178,000 designated as "horses, mules, and asses" and "horses and mules" included with horses.

40 3,428,000 designated as "mules and asses" included with mules.

49 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.

\$40	On hand, Jan. 1.				Production.				
Calendar year.	All poultry.		Chickens.		Chickens.		Chicken eggs.		
	Number	Value.	Number.	Value.	Number.	Value.	Dozens.	Value.	
1919 (census) 1920 1921 1922 1923 1924	Thou-sands.  1 372, 825 370, 600 423, 400 439, 900 491, 600	Thousand dollars.  1 373, 394  376, 781	Thou-sands.  1 359, 537 357, 700 408, 600 424, 800 474, 500	Thousand dollars.  1 349, 509 319, 415 330, 015 316, 940 351, 202	Thou-sands. 473, 302 474, 700 549, 700 579, 000 654, 200	Thousand dollars. 386, 240 412, 734 392, 334 378, 450 420, 481	Thou- sands 1, 654, 045 1, 647, 043 1, 888, 318 1, 970, 755 2, 196, 194	Thousand dollars. 676, 137 725, 188 552, 616 509, 592 598, 961	

TABLE 590.—Poultry: In undermentioned countries.1

	•			,			
Социяту.	Date.	Chick- ens.	Tur- keys.	Ducks.	Geese.	Guinea fowls, pigeons, and un- desig- nated poultry.	Total.
		Thou-	Thou-	Thou-	Thou-	Thou-	Theu-
United States:		sands.	sands.	sands.	sands.	sands.	sands.
Continental United States	Apr. 15, 1910 Jan. 1, 1920	280,341 359,537	5, 689 8, 627	2,907 2,818	4, 432 2, 939	3, 904	295, 865 372, 825
	Jan. 1, 1921	357, 700	9,027	2,010	2, 303	3,304	370, 600
	Jan. 1, 1922	408,600					423, 400
,	Jan. 1, 1923 Jan. 1, 1924	424, 800 474, 500				·	439, 900 491, 600
Alaska	Apr. 15, 1910	5		(2)	(2)		491,000
	Jan. 1, 1920	5		(2) (2)	(2) (2) (2) (2) (2)	(2)	6
Hawaii	Apr. 15, 1910 Jan. 1, 1920	64	2 2	26	(2)	4	96
Porto Rico	Apr. 15, 1910	599		9	1	#6	669
	Jan. 1, 1920	599	14	i 8	2	57	678
Samoa, American	Jan. 1, 1920	13		(2) 518	1, 771	1 960	26, 672
Austriá	1900 Dec. 31, 1910	23, 114		647	1,990	1, 269 1, 601	35, 981
	1922	31,743 37,000					8 7, 000
Bulgaria	Dec. 31, 1900	4,045	200	134	373		4,752 656
Costa Rica Canada	1914 Mar. 31, 1901	656 16,651	585	291	396		17,923
· · · · · · · · · · · · · · · · · · ·	June 1, 1911	29,773	863	527	630		31,793
	June 15, 1918	31, 335	1,062	884	879		34, 160 34, 205
	June 15, 1919 June 15, 1920	31, 786 28, 287	839 806	777 651	903 762		30, 506
	June 15, 1921	34, 340	1, 200	762	880		37, 182
	June 15, 1922	39, 928	1,590	958	947		43, 423
Denmark	July 15, 1923 July 15, 1903	41, 356 11, 555	2, 105	1,046	961		45, 468 11, 555
Value and the second se	July 15, 1909	11,816		792	119		12, 727
	July 15, 1914 July 15, 1918	15, 140 9, 784	49	1,022	162		16, 373 9, 784
	July 15, 1919 July 15, 1919	12, 134					12, 134
	July 15, 1920	4 14, 395					4 14, 395
	July 15, 1921 July 15, 1922	4 17, 803 4 19, 184					4 17, 803 4 19, 184
	July 15, 1922	1 20, 990	4.51	4 793	4 283		21, 127
Finland	Sept. 1, 1920	869				10	. 879
French Indo-China	1921	55, 396				18, 982 9, 057	18, 982 64, 453
Germany 5	Dec. 1, 1900	66, 905				10, 198	77, 103
	Dec. 1, 1912	73, 374				9, 328	77, 103 82, 702
	Dec. 1, 1900 Dec. 1, 1907 Dec. 1, 1912 Dec. 1, 1916 Dec. 1, 1919 Dec. 1, 1920 Dec. 1, 1921 Dec. 1, 1921 Dec. 1, 1922	73, 374 58, 953 44, 282		9 999	4, 406	6, 225	65, 178 51, 022
•	Dec. 1, 1920	53, 057		2, 332 2, 371 2, 016	5, 525		60.953
	Dec. 1, 1921	60, 165		2,018	5, 579		67, 760
Greece	Dec. 1, 1922	58, 145		1,668	5, 392	3, 794	65, 205 3, 794
GTeoce	1918					4, 453	4, 453
	1920					5, 073	5, 073
Japanese Empire:	1910	20, 412		375			20, 787
Japan	1911	20, 412		405			21, 054
.	1912	20, 255		371			20, 626
	191 <b>3</b>	19, 533 19, 152		337 333			19, 870 19, 485
İ	1914	20, 246		335			20, 581
	1916	22, 846		372			23, 218
1	1917 1918	26, 060 25, 092		390 374			26, 450 25, 466
· .	1919	25, 027		406			25, 433
	1929	24.994		410			25, 404
3	1921	27, 731	I <b>,</b> 4	496		Il	28, 227

<sup>&</sup>lt;sup>1</sup> Census returns in italies; other returns in roman. No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Poland, Roumania, Serbia, Tunis, Uruguay and

Brazii, Chili, Chilia, France, Hungary, India, Italy, Poland, Moumania, Serbia, Tunis, Oruguay and Venezuela.

<sup>2</sup> Less than 500.

<sup>3</sup> Estimate of Doctor Thalmayer of the Austrian Department of Agriculture.

<sup>4</sup> Includes South Jutland where the number of chickens amounted to 408,000 in 1922; 618,000 in 1921;

795,000 in 1922 and 900,000 in 1923; turkeys 3,000; ducks 14,000; geese 13,000.

<sup>5</sup> New boundaries for 1919 and subsequent years. The number of poultry for present boundaries in 1913 was 71,879,656.

Table 590.—Poultry: In undermentioned countries1—Continued.

Country.	Date.	Chick- ens.	Tur- keys.	Ducks.	Geese.	Guinea fowls, pigeons, and un- desig- nated poultry.	Total.
Japanese Empire—Continued.		Thou- sands.	Thou- sands.		Thou- sands.	Thou- sands.	Thou- sands.
Chosen (Korea)	1910					2, 796	<b>2, 79</b> 3
	1911					3, 421	3,421
	1912 1913					3, 932 4, 194	3, 932 4, 191
•	1914					4, 110	4, 117
	1915					4, 278	4, 273
	1915 1916					4, 400	4, 400
·	1917					4,567	4, 567
:	1918 1919					4, 913 4, 998	4, 913 4, 993
	1919					5, 972	5, 972
Karafuto	1910	8		(2)	(2)		8
	1911	12		(2)			12
	1912	12			(2)		12
•	1913	17		(2)	(2)		17
	1914	13 14		(2)	(2)		13 14
	1915 1916	21		2	2		21
·	1917	24		(2)	(2)		24
	1918	23		(2)	(2)		23
	1919	25		(2)	(2)		25
	1920	30		(²)	(²)		39
Kenya Colony (British East Africa	1920					29	29
Protectorate)	1921					34	31
	1922					34	31
Luxemburg	Dec. 31, 1922	428					428
Netherlands	May-June 1904	4,935 9,778					4, 935
	May-June 1910	9,778					9, 778 9, 661
New Zealand	May-June 1921	2,784	77	282		<i>L</i>	3, 191
New Zealand	1906 1911	3, 215	98	329	44 45 47	6	3,693
	Jan. 31, 1916	3.141	57	221	47	2	3, 468
	Jan. 31, 1921 Sept. 30, 19076.	3, 492 1, 391	73	380	46		3,991
Norway	Sept. 30, 19076.	1,391	3	8	10 12		1, 412 1, 883
	Sept. 30, 1917 6_	1,860 1,668	5 3	6 4	5		1,680
	Jan. 1, 1918 June 20, 1918 6.	1,000				1,676	1,676
	June 20, 1918					1,736	1,736
Rhodesia 7	Dec. 31, 1921					159	159
	Dec. 31, 1922					133	133
Russia, European including Ukraine and Northern Caucasia	1920	63,773	309	1,801	. 4, 829		70,712
Russia, Asiatic	1920	12,979	86	927	2, 419		16, 411
Spain	1091					25, 103	25, 103
Sweden	June 1, 1917	6, 035	5	23	17		6, 030
and the second s	June 1, 1918	4,775	4.	15	18 21		4, 812 4, 871
	June 1, 1919	4,829	* *	17			2, 405
Switzerland	1918	2, 386 3,247		1:			3, <b>2</b> 96
m. A (A t - At - A	Apr. 21, 1921	0,241				35, 063	35, 063
Turkey (Asiatic) Union of South Africa	1909	9,381	269	612	272		10, 534
O mon or bourn Allica	May 5, 1918	8, 436	495	271	218		9, 420
*	1911 May 5, 1918 Apr 30, 1919 8 Apr. 30, 1920 8	7,811	262	303	386		8, 762
	Apr. 30, 1920 8	7, 138	181	318	210		7,817
	Apr. 30, 1921	9, 419 7, 513	236 244	357 349	216 193		10, 228 8, 299
United Kingdom:	Apr. 30, 1922 9	1,010	244	949	190		0, 200
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 28, 169
~	June 4, 1921	24,816	445	2, 391	517		28, 169
Scotland	June 4, 1913	4,054	57 70	209 240	21 23		4, 341 4, 51)
	June 4, 1921 June 4, 1922	4, 216 4, 276		240	23		4, 603
Conque returns in italies, other	June 4, 1922			ilahla fe		Af	ngtralia

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.

⁵ Rural communities only.

¹ Owned by Europeans only.

⁵ 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.

estimates. The numbers thus added were as follows, in thousands: Chickens, 2,943, tutkeys, 18, ducks. 82; geese, 18.

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.
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 countries1—Continued.

Country.	Date.	Chick- ens.	Tur- keys.	Ducks.	Geese.	Guinea fowls, pigeons, and un- desig- nated poultry.	Total.
United Kingdom—Continued. Ireland 11	June 4, 1909 June 4, 1910 June 4, 1911 June 4, 1912 June 4, 1913 June 4, 1914 June 4, 1915 June 4, 1916 June 4, 1917 June 4, 1918 June 4, 1918 June 3, 1921	Thou- sands.	Thou-sands.	Thou-sands.	Thou-sands.	Thou-sands. 24, 105 24, 339 25, 448 25, 526 25, 701 26, 919 26, 089 26, 473 22, 245 24, 424 15, 175	Thou-sands. 24, 105 24, 339 25, 448 25, 526 25, 701 26, 919 26, 089 26, 473 22, 245 24, 424 15, 175

Division of Statistical and Historical Research.

Table 591.—Poultry, dressed: Monthly receipts at four markets, 1920-1923.

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	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
Boston:	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1920	3, 934			1,037	1,464		1,858			2,628			
1921	3, 377		1.465			2,086	1, 499	2, 437	2,482			9, 791	39, 921
1922	4, 175	2,765						2, 198				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:				12									
1920	11, 217	7, 557	3, 928		5, 480	5, 292	6, 129	4, 428	6, 273	8, 053	17, 651	23, 718	101,093
	11, 441						5, 314	8,992	10, 277	11,887	21,182	27,208	124, 551
	10, 783					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
Philadelphia:	i '					·							
1920	1,553	1,881	1,906	918		1, 286	1,019	1, 215	1,044	1,588		5, 382	21,606
1921	1,498	1,071	1,411	1,005		1,565	1, 226	1,419	1,587	2,020			22, 892
1922	1,947	1,790	1,077	664		1,304		1, 217	1, 237	1, 356			
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:	( )	1 1			, i			, i	1				
1920	6,646	2, 687	980	816	1,512	2, 369	2,379	2,659	3, 370	4,001	10, 752	19, 153	57, 324
1921	6, 343		2,794	2, 104	2, 421	2, 524		2,615	3,804	4, 157	15, 723	17,082	64, 992
1922	5, 345					3, 597	3, 590	4, 250	4, 290	4, 178	13, 167	23, 320	73, 661
1923	11, 497				2,912	3, 329	3,679	4,018	4,724	5, 411	15, 163	27,743	90, 273
Total four mar-	,	-,	-,		.,	,		1	· 1				
kets:									1	- 1			
1920	23, 350	13, 874	8, 411	4, 138	9, 922	11, 168	11.385	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
1099	22 250	14 50G	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
1020	10, 120	, 000	-0, 102	,00	,	_ = = , _ = = =	, 000		,	,	,	,	, , , , , , , ,

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.	June 1.	July 1.	Aug. 1.	Sept.1.	Oct. 1.	Nov.1.	Dec. 1.
1	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
1917	32, 184	35, 601	27, 796	25, 988	67, 242	64, 286	60, 194	54, 132	56, 093	46, 737		
1918	108, 722	119, 675	56, 950 109, 627	92, 897	26, 523 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	<b>30,</b> 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 1923	103, 697	121, 632	88, 709 113, 503	94, 872	74, 562	57, 274	49, 100	41, 250	34, 131	33, 142	40, 363	63, 274

<sup>&</sup>lt;sup>1</sup> 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

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 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.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Canada	35	2				30					40 207	13	
Chicago	153	76	196	70				111	97	117		107	
Illinois	3, 073	1,650	1, 159		1,376	1, 483	1, 269	1, 498	1, 266	2, 229	2,592		22, 027
Indiana	1,031	379	361	225				427	567	836	890	694	
lowa	1,417	741	393	136				337	428	563	1,360	1, 222	
Kansas	355	95	286	141		87	104	38	• 77	97	465	340	
Kentucky	47	44	23	62	95					20	753	265	
Maine	47	49	14	5		20	. 20	28		143	299	118	
Maryland	8	2	1						1	7	37	3	
Massachusetts	16	6	6	11	42	19	15	23	24	31	48	116	357
Michigan	103	46		1		3			3	52	122	160	
Minnesota	327	88	50		2					121	654	977	
Missouri	100	54	48	43	79	125	53	42	36	40		250	
Montana											49	45	
Nebraska	89	81	93	26	29	52		3	5	22	174	67	
New Hampshire	5	2	2		1		1	2	1	8		7	47
New York	87	201	88		22	96		12	28	29	470		
New York City	39	3	27	58	47	71	24	78	49	2	2	72	
North Dakota	. 1	2	1		<b> </b>						171	119	
Ohio	189	97	14	3	58	65	44	37	36	49	319	230	
Oklahoma	68	116	80	131	88						229		
Pennsylvania			2	1	l	36	1		1	1	3	2	
Philadelphia				$\tilde{2}$	21								23
South Dakota		1									25	91	
Tennessee											35	4	
Vermont	8	4	i		6				5	9	94	22	149
Wisconsin	27	3	1	1	l	32		19		1	29	180	
Other States	462	44	36	1	44				3	40	1, 453	2, 440	4, 588

## NEW YORK.

							,						
Arkansas	87								22	50	124	43	32€
California	8	6	210	209	96	122	104	128	2	2	169	5	1, 061
Canada	6	164	141	209	90	122	50			2	19	149	532
	13	104	2			1	30	3	3	5	12	16	64
Delaware	13	0	_ Z	1		1	3	3	1	J	12	10	15
Georgia	0	0 77 Z	0.004	0.701			2 007	2 151	3, 072	4, 443	6, 470	7, 336	
Illinois	5, 779	3,775	2, 334		2,769	3, 280	3, 097	3, 151	3, 072	4, 440	0, 470	1, 330	
Indiana	2, 488	1,376		651		893		1, 242	1,071	1,758	1, 840	1, 934	
Iowa	4, 105	2,001	510	430		611	696		566	2, 148	3, 268	4, 543	
Kansas	2,011	1,607	1,522	588		1,034		974	1,076	1,812	1,961	1,009	
Kentucky	296	196	346			553			326		580	601	
Maryland	130	32	12	6		11	31	54	30	46	191	281	
Massachusetts	10	10	16			58			38	87	92	22	632
Michigan	150	20	96			142			80	254	309	325	1, 683
Minnesota	817	546	224	100		145			398	548	1, 402	1,532	6, 382
Missouri	2, 135	659	507	400	335	614	896		1,349	1, 817		2,677	14, 630
Nebraska	216	262	195	267	58	84	142	112	134	449	476	641	
New Jersey	470	234	73	17	34	28	22	37	32	105		274	
New York		198	434	254	394	414	254	224	75	280	161	172	3, 06:
North Carolina		3		2	1	1	27	11			1	2	54
North Dakota	22	7	2	_							364	374	769
Ohio	694		40	52	124	99	271	213	222	611	675	887	4, 13
Oklahoma	186		268	141		45			153	203	693	482	
Oregon	100	1.5	31	111	1	10	37	25	100		31	28	15
Pennsylvania	107	62	44	46	102	83			102	66		161	1, 08
South Dakota	276		**	40	102	00	78		89	114		334	
	211	151	209	249	181	187			363	490		282	
Tennessee	1,006		140			48				100	3, 115	2, 349	
Texas	1,000	402	140	45		40	40	1 33	22		157	2, 548	20
Utah				2		61		284	205	263		248	
Virginia	124			2	42 6					203	4/1	46	
Washington		32	61		6	20				3	10	10	
West Virginia	2				l	2		4					
Wisconsin	149			1	4				222	365		354	
Other States	10	3	28	4		3	3	34			126	148	359
					1		1	1		1			

TABLE 593 .- Poultry, dressed: Receipts at five markets, by States of origin, 1923-Continued.

### PHILADELPHIA.

1,000   1,00		1			l				<u> </u>	1	1	1	1	1
Pelaware	State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Tot
Pelaware		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000		1,000	1,000	1,000	1,0
Illinois.		lbs.							lbs.	lbs.	lbs.			lbs
Illinois	Delaware									2				1
Indiana	llinois	734	769	653	506	426	459		616					
143   118   40   4		184	53	115	93	155	171	138	141	117	175	268	152	1.7
Chicago   Chic		143	118	40	4		17	47	110	87	66	230	262	1.
Centucky			50		10	45								
Aryland											-			
fichigan   1	Maryland						12				28			
finnesota			1	"	۰		10			10			100	
fissouri.   166			100							100			716	
Chrasks														
Indiana   Indi			54					Ð			1			
Table   Tabl						65			14	20				
Second   S	lew Jersey													
Second   S			3					28	81		2		97	
Nico	Iorth Carolina	3		3	3	2	2		!	46		3	4	
hio	orth Dakota	1	4	1	l							.56	588	
Rishoma		55	. 67	18	20	8	73	52	29	23	48	171	256	
ennsylvania	klahoma	43		76	18			40	108		39	118	4	
outh Dakota         1         2         1         2         3         2			59	60			80	82	69	81	182	152	255	1.
ennessee						"	-	-	"	-				-,
CHICAGO   19   19   19   19   19   19   19   1						9								
Inginia	ennessee		ء .	l º		10								٠.
Vest Virginia	exas						120	101		107				
CHICAGO   CHIC	ırgınıa													
CHICAGO.    Chicago   Chic	Vest Virginia				54	49								
CHICAGO.	Visconsin	93	2	3				24	111	22	32			. 4
labama		1						1				1 1		
anada														
olorado				2										
eorgia         25          1           40           laho         2, 142         1, 199         1, 097         815         1, 204         976         1, 164         1, 492         1, 454         1, 260         2, 027         2, 676         17, 121         1, 150         60         56         34         43         52         43         79         143         2, 202         2, 676         17, 123         69         50         56         34         43         52         43         79         143         2, 202         18, 252         181         32         18         980         1744         675         1, 021         1, 137         2, 599         5, 202         18, 32         32         11, 13         361         511         561         608         3, 38         38         801         744         675         1, 021         1, 137         2, 599         5, 202         18, 32         44         40         40         40         42         257         81         48         41         148         41         148         41         148         41         128         41         128         41         128         41         128	rkansas		52	2 52		43				25	5			;
Section   Sect	rkansasanada.			52		43				25	5	13	54	;
Illiness	rkansas anadaolorado	25		52		43				25	5	13	54	,
Ilinois	rkansas anada olorado eorgia	25		52		43				25 1	5	13	54 73	,
1	rkansas anada olorado eorgia	25 25	3	52 1	64	43 5	25	13	5	i		13 3	54 73 40	
wa	rkansas anada olorado eorgia laho	25 25	3	52 1	64	43 5	25	13	1, 492	i		13 3 2,027	73 40 2,676	17,
ansas	rkansas anada olorado eorgia laho	25 25 2, 142	3 1, 190	52 1 1,097	64 815	43 5  1, 204	25  976	13  1, 164	1, 492	1, 454	1, 260	13 3 2,027	73 40 2,676	17,
entucky	rkansas anada olorado eorgia laho linois	25 25 2, 142 115	3 1, 199 96	52 1 1,097 47	64  815 50	43 5  1, 204 60	25  976 56	13  1, 164 34	1, 492 43	1, 454 52	1, 260 43	2, 027 79	73 40 2,676 143	17,
Clichigan         40         44         26         3         18         9         9         11         29         18         41         28           finnesota         1, 462         944         392         365         207         107         277         248         240         531         1, 832         4, 189         10, 189         11, 189         10, 189         11, 189         10, 189         11, 189         10	rkansas anada olorado eorgia laho linois ndiana	25 25 2, 142 115 3, 372	3 1, 199 96 1, 124	1,097 47 860	815 50 462	43 5  1, 204 60 639	25 976 56 801	13  1, 164 34 744	1, 492 43 675	1, 454 52 1, 021	1, 260 43 1, 137	2, 027 79 2, 599	73 40 2, 676 143 5, 220	17, 18,
finnesota.         1, 462         944         392         365         207         107         277         248         240         531         1, 382         4, 15910, 251           fississippi         11         6         9         9         8         9         2         4         15         5         8         8         15         5         8         1, 15         5         8         1, 15         1, 30         6         6         6         22         1, 115         1, 308         6         6         6         23         1, 115         1, 308         6         6         6         6         21         1, 115         1, 308         6         6         6         6         20         1, 115         1, 308         6         6         6         6         7         29         5         60         92         222         532         1         2         6         41         20         66         66         22         6         28         28         28         1         28         28         1         1         2         28         1         15         2, 901         3, 865         7, 7         29         1         14	rkansas anada. olorado. eorgia. daho. linois. odiana. bwa. ansas.	25 25 2, 142 115 3, 372 617	3 1, 199 96 1, 124 171	1,097 47 860 123	815 50 462 69	43 5  1, 204 60 639 25	25 976 56 801 217	13  1, 164 34 744 169	1, 492 43 675 170	1, 454 52 1, 021 361	1, 260 43 1, 137 511	2,027 79 2,599 561	73 40 2, 676 143 5, 220 608	17, 4 18, 6 3, 6
fississippi         11         6         9         8         9         2         4         15         5         8         8         8           fissionit         787         190         202         184         228         338         337         354         566         623         1,115         1,308         6,5           fontana         11         31         3         2         32         70         5         60         92         292         532         1,049         1,15         8         8         8         1,049         1,15         1,08         6,04         1,115         1,08         6,04         1,115         1,086         6,04         1,115         1,08         6,04         1,049         1,115         1,08         6,04         1,049         1,115         1,08         6,04         1,049         1,115         1,08         6,04         1,08         1,04         1,049         1,115         2,08         6,04         2,08         1,08         7,08         1,08         6,04         2,08         7,08         1,08         7,08         1,08         7,08         1,08         7,08         1,08         7,08         1,08         7,08         1,08 <td>rkansas anada olorado eorgia laho linois ddiana wa ansas entucky</td> <td>25 25 2, 142 115 3, 372 617 104</td> <td>3, 190 96 1, 124 171 78</td> <td>1,097 47 860 123 174</td> <td>815 50 462 69 94</td> <td>43 5  1, 204 60 639 25 72</td> <td>976 56 801 217 41</td> <td>13  1, 164 34 744 169 82</td> <td>1, 492 43 675 170 64</td> <td>1, 454 52 1, 021 361 42</td> <td>1, 260 43 1, 137 511 57</td> <td>2, 027 79 2, 599 561 81</td> <td>73 40 2, 676 143 5, 220 608 48</td> <td>17, 5 18, 6 3, 6</td>	rkansas anada olorado eorgia laho linois ddiana wa ansas entucky	25 25 2, 142 115 3, 372 617 104	3, 190 96 1, 124 171 78	1,097 47 860 123 174	815 50 462 69 94	43 5  1, 204 60 639 25 72	976 56 801 217 41	13  1, 164 34 744 169 82	1, 492 43 675 170 64	1, 454 52 1, 021 361 42	1, 260 43 1, 137 511 57	2, 027 79 2, 599 561 81	73 40 2, 676 143 5, 220 608 48	17, 5 18, 6 3, 6
tissouri.         787         190         202         184         228         338         337         354         565         623         1, 15         1, 308         6, 101           fontana         11         31         3         2         32         70         5         60         92         292         532         1, 049           few Jersey         1         1         2         26         41         20         66         56         22         5          57         39         1         2         26         41         20         66         56         22         5          57         7         231         19         23         1         2         26         41         20         66         56         22         5           14         1         2          19         2         3           14         1         2           19         2         3                      <	rkansas anada olorado eorgia laho linois diana wa ansas entucky tichigan	25 25 2, 142 115 3, 372 617 104 40	1, 190 96 1, 124 171 78 44	52 1,097 47 860 123 174 26	64  815 50 462 69 94	1, 204 60 639 25 72	976 56 801 217 41 9	13  1, 164 34 744 169 82 9	1, 492 43 675 170 64	1, 454 52 1, 021 361 42 29	1, 260 43 1, 137 511 57	2,027 79 2,599 561 81 41	73 40 2, 676 143 5, 220 608 48 28	17, 18, 3,
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	rkansas anada anada olorado eorgia laho linois diana wa ansas entucky lichigan linnesota	25 25 2, 142 115 3, 372 617 104 40 1, 462	1, 190 96 1, 124 171 78 44 944	52 1,097 47 860 123 174 26 392	64 	1, 204 60 639 25 72 18 207	25 976 56 801 217 41 9 107	13  1, 164 34 744 169 82 9	1, 492 43 675 170 64	1, 454 52 1, 021 361 42 29 240	1, 260 43 1, 137 511 57 18 531	2,027 79 2,599 561 81 41	54 73 40 2, 676 143 5, 220 608 48 28 4, 159	17, 18, 3,
lebraska         469         115         113         31         2         32         70         5         60         92         292         532         1, 28           lew Jersey         1         1         2         26         41         29         66         56         22         5         56         57         39         1         2         26         41         29         66         56         22         5         56         57         56         57         57         39         1         2         23         10         7         14         15         2,901         3,865         7         38         1         1         23         7         23         10         7         14         15         2,901         3,865         7         3         1         29         2         6         1         2         1         4         4         4         4         4         4         4         1         2         2         6         1         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         10	rkansas anada. olorado. eorgia laho linois ndiana. wa ansas entucky lichigan linesota. linesota.	25 25 2, 142 115 3, 372 617 104 40 1, 462 11	1, 190 96 1, 124 171 78 44 944 6	1,097 47 860 123 174 26 392 9	815 50 462 69 94 3 365	1, 204 60 639 25 72 18 207 8	25  976 56 801 217 41 9 107	13  1, 164 34 744 169 82 9 277 2	1, 492 43 675 170 64 11 248	1, 454 52 1, 021 361 42 29 240 15	1, 260 43 1, 137 511 57 18 531 5	2,027 79 2,599 561 81 41 1,832	54 73 40 2, 676 143 5, 220 608 48 28 4, 159 8	17, 18, 3,
Few York	rkanssa anada olorado eorgia laho linois ndiana ansas entucky tichigan tinnesota tississippi tissouri	25 2, 142 115 3, 372 617 104 40 1, 462 11 787	1, 190 96 1, 124 171 78 44 944 9190	1,097 47 860 123 174 26 392 9	815 50 462 69 94 3 365	1, 204 60 639 25 72 18 207 8	25  976 56 801 217 41 9 107	13  1, 164 34 744 169 82 9 277 2	1, 492 43 675 170 64 11 248	1, 454 52 1, 021 361 42 29 240 15	1, 260 43 1, 137 511 57 18 531 5	3  2,027 79 2,599 561 81 41 1,832 8 1,115	73 40 2, 676 143 5, 220 608 48 28 4, 159 8 1, 308	17, 18, 3, 10,
few York         57         39         1         2         26         41         20         66         56         22         5	rkansas anada olorado eorgia iaho linois ndiana wa ansas entucky fichigan finnesota fississippi fissouri fontana	25 25 2115 3, 372 617 1040 1, 462 11 787 11	1, 190 96 1, 124 171 78 44 944 946 190	52 1,097 47 860 123 174 26 392 9 202 3	64  815 50 462 69 94 3 365 9	43 5 1, 204 60 639 25 72 18 207 8 228	25 976 56 801 217 41 97 107 9	13  1, 164 34 744 169 82 9 277 277 337	1, 492 43 675 170 64 11 248 4 354	1, 454 52; 1, 021 361 42; 240 240 565	1, 250 43 1, 137 511 57 18 531 5 623	2,027 79 2,599 561 81 41 1,832 8 1,115 406	54 73 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049	17, 8 18, 6 3, 6 10, 6
Orth Dakota         304         231         194         23         7         23         10         7         14         15         2,901         3,865         7,3           ennsylvania         14         1         2         19         2         3         1         29         19         2         3         1         4         4         4         4         4         4         109         70         112         139         201         312         280         454         2.9           suth Dakota         434         242         230         64         38         128         85         121         117         164         751         2,135         104         30         104 <td>rkansas anada. olorado. eorgia. laho linois diana. wa ansas. entucky lichigan. linsissisppi lississippi lississippi lissouri lontana.</td> <td>25 25 2115 3, 372 617 1040 1, 462 11 787 11</td> <td>1, 190 96 1, 124 171 78 44 944 946 190</td> <td>52 1,097 47 860 123 174 26 392 9 202 3</td> <td>64  815 50 462 69 94 3 365 9</td> <td>43 5 1, 204 60 639 25 72 18 207 8 228</td> <td>25 976 56 801 217 41 97 107 9</td> <td>13  1, 164 34 744 169 82 9 277 277 337</td> <td>1, 492 43 675 170 64 11 248 4 354</td> <td>1, 454 52; 1, 021 361 42; 240 240 565</td> <td>1, 250 43 1, 137 511 57 18 531 5 623</td> <td>13  2,027 79 2,599 561 81 11,832 8 1,115 406 292</td> <td>54 73 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049</td> <td>17, 8 18, 6 3, 6 10, 6</td>	rkansas anada. olorado. eorgia. laho linois diana. wa ansas. entucky lichigan. linsissisppi lississippi lississippi lissouri lontana.	25 25 2115 3, 372 617 1040 1, 462 11 787 11	1, 190 96 1, 124 171 78 44 944 946 190	52 1,097 47 860 123 174 26 392 9 202 3	64  815 50 462 69 94 3 365 9	43 5 1, 204 60 639 25 72 18 207 8 228	25 976 56 801 217 41 97 107 9	13  1, 164 34 744 169 82 9 277 277 337	1, 492 43 675 170 64 11 248 4 354	1, 454 52; 1, 021 361 42; 240 240 565	1, 250 43 1, 137 511 57 18 531 5 623	13  2,027 79 2,599 561 81 11,832 8 1,115 406 292	54 73 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049	17, 8 18, 6 3, 6 10, 6
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	rkansas anada. olorado. eorgia laho linois diana wwa ansas entucky fichigan finnesota fississippi fississippi fisotana eobraska	25 	1, 190 1, 190 1, 124 171 78 44 944 6 190 31 115	52 1,097 47 860 123 174 26 392 9 202 3	64 	43 5 1, 204 60 639 25 72 18 207 8 228	25  976 56 801 217 41 9 107 9 338	13  1, 164 34 744 169 82 9 277 2 337	1, 4922 43 675 170 64 11 248 4 354	1, 454 1, 452 1, 021 361 42 29 240 15 565	1, 260 1, 137 511 57 18 531 5 623	13  2,027 79 2,599 561 81 11,832 8 1,115 406 292	54 73 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049	17, 4 18, 6 3, 6 10, 6
ennsylvania 14 1 2 19 2 3 110 110 110 110 110 110 110 110 110 1	labama rkansas anada olorado ecorgia da laho dinnas diana www. All control di la contr	25 	1, 190 96 1, 124 171 78 44 944 944 6 190 31 115	52 1,097 47 860 123 174 26 392 9 202 3 113 1	64 	43 5 1, 204 60 635 72 18 207 8 228 228	25  976 56 801 217 41 9 9 107 9 338	13  1, 164 34 744 169 82 9 277 2 337	1, 4922 43 675 170 64 11 248 4 354	1, 454 52 1, 021 361 422 290 240 15 565	1, 260° 43 1, 137° 511 57° 188 531 5 623° 92	13 	54 73 40 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049 532	17, 4 18, 6 3, 6 10, 6, 1
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	rkansas anada. olorado. eorgia jaho linois ndiana. wa ansas entucky fichigan finnesota. fississippi fissouri fontana lebraska. ew Jersey.	25 	1, 190 96 1, 124 171 78 44 944 944 6 190 31 115	52 1,097 47 860 123 174 26 392 9 202 3 113 1	64 	43 5 1, 204 60 635 72 18 207 8 228 228	25  976 56 801 217 41 9 9 107 9 338	13  1, 164 34 744 169 82 9 277 2 337	1, 4922 43 675 170 64 11 248 4 354	1, 454 52 1, 021 361 422 290 240 15 565	1, 260° 43 1, 137° 511 57° 188 531 5 623° 92	13 	54 73 40 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049 532	17, 4 18, 6 3, 6 10, 6, 1
klahoma     336     116     54     34     109     70     112     139     201     312     280     454     24       outh Dakota     434     242     230     64     38     128     85     121     117     164     751     2,135     4       appressee     13     52     104     86     59     17     76     132     92     39     110     30	rkansas anada. olorado. eorgia. daho. llinois. ndiana. wa. cansas. centucky. dichigan. disnissippi. dissouri. dontana. lebraska. lew Jersey. ew York. orth Dakota.	25 	3, 190 96 1, 124 171 78 44 944 6 190 31 115	52 1,097 47 860 123 174 26 392 9 202 3 113 1	64 	1, 204 60 635 72 18 207 88 228 228	25  976 56 801 217 41 9 9 107 9 338	13  1, 164 34 744 169 82 9 277 2 337	5 1, 492 43 675 170 64 11 248 354 5	1, 454 52 1, 021 361 422 290 240 15 565	1, 260° 43 1, 137° 511 57° 188 531 5 623° 92	13 	54 73 40 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049 532	17, 4 18, 6 3, 6 10, 6, 1
outh Dakota 434 242 230 64 38 128 85 121 117 164 751 2,135 4,	rkansas anada olorado eorgia laho linois ndiana wa ansas entucky fichigan finnesota fississippi fissouri fontana ebraska ew Jersey low York orth Dakota ennsylvania	25 2, 142 115 3, 372 617 104 40 1, 462 11 787 111 469	3 1, 190 96 1, 124 171 78 44 944 6 190 31 115	52 1,097 47 860 123 174 26 392 9 202 3 113 1	64 815 50 462 69 94 3365 9 184 31	1, 204 60 635 72 18 207 88 228 228	25  976 56 801 217 41 9 9 107 9 338	13  1, 164 34 744 169 82 9 277 2 337	5 1, 4922 43 675 170 64 111 248 4 354 5 66 7	1, 454 52 1, 021 361 422 290 240 15 565	1, 260° 43 1, 137° 511 57° 188 531 5 623° 92	13 	54 73 40 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 049 532	17, 4 18, 6 3, 6 10, 6, 1
ennessee 13 52 104 86 59 17 76 132 92 39 110 30	rkansas anada olorado eorgia laho linois diana wa anasas entucky fichigan fichigan fississippi fissouri fontana ebraska ew Jersey owth Dakota ennsylvania	25 	3, 190, 96 96 1, 124 171, 78 44 94 6 190, 31 115 39 231 14	52 1,097 47 860 123 174 26 39 202 3 113 1 1 194	64 	43 5 1, 204 639 25 72 18 207 8 2228 2 26 7	25 976 56 801 217 41 9 107 9 338 32 41 23	13 1, 164 34 744 169 82 9 277 2 337 70	1, 4922 43 675 170 64 111 248 4 354 5 666 7 19 9	1, 454 522 1, 021 361 422 299 240 15 565 60 2	1, 260 43 1, 137 511 57 18 53 623 92 222 15	13 	73 40 2, 676 5, 220 608 48 4, 159 8 1, 308 1, 308 1, 049 532 3, 865	17, 4 18, 6 3, 6 10, 5 6, 2 1, 8
	rkansas anada olorado eorgia laho linois ddiana owa ansas entucky fichigan finnesota fississippi fissouri fontana ebraska ew Jersey ew York orth Dakota emsylvania hio klahoma	25 	3, 190 96 1, 124 177 78 44 944 6 190 31 115 	52 1,097 47 860 123 174 26 392 9 202 3 113 1 194	815. 500 462 69 94 3 365 9 184 31	43 5 1, 204 60 639 25 72 18 207 8 228 228 2 2 2 1 204 1 109	25 976 56 801 217 41 9 107 9 338 32 41 23	13 1,164 34 744 169 82 9 277 2 337 70 20 10	1, 492 43 675 170 64 111 248 4 354 5 66 7 19 6 6 139	1, 454 522 1, 021 361 422 299 240 15 565 60 2	1, 260 43 1, 137 511 57 18 531 5 623 92 222 15 3	13 2,027 79 2,599 561 81 41 1,832 8 1,115 406 292 28 5 2,901	54 40 2, 673 143 5, 220 608 48 28 4, 159 8 1, 308 1, 308 1, 308 3, 865	17, 8 18, 6 3, 6 10, 5 1, 8 7, 8
	rkansas anada. olorado eorgia daho llinois ndiana wa ansas entucky fichigan finesota finesota finesota finesota footado ew York orth Dakota ennsylvania lhio klahoma ewth Dakota	25 2, 142 115 3, 372 617 104 462 11 787 11 469 	3 1, 190 96 1, 124 171 78 44 944 6 190 115 231 14 1 116 242	52 1,097 47 860 123 174 26 392 9 202 3 113 1 194 	64 	1, 204 60 639 25 72 18 207 8 228 228 26 199 38	25 976 56 801 217 41 9 107 9 388 32 41 23 70 128	13 	1, 492 43 675 170 64 11 248 354 5 66 139 6 131	1, 454 52 1, 021 361 422 290 15 565 60 56 14 2	1, 260 43 1, 137 511 57 18 531 531 623 92 22 22 15 3	13 2, 027 79 2, 599 561 81 1, 832 81, 115 406 298 5 2, 901 1 280 751	54 73 40 2, 676 143 5, 220 608 48 28 4, 159 1, 308 1, 308 1, 049 532 3, 865	18, 6 3, 6 10, 7 6, 2 1, 5

## SAN FRANCISCO.

21 56

434 13 348 801 242 52 33 433

367

South Dakota..... Tennessee ..... Texas\_\_\_\_\_\_\_Wisconsin\_\_\_\_\_\_\_ Wisconsin\_\_\_\_\_\_\_\_Other States\_\_\_\_\_

449 378 574

·8

39 30

CaliforniaIdaho	685	612	83	44	57	99 24		48	32	45 1	51	1, 361 135	
Illinois Kansas Nevada	80		24	56	37 86	30	66	36 24	27	28 25		132	255 349 175
Oregon Washington Other States	24 29 24		21	1 36 <b>2</b> 6		58 30		18 8	16 40	17 32	39 <b>23</b>	28 42 71	278 339 121

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

Table 594.—Poultry (live): International trade, calendar years, 1909-1922.1

Country.	Average,	1909–1913	19	20	19	21		22, ninary.
· ·	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.  Austria-Hungary	Thou- sands. 2, 453	Thou- sands. 4, 114	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Austria-Hungary*CanadaChinaFinland	8, 435 15 15 17	16, 617 (2) 2, 462 30	141 14 (³)	705 3, 291	249 36 (³)	857 3, 871 (³)	418 31	609 3, 743
Italy* Netherlands	2, 010 (4)	9, 606	6 3	724	786 24	2, 185 129	3, 967 63	2, 575 339
PRINCIPAL IMPORTING COUNTRIES.			,					
Belgium* Denmark	1, 797 26	685 2	82 1	10 2	763 2	383 (³)	1, 296	1, 442
France*Germany:	8, 967	795	2, 771	110	11, 345	118	17, 504	294
GeeseOther poultry*Switzerland*United Kingdom	8, 111 29, 829 1, 382 877	32 278 28 50	237 18 398 2	3 9 2 5	293 159 1,144 61	1 55 4 8	54 339 879 224	1 76 4 14
Total reported in num- ber Total reported in	11, 514	6, 690	. 398	. 4, 028	665	4, 866	790	4, 706
pounds *	52, 420	28, 009	3, 275	855	14, 197	2, 745	23, 985	4, 391

Division of Statistical and Historical Research. Official sources.

Table 595.—Poultry (dead): International trade, calendar years, 1909-1922.

	<u> </u>	÷	<u> </u>		<u> </u>		1 ,,	
Country.	Average,	1909–1913.	19	20	19	21		22, inary.
outing.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORT- ING COUNTRIES.  Austria-Hungary	1,000 pounds. 371	1,000 pounds. 9,854	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
Belgium China Finland France Italy Netherlands	232 (1) 373 2, 920 288 (1)	1, 649 1, 211 1, 162 12, 296 6, 019	169 (1) 86 1,442 28 4	8 6, 155 756 3, 610 1, 484 181	149 (¹) 1,997 957 37	89 1,644 876 5,334 2,335 502	3, 659 1, 029 44	290 1, 989 797 6, 627 3, 786 933
PRINCIPAL IMPORT- ING COUNTRIES.								
Austria	76		1, 541 350	109	3, 012	288		
Denmark Germany Norway	1, 765 18, 875 63	10 535	7 451 21	41 36	418 2 46 24	25 251 2	65	69
Sweden Switzerland United Kingdom	349 8, 319 10, 994	12 13 127	102 3,546 8,125	4 1 91	227 4, 196 8, 818	4 2 185	4, 245 18, 676	4 272
Total 15 countries	44, 625	32, 888	15, 872	12, 476	19, 882	11, 337	27, 871	14, 767

Division of Statistical and Historical Research. Official sources.

<sup>1</sup> Items carrying an asterisk (\*) in the stub were reported in pounds and are shown in thousands of peunds.

<sup>2</sup> Expressed only in value.

<sup>3</sup> Less than 500.

<sup>4</sup> Not separately stated.

<sup>1</sup> Not separately stated

<sup>&</sup>lt;sup>2</sup> Eight months, May-December.

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.	Мау.	June.	Weighted average.
1910-11 1911-12 1912-13 1913-14	Cents. 12. 2 11. 2 11. 2 13. 0	Cents. 12. 0 11. 2 11. 3 12. 8	Cents. 11. 8 11. 0 11. 4 12. 7	Cents. 11. 4 10. 6 11. 4 13. 0	Cents. 11. 0 10. 0 11. 0 11. 4	Cents. 10. 6 9. 7 10. 8 11. 3	Cents. 10. 6 10. 0 10. 8 11. 5	Cents. 10. 6 10. 4 11. 0 12. 0	Cents. 10. 7 10. 6 11. 4 12. 4	Cents. 10. 9 11. 0 11. 7 13. 0	Cents. 11. 0 11. 1 11. 9 12. 7	Cents. 11. 1 11. 0 12. 0 13. 1	Cents. 11. 0 10. 4 11. 2 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 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	13. 4 12. 2 14. 1 17. 4 23. 2 26. 8 28. 4	13. 1 12. 2 14. 1 16. 7 23. 4 26. 1 26. 6	12. 8 12. 0 14. 2 18. 4 23. 6 25. 0 26. 9	12. 0 11. 8 14. 4 18. 5 22. 2 23. 3 24. 6	11. 1 11. 5 13. 9 17. 0 21. 7 22. 0 22. 9	10. 7 11. 2 13. 6 17. 5 22. 4 22. 0 20. 7	10. 9 11. 5 14. 1 18. 4 22. 1 23. 3 21. 7	11. 3 12. 1 15. 1 20. 3 21. 8 25. 7 22. 3	11. 7 12. 5 15. 7 20. 2 23. 4 26. 9 22. 8	11. 9 13. 1 17. 3 20. 7 25. 7 28. 4 22. 2	12. 0 13. 6 17. 5 20. 6 26. 7 28. 0 21. 8	12. 2 14. 0 17. 7 21. 3 26. 4 27. 4 21. 5	11. 5 12. 0 14. 6 18. 4 23. 0 24. 2 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 1922-23 1923-24	21. 7 20. 7 20. 6	21. 4 18. 9 19. 8	20. 2 18. 6 19. 7	19. 1 18. 1 19. 0	18. 6 17. 2 17. 7	18. 2 17. 2 16. 6	18. 9 17. 3	19. 0 18. 6	19. 4 18. 8	20. 0 19. 4	20. 2 20. 1	20. 6 20. 3	19. <b>3</b> 18. 2

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.
1912-13 1913-14 1914-15 1915-16 1916-17 1917-18	Cents. 13. 6 14. 6 14. 1 13. 7 17. 0 20. 0	Cents. 14. 4 15. 2 14. 1 14. 8 18. 6 21. 0	Cents. 14. 8 15. 5 14. 5 15. 5 19. 6 23. 0	Cents. 14. 9 15. 5 14. 5 15. 6 19. 5 22. 9	1918-19 1919-20 1920-21 1921-22 1922-23 1923-24	Cents. 23. 9 26. 6 30. 0 25. 7 25. 1 26. 6	Cents. 25. 7 28. 3 31. 8 28. 2 29. 5 27. 9	Cents. 27. 0 31. 1 33. 1 32. 5 32. 3 24. 5	Cents. 27. 3 32. 0 33. 0 30. 7 29. 7

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.	Мау.	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
Boston:	cases.	cases.	cases.		cases.	cases.	cases.	cases.		cases.	cases	cases	cases.
1917	56	75	171	252	318	193	113	.87	84	80	43	30	1, 502
1918		59	192	309	305	171	133	119	91	96	46	52	1,604
1919		116	184	327	235	189	148	128	80	97	48	40	1,659
1920		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:					1				1				
1917	143	139	405	747	738	565	395	337	333	284	169	102	4,357
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	6, 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:	- 1	ĺ		1	· 1	- 1	ı	1	1	ĺ	- 1		,
1918			112	164	190	164	147	107	102	112	63	56	1, 217
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	113	192	316	273	142	126	124	108	76.	. 60	64	1,703
1923	104	111	179	187	278	196	131	128	141	110	74	88	1,727

Table 598.—Eggs: Monthly receipts, at five markets, 1917-1923—Continued.

Market, and calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	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.	
1917	118	86	376	927	1, 200	897	626	450	361	295	193	150	5, 679
1918	108	29		1, 027	926	733	56 <del>4</del>	460	338	240	124	86	5, 050
1919	101	253		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	856	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	76	94	91	92	. 79	52	45	35	37	28	37	716
1918	53	81	80	93	83	71	51	39	34	27	26	29	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	100	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, 1923.

		gys.	10000		BOST			y Su	ates o	y or o	,,,,,	ozo.	
State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases.	1,000 cases
Chicago	13	14	13	1	3		2			2	2	1	5
Illinois	28	39	103	137	168	101	55	61	38	43	12	. 10	798
Indiana	6	9	21	47	66	27	13	9	13	10	7	5 4	233 146
Iowa	3 9	7 9	19 24	19 4	32	15	11	13 2	9	8 2	6	5	6
Kansas	9	8	9.	9	13	14	11	10	10	11	9	9	122
Massachusetts	2	i	ľí	i	1	- 12	12	ľi	ľĭ	1	4	6	2
Michigan		ī	ī	7	1 7	6	6	5	5	3	ī	1	4:
Michigan 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 Hampshire	6	4	6	5	4	4	3	2	2	3	3	2	44
New York	2	1	1	2	4	4	2 5	2 6	2 5	3	5 3	4 2	32 87
Ohio	3 3	3	6 3	17 3	20	13 5	3	3	2	3	2	2	36
Vermont Wisconsin	1	0	1 0	•	2	3	3	l i	î	ı	-	_	12
Other States	2	2	9	12	11	3	2	3	-	3	3	3	53
Other Buttes				1.2		۰	_	ľ		"		Ů	"
California	26	53	94	- 27	35	14	31	36	31	21	33	29	430
California Delaware	3	4	9	9	9	7	5	5	31	8	2	4	63
Illinois	63	75	184	196	210	160	115	95	78	74	50	42	1,342
Indiana	18	23	63	88	115	87	47	47	33	27	15	12	578
Iowa	240	20	54	108	193	151	124	95	67	60	24	18	934
Kansas	18	31	52	25	21	16	12	19	13	19	6	10	242
Kentucky	8	10	29	22	16	6	2	2	2	2	2	3.	104
Maryland	7	8	18	18	18	11,	16	7	6	- 6 I	.4	•	124 12
Massachusetts	2 3	3	7	12	1 25	20	8	1 8	8	7	3	3	107
Michigan	6	5	12	26	58	38	38	26	24	18	9	4	264
Minnesota Missouri	39	40	98	51	60	23	21	26	25	31	21	18	453
Nebraska	3	4	16	2	ğ	4	ī	8	3	2	ī	2	55
New Jersey	16	14	24	27	30	20	14	12	10	8	8	16	199
New York	37	34	55	90	135	87	58	39	31	25	23	31	645
Ohio	14	18	43	67	87	75	30	29	28	24	7	. 8	436
Oregon	2	4	4	3		2	1	7	2	1	6	3	35
Pennsylvania	14	16	25	35	36	28	24	19	14	. 9	7	11	238 23
		29	1	2	34	- 4 5	2	. 4	3	2 3	7	10	249 249
			78	44		. 5	*	2		9	'	10	
Tennessee	30												
Tennessee	2.	7	22	6	4							4	41 20
Tennessee Texas Utah	<b>2</b> .	7	22 2	1	2	2	2	2	1 2	$\frac{1}{2}$	1 2	4 3	20 20 99
Tennessee Texas Utah Virginia	2. 1 8	7 1 7	22 2 24	1 21		5	4	2 3 22	1 2 16	2			20
Tennessee Texas Utah Virginia Washington	2. 1 8 37 2	7 1 7 38	22 2	1	2 18	5 14 5		3	2 16 7	16 7	28 28 2	29 1	20 99 271 54
South DakotaTennessee	2. 1 8 37	7 1 7	22 2 24 23	21 20	2 18 14	5 14	4 22	3 22	2 16	2 16	28	20 20	20 99 271

Table 599.—Eggs: 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	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	cases.	C68€8		cases.		cases.	cases.		cases.	cases	cases.	cases.	cases.
Delaware	3	4	9	9	9	5	4	2	2	2	2	2	53
Illinois		15	19	20	57	25	33	22	29	24	19	21	312
Indiana		6	10	16	27	20	11	12	. 9	. 6	2	2	125
Iowa		2	4	10	11	11	6	8	14	7	5	1	80
Kansas	7	17	18	1	2	6	2	4	8	2	1	3	70
Kentucky		1	2	1	2	1	1						8
Maryland	4	5	11	11	13	5	5	3	2	2	2	3	66
Michigan			4	16	50	32	16	18	16	10	ī	"	163
Minnesota	1	2	6	8	6	8	5	10	l ii	îž.	4	2	75
Missouri	20	9	11	9	. 6	16	12	13	18	12	5	17	148
Nebraska	2	10	11	3	4	i		-	2	1 7	ĭ	l îi	36
New York			ī	ĭ	2	3	1	2	2	l â	8	l ŝ	35
Ohio	4	4	5	14	24	15	7	1 7	9	7	2	2	100
Pennsylvania	12	16	24	25	25	19	12	10	6	8	7	10	174
South Dakota	1-	10	ī	2	~ĭ	2	2	3	i	3	1	10	16
Tennessee	1	3	7	6	6	1	_		1 1			1	25
Texas	i	1	7	2	۰	-						1	11
Virginia	7	9	18	23	20	19	12	9	7	8	6	11	149
West Virginia		2	4	3	3	2	12	ľ	2	2	1	2	26
Wisconsin		1 1	1.	2	7	3	2	4	4	2	5	2	34
Other States	2	2	8	4	2	3	2	*	4	2.	9	2	34 20

### CHICAGO.

	i	1		1	1	[	1	1	1	1	1	ī	
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			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	l	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	288	23	21	14	10	12	359
North Dakota	l		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
Tennessee	1	1	2	4	1	l				- 1	1		11
Texas	4	2	27	10	4	l	l				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
				:	1		1						

### SAN FRANCISCO.

California Idaho	63	60	94	96	85 1	89 2	66 1	57 1	49 1	54	53	59	825 6
Oregon Washington	2			1	1	1	1	2	2 2	2 2	1	1 2	13 10
3						-	-	_	_	_	1		

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.
1946 1917 1918 1919 1920 1921 1922 1923	1,000 cases. 1,508 920 1,300 740 1,542 408 889 1,311	1,000 cases. 458 149 200 130 342 43 179 213	1,000 cases. 35 7 20 26 29 43 13	1,600 cascs. 264 190 344 320 122 1,926 950 453	1,900 cases. 2,327 2,105 2,957 3,278 2,135 4,999 4,648 3,737	1,000 cases. 4, 593 4, 922 5, 499 6, 098 5, 143 6, 844 8, 056 7, 890	1,000 cases. 5,574 6,617 6,554 7,659 6,747 7,534 9,811 10,222	1,000 cases. 6,060 6,895 6,568 7,850 6,872 7,605 10,161 10,509	1,000 cases. 5, 609 6, 436 6, 265 7, 685 6, 372 7, 210 9, 608 9, 883	1,000 cases. 4,868 5,837 5,369 6,858 5,295 6,289 7,924 8,737	1,000 cases. 3,985 4,638 3,812 5,087 3,838 4,380 5,726 6,645	1,000 cases. 2, 146 2, 948 2, 071 3, 341 1, 824 2, 403 3, 257 4, 028

Division of Statistical and Historical Research.

Table 601.—Eggs in the shell: International trade, 1909-1922.

				Calend	ar years.			
Country.	Averag 191	e, 1909– 3.	19	920	19	021		22, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.  Argentina Austria Austria-Hungary China Denmark Finland Italy Netherlands United States	1,000 dozens. 2,351 91,561 270 2,243 2,899 4,104 19,542 21,701	1,000 dozens. 177, 163 25, 542 34, 340 33, 482 29, 360 12, 108	1,000 dozens. (1) 3,866 183 95 (1) 39 61 1,709	1,000 dozens. 1,883 53,892 45,517 346 651 26,842	1,000 dozens. 5,417 139 86 (1) 316 1,047 3,063	1,000 dozens 6,358 98,393 54,007 871 392 9,738 33,291	1,000 dozens. 234 682 2,534 1,392 1,019	1,000 dozens, 3,557  98,498 60,840 324 13,363 13,087 34,620
PRINCIPAL IMPORTING COUNTRIES.  Belgium Canada Cuba France Germany Japan Norway Sweden Switzerland United Kingdom	19, 148 6, 341 4, 732 37, 215 228, 279 6, 867 387 4, 207 19, 747 190, 015	11, 521 148 8, 920 675 4 3, 781 48	521 6, 516 9, 925 11, 370 2, 452 23, 534 4, 519 2, 190 7, 950 70, 598	60 6, 323 1, 216 100 3 823 (¹)	4, 394 6, 583 11, 847 3 1, 422 53, 277 4, 089 2, 647 14, 685 105, 305	137 5, 444 1, 451 3 913 2 989 (1) 28	9, 473 8, 141 26, 711 194 4, 521 2, 519 14, 633 136, 617	1, 179 3, 619 6, 588 1, 069
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.

Table 602.—Eggs not in the shell: International trade, calendar years, 1909-1922.

Country.	Average 1	1909-1913.	19	)20	19	921	prelim	22, inary.
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. China	1,000 pounds.	1,000 pounds. 17,217	1,000 pounds.	1,000 pounds. 99,442	1,000 pounds.	1,000 pounds. 64,545	1,000 pounds.	1,000 pounds. 94,455
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary Denmark France Germany Italy Netherlands Sweden	1, 100 526 1, 967 11, 214 381	188 1 6 426 3, 225 4	629 3,740 5,707 1,839 2,050 251	1 19 412 258 89	291 2, 037 2 6, 105 202 3, 014	9 26 2 556 27 486	3, 860 9, 717 1, 056 487	15 1, 362 6 796
United Kingdom United States	(5)	(5)	45, 284 38, 134	445 ( <sup>6</sup> )	42, 609 22, 537	453 (9)	41, 863 24, 809	718
Total ten countries	15, 443	21, 066	97, 634	100, 666	<b>7€, 79</b> 5	66, 102	81, 792	97, 352

Division of Statistical and Historical Research. Official sources.

<sup>1</sup> Less than 500 dozen.

<sup>2</sup> One year only.

<sup>3</sup> Eight months, May-December.

<sup>&</sup>lt;sup>1</sup> Three-year average. <sup>2</sup> Eight months, May-December.

<sup>&</sup>lt;sup>3</sup> Two-year average. <sup>4</sup> Less than 500 pounds.

<sup>&</sup>lt;sup>5</sup> Not separately stated. <sup>6</sup> Expressed only in value.

Table 603.—Eggs: Farm price per dozen, 15th of month, United States, 1910-1923.

Year beginning Apr. 1.	Apr.	Мау.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Weight- ed av.
1910-11 1911-12 1912-13 1913-14	Cents. 18. 6 14. 8 17. 4 15. 9	Cents. 18. 4 14. 6 16. 9 16. 5	Cents. 18. 2 14. 4 16. 7 16. 8	Cents. 17. 9 14. 8 17. 0 16. 4	Cents. 18. 5 16. 4 18. 2 17. 7	Cents. 20. 9 18. 7 20. 6 21. 3	Cents. 23. 8 21. 8 24. 0 26. 0	Cents. 27. 2 26. 1 27. 8 31. 3	Cents. 29. 7 29. 1 28. 2 32. 9	Cents. 26. 2 29. 3 24. 8 29. 8	Cents. 19. 3 26. 8 21. 1 25. 3	Cents. 15. 7 21. 2 17. 9 22. 2	Cents. 19. 3 18. 2 18. 9 19. 8
Av. 1910-1913	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. 0
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.  Av. 1914-1920 1921-22.	16. 4 16. 6 17. 7 28. 5 30. 4 36. 0 36. 6 26. 0	16. 9 16. 5 18. 5 30. 2 30. 6 38. 9 37. 5 27. 0	17. 2 16. 1 18. 9 29. 9 29. 5 36. 1 35. 9 26. 2	17. 5 16. 3 19. 9 29. 0 33. 0 37. 9 37. 8 27. 3	19. 1 17. 3 21. 6 30. 5 35. 2 40. 6 42. 5 29. 5	22. 5 20. 6 25. 3 35. 8 39. 1 43. 1 48. 6 33. 6	23. 7 24. 6 30. 4 38. 5 44. 9 51. 0 54. 6 38. 2	28. 2 29. 4 34. 9 41. 2 51. 7 59. 1 62. 9 43. 9	31. 9 31. 1 38. 3 45. 9 59. 3 69. 6 67. 1 49. 0	31. 7 28. 8 38. 1 48. 9 55. 3 60. 9 54. 5 45. 5	23. 7 24. 2 35. 7 45. 8 34. 8 48. 5 31. 0 34. 8	16. 5 18. 2 25. 3 30. 9 33. 9 40. 5 26. 8 27. 4	19. 3 19. 0 23. 3 33. 0 34. 9 41. 8 39. 3 30. 1
1922-23 1923-24	20. 0 21. 6	20. 9 21. 8	20. 2 20. 9	20. 3 21. 3	20. 6 23. 6	27. 3 29. 8	34. 6 34. 6	43. 6 45. 6	47. 2 45. 5	37. 8	29. 9	25. 4	24. 7

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.	Мау.	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 . 28	\$0. 27 . 19	\$0. 23 . 17	\$0. 22 . 17	\$0. 21	\$0. 20 . 15	\$0. 18	\$0. 21 . 18	\$0. 24 . 21	\$0. 26 . 24	\$0. 31 . 32	\$0.34 .35	\$0. 25 . 22
1912 1913	. 34	36	. 22	.20	.19	.19	. 20	. 21	24	. 26	31 .39	. 29	. 25
1914 1915 1916 1917 1918 1919	. 33 . 38 . 31 . 46 . 65 . 62 . 71	. 29 . 26 . 26 . 45 . 58 . 44 . 59	. 26 . 20 . 22 . 31 . 38 . 44 . 48	. 20 . 21 . 22 . 34 . 35 . 43	. 20 . 20 . 22 . 35 . 35 . 46 . 44	. 21 . 20 . 23 . 33 . 36 . 44 . 43	. 21 . 20 . 25 . 34 . 41 . 46 . 47	. 24 . 22 . 29 . 38 . 43 . 48 . 51	. 26 . 26 . 33 . 41 . 47 . 51	. 27 . 30 . 34 . 41 . 53 . 62 . 64	. 35 . 35 . 41 . 49 . 65 . 69	.38 .34 .46 .57 .67 .79	. 27 . 26 . 30 . 40 . 49 . 53 . 57
Av. 1914–1920	. 49	. 41	. 33	. 31	. 32	. 31	. 33	. 36	. 40	. 44	. 53	. 57	. 40
1921 1922 1923	. 67 . 41 . 42	. 42 . 38 . 37	.31 .25 .31	. 27 . 26 . 27	. 25 . 27 . 27	. 27 . 25 . 24	. 33 . 24 . 25	. 35 . 26 . 29	.39 .39 .35	. 49 . 43 . 39	. 58 . 53 . 53	. 54 . 53 . 47	. 41 . 35 . 35

Table 604.—Eggs: Average price per dozen at certain cities, 1910-1923.—Continued.

## WESTERN EXTRA FIRSTS AT PHILADELPHIA.

. 21	\$0. 23 . 18		\$0. 22	20.01							
		. 18	. 18	. 17	. 18	. 20	. 23	. 27	. 34	\$0. 37 . 33	\$0. 27 . 23
. 23	. 23	. 21	. 20	. 21	. 22	. 23	. 26	. 30	. 34	. 31	. 27
	. 27	. 20	. 21	. 22	. 22	. 26	. 28	. 30	. 35	. 40	. 28
. 26	. 23	. 22	. 23	. 24	. 36	. 29	. 33	. 36	. 41	. 45	. 30
. 44	. 41	. 44	. 47	. 46	. 51	. 52	. 54	. 65	. 73	. 80	. 50 . 55 . 59
	. 32	. 32	. 33	. 33	. 35	. 38	. 42	. 47	. 55	. 58	. 41
	. 32	. 28	. 25	. 28	. 35	. 39	. 41	. 53	. 64	. 57	. 43
9 1 7 2 3 3 6 2	9 . 27 1 . 26 7 . 45 2 . 61 3 . 44 3 . 62 9 . 42	9 . 27 . 20 1 . 26 . 23 7 . 45 . 31 2 . 61 . 37 3 . 44 . 41 3 . 62 . 48 9 . 42 . 32 6 . 43 . 32 2 . 40 . 26	9	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0	0	0         .27         .20         .21         .20         .20         .20         .20         .23         .22         .23         .24         .26         .29         .23         .24         .26         .29         .29         .23         .24         .26         .29         .29         .35         .36         .39         .36         .39         .43         .46         .37         .36         .39         .43         .46         .51         .52         .52         .33         .44         .47         .46         .51         .52         .54         .44         .45         .47         .50         .54         .54         .44         .45         .47         .50         .54         .52         .33         .33         .33         .33         .35         .38         .35         .38         .35         .38         .35         .38         .35         .34         .32         .25         .28         .35         .39         .33         .33         .35         .38         .35         .38         .35         .39         .25         .28         .35         .39         .25         .28         .25         .28         .35         .39         .25         .24	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

## FRESH FIRSTS AT CHICAGO.

1910 1911 1912 1913	\$0.34 .26 .33 .24	\$0. 26 . 18 . 32 . 21	\$0. 21 . 16 . 21 . 18	\$0. 20 . 15 . 19 . 18	\$0. 19 . 15 . 18	\$0. 18 . 13 . 17 . 18	\$0. 16 . 14 . 18 . 17	\$0. 18 . 16 . 19 . 21	\$0. 22 . 18 . 22 . 24	\$0. 24 . 21 . 24 . 26	\$0. 28 . 28 . 26 . 33	\$0.30 .29 .25 .33	\$0. 23 . 19 . 23 . 23
1914 1915 1916 1917 1918 1919	. 32 . 34 . 29 . 41 . 58 . 58	. 27 . 25 . 24 . 42 . 51 . 38 . 52	. 22 . 18 . 19 . 28 . 35 . 39 . 45	.18 .19 .20 .32 .33 .40	. 19	. 18 . 17 . 21 . 31 . 32 . 40 . 39	. 19 . 17 . 22 . 32 . 37 . 42 . 42	. 21 . 19 . 24 . 34 . 38 . 42 . 47	. 22 . 23 . 28 . 37 . 43 . 46 . 53	. 23 . 26 . 31 . 37 . 50 . 57	. 28 . 29 . 36 . 43 . 61 . 63 . 68	. 32 . 29 . 39 . 48 . 62 . 73 . 71	. 23 . 23 . 26 . 37 . 44 . 48 . 52
Av. 1914–1920 1921 1922 1923	. 45 . 45 . 60 . 37 . 38	. 37 . 35 . 32 . 33	. 29	. 29	. 30	. 28	. 30	. 32	. 36	. 40	. 47 . 52 . 48 . 48	. 51 . 51 . 48 . 42	. 36

## FRESH EXTRAS AT SAN FRANCISCO.

1910	\$0. 34	\$0. 26	\$0. 21	\$0. 24	\$0. 25	\$0. 27	\$0.30	\$0.35	\$0. 41	\$0. 47	\$0. 54	\$0. 40	\$0. 34
1911	. 31	. 25	. 19	. 19	. 21	. 21	.26	.31	. 38	. 46	. 51	. 40	. 31
1912	. 33	. 24	. 20	. 21	. 21	. 22	.25	.29	. 38	. 44	. 48	. 34	. 30
1913	. 28	. 21	. 18	. 19	. 20	. 24	.27	.32	. 39	. 50	. 57	. 47	. 32
1914 1915 1916 1917 1918 1919 1919	. 40 . 31 . 33 . 38 . 63 . 61 . 64	. 27 . 23 . 26 . 32 . 46 . 41 . 49	. 20 . 21 . 20 . 26 . 39 . 42 . 44	. 22 . 22 . 22 . 31 . 40 . 48 . 44	. 23 . 23 . 23 . 34 . 40 . 52 . 46	. 24 . 23 . 25 . 31 . 43 . 52 . 47	. 28 . 25 . 27 . 35 . 48 . 54 . 57	. 33 . 31 . 33 . 43 . 55 . 59 . 60	. 40 . 36 . 39 . 46 . 62 . 69 . 72	. 47 . 46 . 47 . 53 . 75 . 78 . 83	. 48 . 51 . 50 . 57 . 82 . 87 . 87	. 46 . 41 . 40 . 52 . 80 . 78 . 78	.33 .31 .32 .40 .56 .60
Av. 1914-1920	. 47	. 35	. 30	. 33	. 34	. 35	. 39	. 45	. 52	. 61	. 66	. 59	. 45
1921	. 60	. 37	. 33	. 29	. 26	. 29	. 41	. 45	. 52	. 65	. 68	. 57	. 45
1922	. 39	. 30	. 26	. 28	. 27	. 28	. 29	. 33	. 48	. 64	. 61	. 52	. 39
1923	. 38	. 28	. 24	. 27	. 27	. 28	. 27	. 34	. 38	. 44	. 43	. 43	. 33

Division of Statistical and Historical Research.

## SILK.

Table 605.—Silk, Japanese, filatures, Kansai No. 1: Average wholesale price per pound, New York, 1890-1923.

	7			,		<del></del>					,		
Calendar year.	Jan.	Feb	Mar.	Apr.	Мау.	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	\$5,000	(1)	(1)	
1891	(1)	(1)	2 0/1	4 125	4 125	4 125	4 026	4 000	φυ. 141	2 907	\$3, 856	4 000	
1892	4. 026		4. 026										
1893	4, 020	4. 020											\$4.327
1894	4. 802	4.971									3. 759		
1094	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	1
1896	3. 856	3. 686		3. 444	3. 116		3. 177	3. 152					
1897	3. 250	3. 250					3. 444						
1898	3. 686	3. 759											
1899	3. 601	3. 928											
		Ì	!		i	1		i i		i			
1900	5. 311												4. 169
1901	3. 334	3. 298									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. 001	3, 735	4. 135
1904	3. 783	3, 807	3. 613	3, 540			3, 492	3, 638	3.650	3, 601			3.642
	1	i	1	1	1					(			l
1905	4. 074		3. 832		3. 771				4. 268		4. 098		3. 991
1906	3.977	3. 953	4. 052		4. 147								4. 163
1907	5. 117			5. 480	5. 602	5. 286	5. 044						
1908	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	4 008	4 105	4. 244	4. 195	3 807	3 750	3.856	3 662	3. 662	3. 662	3, 516	3 410	3, 840
1910	3 516	3. 468	3. 322				3.419		3.419			3. 953	
1911									3. 419		3. 274	(1)	0. JZ4
1912					2 444	3. 395	3. 322	3. 444	3. 589	3. 686		2 414	3, 445
1913	2 469	3. 492						4. 050			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. 031	3, 201				3. 080	3. 322		3, 783	4. 583	3. 318
1916	4. 462			4. 777	4. 462			4. 874	4. 704			5. 384	4. 867
1917	5 335	5. 141		5. 384			5. 675		6. 063				5. 509
1918	5 394	5. 481		5. 772	6. 160						6. 984		6. 273
1919				6. 645	7. 663	9, 603		8. 827			12. 368		8. 880
1920	16. 975	14 065	19 000	9. 506	6. 305			4. 705	6. 321	K 078	5. 782	5. 635	
Av. 1914-1920		6. 087	5. 997	5. 609	5. 307	5. 647	5. 490	5. 553				6. 248	5. 831
1921	5. 782	5. 733	5. 880	5. 782	5. 635	5. 733				6. 027	7. 154	7. 595	6. 035
1922	6.762	6. 566	6. 027	6. 517	7. 203	7, 301				8. 330	7. 889	8. 232	7. 219
1923		8, 771	8. 624	9. 310	8, 428	7. 693	7. 154	7. 350	9, 800	7.840	7, 840	7, 742	8. 228

Division of Statistical and Historical Research Compiled from Bureau of Labor Statistics reports.

<sup>1</sup> No quotations.

Table 606.—Raw silk: Production in undermentioned countries, 1909-1922.

Country.	Aver- age 1909- 1913.	1916	1917	1918	1919	1920	1921	1922
Italy WESTERN EUROPE. France Spain	1,000 pounds. 8, 524 992 182	1,000 pounds. 7,963 485 198	1,000 pounds. 6, 217 452 154	1,000 pounds. 5, 942 529 165	1,000 pounds. 4,079 408 154	1,000 pounds. 7,330 551 177	1,000 pounds. 7, 154 430 132	1,000 pounds. 8, 234 437 170
-				6, 636	4, 641	8,058	7,716	8,841
Total	9, 698	8,646	6,823	0, 030	4,041	8,008	1,710	0, 841
Eastern Europe, Levant, and Central Asia <sup>1</sup>	6, 611	2, 623	2, 624	2, 624	2, 039	1, 653	1, 213	1, 543
FAR EAST.								
China: Exports from Shanghai Exports from Canton Japan: Exports from Yokohama British India: Exports from Bengal		10, 340 5, 346 29, 431	10, 097 5, 170 34, 050	10, 251 4, 134 31, 416	8, 598 5, 071 32, 188	7, 860 4, 167 <b>24,</b> 008	8, 840 5, 688 40, 984	10, 648 7, 000 41, 546
and Cashmere	428	254	232	242	220	176	187	165
Indo-China: Exports from Saigon, Haiphong, etc	1 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, 798

Division of Statistical and Historical Research. Compiled from Statistique de la Production de la Soie, Silk Merchants Union, Lyon, France.

Includes Hungary, Czechoslovakia, Yogoslavia, Rumania, Bulgaria, Greece, Salonika, Adrianople, Crete, the Caucasus, Anatolia, Turkestan, Central Asia, Syria, Cyprus, and Persia.
 For years 1911-1913.

### FORESTRY AND FOREST PRODUCTS.

Table 607.—Forest areas, United States.

The second secon			Present forest areas.										
Region.		Original forest areas.			Saw t	imber.	Cord-	Not re-	Coni-	Hard-			
			Total.1		Vi <b>rgi</b> n.	Second growth.	wood.	stock- ing.	fers.	woods.			
New England	1,000 acres. 38, 908 69, 610 103, 680 170, 560 170, 240 128, 400	Per cent. 4. 7 8. 5 12. 6 20. 7 20. 7	1,000 acres. 25, 708 28, 678 57, 100 60, 182 99, 000 78, 865	Per cent. 5. 5 6. 1 12. 2 12. 8 21. 1 16. 8	1,000 acres. 2,000 1,896 10,100 7,600 18,300 20,835	1,000 acres. 9, 261 9, 559 13, 930 24, 301 27, 900 20, 200	1,000 acres. 8, 872 10, 793 12, 570 26, 011 32, 080 24, 075	1,000 acres. 5,575 6,430 20,500 2,270 20,720 13,755	1,000 acres. 16, 208 11, 550 28, 150 3, 220 71, 700 42, 664	1,000 acres. 9,500 17,128 28,950 56,962 27,300 36,201			
Rocky Mountain Pacific 2	63, 720 77, 120	7. 8 9. 4	60, 842 59, 100	12. 9 12. 6	37, 746 39, 683	3, 313 5, 292	14, 533 7, 425	5, 250 6, 700	60, 842 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."

Table 608.—National forests, State forests and parks, and municipal forests, areas 1923.1

				State fore	st lands.		Munici-
State.	Aggregate.	National forests (net area).2	Total.2	State forests.	State parks.	Other State forest land.	pal and county forest land.
AlabamaArizona	Acres. 291, 430 11, 235, 434	Acres. 97, 198 11, 204, 304	Acres. 175, 000 31, 130	Acres.	Acres.	Acres. 175, 000 31, 130	Acres. 19, 232
ArkansasCaliforniaColorado	957, 247 19, 211, 472 13, 426, 668	957, 247 19, 147, 587 13, 277, 038	56, 245 120, 000		11,400	44, 845 120, 000	7, 640 29, 630
Connecticut District of Columbia	28, 472 1, 632		14, 150	6, 529	5, 121	2, 500	14, 322 1, 632
Florida	339, 858 153, 457	337, 938 153, 457	1, 920		1, 920		
Georgia Idaho	19, 984, 185	19, 056, 871	927, 154	685, 000	14, 814	227, 340	160
Illinois Indiana	25, 040 4, 351		40 4, 351 4, 500	2, 851	40 1,500 4,500		25, 000
Iowa Kansas Maine	4, 500 455 418, 059	32, 256	255 385, 000		255	385, 000	200 803

<sup>&</sup>lt;sup>1</sup> 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.

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 unreserved public domain. The State and municipal forests are as of July 1, 1922.

<sup>&</sup>lt;sup>1</sup> 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.

<sup>2</sup> 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.—Continued.

				State fore	st lands.		Munici-
State.	Aggregate.	National forest (net area).	Total.	State forests.	State parks.	Other State forest land.	pal and county forest land.
Maryland	Acres. 13, 235 129, 513 773, 117 1, 784, 069 50, 000	Acres. 124, 082 1, 047, 941	Acres. 5, 835 83, 353 648, 000 736, 068 50, 000	Acres. 3, 835 50, 353 338, 000 381, 000	Acres. 13, 000 10, 000 5, 068	Acres. 2, 000 20, 000 300, 000 350, 000 50, 000	Acres. 7, 400 46, 160 1, 035
Montana Nebraska Nevada New Hampshire New Jersey	16, 447, 715 205, 986 4, 976, 513 431, 951 53, 164	15, 881, 715 205, 944 4, 976, 513 404, 945	18, 950 17, 064	18, 000 16, 504	560	106, <b>00</b> 0	8, 056 36, 100
New Mexico	8, 705, 984 2, 215, 853 390, 279 250 54, 948	8, 535, 984 359, 690	170, 000 2, 046, 853 3, 725 250 43, 471	1, 992, 516 300 20, 371	33, 962 1, 225 250 200	170, 000 20, 375 2, 200 22, 900	169, 000 26, 864
Oklahoma Oregon Pennsylvania Rhode Island South Carolina	61, 480 13, 217, 047 1, 193, 134 104 18, 558	61, 480 13, 137, 447 	74, 800 1, 174, 401	1, 126, 237	80 <b>0</b> 1, 410	74, 000 46, 754	
South Dakota Tennessee Texas Utah Vermont	1, 145, 587 266, 210 310 7, 455, 110 43, 945	1, 057, 747 241, 210 7, 453, 400	87, 840 25, 000 42, 100	61, 440	800	26, 400 25, 000	310 1,710 1,845
Virginia Washington West Virginia Wisconsin	443, 301 10, 776, 433 132, 108 300, 055	431, 513 9, 900, 869 132, 108	2, 088 863, 600 300, 055	588 58, 000 300, 000	5, 600 55	1, 500 800, 000	9, 700 11, 964
Wyoming	8, 417, 773 20, 571, 549 12, 443 166, 369, 984	8, 417, 773 20, 571, 549 12, 443 157, 236, 807	8, 679, 198	5, 550, 824	112, 480	3, 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 India China Dutch East Indies Japan Other Asia Asia Brazil Argentina Peru Colombia Bolivia	Acres. 1, 136, 153, 150 260, 139, 520 190, 000, 000 154, 339, 000 90, 484, 640 264, 898, 280 2, 996, 014, 590 1, 000, 000, 000 224, 000, 000 224, 000, 000 150, 000, 000	Belgian Congo Rhodesia Nigeria French Congo Cameroon Ivory Coast Other Africa Africa Russia Sweden Finland Germany	Acres. 180, 000, 000 170, 304, 000 139, 776, 860 80, 000, 000 35, 000, 000 162, 378, 000 797, 458, 000 440, 000, 089 55, 556)
Venezuela Other South America South America Canada United States <sup>1</sup> Alaska	222, 850, 000 2, 092, 690, 000 596, 746, 000 550, 000, 000 95, 000, 000	France. Other Europe Europe New Guinea Australian Commonwealth New Zealand	172, 744, 200 774, 118, 460 160, 020, 000 90, 291, 500
MexicoOther North AmericaNorth America	74, 100, 000	Other Oceania  Australia and Oceania  Total world divisions	16, 073, 300

Forest Service. Compiled from "Forest Resources of the World."

 $<sup>^1</sup>$  Includes approximately 80,000,000 acres incapable of producing saw timber on a commercial scale figures for many other countries also include areas of low grade forest land.

Table 610.—Woodland and timberland on farms, area by States and lumber regions, 1919.

States and regions.	Total.1	Woodland.	Timberland.
Alabama Arizona Arkansas Colifornia Colorado	Acres. 8, 301, 177 523, 648 7, 396, 028 4, 252, 287 1, 415, 420	Acres. 5, 799, 880 469, 136 5, 036, 550 3, 680, 248 1, 272, 491	Acres. 2, 501, 297 54, 512 2, 359, 478 572, 039 142, 929
Connecticut Delaware District of Columbia Florida Georgia	683, 719	611, 089	72, 650
	222, 658	176, 471	46, 187
	828	779	49
	2, 780, 790	2, 231, 932	548, 858
	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 Louisiana Maine Maryland Massachusetts	6, 018, 280	4, 19 <b>6,</b> 708	1, 821, 572
	3, 614, 040	2, 930, 557	683, 483
	2, 447, 597	1, 803, 696	643, 901
	1, 327, 221	1, 021, 463	305, 758
	1, 030, 386	782, 043	248, 343
Michigan Minnesota Mississippi Missouri Montana	3, 217, 000	2, 774, 353	442, 647
	4, 482, 656	3, 953, 264	529, 392
	7, 014, 898	5, 417, 649	1, 597, 249
	8, 553, 857	6, 414, 327	2, 139, 530
	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, 209, 838	872, 723	427, 115
New Jersey	454, 768	380, 015	74, 753
New Mexico	1, 817, 460	1, 750, 297	67, 163
New York North Carolina North Dakota Ohio Oklahoma	4, 160, 567	3, 132, 799	1, 027, 768
	10, 299, 547	8, 192, 526	2, 107, 021
	679, 836	671, 077	8, 759
	3, 198, 929	2, 338, 085	860, 844
	4, <b>20</b> 6, 171	3, 976, 699	229, 472
Oregon	2, 309, 596	1, 550, 132	759, 464 1, 196, 136 30, 219 1, 284, 162 14, 344
Pennsylvania	4, 043, 902	2, 847, 766	
Rhode Island	130, 462	100, <b>243</b>	
South Carolina	5, 302, 575	4, 018, 413	
South Dakota	536, 183	521, 839	
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, 409
Vermont	1, 428, 309	954, 592	473, 717
Virginia	7, 907, 352	5, 757, 322	2, 150, 080
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
Wyoming	421, 806	386, 876	34, 930
United States	167, 730, 794	132, 460, 267	35, 270, 527
LUMBER REGIONS.  Northeastern Lake Central North Carolina pine Southern	17, 230, 255	12, 683, 679	4, 546, 576
	13, 101, 566	11, 586, 023	1, 515, 543
	34, 564, 300	25, 126, 059	9, 438, 241
	23, 509, 474	17, 968, 261	5, 541, 213
	58, 337, 865	46, 658, 699	11, 679, 166
North Pacific South Pacific North Rockies South Rockies Prairie	4, 122, 657	3, 025, 642	1, 097, 015
	4, 280, 924	3, 706, 870	574, 054
	2, 467, 338	2, 144, 007	323, 331
	4, 391, 096	4, 083, 154	307, 942
	5, 725, 319	5, 477, 873	247, 446

Forest Service. Compiled from reports of Bureau of the Census.

sizes.

<sup>&</sup>lt;sup>1</sup> 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.
<sup>2</sup> Timberland is that part of the total forested area on farms which is covered with trees mostly of sawlog

Table 611.—Total stand and saw timber of the United States and Alaska, 1920.

		Tota	al stand.		Saw timber.			
Region.	Total.	Per cent.	On saw timber areas.	On cord- wood areas.	Total.	Soft- woods.	Hard- woods.	
New England Middle Atlantic Lake Contral	Million cubic feet. 20, 850 24, 897 50, 584 85, 118	3 3 7 11	Million cubic feet. 15, 492 17, 126 41, 534 61, 319	Million cubic feet. 5, 358 7, 771 9, 050 23, 799	Million board feet. 49, 799 44, 857 110, 110 144, 470	Million board feet. 38, 480 15, 353 40, 760 11, 318	Million board feet. 11, 319 29, 504 69, 350 133, 152	
South Atlantic and East Gulf Lower Mississippi Valley Rocky Mountain Pacific coast	95, 158 118, 364 61, 893 287, 724	13 16 8 39	73, 060 95, 252 53, 755 274, 874	23, 098 23, 112 8, 138 12, 850	220, 577 280, 908 223, 141 1, 141, 031	136, 827 148, 308 223, 141 1, 141, 031	83, 750 132, <del>60</del> 0 (¹)	
United StatesAlaska United States and Alaska	745, 588 (²) 745, 588	100	632, 412 ( <sup>3</sup> ) 632, 412	113, 176 (²) 113, 176	2, 214, 893 <sup>3</sup> 102, 000 2, 316, 893	1, 755, 218 <sup>3</sup> 100, 000 1, 855, 218	459, 675 <sup>3</sup> 2, 000 461, 675	

Forest Service. Compiled from "Forest Resources of the World" and other sources.

Table 612.—Saw timber stand in the United States by species and regions, 1920.

Total.	New England.	Middle Atlantic.	Lake.	*Central.	South Atlantic and East Gulf.	Lower Missis- sippi.
3.6.77	16:77:	25777	3.6777	361771	3.6777	16000
						Million
						board
						feet.
						49, 460
90, 784	8, 143		36,076	20, 505		4, 641
				3, 728		26, 918
						5, 171
						5,967
	215		1,893			3, 182
9,611			7		4,020	268
101, 771	77	2, 113	21, 887	19, 174	21, 524	36, 996
459, 675	11, 319	29, 504	69, 350	133, 152	83, 750	132, 690
957 601				265	191 449	135, 884
	1 004	E DOLO	10 201			100,002
		0,000		3, 910		
	23,971	4,840	3, 114			11, 713
22, 921		4 605				11,410
23, 457						711
24, 509	2,889	1 3, 332	10, 687	1 0, 528	362	711
391, 046	38, 480	<b>15, 3</b> 53	40, 760	11, 318	136, 827	148, 308
	Rocky Moun- tain.	Pacific coast.			·	
505 505	26 024	559 571	1			
000,000	90,001	000,011				
940 570	AG 19E	1.00 450				
249, 370						
	8,870	82, 119				
72, 208		#12,2008				
	***	90 405				
		38, 485				
66, 280	21, 366	44, 914				
1, 364, 172	223, 141	1, 141, 081				
		Million   board   feet   fee	Million   Million   board   feet.	Million   Million   Million   board   feet.	Total	Total.   New England   Atlantic   Lake.   Central.   Atlantic and East

Forest service.

<sup>&</sup>lt;sup>1</sup> Relatively small quantities of hardwoods. No estimates available.

No estimate.
 Figures only approximations, due to the lack of knowledge, particularly of the forests of interior Alaska.

<sup>&</sup>lt;sup>1</sup> Includes small amounts of various species of yellow pine.

Table 613.—National forests: Estimated quantities of standing timber June 30, 1922.

District and forest.	Saw timber.	Cordwood.	District and forest.	Saw timber.	Cordwood.
DISTRICT 1.1	M feet b. m.	Cords.	DISTRICT 3—continued.	M feet b. m.	Cords. 1, 200, 000
Absaroka	1, 769, 000 592, 525 4, 183, 000 4, 887, 000 2, 797, 200		Manzano	346, 000 180, 000	2, 105, 000
Beartooth Beaverhead	592, 525		Prescott Santa Fe	2 672 037	1, 486, 638
Bitterroot	4, 183, 000		Sitgreaves	2, 672, 037 4, 257, 775	1, 486, 638 922, 000
Blackfeet	2, 797, 200		Singiouvos	1	
	960, 000	1	Tonto	593, 368 770, 795	1, 086, 608
Cabinet	6, 558, 684		Tusayan	770, 795	1, 045, 556
Coeur d'Alene	4, 131, 585		matal distance 9	23, 119, 302	22, 378, 153
Custer	458, 136		Total, district 3	23, 119, 302	22, 370, 100
Deerlodge	1, 119, 500		DISTRICT 4.4		
	4, 777, 685		District 1.		
FlatheadGallatin	1, 272, 476		Ashley	1, 194, 130 3, 396, 980	396, 300
Helena	613, 062		Boise Bridger	3, 396, 980	
Jefferson	1, 711, 696 1, 667, 826		Bridger	585 <b>, 7</b> 91	428, 183
Kaniksu	1,667,826		Cache	156, 495	574, 758 560, 000
Kootenai	3, 515, 000		Caribou	169, 800	300,000
Lewis & Clark	304, 600		Challis	1 690 731	
Lolo	1, 810, 000		Dixie-Sevier	1, 690, 731 425, 649	1, 730, 764
Madison	873, 000		Fillmore	240, 428	986, 362
Missoula	3, 550, 000		Fishlake	102, 115	925, 420
Nezperce	6, 258, 918		Humboldt	12, 131	341, 451
Pand Oreille	1, 221, 200		~	0 270 701	2 016 748
St. JoeSelway	4, 184, 000		Idaho	8, 379, 781 1, 718, 919	3, 916, 748 532, 800
Selway	4, 514, 304		Kaibab	104, 555	804, 998
	63, 730, 397		La Sal Lemhi	598, 875	315, 085
Total, district 1	03, 730, 397		Manti	279, 518	1, 276, 102
DISTRICT 2.2			<u>}</u>		* 4 × 000
	2, 341, 981	59 510	Minidoka	50, 753 22, 250	545, 000 1, 610, 000
Arapaho	750, 000	100,000	Nevada	22, 250	56, 500
BattlementBighorn	1, 500, 569	2, 461, 000	Payette	5, 304, 748 1, 559, 600	985, 680
Black Hills	1, 510, 000	52, 510 100, 000 2, 461, 000 718, 000	Salmon	3, 363, 009	
Cochetopa	1, 500, 569 1, 510, 000 1, 632, 346	60, 000	Daimon		
	1 100 000	257 000	Sawtooth	696, 000 1, 726, 523	61, 500
Colorado	1, 196, 300	357, 000 397, 500	Targhee	1, 726, 523	256, 320 400, 000
Gunnison	729, 700	458,000	Teton Toiyabe	2, 699, 500	2, 811, 000
Harney	1, 374, 420 789, 275 1, 533, 030	458, 000 297, 800 1, 533, 000	Toryabe		2, 811, 000
Hayden Holy Cross	1, 533, 030	1, 533, 000	Tinta	1, 048, 210	
Holy Clobbilling	1	1	Uinta Wasatch	1, 048, 210 474, 792 1, 525, 910 690, 863	259, 670
Leadville	326, 077	131, 710	Weiser	1, 525, 910	
Leadville	3, 132, 866	1, 855, 000	Wyoming	690, 863	589, 728
Michigan	3, 132, 866 4, 295 295, 000 1, 755, 250	18, 580		1	20, 364, 369
Minnesota Montezuma	1 755 250	505, 000 1, 285, 500	Total, district 4	38, 218, 056	20, 304, 308
Montezuma	1,100,200	1	DISTRICT 5.5		
Pike	1, 100, 000	965, 000 1, 258, 852			
Pike Rio Grande	1 551 905	1, 258, 852	AngelesCalifornia	1, 204, 238	1, 437, 749
Routt	1, 662, 600 811, 227 3, 013, 322	882, 000 34, 924 301, 806	California	4, 040, 600	200,000
San Isabel	811, 221	301 808	Cleveland	227.300	210, 250 668, 250
San Juan	3, 013, 322	I .	Eldorado	4, 841, 862 681, 000	3, 166, 000
Shoshone	1, 622, 551	81, 125 1, 447, 000 1, 263, 000	Inyo	001,000	1
Superior	229 500	1, 447, 000	Klamath	12, 485, 162	3, 280, 000
Uncompangre		1, 263, 000	Lassen	6, 884, 350	84.640
Washakie	1, 455, 600	675, 000 1, 797, 595	Modoc	2, 799, 256	747,000
White River	1,797,595	1, 797, 595	Mono	1, 080, 834	747, 000 1, 209, 205 200, 000
m.t.l. district 0	32, 710, 109	18, 936, 902	Plumas	10, 145, 689	200,000
Total, district 2	32, 710, 100	10, 550, 552	Santa Barbara	596, 000	1, 785, 000
DISTRICT 3.3		1	Cognois	7, 454, 724	1 547, 525
	2, 419, 269	327, 569	Shasta	4,000,000	250, 000 2, 375, 000
Apache	1, 152, 125	327, 569 984, 782	Sierra	13, 166, 000	2, 375, 000
Carson	_   0,000,201	1, 400, 000	{{	0.010.700	4 004 000
Coronado	_ 290, 000	3, 748, 000 449, 000	Stanislaus	9, 219, 798 6, 709, 000	4, 204, 000 187, 000
C OI SAMGOLLETT	376, 000	449, 000	Tahoe	10, 980, 000	5, 863, 120
Crook	- 0 000 000	4 000 000	Trinity	10, 800, 000	0,000,120
Datil	3, 330, 000	4, 850, 000 875, 000	Total, distrlet 5	96, 515, 813	26, 414, 739
Gila Lincoln	2, 150, 000 598, 702	1, 898, 000	10001, 41001100 022	20,020,020	<del></del>
Lincoln	_   998, 702	1, 000, 000		· . <u></u>	•

Montana, northeastern Washington, northern Idaho, and northwestern South Dakota.
 Colorado, Wyoming (except western Wyoming), South Dakota, Nebraska, northern Michigan, and northern Minnesota.
 Arizona (except north of Grand Canyon) and New Mexico.
 Utah, southern Idaho, western Wyoming, 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		
	M feet b. m.	Cords.	-	M feet b. m.	Cords.
Cascade	23, 589, 613		Alabama	94, 489	30,000
Chelan	4, 548, 126		Arkansas	1, 281, 380	L
Columbia			Cherokee		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	
Olympic	30, 000, 000		Ozark 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	010,021
Siski vou	11, 980, 343		Wichita	020,101	
Siuslaw	5, 913, 080				
	-,,		Total, district 7	4, 283, 986	5, 626, 971
Snoqualmie	8, 936, 786		,	-,,	
Umatilla			DISTRICT 8.8		
Umpqua	23, 594, 201				
Wallowa	1, 800, 130		Chugach	6, 589, 950	
	.,,		Tongass	73, 538, 000	
Washington	10, 437, 269			, , , , , , , , , , ,	
Wenatchee	3, 608, 500		Total, district 8	80, 127, 950	
Whitman	5, 864, 758		m 4 2 22 23 4 3 4 5 4 5	FFB FB1 - 40	00 701 104
Total, district 6	218, 865, 530		Total, all districts.	557, 571, 143	93, 721, 134

### SUMMARY BY STATES.

	1	1	II	1	1
State.	Saw timber.	Cordwood.	State.	Saw timber.	Cordwood.
	M feet b. m.	Cords.	l	M feet b. m.	Cords.
Alabama	94, 489	30,000	New Hampshire	<b>856, 039</b>	ļ
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	
			ll		
Colorado	21, 177, 413	10, 659, 397	Porto Rico		
Florida	182, 250	1, 287, 785	South Carolina	24, 064	<b>52, 63</b> 6
Georgia	259, 695	390, 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	Washington	80, 461, 018	
Montana	35, 189, 369		West Virginia	41, 923	44, 469
Nebraska			Wyoming	12, 876, 222	6, 971, 836
Nevada	169, 351	6, 567, 746	1		<del></del>
		, .,,	Total	557, 571, 143	93, 721, 134
			1		

Forest Service.

Note.—In round numbers the total estimated stand, including cordwood converted to board feet, is 590,000,000 M feet b. m.

<sup>&</sup>lt;sup>6</sup> Washington (except northeastern Washington) and Oregon.
<sup>7</sup> Arkansas, Alabama, Florida, Oklahoma, South Carolina, Georgia, North Carolina, Tennessee, Virginia, West Virginia, New Hampshire, Maine, Porto Rico.
<sup>8</sup> Alaska.

Table 614.—National forests: Estimated quantities of saw timber, by species, June 30, 1922.

			7	Thousands	of board fe	et.		
Species.	District 1.	District 2.	District 3.	District 4.	District 5.	District 6.	District 8.	· Total.
Douglas fir Western yellow pine Western hemlock Lodgepole pine Alpine species Cedar Engelmann spruce White fir Sitka spruce Sugar pine Red fir Larch White pine Hardwoods Black and white spruce Redwood Blue spruce Redwood Blue spruce Norway pine Uniper Miscellaneous Total, all species, district 7.	5, 450, 232 51, 661 17, 604, 352 1, 808, 340 2, 738, 161 5, 448, 782 13, 246, 189 	5, 081, 374 10, 109, 010 11, 789, 136 5, 275 12, 363, 529 48, 064 40, 200 1, 225, 305 117, 020	19, 058, 288 129, 301 754, 297 739, 027	11, 286, 392 	31, 192, 012 2, 634, 906 75, 211 4, 404, 971 14, 461, 403 11, 655, 089 12, 934, 782 151, 681 1, 925, 605	33, 122, 435 29, 693, 309 4, 737, 384 25, 345, 312 8, 573, 908 1, 396, 774 5, 129, 352 1, 555, 005 1, 729, 437 	8, 104, 406 18, 510, 753 	105, 190, 733 82, 378, 308 83, 378, 308 843, 593, 552 31, 468, 202 23, 760, 308 23, 760, 308 23, 760, 578 13, 384, 526 12, 934, 782 11, 664, 198 7, 484, 769 1, 925, 605 1, 889, 933 873, 680 336, 207 200, 400 182, 300
Total		32, 710, 109	23, 119, 302	38, 218, 056	96, 515, 813	218, 865, 530	80, 127, 950	557, 571, 148

## DISTRICT 7.7

Species.	M feet b. m.		M feet b. m.	Species.	M feet b.m.
Yellow pine s. Spruce and fir White oak. Chestnut Longleaf pine. Red oak. Hemlock Chestnut oak Maple. Yellow birch Black oak Yellow poplar Paper birch.	482, 336 317, 146 179, 456 168, 035 142, 927 137, 489 127, 822 101, 819 108, 351	Gum White pine Beech Hickory Mixed oak Basswood Aspen Ash Scarlet oak Buckeye Birch Cueumber Slash pine	67, 901 62, 929 51, 911 33, 446 17, 934 14, 340 10, 405 8, 882	Wainut Locust Cherry Cypress Pond pine Juniper Miscellaneous Tie timber Total	75 909 875 80 75 110 76,096 123,569 4,283,986

## Forest Service.

<sup>1</sup> Includes some hemlock.

Includes some hemlock.
 Includes balsam, white fir, hemlock, and others.
 Includes balsam, white fir, hemlock.
 Includes piñon pine, tamarack, hemlock.
 Includes Mexican white pine, cork bark fir, foxtail pine, Chihuahua pine, cypress, etc.
 Includes balsam, dead, and other species not specified.
 Includes Coulter pine, big cone spruce, and miscellaneous.
 Presented separately due to difference in species.
 Includes shortleaf, Virginia scrub, table-mountain, and pitch pine.

## Table 615.—Forest planting.

#### AREAS PLANTED PRIOR TO JANUARY, 1923.

			State group.									
Class of owner.	Total.	New Eng- land. <sup>1</sup>	Mid- dle Atlan- tic. <sup>2</sup>	Cen- tral hard- woods.3	Lake.4	South Atlan- tic. <sup>5</sup>	Gulf Coast.6	Plains and prai- ries. <sup>7</sup>	Rocky Moun- tain.8	Pacific Coast.		
United States		15, 000 10, 700	53, 626 20, 575	1,060	16,810	1, 000	30 <b>3</b> 00		97, 562 100 80	60	6. 0 2. 3	
owners and operators, and wood-using industries Railroads. Pulp companies Mining companies Others.	20, 275 15, 007 8, 600 3, 375 15, 478	1, 650	9, 950 5, 000 2, 000	500	9	58 300 5	1,300			50 1, 200 1, 150	1.0 .6 .2	
All classes Per cent plant- ed by each State group_	1, 448, 030 100. 0	·	127, 026 8. 8	29, 125 2. 0	203, 336 14. 0	,	ŕ	,	7.8	7. 0		

### AREAS PLANTED DURING CALENDAR YEAR 1922.

United States	7, 073 7, 052		3,410	40	2, 379 1, 650			948	2, 400 25		20.0
States	1, 375					100			20		3.9
Farmers and estate	1,0.0	000									
owners	13, 791	2, 085	4,850	435	700	69	310	3, 500	342	1, 500	39.0
Large timberland owners and oper- ators, and wood-											
using industries		1, 150				25	500	3			4.7
Railroads	1,010		1,000					6			2. 9 3. 5
Pulp companies	1,241										3. 5 1. 2
Mining companies Others	426 1,700		400 1,500								4.8
All classes Per cent plant-	35, 346	6, 251	12, 760	530	4, 729	218	810	4, 457	2, 767	2, 824	100.0
ed by each State group	100. 0	17. 7	36. 1	1. 5	13.4	. 6	2. 3	12. 6	7.8	8. 0	

Forest Service. Includes relatively small areas sown with forest seeds.

- New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

  Middle Atlantic: New York, New Jersey, Pennsylvania.

  Central hardwoods: Ohio, Indiana, Illinois, Kentucky, Tennessee, Arkansas, Missouri.

  Lake: Michigan, Wisconsin, Minnesota.

  South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

  Gulf Coast: Alabama, Mississippi, Louisiana, Texas.

  Plains and prairie: North Dakota, South Dakota, Iowa, Nebraska, Kansas, Oklahoma.

  Rocky Mountain: Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico.

  Pacific Coast: Washington, Oregon, California.

Table 616.—National forest: Construction, improvement, and maintenance of roads and trails.

		ending 0, 1923.	Total	prior to	June 30	), 1923.					
State.	M	iles ucted.		iles ructed.	Miles maintained.		Expenditures prior to June 30, 1923.				
•	Roads.	Trails.	Roads.	Trails.	Roads.	Trails.	Federal funds.	Coopera- tive funds.	Total funds.		
Alabama	10. 0 19. 1 136. 7 29. 6 140. 5		465. 6 108. 5	96. 7 993. 8 133. 4	66.8	96. 7 506. 8 267. 3	\$5, 738. 74 895, 613. 19 1, 305, 519. 38 302, 644. 32 3, 478, 506. 08	\$171, 243. 56 660, 725. 20 24, 184. 93	\$5, 738. 74 1, 066, 856. 75 1, 966, 244. 58 326, 829. 25 4, 456, 855. 07		
Colorado Florida Georgia Idaho Kansas	4. 0 5. 0 206. 7	34.0	597. 2 42. 4 13. 5 958. 1 3. 4	807. 1 69. 4 1, 946. 7	371. 1 23. 7 10. 0 380. 6	114.6	2, 180, 422, 56 85, 281, 88 127, 583, 32 3, 431, 191, 47 2, 111, 51	63, 347. 39 891, 895. 01	2, 697, 642, 73 148, 629, 27 127, 583, 32 4, 323, 086, 48 2, 111, 51		
Maine Michigan Minnesota Montana Nebraska		. 3 380. 5	4. 3 40. 4 70. 5 388. 8 24. 6	30. 0 39. 0 683. 7	7. 1 27. 0 30. 0 512. 8 2. 0	18. 0 5, 315. 8	10, 344. 08 6, 318. 98 158, 371. 88 1, 893, 354. 73 18, 043. 86	186. 95 92, 189. 48 354, 786. 57	10, 344. 08 6, 505. 93 250, 561. 36 2, 248, 141. 30 18, 043. 86		
Nevada New Hampshire New Mexico North Carolina North Dakota		22. 1 403. 8	299. 3 11. 1 293. 9 61. 9 1. 0	340. 8 258. 1 870. 7 110. 9	31. 7 220. 3	860.8	261, 411. 65 39, 351. 68 1, 191, 822. 38 202, 727. 60 65. 75	220, 25 191, 264, 71 34, 056, 37	359, 575. 11 39, 571. 93 1, 383, 087. 09 236, 783. 97 65. 75		
Oklahoma Oregon Porto Rico South Carolina South Dakota	395. 4	354. 3 14. 0 4. 0		944. 6 30. 3 4. 0 20. 6	22, 8	3, 507. 0 30. 3	14, 488. 95 3, 421, 762. 02 8, 672. 64 50, 432. 32 293, 330. 71	2, 080, 008. 66	8, 672, 64 62, 332, 32		
TennesseeUtah	472. 6 17. 4 127. 6	105. 2 279. 0 102. 2 335. 3 20. 5 150. 7	801. 1 24. 5 367. 6	151. 7 740. 0 158. 9 674. 8 20. 5 338. 4	380. 4	651. 0 364. 7 3, 762. 0 143 5	1, 216, 473. 65 136, 828. 07 2, 339, 951. 03 4, 913. 25	10, 759. 91 912, 105. 45 500. 00	183, 922, 97 1, 840, 735, 96 147, 587, 98 3, 252, 056, 48 5, 413, 25 1, 614, 153, 46		
Total											

Forest Service.

Table 617.—Forest fires: Number, damage, and area, United States, 1916-1922.

	N	umber	of fire	s by si	ze.	Dama	ge caused b	y fires.	Area burned.	
Group and State.	Cal- endar year.	To-	Un- der 1 acre.	1-10 acres.	Over 10 acres.	Total.	Damage to timber.	Other damage.	Forest land.	Total.
United States	1917 1918 1919 1920 1921	38, 303 26, 161 27, 005 28, 153 38, 435	8,066 4,965 6,412 7,258 8,689	13, 591 8, 357 9, 414 9, 985 14, 983	16, 646 12, 839 11, 179 10, 910 14, 763	11, 822, 818 40, 551, 534 14, 483, 544 8, 905, 140 11, 963, 152	\$8, 839, 719 10, 102, 911 13, 549, 911 11, 821, 291 6, 965, 453 10, 092, 591 13, 365, 451	1, 719, 907 27, 001, 623 2, 662, 253 1, 939, 687	13, 029, 512 7, 085, 623 5, 725, 290 3, 564, 757 4, 737, 408	10, 842, 329 8, 250, 355
Adjusted average of seven-year period <sup>1</sup> .		36, 112	8, 396	13, 152	14, 564	16, 463, 241	10, 738, 738	5, 724, 503	7, 243, 652	10, 954, 137
Northeastern group: Softwood sub- group- Maine- New Hamp- shire- Vermont- New York		216 584 160 655	115 18	97	95 45	69, 294 9, 709	57, 412 7, 550	8, 775 11, 882 2, 159 11, 155	8, 967 1, 181	10, 126 3, 368

<sup>&</sup>lt;sup>1</sup> Includes office estimates for a few States which did not report in certain years.

Table 617.—Forest fires: Number, damage, and area, United States, 1916-1922.—Continued.

	N	Tumbe	r of fir	es by s	ize.	Dama	ge caused l	by fires.	Area	burned.
Group and State.	Cal- endar year.		Un- der 1 acre.		Over 10 acres	Total.	Damage to timber.	Other damage.	Forest land.	Total.
1922. Northeastern										
group—Contd. Hardwood sub-										
group— Massachu- setts		4, 099	756	3, 091	252	\$501,648	\$431, 422	\$70, 226	Acres. 45, 282	Acres. 85, 241
Rhode Is- land Connecticut		106 1, 137	87	52 508	542	436, 226	82, 857 425, 083	3, 2 <b>2</b> 5 11, 143	10, 281 75, 159	11, 906 83, 120
New Jersey Appalachian group: Pennsylvania		1, 097 3, 634	111	1,851	1, 639	670, 134	532, 109		327, 035	Į.
Pennsylvania Delaware Maryland Virginia West Virginia		44 405 1,019 647	(3) 13 54 203	(18) 142 281 64	(23) 250 684 380	495, 386	1 121, 793	850 6, 163 41, 025 3, 689	44, 898	332, 324 5, 410 45, 198 219, 156 164, 403
Southeastern group: North Carolina South Carolina Georgia Florida Alabama Mississippi East Mississippi		1, 272 1, 471 3, 638	217 (318) (786)	320 (588) (1,455)	735 (565) (1,397)	637, 589 545, 672	610, 266 571, 304 476, 552	27, 977 66, 285 69, 120	192, 722 291, 117 504, 962	193, 739 363, 757 600, 562
		3, 946 3, 382 2, 226	(852) (730) (481)	(1,455) (1,579) (1,353) (890)	(1,515) (1,299) (855)	1, 518, 781 1, 467, 990 919, 194	1, 284, 607	234, 174 203, 332 205, 368	2, 163, 167 835, 125 527, 968	2, 808, 271 1, 044, 290 842, 799
group: Ohio		117 86 (85) 779	22 (19) (18) (168)	39 (34) (34) (312)	56 (33) (33) (299)	39, 150 21, 458 (21, 195) 218, 352 167, 735	35, 400 7, 524 (7, 432) 202, 010 160, 791	3, 750 13, 934 (13, 763) 16, 342 6, 944	17, 215 2, 834 (2, 799) 104, 735 83, 141	21, 535 3, 412 (3, 370) 118, 572
west mississibhi	- 1	400 2, 429	(525)	51 (971)	321		160, 791 349, 587			86, 415 281, 995
Missouri Arkansas Oklahoma Louisiana Texas Lake States group:		3, 120 277 1, 544 1, 967	(674) (60) 28 192	(1,248) (111) 276 614	(1,198) (106) 1, 240	483, 450 1, 071, 286 75, 828 195, 175	946, 007 55, 300 190, 005	133, 863 125, 279 20, 528 5, 170 23, 583	233, 444 774, 374 65, 330 62, 525	997, 831 85, 311 452, 369
Lake States group: Michigan Wisconsin Minnesota		538 188 1, 293	16 4 396	225 48 379	1, 161 297 136	130, 968 35, 265 31, 678 1, 132, 516	107, 385 25, 410 27, 230 809, 679	9, 855 4, 448 322, 837	241, 829 13, 636 2, 724 316, 868	357, 614 38, 483 33, 158 511, 753
Prairie group: North Dakota South Dakota		31	16	 14	518	1, 132, 516				343
Nebraska Kansas Iowa	1	5	i	î	3	33	33			1, 352
Rocky Mountain group: Northern sub-										•
group— Montana Idaho Wyoming Southern sub-		703 1, 709 62	459 1, 111 53	182 394 6	62 204 3	30, 344 776, 684 691	30, 344 725, 212 691	51, 472	12, 647 60, 490 250	13, 995 83, 135 306
group— Colorado New Mexico Arizona Utah Nevada		158 371 532	81 149 319 9	59 149 173	18 73 40	1, 375 33, 202 2, 413	1, 375 33, 186 2, 406	16 7 25	1, 054 75, 829 1, 567	1, 899 110, 034 2, 755
Nevada Pacific group:		23	3	10	4	94	69		69	327 17
Washington Oregon California Summary by groups.		1, 624 2, 127 1, 978	621 631 545	474 765 644	529 731 789	1, 951, 900 480, 891 648, 760	988, 956 223, 151 458, 562	962, 944 257, 740 190, 198	319, 500 190, 995 103, 174	451, 534 208, 958 653, 272
Northeastern— Softwood subgroup.		1, 615	301	823	491	272, 024	238, 053	33, 971	59, 176	111, 147
Hardwood subgroup. Appalachian Southeastern East Mississippi		6, 439 5, 749 5, 935	954 417 3, 384 255	4, 171 2, 356 6, 185 470	1, 314 2, 976 6, 366 742	1, 593, 635 1, 534, 825 5, 727, 469 467, 890	1, 473, 278 1, 345, 073 4, 921, 213 413, 157	120, 357 189, 752 806, 256 54, 733	239, 139 693, 629 4, 515, 061 210, 724	291, 176 766, 491 5, 853, 418 233, 304

Table 617.—Forest fires: Number, damage, and area, United States, 1916-1922.—Continued.

-	Number of fires by size.					Damas	ge caused b	Area burned.		
Group and State.	Cal- endar year.	To- tal.	Un- der 1 acre.	1-10 acres.	Over 10 acres.	Total.	Damage to timber.	Other damage	Forest land.	Total.
1922. Summary by groups—Contd. West Mississippi		9, 337 2, 019 36 2, 474 1, 091 5, 729	416 17 1, 623 561	652 15 582 395	951 4 269	1, 199, 459 121 807, 719 37, 085	756, 247 37, 037	337, 140  51, 472 48	73, 387 78, 519	Acres. 2, 175, 120 583, 394 1, 695 97, 436 115, 032 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.

					N	umber	of fires	by caus	es.		
Group and State.	Cal- endar year.	Total num- ber.	Light- ning.	Rail- roads.	Camp fires. <sup>1</sup>	Smok- ers.	Brush burn- ing.	Incen- diary.	Lum- ber- ing.	Miscel- lane- ous.	Un- known.
United States	1916 1917 1918 1919 1920 1921 1922	41, 003 38, 303 26, 161 27, 005 28, 153 38, 435 51, 891	2, 523 3, 066 2, 721 3, 956	3,820	3, 441 4, 041 3, 679 7, 638		6, 623 5, 668 3, 256 3, 106 3, 188 4, 358 7, 492	5, 416 2, 317 3, 125 3, 078 5, 336	2, 764 2, 594 1, 406 1, 435 1, 724 1, 826 2, 694	2, 185 1, 959 2, 039 1, 781 2, 804	6, 249 6, 718 5, 929 8, 770
Adjusted average of seven-year period 2		36, 112	3, 135	5, 287	<sup>8</sup> 5, 591		4, 865	5, 103	2, 074	2, 373	7, 684
1922 Northeastern group: Softwood sub-											
group— Maine		216	7	27	61		32	4	13	17	55
New Hamp- shire Vermont New York Hardwood sub-		584 160 655	1	308 27 109	104 21 185	8		1	7 5 7	7	
group— Massachusetts Rhode Island Connecticut New Jersey		4, 099 106 1, 137 1, 097	·	1, 511 21 237 330	30 9 62		17 147	3 8		3	53 554
Appalachian group: Pennsylvania Delaware. Maryland Virginia		3, 634 44 405 1, 019	8	1, 071 12 61 82 71	79	5	10 65	111 159	16 94	8	73 172
West Virginia. Southeastern group: North Carolina. South Carolina. Georgia. Florida. Alabama. Mississippi.		1, 272 1, 471 3, 638 3, 946 3, 382 2, 226	32 102 61 63	188 195 280 275 346	166 74 328 251 302	112 246 256 240	182 443 876 387 740	102 330 1, 212 2, 254 1, 220	61 104 410 244 234	103 181 184 218 237	404

<sup>1</sup> Includes smokers, 1916–1921.
2 Includes office estimates for a few States which did not report in certain years.
3 Includes smokers, 1916–1922.

Table 618.—Forest fires: Causes, United States, 1916-1922—Continued.

					N	lumber	of fires	by caus	ses.		
Group and State.	Cal- endar year.	Total num- ber.	Light- ning.	Rail- roads.	Camp fires.1	Smok- ers.	Brush burn- ing.	Incen- diary.	Lum- ber- ing.	Miscel- lane- ous.	Un- know <b>n.</b>
1922. East Mississippi											
group:									1		Ì
Ohio		117		28	23 2	7	19	17	5	3	15
Indiana Illinois		86 (85)		(20)	(2)	17 (17)	28 (27)	17 (17)		(2)	
Kentucky		779	458	53	45	28	70	55	40	30	
Tennessee		400		58	66	20	29	123	37	14	53
West Mississippi group:											
Missouri		2, 429	246	98	251	235	610	481	71	437	
Arkansas		3, 120	58	199	368	211	379	1, 424	131	350	
Oklahoma Louisiana		277 1, 544	4	37 192	48 204	17 92	122 112	32 156	9 128	$\frac{12}{220}$	436
Texas		1, 967	11	83	198	295	130	470	421	223	136
Lake State group:		1	اء								
Michigan		538 188	8	125 10	139 16	110 2	99 22	$\frac{22}{2}$	23	12 2	134
Wisconsin Minnesota		1, 293	2	297	107	80	151	10	10	$240^{-2}$	396
Prairie group: •		-,				- 1					•
North Dakota		31	16			8	i			3	
South Dakota Nebraska		5	3		1	11	1	1		1	
Kansas											
Iowa Rocky Mountain											<b>-</b>
group:			1	1		-	- 1	- 1			
Northern sub-		ŀ		)	1		j	j	j		
group-	ł	703	231	74	99	98	43	108	15	16	19
Montana Idaho		1, 709	1, 003	103	181	135	75	29	63	19	101
Wyoming		62	13	4	30	12	2			1	
Southern sub-		1	}	j	i	1	1	ļ	1	1	
group— Colorado	ŀ	158	47	20	48	35	4	1		3	
Colorado New Mexico		371	205	1	48	71	14	10	9	13	<b>-</b>
Arizona		532	361	23	29	81	10	4	7	17	<b>-</b>
Utah Nevada		23 7	6		. 4	4	4			1	
Pacific group:		į.			1	1	1			ĺ	
Washington		1,624	134	164	523	216	227 198	89	166	105	
Oregon California		2, 127 1, 978	465 270	47 92	284 308	237 483	203	436 206	98 55	362 147	• 214
Summary:		1, 5, 9	2.9	02	000	100	200	200	00		
Northeastern	1	1	1	1	1	i	- 1	1		1	
group— Softwood sub-	1		1	l	l	- 1	l	ł	- 1	- 1	
group		1, 615	17	471	371	204	237	26	32	79	178
Hardwood		400		2, 099	101	768	813	142	8	437	2,072
subgroup Appalachian group.		6, 439 5, 749	12	1, 297	470	1, 115	569	642	156	254	1, 234
Southeastern			J			į.	- 1	i	1	}	
group		15, 935	362	1, 523	1, 298	1,096	3, 293	5, 681	1, 210	1,068	4, 404
East Mississippi group		1, 467	458	179	138	89	173	229	82	51	68
West Mississippi		1	- 1	1	- 1	1	1		I	i	
group		9, 337	319	609	1, 089	850	1, 353 272	2, 563	760	1, 242 254	572 530
Lake States group Prairie group		2, 019 36	10 19	432	262	192 9	2/2	34	33	4	330
Rocky Mountain		30	10	-1	1	1	-			7	
group:	]	j	]	1		1	1.	. 1		1	
Northern sub- group	]	2, 474	1, 247	181	310	245	120	137	78	36	129
Southern sub-		'	· 1	- 1	1	1	1	- 1	1		
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.

<sup>&</sup>lt;sup>1</sup> Includes smokers, 1916-1921.

Table 619.—Grazing in the national forests: Number of permits issued and stock grazed, 1905-1922.

	C	lattle, horses	s, and hogs	5.	Sh	eep and goa	ts.
Year ending June 30.	Number of per-	Nu	mber graze	d.	Number of per-	Number	grazed.
	mits.	Cattle.	Horses	Hogs.	mits.	Sheep.	Goats.
1904-5 1905-6 1907-8 1908-9 1909-10 1910-11 1911-12 1912-13 1913-14	7, 981 14, 093 17, 979 19, 845 22, 163 20, 692 20, 499 21, 188 22, 032 23, 757	632, 793 1, 015, 148 1, 200, 158 1, 304, 142 1, 491, 385 1, 409, 873 1, 351, 922 1, 403, 025 -1, 455, 922 1, 517, 045	59, 331 (1) 76, 003 90, 019 84, 552 91, 516 95, 343 97, 919 99, 835	2, 076 4, 501 3, 145 4, 500 4, 330 3, 277 3, 381	(2) 2,500 3,809 4,282 5,074 4,995 5,105 5,313 5,434 5,188	1, 709, 987 5, 762, 200 6, 657, 083 6, 960, 919 7, 679, 698 7, 558, 650 7, 371, 747 7, 467, 890 7, 790, 953 7, 560, 186	(3) (3) 126, 192 139, 896 90, 300 77, 668 83, 849 76, 898 58, 616
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920 (last 6 months) 1921 (calendar year)	25, 641 28, 052 31, 136 32, 600 32, 528 31, 301 2, 146 31, 027 30, 148	1, 627, 321 1, 758, 764 1, 953, 198 2, 137, 854 2, 135, 527 2, 033, 800 88, 599 1, 999, 680 1, 915, 113	96, 933 98, 903 98, 880 102, 156 93, 251 83, 015 6, 444 78, 115 69, 640	2, 792 2, 968 2, 306 3, 371 5, 154 4, 066 1, 010 2, 453	4, 969 5, 276 5, 502 6, 513 6, 624 6, 199 652 6, 214 5, 811	7, 232, 276 7, 843, 205 7, 586, 034 8, 454, 240 7, 935, 174 7, 271, 136 553, 263 6, 936, 377 6, 851, 690	51, 400 43, 268 49, 939 57, 968 60, 789 53, 685 3; 346 43, 574 39, 889

Forest Service.

Table 620.—Timber sales from national forests, 1905-1922.

2 11 2 2	020			2000 J. C						
	Nui	nber of	sales.		nt cut in (000 omit		Value	of timber	cut.	Other
Year ending June 30.	Total.	Com- mer- cial.	"Cost" sales.1	Total.	Com- mer- cial sales.	"Cost" sales.1	Total.	Com- mercial sales.	"Cost" sales.1	tim- ber prod- uets. <sup>2</sup>
1904-5 1905-6 1906-7 1907-8 1908-9	1, 508 5, 062 4, 980	1, 023 1, 508 5, 062 4, 980		68, 475 138, 665 194, 872 392, 792 352, 434 379, 616	138, 665 194, 872 392, 792 352, 434 379, 616		* \$85, 597 * 203, 333 337, 952 794, 252 • 677, 784 906, 308	\$ 203, 333 337, 952 794, 252 677, 784 906, 308		
1910-11 1911-12 1912-13 1913-14	5, 653 5, 772 6, 182 8, 298	5, 653 5, 772 6, 091 5, 957	91 2, 341	626, 306	431, 492 494, 950 616, 661	718 9, 645	1, 271, 060	942, 819 1, 074, 682 1, 264, 490	\$503 6, 570	
1914–15	10, 840 11, 607 13, 037	6, 407 6, 921 7, 130	4, 433 4, 686 5, 907	727, 416 727, 983	575, 552 706, 558 706, 342	19, 470 20, 858 21, 641	1, 255, 698 1, 506, 909 1, 523, 421	1, 241, 105 1, 490, 814 1, 507, 121	14, 593 16, 095 16, 300	\$394 4, 837
1919–20	13, 272 6, 653 13, 690 12, 926	7, 069	6, 621	504, 113	489, 841 666, 191			1, 168, 885 1, 646, 818	9, 874 16, 364	4,511

Table 621.—Timber granted without charge from national forests, to local residents, under "free use" regulations, 1907–1922.

Year ending June 30.	Num- ber of users.	Amount cut, M board feet.	Esti- mated value.	Year ending June 30.	Num- ber of users.	Amount cut, M board feet.	Esti- mated value.
1906-7. 1907-8. 1908-9. 1909-10. 1910-11. 1911-12. 1912-13. 1913-14. 1914-15.	17, 399 30, 377 33, 431 35, 364 40, 660 38, 749 38, 264 39, 466 40, 040	86, 818 131, 977 105, 205 104, 796 123, 488 123, 233 121, 750 120, 575 123, 259	\$100, 362 169, 320 169, 081 176, 167 196, 930 196, 335 191, 825 183, 223 206, 597	1915-16. 1918-17. 1917-18. 1918-19. 1919-20. 1920 (last 6 months). 1921 (calendar year). 1922 (calendar year).	42, 070 41, 427 38, 073 34, 617 37, 336 21, 168 40, 535 37, 158	119, 488 113, 073 96, 616 90, 798 88, 060 56, 813 123, 245 89, 510	\$184,720 149,802 127,688 113,117 113,000 60,391 117,054 98,843

<sup>1</sup> Included with cattle.

<sup>&</sup>lt;sup>2</sup> Included in number of permits for cattle.

<sup>3</sup> Included with sheep.

<sup>&</sup>quot;Cost" sales are special sales made to farmers 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 622.—Lumber: Production by States, calendar years, 1870-1922.

		1870		1880		1890		1899		1904
State.	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Alabama Arizona Arkansas California Colorado	1	97, 192 1, 200 78, 692 318, 817 13, 625	20  17	251, 851 10, 715 172, 503 304, 795 63, 792	10 14 15	589, 480 5, 320 537, 884 517, 781 79, 951	12  5 22	1, 101, 386 36, 182 1, 623, 987 737, 035 133, 746	11  8 13	1, 243, 988 55, 601 1, 680, 536 1, 077, 499 141, 914
Connecticut Delaware Florida Georgia Idaho	19 13	56, 482 18, 858 158, 524 245, 141 1, 490	21 9	64, 427 31, 572 247, 627 451, 788 18, 204	22 11	48, 957 23, 466 411, 869 575, 152 27, 800	18 7	108, 093 35, 955 790, 373 1, 311, 917 65, 363	18 12	69, 376 30, 416 812, 693 1, 135, 910 211, 447
Illinois Indiana Iowa Kansas Kentucky	5 9 -15	245, 910 656, 400 325, 285 74, 163 214, 074	12 5 10	334, 244 915, 943 412, 578 45, 281 305, 684	8 12 -20	221, 810 755, 407 571, 166 4, 037 423, 185	13  21	388, 469 1, 036, 999 352, 411 10, 665 774, 651	23  21	211, 545 563, 853 281, 521 2, 120 586, 371
Louisiana Maine Maryland Massachusetts Michigan	6 17 1	76, 459 639, 167 96, 165 197, 377 2, 251, 613	7 23 1	133, 472 566, 656 1 127, 336 205, 244 4, 172, 572	25 9  1	303, 726 597, 481 82, 119 211, 588 4, 300, 172	11 19  2	1, 115, 366 784, 647 183, 711 344, 190 3, 018, 338	3 16  4	2, 459, 327 863, 860 166, 469 262, 467 2, 006, 670
Minnesota	14 18 8	242, 390 160, 584 329, 676 12, 571 13, 824	8 11	563, 974 168, 747 399, 744 21, 420 13, 585	18 23	1, 084, 377 454, 417 402, 052 89, 511 8, 561	3 10 24	2, 342, 338 1, 206, 265 723, 754 255, 685 4, 655	5 7 24	1, 942, 248 1, 727, 391 553, 940 236, 430 1, 862
Newada	11 24 3	35, 025 253, 434 101, 829 6, 909 1, 310, 066	19  4	21, 545 292, 267 109, 679 11, 195 1, 184, 220	6	277, 063 34, 052 26, 112 925, 417	25  17	725 572, 447 74, 118 30, 880 878, 448	25  22	(2) 491, 591 44, 058 81, 113 581, 976
North CarolinaOhioOklahomaOregonPennsylvania.	22 7  2	124, 938 557, 237 75, 193 1, 629, 631	22 6  2	241, 822 910, 832 	16 13 19 3	514, 692 565, 315 2, 552 446, 483 2, 133, 316	8 14 23 4	1, 286, 638 990, 497 22, 104 734, 538 2, 333, 278	10  14 6	1, 318, 411 420, 905 (³) 987, 107 1, 738, 972
Rhode Island South Carolina South Dakota Tennessee Texas	16	12, 732 95, 098 3, 894 204, 751 106, 897	24 18 13	8, 469 185, 772 29, 286 302, 673 328, 968	17 7	7, 633 198, 764 <sup>3</sup> 28, 233 460, 261 842, 648	16 9	18, 528 466, 429 3 33, 734 950, 958 1, 232, 404	20 19 9	15, 398 609, 769 13, 705 775, 885 1, 406, 473
Utah Vermont Virginia Washington	20	19, 741 241, 687 144, 225 128, 743	14 15	25, 709 322, 942 315, 939 160, 176	24 21 5	14, 320 384, 476 415, 512 1, 063, 584	15 6	17, 548 375, 809 959, 119 1, 429, 032	15 2	12, 630 337, 238 949, 797 2, 485, 628
West Virginia Wisconsin Wyoming All other	4	76, 375 1, 098, 199 3, 260	25 3 	180, 112 1, 542, 021 2, 960		301, 958 2, 866, 153 6, 417 4 2, 816	20 1 	778, 051 3, 389, 166 16, 963 4 6, 571	17 1 	855, 889 2, 623, 157 7, 990 5 51, 993
United States		12, 755, 543		18, 091, 356		<sup>6</sup> 23, 845, 046		<sup>7</sup> 35, 084, 166		6 34, 135, 139 =========
State groups: Northeastern	1 3 4 6 2 8 7 10 9 5	4, 557, 428 2, 284, 423 923, 489 364, 261 3, 592, 202 203, 936 353, 842 14, 061 44, 735 417, 166	2 3 4 5 1 7 8 10 9 6	4, 642, 656 3, 349, 232 1, 754, 956 743, 533 6, 278, 567 337, 347 326, 340 39, 624 114, 371 504, 730	2 4 3 6 1 5 8 10 9 7	4, 725, 568 3, 129, 988 3, 717, 728 1, 128, 968 8, 250, 702 1, 510, 067 517, 781 117, 311 132, 120 8 614, 813	3 4 2 5 1 6 7 9 10 8	5, 709, 224 5, 643, 379 8, 403, 802 2, 712, 186 8, 749, 842 2, 163, 760 737, 760 321, 048 235, 319 8 408, 036	3 4 1 6 2 5 7 8 10 9	4, 601, 821 3, 968, 388 10, 466, 318 2, 877, 977 6, 572, 075 3, 472, 735 1, 077, 499 447, 877 299, 248 8 351, 201

Includes cut of District of Columbia.
 Included in "All other."
 Includes cut of North Dakota.
 Reported as the cut of Alaska.

Includes cut of Alaska, Nevada, and Oklahoma.
 Excludes custom mills (sawing 3,196,527 M ft. in 1890).
 Includes both merchant and custom sawing.
 Includes "All other."

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.
1919	35. 650 44. 125 28. 574 27. 810	35. 650 45. 500 28. 938 28. 143	Cents. 35. 875 47. 250 26. 906 27. 822 31. 566	35. 650 46. 500 26. 100 27. 810	42. 500 43. 500 26. 344 28. 751	42. 500 40. 875 25. 422 28. 911	43. 000 37. 875 23. 059 28. 891	43. 500 35. 750 24. 224 29. 014	45. 000 33. 788 26. 390 28. 741	43. 000 30. 625 27. 419 28. 842	43. 375 29. 375 26. 874 29. 511	45. 000 27. 250 27. 449 30. 649

### POUND STERLING.5

1912 1913 1914 1915	\$4. 8699 4. 8688 4. 8623 4. 8422	4. 8746 4. 8729 4. 8570 4. 8628	4. 8688 4. 8698	4. 8651 4. 4. 8831 4.	8670 4. 8678 8849 4. 8878	4. 8640 4. 8 5. 0000 4. 9	68 4, 8580 12 4, 9530	\$4. 8506 \$4. 8502 4. 8526 4. 8535 4. 9031 4. 8715 4. 6706 4. 7208
1916 1917 1918 1919	4. 7567 4. 7525	4. 7550 4. 7544 4. 7525 4. 7525	4. 7567 4. 7550	4. 7555 4. 4. 7550 4.	7544 4. 7553 7538 4. 7525	4. 7545 4. 75 4. 7562 4. 75	48 4.7522 50 4.7550	4. 7567 4. 7479 4. 7520 4. 7517 4. 7575 4. 7575 4. 0812 3. 7688
1920 1921 1922 1923	3. 7562 4. 2248	3. 8712 3. 9150 4. 3620 4. 3757	3. 9300 4. 4134	3. 9775 3. 4. 4461 4.	7725 3. 6321 4519 4. 4464	3. 6536 3. 75 4. 4647 4. 43	40 3. 8729 07 4. 4385	3. 4250 3. 9702 4. 1561 4. 4799 4. 6098 4. 3822 4. 3602

Division of Statistical and Historical Research.

Table 697.—Farmers' organizations handling grain, 1923.

		Meml	bership.			v	olume o	of busi	ness.		
24.4	Total Num- ber			Num-		(	Frain h	ndled	, thouse	ands of l	oushels.
State.	re- port- ing.	ber re- port- ing.	Mem- bers.	ber re- port- ing.	Amount.1	Num- ber re- port- ing.	Wheat	Rye.	Oats.	Other grains.	Total.
Illinois	392 335 325 323 289	247 232 251	39, 318 30, 177 31, 295 25, 901 29, 911	269 185 181 211 160	\$52, 445, 000 33, 341, 000 39, 459, 000 35, 246, 000 32, 160, 000		11, 075 10, 802 1, 462 24, 252 21, 233	547 253 195 5, 958 58	19, 373 2, 169 18, 404 1, 237 659	34, 003 12, 625 24, 300 4, 872 2, 698	64, 998 25, 849 44, 361 36, 319 24, 648
Minnesota North Dakota Ohio Missouri Indiana	249 205 192 150 118	148 155 119	31, 803 19, 274 24, 136 18, 144 12, 887	176 112 127 90 73	25, 405, 000 16, 743, 000 20, 403, 000 22, 648, 000 9, 717, 000	177 122 127 89 73	5, 095 6, 674 3, 979 11, 149 1, 562	3, 498 1, 167 66 103 253	9, 916 4, 092 2, 409 526 3, 018	8, 611 6, 359 3, 115 2, 842 3, 123	27, 120 18, 292 9, 569 14, 620 7, 956
Oklahoma Michigan Montana Wisconsin Colorado	78		17, 227 14, 716 5, 185 7, 335 6, 303	54 48 41 26 19	10, 814, 000 8, 805, 000 6, 226, 000 2, 218, 000 4, 720, 000	58 48 39 21 17	7, 593 1, 314 10, 810 36 1, 726	295 152 211 73	206 605 154 343 57	1, 235 403 397 259 623	9, 038 2, 617 11, 513 849 2, 479
Washington Texas	40 18 15 13 9	34 12 7 11 8	5, 355 4, 069 977 2, 523 3, 628	28 8 7 8 7	7, 920, 000 2, 458, 000 1, 056, 000 4, 725, 000 10, 473, 000	28 7 5 9 7	7, 181 1, 001 914 2, 130 3, 771	46 	146 16 33 66 12	33 191 850 2, 083 48	7, 406 1, 208 1, 797 4, 279 3, 831
Wyoming New Mexico All others United States	5 24 3,029	4 3 18 2, 358	328 148 2, 920 333,560	2 1 15 1,848	164, 000 6, 000 2, 047, 000 349, 199, 000	1 11 1,882	258 134,064	24 5 12,908	78 63, 520	226 108,897	73 567 319, 389

Division of Agricultural Cooperation. Reports from associations to Feb. 5, 1924.

<sup>&</sup>lt;sup>4</sup> 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.

<sup>6</sup> 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.

<sup>&</sup>lt;sup>1</sup> Including sales of supplies to members.

Table 622.—Lumber: Production by States, calendar years, 1870-1922—Contd.

	1910		1911		1912	•	1913		1914
Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
11 7 14	1, 465, 623 72, 655 1, 844, 446 1, 254, 826 121, 398	13 6 14	1, 226, 212 73, 139 1,777, 303 1, 207, 561 95, 908	12 7 14	1, 378, 151 76, 287 1, 821, 811 1, 203, 059 88, 451	8 7 13	1, 523, 936 77, 363 1, 911, 647 1, 183, 380 74, 602	8 6 12	1, 494, 735 78, 667 1, 796, 780 1, 303, 183 102, 117
	126, 463 46, 642 992, 091 1, 041, 617 745, 984	16 19 20	124, 661 23, 853 983, 824 801, 611 765, 670	15 17 21	109, 251 28, 285 1, 067, 525 941, 291 713, 575	15 17 21	93, 730 18, 039 1, 055, 047 844, 284 652, 616	15 16 20	81, 883 25, 517 1, 973, 821 1, 926, 191 763, 508
	113, 506 422, 963 75, 446 639 753, 556	21	96, 651 360, 613 59, 974 (1) 632, 415	22	122, 528 491, 017 46, 593 (1) 641, 296	22	102, 902 332, 993 21, 676 (1) 541, 531	22	66, 227 298, 577 11, 443 (1) 596, 392
2 19 9	3, 733, 900 860, 273 154, 554 239, 206 1, 681, 081	18  10	3, 566, 456 828, 417 144, 078 273, 317 1, 466, 754	19  10	3, 876, 211 882, 128 174, 320 259, 329 1, 488, 827	18  12	4, 161, 560 834, 673 140, 469 224, 580 1, 222, 983	1 17  13	3, 956, 434 992, 594 162, 097 143, 094 1, 214, 435
12 3 24	1, 457, 734 2, 122, 295 501, 691 319, 089 (1)	9 3 25	1, 485, 015 2, 041, 615 418, 586 228, 416 (1)	11 3 	1, 436, 726 2, 381, 893 422, 470 272, 174	14 3 24	1, 149, 704 2, 610, 581 416, 608 357, 974 (1)	11 3 25	1, 312, 230 2, 280, 966 370, 571 317, 842 (¹)
23	(1) 443, 9 <b>97</b> 36, 542 83, 544° 506, <b>074</b>	23	(1) 388, 619 28, 639 83, 728 526, 283	25 23	(1) 479, 499 34, 810 82, 650 502, 351	23	(1) 309, 424 27, 248 65, 818 457, 720	24  23	(1) 482, 744 48, 748 57, 167 486, 195
8 25 4 15	1, 824, 722 490, 039 164, 663 2, 084, 633 1, 241, 199	5 24 4 15	1, 798, 724 427, 161 143, 869 1, 803, 698 1, 048, 606	24 24  5 16	2, 193, 308 499, 834 168, 806 1, 916, 160 992, 180	6 25 4 19	1, 957, 258 414, 943 140, 284 2, 098, 467 781, 547	4  5 19	2, 227, 851 286, 063 290, 594 1, 817, 875 864, 710
22 17 6	14, 392 706, 831 16, 340 1, 016, 475 1, 884, 184	22 17 8	9, 016 584, 872 13, 046 914, 579 1, 681, 080	20 18 6	14, 421 816, 930 20, 986 932, 572 1, 992, 201	20 16 5	14, 984 752, 184 19, 103 872, 311 2, 081, 471	21 18 7	15, 902 701, 540 18, 744 885, 035 1, 554, 005
10	11, 786 284, 815 1, 652, 192 4, 097, 492	12 1	10, 573 289, 254 1, 359, 790 4, 064, 754	 8 1	9, 055 235, 983 1, 569, 997 4, 099, 775	10 1	5, 403 194, 647 1, 273, 953 4, 592, 053	9 2	8, 680 249, 608 1, 488, 070 3, 946, 189
13 5	30, 931 2 11, 955	11 7 	1, 387, 786 1, 761, 986 33, 309 3 11, 786	13 9	1, 318, 732 1, 498, 876 13, 560 3 22, 525	11 9 	1, 249, 559 1, 493, 353 12, 940 3 19, 461	14 10	1, 118, 480 1, 391, 001 11, 852 3 15, 672
6 4 1 5 3 2 7 8	3, 954, 067 4, 674, 967 13, 248, 679 4, 183, 745 5, 030, 106 6, 182, 125 1, 254, 826 1, 065, 073 320, 314	6 4 1 5 3 2 7 8	3, 634, 743 4, 237, 791 12, 221, 970 3, 743, 386 4, 713, 755 5, 868, 452 1, 207, 561 994, 086 296, 657	6 5 1 3 4 2 7 8	3, 712, 557 4, 338, 449 13, 537, 894 4, 589, 235 4, 424, 429 6, 915, 935 1, 203, 659 985, 749 279, 003	6 4 1 3 5 2 7 8	3,097,061 3,930,847 14,328,810 3,988,395 3,866,040 6,690,520 1,183,380 1,010,590 236,126	6 5 1 3 4 2 7 8	3, 553, 092 3, 621, 339 13, 383, 523 4, 417, 464 3, 917, 666 5, 764, 064 1, 303, 183 1, 081, 350 258, 483
	111 7 14 18 16 21 20 2 19 12 3 24 23 24 15 17 6 10 1 1 3 5 27 8	Quantity (M feet).	Quantity	Quantity	Quantity	Heat	Heat	Carrier   Carr	Hard   Quantity   Hard   Qua

<sup>1</sup> Included in "All other."
2 Includes cut of Nebraska.
3 Includes cut of Kansas, Nebraska, and Nevada.
4 Mills cutting less than 50 M feet each year excluded.
5 Excludes custom mills (sawing 3,196,527 M feet in 1890).
6 Includes "All other."

Table 622.—Lumber: Production by States, calendar years, 1870-1922—Contd.

		1915		1916		1917		1918
State.	Rank.	Quantity. (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
AlabamaArizonaArkansasCaliforniaColorado	8 5 11	1, 500, 000 75, 915 1, 800, 000 1 1, 130, 000 74, 500	8 7 11	1, 720, 000 93, 270 1, 910, 000 1 1, 420, 000 77, 580	7 5 9	1, 555, 000 79, 022 1, 765, 000 1, 417, 068 71, 500	9 5 7	1, 270, 000 83, 661 1, 470, 000 1 1, 277, 084 56, 882
Connecticut Delaware Florida Georgia Idaho	12 17 21	90,000 25,000 1,110,000 1,000,000 777,000	10 16 19	75,000 12,000 1,425,000 1,000,000 849,600	11 19 17	66, 000 8, 500 1, 230, 000 740, 000 760, 000	12 21 15	64, 000 6, 000 950, 000 515, 000 802, 529
IllinoisIndianaIowaKansasKentucky		110, 000 350, 000 35, 000 (²) 560, 000	22	60, 000 270, 000 20, 000 534 525, 000	23	45, 000 240, 000 13, 436 4, 255 360, 000	23	42, 000 250, 000 14, 200 <sup>3</sup> 8, 401 340, 000
Louisiana	2 16  13	3, 900, 000 1, 000, 000 165, 000 250, 000 1, 100, 000	17 13	4, 200, 000 935, 000 90, 237 210, 000 1, 230, 000	16  13	4, 210, 000 770, 000 68, 000 155, 000 1, 065, 000	17 13	3, 450, 000 650, 000 71, 000 175, 000 940, 000
Minnesota	14	1, 100, 000 2, 300, 000 350, 000 328, 000 ( <sup>2</sup> )	15 3 25	1, 220, 000 2, 730, 000 260, 000 383, 900 ( <sup>2</sup> )	12 4 24	1, 075, 000 2, 425, 000 275, 000 350, 000	11 4 24	1, 005, 000 1, 935, 000 273, 000 340, 000 (4)
Nevada New Hampshire New Jersey New Mexico New York	23	(5) 500, 000 45, 000 65, 787 475, 000	24	(5) 385, 000 40, 000 91, 600 400, 000	25 	(5) 290, 000 25, 000 93, 000 360, 000	22 	(6) 350, 000 19, 500 88, 915 335, 000
North Carolina Ohio Oklahoma Oregon Pennsylvania	25 7 18	2, 090, 000 400, 000 230, 000 1, 690, 000 950, 000	5 4 20	2, 100, 000 280, 000 240, 000 2, 222, 000 750, 000	8 3 21	1, 460, 000 225, 000 240, 000 2, 585, 000 565, 000	10 3 20	1, 240, 000 235, 000 195, 000 2, 710, 250 530, 000
Rhode Island South Carolina South Dakota Tennessee Texas	19 20 6	15, 000 800, 000 22, 562 800, 000 1, 750, 000	18 21 6	18,000 857,000 29,650 700,000 2,100,000	18 20 6	10, 646 745, 000 29, 045 630, 000 1, 735, 000	19 18 6	13, 100 545, 000 29, 533 630, 000 1, 350, 000
Utah Vermont Virginia Washington	9 1	10, 892 260, 000 1, 500, 000 3, 950, 000	12 1	9, 385 200, 000 1, 335, 000 4, 494, 000	14 1	8, 567 170, 000 1, 060, 000 4, 568, 500	14 1	9, 815 160, 000 855, 000 4, 603, 123
West Virginia		1, 100, 000 1, 210, 000 17, 000 (²)	14 9	1, 220, 000 1, 600, 000 18, 495 (2)	15 10 	890, 000 1, 385, 000 8, 700	16 8	720, 000 1, 275, 000 7, 501 
United States State groups: Northeastern Central	4 5	3, 775, 000 3, 670, 000 13, 590, 000	6 5	3, 115, 237 3, 315, 000	6 5	2, 488, 146 2, 665, 000	6 5	2, 373, 600 2, 490, 000 11, 135, 000
Southern N. C. pine Lake North Pacific South Pacific	1 3 6 2 7	13, 590, 000 4, 390, 000 3, 410, 000 5, 640, 000 1, 130, 000 1, 105, 000	1 3 4 2 7 8	15, 325, 000 4, 292, 000 4, 050, 000 6, 716, 000 1, 420, 000	1 4 3 2 7 8	13, 900, 600 3, 265, 000 3, 525, 000 7, 153, 500 1, 417, 068	1 4 3 2 7 8	2, 640, 000 3, 220, 000 7, 313, 373 1, 277, 084
N. Rocky Mt S. Rocky Mt Prairie	8 9 10	1, 105, 000 244, 094 57, 562	8 9 10	1, 233, 500 290, 330 50, 184	8 9 10	1, 110, 000 260, 789 46, 736	9 10	1, 142, 529 246, 774 52, 134

Includes cut of Nevada.
 Mills cutting less than 50 M feet each per year.
 Includes eut of Nebraska.

<sup>&</sup>lt;sup>4</sup> Included with Kansas. <sup>5</sup> Included with California.

Table 622.—Lumber: Production by States, calendar years, 1870-1922—Contd.

,		1919		1920		1921	1922, 1	prelim <b>in</b> ary.
State.	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Alabama	5	1, 798, 746	7	1, 439, 200	6	1, 386, 426	7	1,457,608
Arizona		73, 655	<u>-</u> -	121, 160		46, 418		88, 800
Arkansas	6	1, 772, 157	6 5	1, 452, 200	8 7	1, 301, 095	8	1, 382, 032
California Colorado		1, 259, 363 64, 864	9	1 1, 513, 000 70, <b>00</b> 0	'	1, 350, 438 41, 076	5	1 1, 720, 556 38, 917
Connecticut		86, 708		71,600		64, 841		53, 198
Delaware		27, 437		19, 800		20, 839		14, 139
Florida	10	1, 137, 432	12	1,000,900	10	922, 332	9	980, 014
Georgia		893, 965	15	761, 800	12	792, 579	13	809, 391
Idaho		765, 388	13	970, 000	16	542, 620	11	<b>8</b> 57, 581
Illinois		64, 628		56, 900		42, 531 138, 397		24, 387
Indiana		282, 487		258, 300		138, 397		148, 569
Iowa Kansas		18, 493 2, 840		14, 300 2 4, 500		5,372		6, 131
Kentucky	22	512, 078	22	421, 100	24	255, 922	24	2 3, 657 210, 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
Massachusetts		166, 841		139, 200		136, 736		94,656
Michigan	14	875, 891	16	749, 800	15	571, 387	15	656, 952
Minnesota •		699, 639	19	576, 300	20	412, 145	· 18	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 Nebraska		287, 378 505	24	410, 000 (4)	25	213, 989 (³)	22	303, 458 (4)
Nevada		20, 335		(5)		(3)		
New Hampshire	24	338, 777		248, 600	23	261, 999		(5) 180, 706
New Jersey	24	36, 888		23, 300	20	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
Oklahoma		168, 403	2	163, 400		120, 371		149, 323
Oregon Pennsylvania	3 19	2, 577, 403 630, 471	20	3, 317, 000 520, 000	21	2, 022, 219 368, 102	$\frac{3}{21}$	3, 023, 768 333, 289
Rhode Island		11,030	20	8,900	21	4, 946	21	,
South Carolina	20	621, 679	18	610, 500	13	684, 333	12	3,030 854,799
South Dakota		42, 970	10	45, 100	10	27, 062	12	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	6	1, 542, 708
Utah		11, 917		7, 750		7,689		6,827
Vermont		218, 479		164, 500		139, 183		95, 967
Virginia Washington	12	1,098,038	11	1, 014, 400	14	592, 979	16	617, 493
	1	4, 961, 220	1	5, 525, 000	1	3, 831, 800 467, 002	1	5, 836, 277
West Virgina Wisconsin	17 11	763, 103 1, 116, 338	17 10	697, 600 1, 059, 900	17 11	800, 477	17 14	554, 277 775, 540
Wyoming	11	8, 674	10	7, 550	11	5, 750	7.4	7,850
All other		0,011				6 13, 310		1,000
United States		7,8 34,552,076		<sup>9</sup> 33, 798, 800		10 26, 960, 864		9 31, 568, 888
		7- 31,002,010		- 35, 750, 600		20, 900, 804		31, 300, 600
State groups: Northeastern	6	9 509 079	م	9 100 000		1 707 074		1 400 077
Central	4	2, 583, 873 3, 015, 887	6	2, 198, 000 2, 735, 300	4 5	1, 797, 074 1, 784, 009	7 5	1, 423, 377 1, 762, 298
Southern	1	12, 704, 483	1	2, 735, 300 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	3	2, 408, 540
Lake	. 5	2, 691, 868	5	2,386,000	6	1,647,425	4	1,944,236
North Pacific	2	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 9	1, 380, 000 318, 700	8 9	756, 609	8	1, 161, 039
S Rocky Mt								
S. Rocky Mt Prairie	9 10	245, 918 64, 808	10	63, 900	10	195, 453	10	268, 843 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, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

Central: Illinois, Indiana, Kentucky, Missouri, Ohio, Tennessee, West Virginia.

Southern: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississisppi, Oklahoma, Texas North Carolina Pine: North Carolina, South Carolina, Virginia.

Lake: Michigan, Minnesota, Wisconsin.

North Pacific: Oregon, Washington.

South Pacific: California, Nevada.

North Rocky Mountain: Arizona, Colorado, New Mexico, Utah, Wyoming.

Prairie: Iowa, Kansas, Nebraska, South Dakota, North Dakota.

Includes cut of Nevada. Compiled from Forest Service and Bureau of the Census reports, Figures 1915-1918

Includes cut of Nevada.
Includes cut of Nevada.
Includes cut of Nebraska.
Included in "All other."  $^7$  Includes both merchant and custom sawing.  $^8$  Includes 2,655 mills cutting less than 50  $\,$  M feet each

per year.

Mills cutting less than 50 M feet each year excluded. Included with Kansas. <sup>5</sup> Included with California.
<sup>6</sup> Includes cut of Kansas, Nebraska, and Nevada.

10 Excludes cut on mills.
11 Includes "All other."

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Table 623.—Lumber value: Production by States, calendar years, 1840, 1850, and 1860 compared with 1920.

-		1840		1850		1860		1920
State.	Rank.	Value.	Rank.	Value.	Rank.	Value.	Rank.	Value.
Alabama	20	\$169,008	16	\$1, 103, 481	17	\$1,873,484	8	\$45, 708, 99
Arizona		150 015		100 016		1 155 000	6	4, 539, 80
Arkansas California	19	176, 617	20	122, 918 959, 485	8	1, 155, 902 3, 943, 881	5	60, 459, 48
Colorado								4, 539, 86 56, 722, 93 60, 459, 48 2, 008, 30
Connecticut		147, 841		534, 794		572, 731 276, 161 1, 476, 645		2, 548, 96 580, 14 37, 934, 11 23, 600, 56 37, 694, 20
Delaware		5, 562		236, 863		276, 161	13	27 024 11
l'Iorida		20, 346 114, 050		391, 034 923, 403	12	2, 412, 996	18	23, 600, 56
Florida Jeorgia daho							14	37, 694, 20
llinois	16	203, 666	11	1, 324, 484	10	2, 543, 985		2, 215, 26 14, 426, 0
ndiana	8	420, 791	6	2, 195, 351 470, 760	1 7	4, 271, 605		14, 426, 0
(ABIVA		50, 280		470, 760	16	2, 124, 502		583, 01
Kansas Kentucky		130, 329	8	1, 502, 434	11	2, 343, 583 4, 271, 605 2, 124, 502 1, 550, 737 2, 463, 085		583, 0 1 617, 73 17, 627, 24
		1		, ,	11			
Louisiana	2	66, 106 1, 808, 683	13 3	1, 129, 677 5, 872, 573	4	1, 575, 995 6, 598, 565 2 626, 989	2	137, 155, 20 18, 398, 78
Maryland	14	226, 977	ł	2 614, 168		<sup>2</sup> 626, 989		2, 865, 88
Massachusetts	îî	226, 977 344, 845 392, 325	7	1, 552, 265	13	2, 218, 144 7, 040, 190		4, 279, 00 34, 483, 30
Maine Maryland Massachusetts Michigan	9	392, 325	5	5, 872, 573 2 614, 168 1, 552, 265 2, 464, 329	3	7, 040, 190	15	34, 483, 30
Minnesota				57, 800		1, 234, 203	20	20, 850, 5
Mississippi Missouri	18	192, 794 70, 355	9	913, 197 1, 479, 124	18	1,823,627 3,074,226	4	82, 421, 49
Missouri Montana		10, 300	9	1,479,124	9	3, 014, 220		13, 509, 50
Nebraska						335, 340		82, 421, 44 10, 293, 44 13, 509, 56
Mayada	1							(3)
New Hampshire	7	433, 217 271, 591	17	1,099,492		1, 208, 629		(³) 8, 412, 6
New Jersey	12	271, 591	14	1, 123, 052	20	1,608,610		983, 0
Nevada New Hampshire New Jersey New Mexico New York	1	3, 891, 302	1	1, 099, 492 1, 123, 052 20, 000 13, 126, 759	2	1, 208, 629 1, 608, 610 45, 150 9, 710, 945		4, 265, 13 19, 760, 18
	1		1	1	_	Į.		
North Carolina	6 13	506, 766 262, 821	18	985, 075 3, 864, 452	5	1, 074, 003 5, 158, 076	10	41, 901, 5 12, 914, 2 6, 305, 6
Ohio Oklahoma		202, 821	*	3, 604, 452	3	3, 138, 070		6, 305, 6
Oregon			$\frac{10}{2}$	1, 355, 500 7, 729, 058		690,008	3	121, 070, 5 22, 994, 4
Oregon Pennsylvania	3	1, 150, 220	2	7, 729, 058	1	10, 743, 752	19,	
Rhode Island South Carolina		44, 455 537, 684		241,556		74, 592		307, 2 24, 401, 6 1, 849, 1 33, 227, 2
South Carolina	5	537, 684	15	1, 108, 880		1, 124, 440	17	24, 401, 6
South Dakota	15	217, 606		725, 387	15	2, 199, 703	16	33, 227, 2
Tennessee Texas				466, 012	19	1, 735, 454	9	45, 312, 0
Utalı				14, 620		119, 145		178.6
Vermont	10	346, 939 538, 092		618, 065 977, 412		119, 145 901, 519 2, 201, 187		178, 6 6, 471, 4 40, 758, 5
Vermont Virginia Washington	4	538, 092	19	977, 412	14	2, 201, 187 1, 172, 520	11	40, 758, 5 190, 778, 2
	I.					1, 172, 520	1	
West Virginia 4							12	38, 556, 3 46, 720, 3 193, 2
W isconsin	. 16	202, 239	12	1, 218, 516	6	4, 377, 880	1	46, 720, 3
Wyoming All other		!						195, 2
		10 042 507		ED 591 076		93, 338, 606		1, 298, 899, 1
United States		12, 943, 507		58, 521, 976		20, 000, 000		2, 200, 000, 1
State groups:5 Northeastern	1	8, 671, 632	1	32 748 645	1	34, 540, 637	1	87, 601, 6
Central	. 3	1, 305, 568	2	32,748,645 11,091,232 5,049,722	2	34, 540, 637 19, 710, 680 12, 054, 103	3	87, 601, 6 129, 259, 9
Southern	1 4	1, 305, 568 738, 921	3	5, 049, 722	1 4	12, 054, 103	1	435, 160, 9
North Carolina pine	2 5	1, 582, 542 594, 564	5 4	3, 071, 367 3, 740, 645 1, 355, 500 959, 485	5 3	4, 399, 630 12, 652, 273 1, 862, 528 3, 943, 881	4	107, 061, 8
Lake North Pacific	. 5	594, 564	1 4	3,740,645	3	1.862.528	5 2	311.848 7
South Pacific	1			959, 485		3, 943, 881	l	129, 259, 9 435, 160, 9 107, 961, 8 102, 054, 2 311, 848, 7 60, 459, 4
N. Rocky Mt								) 01, 200, 1
N. Rocky Mt S. Rocky Mt			-	34, 620		164, 295		11, 185, 1
Prairie		. 50, 280		470, 760		4, 010, 579		3, 063, 4

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

Estimated.
 Including District of Columbia (product valued at \$29,000 in 1850, and \$21,125 in 1860).
 Included with California.
 Part of Virginia prior to 1870.
 Distribution of States same as shown in Table 622

Table 624.—Lumber production: By species, calendar years, 1899-1922.

		1899		1904		1905 •		1906 1907		
Species or kind of wood.	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
Yellow pine	1 5 2 4 8	9, 658, 548 1, 736, 507 7, 772, 391 3, 420, 673 944, 560	1 4 2 3 7	11, 533, 070 2, 928, 409 5, 332, 704 3, 268, 787 1, 279, 237	1 3 2 4 7	8, 771, 966 4, 319, 479 4, 983, 698 2, 804, 083 988, 542	1 2 3 4 7	11, 661, 077 4, 969, 843 4, 583, 727 3, 537, 329 1, 386, 777	1 2 3 5 7	13, 215, 185 4, 748, 872 4, 192, 708 3, 373, 016 1, 527, 195
Spruce	6 10 13	1, 448, 091 495, 836 360, 167 232, 978 50, 619	6 9 12	1, 303, 886 749, 592 519, 267 223, 035 31, 784	6 8 11 12	1, 165, 940 753, 369 411, 689 363, 900 140, 636	6 9 11	1, 644, 987 839, 276 659, 678 357, 845 289, 473	6 10 13	1, 726, 797 757, 639 569, 450 251, 002 324, 509
White fir		53, 558 		183, 541		52, 725 1 <b>23,</b> 085 35, 506		104, 329 133, 640 		146, 508 115, 005 1 53, 339
Softwoods		26, 153, 063		27, 353, 312		24, 914, 618		30, 235, 245		31, 001, 225
Oak	15	4, 438, 027 633, 466 285, 417 1, 115, 242 206, 688	5 10 11 8 15	2, 902, 855 587, 558 523, 990 853, 554 243, 537	5 9 13 10	1, 833, 769 608, 746 316, 588 582, 748 224, 413	5 8 12 10 13	2, 820, 393 882, 878 453, 678 683, 132 407, 379	4 8 11 9 12	3, 718, 760 939, 073 689, 200 862, 849 653, 239
BirchBeechBasswoodBilmCottonwood	14 11 12	308, 069 456, 731 415, 124	14 13	224, 009 228, 041 258, 330 321, 574	15 14 	240, 704 219, 000 258, 390 227, 038 236, 000	15 14 	370, 432 275, 661 376, 838 224, 795 263, 996	15 14	387, 614 430, 005 381, 088 260, 579 293, 161
AshHickoryTupeloWalnutSycamore		269, 120 96, 636 38, 681 29, 715		169, 178 106, 824 31, 455 18, 002	- <del>-</del>	159, 634 95, 803 35, 794 29, 851		214, 460 148, 212 47, 882 48, 174		252, 040 203, 211 68, 842 41, 490 46, 044
Cherry All other hardwoods Minor species	1	208, 504		312, 920		<sup>2</sup> 519, 865		97, 581		9, 087 18, 647
Hardwoods	1 .	8, 634, 021		6, 781, 827		5, 588, 343		7, 315, 491		9, 254, 929
Total		34, 787, 084		34, 135, 139		<b>30, 502,</b> 961		37, 550, 736		<b>40, 256,</b> 154
		1908		1909		1910		1911	1912	
Species or kind of wood.	Rank.	Quantity (M feet).	Rank.	Quantity	Rank.	Quantity	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).
		(111 1000).	- H	(M feet).	183 183	(M feet).	R	(141 1000).	R	
Yellow pine	1 2 3	11, 236, 372 3, 675, 114 3, 344, 921 2, 530, 843 1, 275, 550	1 2 4 5 7	16, 277, 135 4, 856, 378 3, 900, 034 3, 051, 399 1, 499, 985	1 2 4 5 6	(M feet).  14, 143, 471 5, 203, 644 3, 352, 183 2, 836, 129 1, 562, 106	1 2 3 5 6	12, 896, 706 5, 054, 243 3, 230, 584 2, 555, 308 1, 330, 700	2 1 2 4 5 7	5, 175, 123 3, 138, 227 2, 426, 554 1, 219, 444
Douglas fir	1 2 3 5 7	11, 236, 372 3, 675, 114 3, 344, 921	1 2 4	16, 277, 185 4, 856, 378 3, 900, 034 3, 051, 399 1, 499, 985 1, 748, 547 955, 635 521, 630 346, 008 421, 214	1 2 4 5	14, 143, 471 5, 203, 644 3, 352, 183 2, 836, 129 1, 562, 106 1, 449, 565 543, 493 415, 039 382, 514	1 2 3 5	12, 896, 706 5, 054, 243 3, 230, 584 2, 555, 308 1, 330, 700 1, 261, 728 981, 527 489, 768 374, 925 368, 216	1 2 4	1, 238, 600 997, 227 496, 796 329, 000 407, 064
Douglas fir	1 2 3 5 7 6 9 14	11, 236, 372 3, 675, 114 3, 344, 921 2, 530, 843 1, 275, 550 1, 411, 992 743, 297 404, 802 272, 764 382, 466 98, 120 99, 809 69, 956	1 2 4 5 7 6 9 13	16, 277, 135 4, 856, 378 3, 900, 034 3, 051, 399 1, 499, 985 1, 748, 547 955, 635	1 2 4 5 6 7 9 12	14, 143, 471 5, 203, 644 3, 352, 183 2, 836, 129 1, 562, 106 1, 449, 912	1 2 3 5 6 7 8 13	12, 896, 706 5, 054, 243 3, 230, 584 2, 555, 308 1, 330, 700 1, 261, 728 981, 527	1 2 4 5 7 6 9 13	14, 737, 052 5, 175, 123 3, 138, 227 2, 426, 554 1, 219, 444 1, 238, 600 997, 227 496, 796 329, 000 407, 064 122, 613 132, 416 84, 261 22, 039

<sup>&</sup>lt;sup>1</sup>Includes a small quantity of softwoods in New York not separately reported.

<sup>2</sup>Reported as "Mixed" and probably includes some softwoods

Table 624.—Lumber production: By species, calendar years, 1899-1922—Contd.

		•	1		Г		1		<u> </u>	
		1908		1909		1910		1911	Ŀ	1912
Species or kind of wood.	Rank.	Quantity (M feet).								
Oak	4 8 11 10 12	2, 771, 511 874, 983 589, 347 654, 122 539, 341	3 8 11 10 12	4, 414, 457 1, 106, 604 706, 945 858, 500 663, 891	3 8 11 10 13	3, 522, 098 1, 006, 637 610, 208 734, 926 535, 049	4 9 11 10 12	3, 098, 444 951, 667 582, 967 659, 475 529, 022	3 8 10 11 12	3, 318, 952 1, 020, 864 694, 260 623, 289 554, 230
BirchBeechBasswoodBasswoodCottonwood	15 13	386, 367 410, 072 319, 505 273, 845 232, 475	14	452, 370 511, 244 399, 151 347, 456 265, 600	15 14 	420, 769 437, 325 344, 704 265, 107 220, 305	14 15 	432, 571 403, 881 304, 621 236, 108 198, 629	14	388, 272 435, 250 296, 717 262, 141 227, 477
Ash Hickory Tupelo Walnut Sycamore		225, 367 197, 372 69, 170 43, 681 43, 332		291, 209 333, 929 96, 676 46, 108 56, 511		246, 035 272, 252 92, 071 36, 449 45, 063		214, 398 240, 217 98, 142 38, 293 42, 836		234, 548 278, 757 122, 545 43, 083 49, 468
CherryAll other hardwoods Minor species		18, 054 29, 819		24, 594 37, 557		18, 237 50, 191		21, 422 48, 126		22, 245 59, 900
Hardwoods		7, 678, 363		10, 612, 802		8, 857, 426		8, 100, 819		8, 631, 998
Total		33, 224, 369		44, 509, 761		40, 018, 282		37, 003, 207		39, 158, 414
	1913		1914		1915		1916		1917	
Species or kind of wood.	Rank.	Quantity (M feet).								
Yellow pine	1 2 4 5 6	14, 839, 363 5, 556, 096 2, 568, 636 2, 319, 982 1, 258, 528	1 2 4 5 6	14, 472, 804 4, 763, 693 2, 632, 587 2, 165, 728 1, 327, 365	1 2 4 5 7	14, 700, 000 4, 431, 249 2, 700, 000 2, 275, 000 1, 293, 985	1 2 4 5 6	15, 055, 000 5, 416, 000 2, 700, 000 2, 350, 000 1, 690, 000	1 2 3 5 6	13, 539, 464 5, 585, 000 2, 250, 000 2, 200, 000 1, 960, 000
Spruce Cypress Redwood Cedar Larch	8 7 12 -14	1, 046, 816 1, 097, 247 510, 271 358, 444 395, 273	7 8 12 14	1, 245, 614 1, 013, 013 535, 199 499, 903 358, 561	6 8 13 14	1, 400, 000 1, 100, 000 420, 294 420, 000 375, 000	7 8 13 	1, 250, 000 1, 000, 000 490, 850 410, 000 455, 000	7 8 11 	1, 125, 000 950, 000 487, 458 265, 000 360, 900
White fir		88, 109 149, 926 93, 752 20, 106		112, 627 136, 159 125, 212 18, 374		125, 048 117, 701 100, 000 26, 486		190, 000 169, 250 125, 000 30, 800		218, 200 132, 600 88, 900 12, 500
Softwoods	3	30, 302, 549 3, 211, 718	3	29, 406, 839 3, 278, 908	3	2, 970, 000	3	31, 331, 900	4	29, 174, 122 2, 250, 000
Maple Gum, red and sap Yellow poplar Chestnut	9 10 11	901, 487 772, 514 620, 176 505, 802	9 10 13 11	909, 743 675, 380 519, 221 540, 591	9 10 12 11	2, 970, 000 900, 000 655, 000 464, 090 490, 000	9 10 11 12	3, 300, 000 975, 000 800, 000 560, 000 535, 000	9 10 15 13	860, 000 788, 000 350, 000 415, 000
BirchBeechBasswoodBasswoodCottonwood	15	378, 739 365, 501 257, 102 214, 532 208, 938	15 	430, 667 376, 464 264, 656 214, 294 195, 198	.15 	415, 000 360, 000 260, 000 210, 000 180, 000	15  	450, 000 360, 000 275, 000 240, 000 200, 000	12 	415, 000 296, 000 203, 000 205, 000 190, 000
Ash		207, 816 162, 980 120, 420 40, 565 30, 804		189, 499 116, 113 124, 480 25, 573 22, 773		190, 000 100, 000 170, 000 90, 000 25, 000		210, 000 125, 000 275, 000 90, 000 40, 000		175, 000 95, 000 265, 000 62, 000 32, 000
CherryMinor species		14, 126 71, 240		55, 624		47, 893		40, 351		56, 117
Hardwoods		8, 084, 460		7, 939, 184		7, 526, 893		8, 475, 351		6, 657, 117
Total		38, 387, 009		37, 346, 023.		37, 011, 656		39, 807, 251.		35, 831, 239

Table 624.—Lumber production: By species, calendar years, 1899-1922—Contd.

Species or kind of wood.		1918		1919		1920		1921 19 prelim			
	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	Rank.	Quantity (M feet).	
Yellow pine	3 5	10, 845, 000 5, 820, 000 2, 200, 000 1, 875, 000 1, 710, 000	1 2 6 5 4	13, 062, 938 5, 902, 169 1, 723, 642 1, 754, 998 1, 755, 015	1 2 6 5 4	11, 091, 000 6, 960, 000 1, 500, 000 1, 850, 000 2, 290, 000	1 2 5 6 4	10, 959, 863 4, 642, 122 1, 273, 710 1, 201, 063 1, 432, 273	1 2 6 5 3	11, 500, 771 6, 831, 580 1, 382, 755 1, 534, 641 2, 080, 994	
Spruce Cypress Redwood Cedar Larch	10 11	1, 125, 000 630, 000 443, 231 245, 000 355, 000	7 10 12 	979, 968 656, 212 410, 442 332, 234 388, 121	9 10 11 -14	825, 000 625, 000 476, 500 260, 000 390, 000	9 7 11 15	629, 256 770, 920 467, 804 234, 576 213, 397	9 7 11 12 15	731, 371 868, 952 565, 965 334, 083 274, 589	
White firSugar pine Balsam firLodgepole pine		213, 000 111, 800 82, 000 12, 500		223, 422 133, 658 68, 030 16, 281		280, 000 146, 000 85, 000 31, 000		186, 363 133, 566 29, 350 11, 241	14	297, 727 194, 067 32, 903 13, 936	
Softwoods		25, 667, 531		27, 407, 130		26, 809, 500		22, 185, 504		26, 644, 334	
Oak Maple	8	2, 025, 000 815, 000 765, 000 290, 000 400, 000	3 8 9	2, 708, 280 857, 489 851, 431 328, 538 545, 696	3 7 8 15 12	2, 500, 000 875, 000 850, 000 350, 000 475, 000	3 10 8 14 13	1, 592, 175 609, 852 683, 398 235, 418 312, 486	10 8	1, 605, 154 639, 781 808, 461 273, 971 310, 801	
Birch Beech Basswood Elm Cottonwood	15	370, 000 290, 000 200, 000 195, 000 175, 000	14 15	375, 079 358, 985 183, 562 194, 417 144, 155	13	405, 000 325, 000 195, 000 • 225, 000 155, 000	12	319, 192 190, 387 125, 633 132, 276 122, 305		263, 094 163, 448 134, 168 142, 702 113, 829	
Ash		170, 000 100, 000 237, 000 100, 000 30, 000		154, 931 170, 013 143, 730 39, 218 28, 114		170, 000 150, 000 180, 000 35, 000 31, 000		134, 751 31, 121		130, 735 56, 682 158, 938 38, 735 17, 901	
Cherry Minor species		60, 963		61, 308		68, 300		67, 068		66, 154	
Hardwoods		إحسنست		7, 144, 946		6, 989, 300		4, 775, 360		4, 924, 554	
Total		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, 1870-1922.

g	18	370	18	80	18	90	1899		
State.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	
AlabamaArizona ArkansasCalifornia Colorado	Thou- sands. 1, 115 2, 200 2, 877 2, 710	4, 747 103, 547	Thou- sands. 14, 147 150 6, 527 2, 420 4, 925	61, 758	Thou-sands, 35, 105 20, 364 7, 350 4, 500	Thou- sands. 292, 583 1, 500 329, 823 305, 964 10, 625	Thou- sands. 28, 721 2, 040 21, 164 11, 507 5, 558	349, 522 650, 090	
ConnecticutDelawareDistrict of Columbia.	813 100 1,400	15, 510	1,719 317 1,000	7, 192 506	1, 500 650 35, 000	3, 523 100	418 1, 130	3, 214 30	
Georgia	1, 400	1, 560	20, 101 17, 438	3, 061 25, 332	23, 250	114, 107 102, 877	21, 761 31, 496	, ,	
Idaho Illinois Indiana Iowa Kansas	13, 650 11, 202 47, 884 320	400 40, 928 73, 707 97, 928 12, 108	750 25, 977 28, 031 79, 924 25	4, 235 15, 306 26, 634 128, 100 835	1, 000 30, 000 23, 300 110, 500	7, 825 18, 339 78, 789 209, 649	3, 220 30, 674 10, 138 58, 638	15, 806 42, 825 34, 198 66, 140	
Kentucky Louisiana Maine Maryland Massachusetts	8, 050 8 266, 889 5, 849 873	13, 573 364, 201 3, 869 36, 486	26, 856 7, 745 184, 820 7, 955 16, 947	25, 253 30, 195 426, 530 4, 429 19, 667	35, 808 7, 500 190, 355 3, 500 20, 365	36, 748 411, 725 483, 153 12, 277 24, 523	17, 091 99, 852 217, 376 5, 369 8, 807	59, 375 504, 819 465, 862 22, 824 20, 500	
Michigan Minnesota Mississippi Missouri Montana	304, 054 49, 768 651 12, 970 400	658, 741 127, 813 5, 500 10, 442 2, 356	461, 805 88, 088 7, 908 20, 839 2, 620	2, 584, 717 194, 566 5, 355 8, 832 9, 627	478, 935 176, 300 10, 355 26, 785 3, 360	2, 848, 820 461, 472 11, 270 24, 089 1, 295	259, 917 387, 064 6, 083 24, 835 14, 231	1, 926, 110 498, 800 32, 027 28, 227 6, 880	
Nebraska	75	<b>900</b> 700		485		2, 805	1		
Nevada New Hampshire New Jersey New Mexico	10. 383	52, 225 3, 624	49, 454 8, 948 107	67, 086 10, 717 722	55, 834 9, 150 2, 310	79, 193 17, 608 3, 140	74, 221 3, 559 2, 165	40, 499 33, 835 4, 800	
New York North Carolina North Dakota Ohio Oklahoma	87, 999 1, 530 15, 238	372, 183 13, 817 59, 632	79, 399 13, 340 50, 625	305, 711 8, 707 24, 876	85, 250 19, 339 1, 600 38, 265	491, 641 100, 442 2, 000 49, 302	66, 468 48, 782 18, 519 1 75	160, 294 212, 467 13, 605 1 103	
Oregon	7, 346 95, 592 2, 500	275, 273 5, 119 1, 200	18, 245 183, 740 10 23, 133 2 564	5, 040 288, 561 1, 986 10, 036 <sup>2</sup> 4, 823	14, 110 195, 273 19, 150 1, 080	51, 530 422, 701 3, 790 23, 618 7, 845	41, 779 266, 949 16 26, 311 1, 856	31, 189 369, 858 2, 267 88, 878 800	
Tennessee Texas Utah Vermont Virginia	5, 370 623 1, 138 6, 672 4, 258	11, 337 30, 209 8, 061 28, 502 614	21, 275 14, 131 1, 583 19, 745 14, 402	14, 205 112, 523 9, 293 55, 711 8, 223	35, 350 39, 565 23, 475 19, 204	19, 537 214, 082 1, 115 69, 035 11, 566	33, 199 4, 181 793 9, 314 36, 502	59, 735 210, 633 2, 460 52, 899 27, 784	
Washington West Virginia Wisconsin Wyoming All other States	17, 000 197, 871 102, 663	10, 450 5, 600 806, 807 750	6, 550 12, 071 215, 132 300	3, 610 3, 695 862, 922 865	49, 600 23, 480 385, 500	545, 297 1, 009 1, 366, 022 1, 385 3 70	145, 134 58, 440 418, 011 629	4, 337, 992 34, 350 994, 427 2, 185	
1-		3, 265, 516			2, 263, 308			12, 102, 017	

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

Includes Indian Territory.
 Includes both Dakotas.
 Reported as the cut of Alaska.

Table 625—Lath and shingles: Production by States, calendar years, 1870–1922—Continued.

	19	04	190	)5	19	06	1907		
State.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	
	Thou-	Thou-	Thou-	Thou-	Thou-	Thou-	Thou- sands.	Thou- sands.	
Alabama	sunds. 24, 569	sands. 112, 093	ванив.	285, 080		eanas.	39, 948	147, 64	
Arizona	5, 635	112,000	(1)	(1)			13, 845		
Arkansas	52, 594	269, 706		<b>3</b> 02, 135		228, 563	71, 163	186, 163	
California	16, 962	737, 589		<b>547</b> , 86 <b>3</b>		834, 329	18, 035	762, 17	
Colorado	17, 171	950					8, 056	72	
Connecticut	475	6, 225					215	3, 52	
Delaware	320	350					965	53.	
District of Columbia.									
Florida	20, 975	188, 652		154, 524		175, 720	41, 449	186, 84	
Georgia	28, 569	364, 378		177, 986		161, 339	66, 674	194, 26	
[daho	16, 137	41 979					45, 763	63, 678	
Illino <del>i</del> s	16, 572	12, 408					1, 597	20	
Indiana	2, 960	3, 960					3, 249	2, 32	
lowa	58, 807	35, 404					22, 439	11, 75	
Kansas			(1)	(1)					
V on to alre	15, 837	43 775					36, 589	24, 05	
Kentucky Louisiana	151, 403	43, 775 801, 866	259, 259	743, 398	348, 530	866, 597	281, 495	812, 58	
Maine	237, 173	482, 414	255, 482			<b>340</b> , 948	294, 558	401, 75	
Maine Maryland	13, 616	6, 677					16, 043	5, 46	
Massachusetts	4, 877	10,086					8, 573	12, 16	
* F1.1.1	000 049	1 247 169	991 998	975 051	317, 395	915, 153	268, 287	855, 74	
Michigan	236, 348 368, 843	1, 347, 163 318, 783	221, 386 <b>422</b> , 025	875, 051 193, 738		310, 100	497, 628	51, 54	
Minnesota Mississippi	60, 410	50, 654		100, 100			74, 156	51, 90	
Missouri	22, 509						14, 179	48, 65	
Montana	15, 648	4, 586					31, 826	4, 06	
Mahmadra		1	(1)	(n)					
Nebraska Nevada		(1)	(1) (1)	(1) (1)					
New Hampshire	19, 082	17, 327					94, 482	19, 34	
New Jersey	12, 977	7] 31, 411		(1)			10, 345	26, 99	
New Mexico	12, 654	950	(1)	(1)	j		19, 778	7, 72	
New York	2 55, 23	<sup>2</sup> 55, 581					2 81, 187	2 65, 55	
North Carolina		192, 239					51, 040		
North Dakota									
Ohio	8, 67				.		16, 395		
Oklahoma	·	(1)					72	1, 13	
Oregon	76, 91	117, 511	116 456		156, 973		134, 048	206, 76	
Pennsylvania			219, 143		200, 494		245, 482	108, 91	
Rhode Island		. 620					2	82	
South Carolina		81, 108					21, 697		
South Dakota	. 95	5 260					2,970	21	
Tennessee	21, 21	5 35, 121	-				37, 967	8,60	
Texas		75, 926	l				58, 259	95, 73	
Utah	92	9 550			.		338	1, 37	
Vermont	18, 64						14, 784 79, 764	19, 18 21, 30	
Virginia	37, 99	30, 388					10, 104	1	
Washington	229, 72	8, 357, 457	559, 813	10, 509, 914	479, 187	7, 286, 508	430, 791	6, 886, 54	
West Virginia	66, 32	5 <b>24</b> , 630			137, 506		142, 595	3, 3	
Wisconsin	416, 28	2 474, 928	328, 905	417, 04	457, 880	302, 876	364, 186	348, 17	
WyomingAll other States	. 56	1, 071 3 1, 226	4 700 000	4 821, 67	883, 620	6 746, 227	694	1,18	
All other States		* 1, 226	<b>4</b> 728, 688	* 821, 67	0000,020	140, 221			
							3, 663, 602		

<sup>&</sup>lt;sup>1</sup> Included in "All other States."

<sup>2</sup> These statistics were collected by the New York State Forest, Fish, and Game Commission.

<sup>3</sup> Includes Indian Territory, Nevada, Oklahoma, and Alaska.

<sup>4</sup> Includes Arizona, Kansas, Nebraska, Nevada, New Mexico, Indian Territory, and others.

<sup>4</sup> Includes production of many States; no further data available

Table 625—Lath and shingles: Production by States, calendar years, 1870-1922—Continued.

· · · · · · · · · · · · · · · · · · ·	19	908	15	909	19	910	19	911
State.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.
	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou-	Thou- sands.
AlabamaArizona	53, 182 8, 150	146, 334	50, 979 7, 816 78, 362	245, 871 583	40, 982 4, 422	142, 810 120	55, 624 13, 495	147, 558 125
Arkansas	76, 533	156, 181	78, 362	208, 080	110, 736	132, 721	13, 495 100, 046	145, 886
Arkansas California Colorado	26, 854 8, 612	465, 718 1, 378	32, 615 11, <b>4</b> 94	574, 342 657	30, 987 8, 760	453, 839 350	35, 842 1, 714	404, 550 740
Connecticut Delaware District of Columbia_	174 884	4, 126 312	203 1, 086		237 1, 764	1, 789 141	341 1, 292	2, 638 263
Florida Georgia	44, 398 64, 445	156, 291 302, 633	55, 741 58, 704	283, 206 443, 260	42, 404 57, 293	171, 421 317, 663	52, 609 36, 753	167, 371 256, 409
Ideho	58 473	58, 106	86, 740	62, 308	84, 134	60, 425	70, 627	36, 354
Illinois	847 2, 737	367 <b>4,</b> 060	1, 055 3, 600	2, 245 7, 340	230 1, 592	650 1, 609	371 3, 538	10 527
Illinois Indiana Iowa Kansas	19, 646	7, 974	22, 978	8, 264	16, 981	5, 142	15, 042 (¹)	2, 686
Kentucky	11, 558 348, 548	36, 930	19, 776	55, 010	11, 500	21, 193 776, 691	15, 943	18, 187
Louisiana	1 215, 072	468, 901	337, 086	598, 131	457, 437 253, 752	436, 965	355, 516 199, 602	799, 995 559, 215
Maine Maryland Massachusetts	15, 953 3, 222	36, 930 668, 729 468, 901 11, 410 12, 982	19, 776 377, 708 337, 086 17, 583 11, 885	55, 010 757, 868 598, 131 12, 352 13, 347	11, 500 457, 437 253, 752 7, 843 1, 485	436, 965 6, 028 7, 220	199, 602 7, 696 4, 842	4, 499 6, 473
Michigan	161, 425 342, 776	905, 555 85, 102	218, 308 478, 008	1	194, 627 415, 478	696, 652 57, 523	178, 404 402, 962 103, 594	510, 622 45, 905
Mississippi	69, 253	109, 704	90, 926	151, 303	90, 077	106, 692	103, 594	66, 963
Mimesota Mississippi Missouri Montana	15, 115 23, 258	63, 823 1, 355	19, 931 35, 430	51, 932	11, 948 40, 876	45, 837 533	10, 270 18, 502	32, 109 285
Nebraska			(1) (1)		(1) (1)		(1) (1)	
Nevada New Hampshire	55, 948	15, 504	<b>26, 873</b>	30, 132	31,338	14, 833	28, 147	11,075
New Jersey New Mexico	16, 137 11, 838	31, 235 450	19, 143 10, 571	35, 727 150	13, 143 11, 254	29, 746 200	8, 197 12, 842	20, 989 112
New York North Carolina	67, 199 36, 735	53, 014 151, 153	70, 878 70, 724	91, 886 280, 942	47, 934 63, 948	36, 072 169, 119	41, 685 37, 304	30, 301 161, 652
North Dakota Ohio Oklahoma	10, 486 88	1, 062 1, 358	17, 508 1, 233	3, 227 4, 635	14, 737 4, 048	1, 339 5, 665	10, 299 7, 417	1, 225 940
Oregon Pennsylvania	107, 522 117, 898	246, 721 71, 240	161, 512 143, 059	293, 644 79, 336	190, 660 125, 575	319, 894 47, 073	95, 525 118, 923	392, 894 26, 743
Rhode Island	3	630		1, 000 122, 709		330		981
South Carolina South Dakota	22, 142 1, 820	64, 262 320	28, 303 5, 730	122, 709 93	21, 739 1, 455	95, 047 32	10, 292 866	55, 848 1, 506
Tennessee	28, 456 39, 546	37, 807 104, 460	31, 179 59, 627	35, 692 137, 719 725	21, 550 43, 163	19, 044 106, 280	16, <b>678</b> 14, 813	19, 614 64, 526
Texas Utah	453	104, 460 1, 203	264	725	207	960	686	225
Utah Vermont Virginia	6, 925 76, 650	16, 276 25, <b>07</b> 2	7, 249 127, 555	24, 001 39, 172	15, 150 96, 061	16, 655 14, 726	8, 025 84, 282	10, 666 30, 858
Washington	464, 754	7, 288, 361 4, 803	451, 384 150, 820	8, 879, 467 6, 829	445, 119 164, 200	8, 333, 639 3, 168	338, 578 129, 601	7, 745, 525 4, 508
West Virginia Wisconsin	99, 167 250, 474	322, 096	299, 845	392, 863	296, 502	317, 570	319, 973	324,009
Wyoming All other States	1, 328	1, 485	1, 224 2 500	960	690 2 700	956	938 3 1, 414	300
United States	2 986 684	12, 106, 483		14, 907, 371	3, 494, 718	12, 976, 362	2, 971, 110	12, 113, 867

Included in "All other States."
 Includes Nebraska and Nevada.
 Includes Kansas, Nebraska, and Nevada.

Table 625—Lath and shingles: Production by States, calendar years, 1870–1922—Continued.

	19	12	19	15	19	16	19	17
State.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.
	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Alabama	56, 595 7, 985	126, 205	59, 570 23, 293	67, 629 200	64, 922 24, 918	183, 662	39, 685 19, 878	54, 735 180
Arkansas	90, 216	114, 458	97, 185	20, 501	78, 157	45, 411	147, 578	59, 927
California Colorado	18, 954 4, 975	471, 592 265	1 38, 284 8, 003	200, 755 61	1 30, 713 5, 964	348, 622 172	<sup>1</sup> 37, 651 491	261, 434 35
Connecticut Delaware District of Columbia.	1, 409 · 765	2, 240 290	343 400	833 25	12, 805 30	202 89	736 568	555 20
FloridaGeorgia.	51, 078 37, 702	309, 081 216, 688	89, 860 34, 969	116, 054 69, 308	85, 187 49, 316	131, 795 131, 763	97, 954 46, 889	143, 792 112, 430
Idaho Illinois	50, 895 366	37, 641 50	85, 672 384	49, 512	117, 365 1, 045	79, 960	5	<b>-</b>
Indiana Iowa Kansas	2, 244 4, 734	195 1, 260	391	270 100	825 500	162	415	
Kentucky	. 10, 481	8, 623	12, 588	6, 835	9, 340	4, 672 404, 263	7, 153 348, 806	1, 601 453, 819
Louisiana	330, 474 210, 023	718, 026 393, 772	418, 554 172, 346	385, 610 268, 004	354, 551 396, 935	221, 039	142, 488	166, 101
Louisiana Maine Maryland Massachusetts	6, 535 5, 032	3, 437 7, 310	12, 877 558	430 1, 832	5, 774 2, 036	1, 601 865	208 583	751 533
Michigan Minnesota	173, 415 269, 095	459, 359 30, 834	124, 543 230, 686	250, 640 8, 041	335, 846 267, 788	201, 171 6, 577	84, 352 213, 092	203, 907 1, 498
Mississippi Missouri Montana	81, 315 4, 128 15, 064	72, 700 33, 917 210	123, 011 9, 855 27, 334	11, 950 3, 820 10, 280	162, 689 1, 332 25, 522	25, 196 998 16, 266	133, 925 5, 485 23, 332	39, 261 2, 362 3, 259
Nebraska	•							
Nevada New Hampshire	11, 487	8, 847	24, 663	5, 936	18, 398	3, 543	8, 865	1, 731
New Jersey New Mexico	19, 016 9, 097	29, 129	9, 482 2, 992	17, 269 181	5, 808 10, 851	3, 543 17, 876 320	4, 504 9, 546	7, 797 1, 500
New York North Carolina	28, 188 94, 086	27, 919 196, 943	15, 111 96, 474	5, 247 74, 773	12, 829 86, 551	9, 577 123, 959	10, 478 36, 287	8, 3 <b>02</b> 73, 703
North Dakota Ohio Oklahoma	14, 051 9, 391	488 2, 547	4, 717 11, 176	25 890	6, 976 19, 711	125 220	3, 004 18, 866	15 338
Oregon Pennsylvania	131, 734 78, 758	271, 205 26, 957	95, 801 70, 877	336, 652 8, 064	142, 352 63, 016	471, 762 8, 652	132, 418 43, 928	481, <b>353</b> 3, 924
Rhode Island South Carolina South Dakota	13, 259 381	432 57, 812 271	13, 350 7, 292	400 11, 854 436	44, 967 7, 055	125 24, 382 334	30 21, 934 100	70 13, 610 336
Tennessee	16, 575	29, 713	24, 510	7, 912	13, 795	9, 176	10, 318	5, 167 61, 011
TexasUtah	28, 152 172	73, 870 177	40, 698 744	22, 245 920	42, 686 979	32, 749 392	47, 654 333	1, 295
Vermont Virginia	4, 538 71, 356	9, 363 27, 752	6, 290 97, 921	6, 388 49, 758	9, 990 63, 263	7, 993 43, 387	6, 170 30, 244	2, 894 9, 000
Washington West Virginia Wisconsin Wyoming	336, 538 159, 119 257, 657 128	7, 996, 251 1, 441 267, 945 470	389, 995 82, 561 179, 193 581	6, 313, 335 736 122, 882 785	264, 690 96, 665 218, 598 289	6, 739, 388 2, 800 175, 455 376	230, 194 44, 233 185, 074 20	6, 313, 364 481 151, 726 65
All other States	2, 000							
				8, 459, 378			2, 281, 738	8, 696, 513

<sup>&</sup>lt;sup>1</sup> Includes cut of mills in Nevada.

Table 625—Lath and shingles: Production by States, calendar years, 1870-1922—Continued.

	1 10	)18	10	019	10	920	1,	 )01	19	22,
State.		110	18		11		13	921	prelin	22, ninary.
	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles.	Lath.	Shingles	Lath.	Shingles.
	Thou-	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
Ala	25, 227	50, 065 250	42.502	<b>62, 24</b> 1 176	32, 444		44, 781	37, 524	50, 885 <b>20, 287</b>	27, 108 130
Ariz Ark Calif	17, 337 26, 481	25, 870	72, 827	98, 937	50, 108	19, 770	12, 154 57, <b>42</b> 1	41, 694	75, 172	6,571
Calif Colo	1 22, 281	146, 071 186		191, <b>83</b> 1 500		949, 568	51, <b>73</b> 7 <b>87</b> 7	149, 555	1 88, 018 31	184, 009 195
Cenn Del D. C	570 20		325 552	770	200 950			307 7	305 460	
FlaGa	55, 171 19, 083	102, 725 46, 395	76, 402 19, 718			67, 689 59, 058		77, 847 55, 194	153, 329 57, 784	43, 295 <b>2</b> 9, 347
Idaho		32, 893	<b>69, 150</b>		97, 182 35		58, 939 34	18, 941	99, 420 100	
Ind	235		155	420	450	100		413	304	
Iowa Kans			15	- <b></b> -	26		290			
KyLa Me	1, 887 <b>236,</b> 543	2, 015 272, 866 87, 193 3, 374	3, 288 199, 018 104, 223 1, 280	2, 562	2, 752 215, 738 101, 704	910 211, 503	2, 079 282, 726	1, 350 217, 720 163, 356	1, 683	2, 032 208, 604
Me	62, 671	87, 193	104, 223	188, 576	101, 704	140, 038	1 110, 628	1 163.356	364, 545 188, 706	144, 941
Md Mass	278 342	3, 374 317	1, 280 595	2, 562 300, 784 188, 576 3, 282 760	5.79 184		2, 069 382	752 343		303 563
Mich	48, 533 155, 905	148, 565 36	51, 469 115, 741	144, 173 4, 451	50, 892 117, 300	116, 678 1, 678	58, 165 12 <b>2, 449</b>	121, 139 16, 465	81, 834 197, 927	110, 945 11, 170
Miss	81, 598	<b>18,</b> 431	96, 204	34,002	113, 707	22, 858	139, 324	30, 406	161, 897	14, 481
Minn Miss Mo Mont	3, 618 <b>2</b> 1, 903	967 5, 825	1, 724 21, 362	9, 541 253	3, 737 47, 673	603 6, 243			822 53, 312	4, 978 202
Nebr Nev			1. 237							
N. H N. J	2, 235 2, 312	776 3,045	1, 237 6, 656 6, 016	3, 386 9, 440	10, 642	1, 452 5, 827	7, <b>099</b> 8, 070	5, 826 8, 522	5, 550 2, 869	1, 649 2, 448
N. Mex	15, 206	30	12, 549		3, 838 19, 783	10	15, 020		23, 220	2, 110
N. Y N. C N. Dak	3, 863 10, 894	4, 066 48, 080	3, 537 1 <b>9, 0</b> 79	4, 935 92, 139	13, 484 14, 182	5, 630 47, 403	4, 387 16, 164	1, 162 46, 064	6, 909 21, 642	2, 336 40, 958
Ohio Okla	1, 492 10, 743	140 85	1, 612 9, <del>9</del> 05	100 50		225 410	77 16, 985	200 50	495 20, 183	125
Oreg Pa	78, 780 18, 476	281, 138 3, 856	122, 848 14, 287	530, 066 8, 027	173, 732 13, <b>08</b> 4	288, 721 3, 486	163, <b>33</b> 1. 8, <b>289</b>	366, 555 2, 886	6, 871	488, 116 1, 939
R. I S. C S. Dak	7, 913 1, 216	5, 208 24	6, 656 1, 534	685 11, 932 100	9, 278 9, 362	5, 031 108	18, 637 151	30 4, 451 185	35, 610	8, 881 189
Tenn	7. 685	44 760	8 997	6, 574	5, 473	3, 513	19, 186	3, 919	12, 722	8, 400
Tex Utah	21, 866 350	17, 746 1, 397	35, 916 147	13, 581 531	48, 766 382	3, 798 425	52, 884 320	22, 468 1, 245	404	5, 562 675
VtVa	1, 252 16, 902	1, 397 3, 254 1, 160	1, 089 27, 073	8, 343 1, <del>6</del> 37	1, 188 27, 548	3, 524	877 19, 352	3, 094	943	3, 638 2, 096
Wash	154, 668	4, 238, 714	339, 958	7, 095, 122	404, 942	4, 847, 105	379, 714	<b>5, 3</b> 66 <b>,</b> 085		6, 664, 876
W. Va Wis	33, 289 122, 858	91, 907	22, 005 138, 936	96, 928	124, 198	128 64, 479	32, 972 100, 673	70, 647	49, 651 158, 275	74, 852
Wyo All other	2	383	10		50		200 575	183	60	313
v.s.	<b>1, 362,</b> 187	5, 690, 182	1, 724, 078	9, 192, 704	1, 952, 983	6, 938, 854	1, 970, 696	6, 843, 187	2, 940, 714	8, 131, 242

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

<sup>&</sup>lt;sup>1</sup> Includes cut of Nevada.

Table 626.—Wood and saw timber: Annual world production and consumption.

	Produ	iction.	C	onsumptio	n.
Country.	Total	Saw	Wo	od.	Saw
	wood.	timber.	Total	Per capita.	timber.
United States	1,000 cubic feet. 24, 300, 000 2, 500, 000 700, 000 306, 420	1,000 cubic feet. 13,750,000 1,106,900 42,000, 86,715	1,000 cubic feet. 24, 104, 000 2, 058, 440 710, 000 319, 350	Cubic feet. 228. 0 285. 0 45. 8	1,000 cubic feet. 13, 556, 000 665, 340 52, 000 98, 425
North America	27, 806, 420	14, 985, 615	27, 191, 790	188. 0	14, 371, 765
Russia Sweden Finland Germany France Great Britain and Ireland Other Europe	7, 000, 000 1, 564, 826 1, 316, 664 1, 172, 395 963, 000 45, 000 4, 941, 202	4, 000, 000 1, 191, 415 877, 776 604, 583 300, 000 20, 000 2, 166, 462	6, 600, 000 749, 710 1, 001, 504 1, 702, 395 1, 098, 910 693, 719 4, 795, 059	66. 0 129. 3 299. 0 27. 0 26. 0 15. 3	3, 600, 000 383, 355 606, 930 1, 134, 583 426, 410 668, 719 2, 024, 294
Europe	17, 003, 087	9, 160, 236	16, 641, 297	35. 8	8, 844, 291
Japan China India Asiatic Russia Other Asia		383, 455 284, 163 174, 000 571, 000 143, 650	2, 220, 000 1, 986, 000 1, 575, 000 1, 098, 000 1, 037, 516	28. 4 6. 0 5. 0 52. 1	347, 835 297, 900 176, 725 569, 000 147, 113
Asia	7, 929, 030	1, 556, 268	7, 916, 516	9.1	1, 538, 573
Brazil Chile Argentina Colombia Other South America	1, 300, 000 684, 020 197, 800 110, 000 199, 645	100, 000 45, 700 77, 800 10, 000 25, 105	1, 296, 990 687, 620 225, 800 110, 000 206, 570	42. 5 177. 7 27. 3 20. 1	96, 900 49, 300 106, 800 10, 000 31, 390
South America	2, 491, 465	258, 605	2, 526, 890	39. 2	294, 390
Rhodesia Nigeria Union of South Africa Other Africa	126, 962 86, 250 65, 942 438, 219	10, 141 2, 005 19, 803 30, 501	127, 186 86, 250 85, 399 475, 481	73. 6 5. 0 14. 2	10, 365 2, 005 39, 260 62, 496
Africa	717, 373	62, 450	774, 316	5.7	114, 126
Australian Commonwealth New Zealand Oceania	197, 379 67, 000 10, 309	49, 874 42, 000 867	213, 752 63, 269 19, 741	41. 8 59. 7 10. 0	66, 247 38, 269 9, 888
Australia and Oceania	<b>274, 6</b> 88	92, 741	296, 762	36. 4	. 114, 404
Total world production	5 <b>6, 222, 06</b> 3	26, 115, 915	1 55,347, 571	32. 2	1 25, 277, 549

Forest Service. Compiled from "Forest Resources of the World."

<sup>&</sup>lt;sup>1</sup> 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 the data, such as differences in the years for which figures on individual countries are based, different converting factors used in different countries, and differences in the completeness of customs statistics. Data represent averages of recent years.

Table 627.—Wood pulp: Production of the United States, 1869-1922.

Calendar year.	Total.	Mechani	cal.	Sulphit	æ.	Soda		Sulphat	te.
1869	\$hort tons. 1,077 22,570 305,544 1,179,525 1,921,768 2,547,879 2,118,947 2,495,523 2,533,976 2,686,134	Short tons. (1) (1) (1) (1) (586, 374 968, 976 (1) (1, 179, 266 (1) (1) (1)	Per cent. 50 51	Short tons. (1) (1) (1) 416, 037 756, 022 (1) (1) 1, 017, 631 (1) (1)	Per cent.  35 39  41	Short tons. (1) (1) (1) (177, 114 196, 770 (1) 298, 626 (1) (1)	Per cent.  15 10	Short tons.	
1914	2 2, 893, 150 3, 435, 001 3, 509, 939 3, 313, 861 3 3, 517, 952 3, 821, 704 4 2, 875, 601 3, 521, 644	1, 293, 661 1, 508, 139 1, 535, 953 1, 364, 504 1, 518, 829 1, 583, 914 4 1, 267, 382 1, 483, 787	45 44 44 41 8 43 41 44 42	1, 151, 327 1, 466, 402 1, 451, 757 1, 456, 633 1, 419, 829 1, 585, 834 4 1, 166, 926 1, 374, 319	39 43 41 44 40 42 41 39	347, 928 387, 021 437, 430 350, 362 411, 693 463, 305 4300, 533 419, 857	12 11 13 11 12 12 10 12	52, 641 73, 439 84, 799 142, 362 120, 378 188, 651 140, 760 243, 681	2 2 2 4 4 4 5 5

Forest Service. Compiled from Forest Service and Bureau of the Census repots.

Table 628.—Paper: Production, United States, 1810-1922.

Calen- dar year.	Total.	Newspi	rint.	Bool	τ. ·	Board	ls.	Wrapp	ing.	Fine	e.	All oth	ner.
1810 1819	Short tons. 1 3, 000 1 12, 500		Per cent.	Short tons. 630	Per cent. 21	Short tons.	Per cent.	Short tons.	Per cent.	Short tons. 650	Per cent. 22	Short tons, 1, 220	Per cent. 40
1829 1839 1849	1 38, 000 1 78, 000 126, 889		52			8, 150	6	33, 379	26	11, 134	9	8, 472	7
1869 1879 1889	1 386, 000 452, 107 11,098,029 2, 167, 593	<sup>2</sup> 149, 177 196, 053	33 18	150, 886		20, 014 149, 901	4 14	134, 294 276, 973	30 25		7 6	115, 685 255, 017 233, 103	26 23
1909 1914 1917	3, 106, 696 4, 216, 708 5, 270, 047 5, 919, 647	1, 175, 554 1, 321, 167 1, 359, 012	28 25 23		16 17 15	883, 088 1, 291, 805 1, 804, 589	25 31	644, 291 763, 067 881, 799 844, 229	18 17 14	146, 832 198, 213 247, 728 288, 355 368, 012	- 5 5 5	366, 553 501, 881 592, 569 731, 179 755, 721	12 11
1919 1920 1921	6, 051, 523 6, 190, 361 7, 334, 614 5, 356, 317 7, 017, 800	1, 374, 517 1, 511, 968 1, 226, 189	22 21 23	914, 823 1, 104, 464 725, 992 981, 919	14 15 14	1, 926, 986 1, 950, 037 2, 313, 449 1, 664, 931 2, 156, 113	32 32 31	869, 631 1, 043, 812	14 14 15	343, 762 389, 322 242, 485 361, 050	6 5 4		12 13

Forest Service. Compiled from Bureau of the Census reports prior to 1917; Federal Trade Commission. 1917-1922.

<sup>2</sup> Includes both newsprint and book paper.

<sup>&</sup>lt;sup>1</sup>Not reported separately.

<sup>2</sup>Includes screenings, mechanical 11,769 tons, and chemical not shown by process, 35,824 tons; combined equal to 1.6 per cent of total.

<sup>3</sup>Includes screenings, mechanical 12,220 tons, and chemical not shown by process, 35,003 tons; combined equal to 1.3 per cent of total.

<sup>4</sup> Includes screenings.

<sup>&</sup>lt;sup>1</sup> Estimated from values reported by the Bureau of the Census.

Table 629.—Timber removed annually from forests of the United States.

Kind of material.	Timber rem	oved	Approximate value or cost.	Equivalent have been	in lumber w sawed from s	which could ame trees.	Equ	ivalent in sta	anding timbe	r.
	Unit.	Quantity.	varue of cost.	Hardwoods.	Softwoods.	Total.	Hardwoods.	Softwoods	Total.	Per cent.
Fuel wood	Cords	100, 000, 000	Dollars. 475, 000, 000	M board eet. 3, 500, 000	M board feet. 1, 500, 000	M board feet. 5, 000, 000	M cubic feet. 6, 650, 000	M cubic feet. 2, 850, 000	M cubic feet. 9, 500, 000	38. 33
sawed ties	M board feet Number of posts Number Cords Cubic feet	5, 000, 000	1, 138, 917, 000 225, 000, 000 73, 500, 000 79, 750, 000 56, 913, 000	9, 425, 000 165, 000 1, 680, 000 195, 000 439, 500	28, 275, 000 660, 000 420, 000 2, 145, 000 439, 500	37, 700, 000 825, 000 2, 100, 000 2, 340, 000 879, 000	2, 064, 075 360, 000 672, 000 48, 700 197, 775	6, 192, 225 1, 440, 000 168, 000 536, 300 197, 775	8, 256, 300 1, 800, 000 840, 000 585, 000 395, 550	33. 31 7. 26 3. 39 2. 36 1. 60
Cooperage: Tight staves Tight heading Slack staves. Slack heading Hoops.	M staves M sets M staves	350, 000 24, 000 1, 200, 000	19, 250, 000 12, 000, 000 18, 000, 000 10, 800, 000 1, 800, 000	399, 000 141, 800 240, 400 166, 500 21, 500	133, 000 36, 200 121, 600 166, 500	532, 000 178, 000 362, 000 333, 000 21, 500	87, 450 31, 000 52, 800 36, 490 7, 080	29, 100 8, 000 26, 400 36, 500	116, 550 39, 000 79, 200 72, 990 7, 080	1. 27
Shingles Distillation wood Veneer logs Tanning extract wood Poles Vehicle stock, woodenware, handles,	do Cords M feet, log scale Cords_ Number_ M board feet	9, 000, 000 1, 400, 000 576, 000 1, 000, 000 4, 250, 000 200, 000	37, 710, 000 9, 268, 000 25, 079, 000 10, 250, 000 10, 625, 000 7, 288, 000	185, 000 587, 520 87, 000 55, 000 197, 700	900, 000 103, 680 200, 000 2, 300	900, 000 185, 000 691, 200 87, 000 255, 000 200, 000	120, 000 90, 000 95, 000 11, 700 45, 070	198, 000 13, 000 15, 980 43, 550 730	198, 000 133, 000 105, 980 95, 000 55, 250 45, 800	. 80 . 54 . 43 . 38 . 22 . 18
furniture, etc. Piling Excelsior wood Export logs and hewn timbers Lath	Number of pieces_ Cords M board feet Thousands	200, 000 100, 000	6,000,000 1,800,000 3,445,000 9,620,000	40, 000 60, 000 50, 000	140, 000 15, 000 50, 000	180, 000 75, 000 100, 000	7, 800 18, 720 9, 200	31, 200 4, 680 9, 200	39, 000 23, 400 18, 400	. 16 . 09 . 07
Total	M cubic feet	1, 080, 000 1, 300, 000	2, 232, 015, 000 10, 000, 000 12, 000, 000	17, 635, 920 500, 000 1, 000, 000	35, 307, 780 1, 750, 000 4, 000, 000	52, 943, 700 2, 250, 000 5, 000, 000	10, 604, 860 330, 000 325, 000	11, 800, 640 750, 000 975, 000	22, 405, 500 1, 080, 000 1, 300, 000	90. 39 4. 36 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 valuation).
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 forest 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 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 results from the action of fires.

Table 630.—Pulp wood: Consumption, United States.

Calen-		Total	motal.	Spru	ıce.	Po	plar.			D-1		Slabs
dar year.	Grand total.	domes-	Total im- ported.	Domes-	Im- ported.	Do- mes- tic.	Im- ported.	Hem- lock.	Pines.	Bal- sam fir.	All other	and mill waste.
1869 1879	Corda. 2, 200 41, 000		Cords.	Cords.	Cords.	Cords.	Cords.	Cords.	Cords.	Cords.	Cords.	Cords.
1889 1899	583, 200 1, 986, 310			1, 160, 118 1, 732, 531				(1) (1)	(1) (1)	(1) (1)	220, 155 531, 510	
1906 1907 1908	3, 661, 176 3, 962, 660 3, 346, 953	2, 546, 695 2, 922, 304 3, 037, 287 2, 651, 817 3, 207, 653	738, 872 925, 373 695, 136	1, 650, 709 1, 785, 680 1, 795, 278 1, 487, 356 1, 653, 249	721, 322 905, 575 672, 483	310, 920 352, 142 279, 564	17, 550 19, 798 22, 653	375, 422 528, 381 576, 154 569, 173 559, 657	69, 277 78, 583 84, 189	33, 886 43, 884 45, 309	107, 246 194, 160 191, 246 186, 226 256, 643	(1) (1) (2)
1910 1911 1914 1916 1917	4, 328, 052 4, 470, 763 5, 228, 558	3, 146, 540 3, 390, 382 3, 641, 063 4, 444, 565 4, 706, 327	937, 670 829, 700 783, 993	1, 473, 542 1, 612, 355 1, 892, 739 2, 399, 993 2, 385, 966	903, 375 768, 056 701, 667	333, 929 328, 513 329, 370	34, 295 61, 644 82, 326	616, 663 602, 754 760, 226	105, 882 124, 019 141, 359 172, 923 221, 038	191, 779 125, 296 301, 032	231, 103 296, 515 280, 177	280, 534 253, 887 200, 844
1919 1920 1921	5, 477, 832 6, 114, 072 4, 557, 179	4, 506, 276 4, 445, 817 5, 014, 513 3, 740, 406 4, 498, 808	1, 032, 015 1, 099, 559 816, 773	2, 565, 787 1, 813, 762	873, 795 921, 811 701, 131	180, 160 189, 946 131, <b>0</b> 38	158, 220 177, 748 115, 642	795, 154 885, <b>4</b> 85 8 <b>63, 0</b> 43	293, 610 365, 688 282, 375	288, 814 328, 882 226, 726	399, 579 508, 496 356, 445	175, 081 170, 229 67, 017

Forest Service. Compiled from Forest Service and Bureau of the Census reports.

Table 631.—Paper: Consumption, United States.

Cal- endar year.	Total.	Newspr	int.	Book	i <b>.</b>	Board	is.	Wrapp	ing.	Fine	)	All oth	er.
1810 1819	Short tons. 13,000		Per cent.	Short tons.	Per cent.	Short tons.	Per cent.	Short tons.	Per cent.	Short tons.	Per cent.	Short tons.	Per cent.
1829 1839	1 38, 000												
1849	1 78, 000										<del></del>		
1859 1869	1 127, 000 391, 000												
1879	457, 000 1, 1 <b>2</b> 1, 000												
	2, 158, 000		26	314, 000	15	394, 000	18	535, 000	25	113, 000	5	233, 000	11
	3, 050, 000		29	495, 000						142, 000	5 5	365, 009	
	4, 224, 000			689, 000	16		21 24			193, 000			
	5, 496, 000 6, 256, 000			926, 000 846, 000		1, <b>292</b> , 000 1, 805, 000				244, 000 276, 000	4	566, 000 691, 000	
	6, 38 <b>7</b> , 000			800, 000		1, 927, 000				348, 000		693, 000	
	6, 493, 000			838, 000	13	1, 940, 000	30		13			692, 000	
	7, 861, 000			1,060,000		2, 301, 000		1, 003, 000	13			930, 000	
	6, 054, 000					1,641,000			13	230, 000		704, 000	
1922	<b>8, 00</b> 3, 000	2, 451, 000	31	968, 000	12	2, 154, 000	27	1, 059, 000	13	356, 000	4	1,015,000	13

Forest Service.

<sup>&</sup>lt;sup>1</sup>No data available.
<sup>2</sup>Distributed according to species.

<sup>&#</sup>x27;United States production.

Table 632.—Lumber: Imports and exports, and pulpwood imports, 1907-1923.

		Lum	ber.		Pulpw	rood.
	Imp	orts.	Expo	orts.	Impo	orts.
Calendar year.	Boards, plank other sawe	cs, deals, and d lumber.	Boards, pl	anks, and tlings.	Quantity.	Value.
	Quantity.	Value.	Quantity.	Value.		
1907	791, 288 8 846, 024 1, 053, 616 840, 337 1, 025, 802 969, 552 910, 509 1, 047, 415 1, 210, 913 1, 198, 388 1, 206, 027 1, 144, 187 1, 338, 530 830, 538	\$16, 255, 350 15, 212, 788 15, 946, 755 19, 332, 768 14, 908, 160 17, 883, 048 17, 166, 683 19, 550, 480 23, 427, 488 27, 600, 247 34, 100, 528 36, 883, 988 56, 639, 885 28, 793, 181	M. feet. 1, 658, 815 1, 575, 462 1, 379, 944 1, 710, 761 2, 224, 422 2, 451, 076 2, 592, 453 1, 789, 74 1, 127, 365 1, 094, 500 1, 019, 647 1, 023, 769 1, 311, 210 1, 551, 358 1, 204, 808	\$39, 861, 352 35, 607, 508 29, 056, 579 36, 774, 219 47, 432, 840 55, 985, 732 63, 081, 723 40, 734, 159 26, 653, 732 25, 518, 542 33, 870, 262 49, 177, 518 64, 860, 806 96, 380, 344 45, 699, 379 57, 415, 062	Cords. 827, 089 810, 256 907, 963 931, 731 889, 257 933, 565 1, 034, 885 999, 649 976, 974 1, 097, 577 1, 031, 934 1, 370, 027 1, 047, 299 1, 241, 444 1, 081, 634	\$4, 002, 795 4, 698, 163 5, 613, 710 6, 109, 574 6, 227, 346 7, 007, 350 6, 773, 198 6, 278, 948 7, 202, 570 8, 563, 458 13, 362, 556 10, 458, 753 16, 902, 939 15, 387, 355
19 <b>22</b> 1923	1, 554, 075 1, 959, 325	45, 902, 649 62, 205, 721	1, 532, 913 1, 752, 852	57, 415, 062 81, 057, 020	1, 044, 816 1, 351, 963	11, 002, 636 13, 446, 678

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 322,788 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.

						Chemie	cal unble	ached.	Chem	ical blead	ehed.
Calen- dar year.	Grand total.	Me- chani- cal.	Total chemical.	Total sul- phite.	Total sul- phate.	Un- classi- fied.	Sulphite.	Sul- phate.	Un- classi- fied.	Sul- phite.	Sul- phate
-	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.	Short tons.
1889 1899	26, 378 57, 335										
1904	179, 324										
1905											
1906	199, 702										
1907	296, 778					9 50 070			2 10 063		
1908	<sup>1</sup> 250, 485	2 71, 217	78, 733			161, 672			1 60 000		
1909	367, 650 506, 776	142, 989	224, 001			205 745			76, 847		
1910 1911	562, 424	224, 184 262, 681	202, 002	i		213, 241			86, 502		
1912	540, 151		354, 347			277, 201			77, 146		
1913			373, 566			296, 255					
1914	675, 564	217, 256	458, 308			330, 270			128, 038		
1915			394, 323			321, 700			52, 946		
1916	683, 765		421, 248	200 010	100 550	368, 302	948 179	107, 933		41, 037	1, 62
1917	677, 841	279, 073	398, 768 392, 731	289, 210 270, 211			253, 454				
1918				282, 707	151 056			145, 911		42,755	5, 14
1919		233, 148		473, 175	199, 974		344, 969	182, 697		128, 206	
1920	697, 100			328, 270	178, 086		233, 064	174,004		95, 206	
1922	31,258,961	215, 811			330, 337		473, 424	308, 564		238,664	21,77

Forest Service. Compiled from reports of Bureau of Foreign and Domestic Commerce.

<sup>2</sup> July 1-December 31.

<sup>&</sup>lt;sup>1</sup> Includes 725 tons of soda, September-December only.

<sup>3</sup> Includes 100,535 tons of wood pulp, grade unclassified, imported January 1-June 30.

Table 634.—Wood pulp and paper: Exports, United States. 1

Calendar year.	Total wood- pulp.	Total paper.	Prii	nting.	Nev	vsprint.	F	Book.	Fine.	Wra	pping.	Boards.	All other.
1870		Value. \$478, 547 677, 631						Value.					Value.
1880 1885 1890 1895 1896 1900 1901 1901 1902 1903 1908 1906 1910 1911 1919 1911 1915 1914 1915 1917 1918 1917 1918	24, 940 23, 494 15, 668 15, 276 10, 086 13, 190 14, 133 12, 419 11, 297 8, 963 8, 361 14, 189 12, 337 20, 294 40, 023 39, 180 22, 324 40, 057 32, 133 28, 483 28, 483 28, 483	1, 088, 516 1, 239, 420 2, 412, 763 7, 038, 014 7, 324, 073 7, 251, 517 7, 221, 625 7, 677, 154 8, 551, 577 10, 089, 734 8, 516, 725 7, 088, 438 8, 544, 849 9, 219, 432 10, 051, 602 11, 203, 819 9, 937, 323 10, 117, 139 12, 964, 767 27, 501, 127 33, 204, 263 39, 714, 978 64, 039, 668 85, 793, 979 25, 516, 691	57, 948 57, 270 49, 606 46, 994 52, 159 60, 719 74, 207 38, 240 22, 990 48, 740 52, 442	\$3, 141, 764 3, 145, 493 2, 720, 363 2, 485, 418 2, 982, 185 3, 267, 632 4, 162, 947 2, 319, 303 1, 867, 715	48, 921 55, 568 43, 301 60, 789 55, 161 76, 736 93, 866 96, 739 110, 268 45, 889	\$2, 357, 455 2, 690, 225 2, 105, 984 2, 983, 344 2, 707, 626 4, 126, 617 7, 586, 374 7, 978, 195 10, 097, 127 2, 160, 339 2, 352, 587			\$119, 451 112, 231 497, 974 640, 371 882, 370 826, 965 990, 741 949, 318 1, 072, 652 1, 213, 087 996, 457 1, 243, 460		\$560, 535		\$1, 119, 96 2, 300, 53 3, 398, 27 3, 538, 22 3, 648, 78 3, 909, 24 3, 704, 22 4, 334, 62 4, 884, 13 4, 984, 33 4, 224, 22 4, 468, 55 4, 916, 56

Forest Service. Compiled from reports of Forest Service, and Bureau of Foreign and Domestic Commerce.

<sup>&</sup>lt;sup>1</sup> Includes exports of domestic products only.

Table 635.—Wood pulp: International trade, calendar years, 1909-1913, and 1920-

Country	Average	1909-1913.	19	920	19	921	1922, pre	liminary.
Country	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES  Austria	1,000 pounds.	1,000 pounds. 205, 364	1,000 pounds. 11,839	1,000 pounds. 55, 850	1,000 pounds. 22,876	1,000 pounds. 68,069	1,000 pounds.	1,000 pounds.
Canada Finland Germany Norway Sweden Switzerland	9, 481 526 112, 660 8 64, 911	606, 203 236, 881 384, 709 1, 437, 078 1, 822, 023 13, 072	(1) 143, 027 44, 923	1, 318, 287 2, 220, 331	2 48, 171 55, 450	1, 054, 446 422, 386 2 84, 452 804, 351 1, 166, 330 21, 300	158, 765	1, 636, 493 549, 231 162, 972 1, 334, 519 2, 583, 954 25, 003
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	52, 016 291, 254 110, 866 836, 899 179, 267 79, 260	80, 647 1, 720 485	34, 123 258, 458 149, 984 794, 680 157, 602 104, 849	34, 572 668 269	144, 929 43, 012 385, 666 86, 022 87, 527	10, 855 1, 101 2, 748 2, 558	99, 688 861, 194 197, 253	
Netherlands Portugal Russia Spain	18, 662 56, 072 92, 770	4, 144 52, 735	112, 621 145, 363	654	43, 051	860	144, 379	670
	1,891,006		2, 446, 535 1, 812, 595 35, 590	112	1, 315, 227 1, 394, 201 13, 805	688	2, 068, 020 2, 517, 921 3, 424	
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.

Table 636.—Newsprint-paper: Imports, United States.

Calen-						Cou	intry	of origin	•				
dar year.	Total.	Canad	la.1	Swed	en.	Germa	any.	. Finland		Norw	vay. All of		her.
1911	Short tons. 55, 830 85, 593 219, 844 315, 475 368, 409 468, 230 559, 113 596, 270 627, 734 729, 869 792, 509 1, 029, 268	Short tons. 54, 478 84, 652 218, 794 310, 397 366, 921 468, 070 557, 863 595, 849 627, 687 679, 309 657, 149 896, 312	Per cent. 98 99 100 99 100 100 100 100 83 83 87	Short tons. 519 337 258 963 403 11 56 166 18, 875 48, 933 51, 812	Per cent.	Short tons. 42 8 168 463 30 	Per cent.	Short tons	Per cent.	Short tons. 786 596 624 3,565 908 34 1,194	Per cent.	Short tons. 5	Per cent.

Forest Service. Compiled from reports of Bureau of Foreign and Domestic Commerce.

Less than 500 pounds.
 Eight months, May-December.
 Four-year average.

<sup>1</sup> Includes Newfoundland and Labrador.

<sup>85813°---</sup> ҮВК 1923-----69

Table 637.—Turpentine and rosin: Stocks, United States, March 31, 1919-1923.

Turpentine.

Stocks.	1919	1920	1921	1922	1923
Stocks at stills	Casks, 50 gal. 24, 050 1, 965 122, 853 1, 513 5, 771 2, 751 28, 500	Cusks, 50 gal. 28, 394 2, 000 34, 519 2, 363 14, 558 2, 634 26, 340	Casks, 50 gal. 30, 429 5, 000 60, 916 2, 258 10, 364 848 30, 528	Casks, 50 gal. 20, 732 2, 850 24, 699 1, 675 8, 195 900 26, 717	Casks, 50 gal. 12, 194 5, 994 21, 040 2, 652 10, 881 2, 225 16, 670
Total	187, 403	110, 808	140, 343	85, 168	71,656

## ROSIN.

Stocks.	1919	1920	1921	1922	1923
Stocks at stills. Stocks at wood distillation plants. Stocks at primary southern ports. Stocks at eastern ports and distributing points. Stocks at central distributing points. Stocks at western ports and distributing points. Stocks at plants of consuming industries.  Total	Barrels,	Barrels,	Barrels.	Barrels,	Barrels,
	500 lbs.	500 lbs.	500 bbs.	500 lbs.	500 lbs.
	130, 035	138, 535	327, 055	499, 797	474, 829
	12, 304	23, 000	40, 000	19, 143	25, 063
	326, 933	211, 238	432, 237	347, 730	278, 414
	81, 440	23, 417	11, 063	11, 359	8, 078
	22, 608	28, 514	35, 567	49, 043	46, 938
	1, 743	777	275	6, 447	1, 340
	203, 000	290, 045	217, 302	263, 488	297, 843

Bureau of Chemistry. Compiled from reports of Bureau of Chemistry and Bureau of the Census.

Table 638.—Turpentine (spirits): International trade, calendar years, 1909-1913, and 1920-1922.

Country.	Average,	1909–1913.	19	920	19	<b>)2</b> 1	19 prelin	022, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. France Greece Russia	1,000 gallons. 48 2 273	1,000 gallons. 2,594 368 2,322	1,000 gallons. 85	1,000 gallons. 3,659 324	1,000 gallons. 16	1,000 gallons. 3,006 254	1,000 gallons. 21	1,000 gallons. 2,783 233
Spain Sweden United States PRINCIPAL IMPORTING	134	1, 156 62 17, 868	112	944 271 9, 458	132	1, 439 275 9, 268	6 118	1, 297 270 9, 369
COUNTRIES.  Argentina Australia Austria Austria-Hungary	554 564 2, 581	53	573 538 19	3 14	527 205	(1) 27		
Belgium Brazil Canada Chile	2, 581 1, 932 2 311 1, 175 198	1,144	1, 580 510 962 267	1, 558	2, 418 138 1, 088 67	1,610	950 1, 267	174 1
Czechoslovakia Germany Italy Netherlands New Zealand Switzerland	9, 368 940 3, 998 178 466	460 3 2, 750	1, 252 749 947 93 550	18 3 12	418 3 2, 433 868 1, 159 69 522	<sup>3</sup> 82 11 11	1, 742 2, 036 852 1, 225 226 571	127 16 34
United Kingdom Other countries	7, 782 696 31, 200	28, 943	6, 752 1, 082 16, 071	236 161 16, 661	4, 281 698 15, 039	158 204 16, 345	6, 079 515 15, 608	24 14, 388
						l	i	

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.

<sup>&</sup>lt;sup>1</sup> Less than 500 gallons.

<sup>&</sup>lt;sup>2</sup> Four-year average.

<sup>3</sup> Eight months, May-December.

Table 639.—Turpentine and rosin: Production in the United States, 1910-1922.

<b>T</b>		Turpentine.		Rosin.				
Year beginning Apr. 1—	Gum.	Wood.	Total.	Gum.	Wood.	Total.		
1910-11 1 1911-12 1 1912-13 1 1913-14 1 1913-16 1 1916-17 1 1917-18 1 1918-19 8 1919-20 1 1920-21 8 1921-22 4	34, 000, 000 32, 000, 000 27, 000, 000 23, 500, 000 26, 750, 000	Gallons. 1, 250, 000 1, 000, 000 1, 000, 000 576, 000 700, 000 1, 000, 000 1, 000, 000 1, 200, 000 1, 500, 000 1, 500, 000 1, 500, 000 1, 500, 000 1, 500, 000 1, 500, 000 1, 500, 000 1, 500, 000	Gallons. 31,000,000 32,900,000 35,000,000 32,809,000 24,200,000 24,200,000 24,750,000 24,900,000 28,660,000 28,200,000 24,771,000	Barrels, 500 lbs. 2, 970, 000 2, 125, 000 2, 127, 000 1, 132, 000 1, 706, 000 1, 585, 000 1, 1531, 000 1, 115, 000 1, 237, 000 1, 662, 000 1, 662, 000	Barrels, 500 lbs. 14, 000 16, 000 20, 000 40, 000 80, 000 100, 000 123, 000 158, 000 152, 000 152, 000 152, 000 152, 000 152, 000	Barrels, 500 lbs, 1, 984, 000 lbs, 1, 984, 000 2, 141, 000 2, 287, 000 1, 735, 000 1, 605, 000 1, 681, 000 1, 238, 000 1, 757, 000 1, 715, 000 1, 1652, 000 1, 1652, 000		

Bureau of Chemistry. .

<sup>1</sup> Trade estimates.
<sup>2</sup> Bureau of Chemistry estimates.

Statistics compiled by Bureau of Chemistry.
 Statistics compiled by Bureau of the Census.

Table 640.—Rosin: International trade, calendar years, 1909-1913, and 1920-1922.

Country.	Average,	<b>1909</b> –1913.	19	20	19	021		22, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORT- ING COUNTRIES.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
China France	2, 432	118, 286	1, 634	6, 645 129, 007	456	5, 458 164, 913	949	2, 179 128, 166
Greece	35	10, 423		10,303		6,072		9,359
SpainUnited States	1,827	20,073	617	26, 855	990	22, 416	290	24, 213
United States		655, 520		326, 012		280, 432	]	399, 587
PRINCIPAL IMPORT- ING COUNTRIES.								
Argentina	32, 719	1 45	43, 577	45				
Australia	13, 724	1, 255						
Austria	==-===		2, 183	689	5, 014	723		
Austria-Hungary	75, 705	2, 205 32, 830	82, 856	46, 822	106, 840	47, 304	31, 252	13, 711
Belgium Brazil	47, 163 36, 905	32, 830	36, 456	40, 822	16, 628	47, 304	81, 202	13, 111
British India	6, 171		3, 936		1,073		2,020	
Canada	25, 506		28, 763		20, 905		27, 210	
Chile	7,410		4, 313		1,550			
Cuba	4, 123		3, 571					
Czechoslovakia		<b>-</b>	:-::		14, 344			
Denmark	3, 236		2, 575	24	2,074 16,658	2	4, 127 2 16, 093	
Dutch East Indies Finland	15, 039 6, 027	144	22, 262 3, 682	67	10, 658	163	5,756	872
Germany	233, 100	50.110	49, 255	514	3 76, 503	3 1. 216	92, 180	1, 105
Italy	34, 171	33	36, 134	315	55, 280	419	41, 637	170
Japan	10, 073		36, 686		18, 019			
Netherlands	73, 991	59, 366	9, 618	64	7,416	182	9,952	
Norway	6, 732		5, 411	23	1, 188	(9)	4, 499.	
Rumania	5,004	51	3, 068					
Russia Sweden	68, 429 3, 896	12	12, 698	192	5, 089	22	11 510	
Switzerland	4, 983	68	4, 302	102	3, 077	5	4, 993	5
United Kingdom	166, 075		124, 368		85, 260		136, 915	
Other countries	15, 965	70	10, 655	517	7, 131	6	5, 352	161
Total	900, 441	950, 381	528, 620	548, 094	445, 924	529, 333	409, 615	579, 603

Division of Statistical and Historical Research. For rosin only the resinous substance known as "rosin" in the exports of the United States is taken.

Four-year average.
 Java and Madura only.

Eight months, May-December.
 Less than 500 pounds.

One year only.
Three-year average.

Table 641.—Rubber: International trade, calendar years, 1909-1913, and 1920-1922.

Country.	Average,	1909–1913.	1	920	1	921	prelin	22, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORT-	1.000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
ING COUNTRIES.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.	pounds.
Angola	poundo	5, 620	pourue.	1	Pounter	1 491		1 259
Belgian Congo		7,755		2, 473		1 1, 746		
Bolivia		8, 395		8, 288		14,802		
Brazil		84, 938	1 93	51, 896	1 54	38, 217		43, 77
British India		2 1, 504	2	14, 285	8	11, 883	1	
British Malaya Ceylon	1 53, 472	1 85, 435	224, 085	778, 286	306, 202	415, 350	394, 192	
Ceylon	2 1, 299	10, 953	4, 465	88, 553	3,867	88, 125	5, 475	
Dutch East Indies	3 1	7,679	11	199, 908		164, 045		4 70, 607
Ecuador		1,040			l		İ	
French Congo French Guinea	(5)	3, 797		1 4, 680		1 3, 160		1 1, 536
French Guinea	1 241	3, 937	11	1 1, 521	11			1 666
French Indo-China Gold Coast	1	398		6, 927		1 8, 043		1 10, 192
Gold Coast				1 299				1 16
Kamerun		6, 409		1 1, 268	1 8, 121	1 1, 553		1 1, 236
Malacca	1 164	1 3, 279	10, 543	13, 853	1 8, 121	1 56, 643	1 12, 520	1 74, 890
Mexico		14, 262						
Nigeria Peru Senegal		3,054		1 1, 129		r 237		
Peru		5,030		3, 258		335 1 42		3, 299 1 21
Senegal	04	1, 087		1 87				1 21
Venezuela		772	132	388	.48	50		
FRINCIPALIMPORTING								
COUNTRIES.		İ	ĺ					
Austria			3,090	1 71	4, 927	1 227	1 4, 757	1 293
Austria-Hungary	6,696							
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	
Denmark	250		1,074	l <u></u>	563		300	
France		21, 615	60, 042	23, 588	41, 664	7, 762	67, 893	5, 907
Germany		9, 844	26, 918	254	1 49, 378	i 277	63, 483 1 744	1, 779
Hungary			1 353		1 860	997	14. 435	32
Italy	5, 381	225	15,000	1, 284	9,745	997	1 36, 847	0.2
Japan	1, 917		13, 581	14, 954	51, 888	30, 369	19, 628	28, 153
Netherlands	10,822	7, 172	27, 296 1 1, 128	14, 954	32, 657 1 397	30, 309	1 5, 345	20, 100
Russia	19, 131				7, 968		5, 103	,
Spain	1,067	1	9, 202 3, 372	215	1,800	99		135
Sweden	1, 695 391	725	425	1, 048	431	355	450	210
Switzerland	43, 141	720	127, 332	1,010	94, 275	555	24,870	210
United Kingdom United States	100, 180		566, 546		415, 283		674, 410	41.
Other countries	5, 799	58, 091	4, 457	117, 623	1, 809	21, 693	3, 319	1, 440
				1, 343, 295		860, 502	1, 362, 860	844, 096
Total	356, 196	311, 118	1, 100, 900	1, 040, 290	1,001,002	000, 002	1, 002, 000	014,000

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), gomelastick (Dutch East Indies), caura, ser nambi (Venezuela). Official sources except where otherwise noted.

Table 642.—Lumber: Average value at the mill per M feet, board measure, by kinds of wood, for specified calendar years.

Kind of wood.	1899	1904	1907	1909	1910	1911	1915	1916	1917	1918	1919	1920	1921	1922
SOFTWOODS.					5									
Balsam fir	(1)	(1)	\$16. 16	\$13.99	\$14.48	\$13.42	<b>\$13.</b> 79	\$16.49	\$20.02	\$27. 27	<b>\$32. 23</b>	\$34. 33	\$25. 71	\$25.05
Cedar	\$10.91	\$14.35	19. 14	19. 95	15. 53	13. 36	16. 10	15. 24	19. 40	24. 86	33.80	38.68	38. 55	29. 19
Cypress	13. 32	l 17. 50	22, 12	20.46	20. 51	20. 54	19.85	20.85	23. 92	30. 56	38.38	51.02	36.88	40.00
Douglas fir	8.67	9. 51	14. 12			11. 05	10. 59	10. 78	16. 28				18.04	
Hemlock	9.98	11.91	15. 53	13. 95	13.85	13. 59	13. 14	15. 35	20. 78	23. 97	29. 16	32.05	20. 79	21.83
Larch (tama-		1									00.00	00.00	15 50	10 54
rack)	8.73	11.39	13. 99	12.68	12. 33	11.87	10.78	12, 49	16. 21	19.86	23. 39	30. 28	15. 50	18. 34
Lodgepole									40.04	اءم مد	00 00	00 50	01 01	10.07
pine	(1)	(1)	(1)		14.88	12. 41	13. 57	15. 13	18. 34	20. 95	29. 98	30.08	21. 61	19.07
Rédwood	10. 12		17. 70			13. 99	13. 54	13.93	21.00	24.30				35. 72
Spruce	11. 27		17. <b>2</b> 6	16. 91	16.62				24. 41		30. 76		25. 73	
Sugar pine	12.30	(1)	19.84		18.68	17. 52	17.40	16. 77	24. 69				37. 83	
Yellow pine	8.46	9. 96	14.02	12. 69	13. 29	13.87	12. 41	14. 33	19.00	24. 38	28. 71	35. 89	19. 42	23. 66
Western yel-									-0 -0	00 0-	05 55	00 70	00.05	97 75
low pine	9. 70		15. 67	15. 39	14. 25	13. 62	14: 32	14. 52	19. 59	20. 87	27. 75	38. 73	20, 90	10.07
White fir	(1)	(1)	15. 54	13. 10	11. 52	10. 64	10. 94	12. 25	17. 16	19. 01	20.00	41 40	20.02	26 27
White pine	12.69	14. 93	19. 41	18. 16	18. 93	18. 54	17. 44	19. 16	24. 81	30. 84	32. 83	41. 49	30. 03	30. 31
<sup>1</sup> No data.														

International Institute of Agriculture. Three-year average.
One year only.
Java and Madura only.

Less than 500 pounds.
 Two-year average.
 Eight months, May-December.

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
HARDWOODS.														
Ash	15.84		25. 01	24. 44	22. 47	21. 21	22. 15	23. 85	30. 01	38. 70	52. 69	61. 28	38. 18	42. 43
Basswood	12.84		20.03	19. 50	20. 94	19. 20	18.89	21.05	25. 96	34.00	40.03	54. 28	33.09	35. 67
Beech	(1)	(1)	14. 30	13. 25	14. 34	14.09	14.01	16. 20	19. 58	25.06	29. 98			26.84
	12. 50		17. 37	16. 95	17. 37	16. 61	16. 52	19. 59	24. 07	29. 94	35. 79		31. 53	35.84
Chestnut	13. 37		17.04									42. 48	27.87	<b>29</b> . 29
Cottonwood	10.37		18. 42									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. 39	47. 23	29.63	33. 28
Gum, red and					-									
sap	9. 63	10.87	14. 10											
Hickory				30. 80										
Maple				15. 77	18. 16	15. 49	15. 21	18. 24	23. 16	29. 05	35. 56	50. 16	30. 34	33, 52
Oak	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, 56	34.01
Sycamore	11.04		14. 58	14. 87	14. 10	13. 16	13. 86	14. 65	18. 68	23, 59	30. 32	32. 12	22, 55	25, 29
Tupelo	(1)	(1)	14. 48	11. 87	12. 14	12. 46	12, 25	13.00	18.06	22. 73	28. 42	33. 68	18, 59	22, 86
Yellow poplar.	14. 03	18. 99	24. 91	25. 39	24. 71	25. 46	22, 45	21. 89	27. 17	35. 06	41.65	58. 87	37. 31	39, 18
Walnut	36. 49	45. 64	43. 31					42. 38				88. 92		
All kinds	11. 13	12. 76	16. 56	15. 38	15. 30	15. 05	14. 04	15. 32	20. 32	24. 79	30. 21	38. 42	23. 47	26. 15

Forest Service and Bureau of the Census.

Table 643.—Lumber prices per M feet, in eastern markets of the United States, 1840-1922.

		uality, ich.		e quality, nch.			uality, ich.		quality, neh.
Calendar year.	Soft- woods.	Hard- woods.	Soft- woods.	Hard- woods.	Calendar year	Soft- woods.	Hard- woods.	Soft- woods.	Hard- woods.
1840	22. 01 21. 46 23. 37 23. 01 25. 10 24. 22 24. 35		\$10. 50 10. 50 10. 50 10. 50 10. 50 11. 00 11. 00 11. 00 11. 00 11. 00		1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890	39. 93 42. 88 41. 80 41. 51 39. 47 36. 96 34. 53 33. 83 34. 48	\$31. 62 31. 62 31. 49 31. 41 31. 41 31. 46 32. 13 32. 75 33. 85 33. 93 33. 07	\$14.00 16.50 18.00 15.00 16.50 17.00 18.00 16.88 15.88 16.40	\$29. 29 28. 86
1851 1852 1853 1854	24, 08 24, 28 25, 82 27, 02		11. 00 11. 00 11. 00 11. 50		1891 1892 1893 1894	32. 43 29. 32 30. 56	33. 11 32. 86 36. 10	16. 00 18. 50 17. 45 17. 43	24. 80 24. 80
1855 1866 1857 1858 1859	27. 67 29. 80 30. 37	\$11. 03 11. 77 11. 87 11. 87 11. 97	11. 00 10. 00 11. 00 11. 00 11. 00		1895 1896 1897 1898 1899	29. 39 28. 77 28. 75 28. 68 30. 06	34. 52 34. 51 34. 51 24. 26 35. 72	16. 55 16. 54 17. 09 16. 23 16. 01	24. 76 24. 76 24. 76 24. 76 24. 69
1860	24. 45 24. 32 23. 76 20. 55 27. 73	12. 24 21. 60 26. 25 20. 01 23. 18	11. 50 12. 00 13. 18 12.41 12.86		1900 1901 1902 1903 1904	34. 06 33. 98 41. 93 39. 09	39. 29 37. 06 46. 43 46. 07	21. 50 21. 32 20. 40 21. 20	27. 57 29. 32 31. 75 33. 72
1865 1866 1867 1868 1869	20. 43 41. 32 43. 25 34. 58 34. 35	13. 57 20. 94 21. 52 20. 92 21. 36	9. 25 14. 28 12. 63 11. 55 12. 54		1905 1906 1907 1908 1909	42. 59 44. 65 45. 32 44. 11 42. 10	41. 97 44. 47 47. 79 50. 92 47. 16	22. 06 24. 99 27. 87 27. 14 25. 44	31, 80 34, 06 36, 94 38, 12 34, 72
1870	37. 70 35. 90 41. 56 41. 92 40. 16	24. 89 27. 81 28. 93 28. 00 27. 91	14. 01 18. 09 18. 33 19. 52 17. 95		· 1910 1911 1912 1913 1914	43. 50 45. 06 44. 53 44. 92 42. 76	49. 17 50. 59 51. 44 53. 99 54. 94	24. 60 24. 52 25. 29 27. 88 25. 19	35. 61 35. 45 35. 73 38. 61 38. 23
1875 1876 1877 1878 1879	39. 93 32. 85 34. 29 33. 28 34. 11	27. 64 27. 56 29. 30 30. 87 31. 40	13. 33 13. 30 13. 18 13. 81 14. 00		1915 1916 1917 1918 1919	41. 89 41, 53 42. 60 51. 45 61. 58 131. 55	52. 94 54. 59 56. 00 66. 65 72. 62 178. 82	24. 68 26. 86 29. 09 39. 90 44. 42 73. 26	35. 49 37, 64 38. 92 46. 42 55. 54 123. 80
					1921 1922	85. 17 72. 45	140. 26 120. 21	58. 98 53. 13	94. 89 70. 12

Forest Service. Reports of actual sales.

<sup>1</sup> No data.

Table 644.—Lumber: Average prices per M. feet, f. o. b. mill, Douglas fir and southern yellow pine, 1913-1923.

	Doug	las fir.	Yello	w pine.		Doug	las fir.	Yellov	v pine.
Year.	Price.	Index (1913= 100).	Price.	Index (1913= 100).	Year.	Price.	Index (1913= 100).	Price.	Index (1913— 100).
1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1920 January February March April May June July August September	\$11. 44 10. 58 9. 80 11. 63 16. 93 21. 21 25. 83 36. 78 19. 98 23. 90 28. 93 41. 98 46. 31 46. 65 40. 21 36. 05 33. 69 32. 86 31. 29	100. 0 92. 5 85. 5 101. 7 147. 9 186. 3 225. 9 323. 3 174. 7 208. 9 252. 9 366. 0 404. 8 407. 0 377. 1 351. 2 315. 1 294. 5 287. 2	\$14. 77 13. 68 13. 02 16. 12 21. 13 26. 45 33. 94 44. 74 21. 18 26. 44 30. 81 52. 21 57. 94 61. 60 57. 53 54. 65 40. 05 41. 34 43. 42 41. 09	100. 0 92. 6 88. 2 109. 2 143. 1 179. 1 229. 8 302. 9 143. 4 179. 0 208. 6 353. 5 392. 3 447. 1 389. 5 370. 0 271. 2 279. 9 294. 0 278. 2	1921—Con. August September October November. December  1922. January February March April May June July August September October November. December 1923.	17. 07	130. 8 129. 8 139. 6 149. 2 155. 1 163. 7 198. 9 195. 8 178. 7 184. 4 203. 1 211. 3 217. 0 237. 2 244. 5 225. 7 231. 6	\$20. 40 20. 61 21. 59 23. 14 21. 77 22. 68 22. 61 22. 27 22. 78 24. 85 29. 07 21. 71 30. 61 30. 61	138, 1 139, 5 146, 5 156, 7 147, 4 153, 6 153, 1 151, 5 154, 2 196, 8 211, 5 214, 7 207, 2 207, 2
September October November December 1921.  January February March April May June July	27. 57 24. 05 22. 61 20. 20 18. 85 17. 59 16. 87 16. 42 15. 90	273. 4 241. 0 210. 0 197. 6 164. 7 153. 2 147. 3 143. 2 143. 5 133. 4	21, 35 21, 35 21, 18 20, 92 20, 36 20, 82 22, 32 20, 75	- 278. 2 233. 2 180. 6 175. 2 144. 6 143. 4 141. 7 137. 9 140. 9	January February March April May June July August September October November December	28. 54 29. 42 30. 22 31. 46 31. 02 30. 36 27. 68 26. 97 27. 18 27. 24 28. 97 26. 94	249. 5 257. 2 264. 2 275. 0 271. 2 265. 4 241. 9 235. 5 238. 1 253. 2 235. 5	30. 42 32. 81 33. 71 33. 38 33. 85 32. 40 31. 14 30. 82 27. 53 28. 77 27. 83 26. 56	205. 9 222. 1 228. 2 226. 0 229. 2 219. 4 210. 8 208. 6 186. 4 194. 7 188. 4 179. 8

Forest Service. Reports of actual sales.

Table 645.—Wood pulp, sulphite, domestic, unbleached: Average wholesale price per 100 pounds, New York, 1914-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1914 1915 1916 1917 1918 1919	2. 125	2. 800 3. 500	2. 150 2. 850 5. 400 2. 913 3. 500	2. 100 3. 150	2. 100 3. 625 5. 475 3. 594 3. 375	2. 100 3. 625 5. 475	2. 075 3. 625 4. 975 4. 250 3. 375	2. 075 3. 875 4. 975 4. 325 3. 563	2. 075 4. 250 5. 375 4. 638 3. 625	2. 075 5. 125 3. 675 4. 975 3. 625	2. 150 5. 125 3. 225	2. 350 5. 375 2. 800 3. 975 3, 625	2. 119 3. 815 4. 812 3. 859 3. 523
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 1922 1923	6. 000 2. 545 2. 675	2. 525	2. 525		2. 525	2. 525		2. 525	2. 625 2. 538 3. 113	2. 635	2. 675	2. 675	2. 562

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports

Table 646.—Rubber, Para Island, fine: Average wholesale price per pound, New York, 1890-1923.

<u> </u>	<del></del>				1	1		1		1			,
Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age
1890	. 780	\$0. 680 . 890 . 645 . 790 . 660	. 885 . 680 . 755	. 930 . 735 . 760	. 900	. 885 . 6 <b>9</b> 0 . 740	. 855 . 700 . 725	. 810 . 675 . 6 <b>5</b> 5	. 615 . 635 . 660	. 645 . 680 . 705	. 640 . 670 . 680	. 655 . 685 . 690	. 791 . 676 . 717
1895	. 740 . 750 . 820 . 815 . 942	. 735 . 710 . 820 . 862 1. 005		. 730 . 750 . 825 . 930 1. 018	. 720 . 820 . 855 . 922 1. 015	. 750 . 880 . 840 . 930 . 992	. 730 . 835 . 840 . 960 . 972	. 715 . 830 . 855 1. 012 . 972	. 730 . 800 . 885 1. 000 . 965	. 765 . 825 . 870 . 932 . 982	. 815 . 828 . 870 . 920 . 990	. 832 . 835 . 910	. 742 . 800 . 845 . 927 . 995
1900	1. 062 . 875 . 805 . 865 . 915	1. 068 . 850 . 760 . 835 . 985	1. 045 . 845 . 725 . 895 1. 025	1. 075 . 840 . 715 . 875 1. 090	1. 065 . 890 . 715 . 895 1. 085	. 880 . 870 . 708 . 860 1. 095	. 925 . 855 . 705 . 885 1. 085	. 915 . 835 . 678 . 905 1. 155	. 960 . 880 . 730 . 965 1. 135	. 985 . 850 . 728 1. 015 1. 095	. 925 . 800 . 732 . 995 1. 125	. 875 . 805 . 728 . 915 1. 265	. 982 . 850 . 727 . 905 1. 088
1905	1. 125 1. 255 1. 180 . 765	1. 215 1. 235 1. 185 . 712	1. 255 1. 235 1. 185 . 695	1. 280 1. 245 1. 150 . 752	1. 285 1. 235 1. 140 . 805	1. 325 1. 220 1. 090 . 875	1. 190	1. 245 1. 180 1. 065 . 855	1. 265 1. 190 1. 030 . 905	1. 255 1. 190 . 995 . 965	1. 195 . 915	1. 189 . 780	1. 242 1. 213 1. 063 . 871
1909 1910 1911 1912 1913	1. 155 1. 695 1. 150 . 975 1. 005	1. 155 1. 790 1. 180 1. 060 . 975	1. 215 1. 995 1. 580 1. 085 . 915	1. 185 2. 600 1. 360 1. 145 . 835	1. 232 2. 600 1. 130 1. 100 . 780	1. 335 2. 295 . 940 1. 045 . 835	1. 430 2. 250 . 925 1. 010 . 815	1. 845 2. 070 1. 040 1. 045 . 730	1. 710 1. 800 1. 080 1. 135 . 760	1. 985 1. 370 1. 050 1. 065 . 715	1. 810 1. 190 . 940 . 975 . 675	1. 715 1. 235 . 950 . 980 . 645	1. 481 1. 908 1. 110 1. 052 . 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
1914 1915 1916 1917	. 605 . 710 . 885 . 700	. 655 . 550 . 685 . 680	. 695 . 535 . 705 . 750	. 695 . 535 . 695 . 740	. 725 . 545 . 660 . 725	. 610 . 545 . 590 . 725	. 575 . 535 . 590 . 705	. 580 . 522 . 585 . 613	. 600 . 500 . 582 . 595	. 525 . 508 . 665 . 568	. 495 . 548 . 670 . 505	. 630 . 655 . 720 . 468	. 616 . 557 . 669 . 648
1918 1919 1920	. 501 . 525 . 463	. 479 . 491 . 432	. 483 . 482 . 412	. 516 . 478 . 411	. 566 . 474 . 404	. 590 . 474 . 385	. 590 . 475 . 353	. 590 . 475 . 303	. 590 . 480 . 253	. 572 . 483 . 217	. 570 . 483 . 192	. 548 . 479 . 180	550 . 483 . 334
Av. 1914-1920	. 627	. 567	. 580	. 581	. 586	. 560	. 546	. 524	. 514	. 505	<b>. 49</b> 5	. 526	. 551
1921 1922 1923	. 173 . 193 . 272	. 168 . 163 . 307	. 180 . 161 . 290	. 178 . 171 . 274	. 179 . 176 . 249	. 164 . 169 . 250	. 164 . 172 . 239	. 165 . 176 . 238	. 174 . 171 . 246	. 210 . 196 . 215	. 215 . 219 . 204	. 211 . 223 . 203	. 182 . 182 . 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.	Average.
1890 1891	\$0. 449 . 405												
1892 1893	. 340	. 345	. 420	. 370	. 340	. 290	. 295	. 285	. 278	. 285	.310	. 315	. 323
1894	. 292	. 309	. 312	. 288	. 296	. 305	. <b>2</b> 95	. 289	. 285	. 285	. 285	.278	. 293
1895 1896 1897	. 271 . 305 . 266		. 292	. 335 . 285 . 292		. 260	. 252	. 240	. 275 . 240 . 298	. 282 . 280 . 325	. 280	. 268	. 274
1898 1899	. 332 . 452	. 340 . 455	. 356	. 325		. 282	. 262	. 265	. 295	. 308	.370	.390	. 322
1900	. 525 . 380	. 545 . 405	. 550	. 560 . 365	. 505			. 445 . 355		. 405			
1902	. 390	. 442 . 655	. 440 . 658	. 485 . 672	. 455 . 480	. 480 . 490	. 475 . 495	. 460 . 525	. 475 . 550	. 505 . 585	. 545	. 535	. 474 . 572
1904	. 598	. 645 . 560	. 625 . 539	. 590 . 610	. 580 . 605		. 565 . 600	. 568	. 560	. 560	. 545		
1906	. 685 . 710	. 682 . 740	. 719 . 755	. 708 . 730	. 675 . 675	. 610 . 640	. 606 . 610	. 600 . 590	. 640 . 582	. 652 . 550	. 701 . 540	. 700 . 490	. 665 . 634
1908	. 435	. 555	. 535	. 565	. 475	. 435	. 420	. 410	. 390	. 390	. 400	. 430	. 453

Table 647.—Turpentine (spirits): Average wholesale price per gallon (in barrels), New York, 1890-1923.—Continued.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	A ver- age.
1910	. 592	. 632		\$0.405 .630	. 625	. 592							
1911 1912 1913	. 808 . 540 . 425	. 495	. 500	. 505	. 530	. 480	. 479	. 462	. 425	. 428	. 420	. 380	. 470
Av. 1909–1913	. 556			<u> </u>									
1914 1915	. 458 . 452	. 445	. 450	. 472	. 488	. 435	. 430	. 420	. 398	. 415	. 538	. 570	. 459
1916	. 572 . 550	. 540	. 530 . 513		. 520	. 435 . 448		. 468 . 428	. 465 . 423	. 462 . 485	. 480 . 535		
1918 1919 1920	. 490 . 755 1. 885	. 474 . 709 1. 985	. 720	. 773	. 831	1.095	1. 176	. 622 1. 724 1. 624	. 661 1. 683 1. 473	1.600	. 798 1. 689 1. 098	1.656	1. 201
Av. 1914–1920	. 737	. 749		. 825	. 813	. 770		. 824	. 789		. 799		
1921 1922 1923	. 724 . 909	. 609	. 584 . 869	. 591 . 866	. 717 . 944 1. 167	1. 110	1. 207	. 633 1. 194	. 718 1, 298		. 810 1. 578		1, 151

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.	Sept.	Oct.	Nov.	Dec.	Average.
1890	1. 438 1. 425 1. 325	1. 450 1. 400	1. 500 1. 350 1. 475	1. 612 1. 388 1. 375	1.700	1. 600 1. 325 1. 275	1. 412 1. 250 1. 225	1. 400 1. 275 1, 013	1.400	1. 400 1. 250 1. 175	1. 375 1. 350 1. 213	1.350 1.338	1. 474 1. 342 1. 262
1895. 1896. 1897. 1898.	1. 413 1. 700 1. 750 1. 450	1. 400 1. 625 1. 700	1. 450 1. 675 1. 700 1. 450	1. 600 1. 762 1. 650 1. 450	1. 525	1. 650 1. 800 1. 750 1. 450	1. 600 1. 688 1. 750 1. 450	1. 575 1. 600 1. 550	1.300	1. 700 1. 450 1. 300	1. 925 1. 450 1. 500	1. 850 1. 450 1. 450	1. 746 1. 612 1. 421
1900	1. 750 1. 550 1. 925	1. 638 1. 650 1. 550 2. 100 2. 975	1. 625 1. 550 2. 275	1. 500 1. 662 2. 300	1. 600 1. 600 1. 638 2. 125 2. 850	1. 550 1. 588 2. 075	1, 562 1, 438 1, 575 2, 062 3, 000	1. 400 1. 575 1. 975	1, 525 1, 400 1, 550 2, 100 2, 700	1. 425 1. 550 2. 300	1. 450	1. 575 1. 775 2. 575	1. 530 1. 613 2. 216
1905	3.650 4.250	4.450	4. 175 4. 425	4.000 4.550	4. 050 4. 800	4.000 4.800	3.950 4.425	3.600 3.975 4.500 3.000	4. 125 4. 350	4.000 4.225	4. 150 4. 200		4. 015 4. 377
1909 1910 1911 1912 1913	4. 200 6. 200 7. 150	4. 400 6. 750 6. 650	4. 550 7. 450 6. 700	4. 650 8. 500 6. 900	4.500 7.750 6.500	4. 500 6. 750 6. 550	5. 300 6. 250 6. 450	3. 250 6. 050 5. 400 6. 475 4. 250	6. 100 6. 250 6. 850	6. 400 6. 400 6. 600	6. 100 6. 600 6. 500	4. 175 6. 050 6. 300 6. 375 4. 100	3. 500 5. 233 6. 717 6. 642 4. 817
Av. 1909–1913 1914 1915	4. 000	4. 400	4. 250	4. 150	4. 100	4. 050	4. 200	3. 950	3. 750	3. 850	3. 750	3.750	5. 382 4. 017 3. 767
1916 1917	5. 950 6. 600	5. 750 6. 550	5. 400 6. 275	5. 200 6. 000	4. 300 6. 300	5. 100 6. 300	5. 500 6. 000	6. 650 5. 850	6. 150 6. 000	6. 250 6. 800	6. 550 6. 850	6. 800 7. 175	5. 800 6. 392
1918 1919 1920	14, 250 18. 588	13, 463 18. 125	12, 325 18. <b>0</b> 80	12. 185 18. 500	12. 050 19. 750	14. 275 16. 700	16. 450 12. 413	17. 850 13. 900	17. 330 13. 713	17. 125 12. 825	17. 475 11. 830	9.063	15. 154 15. 291
Av. 1914-1920 1921 1922	8. 813	7. 500	5. 850	4. 950	5. 260	5. 050	5. 050	4. 970	5. 425	5. 600	5. 680	5. 325	8. 711 5. 789 5. 773

Table 649.—Pulp wood: Prices per cord f. o. b. mill, in the United States, by species, 1899-1922.

		Spr	uce.		Bal-	Yel-	Por	olar.				Cat		Slabs
Calendar Year.	Aver- age.	Do- mes- tic.	Im- port- ed.	Hem- lock.	sam fir.	low pine.	Do- mes- tic.	Im- port- ed.	Tam- arack.	Gum.	Jack pine.	Cot- ton- wood.	Pine.	and other mill waste.
1899	\$3. 55	\$4. 82					\$4. 66							
1904 1907 1908	6. 82 8. 17 8. 38	8. 55 8. 76	9.60	<b>\$5.68</b>	\$7. 59 7. 23	(1) (1) (1)	7. 07 7. 85 8. 01	8.44			(1) (1)		\$6.45 6.08	
1909	8. 62	9. 32				(1)	7. 96				(1) (1)		6. 25	\$4.66
1914 1916	8. 81 8. 76	9. 45 9. 35		6. 93 6. 60		\$5. 17	8. 26 8. 76	9. 46	\$5. 50	<b>e</b> 0.70	<b>47</b> 59	\$5, 09		4.83 4.63
1917 1918	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 7. 55
1919	13. 93 15. 95							12. 87 18. 02		15. 85 18. 20				9. 66
1920	19. 03			14. 80										12. 13
1921 1922	20. 10 16. 20						19, 97 14, 95			21. 55 15. 32				9. 07 10. <b>43</b>
												i ;		

Forest Service. From reports of mills to Forest Service and Bureau of the Census.

Table 650.—Wood subjected to preservative treatment, 1909-1922.

Calen- dar year.	Crossties.	Piles.	Poles.	Wood blocks.	Cross arms.	Construc- tion timbers.	Miscel- laneous lumber.	Total material treated.
				CREOSOT	Е.			
1909 1910 1911 1912 1913	Cubic feet. 29, 830, 080 44, 525, 229 49, 532, 163 57, 461, 515 75, 998, 307	Cubic feet. 4, 421, 726 5, 219, 254 4, 937, 363 7, 624, 939 7, 630, 328	Cubic feet. 659, 664 255, 597 106, 213 1, 169, 981 2, 367, 769	Cubic feet. 2, 994, 290 4, 692, 453 10, 145, 724 7, 091, 658 6, 810, 308	Cubic feet. 41, 764 88, 069 71, 961 1, 643, 128 1, 813, 010	Cubic feet. 4, 902, 311 7, 801, 272 7, 417, 105 6, 892, 493 10, 308, 883 8, 389, 158	Cubic feet. 417, 787 2, 687, 713 2, 499, 905 2, 841, 195 1, 853, 993 1, 348, 566	Cubic feet. 43, 267, 622 65, 269, 587 74, 710, 524 84, 724, 909 106, 782, 598 90, 028, 130
1914 1915 1916 1917 1918	67, 774, 329 51, 231, 207 62, 576, 403 48, 685, 554 34, 638, 147	7, 804, 657 6, 288, 238 8, 524, 680 8, 493, 715 7, 620, 974	1, 188, 511 2, 336, 318 6, 303, 954 5, 930, 559 4, 540, 620	8, 127, 506 6, 064, 758 7, 205, 953 4, 610, 427 4, 825, 766	395, 403 87, 373 178, 210 239, 764 210, 903	9, 264, 164 9, 521, 609 7, 830, 673 7, 606, 153	1, 348, 300 881, 028 691, 870 706, 084 707, 294	76, 153, 086 95, 002, 679 76, 496, 776 60, 149, 857
1919 1920 1921 1922	44, 938, 215 40, 114, 551 66, 139, 398 60, 625, 086	9, 151, 972 8, 013, 192 5, 528, 275 7, 494, 649	6, 649, 491 10, 309, 746 10, 906, 157 16, 482, 963	3, 372, 828 6, 741, 410 6, 202, 904 3, 947, 551	75, 310 318, 707 108, 715 374, 829	9, 220, 880 9, 054, 413 9, 052, 679 10, 632, 378	553, 750 1, 139, 307 663, 183 1, 029, 509	73, 962, 446 75, 691, 326 98, 601, 311 100, 586, 965
			ZIN	CHLOR	IDE.			
1909 1910 1911 1912 1913	24, 153, 162 27, 587, 583 28, 337, 883 28, 532, 874 36, 051, 816	9999	(1) (1) (1) 18, 246 47, 996	00000	9999	320, 891 541, 514 1, 043, 851 259, 972 585, 756	2, 333 71, 060 119, 931 20, 092 7, 670	24, 476, 386 28, 200, 157 29, 501, 665 28, 831, 184 36, 693, 238
1914 1915 1916 1917 1918	50, 020, 755 53, 457, 852 43, 859, 028 44, 529, 954 51, 166, 146	(1) 4, 726 859 7, 093 57, 845	(2) (1) 164 45, 788 (1)	(1) (1) (1) 10, 421 13, 939	(1) (2) (3) (1)	1, 317, 925 2, 406, 150 1, 526, 881 2, 127, 872 2, 337, 169	4, 355 275, 279 346, 047 5, 070 30, 790	51, 343, 036 56, 144, 007 45, 732, 979 46, 726, 198 53, 605, 889
1919 1920 1921 1922	58, 912, 323 87, 398, 160 90, 797, 841 52, 254, 303	2, 919 (1) 298 2, 029	(1) (1) (1) (1)	(1) (1) (1) (1)	(1) (1) (1) (1)	2, 164, 007 1, 823, 437 2, 738, 292 1, 296, 980	63, 987 94, 151 67, 835 19, 564	61, 143, 236 89, 315, 748 93, 604, 266 53, 572, 876

<sup>&</sup>lt;sup>1</sup> None reported.

<sup>&</sup>lt;sup>1</sup> Included in pine.

TABLE 650.—Wood subjected to preservative treatment, 1909-1922—Continued.

## ZINC-CREOSOTE.

Calen- dar year.	Crossties.	Piles.	Poles.	Wood blocks.	Cross arms	Construc- tion timber.	Miscel- laneous lumber.	Total material treated.
1909	8, 095, 794	(1)	(1)	(1)	(1)	62, 918	43, 699	8, 202, 41
1910	6, 354, 219	38, 392	(1)	(2)	(1)	181, 143	30, 646	6, 604, 400
1911	7, 312, 374	(2)	(1)	(3)	(1)	(2)	(²)	7, 312, 37
1912	8, 214, 303	97, 874	(1)	(4)	(1)	560, 613	99, 367	8, 972, 15
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	(2)	6, 009, 55;
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, 44;
1917	6, 482, 046	(1)	(1)	(1)	(1)	1, 102, 635	847	7, 585, 52;
1918	6, 023, 334	167, 438	12, 300	76, 393	209, 927	164, 813	125, 327	6, 779, 53;
1919 1920 1921 1922	8, 850, 222 7, 414, 866 9, 183, 702 11, 045, 913	14, 059 79, 354 61, 386 111	(1) (1) (1) (1)	(1) (1) (1) (1)	(1) (1) (1)	562, 403 484, 123 48, 237 684, 242	58, 399 5, 231 2, 499 14, 176	9, 485, 085 7, 983, 574 9, 295, 824 11, 744, 445

## MISCELLANEOUS.

1909 1910 1911 1912 1913	(1) (1) (1) (1) 2, 974, 317 1, 792, 287	(1) (1) (1) 14, 222	(1) (1) (1) (1) 352 84,655	(1) (1) (1) 305, 437 45, 185	(1) (1) (1) (1) (1) 11,709	(1) (1) (1) 80, 446 (1)	(1) (1) (1) 28, 032 124, 367	(1) (1) (1) (1) 3, 402, 806 2, 059, 003
1914	7, 877, 043	257, 245	293, 896	3, 741, 864	22, 511	(1)	9, 363	12, 201, 922
1915	19, 560	(1)	66, 242	1, 643, 213	3, 254	123, 377	330	1, 855, 976
1916	37, 431	56, 458	389, 031	2, 738, 731	2, 634	166, 183	47, 416	3, 437, 884
1917	680, 856	85, 204	749, 156	4, 464, 382	16, 274	433, 896	100, 316	6, 530, 084
1918	(1)	463, 115	62, 850	1, 381, 196	2, 541	107, 456	60, 452	2, 077, 612
1919	3, 021	(1)	11, 775	1, 340, 850 (1) (1) (1) (1)	(1)	114, 583	(1)	1, 470, 229
1920	35, 019	(1)	(¹)		(1)	283, 838	(1)	318, 857
1921	29, 606	2, 040	53, 099		(1)	37, 500	19, 584	141, 827
1922	<b>24, 120</b>	(1)	<b>52</b> 5, 677		(1)	99, 480	66, 787	716, 064

### 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	<b>256, 03</b> 8	11, 495, 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, 949, 422	7, 496, 789	17, 008, 640	3, 947, 551	374, 829	12, 713, 080	1, 130, 036	166, 620, 347
1			l		1			

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 2.625. 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.

None reported.
 Figures if used would reveal identity of reporting firms

Table 651.—Wood preservatives consumed by treating plants, 1909-1922.

Cal-	Num-			Cred	osote.					Other
dar year.	ber of plants.	Distillate coal-tar creosote.	Creosote coal-tar solution.	Refined water- gas tar.	Water- gas tar solution.	Im- ported.	Total.	Paving oil.	Zinc chloride.	preserv- atives.
1909 1910 1911 1912 1913 1914 1915	84 93 94	(1) (1) (1) (1)	Gallons. (1) (1) (1) (1) (1) (1) (1)	Gallons. (1) (1) (1) (1) (1) (1) (1) (1)	Gallons. (1) (1) (1) (1) (1) (1) (1) (1) (1)		63, 266, 271 73, 027, 335 83, 666, 490 108, 373, 359 79, 334, 606	(1) (1) (1) (1) (1) 9, 429, 444		2, 333, 707 1, 000, 000 3, 072, 462 3, 885, 738 2, 486, 637
1916 1917 1918	117 115 107	(1) (1) (1)	(1) (1) (1) (1) (1) 31, 292, 661	(1) (1) (1) (1) (1)	(1) (1) (1)	43, 649, 931 18, 259, 141 2, 165, 736 6, 493, 974	90, 404, 749 75, 541, 737 52, 776, 386	5, 675, 095 7, 579, 819 4, 057, 862	26, 746, 577 26, 444, 689	582, 754 137, 361 28, 013
1920 1921 1922	115 122	25, 483, 230 19, 460, 500	27, 921, 614 23, 283, 046	1, 377, 702 3, 135, 610	4, 399, 282 2, 391, 816	9, 575, 680 28, 242, 307 35, 462, 238	68, 757, 508 76, 513, 279	1, 848, 911 1, 060, 753	49, 717, 929 51, 375, 360 29, 868, 639	1, 772, 084 1, 810, 294

Forest Service.

<sup>&</sup>lt;sup>1</sup> Statistics not available.

## IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS.

Table 652.—Agricultural imports of the United States, 1921-1923.

			Year endi	ng June 30.		
Article imported.		Quantity.	yr an yn faffin yllyn di <b>santan</b> ig.		Value.	
	1920-21	1921-22	1922-231	1920-21	1921-22	1922-23 1
ANIMALS AND ANIMAL PRODUCTS.  Live animals: Cattle No. Horses No. Sheep No.	Thou- sands. 330 4 161	Thou- sands. 152 3 96	Thou- sands. 264 3 83	Thou- sands. \$23, 634 1, 205 1, 542	Thou- sands. \$3,055 532 515	Thou- sands. \$6, 630 840 542
Swine No Birds (live) No Poultry (live) lbs All other (live)			<sup>2</sup> 353 <sup>2</sup> 932	1,376	1,748	<sup>2</sup> 317 <sup>2</sup> 228 1,068
Total live animals				27, 785	5, 850	9, 628
Beeswax and other animal wax_lbs_ Casein or lactarinelbs_ Dairy products:	2, 215 14, 180	3, 101 10, 529	4, 095 26, 094	694 1,570	581 707	818 4, 135
Butter and substituteslbs_ Cheese and substituteslbs_ Milk and cream—	34, 344 16, 585	9, 551 34, 271	15, 772 54, 555	15, 913 5, 691	3, 257 10, 816	5, <b>8</b> 21 17, <b>3</b> 13
Fresh, natural state, sweet or sourgals_ Condensed, evaporated, malted, etclbs_	4, 391	4, 536	5, 148	2, 843	3, 132	4, 148
malted, etclbs_	19, 273	2, 037	7, 276	2, 909	317	934
Total dairy products				27, 356	17, 522	28, 216
Eggs: Eggs of poultry in shelldoz Eggs and egg yolks, preserved,	3, 316	1, 224	535	1,056	328	159
(dried or frozen)lbs_ Egg albumenlbs_	28, 768 7, 889	16, 540 7, 388	14, 821 3, 213	6, 177 2, 381	2, 415 1, 980	2, 828 1, 369
Total eggs			4	9, 614	4, 723	4, 356
Feathers and downs (crude):  Ostrichlbs_ Otherlbs	128 2, 859	125 3, 614	179 4, 821	1, 193 1, 088	964 1, 155	1, 140 2, 075
Total				2, 281	2, 119	3, 215
Fibers, animal:    Silk—	26 29, 463 5, 290	161 48, 179 - 9, 097	380 52, 684 3 1, 272	39 181, 883 8, 398	120 300, 446 6, 717	383 405, 796 <sup>8</sup> 747
All other wastelbs			<sup>2</sup> 231 <sup>2</sup> 8, 620			<sup>2</sup> 170 <sup>2</sup> 6, 471
Total silk				190, 320	307, 283	413, 567
Wool and hair— Carpet	50, 378 251, 249 12, 997 3, 612	148, 787 32, 821 69, 233 4, 246	171, 879 43, 703 298, 496 <sup>3</sup> 2, 851 <sup>2</sup> 7, 220 <sup>2</sup> 1, 322	7, 638 65, 567 3, 569 1, 128	19, 979 6, 939 17, 585	34, 946 13, 555 108, 117 3 1, 069 2 2, 857 2 551
Total hair of angora,				1, 128	1, 146	4, 477
Wooled sheep and lamb skins, dry and greenlbs			<sup>2</sup> 24, 708			² 5, <b>0</b> 96
<b>}-</b>				77, 902	45, 649	167, 191

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> Beginning Sept. 22, 1922.

<sup>&</sup>lt;sup>3</sup> July 1-Sept. 21, 1922.

Table 652.—Agricultural imports of the United States, 1921-1923—Continued.

		Year ending June 30.						
Article imported.		Quantity			Value.			
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231		
ANIMALS AND ANIMAL PRODUCTS—con.  Gelatin	Theu-sands. 2, 397 3, 562 5, 436 368 7, 413	Thou-sands. 2, 527 4, 175 2, 557 198	Thou- sands. 2, 839 6, 797 693 569	Thou-sands. \$1, 231 763 550 1, 036	119	Thou-sands. \$906 692 61 1,520		
Blood, dried	161, 834 86	43, 360	101, 269 61	2, 939 276	592	1, 485		
Sortedlbs	4, 158	3, 158	5, 623	8, 978	4, 305	7, 772		
Total bristles				9, 254	4, 316	7, 793		
Hair, animal— Horselbs Otherlbs	3, 553 4, 659	3, 945 4, 298	7, 498 9, 605	1, 590 803	1, 538 419	3, 300 1, 195		
Total hair (animal)				2, 393	1, 957	4, 495		
Hide cuttings, raw, and other glue stocklbs_ Hides and skins (other than furs)— Buffalo—	36, 108	25, 322	29, 758	2, 270	1, 150	1, 167		
Dry, and dry salted_lbs Wet, saltedlbs Cabrettalbs	4, 617 15	3, 084	2, 537 8 1, 265	1, 398	528	337 4 230		
Kip— Dry and dry salted (6 to 12 pounds)lbs. Wet salted (12 to 25 pounds)lbs.			<sup>3</sup> 11, 628 <sup>3</sup> 9, 168			<sup>3</sup> 2, 120 <sup>3</sup> 1, 908		
Dry and dry salted (less than 6 pounds) <sup>5</sup> lbs_ Wet salted (less than 12 pounds) <sup>5</sup> lbs_	11, 810 23, 780	16, 175 25, 383	<sup>5</sup> 14, 988 <sup>5</sup> 30, 736	4, 548 6, 000	3, 213 5, 354	5 4, 002 5 7, 048		
Total kip and calf	20,100			10, 548	8, 567	15, 078		
Cattle— Dry and dry salted_lbs_ Wet saltedlbs	24, 814 173, 759	18, 439 186, 498	58, 770 346, 613	7, 092 32, 775	2, 912 23, 687	9, 936 54, 576		
Total cattle hides				39, 867	26, 599	64, 512		
Goat and kid— Dry and dry salted_lbs_ Green or pickledlbs_	36, 816 4, 912	68, 228 15, 307	70, 763 18, 607	28, 165 1, 866	29, 443 3, 337	33, 223 4, 365		
Total goat and kid				30, 031	32, 780	37, 588		
Horse, colt, and ass— Dry and dry salted_lbs_ Wet saltedlbs	1, 142 5, 461	1, 295 3, 430	11, 940 10, 461	256 752	139 217	1, 452 944		
Total horse, etc				1,008	356	2, 396		
Kangaroo and wallaby_lbs_ Sheep and lamb—	878	724	1, 152	854	492	1,084		
Orylbs Green or pickledlbs Slats, dry and pickled	22, 401 35, 899	12, 593 36, 245	4 3, 828 4 16, 557 6 38, 276	9, 517 10, 805	3, 131 5, 222	4 853 4 2, 417		
Fleshers, pickledlbs Skivers, pickledlbs			6 2, 927 6 104			6 8, 155 6 656 6 51		
Total sheep and lamb.				20, 322	8, 353	12, 132		
All other hides and skins_lbs	5, 889	5, 504	7, 859	1, 962	1, 224	1,939		
Total hides and skins				105, 999	78, 899	135, 296		

Preliminary.
 Included in "All Other Fertilizers."
 Beginning Sept. 22, 1922.

<sup>July 1-Sept. 21.
Including kip skins until Sept. 21, 1922.
Beginning Sept. 22, 1922.</sup> 

Table 652.—Agricultural imports of the United States, 1921-1923—Continued.

		Year ending June 30.						
Article imported.		Quantity	•		Value.			
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231		
ANIMALS AND ANIMAL PRODUCTS—con								
Packing-house products—Continued. Meats—	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.		
Beef and veal, freshlbs	41, 956	28,001	32, 481	\$6, 246	\$2,989	\$3, 189		
Mutton and lamb, fresh_lbs_	108, 528 1, 212	12, 855 930	8, 709 998	12, 844 336	2, 045 177	1,421		
Pork, fresh lbs. Other meats lbs.	1, 212	4,619	2,340	990	1,845	188 559		
Poultry, dead or prepared		, , , , ,	1		1	1		
Meat, prepared or preserved		-	2 2, 907		-	3 1, 186		
lbs	7, 140		8,991	1,692		1, 118		
Cannedlbs_ All otherlbs_	207			32				
				ļ				
Total meats				21, 152	7, 657	7, 661		
Oleo stearinlbs_				92				
Rennetslbs Sausage casingslbs	123 12, 071	12, 435	18, 503	. 72 6, 427	7, 184	11,891		
Tallowlbs	11, 762			1, 339	,, 101			
Beef and hog fatslbs		1,789	11, 016 400	<b>-</b>	2, 703	838		
Animal oils, n. e. sgalls_ Grease and oils, n. e. slbs		4, 961 18, 823	3 1, 465		912	154 3 79		
All other meat productslbs	7, 303	6, 467		2,019	422	550		
Total meats and meat products.				31, 101	18, 991	21, 173		
Total packing-house products_				154, 246	105, 905	171, 409		
Total animal products				495, 348	492, 573	805, 714		
VEGETABLE PRODUCTS.								
Argols or wine leeslbs_ Grain and grain products: Breadstuffs—	26, 486	18, 749	21, 950	3, 032	1, 218	1, 739		
Cornbush_ Oatsbush_ Rice—	5, 743 3, 796	125 1, 733	138 293	6, 973 1, 964	137 799	158 178		
Uncleaned, including paddylbs	33, 268	6, 122	11,678	2, 158	372	362		
Cleaned, except patna	62, 109	66, 707	56, 947	4,014	2, 307	1,772		
Rice flour, meal and bro- ken ricelbs_	1, 428	790	911	108	55	57		
Total rice				6, 280	2, 734	2, 191		
Wheatbush_	51, 004	14, 466	18, 013	97, 767	16, 935	20, 033		
Wheat flourbbls	1, 421	619	429	13, 592	3, 560	2, 308		
Bread, biscuit, etclbs Farinaceous substances, tapi-	1,743	310	848	387	72	203		
oca, etclbs_ Macaroni, vermicelli, etc.	59, 696	77, 999	93, 965	2, 855	2, 089	3, 465		
Macaroni, vermicelli, etc.	1, 297	1, 992	3, 254	159	177	250		
All other breadstuns				4, 135	1,863	1,041		
Total breadstuffs				134, 112	28, 366	29, 827		
Podders and feeds:	* 10	_	90	0.440		245		
Haytons_ Oil cake and oil-cake meallbs_	113 196, 690	75, <b>628</b>	32 3 24, 251	2, 442 3, 707	1,660	345 8 636		
Beanlbs			2 22, 772			2 422		
Coconutlbs All otherlbs			<sup>2</sup> 46, 065 <sup>2</sup> 21, 500			<sup>2</sup> 565 <sup>2</sup> 393		
			~ 41,000			- 090		
Total oil cake and oil-cake meal				3, 707	1,660	2, 016		
Bran, shorts, etctons			91			1,824		
Beet pulp (dried)tons_			17			605		
Other fodders and feeds						925		
Total fodders and feeds				6, 149	1,745	5, 715		
- Over to dead to de tour le la la la la la la la la la la la la la					-,	3, 0		

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> Beginning Sept. 22, 1922.

<sup>3</sup> July 1-Sept. 21

Table 652.—Agricultural imports of the United States, 1921-1923.—Continued.

		Year ending June 30.						
Article imported.		Quantity	•		Value.			
	1920-21	1921-22	1922-231	1920-21	1921-22	1922-231		
VEGETABLE PRODUCTS.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.		
Broom corntons_ Chicory root, raw or preparedlbs_	7,646	(2)	(2)	- \$72 514		(2)		
Cocoa and chocolate: Cocoa or cacao (crude)lbs	327, 123	317, 124	381, 508	30, 931	\$27,349	\$34, 547		
Cocoa and chocolate (prepared)	1, 323	1,844	2, 421	362	455	549		
Total cocoa and chocolate				31, 293	27, 804	35, 096		
Coffeelbs	1, 348, 926	1, 238, 012	1, 305, 188			181, 639		
Extracts of and substitutes for	(3)	4 3	i	1	4 1	4 28		
Fibers, vegetable:			101	1	_	- 20		
Long staple bales	263	46	161	44,666	7, 189	22, 163		
Short staplebales_		329	333	<u> </u>	36, 769	38, 477		
Total cotton 478-lb. bales	263	375	494	44,666	43, 958	60,640		
Flax— Hackled 5tons	1	2	2	1, 228	1,947	2, 281		
All othertons_	5	3	6	2, 178	959	2, 019		
Total flax				3, 406	2, 906	4, 300		
Hemptonstonstons	10 16	3 10	6 11	3, 153 1, 866	893 754	1,412 890		
Jute and jute buttstons	90	62	6 8	8, 127	5,416	6985		
Jute tons tons			7 66 7 10			7 10, 132 7 532		
Kapoktons	5	10	7 1	1, 574	3, 254	4, 125 7 92		
Maguey tons Manila tons	52	44	97	13, 951	5,891	12, 943		
New Zealand flax tons Sisal grass tons	4 159	72	98	604 23, 299	7, 725	9,806		
All other vegetable fiberstons	6	9	19	1,045	992	2, 478		
Total vegetable fibers			<u>-</u>	101, 691	71,789	108, 335		
Forest products:								
Drugs, herbs, leaves, roots, etc.— Cinchona bark from which quinine is madelbs								
quinine is madelbs Pyrethrum flowerslbs	3, 566	767	3, 443 7 3, 148	1, 335	277	1, 110 7 1, 479		
Licorice rootlbs	59, 693	<b>62,388</b>	7 3, 148 35, 339	3, 632	2, 681	1, 195 7 300		
Licorice extractlbs Nux vomicalbs			7 1, 329 2, 078			98		
Opium, crudelbs	77	144	115	306	385	360		
Senna lbs All other herbs, roots, etc.			2,623			208		
lbs			7 22, 480			7 2, 556		
Total herbs, roots, etc				5, 273	3,343	7, 306		
Corkwood bark lbs. Dyeing extracts lbs.	47, 804 709	37, 435 2, 485	68, 818 3, 556	2,373 115	1, 024 169	1,826 270		
Tanning extracts—								
Quebracholbs All otherlbs	110, 184 9, 753	134, 274 7, 606	120, 224 7, 266	6, 602 546	5, <b>20</b> 6 260	$4,796 \\ 214$		
Total tanning extracts				7, 148	5, 466	5, 010		
Dyewoods and materials for tan				-,,110		0,010		
ning— Logwood———tons—	57	31	28	1, 697	645	427		
Mangrove barktons	7	2	7	344	41	200		
Myrobalans fruit tons Quebracho wood tons	33	24	7 22 43	532	266	7 429 556		
Sumactons_	1	6	8	74	268	434		
Valonialbs Other, crude			7 7, 638	1, 481	1,011	7 160 1, 371		
Total dyewoods, etc.				4, 128	2, 231	3, 577		
1 00a1 ayon 00a3, 600				T, 120	<u>a, 201</u>	0, 011		

<sup>1</sup> Preliminary.
2 Included in "Substitutes for coffee."
3 See "Chicory root."
4 Includes chicory root.

<sup>&</sup>lt;sup>5</sup> Known as "Dressed Line."
<sup>6</sup> July 1-Sept. 21, 1922.
<sup>7</sup> Beginning Sept. 22, 1922.

Table 652.—Agricultural imports of the United States, 1921-1923—Continued.

Forest products			Year ending June 30.						
Forest products	Article imported.		Quantity.			Value.			
Forest products—Continued— Cumps, resins, and balsame— Variable and saids.  Variable and balsame— Variable and		1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231		
Thousands   Thousands   Thousands   Thousands   Thousands   Sands	VEGETABLE PRODUCTS—continued.			-					
Shellac   Ibs.   23,72   30,78   32,806   10,634   15,657   23,260   16,634   15,657   24,265   15,657   14,075   14,0	Gums, resins, and balsams— Varnish, gums, and resins— Copal, damar, and kauri	sands.	sands.	sands.	sands.	sands.	sands.  2 \$1, 381  3 1, 299		
Camphor	Shellac lbs Others lbs	23, 872	30, 768	32, 806	16, 634	15, 657	21, 032 3, 264		
Total camphor	Camphor— lbs_ Natural (crude)lbs_	2, 093	1, 592	3, 498	1, 930	921	<sup>3</sup> 130 2, 226		
Chicle   lbs   8,710   8,283   908   5,077   4,095   4,50   Refined or advanced   lbs   (1)   (2)   (2)   Total chicle	Refined and synthetic	813	1,652	3, 541	995	1, 144	2, 534		
Crude	Total camphor				2, 925	2, 065	4,760		
Balsams, crude	Crudelbs	8, 710	8, 283	8, 217	5, 077	4, 095	454 4, 109 (4)		
Arabic or senegal lbs	Total chicle				5, 077	4, 095	4, 563		
Cambier or terra japonica   1bs	Arabic or senegallbs	452 4, 416		11,001			296 1, 341 8 538		
All other gums, resins, etc.	Gambier or terra japonica	6, 293	9, 818	7,727	432	391	450 3 29		
Description	All other gums, resins, etc.	10, 822	13, 408	9, 617	2, 252	1, 415	1, 138		
Rubber, crude.	Total gums, resins, and balsams				34, 622	27, 475	41, 736		
Total India rubber, etc.	Rubber, crudelbs Jelutong or pontianack _lbs_ Balatalbs Gutta-perchalbs	6, 774 1, 980 4, 575	568, 381 5, 782 1, 867 2, 481	1,757	1, 076 1, 043 1, 023	453 1, 063	169, 108 702 930 336		
Wood—  Logs and round timbers (except cabinet wood)	Total India rubber, etc				117, 979	88, 630	171, 126		
Logs and round timbers (except cabinet wood)	lbs	31, 090	28, 745	33, 572	1, 377	770	923		
Cabinet woods in the logs— Cedar Mft. 7 8 10 568 526 62 Mahogany Mft. 55 40 43 6,634 3,297 All other Mft. 11 998 351 74  Total cabinet woods 8,200 4,174 4,670  Lumber— Boards, planks, deals, and other sawed lumber Mft. 920 1,124 2436 39,068 34,530 212,696 Softwoods Mft. 31,470 32,824 Laths. thousands Mft. 31,470 32,824 Laths. thousands 455 1,182 1,653 3,459 6,595 9,525 Shingles thousands 1,831 2,190 2,695 7,456 7,906 10,955 All other lumber—  Cabinet woods 122 48 10 568 526 626 626 626 626 626 626 626 626 626	Logs and round timbers (ex- cept cabinet wood)M ft	96	161	217		, i	3, 897		
Total cabinet woods	Cabinet woods in the logs— Cedar Mft_ Mahogany Mft_	55			568 6, 634	526 3, 297	147 620 3, 313 743		
Boards, planks, deals, and other sawed lumber  M ft. 920 1, 124 2 436 39, 068 34, 530 2 12, 696  Softwoods M ft. 31, 470 2 2 436  Hardwoods M ft. 32, 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					8, 200	4, 174	4, 676		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Lumber— Boards, planks, deals, and other sawed lumber	920	1, 124		39, 068	34, 530	² 12, 699		
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		1, 182	8 52 1, 653	3, 459 7, 456 3, 079	6, 595 7, 906	<sup>8</sup> 43, 539 <sup>8</sup> 2, 824 9, 529 10, 952		
	Total lumber				53, 062	49, 031	79, 543		

Preliminary.
 July 1-Sept. 21.
 Beginning Sept. 22.

Less than 500 pounds.
Timber, "Ship and other."

Table 652.—Agricultural imports of the United States, 1921-1923—Continued.

			Year end	ing June 30.		
Article imported.		Quantity.			Value.	
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231
VEGETABLE PRODUCTS—continued.						
Forest products—Continued. Wood—Continued. Brier root and ivy or laurel root	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands. \$476	Thou- sands.	Thou- sands.
Rattan (unmanufactured) Chair cane or reeds				2, 544 1, 207	\$758 454	\$2,076 718
Osier or willow for basket makinglbs_ Boards, planks, deals, and			2 1, 813			² 129
Boards, planks, deals, and other forms of sawed cabinet woods M ft. Other unmanufactured or partly manufactured wood.	7	9	4	708 3 1, 479	671 3, 563	296 2, 663
-				<u> </u>	ļ	
Total wood				70, 286	61, 492	94, 145
Pulpwood— Roughcord Peeledcord. Rossedcord.	338 1, 093 168	178 576 72	304 773 131	4, 298 16, 155 3, 196	2, 015 6, 262 1, 032	2, 784 7, 555 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 tons. Sulphite, bleached.tons.	223 96	312 147	. 500 254	30, 393 16, 942	17, 373 12, 733	26, 297 22, 000
Total sulphite				47, 335	30, 106	48, 297
Soda pulptons_			1			67
Sulphate, unbleached tonssulphate, bleached_tons	129 9	230 6	269 26	15, 489 1, 220	13, 665 422	16, 234 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 bush Bananas bunch	40, 808	46, 120	<sup>2</sup> 153 44, 501	19, 336	19, 951	2 299 18, 909 111
Apples   bush   Bananas   bunch   Berries   lbs   Currants   lbs   Dates   lbs   Figs   lbs	50, 178 35, 267 25, 424	49, 467 46, 742 43, 139 780	1, 248 18, 924 52, 037 36, 585	5, 352 2, 034 2, 570	3,710 2,417 3,413	1, 632 2, 686 1, 993
Dates	997 4,054	780 101, 592	1, 355 122, 821	1, 532 685 1, 520 3, 023	1, 246 589 2, 113 3, 125	1, 920 643 2, 690 4, 870
				36 1, 470	274 2, 187	223 2, 539
Raisins and other dried grapes lbs. Fruits preserved or canned In their own juice or sugar	43, 269	18, 363	12, 335	6,778 2,372	1, 936 1, 553	1, 177 4 505
Otherlbs_			<sup>2</sup> 776 <sup>2</sup> 8, 173	3, 225	4,848	<sup>2</sup> 102 <sup>2</sup> 1,026 <sup>2</sup> 3,325
Total fruits				49, 933	47, 362	44, 650
Glue, vegetablelbs			2 22		,002	2 1
Moss, seaweed, etc. (crude) lbs Hops lbs	7, 989 4, 808	7,747 893	12, 537	506 2, 283	458 341	571 257

<sup>&</sup>lt;sup>1</sup> Preliminary. <sup>2</sup> Beginning Sept. 22.

<sup>&</sup>lt;sup>3</sup> Unmanufactured only. <sup>4</sup> July 1-Sept. 21, 1922.

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Table 652.—Agricultural imports of the United States, 1921-1923—Continued.

Synthetic.   Ibs.   287   443   14   215   275   13			Year ending June 30.					
Vegetable Products—continued,   Thouse sands   Sands	Article imported.		Quantity.			Value.		
Thousands   Thousands   Thousands   Thousands   Thousands   Sands		1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231	
Indigo:   Natural   15s.   Sands.   S	VEGETABLE PRODUCTS—continued.					_		
Natural	Indigo:		Thou-	Thou-			Thou-	
Synthetic.	Natural lbs	137	23	13	\$306	\$29	\$13	
Age   Age	Syntheticlbs	287	443	14	215	275	13	
Distilled spirits	Total indigo				521	304	26	
Distilled spirits	Liquers, alcoholic:							
Brandy	Malt liquors galls	10			14	1 500	000	
Gin	Brandy proof galls	35	300	34	183	1, 550	∠03	
Gin	Cordials proof galls	108			354			
Total spirits	Gin proof galls	30			82			
Total spirits	W filsky proof gails	195						
Wines—  Champagne or other spark Champagne or other spark ling. galls.   154   33   14   1,089   278   58   511   Wines. galls.   1,231   1,231   1,711   1   1   1   1   1   1   1   1   1	All other proof gans	4			10			
Champagne or other spark ling	Total spirits				1,679	1, 530	203	
Still wines								
Still wines								
Total still wines	linggalls	154			1, 089	278		
Total still wines	In casks galls	1. 231	040	102	1 711	912	200	
Total still wines	in other coverings	· ·			1,.111			
Other beverages and fruit juices,	doz. qts	90			581			
N. e. s	Total still wines				2, 292	912	260	
N. c. s	Other beverages and fruit juices.							
Section   Sect	n. e. s				243	325	481	
All other	Lemon, lime, and sour orange				-			
Total liquors, beverages, etc.   5,317   3,045   1,156	alcohol lbs			2 1 165			2 120	
Sursery and greenhouse stock:   Bulbs, roots, and corms   199   3 160   4,612   3 4,333     Hyacinth				- 1, 100	£ 917	2 045		
Bulbs, roots, and corms	- '				5, 317	3,043	1,150	
Hyacinth	Rulbs roots and corms	•						
Crocus and other	thousands		199	3 160		4.612	8 4, 330	
Crocus and other	Hyacinth do			2 6		1, 012	$\frac{1,000}{2218}$	
Crocus and other	Lily, tulip, and narcissus							
Trees, plants, cuttings, and seed-lings   339   33   339   244   Rose stocks   216   216   244   Rose stocks   216   217   217   218   2				<sup>2</sup> 56			<sup>2</sup> 1, 854	
lings	Trees plants auttings and soud-			2.8			2 117	
Fruit stocksthousands Rose stocks and plants_do						339	83	
Rose stocks and plants. do	Fruit stocks thousands			<sup>2</sup> 16			2 448	
Total nursery and green-house stock	Rose stocks and plants_do			<sup>2</sup> 11			<sup>2</sup> 192	
House stock	An other					66	2 136	
House stock	Total nursery and green-							
Almonds, not shelled lbs   6,622   4,723   4,719   983   543   433   Almonds, shelled lbs   13,875   26,619   22,972   4,292   8,039   5,640   Coconut meat, broken or copra, shredded, desic cated, prepared	house stock					5, 017	7, 299	
Almonds, not shelledlbs _ 6,622	Inte							
Coconuts, in the shell		6, 622	4, 723	4, 719	983	543	437	
Coconuts, in the shell	Almonds, shelledlbs	13, 875	26, 619	22, 972	4, 292	8,039	5, 640	
Cocontt meat, broken or copra, shredded, desic cated, prepared hose and Brazil nuts lbs 20,889 44,382 32,432 2,507 3,511 2,366 Cream and Brazil nuts lbs 37,098 38,870 39,728 2,173 1,810 2,033 Filberts, not shelled lbs 11,791 14,133 14,366 1,371 1,154 1,055 Filberts, shelled lbs 2,170 5,434 6,209 307 818 948 Marrons, crude lbs 22,915  1,188 Chestnuts, including marrons lbs 22,915 Chestnuts, including marrons lbs 22,502 20,151 1,048 941 Peanuts, shelled lbs 42,628 7,427 42,439 2,089 349 2,011 Walnuts, not shelled lbs 12,525 43,206 19,913 1,509 5,378 2,406 Walnuts, shelled lbs 10,641 17,027 17,606 3,555 7,190 4,438 All other nuts 1,203 921 1,716	Coconuts, in the shellno	73, 334	82, 001	77,062	2, 691	2, 162	1,744	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Coconut meat, broken or copra, 1							
Cream and Brazil nutslbs	lhs	20, 889	44 382	32 432	2.507	3 511	2 366	
Filberts, not shelled	Cream and Brazil nuts lbs	37, 098	38, 870	39, 728	2, 173	1,810	2, 039	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Filberts, not shelledlbs	11, 791	14, 133	14.366	1,371	1, 154	1,057	
Chestnuts, including marrons         22,502         20,151         1,048         941           Peanuts, not shelled.         .lbs.         5,361         3,376         3,862         283         146         171           Peanuts, shelled.         .lbs.         42,628         7,427         42,439         2,089         349         2,01           Walnuts, not shelled.         .lbs.         12,525         43,206         19,913         1,569         5,378         2,400           Walnuts, shelled.         .lbs.         10,641         17,027         17,606         3,555         7,190         4,438           All other nuts.	Filberts, sheliedlbs_l	2, 170	5, 434	6, 209	397	818	948	
Peanuts, not shelled	Chestnuts including marrans	22, 915			1,188			
Peanuts, not shelled     lbs.     5,361     3,376     3,862     283     146     171       Peanuts, shelled     lbs.     42,628     7,427     42,439     2,089     349     2,011       Walnuts, not shelled     lbs.     12,525     43,206     19,913     1,569     5,378     2,400       Walnuts, shelled     lbs.     10,641     17,027     17,606     3,555     7,190     4,438       All other nuts     1,203     921     1,716	ing I		22 502	20 151		1 049	0.11	
Walnuts, Shelled 108 10, 641 17, 027 17, 006 3, 555 7, 190 4, 432 All other nuts 1, 203 921 1, 716	Peanuts, not shelled lbs	5, 361	3,376	3,862	283	146	171	
Warnuts, snelled 10, 641 17, 027 17, 606 3, 555 7, 190 4, 432 All other nuts 1, 203 921 1, 716	Peanuts, shelledlbs	42, 628	7,427	42, 439	2, 089	349	2,011	
Warnuts, snelled 10, 641 17, 027 17, 606 3, 555 7, 190 4, 432 All other nuts 1, 203 921 1, 716	Walnuts, not shelledlbs	12, 525	43, 206	19, 913	1, 569	5,378	2, 406	
	walnuts, snelledlbs	10, 641	17, 027	17, 606	3,555	7, 190	4, 438	
Total nuts 124, 301 33, 069 25, 918	THE OTHER DRIED				1, 203	921	1, /15	
	Total nuts				124, 301	33, 069	25, 913	

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> Beginning Sept. 22, 1922.

<sup>&</sup>lt;sup>3</sup> July 1-Sept. 21, 1922.

Table 652.—Agricultural imports of the United States, 1921-1923—Continued.

Quantity.   Value.	2 1922-231
VEGETABLE PRODUCTS—continued.           Oil seeds, vegetable oils and fats:         Thou-sands.         Thou-sands.         Thou-sands.         Thou-sands.         Thou-sands.         Thou-sands.         Sands.	1922-231
Oil seeds, vegetable oils and fats:  Oils and fats—  Fixed or expressed— Chinese nutgalls Cocoa butter or butter- inelbs  915  7, 123  3, 010  196  1, 77	
Oils and fats—	
Oils and fats—	
Chinese nutgalls 4,440 7,410 11,916 \$4,817 \$5,16 Cocoa butter or butter- inebs 915 7,123 3,010 196 1,77	Thou-
Cocoa butter or butter- inelbs 915 7, 123 3, 010 196 1, 72	$\begin{array}{c c} sands. \\ & $10, 189 \end{array}$
inelbs_  915   7, 123   3, 010   196   1, 72   173, 889   230, 236   212, 573   20, 287   16, 37	
0001111	8 757 8 14, 968
Cottonseed 1, 315 (2) 46 141 (2)	5
Linseed or flaxseed_lbs_  14, 974   168, 705   56, 764   2, 105   11, 97	8 5,053
Olive— Ediblelbs 33, 326 59, 555 74, 626 11, 437 12, 21	6 12,852
Inediblegalls_  262 3, 171 5, 685 268 1, 68	0 3,445
Palmlbs     31,076     39,159     118,816     2,766     2,42       Palm kernel.     lbs     2,769     317	1 8, 686
Peanut 1bs 18,163 2,878 7,553 2,311 32	706
Rapeseedgalls   1, 172   1, 352   1, 770   1, 103   92	
Soy beanlbs 49,331 8,283 38,635 4,012 47 Vegetable tallowlbs	0 2,412 3 584
All other 792 75	2,095
Total fixed or expressed 50, 552 54, 01	6 62, 978
Oils, distilled and essential— Bergamotlbs	3 295
Citronella lbs 3 976	3 559
Lavender	<sup>8</sup> 383
Birch tar and caiaput	361
bs 1 , 7   2   2	
Lemon lbs 626 767 447 579 56 All other 4, 989 4, 00	
Total distilled 5,570 4,56	
10001 (1801100)	3, 373
Total all vegetable oils 56, 122	68, 353
Seeds: Copra, not prepared, etclbs. 192, 246 249, 722 306, 100 , 9, 924 9, 40	11,594
Cottonseedlbs3 56, 982	8 439
Castor bean lbs 33, 011 93, 241 88, 199 1, 302 2, 04 Flaxseed bt 16, 170 13, 632 25, 006 39, 133 26, 01	2,847 50,356
	1
Paimnuts and paimnut kernels	(4) 3 633
Poppy seed lbs 303 31, 406 2	1,349
Total oil seeds. 50, 576 37, 489	
Alfalfa	3 589
Clover— Redlbs 14,515 9,290 609 2,218 1,533	91
Alsikelbs2,242	_[ 257
Crimson	188
Total clover seed. 4, 306 8, 68	
	=====
Grass seeds    lbs     9, 507     22, 352     13, 463     1, 057     2, 83       Vetch and other field seeds	
Garden and other seeds	- 839
Cabbage lbs 3 685	3 99
Canary lbs 3,559 3,559 4,193 16,495 4,124 546	3 305 1,579
Turnip lbs 7, 100 10, 100 2, 121 010	_ 8 98
Turnip lbs. 566 Other garden and flower seeds 223	
All other seeds	
* Total seeds	76, 138
Capsicum and paprika or cay-	1
enne pepper—	693
Unground lbs 2,931 2,994 6,771 430 427 Ground lbs 2,563 3,185 3,642 503 464	
Cassia or cassia vera, unground	
Cloves, ungroundlbs 4, 722 5, 797 6, 776 1, 199 1, 282	

<sup>&</sup>lt;sup>1</sup> Preliminary. <sup>2</sup> Less than 500 pounds. <sup>3</sup> Beginning Sept. 22. <sup>4</sup> Included in "Other oil seeds."

Table 652.—Agricultural imports of the United States, 1921-1923—Continued.

		Year ending June 30.						
Article imported.		Quantity	•		Value.			
·	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-23 1		
VEGETABLE PRODUCTS—continued.								
Spices—Continued. Mustard—	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.		
Groundlbs_	908 4, 618	1, 594 12, 490	1, 764 13, 216	\$488 254	\$922	\$1,018		
Seed, wholelbs_ Nutmegs, ungroundlbs_ Pepper—	3, 492	4, 144	5, 258	561	487 469	699		
Ungroundlbs Black or whitelbs	21, 930	. 36, 948	<sup>2</sup> 8, 339	2, 172	2, 588	2 587		
BlackIDS	21, 500		<sup>3</sup> 20, 386	- 2,112		3 1, 346 3 483		
Whitelbs All other spiceslbs	9, 067	8, 714	3 4, 823 18, 640	923	564	3 483 2, 200		
Total spices				7, 325	8, 316	10, 556		
Starchlbs Sugar and molasses:	12,935	7,876	12,715	616	357	406		
Molassesgalls_ Sugar—	113, 414	87, 908	161,831	3,509	1,667	3, 093		
Beetlbs Canelbs	6 984 196	8, 464, 329	8, 422, 483	3,968 660,110	200, 774	365, 100		
Maple sugar and sirup. lbs Sugar in dried canelbs	22, 492 6, 984, 196 5, 992	3, 672	3, 217	1, 353	342	600		
Total sugar				665, 431	201, 116	365, 701		
Total sugar and molasses				668, 940	202, 783	368, 794		
Tealbs Tobacco, unmanufactured:	72, 196	86, 142	96,669	17,587	18, 040	26, 308		
Leaf, product of Philippine Islandslbs. Leaf, suitable for cigar wrappers	1,851	504	1, 922	495	57	226		
Cigarleaf—	10, 271	5,211	8, 794	19,357	10,940	19, 432		
Unstemmedlbs Stemmedlbs			3 10, 598 3 9, 529			3 8, 388 3 9 943		
Cigarette leaflbs			3 9, 529 8 32, 822			\$ 9,943 \$ 22,447		
All other leaflbs	46, 801	59, 511	<sup>2</sup> 10, 129	48, 368	46, 053	- 8, 199		
Totalleaf		ļ <del></del>		68, 220	57,050	68,629		
Scrap and other unmanfactured lbs		·	3 1,990		 	8 596		
Total unmanufactured				68, 220	57, <b>0</b> 50	69, 225		
Vanilla beanslbs	986	1, 248	1, 281	1, 751	2, 279	2, 884		
Vegetables: Canned, prepared or preserved— Mushrooms and truffles_lbs	3, 753	6, 185	5,991	1, 521	1.881	1,818		
Pickles and sauceslbs			l	1, 538	1,881 2,375	1, 172 8 111		
Peas lbs lbs lbs lbs lbs lbs lbs lbs lbs lb			<sup>3</sup> 845 <sup>3</sup> 20, 166			<sup>3</sup> 1, 280		
All other canned, etc Other edible substances				3, 225	3,316	2,478		
Dried and fresh—					373	1,491		
Beans, driedlbs Beans and lentilsbush	824	31, 171	157, 356	9 971	1, 215	5, 513		
Peas, driedbush Potatoes—	1, 560	59, 832	25, 963	2, 271 6, 549	2, 155	1, 020		
Natural statebush Dried and flour oflbs	3, 423	2, 110 2, 040	572 596	3, 361 220	1,793 85	836 26		
Garliclbs Onionsbush	7, 338 689	6,856 2,488	7,890 1,781	730 774	327 3,306	346 1, 900		
Turnipslbs Other, dried and fresh			<sup>3</sup> 100, 242	2, 526	3, 399	1, 900 <sup>8</sup> 297 3, 550		
Total vegetables				22, 715	20, 225	21, 838		
Vinegarproof galls Vax, vegetablelbs	153 6, 235	(5) 7, 243	(5) 9, 385	70° 1, 600	(5) 1, 013	(5) 1, 501		
Total vegetable products in-				1, 789, 630	1, 036, 086	1, 500, 416		
cluding forest products Total vegetable products ex- cluding forest products.			<u></u>	1, 446, 489	786, 499	1, 088, 254		
Total agricultural imports in- cluding forest products Total agricultural imports ex-				2, 284, 978	1, 528, 659	2, 306, 130		
cluding forest products			·	1,941,837	1, 279, 072	1, 893, 968		

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.

Preliminary.July 1-Sept. 21, 1922.

<sup>Beginning Sept. 22.
Less than 500 pounds</sup> 

<sup>&</sup>lt;sup>5</sup> Included in "Other edible substances."

## EXPORTS.

Table 653.—Agricultural exports (domestic) of the United States, 1921-1923.

		Year ending June 30.					
Article exported.		Quantity			Value.		
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-23	
ANIMALS AND ANIMAL PRODUCTS.							
Animals, live:	Thou- sands.	Thou- sands.	Thou- sands.	Thou-	Thou-	Thou-	
Animals, live: CattleNo	146	2.90		sands. \$11,051	sands. 2 \$4, 345	sands.	
Cattle No Bulls for breeding No Cows for breeding No Other cattle No Horses No For breeding No Others No Sheep No Mules, asses, and burros No Other Ive animals Ibs		3133	2		8 189	\$27	
Other cattleNo_		3 60	20 40	1	3 347 3 4, 977	88 1, 79	
SwineNo	103	98	76	2, 210 1, 923	1, 242 2 1, 265	99	
Horses No.	13	<sup>2</sup> 12 <sup>3</sup> 1	(4)		<sup>2</sup> 1, 265 <sup>3</sup> 132	13	
Others No.		3 6	8		3 132 3 471	91	
SheepNo	81	62	16		294	16	
Mules, asses, and burrosNo	7	11 2 227	13	1,063	1, 010 3 154	1, 32	
Other live animalslbs_		221	491 429	931	525	26 16	
Total live animals				17, 711	14, 951	6, 91	
	100						
Beeswaxlbs	190	102	83	80	28	2	
Dairy products: Butterlbs	7,829	7, 512	9,410	3, 594	2,870	2 70	
CneeseIDSi	10, 826	7, 471	8, 446	2,890	1,711	3, 70 2, 17	
Milk and cream—	,	,,	,	1	1	_, _,	
Fresh and sterilizedgalls	147 790		90	441	294	8	
Condensed (sweetened) lbs Evaporated (unsweetened)	147, 732	79, 525	48, 067	27, 162	11,675	6, 77	
lbs.	114, 936 3, 838	197, 786	108, 971	13, 113	18, 363	10, 09	
Powdered (dried)lbs_ Other, including cream_lbs_	3, 838	11, 318	2, 918	770	1, 462	50	
Total dairy products				47,970	36, 375	23, 32	
ggs:						=====	
Eggs in the shell doz	26, 960	33, 762	34, 284	11, 251	10,016	9, 311	
Eggs in the shell doz Eggs and yolks (frozen, dried,	20,000	00,102	01, 201		10,010	5, 011	
and canned)			555	202	132	89	
bers animal wool and mohair (un-			4, 394	441	280	318	
manufactured)lbs	5, 584	924	476	2, 259	200	123	
elatin, animallbs		3 77	301		3 62	202	
manufactured) lbs- lelatin, animal lbs- llue, animal lbs- loney lbs-	5,977 $1,112$	2, 101 2, 407	2, 905 2, 891	1, 148 183	349 262	431 290	
. I		2, 101	<b>2,</b> 031	=====		250	
acking-house products: Meat—							
Beef and veal— Beef, fresh————lbs—	21, 084	3,866	2 716	3, 705	E10	FÉC	
Veal, freshlbs	21,004	3, 800	3,716 361	3, 705	519 23	559 55	
Veal, freshlbs Beef, cannedlbs	10, 763	3, 749	2, 302	2, 511	971	631	
Beef and veal, cured or	02 212	06 774	04 105	0.000	0.900	0.000	
pickledlbs.	23, 313	26, 774	24, 185	2, 998	2, 398	2, 309	
Total beef and veal	77 100	04 510	90 504	0.014	0.011		
lbs	55, 160	34, 516	30, 564	9, 214	3, 911	3, 554	
Meat extracts and bullion	- 1						
cubeslbs		³ 153	485		3 212	529	
cubeslbs Other meat, cannedlbs Other meat (including edible			7, 534	5, 811	3, 914	2, 898	
offal)lbs			47, 135 1, 869	6, 025 1, 291	4, 047	4, 488	
offal)lbs Mutton and lamblbs	7, 255	2, 502	1,869	1, 291	425	331	
Pork							
Carcasses, fresh Loins and other fresh	57,075	22,826	9, 461	11, 135	3, 315	1, 338	
Loins and other fresh	1	3 2 00 5	24 040		8 547	E 497	
partslbs Cannedlbs	1, 119	3 3, 085 2, 263	34, 040 2, 761	450	669	5, 437 952	
Cured—	-, 110	_,	-,	200	000	002	
Hams and shoulders	150 010	071 010	010 105	40.000	FF 015	FF 00-	
Bacon lbs	172, 012	271, 642	319, 187	40,088	55, 217 50, 978	55, 205 59, 048	
Baconlbs Pickledlbs	489, 298 33, 286	350, 549 33, 510	408, 282 40, 934	103, 115 5, 381	3,941	4, 953	
<b> </b> -							
Total porklbs	752, 790	683, 875	814, 665	160, 169	114, 667	126, 933	

<sup>&</sup>lt;sup>1</sup> Preliminary. <sup>2</sup> July-Dec. 31.

<sup>&</sup>lt;sup>2</sup> Jan. 1-June 30. <sup>4</sup> Less than 500.

<sup>&</sup>lt;sup>5</sup> Includes all fresh pork prior to Jan. 1, 1922.

Table 653.—Agricultural exports (domestic) of the United States, 1921-1923—Continued.

	·		Year endir	g June 30.		
Article exported.		Quantity.			Value.	
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231
ANIMAL AND ANIMAL PRODUCTS—con.						
Packing-house products—Con.  Meat—Con. Sausage— Cannedlbs_ Otherlbs_ Poultry and game—	Thou- sands. 4, 430 4, 927	Thou- sands. 1, 964 7, 208	Thou- sands. 2, 694 7, 719	Thou- sands. \$1,488 1,783	Thou- sands. \$624 2, 250	Thou- sands. \$711 2,058
Freshlbs_ Cannedlbs_		2 297	5, 906 126	1,066	1,789 2 114	1,744 46
Total meats				186, 847	131, 953	143, 292
Oils— Oleo oil Ibs. Neat's-foot oil Ibs. Stearins and fatty acids. Ibs. Oleo and lard stearin	106, 415 19, 177	117, 174 2 471 3 20, 594	104, 956 1, 233	15, 212 2, 430	12, 367 2 84 3 2, 082	12, 068 188
Oleo and land seeminlbs_ Grease stearinlbs_ Oleic acid or red oillbs_ Stearic acidlbs_		2 5, 419 2 1, 791 2 1, 783 2 2, 973	10, 104 3, 025 2, 379 3, 653 2 66		2 523 2 141 2 141 2 282	1, 047 287 202 399
Grease stearin lbs. Oleic acid or red oil lbs. Stearic acid lbs. Other fatty acids lbs. Oleomargarine lbs. Tallow lbs. Indible lbs.	6, 219 16, 844	1, 989 3 8, 956 2 1, 007	2, 028 1, 914	1,479 1,920	354 \$ 607 2 80 2 1, 181	428 161 1,939
Inedible lbs. Oleo stock lbs. Bones, hoofs, and horns lbs. Hair, (unmanufactured) lbs. Cattle lbs. Other lbs. Hides and skins (other than		2 17, 695 8, 564 	23, 751 12, 521 6, 301 7, 343	118 735	806 172 3 259 2 295	1, 359 310 422
furs)		2 3, 337 4, 939	8, 061 3, 158	629	2 301 1,099	824 764
Calflbs_ Cattlelbs_ Horses, asses, and mules_lbs_	3, 148 8, 803 314	26, 686	11, 200	1, 251 56	2, 687 2 148	1, 796
Sheep and goat lbs. Other (including fresh and pickled splits) lbs.	3, 042	<sup>2</sup> 740 4, 634	5, 656	908	639	709
Total hides and skins_lbs_				2, 844	4, 573	3, 496
Lard compounds lbs. Other animal oils, n. e. s. lbs. Lard lbs. Neutral lard lbs. Lard oil lbs. Lard oil lbs. Sausage casings lbs.	42, 156 746, 157 22, 544 670	30, 328 812, 379 19, 573 493	11, 140 51, 540 952, 642 26, 494 737	6, 100 4 4, 603 131, 329 4, 199 87	3, 515 4, 475 95, 007 2, 420 51 5, 814	1, 397 4, 257 116, 594 3, 424 89 4, 934
Sausage casingslbs_ Other animal products, n. e. s. lbs	29, 895	27, 769 2 894	20, 043 2, 177	5, 889	* 69	223
Total packing-house products				363, 792	267, 552	297, 347
Total animal products				445, 037	330, 207	338, 382
VEGETABLE PRODUCTS.				710	450	000
Broom corntons Cocoa and chocolate (prepared or manufactured)	3	4	4	513 1, 991	456 8 308	882
Cocoa and chocolate (prepared or manufactured)		<sup>2</sup> 8, 421 <sup>2</sup> 362	8, 071 974		<sup>2</sup> 338 <sup>2</sup> 82	387 224
Coffee:						
Greenlbs_ Roastedlbs_	29, 577 1, 225	29, 793 1, 130	26, 272 1, 319	5, 827 360	5, 434 288	4, 950 361
Total coffeelbs				6, 187	5, 722	5, 311

<sup>&</sup>lt;sup>1</sup> Preliminary. <sup>2</sup> Jan. 1-June 30.

<sup>July 1-Dec. 31, 1921.
Includes soap stock.</sup> 

Table 653.—Agricultural exports (domestic) of the United States, 1921-1923—Continued.

			Year endir	g June 30.		
Article exported.		Quantity.			Value.	
	1920-21	1921-22	1922-23 1	1920–21	1921-22	1922-23 1
VEGETABLE PRODUCTS—continued.  Cotton (unmanufactured):  Upland and other 2bales	Thou- sands.	Thou- sands. <sup>3</sup> 3, 762	Thou- sands.	Thou- sands. \$599, 089	Thou- sands. 3 \$321, 685	Thou- sands.
Long stable (11 in or over)	5, 570 (4)	(4)	1	50	38	\$148
Sea Island 2 bales.  Other 2 do.  Short staple (under $1\frac{1}{6}$ in.)2 do.  Linters 2 do.	53	<sup>5</sup> 579 <sup>5</sup> 2, 251 126	- 4,318 48	1, 047	<sup>5</sup> 59, 140 <sup>5</sup> 213, 321 2, 195	114, 285 542, 871 1, 679
Total cotton 2do	5, 623	6, 718	5, 253	600, 186	596, 379	658, 983
Flavoring extracts and fruit juices			1, 744	1, 236	799	643
Flowers, cut			116	159	101	88
Forest products:  Barks and extracts of, for tanning—						
Chestnutlbs Other tanning extractslbs		<sup>5</sup> <b>4</b> , 894	7, 387 24, 847	1, 732	5 150 1, 104	268 1, 168
Total barks and extracts			0.407	1,732	1, 254	1, 436
Logwood extractslbs_ Other dye extractslbs_ Dyeing and tanning material			2, 437 2, 872	1, 471 3, 571	557 732	400
Dyeing and tanning material (crude) tons bls bs	(°)	1	906 906	23 63	101 71	74 83
Naval stores, gums and resins— Rosin————————————————————————————————————	877	786	1, 040	10, 363	6, 621	10, 164
Tar, turpentine and pitch bbls Spirits of turpentine galls	42 9, 742	<sup>3</sup> 10 10, 786	9, 012	378 11, 279	<sup>3</sup> 63 8, 072	11, 481
Spirits of turpentinegalls_ Wood turpentinegalls_ Tar and pitch, woodbbls_ Other gums and resinslbs_		265 19 746	398 34 2, 165		207 87 165	331 205 590
Total naval stores		140	2,100	22, 020	15, 215	22, 771
Wood						
Logs and round timber— HardwoodsM ft Softwoods:	12	7	12	825	458	594
Southern yellow pine  M ft  Douglas fir M ft.	5 15	8 14	3 41	227 399	308 235	140 723
CedarM it Other soft woods		5 28	57 6	739	5 949 1, 709	2, 284 131
Total logs and	23	42				
round timbers.	=====			2, 190	3,659	3,872
Lumber— Boards, deals and planks— Softwoods—		_	10	nor.	405	677
CypressM ft Douglas firM ft RoughM ft	379	678	10 6 228 6 229	727 12, 672	405 14, 640	6 5, 236 5 6, 325
Rough M ft Dressed M ft Southern yellow pine			5 11			5 485
M ft RoughM ft DressedM ft	513	458	<sup>6</sup> 241 <sup>5</sup> 251 <sup>5</sup> 95	27, 735	15, 740	<sup>6</sup> 9, 581 <sup>5</sup> 10, 596 <sup>5</sup> 4, 589
western yellow pine	14	4	14	726	199	569
White pineM ft	30 36	21 25	27 45	2, 111 2, 762	1,443 1,388	1, 898 2, 813
RedwoodM ft SpruceM ft Western hemlock	16	26	25	1, 389	1,388 733	1, 224
Western hemlock MftMft Other softwoods			5 30			5 739
M ft	122	125	47	5, 514	3, 986	1,801
Total softwoods				00,000	20,004	10,000

Preliminary.Bales of 500 pounds.

July 1-Dec. 31, 1921
 Less than 500.

<sup>&</sup>lt;sup>5</sup> Jan. 1-June 30. <sup>6</sup> July 1-Dec. 31, 1922.

	00	munuea.				
			Year endi	ng June 30.		
Article exported.		Quantity.			Value.	
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231
VEGETABLE PRODUCTS—continued.						
Forest products—Continued.  Wood—Continued.  Lumber—Continued.  Boards, deals and planks— Continued.	Thou	Thou-	Thou-	Thou-	Thou-	Thou-
$\mathbf{Hardwoods}$ — $\mathbf{Ash}$ $\mathbf{M}\cdot\mathbf{ft}$	sands.	sands.	sands.	sands.	sands.	sands. 2 \$680
$egin{array}{cccc} \mathbf{Chestnut} & \mathbf{M} & \mathbf{ft}_{-} \\ \mathbf{Gum} & \mathbf{M} & \mathbf{ft}_{-} \end{array}$	25	<sup>2</sup> 4 37	10 54	\$1,963	<sup>2</sup> \$273 1,905	805 <b>2,</b> 963
Hickory M ft.		2 1	3		2 82	237
$egin{array}{cccc} \operatorname{Oak} & & & \operatorname{M}\operatorname{ft} \ \operatorname{Poplar} & & \operatorname{M}\operatorname{ft} \ \end{array}$	78 10	88	138	8, 454 1, 221	5, 933 1, 388	9, 645 1, 849
WalnutM ft_ Other hardwoods	38	<sup>2</sup> 2	56	5, 224	<sup>2</sup> 279 4, 280	878 5, 062
Total hardwoods	30	- 33		16, 862	14, 140	22, 119
Total boards, deals				10,002	11,110	22, 110
and planks				70, 498	52, 674	68, 652
Lathsthousands_ Shinglesthousands_ Shooks—	26	<sup>2</sup> 6 26	42 26	158	<sup>2</sup> 48 131	267 154
BoxFt, b. m Southern yellow			<sup>3</sup> 30, 497	3, 855	1,954	<sup>3</sup> 1, 017
pine_Ft. b. m OtherFt. b. m			<sup>2</sup> 16, 177 <sup>2</sup> 31, 296			<sup>2</sup> 690 <sup>2</sup> 1, 031
Cooperagesets Tightsets Slacksets	1,051	<sup>3</sup> 231 <sup>2</sup> 343 <sup>2</sup> 168	1,390 209	4, 575	<sup>3</sup> 774 <sup>2</sup> 1, 057 <sup>2</sup> 95	4, 038 93
Total shooks				8, 430	3, 880	6, 839
Cooperage— Stavesno	65, 710	<sup>8</sup> 12, 165 <sup>2</sup> 7, 105	•	10,001	8 955	
Tightno Slackno		<sup>2</sup> 7, 105 <sup>2</sup> 15, 892	21, 400 36, 075		<sup>2</sup> 789 <sup>2</sup> 289	3, 038 776
Total staves Headingsets				10, 001 745	2, 033 204	3, 814 380
Total staves and head- ings				10, 746	2, 237	4, 194
Pulp woodeu, ft_		2 1, 791	1, 303		<sup>2</sup> 138	92
Railroad tiesno_ Hardwoodsno_	5, 040	<sup>3</sup> 1, 014 <sup>2</sup> 250	643	7, 699	<sup>3</sup> 1, 394 <sup>2</sup> 366	879
Softwoodsno		<sup>2</sup> 665	1,817		2 507	1,605
Total ties		=====		7,099	$\frac{2,267}{2128}$	$\frac{2,484}{324}$
Pilinglinear feet Telegraph, trolley and elec- tric light polesno Other lumber Ft. b. m		2 11	30		<sup>2</sup> 128	214
Other lumber Ft. b. m			9, 512	4, 659	1, 247	4.06
Total lumber				101, 590	62, 840	83, 626
Timber, hewn and sawed— Hardwoods— Oak————M ft— Other hardwoods_M ft_	6	<sup>2</sup> 1	3 2	445	<sup>2</sup> 45 289	166 110
Softwoods— Southern yellow pine M ft	96	118	172	4, 003	3, 406	6, 794
Douglas firM ft	90	<sup>2</sup> 97 <sup>2</sup> 4	179		<sup>2</sup> 2, 090 <sup>2</sup> 184	4, 514 1, 013
CedarM ft Other softwoodsM ft	21	43	19 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

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> Jan. 1-June 30.

<sup>3</sup> July 1-Dec. 31.

Table 653.—Agricultural exports (domestic) of the United States, 1921-1923.—Continued.

	0,	, in the case	•				
	Year ending June 30.						
Article exported.		Quantity	•	Value.			
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231	
VEGETABLE PRODUCTS—continued.  Wood alcoholgals	Thou- sands. 468	Thou- sands. 737	Thou- sands. 1, 528	Thou- sands. \$1,032	Thou- sands. \$566	Thou- sands. \$1,333	
Wood pulptons	. 27	2 10	_	2, 731	2 433		
Sulphitetons_ Sodatons_		2 2	3		2 162	802 301	
Othertons_		13			680	82	
Total wood pulp		l		2, 731	1, 275	1, 185	
						1, 100	
Total forest products				141,876	93, 586	128, 242	
Fruits:							
Subtropical fruits— Grapefruit———boxes—	1	2 140	252		<sup>2</sup> 456	831	
Lemons	311	234	159	1, 118	1, 212	909	
Lemonsdo Orangesdo	2,001	1,641	1,799	7,875	7, 535 2 131	7, 561	
Pineapplesdodo		2 27	37		<sup>2</sup> 131	157	
Otherslbs		<sup>2</sup> 2, 575	2, 338		2 50	68	
Other fruits, fresh (green or ripe)—	2, 665	8 570	ļ	10 010	3.4.204		
Applesbbls Apples in boxesboxes_	2,000	<sup>2</sup> 1, 395	3, 491	18, 813	<sup>3</sup> 4, 394	6, 525	
Apples in barrelsbbls		2 59	593		<sup>2</sup> 3, 813 <sup>2</sup> 410	2, 673	
Berrieslbs			8, 180	789	1.032	881	
Grapeslbs		2 172	14,022		2 29	1,051	
Pearslbs			36, 785	2, 215	1,477	1, 617	
Peacheslbs		<sup>2</sup> 611	13, 195 34, 337		2 36	584	
Otherslbs			34, 337	4, 319	3,019	1, 425	
Total fresh				35, 129	23, 594	24, 282	
Dried and evaporated—							
Appleslbs	18, 053	12, 431 16, 736	12,827 11,193	1, 864 1, 745 523	1,772	1,447	
Apricotslbs	8, 332	16, 736 6, 260	11, 193	1,745	3, 231 741	2, 617 711	
Peacheslbs Pruneslbs	3, 573 57, 461	109, 398	5, 586 79, 229	5, 474	9, 755	7 592	
Raisinslbs_	24, 492	49, 639	93, 962	5 292	8, 029	7, 583 10, 284	
Other driedlbs	21, 102	40,000	10, 632	5, 292 1, 089	1,015	1, 352	
			<u>-</u>			23, 994	
Total dried and evaporated.	0.404	1.040	1 505	15, 987	24, 543		
Fruit pulp (cannery waste)lbs	2, 404	1, 348	1,565	95	46	47	
Total fresh and dried fruits				51, 211	48, 183	48, 323	
Preserved— Canned—					l		
Apricots			13, 809			1, 187	
Apricotslbs Cherrieslbs		350	2, 251		59	. 369	
Peaches lbs			54,624	3, 601	4, 998	5, 388	
Pearslbs			49, 358	3, 851	4, 254	6, 105	
Pineappleslbs Plumslbs		952	21, 848 1, 983	2,064	2, 579 78	2, 346 174	
Others cannedlbs		902	63, 388	3, 612	4, 405	6,910	
-							
Total canned				13, 128	16, 373	22, 479	
Others preserved (jams and jellies)lbs			2, 219	1,000	514	458	
Total preserves				14, 128	16, 887	22, 937	
					65, 070	71, 260	
Total fruits				65, 339	<del></del>		
Ginsenglbs Other crude vegetable drugslbs	157	190	175 4, 235	1, 624 836	1, 605 761	2, 417 970	
Total vegetable drugs				2, 460	2, 366	3, 387	
Glucose and grane sugar:							
Glucose and grape sugar: Glucose (corn sirup)	125, 972 15, 982	258, 448 15, 534	156, 315 6, 379	5, 023 837	6, 110 448	4, 788 226	
	, 00-	,,				<del></del>	
Total				5, 860	6, 558	5, 014	

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> Jan. 1-June 30.

<sup>3</sup> July 1-Dec. 31.

Table 653.—Agricultural exports (domestic) of the United States, 1921-1923-

	Co	ntinued.			,			
	Year ending June 30.							
Article exported.	Quantity.			Value.				
	1920-21	1921-22	19 <b>22</b> -23 1	1920-21	1921-22	1922-231		
VEGÈTABLE PRODUCTS—continued.								
Grain and grain products (bread- stuffs): Grain—	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.		
Barley bush Buckwheat bush Corn bush	20, 457 399 66, 911	22, 400 383 176, 386	18, 193 140 94, 064	\$25, 184 637 60, 031	\$16, 614 405 115, 862	\$13, 592 152 75, 031		
Corn bush Oats bush Rice lbs	66, 911 4, 302 2 440, 855	176, 386 15, 987 2 507, 898	94, 064 18, 574 318, 941	60, 031 3, 732 2 19, 313	115, 862 7, 985 2 18, 905	75, 031 9, 282 12, 379 47, 513		
Rice         Ibs           Rye         bush           Wheat         bush	2 440, 855 45, 735 293, 268	29, 684 208, 321	51, 412 154, 951	2 19, 313 92, 734 689, 813	2 18, 905 32, 898 279, 656	47, 513 192, 015		
Total grain				891, 444	472, 325	349, 964		
Grain products— Hominy and grits————lbs——		<sup>3</sup> 208, 036	79, 979		<sup>8</sup> 3, 553	1, 335		
Other corn products for table uselbs_ Bread, biscuit, etclbs_	12, 264	³ 1,008 7,055	5, 081 9, 480	2, 512	8 56 953	303 1, 303		
uselbs Bread, biscuit, etclbs Macaroni, spaghetti, etc.lbs Other wheat products for		7, 055 3 4, 689	6, 292		8 370	502		
table uselbs_ Meal and flour— Barley flourbbls_	(4)	<sup>3</sup> 1, 933	4, 229	(4)	* 101	321		
Buckwheat flour lbs Cornmeal and flour _ bbls	999	<sup>8</sup> 2, 836 776	892 634	7,277	<sup>8</sup> 100 2, 634	42 2, 469		
Oatmeal and rolled oats	91, 598	94, 491	123, 115	4, 203	3, 457	4, 406		
broken ricelbs_ Rye flourbbls_	267	<sup>5</sup> 33, 611 43	51, 729 42	2, 717 154, 524	<sup>8</sup> 735 230	1, 142 213		
w neat nourbbis	16, 180	15, 797	14, 883		97, 386	83, 991		
Total meal and flour			11, 050	168, 721 5, 235	104, 542 2, 152	92, 263		
Other grains and flourslbs_			11, 050 6, 467	5, 235 3, 211	1, 423	375		
Total breadstuffs				1, 071, 123	585, 475	447, 371		
Fodders and feeds: Haytons Mill feed—	50	55	47	1, 213	1, 044	940		
Bran and middlingstons_ Corn feedstons_	5	14 3 3	3	183	309 8 70	97 23		
Screeningslbs Sorgum, kafir, and milo majzebush Prepared feeds not medi-		3, 260 3 53	10, 037 58		67 8 35	167 58		
cinal los_ i		11, 263	19, 664		189	401		
Other mill feedstons_ Dried grain and malt sproutstons_	10 (4)	22	34	553 7	623	706		
Oil cake, and oil-cake meal:				·				
Cake— Coconut cakelbs	473 1 705	14, 725 3, 596 415, 257	3, 860 686	12 30	177 62	66 12		
Corn cakelbs_ Cottonseed cakelbs_ Linseed cakelbs_	1, 795 359, 987 373, 079	469, 397	342, 544 536, 555 692	7, 304 9, 625	8, 506 10, 423 8 154	7, 789 11, 577		
Peanut cakelbs_ Other cakelbs_	9, 373	<sup>3</sup> 14, 493 42, 954	692 3, 092	234	8 154 705	12 66		
Meal— Cottonseed meallbs_ Linseed meallbs_ Other oil cakelbs_	94, 714 18, 185	117, 464 14, 661 8 6, 698	111, 806 38, 057 2, 732	1, 858 450	2, 330 320 8 93	2,302 841 54		
Total oil cake and oil- cake meallbs_	857, 606	1, 099, 245	1, 040, 024	19, 513	22, 770	22, 719		
Total fodders and feeds				21, 469	25, 107	25, 111		

Preliminary.
 Includes rice flour and broken rice prior to Jan. 1, 1922.
 Jan. 1-June 30, 1922.

<sup>Less than 500.
Included in rice grain from July 1 to</sup> Dec. 31, 1921.

 $\begin{array}{c} \textbf{Table 653.--} A \textit{gricultural exports (domestic) of the United States, 1921-1923---} \\ \textbf{Continued.} \end{array}$ 

	00.	ioinaca.					
	Year ending June 30.						
Article exported.	Quantity.			Value.			
· · · · · · · · · · · · · · · · · · ·	1920-21	1921–22	1922-23 1	1920-21	1921–22	1922-23 1	
VEGETABLE PRODUCTS—continued.	Thou- sands. 7,477	Thou- sands	Thou- sands. 4, 089	Thou- sands. \$11, 147	Thou- sands.	Thou- sands. \$3,970	
Glue, vegetable lbs lbs lbs	22, 206	5, 654 2 499 19, 522	715 13, 497	10, 873	\$5, 824 <sup>2</sup> 56 4, 852	82 2, 589	
Liquors, alcoholic:  Beverages, malt galls.  Spirits, distilled galls.  Wines galls.	14 334 39	45 186 21	184 370 38	29 1, 205 60	43 677 27	137 1, 116 29	
Other beveragesgalls_ Total beverages			160	1, 715 3, 009	391	175 1, 457	
Nursery and green house stock Fruit stock, cuttings or seedlings		² 837	1, 877	398	<sup>3</sup> 119 <sup>2</sup> 82	148	
All other stock, plants and bulbs No		² 2, 586	4, 558		2 120	199	
TotalNuts:			====	398	321	347	
Peanutslbs Other nutslbs	13, 149	12, 858	8, 716 4, 818	1, 063 728	815 744 1,559	681 725 1, 406	
Total nutslbs Oils, vegetable: Fixed or expressed—			=====	1,791	1, 509	1,400	
Cottonseed oillbs	6, 639 283, 268	10, 185 <sup>3</sup> 52, 263 <sup>2</sup> 20, 473	12, 993 25, 943	887 31, 393	885 8 4, 584 2 1, 609	1, 088 2, 258	
Crudelbs Refinedlbs Total cottonseed oil		2 18, 879	38, 358	31, 393	2 1, 609 2 2, 207 8, 400	4, 239 6, 497	
Corn oillbs Linseed oillbs	6, 919 4, 210	5, 280 2, 744	5, 224 3, 105	1, 033 719 224	588 299 185	652 410 21	
Peanut oil lbs Soy-bean oil lbs Cocoa butter lbs Vegetable oleomargarines	1, 595 5, 118 3, 171	1, 802 537 1, 856	188 2, 495 957	760 988	35 505	219 287	
Vegetable oil lard compounds lbs_		<sup>2</sup> 154 <sup>2</sup> 13, 820	1, 736 17, 984		<sup>2</sup> 21 <sup>2</sup> 1, 604	236 2, 221	
Vegetable soap stocklbs_ Other vegetable oils and fats lbs_		<sup>2</sup> 6, 436	3, 601 8, 063	1, 015	<sup>2</sup> 343 581	23 <b>9</b> 863	
Total fixed or expressed				37, 019	13, 446	12, 733	
Volatile or essential— Peppermintlbs_ Otherlbs	50	- 155	103 584	287 890	315 522	291 611	
Total volatile Total vegetable oils				1, 177 38, 196	837 14, 283	902	
Seeds: Oil seedslbs Cottonseedlbs	4,811	2, 504	2, 722	247	93	95	
Flax or linseedlbs_ Total oil seeds	1			251	93	95	
Seeds for sowing— Field and forage plant seeds— Alfalfalbs		2 778	400		2 147	76	
Clover—  Redlbs_ Otherlbs_ Timothylbs_	5, 420 14, 990	<sup>2</sup> 747 3, 259 20, 150	1, 839 2, 492 20, 132	1, 245 1, 223	170 632 1, 350	365 524 1,401	
Other grass seedslbs_ Other field and forage plant seedslbs_	5, 408	4, 094 2 2, 384	4, 091 4, 152	844	686 2 125	648 222	
Vegetable and flower seedslbs All other seeds		2 8, 515	4, 409	1, 377	<sup>2</sup> 673 531	821	
Total seeds for sowing  Total all seeds				4, 689	4, 314	4, 057 4, 152	
I Uvai ali socus	1======	I <del></del>	1	' <del></del>	I <del></del>		

<sup>&</sup>lt;sup>1</sup> Preliminary,

<sup>&</sup>lt;sup>2</sup> Jan. 1-June 30, 1922.

<sup>&</sup>lt;sup>8</sup> July 1-Dec. 31, 1921.

Table 653.—Agricultural exports (domestic) of the United States, 1921-1923—Continued.

			Year endi	ng June 30.			
Article exported.		Quantity.		Value.			
	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231	
VEGETABLE PRODUCTS—continued.	Thou- sands.	Thou- sands.	Thou- sands.	Thou-	Thou- sands.	Thou-sands.	
Spices         lbs           Starch:         Cornstarch           Other starch         lbs	110, 514	348, 940 37, 933	1, 642 254, 060 6, 736	\$322 4, 251	\$167 7, 295	\$201 6,741	
Total starch	24, 850	37, 933	0,730	1, 146 5, 397	8, 199	6, 980	
Stearin, vegetablelbs	1, 848	1, 949	564	224	195	56	
Sugar, molasses, and sirup:  Molasses galls Sirup (including maple) galls Sugar (including maple) lbs.	5, 386 4, 568 582, 698	5, 775 6, 741 2, 002, 039	4, 773 5, 905 749, 855	1, 125 1, 734 43, 740	697 1, 855 77, 495	528 1,584 41,003	
Total sugar, molasses, and sirup				46, 599	80, 047	43, 115	
Tobacco (unmanufactured): Leaf tobaccolbs_ Bright flue-curedlbs_ Burleylbs.	496, 879	451, 888	<sup>2</sup> 229, 472 <sup>8</sup> 57, 092 <sup>8</sup> 3, 464	237, 051	156, 773	<sup>2</sup> 77, 846 <sup>8</sup> 22, 715 <sup>2</sup> 874	
Dark-dried Kentucky and Tennesseelbs_ Dark Virginialbs_ Maryland and Ohio export			<sup>8</sup> 73, 451 <sup>8</sup> 34, 719			<sup>8</sup> 13, 870 <sup>8</sup> 17, 967	
Green River (Pryor)lbs Cigar leaflbs Other leaflbs			8 5, 335 3 10, 054 8 252 8 31, 347			\$ 563 \$ 2,844 \$ 209 \$ 8,737	
Total leaf tobaccoStems, trimmings, and scrap_lbs_	9, 648	11, 500	9, 224	237, 051 472	156, 773 544	145, 625 607	
Total tobacco (unmanufac- tured)				237, 523	157, 317	146, 232	
Vegetables: Dried				<del></del>			
Beansbush_ Peasbush_ Fresh	1, 216 165	1, 100 89	672 95	4, 563 841	3, 745 324	2, 483 411	
Potatoes (white)bush Onionsbush Others, freshlbs Propared or preserved—	4, 803 1, 014	2, 327 658	2, 981 703 80, 277	8, 499 1, 464 2, 988	3, 411 1, 457 2, 884	3, 190 994 3, 130	
Canned—		<sup>3</sup> 2, 334 <sup>3</sup> 4, 111	8, 507 5, 636 2, 882	215	3 378 3 325 202	1, 494 470 235	
Peas lbs. Soups lbs. Tomatoes lbs. Other canned lbs. Pickles and sauces lbs. Dried or dehydrated lbs.		8 883	3,073 12,783 8,917 3,204 11,867	1, 243 680 2, 496 1, 910	\$ 87 1, 180 459 1, 090 1, 675	280 1,381 565 311 1,590	
Dried or dehydratedlbs Other vegetable preparations.		<sup>8</sup> 285 <sup>8</sup> 486	453 892		<sup>3</sup> 34 <sup>3</sup> 56	57 97	
Total vegetables				24, 899	17, 307	16, 688	
Vinegargalls_ Yeastlbs_ Other vegetable products n. e. s_lbs_	225	198 3 634	193 2, 751 2, 674	87 676	62 663 8 6	62 695 61	
Total vegetable products, in- cluding forest products				2, 304, 480	1, 678, 750	1, 588, 631	
Total vegetable products, ex- cluding forest products				2, 162, 604	1, 585, 164	1, 460, 389	
Total agricultural exports, in- eluding forest products				2, 749, 517	2, 008, 957	1, 927, 013	
Total agricultural exports, ex-				2, 607, 641	1, 915, 371	1, 798, 771	

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.

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> July 1-Dec. 31.

<sup>3</sup> 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.

•		, 0	·	•		
	Exports (d	lomestic me	rchandise).		Imports.	
Article.	1920-21	1921-22	1922-231	1920-21	1921-22	1922-231
FARM PRODUCTS.						
Animal products.  Animals, live	363, 792 2, 259	Thou- sands. \$14, 951 36, 375 10, 148 280 267, 552	Thou- sands. \$6, 919 23, 327. 9, 400 318 297, 347	Thou- sands. \$27, 785 27, 356 9, 614 2, 281 154, 246 190, 320 77, 902 5, 844	Thou- sands. \$5, 850 17, 522 4, 723 2, 119 105, 905 307, 283 45, 649	Thou-sands. \$9, 628 28, 216 4, 356 3, 215 171, 409 413, 567 167, 191
Other animal products  Total animal products	1, 411	330, 207	338, 382	495, 348	3, 522 492, 573	8, 132 805, 714
Vegetable products.	445, 057	330, 201	356, 362	490, 346	492, 575	805, 714
Argols or wine lees	1, 991 6, 187 600, 186	728 5, 722 596, 379 65, 070 1, 605 6, 558	611 5, 311 658, 983 71, 260 2, 417 5, 014	3, 032 31, 293 176, 988 44, 666 57, 025 49, 933	1, 218 27, 804 148, 503 43, 958 27, 831 47, 362	1, 739 35, 096 181, 639 60, 640 47, 695 44, 650
Glucose and grape sugar	1,071,123	585, 475 1, 044 4, 852	3, 514 447, 371 940 2, 589	134, 112 2, 442 2, 283 521 5, 317	28, 366 85 341 304 3, 045	29, 827 345 257 26 1, 156
Nursery stock Nuts Oil cake and meal Oil, vegetable Seeds Spices Starch Sugar, molasses, and sirup Tea	398 1,791 19,513 38,196 4,940 322 5,397 46,599	321 1, 559 22, 770 14, 283 4, 407 167 8, 199 80, 047	1, 347 1, 406 22, 719 13, 635 4, 152 201 6, 980 43, 115	24, 301 3, 707 56, 122 64, 831 7, 325 616 668, 940	5, 017 33, 069 1, 660 58, 582 48, 832 8, 316 357 202, 783	7, 298 25, 913 2, 016 68, 353 76, 138 10, 556 406 368, 794
Tea Tobacco. Vanilla beans Vegetables Wax, vegetable products.	237, 523 24, 899	157, 317 17, 307	146, 232 16, 688 8, 961	17, 587 68, 220 1, 751 22, 715 1, 600 1, 162	18, 040 57, 050 2, 279 20, 225 1, 013 459	26, 308 69, 225 2, 884 21, 838 1, 501 3, 954
Total vegetable products	2, 162, 604	1, 585, 164	1, 460, 389	1, 446, 489	786, 499	1, 088, 254
Total farm products	2, 607, 641	1, 915, 371	1, 798, 771	1, 941, 837	1, 279, 072	1, 893, 968
FOREST PRODUCTS.	,,					
Cork wood or cork bark	23	251	342	2, 373 4, 128 34, 622	1, 024 2, 231 27, 475	1,826 3,577 41,736
Gums, resins, and balsams Naval stores Dyeing and tanning extracts Wood Wood pulp Other forest products	22, 020 6, 774 109, 233 2, 731 1, 095	15, 215 2, 393 73, 815 1, 275 637	22, 771 1, 933 100, 595 1, 185 1, 416	7, 263 70, 286 76, 191 148, 278	5, 635 61, 492 49, 678 102, 052	5, 280 94, 145 74, 190 191, 408
Total forest products	141, 876	93, 586	128, 242	343, 141	249, 587	412, 162
Total farm and forest products.	2, 749, 517	2, 008, 957	1, 927, 013	2, 284, 978	1, 528, 659	2, 306, 130

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.

<sup>&</sup>lt;sup>1</sup> Preliminary

Table 655.—Exports of selected domestic agricultural products, 1852-1923.

					Pa	cking-hou	se produc	ets.		
Year ending June 30.	Cattle.	Cheese.	Beef, cured— salted or pickled.	Beef, fresh.	Beef oils— oleo oil.	Beef tallow.	Beef and its prod- ucts— total, as far as ascer- tain- able.1	Pork, cured- bacon.	Pork, cured— hams and shoul- ders.	Pork, cured— salted or pickled.
Average: 1852-1856 1857-1861 1862-1866 1867-1871 1872-1876 1877-1881	Thou- sands. 1 20 7 46 127	1,000 pounds. 6, 200 13, 906 42, 683 52, 881 87, 174 129, 670	1,000 pounds. 25, 981 26, 986 27, 663 26, 955 35, 827 40, 175			1,000 pounds. 7, 469 13, 215 43, 203 27, 578 78, 994 96, 823	1,000 pounds. 33,449 40,200 70,865 54,532 114,821 218,710	1,000 pounds. 30,005 30,583 10,797 45,790 313,402 643,634	1,000 pounds.	1,000 pounds. 40,543 34,854 52,551 28,879 60,429 -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, 605	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 1901-2 1902-3 1903-4 1904-5	393 402	39, 814 27, 203 18, 987 23, 335 10, 134	55, 313 48, 633 52, 801 57, 585 55, 935	351, 748 301, 824 254, 796 299, 580 236, 487	161, 651 138, 546 126, 010 165, 184 145, 228	77, 167 34, 066 27, 369 76, 924 63, 537	705, 105 596, 255 546, 055 663, 147 575, 875	456, 123 383, 151 207, 336 249, 666 262, 247	216, 572 227, 653 214, 183 194, 949 203, 459	138, 644 115, 896 95, 287 112, 225 118, 887
1905-6	423	16, 562	81, 088	268, 054	209, 658	97, 567	732, 885	361, 211	194, 211	141, 821
1906-7		17, 285	62, 645	281, 652	195, 337	127, 858	689, 752	250, 419	209, 481	166, 427
1907-8		8, 439	46, 958	201, 154	212, 541	91, 398	579, 303	241, 190	221, 770	149, 506
1908-9		6, 823	44, 494	122, 953	179, 985	53, 333	418, 844	244, 579	212, 170	52, 355
1909-10		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	200, 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	66, 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	<b>74,</b> 5 <b>29</b>	32, 937	368, 002	803, 667	275, 456	41, 643
1920-21	146	10, 826	23, 313	21, 684	1 <b>06, 4</b> 15	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
1922-232	61	8, 446	24, 185	4, 077	104, 956	25, 665	194, 962	408, 282	319, 187	40, 934

<sup>&</sup>lt;sup>1</sup> Includes canned, cured, and fresh beef, oleo oil, oleo stock, oleomargarine, tallow, and stearin from animal fats.

<sup>2</sup> Preliminary.

Table 655 - Exports of selected domestic agricultural products, 1852-1923 - Con.

TABLE 655.—	-Expor	ts of selec	ted dom	estic ag	gricultus	ral produ	cts, 185	2-1923	G—Con.
	Packi	ng-house pr	oducts.		Corn			Corn-	Cotton-
Year ending June 30.	Pork— lard.	Pork and its prod- ucts— total, as far as ascertain- able.1	Lard com- pounds.	Apples, fresh.	and corn meal (in terms of grain).	Cotton.	Glucose and grape sugar.	oil cake and oil- cake meal.	seed oil- cake and oil- cake meal.
Average: 1852-1856 1857-1861 1862-1866 1867-1871 1872-1876 1877-1881	89, 138 53, 579	1,000 pounds. 103, 903 103, 404 252, 486 128, 249 568, 029 1,075, 793	1,000 pounds.	1,000 barrels. 37 57 119 133 510	1,000 bushels. 7, 123 6, 558 12, 060 9, 924 38, 561 88, 190	1,000 pounds. 1,110,498 1,125,715 137,582 902,410 1,248,805 1,738,892			1,000 pounds.
1882-1886 1887-1891 1892-1896 1897-1901 1907-1911 1912-1916	592, 131 519, 746 487, 056	739, 456 936, 248 1, 052, 134 1, 528, 139 1, 242, 137 1, 028, 997 1, 109, 488	21, 792 52, 954 75, 765 62, 221	462 523 521 780 1, 369 1, 226 1, 786	49, 992 54, 606 63, 980 192, 531 74, 615 56, 568 38, 774	1, 968, 178 2, 439, 650 2, 736, 655 3, 447, 910 3, 632, 268 4, 004, 770 4, 469, 202	4, 474 27, 686 125, 574 209, 280 154, 867 145, 065 183, 141	21, 888 61, 733 54, 361	1, 005, 100 1, 066, 790 989, 738 1, 151, 609
1900-1 1901-2 1902-3 1903-4 1904-5	556, 840 490, 756	1, 462, 370 1, 337, 316 1, 042, 120 1, 146, 255 1, 220, 032	23, 360 36, 202 46, 130 53, 604 61, 215	884 460 1, 656 2, 018 1, 500	181, 405 28, 029 76, 639 58, 222 90, 293	3, 359, 062 3, 528, 975 3, 569, 142 3, 089, 856 4, 339, 322	204, 210 130, 420 126, 240 152, 769 175, 251	12, 703 14, 740 8, 093 14, 015 24, 171	1, 258, 687 1, 050, 466 1, 100, 393 820, 349 1, 251, 908
1905-6 1906-7 1907-8 1908-9 1909-10	741, 517 627, 560 603, 414 528, 723 362, 928	1, 464, 960 1, 268, 065 1, 237, 211 1, 053, 142 707, 110	67, 621 80, 149 75, 183 75, 183 74, 557	1, 209 1, 539 1, 050 896 922	119, 894 86, 368 55, 064 37, 665 38, 128	3, 634, 045 4, 518, 217 3, 816, 999 4, 447, 985 3, 206, 708	189, 656 151, 629 129, 687 112, 225 149, 820	48, 421 56, 809 66, 128 53, 234 49, 109	1, 110, 835 1, 340, 967 929, 287 1, 233, 750 640, 089
1910-11 1911-12 1912-13 1913-14 1914-15	532, 256	879, 455 1, 071, 952 984, 697 921, 913 1, 106, 180	73, 754 62, 523 67, 457 58, 304 69, 981	1, 721 1, 456 2, 150 1, 507 2, 352	65, 615 41, 797 56, 780 10, 726 50, 668	4, 033, 941 5, 535, 125 4, 562, 296 4, 760, 941 4, 403, 578	181, 963 171, 156 200, 149 199, 531 158, 463	83, 385 72, 490 76, 263 59, 031 45, 026	804, 597 1, 293, 690 1, 128, 092 799, 974 1, 479, 035
1915-16 1916-17 1917-18 1918-19	444, 770 392, 506 724, 771	1, 462, 697 1, 501, 948 1, 692, 124 2, 704, 694	52, 843 56, 359 31, 278 128, 157	1, 466 1, 740 635 1, 576	39, 897 66, 753 49, 073 23, 019	3, 084, 070 3, 088, 081 2, 320, 512 2, 762, 947	186, 406 214, 973 97, 858 136, 230	18, 996 15, 758 458 562	1, 057, 222 1, 150, 160 44, 681 311, 624
1919-20 1920-21 1921-22 1922-23 <sup>2</sup>	587, 225 746, 157 812, 379 952, 642	1, 762, 611 1, 522, 162 1, 516, 320 1, 794, 538	44, 196 42, 156 30, 328 11, 140	1, 051 2, 665 1, 094 1, 756	16, 729 70, 906 179, 490 96, 599	3, 543, 743 2, 811, 389 3, 358, 879 2, 626, 732	245, 264 141, 954 273, 982 162, 693	511 1,795 3,596 686	449, 573 454, 701 532, 721 454, 350
Year ending June 30.	Prun	es. Tobacco	. Hops.	Oils, vegeta- ble— cotton- seed oil.	Rice and rice bran, meal, and polish.	Sugar, raw and refined.	Wheat.	Whea flour.	
Average; 1852-1856 1857-1861 1862-1866 1867-1871 1872-1876 1877-1881	2	ds. pounds 140, 184 167, 711 140, 208 194, 754 241, 848 266, 315	1,000 pounds. 1,163 2,216 4,719 6,487 3,446 10,446	1,000 gailens. 547 4,498	1,000 pounds. 56, 515 65, 732 2, 258 1, 857 391 602	1,000 pounds. 7,730 6,015 3,008 4,357 20,142 41,718	1,000 bushels. 4,715 12,378 22,530 22,107 48,958 107,781	1,000 barrels 2, 89 3, 31 3, 53 2, 58 3, 41 5, 37	2   19, 173 8   28, 970 1   40, 184 5   35, 032 6   66, 037 6   133, 263
1882-1886 1887-1991 1892-1896 1897-1901 1902-1966 1907-1911 1912-1916	48, 5 47, 0 72, 5	237, 942 259, 248 281, 746 304, 402 31, 539 325, 539 334, 396 408, 006	9, 584 7, 184 15, 147 15, 467 11, 476 14, 774 18, 533	3, 468 7, 121 15, 783 42, 863 38, 606 38, 784 39, 801	60, 043	11, 214 14, 807 61, 430 470, 729	82, 884 64, 739 99, 914 120, 247 70, 527 62, 855 129, 415	8, 62 11, 28 15, 71 17, 15 15, 44 11, 84 13, 18	7 115, 529 3 170, 624 1 197, 427 4 140, 026 1 116, 138 5 188, 748
1900-1 1901-2 1902-3 1903-4 1904-5	23, 3 66, 8 73, 1 54, 9	59   301, 007 85   368, 184 46   311, 972 94   334, 302	14,859	49, 357 33, 043 35, 643 29, 014 51, 536	19, 750 29, 122 113, 283	7, 572 10, 520 15, 419 18, 348	114, 181 44, 230 4, 394	19, 71 16, 99 8, 82	9   234,773 6   202,906 9   120,728 6   44,113
1905-6	28, 1 22, 6	90   340, 743 48   330, 813 602   287, 901	13, <b>0</b> 27 16, 810 22, 920 10, 447 10, 589	43, 794 41, 880 41, 020 51, 087 29, 861	38, 142 30, 174 28, 444 20, 511 26, 779	21, 238 25, 511 79, 946	76, 569 100, 371 66, 923	15, 58 13, 92 10, 52	5   146, 700 7   163, 044 1   114, 268

<sup>!</sup> Includes canned, fresh, salted or pickled pork, lard, neutral lard, lard oil, bacon, and hams.  $^2$  Preliminary.

Table 655.—Exports of selected domestic agricultural products, 1852-1923—Con.

Year ending June 30.	Prunes.	Tobacco.	Hops.	Oil, vegeta- ble— cotton- seed oil.	Rice and rice bran, 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	1,000	1,000	1,000
	pounds.	pounds.	pounds.	gallons.	pounds.	pounds.	bushels.	barrels.	bushels.
1910-11	51, 031	355, 327	13, 105	30, 069	30,063	54, 947	23, 729	10, 129	69, 312
1911-12	74, 328	379, 845	12, 191	53, 263	39, 447	79, 594	30, 160	11,006	79,689
1912-13	117, 951	418, 797	17, 591	42, 031	38, 908	43, 995	91, 603	11, 395	142, 880
1913-14	69, 814	449, 750	24, 263	25, 738	22, 414	50, 896	92, 394	11, 821	145, 590
1914-15	43, 479	348, 346	16, 210	42, 449	77, 480	549, 007	259, 643	16, 183	332, 465
1915-16	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	11,943	203, 574
1917-18		289, 171	3, 495	13, 437	196, 363	576, 483	34, 119	21,880	132, 579
1918-19	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		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		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 publication. "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 4½ bushels of wheat in 1880 and subsequently.

Preliminary.

Table 656.—Imports of selected agricultural products, 1852-1923.

					-					
Year ending June 30.	Cheese.	Silk.	Wool.	Al- monds.	Argols or wine lees.	Cocoa and choco- late, total.	Coffee.	Corn	Oats, includ- ing oat- meal.	Wheat.
Average: 1852-1856		1,000 pounds.	1,000 pounds. 19,067	1,000 pounds. 3,461	1,000 pounds.	1,000 pounds. 2,487	196, 583	1,000 bushels.	1.000 bushels.	1,000 bushels. 2, 122
1957_1961	1 378	i		3, 251	1, 355	3, 064 2, 453	216, 235 124, 552			2, 617
1862-1866	<b>-</b>	1,095		2, 102	2, 361 4, 951 12, 403	3, 503 4, 857 6, 315	248, 726 307, 007 384, 282	75 57 42	1 515 1 126	1, 296 1, 308 871
1882-1886 1887-1891 1892-1896	8, 335	4, 673 6, 564 8, 383	83, 294 117, 764 162, 640	5, 861 7, 488	17, 552 21, 434 26, 470	11, 568 18, 322 25, 475	529, 579 509, 368 597, 484	24 15 8	118 105	507 339 1, 629
1897-1901 1902-1906 1907-1911	12, 589 22, 166 37, 663	10, 962 17, 188 22, 143 33, 242	163, 979 193, 656 199, 563 295, 851	7, 361 10, 921 15, 297 17, 130	24, 380 27, 647 29, 351 29, 256	38, 209 70, 901 113, 673 182, 395	816, 570 980, 119 934, 533 1, 013, 931	20 92 5, 686	54 94 1 1, 662 1 5, 383	1, 274 873 286 2, 321
1912-1916 1900-1		10, 406	103, 584	5, 140	28, 599	47, 620	854, 871	5	32	600
1901-2 1902-3	17, 068	14, 235 15, 271	166, 577 177, 138	9, 869 8, 142	29, 276 29, 967	52, 879 65, 047	1, 091, 004 915, 086	18 41	39 150	119 1, 077
1903-4 1904-5		16, 723 22, 357	173, 743 249, 136	9, 839 11, 745	24, 572 26, 282	75, 071 77, 383	995, 043 1, 047, 793	17 15	184 56	3, 103
1905-6 1906-7 1907-8 1908-9	27, 287 33, 849 32, 531	17, 352 18, 744 16, 662 25, 188	201, 689 203, 848 125, 981 266, 409	15, 009 14, 234 17, 145 11, 029	28, 141 30, 541 26, 739 32, 116	84, 127 97, 060 86, 605 132, 661	851, 669 985, 321 890, 640 1, 049, 869	10 11 20 258 118	40 91 383 6, 692 11, 035	58 375 342 41 164
1909-10 1910-11		23, 457	263, 928 137, 648	18, 556 15, 523	28, 183 29, 175	111, 071	871, 470 875, 367	52	1 107	509
1911–12 1912–13 1913–14	46, 542 49, 388 63, 784	26, 585 32, 102 34, 546 31, 053	193, 401 195, 293 247, 649 308, 083	17, 231 15, 671 19, 038 17, 111	23, 661 29, 479 29, 793 28, 625	148, 786 143, 510 179, 364 194, 734	885, 201 863, 131 1, 001, 528 1, 118, 691	53 903 12, 367 9, 898	1 2, 622 1 724 1 22, 274 1 631	2, 699 798 1, 979 426
1914-15 1915-16 1916-17 1917-18	30, 088 14, 482	41, 925 40, 351 43, 681	534, 828 372, 372 379, 130	16, 597 23, 424 23, 840	34, 721 23, 926 30, 267	245, 579 340, 483 399, 312	1, 201, 104 1, 319, 871 1, 143, 891	5, 208 2, 267 3, 196	1 665 1 762 1 2, 591	5, 703 24, 139 28, 177
1918-19	2, 442	50, 069	422, 415	30, 328	32, 228	313, 195	1, 046, 029 1, 414, 228	3, 311 10, 229	551 6,044	11, 121 4, 780
1919-20 1920-21	16, 585	58, 410 34, 778	427, 578 318, 236 255, 087	33, 682 20, 497 31, 343	23, 638 26, 486 18, 749	421, 880 328, 447 318, 969	1, 414, 228 1, 348, 926 1, 238, 012	5, 743 125	3, 796 1, 733	51, 004 14, 466
1921-22 1922-23 <sup>2</sup>	54, 555	57, 437 63, 188	<sup>3</sup> 550, 180		21, 950	383, 929	1, 305, 188		293	18, 013

<sup>&</sup>lt;sup>2</sup> Preliminary. <sup>3</sup> Includes wooled sheep and lamb skins, dry and green. 1 Does not include oatmeal.

Table 656.—Imports of selected agricultural products, 1852-1923—Continued.

Year ending June 30.	Wheat flour.	Wheat includ- ing wheat flour.	Flax-	Un- manu- factured tobacco	i Flax.	Hemp	. Hops.	Jute and jute butts.	Licorice root.
Average: 1852-1856 1857-1861			3 1, 133	5, 044 5, 154		1 :	s. pounds		1,000 pounds. 1,373 1,888
1862–1866 1867–1871 1872–1876 1877–1881	104 74	1,680	2,915	5, 631 8, 886	•	1 2: 1 2:	3	_ 15	
1882-1886	2 3 1 1 1 27	352 1, 634 1, 280 993 706	1, 833 1, 181 1, 181 3 234 3 3, 249	21, 640 25, 871 16, 958 33, 805 42, 813		3	7 7,772	105 84 94 102 100	59, 275 86, 445 87, 476 99, 543 96, 111 80, 459
1900-1 1901-2 1902-3 1903-4 1904-5	1 (1) 1 47 41	1, 080 218	1 477 129 3 213	29, 429 34, 017 31, 163		3   1	2, 607 3, 2, 805 5, 6, 013 3, 2, 758 4, 339	80 97	100, 106 109, 077 88, 581 89, 463 108, 444
1905-6 1906-7 1907-8 1908-9 1909-10	45 48 40 92	590 520 457	90 57 7 594	40, 899 35, 005 43, 123	10		10, 114 6, 212 8, 493 7, 387 3, 201	104	102, 152 66, 116 109, 356 97, 743 82, 207
1910-11	142 159 108 108 109 108	3, 414 1, 282 2, 384	6, 842 5, 294 4 8, 653	54, 740 67, 977 61, 175	11 12 12 13 14 16		2, 991 8, 494 5, 382	106	125, 135 74, 582 105, 116 115, 636 65, 959
1915–16	330	24, 925	3 14, 679 5 12, 394 5 13, 367 9 8, 427	48, 078 49, 105 86, 991 83, 951	8	3 10	237	113	41, 003 59, 400 26, 983 42, 684
1919-20	159 1, 421 619 429	5, 496 57, 398 17, 251 19, 945	3   16, 170 13, 632	58, 923 65, 225		5 10	893	77 90 62 85	48, 045 59, 693 62, 388 35, 339
Year ending June 30.	Manila.	Mo- lasses.	Olive oil, for table use.	Opium, crude.	Poto	Rice and rice flour, rice meal, and bro- ken rice.	Sisal grass.	Sugar, raw and refined.	Tea.
Average:  1852-1856 1857-1861 1862-1866 1867-1871 1872-1876 1877-1881	1,000 long tons. 12	1,000 gallons. 28,489 30,191 34,263 53,322 44,815 32,639	1,000 gallons. 178 153 175 219	1,000 pounds. 110 114 129 209 365 408	1,000 bushels. 407 252 216 255 1,850	1, 000 pounds. 70, 893 52, 954 72, 536 62, 615	1,000 long tons.	1,000 pounds. 479,374 691,324 672,637 1,138,465 1,614,055 1,760,508	1,000 pounds. 24,960 28,150 30,869 44,053 62,436 67,583
1882-1886 1887-1891 1892-1896 1897-1901 1902-1906 1907-1911 1912-1916	- 1	35, 020 30, 543 15, 475 6, 321 17, 192 24, 147 54, 144	758 774 909 1, 783 3, 897 6, 042	392 475 529 568 538 490 399	2, 835 3, 879 1, 805 495 2, 662 1, 907 3, 638	99, 871 156, 859 160, 808 165, 232 150, 914 215, 892 250, 775	40 50 70 97 102 180	2, 458, 490 3, 003, 284 3, 827, 799 3, 916, 434 3, 721, 782 3, 997, 156 4, 993, 125	74, 781 84, 275 92, 782 86, 809 98, 678 96, 725 98, 841
1900-1 1901-2 1902-3 1903-4 1904-5	44 56 62 66 62	11, 453 14, 391 17, 240 18, 829 19, 478	983 1, 339 1, 494 1, 714 1, 923	583 534 517 573 585	372 7, 656 359 3, 167 181	117, 200 157, 659 169, 656 154, 222 106, 484	70 90 87 109 100	3, 975, 006 3, 031, 916 4, 216, 108 3, 700, 624 3, 680, 933	89, 806 . 75, 579 108, 575 112, 906 102, 707

<sup>&</sup>lt;sup>1</sup> Less than 500 barrels.

<sup>&</sup>lt;sup>2</sup> Preliminary.

Table 656.—Imports of selected agricultural products, 1852-1923—Continued.

					.,				Rice				
Year ending June 30.	Manila.		Mo- sses.	Oliv for t us	able	Opiu erue		Pota toes.		eal, ro-	Sisal grass.	Sugar, raw and refined.	Tea.
	1,000	I,	000	1,0		1,00		1,000	1,00	0	1,000	1,000	1,000
1905-6 1906-7	long tons. 59 55	16	lons. 5, 021 5, 631	gall 2,	447		ds. 469 565	bushel 1, 94 17	8 166 5	48	long tons. 98 99	pounds. 3, 979, 331 4, 391, 840	pounds. 93, 622 86, 368
1907-8 1908-9 1909-10	52 62 93	18	, 883 , 093 , 292	4.	450 799 129 702		286 517 149	8, 38 35	4 212, 7 4 222, 9	83 00 01	104 91 100	3, 371, 997 4, 189, 421 4, 094, 546	94, 150
1910-11 1911-12	74 69	28	, 838 , 828	4.	406 837		630 400	21 13, 73		75 63	118 114	3, 937, 978 4, 104, 618	102, 564 101, 407
1912–13 1913–14 1914–15	74 50	33 51	, 927 , 410 , 840	5, 6.	221 218 711	4	508 155 184	32 3, 64 27	7   222, 1 6   300, 1	04 95	154 216 186	4, 740, 041 5, 066, 822 5, 420, 982	94, 813
1915–16 1916–17 1917–18	79 77 86	85 110 130	, 717 , 238 , 731	7, 2,	224 533 538	1	147 87 158	21 3, 07 1, 18	9   216, 0 0   456, 0	24 49 59	229 143 150	5, 633, 162 5, 332, 746 4, 903, 327	109, 866 103, 364 151, 315
1918–19	68 77	130	670		283 813		346 529	3, 53 6, 94	1	- 1	153 176	5, 836, 048 7, 596, 032	97, 826
1920-21 1921-22 1922-231	52 44 97	113 87	, 414 , 908 , 831	4, 7,	443 941 950		77  44  15	3, 42 2, 11 57	3   96,8 0   73,6	20 I	159 72 98	7, 012, 679 8, 464, 329 8, 422, 483	72, 196 86, 142
Year ending	Tuna 30		Ree	swax.	On	ions.		lums and	Raisins		Currants.	Dates.	Figs.
	June 50.		Dec					runes.	166651115			Dates.	1 185.
Average:			1,0 pou	000 nds.		000 shels.		1,000 ounds.	1,000 pounds		1,000 pounds.	1,000 pounds	1,000 pounds.
1887-1891 1892-1896 1897-1901				129 280 265		628		60, 238 12, 406 561	38, 546 17, 746 7, 670	5	34, 398 27, 520	14, 914 15, 654	9, 784 - 10, 117 8, 920
1902–1906 1907–1911 1912–1916			1	457 846 , 406	:	924 1, 103 997		564	7, 34, 5, 28, 2, 84,	3	35, 457 35, 259 30, 350	25, 649 25, 879 29, 922	14, 335 19, 848 16, 564
1900-1 1901-2				214 409		774 796		746 522	3, 861 6, 684		16, 049 36, 239 33, 878	20, 014 21, 681	9, 934 11, 087
1902-3 1903-4 1904-5				489 425 374	:	926 1, 171 856		634 494 672	6, 716 6, 868 4, 042	3	33, 878 38, 348 31, 743	43, 815 21, 058 19, 257	16, 482 13, 178 13, 364
1905-6 1906-7				588 917		873 1, 126		497 323	12, 418 3, 967	7	37, 078 38, 393	22, 436 31, 271	17, 562 24, 346
1907-8 1908-9 1909-10		 		672 765 972		1, 275 575 1, 024		335 296	9, 132 5, 794 5, 043	Į (	38, 653 32, 482 33, 326	24, 058 21, 869 22, 694	18, 837 15, 236 17, 362
1910-11 1911-12 1912-13			1	903 , 077		1, 515 1, <b>4</b> 36			2, 479 3, 256	1	33, 440 33, 151	29, 505 25, 208	23, 460 18, 765
1912-13 1913-14 1914-15				829 , 412 , 565	l	789 1, 115 829			2, 580 4, 555 2, 809	i	30, 844 32, 033 30, 351	34, 305 34, 074 24, 949	16, 838 19, 285 <b>20,</b> 780
1915-16 1916-17			2	, 146 , 686		816 1, 758			1, <b>02</b> 4 1, 850	)	25, 373 10, 477	31, 075 25, 485	7, 153 16, 480
1917-18 1918-19				, 827 , 127	1	1, 313 152			844 120		5, 168 842	5, 57 <b>3</b> 20, 192	10, 473 9, 239
1919-20			2	, 924 , 215 , 101		1, 884 689 2, 488			13, 897 43, 269 18, 363 12, 335		38, 225 50, 178 49, 467	36, 893 35, 267 46, 742	28, 552 25, 424 43, 139
1921-22			4	, 095	Í	i, 781			12, 335		49, 467 18, 924	52, 037	36, 585

<sup>&</sup>lt;sup>1</sup> Preliminary

Table 656.—Imports of selected agricultural products, 1852-1923—Continued.

	Hides ar	d skins, of	ther than	Macaroni, vermi-			
Year ending June 30.	Cattle.	Goat.	Other than cat- tle and goat.	celli, and all similar prepara- tions.	Lemons.	Oranges.	Walnuts.
Average: 1897-1901	1,000 pounds.	1,000 pounds. 68,053	1,000 pounds. 91,173	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
1902–1906 1907–1911 1912–1916	126, 995 178, 682 313, 508	93, 675 94, 330 88, 711	115, 952 143, 351 188, 388	99, 724 83, 838	153, 161 153, 343 1 148, 528	41, 105 12, 090 1 9, 941	30, 981 34, 275
1900-1 1901-2 1902-3 1903-4 1904-5	129, 175 148, 628 131, 644 85, 370 113, 177	73, 746 88, 039 85, 114 86, 339 97, 804	77, 990 89, 458 102, 340 103, 025 126, 894	28, 788 40, 224 53, 441	148, 515 164, 075 152, 004 171, 923 139, 084	50, 333 52, 742 56, 872 35, 893 28, 881	12, 363 23, 671 21, 684
1905-6 1906-7 1907-8 1908-9 1909-10	156, 155 134, 671 98, 353 192, 252 318, 004	111, 097 101, 202 63, 641 104, 048 115, 845	158, 045 135, 111 120, 771 148, 254 174, 771	77, 926 87, 721 97, 234 85, 114 113, 773	138, 717 157, 860 178, 490 135, 184 160, 215	31, 134 21, 267 18, 397 8, 436 4, 676	24, 917 32, 598 28, 887 26, 158 33, 641
1910-11 1911-12 1912-13 1913-14	150, 128 251, 013 268, 042 279, 963 344, 341	86, 914 95, 341 96, 250 84, 759 66, 547	137, 850 191, 415 207, 904 196, 348 137, 439	114, 779 108, 231 106, 501 126, 129 56, 542	134, 969 145, 639 151, 416	7, 672 7, 629 12, 253	33, 619 37, 214 26, 662 37, 196 33, 446
1915–16 1916–17 1917–18 1918–19	434, 178 386, 600 267, 500 253, 877	100, 657 105, 640 66, 933 89, 005	208, 835 207, 967 98, 084 105, 260	21, 790 3, 473 670 592	(2)	(2)	36, 859 38, 725 23, 289 10, 937
1919-20 1920-21 1921-22 1922-23 <sup>3</sup>	439, 461 198, 573 204, 936 405, 383	126, 996 41, 728 83, 535 89, 370	232, 113 111, 891 104, 433 163, 425	800 1, 297 1, 992 3, 254	(2) (2) 101, 592 122, 821	(2) (2) (2) (2)	44, 783 23, 166 60, 233 37, 520

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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 1863–1864 and 1885–1905 all olive oil. Sisal grass includes in 1884–1890 "Other vegetable substances." Hemp includes in 1885–1888 all substitutes for hemp.

<sup>&</sup>lt;sup>1</sup> Two years, 1912-13.

<sup>&</sup>lt;sup>1</sup> Value only given.

<sup>&</sup>lt;sup>8</sup> Preliminary.

Table 657.—Exports and imports of selected forest products, 1852-1923.

		Dome	estic exp	ports.		Imports.					
Year ending	Lun	nb <b>er.</b>			Tim-			Lum	ber.		
June 30.	Boards, deals, and planks.1	Staves.	Rosin.	Spirits of tur- pentine.	ber, hewn and sawed.	Cam- phor, crude.	Rubber gums, total.	Boards, deals, planks, and other sawed.	1	Shellac.	Wood pulp.
A verage: 1852-1856 1857-1861 1862-1866 1867-1871	138	Thou- sands.	1,000 barrels. 552 664 69 492	1,000 gallons. 1,369 2,735 102 2,693	1,000 M feet.	1,000 pounds. 214 361 387	1,000 pounds.	1,000 M feet.	1,000 M.	1,000 pounds.	1,000 long tons.
1872-1871 1872-1876 1877-1881	222 303		846	7, 139	210 220	1, 516	12, 631 15, 611	565 418	88 55		
1882-1886 1887-1891 1892-1896 1897-1901 1902-1906 1907-1911 1912-1916	616 957 1, 213 1, 649	51, 234 56, 182 65, 431	1, 290 1, 534 2, 006 2, 478 2, 453 2, 356 2, 128	9, 302 10, 794 14, 259 18, 349 16, 927 16, 659 15, 674	164 296 336 491 556 521 353	1, 959 2, 274 1, 492 1, 858 2, 139 2, 939 3, 529	24, 481 33, 227 39, 672 52, 975 75, 909 121, 504 201, 759	578 647 661 566 727 <b>900</b> 1,016	772 867 1, 045	5, 086 5, 848 8, 839 11, 614 19, 046 21, 470	37 43 47 131 319 517
1900-1 1901-2 1902-3 1903-4 1904-5	943 1,066 1,427	47, 363 46, 999 55, 879 47, 420 48, 286	2, 821 2, 536 2, 396 2, 585 2, 310	20, 241 19, 178 16, 379 17, 203 15, 895	590 477 570 604 . 533	2, 176 1, 831 2, 472 2, 820 1, 904	64, 927 67, 790 69, 312 74, 328 87, 004	491 666 721 589 711	556 708 724 770 759	9, 609 9, 065 11, 591 10, 933 10, 701	47 67 117 145 168
1905-6 1906-7 1907-8 1908-9 1909-10	1,624 1,548 1,358	57, 586 51, 120 61, 697 52, 583 49, 784	2, 439 2, 561 2, 713 2, 170 2, 144	15, 981 15, 855 19, 533 17, 502 15, 588	595 640 522 419 491	1, 669 3, 138 2, 814 1, 990 3, 007	81, 109 106, 748 85, 810 114, 599 154, 621	950 934 791 846 1,054	901 881 988 1,058 763	15, 780 17, 786 13, 362 19, 185 29, 402	157 213 238 274 378
1910-11 1911-12 1912-13 1913-14 1914-15	2, 307 2, 550 2, 405	65, 726 64, 163 89, 006 77, 151 39, 297	2, 190 2, 474 2, 806 2, 418 1, 372	14, 818 19, 599 21, 094 18, 901 9, 464	532 438 512 441 174	3, 726 2, 155 3, 709 3, 477 3, 729	145, 744 175, 966 170, 747 161, 777 196, 122	872 905 1,091 929 939	643 515 560 895 1, 487	15, 495 18, 746 21, 912 16, 720 24, 153	492 478 503 508 588
1915–16 1916–17 1917–18 1918–19	1,042 1,068	57, 538 61, 469 63, 207 62, 753	1, 571 1, 639 1, 071 882	9,310 8,842 5,095 8,065	201 184 106 92	4, 574 6, 885 3, 638 2, 623	304, 183 364, 914 414, 984 422, 215		1, 769 1, 924 1, 878 1, 757	25, 818 32, 540 22, 913 14, 269	507 699 504 475
1919–20 1920–21 1921–22 1922–23 <sup>3</sup>	1, 269 1, 543	80, 791 65, 710 35, 162 57, 475	1, 322 877 786 1, 040	7, 461 9, 742 10, 786 9, 012	234 123 268 383	4,026 2,093 1,592 3,498	660, 610 371, 300 578, 512 810, 028	1,492 920 1,124 1,958	2, 152 1, 831 2, 190 2, 695	34, 151 23, 872 30, 768 32, 806	727 624 902 1, 294

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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.

		Hawaii.		Porto Rico.				
Article.	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922-231		
Coffee	73, 628 40, 230 66, 331 5, 571, 587	62, 508 37, 789 51, 865 10, 109, 508	92, 047 42, 551 68, 818 10, 543, 961 2 2, 753	6, 281, 322 5, 234, 968	7, 385, 819 703, 759	10, 490 15, 638 6, 947, 804 3, 054, 489		

<sup>1</sup> Preliminary.

Including "Joists and scantling" prior to 1884.
 Includes "Gutta-percha" only for 1867.
 Preliminary.

<sup>&</sup>lt;sup>2</sup> January 1-June 30.

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	1922-231		
Coffeelbs_ Grapefruitboxes	3, 181, 831	3, 713, 321	2, 281, 499	211, 966 667, 637	65, 622 360, 530	70, 915 460, 951		
Molasses and sirups_galls_ Orangesboxes_	10, 963, 327	3, 686, 131	5, 861, 878	23, 499, 459 162, 395	11, 363, 143 388, 182	13, 208, 555 732, 972		
Pineapplesdo Pineapples, cannedlbs	(2) (2)	(2)	8, 770 257, 864, 572	(2)	(2)	(2)		
Sugar, rawdo Tobacco, unmanufactured	977, 738, 902	1, 191, 624, 620		818, 043, 880	939, 013, 990	710, 381, 157		
lbs	2, 672	3, 719	27, 930	14, 564, 394	22, 369, 984	<b>19, 573,</b> 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.

States, get		une 00, 102	1 1020.			
Article and country to which consigned.	1920-21	1921-22	1922-231	1920-21	1921-22	1922- 23 <sup>1</sup>
ANIMALS AND ANIMAL PRODUCTS.						
Cattle: Belgium Canada Cuba Germany	Number. 5, 685 7, 749 20, 653 1, 485	Number. 4, 930 3, 831 5, 799	Number. 1, 443 1, 601 2, 529	P. ct. 3. 9 5. 3 14. 2 1. 0	P. ct. 3. 2 2. 5 3. 7	P. ct. 2. 3 2. 6 4. 1
Mexico United Kingdom Other countries	83, 524 24, 935	106, 131 34, 158 432	49, 223 6, 417 273	57. 3 17. 1 1. 2	68. 3 22. 0 . 3	80. 1 10. 4 . 5
Total	145, 673	155, 281	61, 486	100.0	100. 0	100. 0
Horses: Belgium Canada. Cuba. Germany Mexico. Spain United Kingdom Other countries.	1, 512 547 5, 073	107 2, 915 782 221 11, 747 1, 206 320 529	2, 496 491 10 3, 802 1, 214 158 466	0. 5 33. 4 12. 0 4. 3 40. 1	0. 6 16. 4 4. 4 1. 2 65. 9 6. 8 1. 8 2. 9	0. 1 28. 9 5. 7 .1 44. 0 14. 0 1. 8 5. 4
Total	12, 638	17, 827	8, 641	100. 0	100. 0	100.0
Butter: Canada Cuba Haiti Mexico Other South America Other West Indies Panama Peru Philippine Islands United Kingdom Other countries	Pounds. 1, 992, 126 738, 522 408, 133 1, 107, 362 458, 282 1, 343, 738 591, 286 280, 925 216, 686 63, 943 628, 252	Pounds. 874, 712 780, 011 456, 037 866, 259 429, 292 1, 637, 662 266, 233 276, 549 572, 227 654, 853	Pounds. 76, 314 767, 108 615, 399 904, 158 359, 809 1, 433, 345 657, 793 234, 975 354, 889 3, 408, 128 597, 919	P. ct. 25. 4 9. 4 5. 2 14. 1 5. 9 17. 2 7. 6 3. 6 2. 8 8. 0	P. ct. 11. 6 10. 4 6. 1 11. 5 5. 7 21. 8 9. 3 3. 5 3. 7 7. 6 8. 8	P. ct. 0.8 8.2 6.5 9.6 3.8 15.2 7.0 2.5 3.8 36.2 6.4
Total	7, 829, 255	7, 511, 997	9, 409, 837	100. 0	100. 0	100. 0
Beef, canned:     Canada     Cuba     Dutch East Indies     French Guiana     Japan     Mexico     Newfoundland and Labrador     Philippine Islands     Poland and Danzig     United Kingdom     Other countries	331, 355 276, 745 295, 262 37, 578 14, 891 335, 987 18, 248 112, 747 5, 249, 862 1, 996, 391 2, 093, 920	173, 600 28, 882 51, 185 6, 249 102, 059 84, 085 46, 975 94, 610 2, 463, 365 697, 476	93, 900 89, 266 116, 252 10, 944 58, 885 81, 189 64, 663 298, 116	3. 1 2. 6 2. 7 . 3 . 1 3. 1 . 2 1. 0 48. 3 18. 5 19. 6	4. 6 . 8 1. 4 . 2 2. 7 2. 2 1. 3 2. 5	4. 1 3. 9 5. 1 . 5 2. 6 3. 5 2. 8 13. 0
Total	10,762,986	3,748,486	2,301,499	100.0	100.0	100.0
1 Preliminary						

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 659.—Destination of principal farm products exported from the United States, year ending June 30, 1921-1923.—Continued.

States, year end $i$	ng June 30	, 1921–1923	3—Continu	ed.		
Article and country to which consigned.	1920-21	1921-22	1922-231	1920-21	1921-22	1922- 23 <sup>1</sup>
ANIMALS AND ANIMAL PRODUCTS—con.						
Beef, pickled and other cured:	Pounds.	Pounds.	Pounds.	P. ct.	P. ct.	P. ct.
Belgium	702, 370	693, 384	363, 751	3.0	2.6	1.5
Canada Denmark	1, 731, 856 105, 540	1, 079, 987 308, 725	1, 460, 891 196, 700	7.4	4. 0 1. 2	6.0
Dutch Guiana	1, 143, 080	1, 390, 643	1, 137, 500	4. 9	5. 2	4.7
Germany	1, 165, 517 502, 253	954, 126 786, 574	462, 936 974, 320	5. 0 2. 2	3. 6 2. 9	1. 9 4. 0
Jamaica Netherlands	1, 024, 116	178, 266	190, 989	4.4	.7	.8
Newfoundland and Labrador	5, 515, 689	6, 942, 314	6, 627, 439 1, 785, 320	23. 7	25. 9	27. 4 7. 4
Norway Panama	1, 244, 532 178, 117	3, 481, 835 272, 320	259, 924	5. 3 . 8	13. 0 1. 0	1. 1
Trinidad and Tobago	1, 588, 872	1, 397, 875 3, 513, 473	1, 166, 670 3, 084, 799	6.8	5. 2	4. 8 12. 8
United Kingdom West Indies	4, 114, 802 4, 173, 809	4, 936, 414	5, 454, 592	17. 7 17. 9	13. 1 18. 4	22. 6
Other countries	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 Denmark	1, 369, 502 2, 900, 462	1, 472, 357 2, 493, 656	1, 665, 677 2, 581, 795	1. 3 2. 7	1.3 2.1	1. 6 2. 5
France	1, 898, 154	3, 892, 117	245, 712	1.9	3.3	. 2
Germany	15, 983, 006 2, 601, 039	14, 878, 393 1, 877, 494	13, 987, 054 1, 190, 630	15. 0 2. 4	12.7 1.6	13. 3 1. 1
Greece Netherlands	36, 106, 662	46, 629, 929	47, 052, 838	33. 9	39. 8	44.8
Newfoundland and Labrador	1, 662, 215	1, 168, 096	1, 522, 240 12, 133, 362	1.6	1.0	1. 5 11. 6
Norway Sweden	13, 868, 406 3, 945, 113	15, 956, 477 2, 676, 865	2, 383, 367	13. 0 3. 7	13. 6 2. 3	2. 3
Turkey in Europe	7, 640, 323	11, 148, 201	4, 123, 958	7. 2	9.5	3. 9
United Kingdom Other countries	14, 273, 236 4, 166, 682	11, 081, 989 3, 898, 686	14, 967, 025 3, 102, 720	13. 4 3. 9	9. 5 3. 3	14, 3 2. 9
Total	106, 414, 800	117, 174, 260	104, 956, 378	100. 0	100. 0	100. 0
Lard compounds, containing animal						
fats:	H 040 050	9 005 019	1 419 057	16.7	13. 1	12. 7
CubaCanada	7, 040, 959 1, 138, 542	3, 965, 013 416, 069	1, 413, 857 64, 281	16. 7 2. 7	1.4	. 6 2. 4
Canada Dutch West Indies	216, 971	253, 407	271, 488	. 5 9. 6	. 8 10. 0	2. 4
Germany Haiti	4, 064, 951 2, 173, 463	3, 046, 988 1, 883, 097	3, 473 1, 444, 849	5. 2	6. 2	13. 0
Jamaica	187, 815	232, 990	155, 905	20.4	.8 24.0	1. 4 24. 2
Mexico Norway	8, 617, 672 1, 944, 955	7, 277, 069 1, 397, 358	2, 692, 365 735, 077	4.6	4.6	6.6
Panama	568, 896	582, 151	357, 509	1.3	1. 9 5. 2	3. 2 3. 6
Trinidad and TobagoUnited Kingdom	2, 552, 258 6, 437, 413	1, 571, 869 4, 029, 319	400, 339 1, 555, 543	6. 1 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
Bacon: Belgium	29, 448, 217	16, 743, 147	23, 215, 436	6.0	4, 8	5. 7
Canada	12, 718, 278	11, 021, 627	9, 925, 008	2.6	3. 1	2. 4
Cuba	25, 302, 394 4, 901, 247	23, 461, 552 3, 623, 419	24, 829, 609 2, 456, 058	5. 2 1. 0	6. 7 1. 0	6. 1 . 6
France	5, 369, 021	9, 363, 454	7, 758, 436	1.1	2.7	1.9
GermanyItaly	81, 394, 461 14, 991, 337	53, 252, 825 2, 481, 361	74, 389, 003 9, 259, 356	16. 6 3. 1	15. 2 . 7	18. 2 2. 3
MexicoNetherlands	501, 994	416, 135 20, 847, 482	395, 045	.1	.1	. 1
Netherlands Norway	43, 420, 507 6, 681, 108	20, 847, 482 9, 146, 692	30, 971, 830 12, 268, 761	8. 9 1. 4	5. 9 2. 6	7. 6 3. 0
Sweden	7, 026, 778	6, 749, 329	9, 768, 261	1.4	1.9	2. 4
United Kingdom Other countries	244, 716, 102 12, 826, 665	184, 703, 155 8, 738, 774	188, 274, 240 14, 771, 022	50. 0 2. 6	52. 7 2. 6	46. 1 3. 6
Total	489, 298, 109	350, 548, 952	408, 282, 065	100. 0	100.0	100. 0
Hams and shoulders, cured:						
Belgium	6, 891, 317 8, 440, 532	.9, 690, 036 10, 663, 674	13, 978, 797 19, 535, 776	4. 0 4. 9	3. 6 3. 9	4. 4 6. 1
Canada Cuba Dominican Republic	12, 488, 850 414, 948	9, 070, 883	12, 784, 118	7.3	3.3	4.0
Dominican Republic	414, 948 1 479 095	321, 305 894, 348	325, 649 2, 142, 135	.2	.1	.7
France Mexico	1, 472, 925 1, 054, 760	889, 958	1, 027, 949	.6	.3	. 3
Mexico Newfoundland and Labrador	651, 647 434, 240	482, 578 472, 999	648, 577 630, 989	.4	.2	. 9
Panama United Kingdom	134, 038, 489	233, 566, 413	259, 430, 417	77. 9	86.0	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
<sup>1</sup> Preliminary.						

Table 659.—Destination of principal farm products exported from the United States, year ending June 30, 1921-1923—Continued.

			· · · · · · · · · · · · · · · · · · ·	1		
Article and country to which consigned.	1920-21	1921-22	1922–23 1	1920-21	1921-22	1922- 231
ANIMALS AND ANIMAL PRODUCTS—con.						
Lard:	Pounds.	Pounds.	Pounds.	P. ct.	P. ct.	P. ct.
Belgium	57, 962, 854 12, 225, 546 59, 938, 840	43, 591, 420	50, 472, 076 14, 218, 375 87, 897, 540	7.8	5.4	5. 3
Canada	12, 225, 546	8, 852, 480	14, 218, 375	1.6	1.0	1. 5
Canada Cuba Denmark Dominican Republic Ecuador	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
France	3, 127, 715 16, 467, 713	3, 501, 343 37, 069, 312	4, 515, 308 37, 801, 672	2.2	4.6	4. 0
FranceGermany	231, 527, 922	260, 716, 401	328, 111, 752	31. 0	32. 1	34, 4
Haiti Italy Mexico. Netherlands	1, 473, 590	1, 431, 574	1. 763. 529	. 1	. 2	. 2 3. 1
Italy	14, 171, 983 27, 303, 989	9, 051, 392	29, 570, 822	1. 9	1.1	3. 1
Mexico	27, 303, 989	44, 435, 678	1 44, 951, 072	3.7	5. 5	4.7
Netherlands	113, 867, 554	42, 830, 544	47, 802, 425	15.3	5. 3	5. (
Perii !	1, 912, 499	5, 118, 918	7, 799, 400	.3	. 6	.8
Poland and Danzig Sweden	6, 025, 749	2, 716, 022 5, 389, 566	6, 708, 091 5, 941, 585	.8	. 3	:6
Switzerland	4, 309, 678 3, 603, 960	3, 830, 264	2, 789, 067	.5	. 5	
Switzerland United Kingdom	169, 463, 848	244, 465, 234	241, 144, 099	22. 7	30. 1	25.
Venezuela	1, 565, 053	659, 156	2, 192, 440	. 2	.1	
VenezuelaOther countries	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. (
Lard, neutral:	<del></del>					
Belgium	359, 361	641,869	971, 168	1.6	3.3	3.7
Belgium Denmark	854, 640	1, 238, 503	1, 212, 976	3. 8	6.3	4.6
Germany	1, 152, 972	l 2, 618, 949	2, 059, 671	5.1	13.4	7.8
Netherlands	6, 730, 821	5, 910, 743 664, 227	8, 778, 345 784, 755	29.9	30. 2	33. 1
Germany Netherlands 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 3. 7	22.7	16. 3
Sweden	837, 549	1, 219, 533 2, 019, 690	1, 439, 750	38. 3	6. 2 10. 3	5. 4 20. 7
Sweden United Kingdom Other countries	8, 639, 136 981, 488	815, 032	5, 476, 907 1, 455, 788	4.3	4. 2	5. 4
Total	<del></del>					
	22, 544, 303	19, 572, 940	26, 494, 079	100, 0	100. 0	100. 0
Pork, pickled:	405 500	000 100	200 441		1	0.8
Belgium British Guiana	697, 720 748, 625	628, 129 696, 250	328, 441 972, 334	2. 1 2. 2	1.9	2.4
Pritish West Indice	2, 142, 641	9 711 472	3, 377, 783	6.4	2. 1 8. 1	8.3
British West IndiesCanada	13, 643, 887	10, 856, 771	13, 348, 745	41.0	32. 4	32.6
Cuba	2, 458, 216	10, 856, 771 1, 319, 231 1, 746, 028	13, 348, 745 1, 379, 111	7.4	3. 9	3, 4
Cuba Germany	888, 988	1,746,028	3, 523, 805	2. 7 2. 8	5. 2	8. €
Haiti	928, 952	1, 222, 747 4, 756, 298	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 United Kingdom	335, 540 2, 907, 794	1, 257, 909 4, 913, 655	1, 567, 944 5, 852, 630 4, 047, 281	1. 0 8. 7	3. 8 14. 7	3. 8 14. 3
Other countries	4, 386, 628	3, 401, 655	4 047 281	13. 2	10. 1	9.8
			40, 933, 756	100. 0	100. 0	100.0
Total	33, 286, 062	33, 510, 146	40, 933, 730	100.0	100.0	100.0
VEGETABLE PRODUCTS. Cotton:						
Austria	2, 930, 913 83, 008, 919	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 Czechoslovakia	23, 606, 195	67, 196, 247 397, 059	11, 556, 176	.8	2.0	.4
Czecnosiovakia	486, 404 295, 314, 944	410, 024, 663	495, 567 352, 099, 567	10. 5	12. 2	13. 4
France Germany		808, 336, 738	472, 823, 551	20. 5	24. 1	18. 0
Italy	279, 007, 548	1 234, 295, 065	286 034 186	9. 9	7. 0	10. 9
Japan	277, 445, 883	447, 683, 525	339, 579, 297	9. 9	13. 3	12.9
	35, 301, 222 49, 377, 121	447, 683, 525 3, 097, 263	339, 579, 297 7, 745, 906 37, 809, 219	1.3	.1	.3
Mexico		48, 101, 703	37, 809, 219 2, 099, 248	1.8	1.4	1.4
Mexico Netherlands	49, 377, 121			. 1	. 1	. 1
MexicoNetherlandsNorway	49, 377, 121 2, 339, 944	3, 261, 395	11 111 000	9	9	
Mexico Netherlands Norway Poland and Danzig	49, 377, 121 2, 339, 944 7, 383, 142	3, 261, 395 9, 081, 134 10, 277, 522	11, 111, 022	. 3	. 3	.4
Mexico. Netherlands Norway Poland and Danzig Portugal Spain	49, 377, 121 2, 339, 944 7, 383, 142 9, 632, 512	3, 261, 395 9, 081, 134 10, 277, 523 170, 775, 695	11, 111, 022	.3	.3	
México	49, 377, 121 2, 339, 944 7, 383, 142 9, 632, 512 130, 494, 795 28, 072, 334	9, 081, 134 10, 277, 523 170, 775, 695 26, 827, 106	11, 111, 022 14, 106, 863 125, 121, 820	.3 .3 4.6	.3 .3 5.1	4. 8 1. 2
Mexico Netherlands Norway Poland and Danzig Portugal Spain Sweden Switzerland	49, 377, 121 2, 339, 944 7, 383, 142 9, 632, 512 130, 494, 795 28, 072, 334 18, 562, 009	9, 081, 134 10, 277, 523 170, 775, 695 26, 827, 106	11, 111, 022 14, 106, 863 125, 121, 820 30, 295, 627 1, 569, 927	.3 .3 4.6 1.0	.3 .3 5.1 .8	4. 8 1. 2
Germany Italy Japan Mexico Netherlands Norway Poland and Danzig Portugal Spain Sweden Switzerland United Kingdom		9, 081, 134 10, 277, 523 170, 775, 695 26, 827, 106	11, 111, 022 14, 106, 863 125, 121, 820 30, 295, 627 1, 569, 927	3 4.6 1.0 .7 31.7	.3 .3 5.1 .8 .1 26.9	. 5 4. 8 1. 2 . 1 26. 7
México Netherlands Norway Poland and Danzig Portugal Spain Sweden Switzerland United Kingdom Other countries	49, 377, 121 2, 339, 944 7, 383, 142 9, 632, 512 130, 494, 795 28, 072, 334 18, 562, 009 891, 492, 053 16, 137, 575	9, 081, 134 10, 277, 523 170, 775, 695	11, 111, 022 14, 106, 863 125, 121, 820 30, 295, 627	.3 .3 4.6 1.0	.3 .3 5.1 .8	. 4 . 5 4. 8 1. 2 . 1 26. 7 1. 2

<sup>&</sup>lt;sup>1</sup> Preliminary.

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	1922- 23 1
VEGETABLE PRODUCTS—continued.						
· ·						
uits:	Boxes.2	Rozee	Boxes.	P. ct.	P. ct.	P. ct
Apples, fresh—	DULES.	Boxes. 4, 200	60, 777	2.00.	0.3	1.
ArgentinaCanada		59, 543	347, 919		4.3	10.
Canada Cuba Mexico Norway Philippine Islands United Kingdom Other countries		10, 365	49, 973		.7	1.
Movino		26, 011	103, 824		1.9	3.
Norway		57, 534	128, 537		4.1	3.
Philippina Islands		5, 987	91, 553			2.
United Kingdom		939, 675	2, 503, 633		67. 4	71.
Other countries		939, 675 291, 619	2, 503, 633 205, 028		20.9	6.
			3, 491, 244		100. 0	100.
Total		1, 394, 934			====	
	Barrels.	Barrels.	Barrels.	P. ct.	P. ct. 1. 2	P. ct
ArgentinaCanadaCubaMexico	14, 907 327, 561 40, 233	7, 857 44, 824	13, 083 47, 005	0.6 12.3	7. 1	7.
Canada	40 233	20, 523		1.5	3. 3	3.
Uuba	46, 500	20, 983	4, 414	1.7	3.3	
Mexico	74, 060	27, 839	13, 261	2.8	4.4	2
Thilipping Talanda	74, 960 11, 005	27, 839 8, 334	8	.4	1.3	
Tinited Vingdom	2, 061, 622	458, 227	480, 437	77.4	72.8	81
Norway  Philippine Islands  United Kingdom  Other countries	88, 313	40, 594	14, 217	3.3	6.6	2
Total	2, 665, 101	629, 181	592, 581	100.0	100.0	100.
	Pounds.	Pounds.	Pounds.	P. ct.	P. ct.	P. ci
Apricots, dried—	360 757	718, 651	394, 945 802, 276 1, 243, 494 3, 306, 111	4.4	4.3	3
BelgiumCanada	369, 757 792, 308	659, 949 1, 237, 817 3, 858, 817	802, 276	9. 5	3.9	7
Denmont	439, 563	1 237 817	1. 243, 494	5.3	7.4	11
Denmark France Germany	406, 964	3, 858, 817	3, 306, 111	4.9	23. 1	29
Commonst	406, 964 1, 093, 764	2, 477, 502	323, 556 405, 846 897, 500	13.1	14.8	2
Tenen	166, 430	220 170	405, 846	2. 0 10. 0	1.3	3
Japan Netherlands New Zealand Norway	923 119	220, 170 1, 642, 587	897, 500	10.0	9.8	8
Netnerlands	833, 112 98, 390	284, 150	226, 795	1. 2	1.7	2
New Zealand	400 661	808, 752	1, 085, 049	4.9	4.8	9
Norway	408, 661	970 145	801, 447	5. 9	5. 3	7
Sweden	493, 427	879, 145 3, 585, 399	1, 246, 608	34.5	21.4	11
Sweden United Kingdom Other countries	493, 427 2, 877, 419 352, 609	362, 670	459, 556	4.3	2. 2	4
Total	8, 332, 404	16, 735, 609	11, 193, 183	100. 0	100.0	100
		Porce	Boxes.	P. ct.	P. ct.	P. c
Oranges—	Boxes.	Boxes. 1, 531, 364 17, 515	1, 674, 105	91.0	93. 4	93
Canada	1,820,800	1, 001, 001	97 579	1.3	1.0	Ĭ
United KingdomOther countries	26, 594	01,010	27, 572 97, 535	7.7	5.6	Ē
Other countries	153, 347	91, 959				
Total	2, 000, 741	1, 640, 838	1, 799, 212	100.0	100.0	100
Prunes—	Pounds.	Pounds.	Pounds.	P. ct. 2.8	P. ct. 3.6	P. 6
Belgium	1, 602, 992 11, 296, 548	3, 945, 320	2, 515, 887		13.0	12
Canada	11, 296, 548	14, 253, 357	13, 951, 017	19.7 2.5	3.8	1
Belgium Canada Denmark	1, 458, 277 1, 740, 212	4, 133, 187	2, 003, 032 26, 586, 389	3.0	22.9	3
France Germany Mexico Netherlands New Zealand Norway	1, 740, 212	4, 133, 187 25, 063, 197 16, 669, 695	20, 580, 589	29.1	15. 2	٠,
Germany	16, 734, 550	16, 669, 695	263, 056		10. 2	1
Mexico	914, 626	700, 885	1, 029, 352	1.6	.6 4.1	
Netherlands	2, 489, 549	4, 441, 902 1, 204, 320	1, 771, 449 1, 520, 060	4.3	7.1	
New Zealand	445, 700	1, 204, 320	1, 520, 060	.8	1.1	!
Norway	2, 489, 549 445, 700 123, 977	563, 781	742, 431	. Z	5. O	
Sweden	3, 022, 827	5, 489, 977	4, 864, 105	5. 3.	27.0	2
United Kingdom	15, 504, 011	29, 561, 264	4, 864, 105 18, 905, 239 5, 076, 736	27.0	3.2	1
Sweden United Kingdom Other countries	3, 022, 827 15, 504, 011 2, 127, 515	5, 489, 977 29, 561, 264 3, 371, 248		3.7		
, Total	57, 460, 784	109, 398, 133	79, 228, 753	100.0	100.0	10
Fruits, canned—	Dollars.	Dollars.	Dollars.	P. ct.	P. ct. 0. 9	P.
Belgium	131, 517	149, 831	102,098	1.0 15.1	4.1	
Belgium Canada	131, 517 1, 983, 524 2, 497, 175	149, 831 679, 743 38, 601	162, 098 1, 136, 681	19. 0	1 . 7 .	
Chipa	2, 497, 175	38, 501	477, 333 300, 049	2.0	1.4	
Dutch East Indies	250, 115	229, 578	500,049	2.0	2.7	;
		435, 083	711, 183	. 6	2.4	'
	195, 893	229, 578 435, 083 107, 689	220, 449	1.5	.7	l
Netherlands		1 64 991	114, 438	1.7	1 .4	1
Netherlands Norway	. 89, 206	77777				
Netherlands Norway Philippine Islands	89, 206 223, 997	46, 471	126, 260	1.7	3	-
Netherlands Norway Philippine Islands	89, 206 223, 997 5, 938, 918	46, 471 13, 688, 171	126, 260 17, 469, 329	1 45.2	83.6	7
Netherlands Norway Philippine Islands	89, 206 223, 997 5, 938, 918 1, 734, 151	46, 471 13, 688, 171 933, 061	114, 438 126, 260 17, 469, 329 1, 761, 487	45. 2 13. 2	83. 6 5. 7	7
Netherlands Norway. Philippine Islands United Kingdom Other countries	89, 206 223, 997 5, 938, 918 1, 734, 151	46, 471 13, 688, 171	126, 260 17, 469, 329 1, 761, 487 22, 479, 307	1 45.2	83. 6 5. 7	10

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> 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.

Article and country to which consigned.	1920-21	1921-22	1922-23 1	1920–21	1921-22	1922- 23 <sup>1</sup>
VEGETABLE PRODUCTS—continued.	•					
Glucose:	Pounds.	Pounds.	Pounds.	P. ct. 2. 3	P. ct. 1. 4	P. ct. 2. 9
Argentina Belgium	2, 864, 562 5, 074, 544	3, 544, 514 13, 725, 027 2, 926, 270	4, 485, 924 6, 384, 683	4.0	5. 3	4.1
Belgium British South Africa		2, 926, 270	6, 384, 683 3, 737, 884	1. 5	1.1	4. 1 2. 4
Cuba	3, 469, 071	4, 595, 089 748 445	2, 277, 590	2.8	1.8	1.5
Canada Cuba Egypt France Germany Greece Italy Nathorlands	1, 065, 412 265, 441	748, 445 4, 578, 321	2, 037, 531 11, 091, 619	.2	1.8	1. 5 1. 3 7. 1 . 8 1. 1
France	2, 651, 160	7, 240, 544	1 1, 322, 484	2, 1 9, 2	2.8	1.8
Greece	11, 642, 850 3, 668, 682	26, 104, 465 4, 603, 104	1, 794, 295 3, 585, 359	2.9	10. 1 1. 8	
Italy	3, 198, 491	4, 603, 104 1, 277, 617	3, 585, 359 1, 202, 379	2. 9 2. 5	. 5 5. 5	.8 1.5
Netherlands Norway	4, 375, 458 1, 799, 460	14, 205, 088	2, 307, 945 2, 293, 564	3. 5 1. 4	5.5	1.5
United Kingdom	69, 117, 895	2, 262, 350 147, 372, 616	93, 154, 723	54.9	57. 0	1. 5 59. 6
United Kingdom Other countries	14, 843, 729	25, 264, 443	20, 638, 659	11. 9	9. 7	13. 1
Total	125, 972, 386	258, 447, 893	156, 314, 639	100. 0	100. 0	100.0
Grain and grain products: Corn—	Bushels.	Bushels.	Bushels.	P. et	P. ct	P. ct.
Belgium	954, 639	4, 470, 782	1 930 687	P. ct. 1. 4	P. ct.	2, 1
Canada	20, 297, 783 2, 120, 865	61, 643, 197	32, 153, 890	1 30.3	34.9	34. 2
Cuba	2, 120, 865 4, 401, 431	2, 694, 132 7, 265, 933	32, 153, 890 2, 778, 141 3, 320, 120	3. 2 6. 6	1. 5 4. 1	3. 0 3. 5
France Germany Italy Mexico Notherlands	165 356	2, 974, 911	3, 174, 108	. 2	1.7	3.4
Germany	10, 844, 405 27, 181 5, 635, 328	27, 175, 436 1, 427, 604 10, 101, 521	11, 806, 514 960, 110	16. 2	15.4	12. 6 1. 0
Mexico	5, 635, 328	10, 101, 521	288, 487	8. 4	. 8 5. 7	.3
Netherlands	10, 143, 083	22, 839, 667	13, 961, 586	15. 2	12. 9	14.8
Norway Russia in Europe	17, 290	1, 066, 991 5, 872, 684	823, 113 3, 392		. 6 3. 3	. 9
Spain	12, 000	2, 208, 652	422, 375		1. 3	. 4
United Kingdom Other countries	12, 000 11, 422, 506 868, 626	22, 074, 350 4, 569, 754	21, 271, 080 1, 170, 390	17. 1 1. 4	12. 5 2. 8	22. 6 1. 2
	66, 911, 093	176, 385, 614	94, 064, 053	100.0	100. 0	100.0
Total	00, 911, 093	170, 383, 014	91,001,000	100.0	100.0	100.0
Wheat— Relgium	26, 287, 508	17, 526, 947	11, 345, 230	9. 0	8.4	7.3
Belgium Canada	26, 287, 508 10, 746, 857	17, 526, 947 29, 341, 265 2, 033, 553	11, 345, 230 31, 992, 628 1, 106, 580	3.7	14.1	20.6
	94 204 405	2, 033, 553	1, 106, 580 14, 750, 870	8. 3	1.0 2.7	. 7 9. 5
France Germany Gibraltar Italy	24, 394, 485 25, 526, 994 6, 606, 255	5, 694, 338 21, 782, 679	8, 492, 567	8.7	10.5	5. 5
Gibraltar	6, 606, 255	21, 782, 679 2, 079, 257	8, 492, 567 1, 096, 580	2. 3	1.0	. 7 21. 8
Italy	57, 123, 068 1, 206, 791	35, 656, 391 11, 002, 363	33, 771, 801 5 353, 422	19.5	17. 1 5. 3	3. 5
Netherlands	21, 379, 062 1, 054, 288	11, 002, 363 19, 257, 764 262, 671	5, 353, 422 12, 246, 730 1, 241, 986	7.3	9. 2	7.9
Norway	1, 054, 288	262, 671	1, 241, 986	.4	.1	.8
Russia in Europe	1, 537, 565 36, 230	808, 666 775, 817	85, 274		.4	. 1
Spain	9, 164, 153	2, 448, 806 1	85, 274 23, 997	3. 1	1.2	
Japan Netherlands Norway Portugal Russia in Europe Spain United Kingdom Other countries	88, 784, 515 19, 419, 866	48, 808, 181 10, 842, 393	28, 237, 471 5, 205, 835	30. 3 6. 5	23. 4 5. 2	18. 2 3. 4
Total	293, 267, 637	208, 321, 091	154, 950, 971	100. 0	100. 0	100. 0
Wheat flour—	Barrels.	Barrels.	Rarrels		P. ct.	P. ct.
Belgium	565, 191	192 470	42, 072	P. ct. 3. 5	0.81	0. 3
Brazil British West Africa	622, 066 55, 600	327, 018	477, 568 108, 703	3. 8 . 3	2. 1	3. 2 . 7
Canada	35, 501	65, 574 68, 216	42, 072 477, 568 108, 703 66, 936	. 2	.4	. 4
Canada Central America	426, 615	499 827 1	201,000	2. 6,	3. 2	3. 6
China	10, 400 986 341	228, 871 1, 068, 721	1, 475, 843 1, 088, 582	6.1	1. 4 6. 8	9. 9 7. 3
Cuba Denmark	986, 341 87, 173	359.403 (	194, 899	.5	2.3	1. 3
Egypt	492 873 1	190, 224	293, 147 299, 853	3. 0 1. 8	1. 2 2. 7	2. 0 2. 0
Germany	295, 202 1, 988, 070	432, 881 1, 516, 353	1, 062, 684	12.3	9.6	7. 1
Egypt	419, 917	63, 810 1	317, 738 281, 000	2.6	1.0	2. 1
Haiti Hongkong Italy	419, 917 210, 762 142, 495	162, 488 973, 255	281, 000 825, 197	1.3	1. 0 6. 2	1. 9 5. 5
Italy	315, 277	50, 058 1	54, 280 244, 560	1.9	4.0	. 4
Japan	. 18, 598	629, 012 344, 567	244, 560	.1	4. 0 2. 2	1.6
Kwantung, leased territory Mexico	359, 893	344, 567 245, 670	384, 909 365, 664	2. 2	1.6	2. 6 2. 5
Netherlands	1, 263, 405	917, 560	982, 736	7.8	5.8	6.6
NorwayOther West Indies	242, 134	408, 410 508, 775	216, 555	1. 5 3. 7	2. 6 3. 2	1. 5 3. 2
Other West Indies	593, 549	508, 775	473, 121	3. 7	3. 2	3.

<sup>&</sup>lt;sup>1</sup> Preliminary.

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	1922- 23 <sup>1</sup>
VEGETABLE PRODUCTS—continued.						
Grain and grain products—Continued. Wheat flour—Continued. Panama. Philippine Islands Poland and Danzig	Barrels. 116, 281 197, 704 1, 034, 632	Barrels. 95, 120 333, 046 146, 744	Barrels. 88, 240 469, 838 158, 785	P. ct. 0. 7 1. 2 6. 4	P. ct. 0. 6 2. 1 . 9	P. ct. 0. 6 3. 2 1. 1
Russia in Europe Sweden Turkey in Europe United Kingdom Venezuela Other countries	91, 510 223, 482 579, 761 3, 090, 158 148, 855 1, 566, 511	154, 472 137, 734 1, 381, 963 3, 190, 762 77, 308 1, 095, 503	313, 800 105, 507 472, 378 1, 913, 833 83, 061 1, 483, 357	. 6 1. 4 3. 6 19. 1 . 9 9. 9	1. 0 . 9 8. 7 20. 2 . 5 6. 9	2. 1 . 7 3. 2 12. 9 . 6 9. 9
Total	16, 179, 956	15, 796, 824	14, 882, 714	100. 0	100. 0	100. 0
Hops: Australia Belgium Canada United Kingdom Other countries	Pounds. 982, 200 1, 911 2, 680, 251 17, 465, 538 1, 076, 128	Pounds. 488, 666 1, 292, 799 2, 762, 124 13, 845, 499 1, 132, 559	Pounds. 382, 633 6, 852, 576 3, 031, 538 2, 351, 919 878, 517	P. ct. 4. 4 12. 1 78. 7 4. 8	P. ct. 2. 5 6. 6 14. 1 70. 9 5. 9	P. ct. 2. 8 50. 8 22. 5 17. 4 6. 5
Total	22, 206, 028	19, 521, 647	13, 497, 183	100. 0	100. 0	100. 0
Oil cake and oil-cake meal: Cottonseed cake— Denmark Germany Sweden United Kingdom Other countries	274, 809, 012 35, 805, 649 28, 880, 847 12, 695, 593 7, 795, 755	264, 890, 758 117, 369, 484 20, 929, 920 10, 955, 664	195, 357, 016 132, 347, 954 4, 264, 960 7, 775, 307	76. 3 9. 9 8. 0 3. 5 2. 3	63. 8 28. 3 5. 0 2. 6	57. 0 38. 6 1. 2 2. 3
Total	359, 986, 856	1, 110, 853 415, 256, 679	2, 798, 957 342, 544, 194	100. 0	100. 0	100.0
Cottonseed meal— Belgium. Canada Germany. Netherlands.	1, 568, 000 12, 182, 904 3, 894, 472	4, 812, 760 4, 146, 348 6, 953, 787 1, 927, 000 13, 710, 014	3, 603, 903 2, 627, 740 3, 566, 500 3, 284, 869	1. 7 12. 9 4. 1	4. 1 3. 5 5. 9 1. 6	3. 2 2. 4 3. 2 2. 9
Norway	22, 942, 354 44, 164, 851 9, 961, 384	13, 710, 014 75, 395, 136 10, 518, 912	11, 201, 439 83, 015, 447 4, 505, 912	24. 2 46. 6 10. 5	11. 7 64. 2 9. 0	10. 0 74. 2 4. 1
Total	94, 713, 965	117, 463, 957	111, 805, 810	100. 0	100. 0	100. 0
Linseed or flaxseed cake— Belgium Germany Netherlands United Kingdom Other countries	43, 385, 083 43, 346, 153 221, 094, 838 57, 656, 302 7, 596, 675	152, 114, 660 6, 435, 135 276, 237, 018 27, 731, 137 6, 879, 426	91, 655, 770 16, 215, 405 351, 445, 009 69, 518, 709 7, 720, 345	11. 6 11. 6 59. 3 15. 5 2. 0	32. 4 1. 4 58. 8 5. 9 1. 5	17. 1 3. 0 65. 5 13. 0 1. 4
Total	373, 079, 051	469, 397, 376	536, 555, 238	100. 0	100. 0	100. 0
Oils, vegetable: Cottonseed— Argentina. Canada Chile. Cuba. Denmark Dominican Republic. Germany Greece. French Guiana. French West Indies. Italy. Mexico. Netherlands. Norway. Panama. United Kingdom. Uruguay. Other countries.	4, 457, 145 9, 413, 933 1, 111, 594	3, 384, 751 38, 492, 691 1, 372, 553 2, 914, 611 - 7, 867, 772 723, 408 1, 099, 753 87, 962 525, 554 2, 623, 449 4, 265, 064 9, 436, 843 831, 898 2, 526, 698 2, 933, 942 7, 567, 176	3, 840, 798 26, 558, 615 4, 174, 868 3, 442, 620 1, 705, 792 361, 201 302, 320 493, 331 231, 380 206, 099 6, 711, 448 1, 312, 695 5, 155, 490 342, 188 1, 997, 893 5, 903, 295 64, 301, 231	0.7 13.6 .3 1.6 3.3 .4 3.0 .5 .2 .6 9.9 2.4 42.3 3.7 .4 8.6 .5 8.0	3. 7 42. 0 1. 5 3. 2 8. 6 . 8 1. 2 . 6 2. 9 1. 0 3. 6 4. 7 10. 3 8. 1	6. 0 41. 3 6. 5 5. 4 2. 7 7 1. 6 6 . 5 . 8 . 4 2. 0 8. 0 8. 0 8. 0 8. 1 10. 4 2. 0 8. 0 8. 1 10.

<sup>&</sup>lt;sup>1</sup> Preliminary

Table 659.—Destination of principal farm products exported from the United States, year ending June 30, 1921–1923—Continued.

Biales, year enail		10.01	Continu			
Article and country to which consigned.	1920–21	1921-22	1922-23 1	1920-21	1921-22	1922- 23 <sup>1</sup>
VEGETABLE PRODUCTS—continued.						
Tobacco, leaf: Argentina Australia Belgium British West Africa Canada China Denmark France French Africa Germany	Pounds. 3, 628, 318 24, 545, 292 25, 172, 310 6, 872, 086 16, 327, 521 20, 916, 701 5, 388, 533 60, 724, 974 3, 314, 366 18, 823, 658	Pounds. 1, 065, 975 15, 241, 757 21, 610, 307 7, 143, 013 13, 117, 029 22, 945, 067 3, 829, 171 43, 166, 050 2, 853, 526 29, 988, 577	Pounds. 2, 486, 390 18, 030, 795 22, 966, 563 10, 330, 701 14, 131, 230 39, 792, 536 5, 037, 335 37, 638, 320 5, 292, 900 30, 680, 022	P. ct. 0. 7 4. 9 5. 1 1. 4 3. 3 4. 2 1. 1 12. 2 . 7 3. 8	P. ct. 0. 2 3. 4 4. 8 1. 6 2. 9 5. 1 . 8 9. 6 6. 6	P. ct. 0. 6 4. 6 5. 2 3. 8 8. 8 1. 2 6. 9
Haiti Hongkong Italy Japan Mexico Netherlands Norway Portugal Spain Sweden Switzerland United Kingdom Other countries	1, 165, 710 2, 921, 921 46, 858, 059 2, 226, 923 1, 771, 042 24, 155, 164 3, 267, 365 3, 790, 615 1, 394, 709 6, 230, 431 2, 866, 975 204, 672, 607 9, 843, 550	1, 409, 940 648, 145 46, 971, 663 2, 339, 513 2, 542, 100 19, 870, 686 3, 622, 038 5, 814, 821 12, 534, 194 4, 231, 477 2, 685, 712 178, 817, 343 9, 440, 332	1, 430, 497 1, 394, 714 42, 400, 610 2, 471, 857 435, 837 16, 901, 535 3, 425, 895 5, 714, 648 12, 794, 761 5, 919, 714 2, 056, 692 152, 700, 297 11, 152, 623	. 2 . 6 9. 4 . 4 . 4 . 7 . 7 . 8 . 3 1. 3 . 6 41. 2	.3 .1 10.4 .5 .6 4.4 .8 1.3 2.8 .9 .6 39.6 2.1	9. 8 9. 8 1. 8 2. 9 1. 3 34. 8 2. 4
Total	496, 878, 830	451, 888 <b>, 4</b> 36	445, 186, 472	100. 0	100.0	100.0
FOREST PRODUCTS.						
Naval stores:  Rosin— Argentina Australia Belgium Brazil Canada Cuba Dutch East Indies Germany Italy Japan Netherlands Sweden United Kingdom Uruguay Other countries	Barrels. 114, 088 30, 631 27, 766 106, 300 79, 784 21, 755 19, 927 70, 744 17, 156 19, 050 11, 534 18, 772 276, 927 14, 043 48, 632	Barrels. 89, 643 14, 857 21, 969 88, 842 49, 802 13, 719 31, 961 115, 247 17, 711 44, 146 12, 833 16, 943 205, 681 9, 962 52, 797	Barrels. 86, 328 10, 830 22, 660 103, 318 58, 698 16, 022 46, 215 162, 485 34, 827 86, 739 16, 917 27, 148 277, 269 14, 765 75, 585	P. ct. 13.0 3.5 3.2 12.1 9.1 2.5 2.3 8.1 1.0 2.2 1.3 2.1 31.6 5.4	P. ct. 11. 4 1. 9 2. 8 11. 3 6. 3 1. 7 4. 1 14. 7 2. 3 5. 6 1. 6 2. 2 26. 2 1. 3 6. 6	P. ct. 8.3 1.0 2.2 9.9 5.6 1.5 4.4 15.6 2.6 2.6 7.6
Total	877, 109	786, 113	1, 039, 806	100.0	100. 0	100. (
Turpentine, spirits of— Argentina Australia Belgium Brazil British South Africa Canada Germany Netherlands United Kingdom Other countries	Gallons. 500, 467 519, 437 505, 233 282, 603 94, 743 940, 531 522, 142 621, 265 5, 207, 872 547, 418	Gallons. 455, 009 596, 074 772, 324 217, 634 71, 987 973, 587 835, 407 899, 236 5, 491, 387 473, 635	Gallons. 397, 356 481, 344 291, 953 130, 229 75, 452 884, 849 491, 331 706, 906 5, 012, 968 539, 916	P. ct. 5. 1 5. 3 5. 2 2. 9 1. 0 9. 6 5. 4 6. 4 53. 5 5. 6	P. ct. 4. 2 5. 5 7. 2 2. 0 . 7 9. 0 7. 7 8. 3 50. 9 4. 5	P. ct. 4. 4. 4. 5. 3. 2. 1. 4. 5. 5. 5. 5. 6. 2.
Total	9, 741, 711	10, 786, 280	9, 012, 304	100. 0	100. 0	100. 0
Lumber:  Fir—  Australia  British South Africa  Canada  Chile  China  Cuba  Japan  Mexico  Peru  United Kingdom  Other countries	M feet. 49, 202 4, 239 10, 297 13, 113 88, 706 4, 615 68, 988 6, 527 57, 638 28, 856 46, 888	M feet. 60, 905 3, 798 2, 564 5, 477 118, 061 3, 443 397, 484 8, 141 44, 024 9, 813 24, 683	M feet. 77, 819 15, 725 11, 185 14, 420 68, 121 8, 509 185, 259 12, 494 34, 479 15, 144 25, 133	P. ct. 13.0 1.1 2.7 3.5 23.4 1.2 18.2 1.7 15.2 7.6 12.4	P. ct. 9.0 .6 .4 .8 17.4 .5 58.6 1.2 6.5 1.4 3.6	P. ct. 16. 6 3. 4 2. 4 3. 1 14. 5 1. 8 39. 6 2. 7 4 3. 2 5. 3
Total	379, 069	678, 393	468, 288	100. 0	100. 0	100.
1 Preliminary.	910,000		200, 200	100.0	2.50.0	

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 659.—Destination of principal farm products exported from the United States, year ending June 30, 1921-1923—Continued.

	·				
1920-21	1921-22	1922-23 1	1920-2	1 1921-22	1922-
3, 195 832 33, 600 2, 327	8, 174 567 23, 991	10, 101 1, 309 37, 879	P. ct. 6. 9 4. 1 1. 1 43. 2 3. 0	P. ct. 7. 9 9. 3 . 6 27. 4	P. ct. 6. 6 7. 3 . 9 27. 4 1. 0
25, 484 721	553 42, 184 1, 268 3, 074	. 67, 544 2, 042	2. 4 32. 8 . 9 5. 6	.6 48.2 1.4 3.7	1.3 48.9 1.5 5.1
77, 778	87, 527	138, 118	100.0	100.0	100.0
14, 021 28, 885 158, 563 12, 377 1, 390 1, 625 113, 757 1, 186 31, 264 6, 852 11, 176 35, 870 9, 271 16, 555	120, 174 27, 405 15, 420 61, 001 5, 384 7, 003 8, 400 60, 262 7, 542 26, 695 4, 626 20, 317 39, 827 12, 206 41, 761	178, 200 14, 217 32, 910 125, 354 5, 519 6, 265 10, 638 54, 495 5, 817 37, 574 4, 202 21, 846 41, 261 15, 203 34, 021	13. 6 2. 7 5. 6 30. 9 2. 4 . 3 . 22. 2 . 2 6. 1 1 1. 3 2. 2 2 7. 0 1. 8 3. 4	26. 2 6. 0 3. 4 13. 3 1. 2 1. 5 1. 8 13. 2 1. 6 5. 8 1. 0 4. 4 8. 7 9. 2	30.3 2.4 5.6 6 21.3 9 3.1.1 1.8 9.3 1.0 6.4 7 7.0 2.6 5.9
Number. 1, 519, 996 131, 771 66, 193 78, 141 259, 972 165	Number. 843, 770 6, 115 2, 012 65, 325 218, 506	Number. 614, 412 36, 016 23, 935 39, 841 153, 811 481, 947 233, 382	P. ct. 30. 2 2. 6	P. ct. 43. 8 .3 .1 3. 4 11. 3 3. 5	P. ct. 25. 0 1. 5 1. 0 1. 6 6. 3 19. 6 9. 5
362, 340 5, 775 184, 408 1, 598, 114 832, 963 5, 039, 838	397, 552 12, 109 45, 509 73, 606 195, 599 1, 928, 526	282, 933 117, 963 103, 400 33, 181 338, 722 2, 459, 543	7. 2 . 1 3. 7 31. 7 16. 4	20. 6 . 6 2. 4 3. 8 10. 2	11. 5 4. 8 4. 2 1. 3 13. 7
	M feet. 5, 347 3, 195 832 33, 6000 2, 327 1, 881 25, 484 7, 71 4, 391 77, 778  69, 857 14, 021 28, 885 158, 563 12, 377 1, 390 1, 625 113, 757 1, 186 31, 264 6, 852 11, 176 6, 852 11, 176 35, 870 9, 271 16, 555 512, 649  Number. 1, 519, 996 131, 771 66, 193 78, 141 259, 972 165 362, 340 5, 775 184, 408 1, 588, 114 832, 963	M feet.	M feet.	M feet. M feet. 9, ct. 5, 347 6, 932 9, 155 6, 9 3, 195 8, 174 10, 101 4, 1 33, 600 23, 991 37, 879 43, 2 2, 327 784 1, 393 3, 0 1, 881 553 1, 787 2, 4 25, 484 42, 184 67, 544 32, 8 4, 391 3, 074 6, 908 5, 6 77, 778 87, 527 138, 118 100, 0  60, 857 120, 174 178, 200 13, 6 14, 021 27, 405 14, 217 2, 7 28, 855 15, 420 32, 910 5, 6 158, 563 61, 001 125, 354 30, 9 12, 377 5, 384 5, 519 2, 4 1, 390 7, 003 6, 265 3 1, 625 8, 400 10, 638 3 1, 625 8, 400 10, 638 3 1, 625 8, 400 10, 638 3 1, 625 8, 400 10, 638 3 1, 13, 757 60, 262 54, 495 22, 2 1, 186 7, 542 5, 817 2 31, 264 26, 695 37, 574 6, 1 6, 852 4, 626 4, 202 1, 3 11, 176 20, 317 21, 846 2, 2 31, 204 26, 695 37, 574 6, 1 6, 852 4, 626 4, 202 1, 3 11, 176 20, 317 21, 846 2, 2 35, 870 39, 827 41, 261 7, 0 9, 271 12, 206 15, 203 1, 8 16, 555 41, 761 34, 021 3, 4  512, 649 458, 023 587, 522 100, 0  Number. Number. Number. 1, 519, 996 843, 770 36, 016 2, 6 66, 193 2, 012 39, 841 1, 3 78, 141 65, 325 153, 811 1, 6 66, 193 7, 755 12, 109 117, 963 1, 1 184, 408 45, 509 103, 400 3, 7 2, 598, 114 73, 606 33, 181 31, 7 184, 408 45, 509 103, 400 3, 7 1, 588, 114 73, 606 33, 181 31, 7 1, 582, 963 195, 599 338, 722 16, 4	M feet. M feet. 9, 155 6, 9 7, 9 3, 195 8, 174 10, 101 4, 11 9, 3 33, 600 23, 991 37, 879 43, 2 27, 4 6, 932 1, 309 1, 1 6, 6 23, 327 784 1, 309 1, 1 6, 6 25, 484 42, 184 67, 544 32, 8 48, 2 4, 391 3, 074 6, 908 5, 6 3, 7 77, 778 87, 527 138, 118 100, 0 100, 0  60, 857 120, 174 178, 200 13, 6 26, 2 14, 021 27, 405 14, 217 2, 7 6, 0 28, 855 15, 420 32, 910 5, 6 3, 4 158, 563 61, 001 125, 354 30, 9 13, 3 12, 377 5, 384 5, 519 2, 4 1, 2 1, 390 7, 003 6, 265 3, 1, 13, 757 60, 262 54, 495 22, 2 1, 186 7, 542 5, 817 2 1, 186 7, 542 5, 817 2 1, 186 7, 542 5, 817 2 1, 186 7, 542 5, 817 2 1, 11, 176 20, 317 21, 846 2, 24 4, 4, 20 1, 31, 20 1, 11, 176 20, 317 21, 846 2, 24 4, 4, 20 1, 31, 204 36, 857 0, 39, 827 41, 261 7, 0 8, 7 9, 271 12, 206 15, 203 1, 8 2, 7 16, 555 41, 761 34, 021 30, 2 2 17, 30, 30, 20, 30, 30, 30, 30, 30, 30, 30, 30, 30, 3

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.

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	1922- 23 <sup>1</sup>
ANIMALS AND ANIMAL PRODUCTS.  Cattle: Canada	Number. 307, 202 20, 184 1, 650 938	Number. 128, 803 22, 076 246 408	Number. 230, 227 20, 301 737 12, 622	P. ct. 93. 1 6. 1 . 5 . 3	P. ct. 85. 0 14. 6 . 2 . 2	P. ct. 87. 2 7. 7 . 3 4. 8
Total	329, 974	151, 533	263, 887	100.0	100.0	100.0
Horses: Canada. Mexico. United Kingdom. Other countries.	3, 633 98 210 103	2, 566 293 188 89	2, 165 203 310 138	89. 8 2. 4 5. 2 2. 6	81. 8 9. 3 6. 0 2. 9	76. 9 7. 2 11. 0 4. 9
Total	•4, 044	3, 136	2,816	100. 0	100. 0	100. 0
1 Preliminary	,				,	

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 660.—Origin of principal farm products imported into the United States, year ending June 30, 1921-1923—Continued.

	·	1	1	1		1
Article and country of origin.	1920-21	1921-22	1922–23 1	1920-21	1921-22	1922- 23 1
ANIMALS AND ANIMAL PRODUCTS—con.						
Butter, including substitutes:	Pounds.	Pounds.	Pounds.	P. ct.	P. ct.	P. ct.
Argentina Australia	3, 420, 925	403, 538	793, 479	10.0	4. 2	5. (
Canada	5, 605 4, 969, 770	2, 055, 537 3, 101, 084	130, 036	14. 5	21. 5 32. 5	19.0
Denmark	22, 822, 785	2, 888, 338	2, 999, 355 7, 371, 147	66. 5	30. 2	46.7
Denmark Netherlands	22, 822, 785 1, 451, 046	91, 117	109, 861	4.2	1.0	1:
New Zealand	1, 327, 239 3, 441	845, 065 70, 991	3, 887, 174 369, 106	3.9	8.8	24. 0 2. 3
New Zealand United Kingdom Other countries	342, 842	95, 622	112, 127	. 9	1.1	-
Total	34, 343, 653	9, 551, 292	15, 772, 285	100. 0	100. 0	100.
Cheese, including substitutes:		T 400 010	4 000 545	50.0	10.4	7. 1
ArgentinaCanada	9, 827, 075	5, 626, 213	4, 000, 545 5 858 305	59. 3 1. 9	16. 4 14. 1	10.
France	2, 417, 036	2, 260, 502	5, 858, 305 4, 537, 008	14.6	6.6	8.
France Greece	311, 226 2, 417, 036 84, 716	5, 626, 213 4, 823, 777 2, 260, 502 808, 433	099 987	. 5	2. 4	1.
	1, 185, 912 981, 074	1 2.000.090	20, 571, 704 2, 147, 774 468, 419	7. 2 5. 9	35. 3 4. 7	37. 3.
Netherlands Norway Spain	89, 895	1, 614, 852 236, 290	468, 419	.5		, v.
Spain	125, 366	531, 020	12, 591	.8	1.5	l
Switzerland	1, 068, 100 37, 870	5, 450, 139	14, 765, 121	6.4	15. 9	27. 1.
Spain Switzerland United Kingdom Other countries	37, 870 456, 408	261, 051 572, 634	531, 157 740, 559	2.7	. 8 1. 6	i.
Total	16, 584, 678	34, 270, 604	54, 555, 270	100. 0	100. 0	100.
ibers, animal:						
Silk, raw—	0.005.070	7 200 677	10 504 049	21. 1	15. 2	20. 1
China	6, 205, 278 446, 733	7, 328, 677 259, 414	10, 584, 948 408, 684	1.5	. 5	5
France Italy	1, 772, 532	1,613,784	1.818.206	6.0	3.3	3. 8
Japan Other countries	20, 815, 912 222, 290	38, 590, 110 386, 979	37, 989, 046 1, 882, 720	70.7	80.1	72. I
	29, 462, 745	48, 178, 964	52, 683, 604	100.0	100.0	100.0
Total	29, 462, 745	48, 178, 904	32, 083, 004	100.0	100.0	100.0
Wool, unmanufactured— Carpet, wool—			·			
Argentina British India	5, 883, 343	12, 354, 133	8, 695, 254	11.9	8.3	5.1
British India	154, 623	12, 354, 133 3, 022, 867 100, 493	8, 695, 254 3, 696, 097 220, 748	.3 3.1	2.0 .1	<b>2.</b> 2
British South Africa Chile	1, 537, 866 384, 907	25, 275 1	86. 119	.8		
China	15, 270, 730	66, 679, 144 1, 022, 300	65, 139, 698 1, 021, 014	30.9	44.8	38.
Denmark France	394, 625	1, 022, 300 3, 641, 970	1, 021, 014 6, 156, 173	.8	.7 2.4	3.
Garmany	357, 009 329, 637	2, 060, 172	4, 205, 049	.7	1.4	2.
Germany Greece	329, 637 22, 703	60, 501	175, 175			. 1
Italy Palestine and Syria	56, 170	4, 141, 621	6, 062, 134	.1	2.8	3. 5 1. 7
	511, 350	219, 789 211, 998	2, 850, 141 996, 353	1.0	.1	
Persia	311, 483	381, 049	681, 433	.6	. 3	. 4
Turkey in Asia	311, 483 364, 737	278, 960	2, 456, 828	.7	.2	1.4
United Kingdom	19, 179, 545	50, 241, 626 587, 337	60, 859, 099 266, 526	38. 8 5. 1	33.8	<b>3</b> 5. 7
Other countries	2, 536, 672 2, 152, 590	3, 757, 671	6, 800, 545	4.5	2.6	4. 1
Fersia. Spain	49, 447, 990	148, 786, 906	170, 368, 386	100. 0	100. 0	100. (
Clothing, wool-		2 022 222	0 700 070	20.0	10.0	00 1
Argentina	92, 700, 500	6, 002, 098	u 762 858	36.9	18. 3	22.
1 1	20, 020, 620	0,002,000	5 105 799		26.2	11 (
Australia	39, 032, 638 18, 187, 739	8, 610, 375 1, 842, 901	5, 195, 722 1, 225, 269	15. 5 7. 2	26. 2 5. 6	2.8
Australia British South Africa	18, 187, 739 8, 656, 806	8, 610, 375 1, 842, 901 726, 928	9, 762, 858 5, 195, 722 1, 225, 269 3, 465, 426	15. 5 7. 2 3. 4	26. 2 5. 6 2. 2	2. 8 7. 9
Australia British South Africa Canada Chile	39, 032, 638 18, 187, 739 8, 656, 806 13, 727, 089	8, 610, 375 1, 842, 901 726, 928	3, 465, 426	15. 5 7. 2 3. 4 5. 5	26. 2 5. 6 2. 2 3. 4	2. 8 7. 9 2. 4
Australia British South Africa Canada Chile	39, 032, 638 18, 187, 739 8, 656, 806 13, 727, 089	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992	3, 465, 426 1, 036, 420 334, 253	15. 5 7. 2 3. 4 5. 5 3. 4	26. 2 5. 6 2. 2 3. 4	2.8 7.9 2.4
Australia. British South Africa Canada Chile China New Zealand	39, 032, 638 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7	26. 2 5. 6 2. 2 3. 4 . 2 8. 5	2.8 7.9 2.4 1.8
Australia. British South Africa Canada Chile China New Zealand	39, 032, 638 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 .1 11. 3	26. 2 5. 6 2. 2 3. 4 . 2 8. 5 . 1 8. 5	2.8 7.9 2.4 1.8
Australia. British South Africa Canada Chile China New Zealand	39, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 581, 289	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 .1 11. 3 12. 6	26. 2 5. 6 2. 2 3. 4 8. 5 8. 5 25. 5	2.8 7.9 2.4 1.8 35.3 10.0
Australia British South Africa Canada Chile China New Zealand Peru United Kingdom Uruguay Other countries	39, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 581, 289 3, 172, 183	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 458, 115	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494 1, 976, 011	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 .1 11. 3 12. 6 1. 4	26. 2 5. 6 2. 2 3. 4 8. 5 8. 5 25. 5 1. 5	2.8 7.9 2.4 1.8 35.3 10.0 4.8
Australia British South Africa Canada Chile China New Zealand Peru United Kingdom Uruguay Other countries Total	39, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 581, 289	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 458, 115 32, 820, 886	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 .1 11. 3 12. 6 1. 4 100. 0	26. 2 5. 6 2. 2 3. 4 .2 8. 5 .1 8. 5 25. 5 1. 5 100. 0	2.8 7.9 2.4 1.8 35.3 10.0 4.8
Australia British South Africa Canada Chile China New Zealand Peru United Kingdom Uruguay Other countries Total Combing wool—	39, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 581, 289 3, 172, 183	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 458, 115 32, 820, 886	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 .1 11. 3 12. 6 1. 4	26. 2 5. 6 2. 2 3. 4 8. 5 25. 5 1. 5 100. 0 20. 3	2.8 7.9 2.4 1.8 35.3 10.0 4.8 100.0
Australia British South Africa Canada Chile China New Zealand Peru United Kingdom Uruguay Other countries Total Combing wool Argentina Australia	38, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 1581, 289 3, 172, 183 251, 249, 273	8, 610, 375 1, 842, 901 726, 928 1, 116, 73 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 458, 115 32, 820, 886 14, 023, 407 20, 477, 363	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289 77, 256, 141 69, 406, 989	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 .1 11. 3 12. 6 1. 4 100. 0	26. 2 5. 6 2. 2 3. 4 .2 8. 5 .1 8. 5 25. 5 1. 5 100. 0 20. 3 29. 6	2.5 7.9 2.3 1.4 35.3 10.0 4.4 100.0
Australia. British South Africa. Canada Chile. Chine. New Zealand Peru United Kingdom. Uruguay. Other countries Total. Combing wool— Argentina. Australia. British South Africa	39, 032, 038 18, 187, 739 8, 656, 80 13, 727, 089 8, 614, 484 6, 844, 571 2253, 070 28, 478, 994 31, 581, 289 3, 172, 183 251, 249, 273 6, 146, 724	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 458, 115 32, 820, 886 14, 023, 407 20, 477, 363 4, 499, 919	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289 77, 256, 141 69, 406, 989	15.5 7.2 3.4 5.5 3.4 2.7 11.3 12.6 1.4 100.0 47.3	26. 2 5. 6 2. 2 8. 5 1. 5 100. 0 20. 3 20. 6 6. 8	2.8 7.9 2.4 1.8 35.3 10.0 4.8 100.0
Australia British South Africa Canada Chile China New Zealand Peru United Kingdom Uruguay Other countries Total Combing wool— Argentina Australia British South Africa	38, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 581, 289 3, 172, 183 251, 249, 273 6, 146, 724 674, 477 313, 165	8, 610, 375 1, 842, 901 726, 928 1, 116, 75 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 455, 115 32, 820, 886  14, 023, 407 20, 477, 363 4, 499, 919 5, 40, 807	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289 77, 256, 141 5, 952, 834 13, 666, 196	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 11. 3 12. 6 1. 4 100. 0 47. 3 	26. 2 5. 6 2. 2 8. 5 1. 5 100. 0 20. 3 29. 6 6. 5 11. 9	2. § 7. § 2. 4 § 1. § 6 § 100. (
Australia. British South Africa. Canada Chile. China. New Zealand Peru United Kingdom. Uruguay Other countries. Total. Combing wool— Argentina. Australia. British South Africa. Canada. New Zealand. United Kingdom.	38, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 581, 289 3, 172, 183 251, 249, 273 6, 146, 724 	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 458, 115 32, 820, 886 14, 023, 407 20, 477, 363 4, 499, 919 540, 807 8, 208, 468 4, 880, 008	3, 465, 426 1, 036, 420 334, 253 665, 235 288, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289 77, 256, 141 69, 406, 989 16, 187, 811 5, 952, 834 13, 666, 196 58, 657, 619	15.5 7.2 3.4 5.5 3.4 2.7 11.3 12.6 1.4 100.0 47.3	26. 2 5. 6 2. 3. 4 8. 5 1. 5 100. 0 20. 3 20. 6 6. 5 1. 9 7. 0	2. 8 7. 9 2. 4 1. 8 35. 3 100. 0 25. 9 23. 3 5. 4 2. 0 4. 0 100. 0
Australia British South Africa Canada Chile China New Zealand Peru United Kingdom Uruguay Other countries Total Combing wool— Argentina Australia British South Africa Canada New Zealand United Kingdom	38, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 152, 183 251, 249, 273 6, 146, 724 674, 477 313, 165 962, 268 3, 162, 810 630, 954	8, 610, 375 1, 842, 901 726, 928 1, 116, 75 73, 992 2, 780, 246 2, 801, 571 8, 376, 306 458, 115 32, 820, 886  14, 023, 407 20, 477, 363 4, 499, 919 8, 208, 468 4, 880, 087 8, 208, 468 14, 596, 556	3, 465, 426 1, 036, 420 334, 253 665, 235 288, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289 77, 256, 141 69, 406, 989 16, 187, 811 5, 952, 834 13, 666, 196 58, 657, 619	15. 5 7. 2 3. 4 5. 5 3. 4 2. 7 11. 3 12. 6 1. 4 100. 0 47. 3 	26. 2 5. 2 3. 4 . 5 25. 5 1. 5 100. 0 20. 3 29. 6 6. 5 11. 9 7. 0 21. 1	11. 9 2. 8 2. 4 1. 8 1. 8 10. 0 25. 9 23. 3 5. 4 2. 4 19. 7 14. 1
Australia British South Africa Canada Chile Chile China New Zealand Peru United Kingdom Uruguay Other countries Total Combing wool— Argentina Australia British South Africa Canada New Zealand	38, 032, 038 18, 187, 739 8, 656, 806 13, 727, 089 8, 614, 484 6, 844, 571 253, 070 28, 478, 904 31, 581, 289 3, 172, 183 251, 249, 273 6, 146, 724 	8, 610, 375 1, 842, 901 726, 928 1, 116, 755 73, 992 2, 780, 246 31, 599 2, 801, 571 8, 376, 306 458, 115 32, 820, 886 14, 023, 407 20, 477, 363 4, 499, 919 540, 807 8, 208, 468 4, 880, 008	3, 465, 426 1, 036, 420 334, 253 665, 235 268, 938 15, 407, 663 4, 365, 494 1, 976, 011 43, 703, 289 77, 256, 141 5, 952, 834 13, 666, 196	15.5 7.2 3.4 5.5 3.4 2.7 11.3 12.6 1.4 100.0 47.3	26. 2 5. 6 2. 3. 4 8. 5 1. 5 100. 0 20. 3 20. 6 6. 5 1. 9 7. 0	2. 8 7. 9 2. 4 1. 8 35. 3 100. 0 25. 9 23. 3 5. 4 2. 0 4. 6 19. 7

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 660.—Origin of principal farm products imported into the United States, year ending June 30, 1921-1923—Continued.

1920-21	1921-22	1922-23 1	1920-21	1921-22	1922- 23 1
Down do	Poum do	Pounde	Pot	Pot	P. ct.
486, 601	1. 003. 713	3, 469, 041	13. 5	23. 6	30.
40, 616	25, 743		1.1	1.6	
131, 091	328, 724	274, 764			2.
381, 870		309, 003		9. 2	2.
91, 855		28, 613	2.5		_
473, 981	530, 368	2,601,398	13. 1		22. 41.
111, 595	11, 351	24, 156	3. 2	.3	11.
3, 611, 585	4, 246, 484	11, 394, 024	100. 0	100. 0	100.
-					
1 165 979	8 768 092	4 474 940	9.0	54.2	· 29.
233, 952	324, 786	219, 201	2.0	2.0	1.
1, 673, 090 (	136, 923	38, 365	14. 2	.8	١.
1. 259. 029 4	985, 266	1, 224, 488	10.7	6.1	8. 1.
779, 100	186, 148	302. 684	6.6	1. 2	2.
674, 351	200, 394	42,888	5. 7	1. 2	
11,000	229, 597	546, 288	11.0	1, 4	3. 10.
54, 151	94, 936	587, 669	11. 5		3.
16, 524	112, 618	90, 331	. 1	.7	
	166, 120	1 534, 818		1.0	3.
032 308	646,738 593 701	1,070,450	7.0	3.2	7. 5.
27, 799	256, 631	162, 886	2	1.6	1.
83, 095		269, 914	.7		1.
1, 052, 894	665, 899	961, 618	8.9		6.
742, 600	652, 285	1 1, 225, 966			8.
	949, 615	106, 712		5. 9	
389, 798	345, 877				3.
11, 809, 552	16, 174, 682	<sup>2</sup> 14, 988, 085	100. 0	100, 0	100.
100 000	050 614	1 144 00	0.6	9.0	3.
190, 886 202 388	978, 216 352 817	1, 144, 097	. 9	1.4	٥.
625, 239	1, 094, 940	1, 084, 696		4.3	3.
3, 575, 472	4. 311. 897 1	5, 068, 156	15.0	17.0	16. 6.
4, 140, 004	1, 545, 066	2, 103, 810 623, 330	11, 5		2
8, 324, 360	7, 233, 314	8, 833, 727	35.0	28.5	28
	1, 185, 736	1, 243, 504		4.7	4
2, 412, 052	1, 933, 826	1, 560, 670	2.6		5
510, 310	343, 102	461, 508	2. 1	1.4	1.
227, 329	486, 273	448, 907	1.0	1, 9	1.
1, 949, 134	1, 567, 035	3, 065, 676	1 8	6.2 5.0	10. 3.
1, 618, 803	596, 897	2, 805, 954		2.4	9.
51, 447	90, 518	9, 308	. 2	3 3	3.
					100.
20, 130, 000	=======================================				
3, 646, 902	<b>4,</b> 3 <b>2</b> 1, 1 <b>3</b> 9	17, 719, 184	14. 7	23.4	30.
<b>3</b> 31, 780	77, 156	126, 878	1.3	.4	2.
1, 011, 449	94, 878 182, 043	1, 709, 727			2.
321, 590 i	1, 724, 734	4, 186, 832	1. 3	9.4	2. 7.
2, 880, 150	1, 649, 188	6.905.068	11.6	8.9	11. 13.
47.712.1	<b>a, 283, 09</b> 6 42, 700	7, 805, 138 692, 290		20.1	13.
1, <b>624</b> , 802 619, 306	1, 644, 993	2, 582, 016	4.1	8.9	4.
010 900	149, 652	349, 107	2.5	.8	
019, 300	1,10, 100	0 414 000	6.0	6	
576, 172	147, 131	2.441.2(形)	2.3	.8	
576, 172 526, 740 161, 248 306, 319	147, 131 51, 466 209, 593	2, 441, 200 18, 962 112, 121	2.3 2.1 .6	.8 .3 1.1	4.
	Pounds.  486, 601 40, 616 131, 091 5, 379 91, 855 473, 981 1, 888, 597 111, 595 3, 611, 585  1, 165, 273 233, 952 1, 673, 090 1, 259, 029 342, 707 779, 100 674, 351 11, 000 1, 394, 547 16, 524  898, 165 932, 308 27, 799 83, 095 11, 809, 552  190, 886 202, 388 625, 239 3, 575, 472 2, 743, 662 22, 388 625, 239 3, 575, 472 2, 743, 662 22, 388 625, 239 3, 575, 472 2, 743, 662 21, 949, 131 8, 324, 360 27, 329 1, 949, 134 420, 219 1, 618, 803 51, 447 300, 372 23, 780, 065  3, 646, 902 331, 780 1, 111, 449 1, 311, 361 321, 590 2, 880, 150 5, 475, 283 3, 175, 283 3, 646, 902 3, 331, 780 1, 111, 449 1, 111, 061 321, 590 2, 880, 150 5, 475, 283	Pounds.  486, 601  40, 616  25, 743  131, 091  328, 724  5, 379  7, 436  381, 870  91, 855  473, 981  1, 981  3, 611, 585  4, 246, 484   1, 165, 273  8, 768, 928  233, 952  233, 952  324, 767  70, 259  779, 100  186, 148  674, 351  11, 000  229, 597  779, 100  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  10, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  200, 394  11, 000  186, 148  674, 351  194, 961  383, 096  742, 600  665, 289  79, 169  203, 789  742, 600  665, 289  79, 169  203, 789  742, 600  665, 285  345, 877  11, 809, 552  16, 174, 682  190, 886  978, 216  90, 388  345, 877  11, 809, 552  16, 174, 682  190, 886  978, 216  90, 238  345, 877  11, 809, 552  16, 174, 682  21, 343, 602  343, 176  343, 192  27, 329  486, 273  1, 941, 343, 192  27, 329  486, 273  1, 949, 134  1, 618, 803  596, 897  51, 447  90, 518  300, 372  914, 329  23, 780, 065  25, 383, 380  3, 646, 902  4, 321, 139  77, 156  1, 011, 449  94, 771  2, 743, 661  2, 883, 596, 897  71, 564  1, 649, 188  5, 475, 283  5, 283, 096  77, 172  742, 700	Pounds.	Pounds.	Pounds.

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> 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	1922- 23 1
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.
Nicaragua Peru	556, 612 793, 742	736, 175 91, 245	634, 478 442, 858	2. 2 3. 2	4.0	1.
Switzerland	56, 944	01,210	151, 535	.2		
United Kingdom	286, 235	660, 643	3, 279, 153	1. 2	3.6	5.
Uruguay Venezuela	132, 796 1, 697, 326	1, 576 823, 105	1, 097, 292 2, 383, 540	6.8	4. 5	1. 4.
Other countries	2, 141, 050	145, 141	3, 860, 936	8.8	.8	6.
Total	24, 814, 129	18, 438, 517	58, 770, 243	100. 0	100. 0	100.
Cattle hides, wet—	70 222 014	96 670 242	100 000 000	45 7	40 5	F0
Argentina Australia	79, 323, 914 2, 751, 338 20, 525, 396 20, 106, 771 6, 192, 800 4, 623, 854 1, 358, 034	86, 679, 343 2, 415, 991 15, 687, 498 34, 190, 737 15, 206, 397 1, 222, 972 1, 641, 136 17, 945, 386 816, 269	186, 696, 992 5, 082, 759	45. 7 1. 6	46. 5 1. 3	53. 1.
Brazil	20, 525, 396	15, 687, 498	24, 403, 024	11.8	8.4	7.
Canada Cuba	20, 106, 771	34, 190, 737	30, 489, 525	11.6	18. 3 8. 2	8.
France	4, 623, 854	1, 222, 972	12, 418, 583 12, 840, 361	3. 6 2. 7	0.2	3. 3.
Italy Uruguay	1, 358, 034	1, 641, 136	5, 667, 392 34, 551, 249	. 8	.9	1.
Venezuela	27, 426, 164 186, 419	17, 945, 386	34, 551, 249	15.8	9.6	10.
Other countries	11, 264, 519	10, 692, 188	375, 171 34, 087, 902	6.3	. 4 5. 7	9.
Total	173, 759, 209	186, 497, 917	346, 612, 958	100. 0	100. 0	100.
Goat and kid skins, dry-						
AdenAlgeria, Tunis, etc	1, 763, 535 449, 600	3, 112, 822 851, 855	4, 549, 505 1, 137, 958	4. 8 1. 2	4. 6 1. 2	6.
Argentina	1, 416, 807	6, 372, 141	1 4, 843, 644	3.8	9. 3	1. 6.
Brazil	3, 606, 437	6, 372, 141 4, 684, 504 19, 904, 553 1, 047, 094	4, 569, 259	9.8	6. 9	6.
British India British East Africa	10, 411, 506 655, 430	19, 904, 553	4, 569, 259 19, 799, 086 349, 862	28. 3	29. 2	<b>2</b> 8.
British South Africa	503, 062	933, 335	1, 359, 964	1. 8 1. 4	1. 5 1. 4	1.
British West Africa	699, 732	764, 944	1, 147, 479	1.9	1.1	1.
China France	8, 095, 152 335, 969	15, 035, 533	1, 359, 964 1, 147, 479 12, 148, 704 1, 361, 982	22. 0	22. 0	17.
Greece	273, 189	415, 508 477, 339	325, 808	.9	$\begin{bmatrix} \cdot & 6 \\ \cdot & 7 \end{bmatrix}$	1.
Java and Madura		405, 311	1, 077, 399 2, 783, 963		.6	1.
Mexico	704, 509	2, 086, 054 351, 542	2, 783, 963	1. 9	3. 1	3.
Morocco Netherlands	221, 799 263, 769	363, 132	401, 520 593, 985	.6	.5	:
Other Dutch East Indies	709, 526	421, 396	170, 799	1.9	.6	
Peru	626, 630	979, 674	853, 525	1.7	1.4	1.
SpainUnited Kingdom	1, 004, 374 1, 237, 600	2, 605, 221 1, 396, 013	3, 451, 732 1, 925, 208	2. 7 3. 4	3. 8 2. 0	4. 2.
Venezuela	1, 349, 632	1,772,041	1, 801, 211	3. 7	2.6	2.
Other countries	2, 488, 144	4, 247, 537	6, 110, 546	6.8	6.4	8.
Total	36, 816, 402	68, 227, 549	70, 763, 139	100. 0	100. 0	100.
Goat skins, wet— Argentina		77, 377	158, 018		0. 5	0.
Brazii	352		9,828			٠.
British India	4, 684, 672	14, 692, 364	16, 824, 162	95. 4	96.0	90.
British South Africa China	59, 654	38, 677	147, 200 15, 733	1. 2	. 3	:
Spain			97, 928			
Other countries	167, 086 4, 911, 764	498, 674 15, 307, 092	1, 354, 177	3.4	3. 2	7. 100.
Sheep and lamb skins, dry and	4, 511, 704	10, 307, 092	18, 007, 040	100.0	100.0	100.
wet— Aden	770 271	40e 100	1 195 550	1 2	0.0	1
Argentina	778, 371 8, 316, 958	406, 100 12, 964, 069	1, 135, 559 16, 229, 412	1.3 14.3	0.8 26.5	1. 18.
Australia	3, 757, 256	712, 350	4, 838, 716	6. 4	1.5	5.
Brazil	1, 755, 837	1, 846, 780	1, 855, 404	3. 0	3.8	2.
British India British South Africa	1, 983, 802 3, 292, 713	1, 367, 388 1, 490, 700	187, 800 2, 499, 658	3. 4 5. 6	2. 8 3. 1	2.
Canada	3, 525, 789	2, 189, 962	3, 660, 849	6.0	4.5	4.
Chine	2, 439, 595	138, 343	1, 509, 370	4.2	.3	1.
· China France	469, 577 729, 458	31, 063 346, 835	683, 003 1, 066, 581	1.3	.1	1.
Greece	311, 740	120, 079	560, 652	.5	.2	1.
New Zealand	16, 055, 011	13, 351, 877	13, 666, 790	27.5	27. 3	15.
Spain United Kingdom	951, 768	1, 507, 417	3, 978, 638	1.6	3. 1	4.
Uruguay	8, 783, 816 326, 695	9, 953, 330   712, 923	27, 358, 807 3, 321, 104	15.1	20. 4	31. 3.
	520,000		0,041,101			
Other countries	4, 820, 990	1, 699, 176	3, 846, 793	8.4	3.4	4.

<sup>&</sup>lt;sup>1</sup> 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	192122	1922- 23 <sup>1</sup>
VEGETABLE PRODUCTS.						
	7	D	D		<b>.</b>	
Cocoa or cacao beans:	Pounds. 74, 708, 628	Pounds. 18, 975, 068	Pounds. 59, 978, 071	P. ct. 22. 8	P. ct. 6. 0	P. ct. 15. 7
British West Africa British West Indies Dominican Republic	51, 034, 029	97, 125, 629	1 122 276 584	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	51, 042, 195 41, 757, 753	36, 052, 288 50, 562, 225 6, 827, 624	39, 938, 150 42, 457, 894 504, 783	12.8	15.9	11.1
Cupa		6, 827, 624	504, 783	16. 7	2. 2 11. 8	. 1 10. 7
EcuadorHaiti	54, 674, 651 1, 104, 499	37, 438, 630 3, 638, 744	40, 886, 824 5, 026, 713	.3	1.1	1.3
Portugal	4, 393, 911	4, 392, 107	2, 398, 716	1.3	1.4	. 6
Haiti. Portugal United Kingdom	4, 393, 911 13, 637, 481	4, 392, 107 21, 177, 841	2, 398, 716 16, 030, 541	4. 2	6. 7	4, 2
Venezeula	. 18, 602, 117	20, 002, 934	21, 990, 119 30, 019, 663	5.7	6.3	5. 8 7. 9
Other countries	16, 168, 086	20, 931, 283		5. 0	6.6	
Total	327, 123, 350	317, 124, 373	381, 508, 058	100. 0	100. 0	100.0
Coffee:						
Aden	2, 623, 528 857, 454, 209 150, 337, 222	1, 604, 622	2, 436, 100 840, 038, 490	. 2	0. 1	0. 2
Brazil Central America	857, 454, 209	756, 581, 844 99, 134, 597	840, 038, 490	63. 6 11. 1	61. 1 8. 0	64. 4 9. 6
Colombia	1 912 391 512	234, 921, 617	125, 398, 369 193, 889, 565	15.7	19.0	14.9
Outch East Indies  Mexico Venezuela	212, 391, 512 18, 507, 273	22, 831, 697 38, 444, 169	193, 889, 565 20, 987, 513 39, 490, 998	1. 4 1. 7	1.8	1. 6
Mexico	23, 413, 471 51, 974, 340	38, 444, 169	39, 490, 998	1.7	3. 1	3.0
Venezuela	51, 974, 340	65, 267, 153	58, 509, 417	3.9	5, 3	4.5
West IndiesOther countries	18, 875, 161 13, 349, 622	6, 626, 607 12, 599, 772	10, 500, 978 13, 936, 254	1. 4 1. 0	. 5 1. 1	.8 1.0
			<del></del>			
Total	1, 348, 926, 338	1, 238, 012, 078	1, 305, 187, 684	100. 0	100. 0	100, 0
Fibers, vegetable:						
Cotton, raw— British India	5, 196, 254	5, 166, 749	8, 894, 607	4.1	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	24, 792, 329 157, 990, 018	34.6	61. 9	66.9
China Egypt Mexico	44, 077, 364 11, 338, 923	7, 656, 667 110, 921, 695 26, 818, 225 17, 433, 458	15, 868, 478	35.0	15. 0 9. 7	6. 7 4. 4
	11, 338, 923	5, 599, 225	10, 335, 486 5, 274, 508	9. 0 5. 2	3. 1	2, 2
United KingdomOther countries	6, 547, 884 3, 667, 968	5, 569, 036	12, 936, 993	2. 9	3. î	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. ct.	P. ct.	P. ct.
Belgium	226	593	765	4.2	11.8	9. 3
Canada	2, 163	710	2, 076	39.9	14. 1	25. 3
Chile	2	8	73		.2	. 9 1. 8
Denmark France Germany Italy	24	4	150 3	.4	.1	
Germany	10	85	471	.2	1.7	5. 7
Italy	327	60	451	6.0	1. 2	5. 5
		670	126	7.4	13. 3	1.5
LatviaNetherlandsPhilippine Islands	620	706	484 282	11. 4	14.1	5. 9 3. 4
Philippine Islands	533			9.8		
Poland Russia in Asia		9	344		.2	4. 2
Russia in Asia	191	0 171	0 001	3.5	43. 2	32. 4
United Kingdom Russia, European	490 412	2, 171	2, 661	9. 0 7. 6	43. 2	32. 4
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
Philippine IslandsOther 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	[_ <b></b>	1, 383	5, 935	[	1.9	6. 1
Mexico	142, 592	64 (WW) 1	77, 383 2, 997	89. 9	88.4	79. 3
Other Dutch East Indies	8, 093 2, 288	1, 702 770	2, 997 1, 185	5. 1 1. 4	2. 4 1. 1	3.·1 1. 2
United Kingdom Other countries	2, 288 2, 424	2,440	6, 114	1.6	3.4	6.2
O VALUE OVERALISM	_,,		-, 1			
Total	158, 590	72, 359	97, 582	100. 0	100. 0	100. 0

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 660.—Origin of principal farm products imported into the United States, year ending June 30, 1921-1923—Continued.

year charmy t	<i>ane</i> 00, 10	N1"10N0" \	John Haca.			
Article and country of origin.	1920-21	1921-22	1922-23 1	1920-21	1921-22	1922- 23 1
VEGETABLE PRODUCTS—continued.	•					
Bananas: Central America Colombia Cuba Jamaica Mexico Other countries	Bunches. 27, 072, 105 3, 435, 340 1, 871, 291 7, 102, 835	Bunches. 29, 952, 565 2, 587, 000 1, 880, 952 10, 440, 110 1, 104, 374 154, 631	Bunches. 29, 073, 239 2, 266, 653 1, 916, 603 9, 881, 633 1, 189, 090 173, 978	P. ct. 66. 3 8. 4 4. 6 17. 4	P. ct. 64. 9 5. 6 4. 1 22. 6 2. 4	P. ct. 65. 3 5. 1 4. 3 22. 2 2. 7
Total	40, 807, 674	46, 119, 632	44, 501, 196	100.0	100. 0	100.0
Grains: Rice, uncleaned (including paddy)— French Indo-China Hongkong Japan Mexico Other countries	Pounds.  298, 971 32, 835, 831  133, 120	Pounds.  168, 969 5, 408, 071 530, 183 15, 056	Pounds. 1, 282, 000 317, 561 2, 552, 505 7, 137, 461 388, 691	P. ct. 0.9 98.7	P. ct.  2.8 88.3 8.7 .2	P. ct. 1. 0 2. 7 21. 9 61. 1 3. 3
Total	33, 267, 922	6, 122, 279	11, 678, 218	100. 0	100. 0	100. 0
Rice, cleaned— British India	2, 376, 440 3, 469, 571 52, 510, 686 809, 311 1, 122, 128 1, 820, 896	1, 315, 030 5, 315, 385 89, 000 53, 150, 615 2, 079, 614 3, 228, 478 1, 529, 336	1, 587, 012 2, 599, 180 27, 773, 526 21, 054, 035 518, 672 3, 414, 267	3. 8 5. 6 84. 5 1. 3 1. 8 3. 0	2. 0 8. 0 .1 79. 7 3. 1 4. 8 2. 3	2. 8 4. 6 48. 8 37. 0
Total	62, 109, 032	66, 707, 458	56, 946, 692	100. 0	100. 0	100. 0
Rice flour or meal— Canada China Dutch East Indies French Indo-China Germany Hongkong Japan Other countries	100, 340 990 	708 6 67 114, 258 26, 590 46, 203 239, 970 362, 047 601	1, 744 2, 100 6, 394 200, 000 156, 750 172, 992 342, 963 28, 038	7. 0 . 1 3 66. 9 25. 5 . 2	0. 1 14. 5 3. 4 5. 8 30. 4 45. 8	0. 2 . 2 . 7 22. 0 17. 2 19. 0 37. 6 3. 1
Total	1, 427, 658	790, 354	910, 981	100. 0	100. 0	_100. 0
Wheat— Canada Other countries	Bushels. 50, 694, 096 309, 928	Bushels. 14, 465, 502 7	Bushels. 18, 012, 467 73	P. ct. 99. 4 . 6	P. ct. 100. 0	P. ct. 100. 0
Total	51, 004, 024	14, 465, 509	18, 012, 540	100. 0	100, 0	. 100. 0
Wheat flour— Canada Other countries	Barrels. 1, 419, 662 1, 222	Barrels. 618, 953 152	Barrels. 428, 659 762	P. ct. 99. 9 . 1	P. ct. 100. 0	P. ct. 99. 8
Total	1, 420, 884	619, 105	429, 421	100. 0	100, 0	100. 0
Nuts: Filberts, shelled— France. Italy. Spain Turkey in Europe. Other countries.	Pounds. 150, 236 214, 344 1, 429, 164 305, 000 71, 181	Pounds. 622, 092 372, 328 1, 692, 595 2, 636, 684 110, 719	Pounds. 539, 693 277, 172 4, 672, 896 654, 527 64, 285	P. ct. 6. 9 9. 9 65. 9 14. 1 3. 2	P. ct. 11. 4 6. 9 31. 1 48. 5 2. 1	P. ct. 8. 7 4. 5 75. 3 10. 5 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, 550 824, 504 26, 140 219, 478	114, 595 13, 255, 626 228, 261 479, 841 54, 711	87, 455 13, 911, 108 244, 377 58, 264 65, 071	1. 4 89. 5 7. 0 .2 1. 9	0.8 93.8 1.6 3.4 .4	0.6 96.8 1.7 .4 .5
Total Peanuts, shelled—	11, 791, 489	14, 133, 034	14, 366, 275	100. 0	100.0	100.0
China. Chesen. Japan Other countries	5, 190, 220 35, 895, 990 1, 541, 824	505, 685 99, 000 6, 658, 036 164, 406	28, 350, 727 12, 102, 549 1, 985, 449	12. 2 84. 2 3. 6	6.8 1.3 89.6 2.3	66. 8 28. 5 4. 7
Total	42, 628, 034	7, 427, 127	42, 438, 725	100. 0	100. 0	100. 0
,	,					

<sup>&</sup>lt;sup>1</sup>Preliminary.

Table 660.—Origin of principal farm products imported into the United States, year ending June 30, 1921-1923—Continued.

year enacing	<i>ane</i> 00, 10	WI 1020 (	Donormaca.			
Article and country of origin.	1920-21	1921-22	1922-231	1920-21	1921-22	1922- 23 <sup>1</sup>
VEGETABLE PRODUCTS—continued.		•				
Nuts—Continued. Peanuts, not shelled— Canada (via)	Pounds. 246, 601	Pounds.	Pounds. 20,000	P. ct. 4. 6	P. ct.	P. ct. 0. 5
China	1,642,077	1, 435, 320	2, 462, 095	30.6	42. 5	63.7
China Hongkong	609, 678	55, 234	47, 607	11.4	1.6	1.2
Japan	2, 434, 963 109, 375	1, 833, 183 22, 000	999, 204 303, 593	45. 4 2. 0	54.3	25. 9 7. 9
Spain 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
Walnuts, shelled—	*** 700	107 005	074 000	1.0	1.0	1.4
Canada China	111, 732 747, 079	197, 025 2, 443, 837	254, 880 1, 676, 430	1. 0 7. 0	1. 2 14. 4	9. 5
France	9.081.602	12, 612, 527	13, 846, 640	85. 3	74.1	78.6
France	7, 050 256, 092	212, 863	286, 385	.1	1.3	1.6
Spaigr	256, 092	411, 871	585, 329	2.4	2. 4 2. 9	3.3
Turkey in Europe Other countries	24, 865 412, 734	492, 941 655, 863	213, 696 742, 732	4.0	3.7	1. 2 4. 4
	10, 641, 154	17, 026, 927	17, 606, 092	100. 0	100. 0	100.0
Total	10,041,104	11,020, 921	11,000,002	100.0	100.0	100.0
Walnuts, not shelled— Canada	360, 353	272, 908	199, 738	2.9	0.6	1.0
Chile	391, 603	272, 908 4, 397, 718	574, 467	3. 1	10. 2	2.9
ChileChina	1, 226, 258	9.364.788	1, 591, 683	9.8	21.7	8.0
France Italy	3, 142, 661 6, 164, 762 597, 050	7, 780, 067	8, 487, 674 8, 497, 492 100, 700	25. 1 49. 2	18. 0 30. 1	42. 6 42. 7
Ignori	597, 050	12, 996, 126 2, 337, 671	100, 700	4.8	5. 4	. 5
Japan Rumania		4, 025, 488	73, 218		9.3	. 4
Turkey in EuropeOther countries		893, 847 1, 137, 765	18, 673	:	2.1	1.1
Other countries			369, 774	5.1	2.6	1.8
Total	12, 525, 128	43, 206, 378	19, 913, 419	100. 0	100.0	100.0
Oils, vegetable:						
Coconut— 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, 732 115, 563, 356	1, 119, 833 226, 651, 680		.8	98.4	99. 2
Philippine IslandsOther countries	5, 769, 881	1,021,943	210, 968, 211 112, 775	66. 5 3. 3	.5	.1
Total	173, 888, 958	230, 236, 127	212, 573, 417	100.0	100. 0	100.0
Olive, edible—	Gallons.	Gallons.	Gallons.	P. ct.	P. ct.	P. ct.
France	532, 135	858, 209 188, 465	1, 079, 165 4, 469 471, 709	12.0	10. 8 2. 4	10.8
Greece in Asia Greece in Europe Italy	678, 510	803, 557	471 709	15. 3	10. 1	4.7
Italy	1, 756, 761	1, 913, 226	5, 858, 119	39. 5	24_1	58. 8
Spain	1, 305, 992	2, 173, 736	5, 858, 119 2, 428, 439	29.4	27. 3	<b>24</b> . <b>4</b>
Spain Turkey in Asia. Turkey in Europe	91, 777 2 3, 279	3,746 368	76, 370	2.0		
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.	Pounds.	P. ct.	P. ct.	P. ct.
China	3, 418, 933 13, 495, 908	3, 904, 328	2, 105, 590 4, 190, 610	6.9	47.1	5. 4
Japan	13, 495, 908	1, 133	4, 190, 610	27. 4 64. 6	34. 3	10. 8 81. 8
Kwantung, leased territory Philippine Islands	31, 885, 396	1, 133 2, 838, 600 1, 027, 058	31, 621, 507	02,0	12.4	01.0
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			1, 1 15, 1	
Greece in Asia Greece in Europe. Turkey, Asiatic	11, 173	21, 831 62, 579	39, 386	14.4	48.4	34. 4
Turkey, Asiatic	26, 306	1,693		34.0	1. 2	
Turkey, Kuropean United Kingdom Other countries	37,060	58, 837	53, 382 18, 551 3, <b>2</b> 80	47.9	1. 2 37. 3	46.6
United Kingdom			18, 551	3.7	1.9	16.2
Other countries	2, 905	2, 684	3, 280	3. /	1. 9	2.8
Total.	77, 444	144, 278	<sup>8</sup> 114, 599	100. σ	100. 0	100. 0
					_	_

<sup>&</sup>lt;sup>1</sup> Preliminary.

<sup>&</sup>lt;sup>2</sup> Jan. 1-June 30, 1921.

<sup>&</sup>lt;sup>8</sup> Beginning Sept. 22.

Table 660.—Origin of principal farm products imported into the United States, year ending June 30, 1921-1923—Continued.

		i				
Article and country of origin.	1920–21	1921–22	1922-23 1	1920-21	1921-22	1922- 23 1
VEGETABLE PRODUCTS—continued.						
Spices:	Daum Ja	Down do	Bounds	D of	P. ct.	P. ct.
Pepper, unground— British India	Pounds. 3, 759, 280	Pounds. 4, 625, 092	Pounds. 6, 900, 406	P. ct. 17. 1	12.5	20.6
Ceylon Java and Madura	8, 299, 073	14, 975 25, 136, 204	284, 132 18, 170, 245	37. 8	68. 0	54.2
Netherlands	2, 718, 786	1 529, 274	285.144	12. 4	1.4	. 8 1. 3
Other Dutch East Indies Straits Settlements	2, 402, 783 3, 684, 531	175, 284 3, 794, 021 628, 230	424, 315 5, 130, 284 473, 376	11.0	10. 3	15. 3
United KingdomOther countries	3, 684, 531 1, 065, 267	628, 230 2, 045, 014	473, 376 1, 879, 856	16. 8 4. 9	1. 7 5. 6	1. 4 5. 6
Total	21, 929, 720	36, 948, 094	33, 547, 758	100. 0	100. 0	100. 0
	21, 929, 720	30, 340, 034	00,011,100	100.0	100. 0	200.0
Seeds: Flaxseed—	Bushels.	Bushels.	Bushels.	P. ct.	P. ct.	P. ct.
Argentina	13, 145, 310	10, 408, 928	22, 330, 931	81. 3	76. 4 . 1	89. 3
British IndiaCanada	2, 635, 025	12, 041 3, 012, 515 198, 589	2, 191, 103 483, 902	16. 3	22.1	8. 8
CanadaOther 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-	050 500	404 000	191 004	1.7	5. 0.	21. 5
Canada Chile	253, 738	464, 626 509, 646	131, 284	1. /	5. 5	
Canchediavakia		393, 680 2, 461, 023	10, 910 245, 766	91. 5	4, 2 26. 5	1. 8 40. 4
France Germany	13, 282, 305 406, 020	1 2 245 076	52, 848	2.8	36.0	8. 7
Italy	261, 081	1,531,695	132,000	1.8	16. 5 4. 6	21. 7
Italy. Poland United Kingdom Other countries	157, 908	1, 531, 695 425, 947 36, 300 120, 760	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 other— Canada	9, 656, 014	10, 279, 434	10, 482, 073	54. 4	61.7	78. 9
Chile	53, 200 156, 365	363, 590 179, 441	56, 401	.3	2, 2 1, 1	.4
France	5, 495, 924	1, 661, 501 3, 335, 442	56, 401 1, 569, 395 303, 289	31.0	10. 0 20. 0	11. 8 2. 3
Germany	1, 841, 222	1 457, 672		10. 4	20.0	
Canada. Chile. Czechoslovakia. France Germany. Italy Poland. United Kingdom.	179, 832	6, 633 96, 450	64, 953	1.0	. 6	3.6
Other countries	357, 281	282, 940	475, 639 341, 708	2.0	1.7	2. 5
Total	17, 739, 838	16, 663, 103	13, 293, 458	100. 0	100.0	100. 0
Sugar, raw cane:	Pounds.	Pounds.	Pounds.	P. ct.	P. ct.	P. ct.
Central America	79, 339, 748	43, 738, 777	68, 776, 724 7, 730, 592, 152	1. 1 70. 5	0. 5 91. 2	0. 8 91. 8
Cuba Dominican Republic	4, 925, 630, 505 210, 659, 825	93, 067, 270	3, 479, 673	3.0	1.1	<b>81.</b> C
Dominican Republic Dutch East Indies Hongkong	210, 659, 825 577, 847, 164 41, 877, 044	43, 738, 777 7, 720, 255, 237 93, 067, 270 6, 914 571, 774 42, 711, 737 7, 537, 218		8.3		
Hongkong Mexico	23, 581, 238	42, 711, 737	2, 742, 723 29, 953, 811	.3	. 5	. 4
MexicoOther South America	206, 053, 035	7,537,218	4, 354, 242	3. 0 2. 3	.1	.1
Peru Philippine Islands Other countries	159, 125, 034 337, 143, 949 422, 938, 419	7, 537, 218 177, 600 538, 469, 767 17, 792, 252	8, 791, 816 553, 232, 644 20, 559, 354	4.8	6.4	6. 6
		17, 792, 252		6. 1	.2	. 2
Total	6, 984, 195, 961	8, 464, 328, 546	8, 422, 483, 139	100. 0	100. 0	100.0
Tea: British East Indies	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
Canada China Dutch East Indies	9, 091, 375 5, 378, 432	16, 211, 659 6, 674, 097	791, 745 13, 507, 750 8, 666, 908	12. 6 7. 4	18. 8 7. 7	14. 0 9. 0
		26, 639, 127	35, 974, 918 15, 545, 681	34.7	30. 9	37. 2
United KingdomOther countries	9, 053, 415 2, 202, 236	26, 639, 127 11, 293, 042 3, 251, 713	15, 545, 681 2, 339, 436	12. 5 3. 1	13. 1 3. 9	16.1 2.4
Total	72, 196, 053	86, 141, 949	96, 668, 608	100.0	100. 0	100.0
10041	2, 100, 000	55, 111, 010	]	ستنسا		

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 660.—Origin of principal farm products imported into the United States, year ending June 30, 1921-1923—Continued.

China							
Tobacco, leaf:   Unmanufactured—	Article and country of origin.	1920-21	1921-22	1922-23 1	1920-21	1921-22	
Ummanufactured	VEGETABLE PRODUCTS—continued.						
Buigaria   1,872,376   299,027   3,2   1,4   0.1	Unmanufactured—	Pounds.		Pounds.	P. ct.	P. ct.	P. ct.
Canada		1, 872, 576	928 357	296 027	3.2	1.4	0.4
China	Canada	20, 710	63, 718	67,085	1	.1	.1
Dominican Republic   788, 151   192, 542   562   1.3   3.3   Egypt   15, 529   88, 968   81, 617   1.1   1	China	658, 011	287, 510	217, 549	1.1		
Orrece in Europe	Dominican Republic	788, 151	192, 542	562			31. 4
Orrece in Europe	Dutch East Indies	2, 345, 610	172, 041	119, 016	4. 0	. 3	. 2
Orrece in Europe	Egypt Germany	15, 529 127, 047	2 647 612	2.481.680	2	4 1	3 4
Mexico	Greece in Asia		0, 283, 090	19, 320, 764		8. 1	26, 2
Netherlands	Greece in Europe	11, 546, 181	15, 058, 819	8, 624, 362	19. 6	23. 1	11.7
Persia	Netherlands	8, 004, 343	5, 459, 354	9, 700, 553	13. 6	8.4	13, 1
Turkéy in Asia	Persia	11,681	79, 800	6,506		.1	İ
Turkey in Europe. \$13, 161 4, 795, 334 4, 580, 140 1.4 7.4 6.2 United Kingdom. 5553, 384 1, 248, 420 614, 788 .9 1.9 8.8 Total. 55, 923, 217 65, 225, 437 73, 793, 872 100.0 1	Philippine Islands	1,850,960		1,921,921		.8	
United Kingdom	Turkey in Europe	813, 161	4, 795, 334	4, 580, 140	1.4	7. 4	6. 2
Total	United Kingdom	553, 384	1, 246, 420	614, 788	.9	1.9	. 8
Onions:         Bushels.         Bushels.         Bushels.         Bushels.         Bushels.         P. ct.							
Bermuda							
Bermuda		3, 440	119, 389	3, 423		4.8	P.ci.
Canary Islands	Rormudo	27, 907	33, 759	17, 548	4.1	1.4	1.0
Netherlands	Canada	8,448	65, 902	38,777		2.6	
Netherlands	Egypt	5, 692	242, 544	446, 977	.8	9.8	25. <b>2</b>
Netherlands	Italy	7, 597	73, 597	10, 732	1.1		. 6
Spain	Mexico	1 201		19, 597 32, 485	2		
United Kingdom         42,807         241, 423         157, 264         0.2         3.9         3.0         2.6           Total         688, 574         2,487, 565         1,776,777         100.0<	Spain	575, 322	1, 522, 311	985, 331	83. 6	61. 2	55. 5
Total 688, 574 2, 487, 565 1, 776, 777 100. 0 100.	United Kingdom	42, 867 972	247, 423 73, 086	157, 264 50, 148	6.2		8. 9 2. 6
FOREST PRODUCTS.   Pounds.   Pound			<del></del>	<del></del>		100.0	100. 0
British East Indies							
British East Indies	You die werk harre enwader.	Down do	Doumdo	Dounde	D at	Det	D of
British East Indies				30, 771, 572	7.4	3. 7	3.9
Dutch East Indies         52, 374, 163         72, 924, 828         113, 064, 802         14, 7         12, 8         14, 2           France         219, 634         995, 282         2, 742, 632         1         2         3           Mexico         365, 337         349, 471         144, 253         1         1         2         3           Nether South America         1, 766, 490         743, 925         2, 033, 793         5         1         3         8         1. 4         2         1         2         3         3         8         1. 4         2         1         1         2         3         3         8         1. 4         1         1         1         -1         -1         -3         -3         1         1         1         -1         -1         -3         -3         -1         1         3         3         8         1. 4         2         2         -33, 793         3         5         . 1         . 3         1         4         1         2         2         3         3         8         1. 4         2         2         1         1         2         2         -4         1         2         2         2	British East Indies	247, 569, 610	379, 810, 088	547, 799, 814		66. 8	68. 7
France	Oanada Dutch East Indies		72, 924, 828	113.064.802		12. 8	14. 2
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	France	219, 634	995, 282	2, 742, 632	.1	. 2	. 3
Peru         1, 400, 154         286, 177         1, 574, 697         4         1         2           Portugal         1, 761, 672         1, 396, 078         10, 748         5         2         -           United Kingdom         16, 193, 253         62, 728, 626         75, 700, 650         4, 5         11, 0         9, 5           Total         356, 975, 223         568, 381, 428         797, 655, 149         100. 0         100. 0         100. 0           Wood:         Mfeet         Mfeet         Mfeet         P. ct.         <	Mexico	365, 337	349, 471	10 821 152	1.1	3.8	1 4
Peru         1, 400, 154         286, 177         1, 574, 697         4         1         2           Portugal         1, 761, 672         1, 396, 078         10, 748         5         2         -           United Kingdom         16, 193, 253         62, 728, 626         75, 700, 650         4, 5         11, 0         9, 5           Total         356, 975, 223         568, 381, 428         797, 655, 149         100. 0         100. 0         100. 0           Wood:         Mfeet         Mfeet         Mfeet         P. ct.         <	Other South America	1, 756, 490	743, 9 <b>2</b> 5	2, 033, 793	.5	.1	. 3
United Kingdom         16, 193, 253         62, 728, 628         75, 700, 650         4, 51         1.0         9, 5           Other countries         4, 002, 085         7, 317, 863         12, 611, 432         1, 0         1, 2         1, 5           Total         356, 975, 223         568, 381, 428         797, 655, 149         100, 0         100, 0         100, 0           Wood:         M feet.         M feet.         M feet.         P. ct.         <	Peru	1, 400, 154	286, 177	1, 574, 697	.4	.1	. 2
Other countries         4,002,085         7,317,863         12,611,432         1.0         1.2         1.5           Total         356,975,223         568,381,428         797,655,149         100.0	Portugal	1, 761, 672	1, 396, 078 62, 728, 626	75 700 650	4.5		9. 5
Wood:         M feet.         M feet.         M feet.         P. ct	Other countries	4, 002, 085	7, 317, 863				1. 5
Cabinet-wood, mahogany—         M feet.         M feet.         M feet.         P. ct.	Total	356, 975, 223	568, 381, 428	<b>79</b> 7, 655, 149	100. 0	100. 0	100. 0
Cabinet-wood, mahogany—         M feet.         M feet.         M feet.         P. ct.	Wood:						
Central America     23,080     16,497     17,575     42.0     41.2     40.9       French Africa (including Algeria and Tunis)     5,172     1,161     6,307     9.4     2.9     14.7       Mexico     4,649     3,163     5,221     8.5     7.9     12.2       United Kingdom     3,762     1,430     3,923     6.8     3.6     9.1       Other countries     2,307     1,646     1,453     4.3     4.1     3.4	Cabinet-wood, mahogany—		M feet.		P. ct.		
French Africa (including Algeria and Tunis)         5, 172         1, 161         6, 307         9.4         2.9         14.7           Mexico         4, 649         3, 163         5, 221         8.5         7.9         12.2           United Kingdom         3, 762         1, 430         3, 923         6.8         3.6         9.1           Other countries         2, 307         1, 646         1, 453         4.3         4.1         3.4	Central America	23, 080	16, 106	17. 575			
Mexico         4, 649         3, 163         5, 221         8.5         7.9         12.2           United Kingdom         3, 762         1, 430         3, 923         6.8         3.6         9.1           Other countries         2, 307         1, 646         1, 453         4.3         4.1         3.4	French Africa (including Al-	, ,				1	
United Kingdom	geria and Tunis)		1, 161	6, 307 5 221			14. 7 12. 2
Other countries 2, 307 1, 646 1, 453 4.3 4.1 3.4	United Kingdom	3, 762	1,430	3, 923	6.8	3.6	9. 1
Total 54, 921 40, 003 42, 943 100. 0 100. 0 100. 0	Other countries	2, 307	1, 646	1,453	4.3	4. 1	3. 4
	Total	54, 921	40, 003	42, 943	100. 0	100. 0	100.0

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.

<sup>&</sup>lt;sup>1</sup> Preliminary.

Table 661.—Foreign trade of the United States in agricultural products, 1852-1923.

	Agricult	ural ex	ports. 1	Agricul impor	tural			Forest	product	s.
Year ending	Domes	stic.				Excess of agricultu- ral exports	Expo	orts.		Excess
June 30.	Total.	Percentage of all exports.	For- eign.	Total.	Per- cent- age of all im- ports.	(+) or of imports (-).	Do- mestic.	For- eign.	Im- ports.	of exports (+) or of imports (-).
Average:  1852-1856 1857-1861 1862-1866 1867-1871 1872-1876	Thou- sands. \$164, 895 215, 709 148, 866 250, 713 396, 666	Per cent. 80. 9 81. 1 75. 7 76. 9 78. 5	Thou- sands. \$8, 060 10, 174 9, 288 8, 538 8, 853	Thou- sands. \$77, 847 121, 018 122, 222 179, 774 263, 156	38. 2 43. 0 42. 3	Thou- sands. +\$95, 108 +104, 865 +35, 932 +79, 477 +142, 364	Thou- sands. \$6, 819 9, 995 7, 366 11, 775 17, 907	Thou- sands. \$694 962 798 691 960	Thou- sands. \$3, 256 6, 942 8, 511 14, 813 19, 728	Thou- sands. +\$4, 257 +4, 015 -347 -2, 347 -862
1877-1881	591, 351 557, 473 573, 287 638, 748	80. 4 76. 3 74. 7 73. 0	8, 632 9, 340 6, 982 8, 446	266, 384 311, 708 366, 950 398, 332	50. 4 46. 8 43. 3 51. 6	+333, 599 +255, 106 +213, 319 +248, 863	17, 579 24, 705 26, 061 29, 276	553 1, 417 1, 443 1, 707	22, 006 34, 253 39, 647 45, 091	-3,784 $-8,131$ $-12,144$ $-14,107$
1897-1901 1902-1906 1907-1911 1912-1916	827, 566 879, 541 975, 399 1, 256, 452	65. 9 59. 5 53. 9 45. 1	10, 962 11, 922 12, 126 24, 275	376, 550 487, 881 634, 571 924, 699	50. 2 46. 3 45. 2 50. 1	+461, 978 +403, 583 +352, 954 +356, 028	45, 961 63, 585 88, 764 92, 129	3, 283 3, 850 6, 488 5, 563	52, 327 79, 885 137, 051 185, 398	-3, 083 -12, 451 -41, 799 -87, 706
1900-1 1901-2 1902-3 1903-4 1904-5	951, 628 857, 114 878, 481 859, 160 826, 905	65. 2 63. 2 63. 1 59. 5 55. 4	11, 293 10, 308 13, 505 12, 625 12, 317	391, 931 413, 745 456, 199 461, 435 553, 851	47. 6 45. 8 44. 5 46. 6 49. 6	+570, 990 +453, 677 +435, 787 +410, 350 +285, 370	55, 369 48, 929 58, 734 70, 086 63, 199	3, 599 3, 609 2, 865 4, 177 3, 790	57, 144 59, 187 71, 478 79, 619 92, 681	+1, 825 -6, 649 -9, 879 -5, 356 -25, 691
1905-6	976, 047 1, 054, 405 1, 017, 396 903, 238 871, 158	56. 7 56. 9 55. 5 55. 1 50. 9	10, 856 11, 614 10, 299 9, 585 14, 470	554, 175 626, 837 539, 690 638, 613 687, 509	45. 2 43. 7 45. 2 48. 7 44. 2	+432, 728 +439, 182 +488, 005 +274, 210 +198, 119	76, 975 92, 949 90, 362 72, 442 85, 030	4, 809 5, 500 4, 570 4, 983 9, 802	96, 462 122, 421 97, 733 123, 920 178, 872	-14, 678 -23, 972 -2, 801 -46, 495 -84, 040
1910–11 1911–12 1912–13 1913–14 1914–15	1, 030, 794 1, 050, 627 1, 123, 652 1, 113, 974 1, 475, 938	51. 2 48. 4 46. 3 47. 8 54. 3	14, 665 12, 108 15, 029 17, 729 34, 420	680, 205 783, 457 815, 301 924, 247 910, 786	44. 5 47. 4 45. 0 48. 8 54. 4	+365, 254 +279, 277 +323, 381 +207, 456 +599, 571	103, 039 108, 122 124, 836 106, 979 52, 554	7, 587 6, 413 7, 432 4, 518 5, 089	162, 312 172, 523 180, 502 155, 261 165, 849	-48,235 $-43,765$
1915–16 1916–17 1917–18 1918–19	1, 518, 071 1, 968, 253 2, 280, 466 3, 579, 918	35. 5 31. 6 39. 1 50. 6	42, 088 37, 640 39, 553 103, 530	1, 189, 705 1, 404, 972 1, 618, 874 1, 768, 191	54. 1 52. 8 55. 0 57. 1	+370, 454 $+600, 921$ $+701, 144$ $+1, 915, 257$	68, 155 68, 919 87, 181 113, 275	4, 364 11, 172 6, 066 6, 004	322, 699 335, 033	-180, 331 -242, 609 -241, 787 -174, 501
1919-20	3, 861, 511 2, 607, 641 1, 915, 371 1, 798, 771	48. 6 40. 8 51. 8 46. 3	122, 598 87, 019 40, 590 43, 249	3, 129, 659 1, 941, 837 1, 279, 072 1, 893, 968	59. 7 53. 1 49. 0 50. 1	+854, 450 +752, 823 +676, 889 -51, 948	190, 049 141, 876 93, 586 128, 242	11, 026 7, 805 5, 275 7, 149	343, 141 249, 587	-307, 334 -193, 460 -150, 726 -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.

<sup>&</sup>lt;sup>1</sup>Not including forest products. <sup>2</sup> 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

		1920	<b>⊢21</b>			1921	-22			1922	-23	
Countries.	Fruit stocks.	Rose stocks.	Bulbs.	Tree seeds.	Fruit stocks.	Rose stocks.	Bulbs.	Tree seeds.	Fruit stocks.	Rose stocks.	Bulbs.	Tree seeds.
rgentina	Number.	Number.	Number.	Pounds.	Number.	Number.	Number.	Pounds.	Number.	Number.	Number.	Pounds.
ustralia				189, 925				57, 925				29, 117
ustria	1,018			2, 499				4, 923				4, 481
zores			30,000				· 19,000	<b>-</b>			27, 950	
Belgium Bermuda						2,050						
ermuda			102, 986				179, 286				311, 995	
Brazil British Guiana				2, 438				1, 276				
				100				120				92
			6 179	33				120				
Sanary Islands Seylon			0, 172					75				
hile								5				8
hina			4, 343, 136	150			1,003,035	744			1, 279, 224	3, 350
osta Rica	200			75			l	,,,	100			3,000
Cuba				1,000	174, 600			105				
zechoslovakia	203											
Denmark				İ						4		80
England		1, 181, 100	1, 082, 601	15,000	162	1,871,600	339, 024	380	180	2, 035, 800	449, 464	25
rance	18, 995, 767	2, 176, 282	45, 039, 413	32, 532	18, 079, 001	2, 432, 040	42, 311, 108	44, 491	17, 538, 115	2, 451, 700	40, 624, 911	30, 627
lermany Iolland			16, 660, 025	3, 814			12, 628, 750	3, 284	150, 100		18, 139, 025	1,99
lolland	2, 276, 951	2, 264, 010	115, 077, 763	3, 387	1, 149, 675	2, 325, 933	132, 386, 594	80	2, 913, 749	2, 886, 909	149, 475, 921	
Ionduras								150				
ndia		000 000		1, 178								
relandtlay		269, 800	1,000 3,341,000	2, 147		100,000			468, 700	161,000		
apan			6, 284, 786	2, 147	906, 350		385, 524 7, 233, 865	409	468, 700		1, 753, 389	
uxemburg	3,000		0, 284, 180	10, 607		500	7, 233, 865					17, 14
Aexico	1 500					800						
Norway					50							
Poland					00.			082				69
Scotland		43,000				40,000		900		40, 000		086
Siam		20,000				30,000		375				
pain								304				
weden								25				6
Vest Indies								1, 100			9, 210	26
		•						1,100				20

Federal Horticultural Board.

<sup>&</sup>lt;sup>1</sup> 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.

- · · · · · · · · · · · · · · · · · · ·			Production.		Farm	itt.   Dollars.   423   1, 297, 213, 000   658   1, 910, 775, 000   727   2, 222, 013, 000   658   1, 910, 775, 000   727   2, 222, 013, 000   647   614, 399, 000   950   543, 825, 000   856   183, 790, 000   923   259, 013, 000   923   259, 013, 000   923   725, 501, 000   304   478, 948, 000   415   539, 253, 000   406, 955, 000   106, 955, 000   647   40, 804, 000   647   40, 804, 000   647   40, 804, 000   812   11, 540, 000		
Crop.	Acreage.	Per acre.	Total.	Unit.	Per unit.	Total.		
	Acres.	-			Dolls.	Dollars.		
Corn192	1 103, 740, 000	29. 6 28. 3	3, 068, 569, 000 2, 906, 020, 000	Bushel	0.423	1, 297, 213, 000 1, 910, 775, 000		
192		29. 3	3, 054, 395, 000	do	.727	2, 222, 013, 000		
Winter wheat $_{192}$	43, 414, 000	13.8	600 316 000	do	. 951	571, 044, 000		
192		13.8	586, 878, 000	do	1. 047	614, 399, 000		
192 Spring wheat192	39, 522, 000 1 20, 282, 000	14. 5 10. 6	572, 340, 000 214, 589, 000	do	.856	183 790 00		
192	20, 282, 000	14. 1	280, 720, 000	do	923			
1	10' =00' 000	11. 4	213, 401, 000 814, 905, 000	do	. 851	181, 676, 00		
192 All wheat192	1 63, 696, 000	12, 8	814, 905, 000	do	. 926	754, 834, 00		
. 192	2   62, 317, 000	13. 9	867, 598, 000	do	1.007	873, 412, 00		
192 Dats192	58, 308, 000	13. 5 23. 7	785, 741, 000 1, 078, 341, 000	do	302			
192	45, 495, 000 2 40, 790, 000	29. 8	1, 215, 803, 000	do	394	478, 948, 00		
109	3 L 40 833 000	31. 8	1, 299, 823, 000	do	. 415	539, 253, 00		
Barley 192	7, 414, 000	20. 9	154, 946, 000	do	. 419	64, 934, 00		
192	2 7. 317. 000	24. 9	182, 068, 000	do	. 525			
192 Rye192	7, 905, 000	25. 1 13. 6	198, 185, 000 61, 675, 000	do	540			
192	4, 528, 000 6, 672, 000	15. 5	103, 362, 000	do	.685	70, 841, 00		
192	5, 157, 000	12. 2	63, 023, 000	do	. 647	40, 804, 00		
Buckwheat192	1 680,000	20.9	14, 207, 000	do	.812			
192		19. 1	14, 564, 000	do	.885	12, 889, 00		
192	737,000	18. 9 7. 2	13, 920, 000 8, 029, 000	do	. 933 1. 451	12, 984, 00 11, 648, 00		
Flaxseed192	1, 108, 000 2 1, 113, 000	9. 3	10, 375, 000	do	2. 115	21, 941, 00		
192	2,061,000	8.5	17, 429, 000	do	2. 108	36, 733, 00		
Rice192	921, 000 1, 055, 000	40.8	37, 612, 000	do	. 952	35, 802, 00		
192	2 1,055,000	39. 2	41, 405, 000	do	. 931	38, 562, 00		
192		37. 3 91. 8	33, 256, 000 361, 659, 000	do	1. 103 1. 101	36, 686, 00 398, 362, 00		
Potatoes,192	3, 941, 000 2 4, 307, 000	105. 3	453, 396, 000	do	.581	263, 355, 00		
109	3 816 000	108. 1	412, 392, 000	_do	823	339, 322, 00		
Sweet potatoes192	1 1,066,000	92.5	98, 654, 000	do	. 881	86, 894, 00		
	2   1,117,000	97. 9	109, 394, 000	do	.771	84, 295, 00		
192 Hay, tame192	993,000 58,769,000	97. 9 1. 40	97, 177, 000 82, 379, 000	Tons	. 979 12. 11	95, 091, 00 997, 527, 00		
192	2 61, 159, 000	1. 57	95, 882, 000	do		1, 204, 101, 00		
192	60, 162, 000	1.48	89, 098, 000	do	14.07	1, 253, 364, 00		
192 Hay, wild192	1 15, 632, 000	. 98	15, 391, 000	do	6. 63	101, 991, 00		
192	2   15,871,000	1.02	16, 131, 000	do	7. 14 7. 85	115, 176, 00 137, 603, 00		
192 All Hay192	3   15, 722, 000 1   74, 401, 000	1. 11 1. 31	17, 528, 000 97, 770, 000	do	11. 25	1, 099, 518, 00		
192	2 77, 030, 000	1.45	112, 013, 000	do		1, 319, 277, 00		
192	3 75, 884, 000	1.41	106, 626, 000	do	13, 05	1, 319, 277, 00 1, 390, 967, 00		
Гоbacco192	1 1, 427, 000	750	1, 069, 693, 000	Pounds	.199	212, 728, 00		
192		736	1, 246, 837, 000	do	. 232	289, 248, 00		
192 Cotton192	3 1,820,000 1 30,509,000	810 1 124. 5	1, 246, 837, 000 1, 474, 786, 000 2 7, 953, 641	Bales	. 203 8 . 162	298, 936, 00 643, 933, 00		
Otton192		1 141. 5	2 9, 761, 817	do	3 . 238	1, 161, 846, 00		
192	3   37, 420, 000	1 128. 8	10, 081, 000	do	8.310	1, 563, 347, 00		
Cottonseed192	1		2 3 531 000	Tons	29. 15	102, 929, 00		
192			2 4, 336, 000 4, 476, 000	do	40. 18 45. 92	174, 220, 00 205, 538, 00		
Cleversed 192	889,000	1.7	4, 476, 000 1, 538, 000	Bushel		16, 529, 00		
Cloverseed192		1.6	1, 887, 000	do		18, 971, 00		
192		1.5	1, 233, 000	do		15, 027, 00		

<sup>&</sup>lt;sup>1</sup> Pounds per acre.

<sup>&</sup>lt;sup>2</sup> Census.

<sup>&</sup>lt;sup>3</sup> Per pound.

Table 663.—Acreage, production, and farm value, 1921-1923—Continued.

			Production.		Farm v	value, Dec. 1.
Crop	Acreage.	Per acre.	Total.	Unit.	Per unit.	Total.
	Acres.				Dolls.	Dollars.
Sugar beets1922	530, 000	9.77	5, 183, 000	Tons		41, 016, 000 11 49, 890, 000
1923 G Beet sugar1922 G	651, 000 530, 000	10. 59 1, 27	6, 893, 000 675, 000	do	7. 91	11 49, 890, 000
1993 (	651,000	1. 36	884, 000	do		
Cane sugar (La.)1922 1923	241, 000 228, 000	1. 22 . 74	295, 000 169, 000	do		
Maple sugar and sirup			•			
(as sugar)1922 1923	5 16, 274, 000 5 15, 291, 000	6 2. 11 6 2. 19	34, 263, 000 33, 533, 000	Pounds	7.219 7.232	7, 504, 000 7, 780, <b>0</b> 00
Sorghum sirup1921	518, 000	88. 0	45, 566, 000	Gallons	. 629	28, 681, 000
1922	447, 000	81. 5	36, 440, 000	do	. 710 . 862	25, 855, 000 27, 595, 000
Peanuts1923	380, 000 1, 214, 000	84. 2 683	32, 001, 000 829, 307, 000	Pounds	.040	33, 097, 000
1922	1,005,000	630	633, 114, 000	do	.047	29, 613, 000
1923	884, 000	720	636, 462, 000 9, 150, 000	Bushel	. 068 2. 67	43, 078, 000 24, 399, 000
Beans 81921	777, 000 1, 074, 000	11.8 11.9	12, 734, 000	do		<b>47</b> , <b>640</b> , 000
1923	1, 297, 000	12. 1	15, 740, 000	do		57, 480, 000
Grain sorghums 8 1921 1922	4, 635, 000 5, 064, 000	24. 6 17. 9	113, 990, 000 90, 524, 000	do	. 391	44, 575, <b>0</b> 00 79, 503, <b>00</b> 0
1923	5, 776, 000	18.3	105, 619, 000	do	041	99, 353, 000
Broomcorn 81921	222, 000	344	38, 200	Tons	72. 20	2, 758, 000 8, 186, 000
1922 1923	275, 000 498, 000	271 278	37, 300 69, 300	do	160, 61	11, 130, 000
Onions 9 8	63 290	296	18, 763, 000	Bushel	10.85	15, 876, 000
1923	61, 100 131, 780	267 8, 1	16, 318, 000 1, 062, 800	do Tons	10 1. 35 1011.83	22, 011, 000 12, 568, 000
Cabbage 9 8	98, 200	7. 5	740, 000	do	1023.22	17, 183, 000
Hops 8 1921	27,000	1,087	29, 340, 000	Pounds	. 241	7, 080, 000 2, 383, 000
1922 1923	23, 400 15, 800	1,186 1,125	27, 744, 000 17, 770, 000	do	. 187	3, 329, 000
Cranberries 81921	25,000	15. 4	384, 000	Barrels		6, 526, 000
1922	25,000	22. 4 24. 4	560, 000 610, 000	do		5, 702, 000 4, 423, 000
1923 Apples, total1921	25, 000		99, 002, 000	Bushel		166, 343, 000
1922		<u>-</u>	202, 702, 000 196, 770, 000	do	. 986	199, 848, 000
Apples, commercial1923			196, 770, 000 21, 557, 000	Barrels	1. 022 4. 60	201, 110, 000 99, 131, 000
Apples, commerciai 1921			31, 945, 000	do	2.93	93, 636, 000
1923			34, 303, 000	do Bushel	2.80 1.587	95, 979, 000 51, 739, <b>0</b> 00
Peaches1921			32, 602, 000 55, 852, 000	do		74, 717, 000
1923			45, 702, 000	do	1.40	64, 043, 000
Pears			11, 297, 000 20, 705, 000	do	1.706 1.06	19, 268, 000 21, <b>943, 000</b>
1922 1923			17, 390, 000	do	1. 211	21, 053, 000
Oranges (2 States)1921			20, 300, 000	Boxes	2.51	51, 000, 000 63, 310, 000
1922 1923			30, 200, 000 34, 800, 000	do	2.10 1.84	64, 080, 000
Total1921 1922	348, 431, 500 350, 094, 470					5, 631, 373, 000 7, 449, 804, 000
1922 1 <b>923</b>	350, 698, 100					8, 322, 695, 000

Division of Crop and Livestock Estimates.

<sup>4</sup> Including beets grown in Canada for United States factories.
5 Trees tapped.
6 Per tree.
7 Price March 15.
8 Principal producing States.
9 Commercial crop.
10 Price for season.
11 Largely minimum contract price.

Table 664.—Crop acreages, aggregates, by States, 1921-1923.

State	Acre	eage of 19 c	rops.	Per cent of total acreage		creage of a theoretical	
State.	1921	1922	1923	in specified crops.1	1921	1922	1923
Maine	1,000 acres. 1,571 520 1,122 564 64	1,000 acres. 1,537 523 1,139 567 63	1,000 acres. 1,546 512 1,144 566 61	Per cent. 96 94 93 86 84	1,000 acres. 1,636 553 1,206 656 76	1,000 acres. 1,601 556 1,225 659 75	1,000 acres. 1,610 545 1,230 658 73
Connecticut New York New Jersey Pennsylvania Delaware	475 8, 073 904 7, 973 408	476 8, 128 902 7, 781 419	8,081 896 7,689 412	88 91 86 97 89	540 8, 871 1, 051 8, 220 458	541 8, 932 1, 049 8, 022 471	539 8, 880 1, 042 7, 927 463
Maryland Virginia West Virginia North Carolina South Carolina	1,803	1, 805	1,760	91	1, 981	1, 984	1, 934
	4,467	4, 578	4,517	93	4, 803	4, 923	4, 857
	1,888	1, 927	1,884	95	1, 987	2, 028	1, 983
	6,240	6, 799	6,852	94	6, 638	7, 233	7, 289
	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, 426
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
Minnesota	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 Alabama Mississippi Louisiana Texas	6, 458	6, 657	6, 508	91	7, 097	7, 315	7, 152
	7, 964	7, 885	7, 842	93	8, 563	8, 478	8, 432
	6, 564	6, 642	6, 395	96	6, 838	6, 919	6, 661
	3, 856	3, 820	3, 889	91	4, 237	4, 198	4, 274
	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
	4, 026	3,929	3, 948	86	4, 681	4, 569	4, 591
	2, 812	2,800	2, 840	80	3, 515	3, 500	3, 550
	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.

<sup>&</sup>lt;sup>1</sup> Based on census proportions in 1919. <sup>2</sup> Includes cotton acreage in Lower California (85,000 acres in 1921, 135,000 acres in 1922, and 148,000 acres in 1923).

Table 665.—Seed used per acre, approximate averages for the United States.

Crop.	Average of reports.	Estimated range of bulk of plantings.	Crop.	Average of reports.	Estimated range of bulk of plantings.
Alfalfa:  Broadcast_pounds_ Drilled do  Barley bushels  Beans, field:  Small do  Bects, common (not sugar) pounds  Blue grass bushels  Broom corn pounds  Buck wheat bushels  C a b b a g e p l a n t s  Clover:  Alsike pounds  Japan do  Mammoth do  Red, alone do  Red, on grain do  Corn:  For grain do  For grain do  Cotton bushels  Cowpeas:  For forage do  In drill with corn bushels  For seed do	14. 8 1. 84 . 76 1. 29 6. 3 1. 07 6. 0 . 98	15 to 20. 12 to 18. 1.5 to 2. 0.5 to 1. 1 to 1.5. 5.5 to 7.5. 0.75 to 1.25. 3 to 7. 0.75 to 1.25. 5,000 to 7,000. 8 to 12. 9 to 15. 8 to 12. 8 to 12. 8 to 12. 10 to 15. 6 to 12. 15 to 35. 0.9 to 1.1. 1 to 1.5. 0.40 to 0.65. 0.50 to 0.75.	Field peas: Small bushels Large do Flaxsed pounds Oats bushels Orchard grass	1. 44	0.75 to 1.25. 1 to 1.5. 25 to 30. 2 to 2.5.  10 to 15. 1 to 1.1. 7 to 12. 1.5 to 2.5.  1.25 to 1.75. 1.5 to 2. 0.50 to 1. 1 to 1.50. 12 to 18. 6,000 to 7,000. 8 to 12.

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 1911 1912 1913 1914 1915	97. 2 99. 1 98. 9 102. 2 102. 3 97. 7	89. 3 98. 8 98. 2 101. 5 102. 3 101. 6	93. 5 85. 4 100. 3 95. 5 98. 0 103. 9 97. 4	97. 2 84. 8 104. 1 89. 9 97. 9 105. 5 94. 6	99. 6 86. 7 110. 0 90. 3 99. 4 106. 9 94. 5	99. 3 90. 6 107. 7 93. 3 102. 3 108. 0 95. 1	1917 1918 1919 1920 1921 1922 1923	94. 2 102. 9 104. 7 94. 8 93. 2 99. 2 95. 3	97. 8 101. 6 102. 3 99. 7 96. 4 97. 9 96. 4	99. 8 98. 9 97. 8 105. 4 93. 0 101. 2 97. 4	102. 5 94. 1 98. 8 107. 0 92. 9 98. 8 98. 3	102. 4 96. 6 98. 7 106. 9 91. 1 98. 7 98. 4	102. 0 97. 6 99. 8 106. 9 91. 7 96. 7 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 New Hampshire Vermont	98. 2 93. 2 100. 0		89. 2	113.8		121.8	110.3	105.7	105. 9 104. 7 104. 1	89. 6 104. 2 104. 0	93.8	104. 5	107.8
MassachusettsRhode IslandConnecticutNew York	90. 1 93. 7 94. 0 90. 2	107. 0 98. 0 103. 0 105. 0	101.4	113. 4 111. 7			114.3	103. 4 97. 8		97. 9 103. 6	102. 4	88. 5 91. 8	114.6
New Jersey Pennsylvania N. Atlantic	89. 2 90. 6 91. 6	106. 0 110. 0	101. 2 98. 0	104. 9 105. 5	107. 1	107. 2 106. 0		100. 0 101. 6	104. 9	109. 3	94. 0	104. 8	88. 2 92. 3 100. 3
Delaware	95. 5 89. 5 90. 6	112. 0 108. 0	97. 1	109. 3 112. 9	99. 1 99. 6 114. 5	100. 6 106. 4	104. 1 106. 0 108. 2	91. 1 99. 9	90.8	111. 2 112. 0	87. 8 90. 2	107. 4 104. 6	104. 5 102. 3
West Virginia North Carolina South Carolina	77. 8 100. 4 103. 4 107. 9		93. 3 103. 5 105. 9 103. 9	94. 7 108. 1 103. 7	113. 0 103. 3 92. 3 92. 0	110. 4 95. 0 83. 3 91. 5	103. 1 97. 3 102. 0	99. 1 105. 9 98. 3	102. 4 92. 3 94. 3	109. 1 106. 6	91. 0 85. 0 74. 0	101. 4 93. 4 68. 4	103. 9 107. 9 89. 9
GeorgiaFlorida	99. 6	106	111. 1	112. 0	99. 6	95. 4	94. 5	98. 8	92. 3	96. 5	90. 5	110. 2	100. 6

Table 667.—Crops: Index numbers of all crop yields, 1911-1923—Continued.

State and division.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Ohio Indiana Illinois Michigan	94. 7 97. 7	102. 0 110. 0 101. 0	80. 3 93. 6	92. 7 85. 3 111. 4	99. 6	92. 4 95. 7 93. 3	108. 8 120. 0 97. 8	109, 8 111, 0 90, 0	96. 2 96. 6 99. 8	101. 2 109. 0	94. 1 85. 3	102. 5 107. 4	103. 2 107. 1 104. 5
Wisconsin	96. 6		92.8	106. 3 96. 9	1034		103. 4 110. 0				89. 4 89. 8		92.6
E. N. Centrai	95. 5	100. 1	92.8	90. 9	110.0	94. /	110.0	100.0	100: 6	106. 2	89. 8	102. 4	103. 3
Minnesota	82. 3 82. 3 88. 1 84. 4 48. 1 74. 5 71. 5	128. 0 105. 0 142. 0 115. 0 92. 0	71. 1 98. 2 81. 8 78. 0	104. 9 84. 6 99. 2 93. 6 102. 9	108. 8 137. 3 137. 2 125. 4	78. 8 72. 5 88. 8 113. 9	110.8 124.0 64.9 115.1	103. 8 84. 4 108. 1 138. 9 78. 0	107. 4 105. 7 69. 2 88. 7 114. 5	112. 6 114. 2 91. 1 104. 0 137. 3	98. 8 101. 8 82. 3 87. 0	110. 2 101. 3 127. 0 103. 1 89. 1	107. 8 81. 3 101. 9 109. 4
W. N. Central	78. 1	117. 3	88. 6	101. 9	118.2	90. 6	104. 6	101. 1	100. 2	113. 0	95. 6	103. 3	99. 1
Kentucky Tennessee Alabama Mississippi Louisiana Texas	105. 8 97. 8	104. 0 102. 0 106. 0 98. 0 100. 0 122. 0	82. 9 88. 1 101. 0 98. 6 101. 5 103. 2	98. 5 110. 1		101. 0 64. 3 67. 4 102. 1	108. 9 105. 1 90. 2 103. 0 94. 6 73. 9	95. 5 101. 1	95. 6 82. 1 92. 5 87. 4			92.7 95.5 96.7	
Oklahoma Arkansas	64. 4 101. 4	99. 0 99. 0	61. 7 94. 5	105. 6 96. 9	122. 2 103. 5	79. 2 92. 4	86. 8	66. 3 75. 6	138. 7 98. 0	139. 6 106. 7	92. 4 104. 9 91. 7	76. 7 92. 2	74. 5 66. 4
S. Central	91. 2			103. 1	103. 8		93. 0			107. 4	92. 9	89. 9	82.8
Montana Wyoming Colorado New Mexico Arizona Utah Nevada Idaho Washington Oregon California  Western	93. 0 125. 6 106. 5 102. 3 96. 4 102. 1		93. 9 91. 9 88. 8 83. 6 116. 0 92. 2 104. 7 101. 6 104. 5 88. 4	110. 0 97. 9 100. 2 118. 6	106. 7 99. 4 99. 2 100. 3 94. 0 94. 5 97. 9 104. 3 100. 4 103. 8	85. 9 86. 9 91. 9 86. 0 109. 0 88. 4 94. 0 88. 8 107. 0 101. 7	55, 3 88, 3 102, 9 84, 6 99, 5 108, 7 106, 2 90, 7 83, 1 103, 2 91, 2	68. 9 104. 7 96. 3 96. 2 94. 0 94. 0 92. 2 89. 0 74. 8 80. 2 88. 5	40. 4 65. 1 90. 1 104. 3 112. 0 78. 2 88. 1 81. 5 94. 4 98. 0 99. 4	82. 6 113. 2 105. 1 107. 2 96. 8 102. 7 90. 5 98. 2 92. 5 102. 9 96. 3	84. 5 86. 5 98. 7 95. 6 110. 5 107. 7 98. 2 108. 0 108. 9 96. 2 98. 3	100. 1 94. 3 87. 2 59. 4 93. 9 90. 2 108. 2 94. 7 79. 3 87. 5 105. 4	103. 9 94. 4 93. 5 87. 7 109. 8 105. 9 103. 5 105. 3 118. 4 FFI. 6 107. 7
United States	90. 6	107. 7	93. 3	102. 3	1 <b>0</b> 8. 0	95. 1	102. 0	97. 6	99. 8	106. 9	91. 7	96. 7	96. 1

Division of Crop and Livestock Estimates. Index numbers of individual crops relative to a 10-year moving average yield, weighted by States, according to crop values in 1919.

Table 668.—Crops: Average weight in pounds per measured bushel of wheat, oats, and barley, United States, 1902-1923.

	Weight p	er measure	ed bushel.1		Weight per measured bushel.			
Calendar year.	Wheat.	Oats. Barley.		Calendar year.	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	46. 2	
1904	55. 5	. 31.5		1915	57. 9	33. 0	47. 4	
1905	57. 5	32:7		1916	57. 1	31. 2	45. 2	
1906	58. 3	32.0		1010	01.1	. 01.2	10.	
1000	00			1917	58. 5	33. 4	46.6	
1907	58. 2	29.4	1	1918	58. 8	33. 2	46. 9	
1908	58. 3	29. 8		1919	56. 3	31. 1	45. 2	
1909	57. 9	32.7		1920	57. <b>4</b>	33. 1	46.0	
			40:0	1921	56. 6	28.3	44.4	
1910	58: 5	32.7	46.9	1921	50. 6	20.0	11.7	
1911	578.	31. 1	46.0	1000		00.0	46. 2	
				1922	57. 7	32.0		
1912	58.3	33. 0	46.8	1923	57. <b>4</b>	32.1	45. 3	

Division of Crop and Livestock Estimates. As reported by crop reporters on Nov. 1.

<sup>1</sup> Standard weights: Wheat, 60 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		1881 1882 1883 1884 1885	\$13. 10 12. 93 10. 93 9. 95 9. 72	1896 1897 1898 1899	\$7. 94 9. 07 9. 00 9. 13 10. 31	1911 1912 1913 1914 1915	\$15. 36 16. 09 16. 49 16. 44 17. 18
1871 1872 1873 1874 1875	15. 74 14. 86 14. 19 13. 25 12. 20	1886	9. 41 10. 14 10. 30 8. 99 11. 03	1901 1902 1903 1904 1905	11. 43 12. 07 12. 62 13. 26 13. 28	1916	22. 58 33. 27 33. 73 35. 74 23. 26
1876 1877 1878 1879 1880	10. 80 12. 00 10. 37 13. 26 13. 01	1891 1892 1893 1894 1895	11. 76 10. 10 9. 50 9. 06 8. 12	1906 1907 1908 1909 1910	13. 46 14. 74 15. 32 16. 00 15. 53	1921 1922 1923	14. 45 19. 23 21. 55

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 closely approximates the value per acre of the aggregate of all crops.

Table 670.—Crops: Value of 22 crops and of all crops, with rank.

	Value all	Ratio value	V	alue 22 croj	ps.	Va	alue all cro	ps.		nk 23
State.	erops, 1919 census. <sup>1</sup>		1919 census.	1922	1923	1917–1921 average.	1922	1923	22 crops.	All erops.
Me N. H Vt Mass R. I	23, 510 48, 000	92 79 77 68	1,000 dols. 91, 982 18, 479 36, 835 36, 601 3, 680	36, 475 15, 504	50, 146 15, 751 32, 660	1,000 dols. 68, 218 23, 175 47, 503 56, 059 5, 839	39, 647 19, 625 41, 788 43, 432	54, 507 19, 938 42, 416	35 45 40 39 48	38 45 40 37 48
Ct N. Y N. J Pa Del	44, 473 417, 047 87, 484 409, 969 23, 059	77 70 86	36, 006 321, 598 61, 273 350, 991 16, 516	31, 816 213, 929 38, 939 210, <b>2</b> 90 11, 127	40, 496 243, 332 39, 523 221, 965 12, 297	49, 949 393, 342 79, 809 362, 808 22, 290	277, 830 55, 627 244, 523	316, 016 56, 461	37 10 38 15 46	39 8 36 16 46
Md Va W. Va N. C S. C	110, 166 292, 824 96, 537 503, 229 437, 122	85 81 87	88, 066 247, 463 78, 143 438, 892 360, 025	50, 512 146, 988 53, 747 283, 297 128, 149	54, 048 158, 170 61, 984 361, <b>6</b> 91 214, 605	96, 002 246, 315 100, 398 404, 926 327, 851	63, 140 172, 927 66, 354 325, 629 156, 279	67, 560 186, 082 76, 523 415, 737 261, 713	34 25 33 4 16	35 25 33 5 14
Ga Fla Ohio Ind Ill	540, 614 80, 257 607, 038 497, 230 864, 738	80 62 87 90 92	430, 270 49, 521 526, 943 449, 079 797, 893	167, 577 48, 189 245, 078 203, 357 385, 337	189, 112 43, 267 283, 631 235, 278 422, 748	440, 296 80, 044 453, 534 394, 281 675, 957	209, 471 77, 724 281, 699 225, 952 418, 845	236, 390 69, 785 326, 013 261, 420 459, 509	19 36 6 12 3	18 34 6 15 3
Mich Wis Minn Iewa Mo	404, 015 445, 348 506, 020 890, 391 559, 048	82 81 89 92 89	329, 651 360, 404 450, 327 820, 126 496, 261	176, 217 216, 096 252, 241 423, 815 248, 377	198, 827 222, 402 269, 217 437, 846 285, 776	316, 498 382, 716 424, 682 640, 307 420, 456	214, 899 266, 785 283, 417 460, <b>6</b> 68 279, 075	242, 472 274, 570 302, 491 475, 920 321, 097	18 14 8 2 5	17 12 9 2 7
N. Dak S. Dak Nebr Kans Ky	301, 783 311, 007 519, 730 588, 923 347, 339	92 93 95 91 89	278, 315 288, 376 491, 338 536, 408 310, 224	214, 825 168, 507 243, 562 262, 771 195, 204	141, 316 178, 993 271, 532 259, 330 201, 220	270, 863 296, 806 390, 620 443, 857 312, 890	233, 505 181, 190 256, 381 288, 759 219, 330	153, 604 192, 466 285, 823 284, 978 226, 090	26 21 7 9 17	27 24 10 11 20
Tenn Ala Miss La Tex	318, 285 304, 349 336, 207 206, 182 1, 071, 542	83 81 83 71 83	263, 797 246, 271 278, 539 147, 290 885, 955	179, 237 184, 708 184, 213 97, 161 579, 815	172, 527 184, 232 160, 781 114, 410 883, 763	258, 602 258, 952 264, 230 195, 256 798, 117	215, 948 228, 035 221, 943 136, 846 698, 572	207, 864 227, 447 193, 712 161, 141 1, 064, 775	22 20 24 28 1	21 19 23 26 1
OklaArkMontWyoColo	550, 085 340, 813 69, 975 30, 271 181, 065	88	479, 314 283, 175 60, 058 26, 528 137, 660	208, 348 189, 120 87, 227 21, 631 79, 499		353, 692 274, 380 98, 378 42, 095 154, 543		264, 975 207, 735 103, 226 30, 636 132, 143	13 23 30 42 29	13 22 30 43 29

<sup>&</sup>lt;sup>1</sup> 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.

g	Value all			alue 22 cro	os.	V٤	ps.	Rank 1923		
State.	crops,1919 census.	to all crops in census 1919.	1919 census.	1922	1923	1917-1921 average.	1922	1923	22 crops.	All crops.
	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			26, 100	44	44
Ariz	42, 481	84	35, 478	23, 380	30, 525	35, 304		36, 339	41	42
Utah	58, 067	70	40, 901	23, 110						41 47
Nev	13, 980	96	13, 439	10, 211	8, 953	14, 409	10, 636	9, 326	47	47
Idaho	126, 495	88 82 75	111, 940	64, 543	71, 551	106, 209	73, 344	81, 308	31 27 32	32
Wash	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			94, 507	32	31
Calif	589, 757		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.

Products.	1919	1920	1921	1922	1923, pre- limi- nary.
CROPS. <sup>1</sup>	Million dollars.	Million dollars.	Million dollars.	Million dollars.	Million dollars.
Cereals:	178	135	65	96	107
Barley	3,781	2, 150	1, 297	1, 912	2, 222
CornGrain sorghums	167	128	45	79	2, 222
Oats	834	688	326	479	539
Rice	112	62	36	39	37
Rve	101	77	43	71	41
Wheat	2,080	1, 197	755	874	726
Other	2, 40	28	18	21	22
O (IIO)					
Total cereals	7, 293	4,465	2, 585	3, 571	3, 793
Cotton lint and seed	2,371	1, 204	777	1,306	1, 769
Flax fiber and seed		20	12	22	37
Fruits and fruit products:	1	1			1
Apples	261	257	166	200	201
Grapes, raisins, and juice	103	105	62	143	140
Oranges		66	49	64	65
Peaches	100	96	52	75	80
Pears	28	28	19	22	21
Strawberries	36	38	42	42	44
Other	166	154	117	146	130
Total fruits and fruit products	755	744	507	692	681
Hay and forage	2, 161	1,867	1, 173	1, 399	1, 480
Legume seeds:					
Beans, dry edible	60	28	26	50	60
Peanuts	73	44	33	30	43 72
Other	64	51	50	85	72
Total legume seeds	197	123	109	165	175
Seeds for planting (clover, etc.)	104	57	40	48	38
Sugar and sirup crops (including no sugar except	251		•	10	
maple): Maple sirup and sugar	10	12	6	8	8
Sorghum sirup		53	29	26	28
Sugar beets for sugar	75	100	50	41	50
Sugar cane and sirup	73	70	56	53	56
				i	
Total sugar crops	202	235	141	. 128	142

<sup>1</sup>Based on farm price Dec. 1, except cotton, 1919 to 1922; cotton weighted, year beginning Aug. 1.

Table 671.—Farm production: Estimated value, principal products and groups of products, calendar years 1919-1923.—Continued.

Products.	1919	1920	1921	1922	1923, pre- liminary
crops 1—continued.	Million dollars.	Million dollars.	Million dollars.	Million dollars.	Million dollars.
TobaccoVegetables:	570	336	213	289	299
PotatoesSweet potatoes	515 131	462 118	398 87	264 84	340 95
Truck crops (commercial) Farm gardens	192 345	209 375	185 311	209 337	246 408
Total vegetables	1, 183	1, 164	981	894	1,089
Farm forest products Other crops.	394 160	562 132	271 125	305 126	318 132
Total crops	15, 423	10, 909	6, 934	8, 945	9, 953
ANIMAL PRODUCTS, INCLUDING ANIMALS RAISED.					
Animals raised: Cattle	1, 578 146	1, 194 152	786 156	975 152	924 141
Mules	60	46	32	42	36
Sheep Swine Other	2, 230 9	95 1, 575 8	1,091 4	$124 \\ 1,273 \\ 8$	143 1,145 8
Total animals raised	4, 158	3, 070	2, 137	2, 574	2, 397
Bee products Dairy products:	15	17	10	11	11
Milk sold <sup>2</sup> Milk consumed on farms <sup>2</sup>	1, 041 818	1, 033 878	837 730	722 635	911 785
Total whole milk at sale price 2	1, 859	1, 911	1, 567	1, 357	1,696
Butter madeCheese made	345 . 2	366 2	241 2	220 1	246 1
Cream sold <sup>3</sup> Butterfat sold	109 398	117 404	81 364	76 324	98 379
Buttermilk	14	12	5	5	6
Whey Skim milk	233	(1) 206	(4) 92	102	(4) 140
Total dairy products	2, 960	3, 018	2, 352	2, 085	2, 566
Poultry products: Eggs produced Poultry raised	683 417	765 456	542 390	512 406	602 445
Total poultry products	1, 100	1, 221	932	918	1,047
WoolOther animal products	128	-90 3	36	69	87 3
Total animal products	8, 364	7, 419	5, 468	5, 659	6, 111

Division of Crop and Livestock Estimates.

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. <sup>1</sup>
1897	\$2, 519, 000, 000	\$1, 442, 000, 000	\$2, 904, 000, 000
	2, 760, 000, 000	1, 579, 000, 000	3, 161, 000, 000
	3, 020, 000, 000	1, 718, 000, 000	3, 355, 000, 000
	3, 192, 000, 000	1, 818, 000, 000	3, 549, 000, 000
	3, 385, 000, 000	1, 917, 000, 000	3, 643, 000, 000
	3, 578, 000, 000	2, 116, 000, 000	4, 136, 000, 000
	3, 772, 000, 000	2, 140, 000, 000	4, 262, 000, 000
	4, 203, 000, 000	2, 261, 000, 000	4, 387, 000, 000
	4, 263, 000, 000	2, 501, 000, 000	4, 784, 000, 000

<sup>&</sup>lt;sup>1</sup> 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.

Based on farm price Dec. 1, except cotton, 1919 to 1922; cotton weighted, year beginning Aug. 1.
 Includes milk equivalent of cream for household use.
 For cream powder and ice cream.
 Less than \$500,000.

Table 672.—Farm production: Value of farm products, based on prices at the farm, 1897-1923.—Continued.

Calendar year.	Crops.	Animal products.	Total (estimated) value, excluding crops fed to livestock. <sup>1</sup>
1907 1908 1909 (census) 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1919 1920 1921	5, 487, 000, 000 5, 486, 000, 000 5, 562, 000, 000 5, 842, 609, 000 6, 133, 000, 000 6, 112, 000, 000 9, 054, 000, 000 13, 479, 000, 000 14, 331, 000, 000 15, 423, 000, 000 16, 934, 000, 000 8, 945, 000, 000	\$2, 727, 000, 000 2, 792, 000, 000 3, 793, 000, 000 3, 551, 000, 000 3, 551, 000, 000 3, 501, 000, 000 3, 717, 000, 000 3, 783, 000, 000 4, 352, 000, 000 4, 352, 000, 000 8, 149, 000, 000 8, 164, 000, 000 7, 419, 000, 000 5, 468, 000, 000 5, 659, 000, 000 6, 111, 000, 000 6, 111, 000, 000	\$5, 195, 000, 000 5, 464, 000, 000 6, 6053, 000, 000 6, 607, 000, 000 6, 233, 000, 000 7, 119, 000, 000 7, 181, 000, 000 7, 687, 000, 000 9, 658, 000, 000 13, 380, 000, 000 16, 728, 000, 000 17, 810, 000, 000 14, 147, 000, 000 9, 922, 000, 000 11, 244, 000, 000 12, 204, 000, 000

Division of Crop and Livestock Estimates.

<sup>1</sup> 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.

#### REFRIGERATION.

Table 673.—Total refrigerated space: Meat-packing establishments and cold storages reporting to the Bureau of Agricultural Economics, October 1, 1923.

Concerns	reporting to	the Da	or card of 11g.				×0.
Cerns.   Cerns.   Cerns.   Copen   C	~ .	Con-	Cubic f	eet of space hel	d at temperate	ires of—	
Alaska         5         66, 666         616, 339         12, 360         2, 000         697, 345, 208           Arkansa         8         15, 000         77, 33         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, 776, 803           District of Columbia         3         20, 000         258, 000         207, 397         1, 280, 000         1, 765, 397           Florida         6         20, 250         66, 650         416, 350         35, 400         538, 630           Georgia         18         20, 552         147, 048         1, 975, 347         11, 040         2, 153, 967           Idaho         12         39, 051         266, 650         416, 350         35, 400         588, 659           Illinois         99         14, 042, 221         12, 695, 390         97, 478, 037         8, 976, 560         133, 192, 208           Indiama <t< td=""><td>State.</td><td></td><td></td><td></td><td>30° to 44°.</td><td></td><td>Total space.</td></t<>	State.				30° to 44°.		Total space.
Alaska         5         66, 666         616, 339         12, 360         2, 000         697, 365           Arizona         5         15, 360         27, 840         442, 096	Alabama	4	11, 094	100, 953	1, 214, 548	9, 600	1, 336, 195
Arizona 5   15,360   27,840   442,906	Alaska	5	66, 666	616, 339	12, 360	2,000	
California.         68         1,056,867         1,883,665         16,717,331         196,774         19,864,637           Colorado.         17         345,175         984,282         4,40,345         588,109         6,857,911           Connecticut.         6         248,468         61,350         1,388,440         131,545         1,779,803           District of Columbia         3         20,000         258,000         207,397         1,280,000         1,765,397           Florida.         6         20,250         66,650         416,550         35,400         538,650           Georgia.         18         20,532         147,048         1,975,347         11,040         2,153,967           Idaho.         12         30,051         267,697         345,924         25,869         678,541           Illinois.         99         14,042,221         12,695,399         97,4785,037         8,976,560         133,192,208           Indian.         47         361,457         1,266,146         12,343,335         945,664         14,916,602           Iowa.         42         1,258,563         4,461,519         16,353,517         2,062,291         22,135,800           Lowa.         42         1,258,563	Arizona						485, 296
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 Columbia         3         20, 000         228, 000         207, 397         1, 280, 000         1, 765, 397           Florida         6         20, 250         66, 650         416, 550         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, 800           Kansas         33         2, 155, 537         4, 794, 712         31, 129, 351         5, 368, 096         44, 768, 671	Arkansas						620, 946
Connecticut.         6         248, 488         61, 350         1, 338, 440         131, 545         1, 779, 803           District of Columbia         3         20, 000         258, 000         207, 397         1, 280, 000         1, 765, 397           Florida         6         20, 250         66, 650         416, 350         35, 400         2538, 650           Georgia         18         20, 532         147, 048         1, 975, 347         11, 040         2, 158, 967           Idaho         12         39, 051         267, 697         345, 924         25, 869         678, 541           Illinois         99         14, 042, 221         12, 685, 390         97, 478, 037         8, 976, 560         133, 192, 208           Indian         47         361, 457         1, 266, 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, 587         4, 744, 712         31, 129, 351         5, 368, 966         43, 447, 606           Kentucky         17         358, 021         286, 978         4, 019, 622         104, 050         4, 788, 671	California	68	1, 056, 867	1,893,665	16, 717, 331	196, 774	19, 864, 637
District of Columbia   3	Colorado	17	345, 175				6, 857, 911
Florida	Connecticut					131, 545	1,779,803
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         1,266,146         12,343,335         945,664         14,916,602           Lowa         42         1,258,563         2,461,519         16,353,517         2,062,291         22,135,800           Kansas         33         2,155,537         4,794,712         31,129,351         5,368,096         43,447,606           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         223         543,271         288,589         4,758,897         79,255         56,69,992           Massachusetts         44         7,119,030         1,70	District of Columbia						
Idaho	Florida						
Illinois							
Indiana	Idaho						
Iowa         42         1, 258, 563         2, 481, 519         16, 353, 517         2, 062, 291         22, 135, 800           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, 588         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, 800, 889         1, 138, 827         23, 823, 774           Michigan         30         1, 007, 985         786, 531         6, 237, 609         172, 032         8, 203, 617           Minesota         26         1, 994, 746         2, 868, 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	Illinois			12, 695, 390			
Kansas         33         2, 155, 587         4, 794, 712         31, 129, 351         5, 368, 996         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, 744           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           Morthana         9         51, 788         50, 872         533, 904         3, 080         459, 614	Indiana						14, 916, 602
Kentucky.         17         358, 021         286, 978         4, 019, 622         104, 050         4, 788, 671           Louisiana.         6         136, 000         77, 000         1, 752, 337         6, 000         1, 971, 337           Maine.         8         255, 980         4, 580         1, 1752, 337         6, 000         1, 971, 337           Maryland.         23         543, 271         288, 589         4, 758, 897         79, 235         5, 669, 992           Massachusetts.         44         7119, 030         1, 705, 328         13, 860, 589         1, 138, 827         23, 823, 774           Michigan.         30         1, 007, 985         786, 531         6, 237, 069         1, 72, 032         8, 203, 617           Minnesota.         26         1, 994, 746         2, 866, 540         12, 974, 996         1, 596, 836         19, 333, 118           Missouri.         54         2, 594, 020         2, 248, 561         31, 033, 122         890, 077         36, 765, 786           Montana.         9         51, 788         50, 872         353, 904         3, 080         45, 96, 144           Nebraska.         21         2, 677, 034         949, 344         17, 549, 442         1, 407, 485         22, 583, 305 <td>Vonces</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>22, 135, 890</td>	Vonces						22, 135, 890
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         1,138,227         23,823,774           Michigan         30         1,007,985         786,531         6,237,699         1,7202         8,203,617           Minesota         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           New Hampshire         4         31,280         116,646         153,337         1,407,485         22,583,305           New Jersey         34         2,682,063         1,576,176         7,410,489         2,330,056         13,998,784           New York         180         9,460,139	True to alam			, ,	' '		
Maine         8         255, 980         4, 580         1, 047, 887         1, 800         1, 310, 247           Maryland         23         543, 271         288, 589         4, 788, 897         79, 235         5, 689, 992           Massachusetts         44         7, 119, 030         1, 705, 328         13, 860, 589         1, 138, 827         23, 823, 774           Michigan         30         1, 007, 985         788, 531         6, 237, 669         172, 032         8, 203, 617           Minnesota         26         1, 944, 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, 788         50, 872         53, 904         3, 080         459, 614           Nebraska         21         2, 677, 034         949, 344         17, 549, 442         1, 407, 485         22, 583, 305           New Hampshire         4         31, 280         116, 646         153, 337         301, 263           New York         180         9, 460, 139         5, 831, 366         49, 860, 648         2, 737, 147         67, 889, 300           North	Louisiana						
Maryland.         23         543, 271         288, 589         4, 78, 897         79, 235         5, 669, 992           Massachusetts.         44         7, 119, 030         1, 705, 328         13, 86, 589         1, 138, 827         23, 823, 774           Michigan.         30         1, 007, 985         786, 531         6, 237, 069         172, 032         8, 203, 617           Minesota.         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         800, 077         36, 765, 786           Montana.         9         51, 758         50, 872         353, 994         3, 080         459, 614           Nebraska.         21         2, 677, 034         949, 344         17, 549, 442         1, 407, 485         22, 583, 305           New Hampshire.         4         31, 280         116, 646         153, 337          301, 268           New Jersey.         34         2, 682, 063         1, 576, 176         7, 410, 489         2, 330, 056         13, 988, 784           North Carolina.         7         512         15, 360         393, 074         20, 000         428, 946 <td>Maine</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Maine						
Massachusetts         44         7, 119, 030         1, 705, 328         13, 860, 589         1, 138, 827         22, 383, 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           New Jersey         34         2, 682, 063         1, 576, 176         7, 410, 489         2, 330, 066         13, 998, 784           New York         180         9, 460, 139         5, 831, 366         49, 860, 648         2, 771, 147         67, 889, 300           North Carolina         7         512         15, 366         393, 074         20, 000         428, 946           North Dakota         3         14         259, 990         867, 287         6, 966, 264         905, 170         8, 998, 710           Ohio         96         1, 883, 556         1, 993, 585         15, 785, 379         527, 323	Maryland						
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         51,788         50,872         353,904         3,080         459,614           Nebraska         21         2,677,034         949,344         17,549,442         1,407,485         22,583,305           New Hampshire         4         31,280         116,646         153,337         230,066         13,912,80           New Jersey         34         2,682,063         1,576,176         7,410,489         2,330,056         13,998,784           New York         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         157,785,379         527,323         20,189,843           Oklahoma         14         259,990         867,2	Massachusetts						
Minnesota         26         1, 994, 746         2, 866, 540         12, 974, 996         1, 596, 836         19, 333, 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           New Hampshire         4         31, 280         116, 646         153, 337         1, 407, 485         22, 583, 305           New Hampshire         4         31, 280         116, 646         153, 337         301, 283           New York         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         230, 210           Ohio         96         1, 883, 556         1, 993, 585         15, 785, 379         527, 323         20, 189, 843           Oklahoma         14         259, 990         867, 287         6, 966, 284         905, 170         8, 998, 710           Oregon         30         270, 788				1 .			
Missouri         54         2, 594, 020         2, 248, 567         31, 033, 122         890, 077         36, 765, 786           Montana         9         51, 788         50, 872         353, 904         3, 080         459, 614           Nebraska         21         2, 677, 034         949, 344         17, 549, 442         1, 407, 485         22, 583, 305           New Hampshire         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 York         180         9, 460, 139         5, 831, 366         49, 860, 648         2, 737, 147         67, 889, 300           North Carolina         7         512         15, 360         49, 860, 648         2, 737, 147         67, 889, 300           North Dakota         3         2         42, 288         187, 922         20, 000         428, 946           North Dakota         3         42, 288         187, 922         207, 232         20, 189, 843           Oklaoma         14         259, 990         867, 287         6, 966, 264         905, 170         89, 98, 711           Oregon         30         270,	Minnesota						
Montana.         9         51,788         50, 872         353, 904         3,080         459,614           Nebraska.         21         2,677,034         949,344         17,549,442         1,407,485         22,583,305           New Hampshire.         4         31,280         116,646         153,337         230,066         13,998,784           New Jersey.         34         2,682,063         1,576,176         7,410,489         2,330,066         13,998,784           New York.         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           Ohlo.         96         1,883,556         1,993,585         15,785,379         527,323         20,189,843           Oklahoma.         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           Pennsylvania.         113         2,699,220         2,294,396         18,710,	Missouri						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Montana			50, 872			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Nebraska	21	2, 677, 034			1, 407, 485	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	New Hampshire	4	31, 280	116, 646	153, 337		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	New Jersey	34	2, 682, 063	1, 576, 176	7, 410, 489	2, 330, 056	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	New York	180					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	North Carolina		512			20,000	428, 946
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					'		230, 210
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Ohio						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Oklahoma						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Oregon						
South Dakota         7         79, 512         246, 380         1, 507, 346         204, 000         2, 937, 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, 786           Virginia         30         165, 880         726, 179         10, 125, 274         1, 229, 815         12, 247, 148	Phodo Island					588, 970	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Knode Island						, ,
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Compagas					204,000	
Utah     7     116, 200     125, 331     983, 455     118, 800     1, 343, 786       Virginia     30     165, 880     726, 179     10, 125, 274     1, 229, 815     12, 247, 148	Toyos					1 207 604	
<u>Virginia</u>	Utah						
	Virginia						
Washington   50   1.408 016   4.680 960   10.867 640   610 944   17 274 900	Washington	59	1, 408, 016	4, 680, 299	10, 867, 649	618, 344	17, 574, 308
West Virginia	West Virginia		1, 100, 010				
Wisconsin	Wisconsin		712, 980				
Wyoming 3 3 384 50,979 24,750 76,113	Wyoming		.12, 500				
All other states 8 40, 924 91, 049 522, 519 7, 589 662, 081	All other states		40, 924				
Total 1, 354 57, 139, 627 57, 758, 280 433, 462, 076 37, 044, 651 585, 404, 634	Total	1, 354	57, 139, 627	57, 758, 280	433, 462, 076	37, 044, 651	

Division of Statistical and Historical Research.

# VALUE OF PLOW LANDS.

Table 674.—Plow lands: Value per acre, by States, 1916-1924.

State.	Ave	erage of lar	poor j	plow	Ave	erage o lar	f good ads.	plow	A		of all p	low
	1916	1917	1918	1919	1916	1917	1918	1919	1916	1917	1918	1919
Maine New Hampshire Vermont Massachusetts Rhode Island	\$21	\$22	\$24	\$24	\$45	\$47	\$48	\$50.	\$32	\$34	\$35	\$37
	24	24	21	23	50	50	52	54	37	37	39	39
	26	28	28	30	57	60	64	64	42	42	44	44
	34	36	41	41	91	93	92	92	62	64	68	68
	41	42	46	47	80	85	90	92	60	62	70	73
Connecticut New York New Jersey Pennsylvania Delaware	34 34 43 32 33	36 34 46 36 36	37 33 58 37 35	37 38 50 38 36	70 68 89 66 68	72 74 92 73 75	75 75 108 79 68	80 80 103 79 70	49 53 65 50 50	53 55 69 57 55	52 58 78 58 58 59	55 60 76 60 55
Maryland	28 22 22 21 20	30 24 23 24 21	33 29 28 29 29 23	39 31 29 31 27	57 46 49 42 42	62 50 54 49 43	61 64 58 45	66 62 64 67 56	46 34 36 31 31	48 36 38 35 33	47 43 43 42 36	53 47 44 50 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
Indiana	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 Wisconsin Minnesota Lowa Missouri	32	35	38	40	64	72	75	76	51	55	60	61
	51	54	56	60	92	100	100	110	74	80	82	89
	45	50	54	59	73	81	85	88	61	68	75	78
	101	104	119	129	156	163	180	196	135	140	154	169
	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	100	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
	12	13	15	17	21	24	30	33	16	17	21	24
	12	13	15	16	26	28	31	34	18	20	23	26
	15	17	26	25	31	36	45	44	24	25	33	33
	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
Wyoming	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
IdahoWashingtonOregonCalifornia	34	37	43	50	68	77	89	98	53	58	70	76
	45	50	56	60	110	110	122	121	75	80	94	95
	36	44	53	53	.80	93	111	108	60	70	84	81
	50	55	66	69	135	150	168	165	95	110	120	121
United States	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.	A.	verage	of polands	oor pl	ow	A		e of go lands		ow	A	verag	e of a		w
	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.	\$30	\$25	\$22	\$22	\$22	\$56	\$50	\$47	\$48	\$50	\$42	\$36	\$35	\$36	\$37
	24	24	25	24	23	64	63	64	58	59	42	41	41	40	40
	30	29	27	24	24	69	67	63	56	55	48	47	45	40	40
	40	40	39	39	39	103	98	105	106	106	72	69	69	70	69
	50	50	50	51	52	105	105	105	106	110	85	85	86	87	88
Connecticut New York New Jersey Pennsylvania Delaware	35	34	32	32	33	100	90	90	88	88	60	58	58	57	58
	39	40	38	35	33	84	84	83	80	75	64	65	62	59	54
	50	55	48	49	47	104	125	109	109	105	80	92	84	83	82
	40	39	33	35	32	86	81	73	73	68	66	62	54	54	53
	44	38 -	31	28	30	86	72	67	70	68	66	55	50	51	50
Maryland Virginia West Virginia North Carolina South Carolina	46	31	31	32	33	82	70	67	67	70	60	51	49	50	52
	34	32	27	31	32	73	70	60	64	65	53	50	43	47	48
	32	31	27	28	27	75	70	62	67	66	51	48	42	45	44
	42	36	33	35	35	87	76	67	70	75	63	55	49	52	54
	41	32	23	21	22	82	68	46	45	48	61	50	35	35	38
Georgia	30 23 69 80 115	23 25 60 71 105	18 21 52 56 91	17 20 52 54 86	16 20 51 51 81	53 132 150 213	50 55 110 137 195	38 56 100 108 160	36 43 100 105 155	34 46 96 101 148	46 36 105 119 170	36 40 88 109 157	28 37 78 85 131	26 31 78 82 126	24 33 76 78 120
Michigan Wisconsin Minnesota Iowa Missouri	41 66 73 157 60	41 65 74 145 58	39 58 67 119 44	36 60 59 115 45	35 57 55 107 44	80 125 120 257 110	83 122 121 238 106	77 110 102 193 84	74 108 96 181 85	73 105 89 169 83	100 100 219 87	65 98 101 200 83	60 87 87 163 65	57 86 80 153 66	58 82 75 143 65
North Dakota	31	30	25	24	22	49	49	44	40	37	43	42	37	33	31
South Dakota	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 Alabama Mississippi Louisiana Texas	40	35	28	30	30	90	81	68	70	70	60	55	47	50	50
	20	17	14	16	16	43	38	32	34	35	30	26	23	26	26
	23	16	16	17	17	49	36	34	36	36	35	26	25	26	26
	34	24	21	24	25	65	50	42	45	46	50	38	31	34	35
	36	33	29	28	29	72	70	60	57	59	56	52	47	44	45
Oklahoma Arkansas Montana Wyoming Colorado	30	29	26	24	23	63	63	58	52	52	47	46	41	37	37
	26	24	20	21	20	65	54	46	47	45	45	38	33	34	33
	21	19	15	14	13	48	41	35	31	30	36	30	23	22	21
	34	25	23	21	20	70	60	54	48	40	53	44	37	35	32
	40	35	35	30	29	88	86	84	75	72	66	67	61	56	52
New Mexico	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	88	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
	68	63	52	50	49	150	140	120	110	108	115	105	90	88	86
	60	60	55	52	50	130	135	110	108	104	100	103	90	84	82
	70	75	69	53	51	175	200	193	166	166	130	135	128	113	112
United States	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.

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### FARM LABOR.

Table 675.—Wages: Male farm labor, by classes, United States, 1866-1923.

		the ath.	e	labor it vest.	n	labor ot vest.		By the month.		Day labor at harvest.		Day labor not harvest.	
Year.	With board.	Without board.	With board.	Without board.	With board.	Without board.	Year.	With board.	Without board.	With board.	Without board.	With board.	Without board.
1869 1875 1879 1880 1881	\$10.09 9.97 11.16 10.86 11.70 12.32 12.88	15. 50 17. 10 16. 79 17. 53 18. 52 19. 11	1. 06 1. 18 1. 04 1. 12 1. 16 1. 20	1. 35 1. 49 1. 35 1. 44 1. 49 1. 54	. 63 . 68 . 61 . 64 . 67	. 87 . 94 . 84 . 89 . 92 . 97	1910	19. 21 20. 18 20. 81 21. 38 20. 32	29. 58 30. 31 28. 72	1. 45 1. 49 1. 54 1. 57 1. 50	1. 82 1. 85 1. 87 1. 94 1. 84	1. 06 1. 09 1. 14 1. 16	1. 38 1. 42 1. 47 1. 50
1885 1888 1890 1892 1893 1894	13. 08 13. 29 13. 29 13. 48 13. 85 12. 70	19. 67 19. 45 20. 02 19. 97 18. 57	1. 07 . 97	1. 39 1. 30 1. 18	.71 .72 .72 .73 .73	. 97 . 98 . 92 . 84	1914 1915 1916 1917 1918 1919 1920	21. 05 21. 26 23. 25 28. 87 34. 92 39. 82 46. 89	30. 15 32. 83 40. 43 48. 80 56, 29	1. 56 1. 69 2. 08 2. 65 3. 15	1. 92 2. 07 2. 54 3. 22 3. 83	1. 26 1. 56 2. 07 2. 45	1. 47 1. 62 2. 02 2. 63 3. 12
1895 1898 1899 1902 1906	12. 75 13. 29 13. 90 15. 51 18. 73	19. 16 19. 97 22. 12		1. 29 1. 35 1. 51	. 65 . 71 . 75 . 83 1. 03	. 94	Av. 1914–1920 1921 1922 1923	30. 87 30. 14 29. 17 33. 18	43. 32 41. 79	2. 24 2. 20	2. 79 2. 72	1. 78 1. 68 1. 65 1. 93	2.15

Division of Crop and Livestock Estimates. From reports of crop reporters on December 1, for average wages for the year in their localities.

Table 676.—Wages: Male farm labor, by classes and States, 1922 and 1923.

		Per n	ionth.		Pe	r day a	t harv	est.	Per day other than harvest.			
State and division.	With	board.		hout ird.		ith ard.		hout ard.	With board.		Without board.	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
Maine	\$38. 00	\$41.00	\$53, 50	\$61.00	\$2, 45	\$2, 90	\$3. 07				\$2.70	\$3. 10
New Hampshire		46. 50	60.00	69.00	2.46	3.00	3. 20	3. 90	2. 11	2. 70	2.84	3.60
Vermont		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. 96
Rhode Island		5000	65.00	80. DD		3.00	3.60	4.00	.2. 37	2.65	3. 20	3. 65
Connecticut	40.00	52.00	67.00	75.00		3. 10	3.40	4. 10	2. 05	2.80	2. 95	3. 75
New York	39. 79	45. 50	56. 50	64.00	3.00	3. 55	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	3. 55
New Jersey Pennsylvania	33.00	38. 00	50. 90	55. 50	2. 50	2. 90	3.20	3. 60	2. 10	2. 48	2. 70	3. 15
N. Atlantic		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	40.00	51.00	2.33	2.85	2.85	3. 50	1.60	2. 25	2.07	2.75
Maryland	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		28, 00	35, 50	40, 00	1. 90	2. 10	2.32	2.60	1. 31	1.61	1. 76	2.08
West Virginia		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	39.00	1.85	1.95	2. 25	2. 45	1. 35	1. 55	1.75	1. 95
South Carolina	16. 20	20.00	23. 20	27. 50	1. 24	1.35	1.56	1. 75	. 85	1. 12	1.08	1. 42
Georgia	15, 60	17. 30	23.00	24. 50	1.05	1. 16	1. 35	1.40	. 88	1.00	1. 12	1. 30
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		35. 40	42. 70	48. 60	2. 58	3. 10	3. 15	3. 75	1.80	2. 25	2. 32	2.83
Illinois		40, 20	45, 00	52. 50	2. 75	3. 38	3. 30	4.00	1.95	2.40	2.48	2.96
Michigan		40.00	47. 30	55. 00	2.60	3. 10	3. 29	3.88	2, 10	2. 58	2. 70	3. 2
Wisconsin	37. 00	45. 00	54.00	63.00	2. 65	2. 96	3. 32	3. 70	2. 20	2. 45	2. 90	3. 1
		39. 41	46, 71	53, 59	2. 67	3. 14	3. 27	3, 82	2. 00	2, 36	2. 58	3. 0
E. N. Central	33. 35	39. 41	40. /1	00. 09	2.01	3. 14	0. 21	0. 02	2.00	2.00	1===	

Table 676.—Wages: Male farm labor, by classes and States, 1922 and 1923—Continued.

		Per n	nonth.		Per	day a	t harv	est.	Pe		other than vest.		
State and division.	With	With board. Without board.			ith ard.		hout ard.	With board.		Without board.			
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	
Minnesota Iowa Missouri North Dakota South Dakota Nebraska Kansas W. N. Central Kentucky Tennessee Alabama Mississippi Louisiana Texas Oklahoma Arkansas	36. 80 28. 70 38. 70 36. 40 34. 50 32. 50 33. 63 25. 90 22. 30 17. 60 18. 20 22. 40 24. 20	\$37. 00 43. 30 31. 00 40. 30 43. 20 40. 00 35. 90 37. 54 28. 10 24. 60 19. 90 20. 00 21. 00 28. 30 27. 40 23. 00	\$50. 00 49. 70 39. 50 55. 50 53. 00 48. 50 46. 70 47. 14 36. 30 30. 75 25. 90 32. 60 35. 40 37. 00 31. 60	\$55. 50 56. 60 42. 50 58. 80 61. 70 54. 00 50. 60 52. 33 38. 60 35. 00 29. 40 33. 00 39. 70 38. 30 38. 30 33. 90	\$2. 90 2. 70 2. 25 3. 90 3. 05 3. 50 2. 88 1. 95 1. 18 1. 14 1. 30 1. 72 2. 35 1. 56	\$3. 27 3. 16 2. 50 3. 72 3. 50 3. 65 3. 17 2. 16 1. 26 1. 20 1. 45 1. 90 2. 50 1. 64	\$3. 60 3. 35 2. 73 4. 85 3. 75 4. 10 3. 51 2. 46 1. 90 1. 48 1. 50 1. 60 2. 10 2. 75 2. 00	\$4. 03 3. 80 3. 05 4. 77 4. 20 4. 10 4. 30 3. 86 2. 67 2. 20 1. 58 1. 57 1. 85 2. 40 2. 96	\$2. 20 2. 11 1. 46 2. 50 2. 25 2. 15 2. 19 2. 01 1. 23 1. 07 1. 100 1. 26 1. 30 1. 52 1. 15	\$2. 55 2. 52 1. 62 2. 50 2. 65 2. 42 2. 32 2. 27 1. 51 1. 20 1. 29 1. 45 1. 60 1. 30	\$2. 95 2. 67 1. 90 3. 40 3. 10 2. 85 2. 75 2. 63 1. 40 1. 30 1. 45 1. 60 1. 66 1. 96 1. 52	\$3. 29 3. 122 2. 10 3. 50 3. 45 3. 00 2. 90 2. 91 1. 97 1. 64 1. 50 1. 68 1. 75 1. 88 2. 00 1. 66	
S. Central.  Montana.  Wyoming. Colorado.  New Mexico.  Arizona Utah.  Nevada Idaho.  Washington.  Oregon.  California  Western.  United States	42. 20 39. 50 35. 00 31. 00 40. 00 47. 00 48. 00 46. 00 45. 00	24. 13 48. 00 44. 50 40. 00 32. 50 54. 00 58. 00 53. 00 54. 30 52. 50 56. 00 51. 25 33. 18	32. 09 63. 00 60. 00 54. 00 46. 00 58. 00 65. 00 66. 00 65. 00 66. 03 41. 79	34. 55 65. 50 62. 50 58. 30 48. 00 66. 00 73. 70 86. 00 72. 70 77. 00 70. 00 82. 00 72. 79	1. 61 3. 60 2. 40 2. 52 1. 60 2. 40 2. 40 3. 00 2. 75 3. 25 2. 85 3. 20 2. 89	1. 71 3. 60 2. 90 2. 10 2. 35 2. 70 2. 90 3. 57 3. 90 3. 30 3. 25 3. 22 2. 45	1. 98 4. 40 3. 25 3. 27 2. 10 3. 00 2. 95 3. 85 3. 40 3. 90 3. 50 3. 90 3. 56 2. 72	2. 14 4. 52 3. 78 3. 50 2. 30 2. 65 3. 31 3. 80 4. 25 4. 50 4. 15 4. 10 3. 95	1. 20 2. 40 1. 95 1. 90 1. 30 1. 75 2. 16 2. 40 2. 22 2. 38 2. 25 2. 53 2. 23 1. 65	1. 38 2. 70 2. 50 2. 20 1. 58 2. 10 2. 47 2. 45 2. 85 2. 95 2. 80 2. 64 1. 93	1. 56 3. 20 2. 75 2. 60 1. 80 2. 50 2. 81 3. 40 3. 00 3. 15 2. 95 3. 40 3. 00 2. 15	1. 76 3. 55 3. 40 2. 90 2. 10 2. 70 3. 05 3. 58 3. 45 3. 75 3. 48 3. 70 3. 42 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   States   Stat								
Oct. 1, 1922	Basis of rate, year, and month.		Atlantic	North Central	North Central	Atlantic	Central	Western States.
Oct. 1, 1922	Por month with hoard:							
Jan. 1, 1923		28 97	37 05	33. 92	34, 41	21, 37	21, 46	45, 38
Apr 1, 1923	Ion 1 1022					21, 06	21, 46	42.78
July 1, 1923         34.38         47.66         41.23         39.43         25.01         24.47         58.5         Oct. 1, 1923         34.86         47.54         41.00         39.51         25.32         24.92         55.4         25.4         22.55         48.5         54.65         23.55         48.5         49.20         55.4         48.70         23.55         48.5         48.70         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         47.02         48.78         31.10         30.96         66.8         66.8         56.12         53.54	Apr 1 1923				36, 22	23.04	22.49	45: 55
Oct. 1, 1923	July 1 1923					25. 01	24. 47	53. 35
Jan. 1, 1924				41.00	39, 51	25. 32	24.92	55. 42
Fer month, without board: Oct. 1, 1922	Ian 1 1924			37, 30	33, 71	<b>24</b> . 60	23. 55	48.54
Oct. 1, 1922	For month without board:	0						
Jan. 1, 1923 40, 30 54, 39 45, 84 44, 33 36, 71 31, 03 62, Apr. 1, 1923 44, 47 60, 41 51, 81 50, 12 33, 69 32, 92 66, 8 July 1, 1923 48, 14 67, 03 56, 30 55, 31 35, 10 35, 01 74, 1 1, 1924 45, 81 63, 38 52, 07 48, 01 35, 32 34, 44 70, 6 69, 6 69, 6 56, 12 53, 54 35, 61 35, 95 77, 1 1, 1924 45, 81 63, 38 52, 07 48, 01 35, 32 34, 44 70, 6 70, 1 1, 1924 10, 1 1, 1924 10, 1 1, 1924 10, 1 1, 1924 10, 1 1, 1924 10, 1 1, 1924 10, 1 1, 1924 10, 1 1, 1925 11	Oct. 1, 1922	41, 58	54, 65	47.02	48. 78	31. 10	30.96	66. 81
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Jan 1, 1923	40. 30	54. 39	45.84	44. 33	30.71		62. 71
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Apr. 1, 1923	44. 47	60. 41					66. 82
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		48. 14						74.00
Per day, with board:       1.57       2.15       1.95       1.94       1.09       1.07       2.5         Oct. 1, 1923       1.47       2.13       1.81       1.67       1.06       1.05       2.2         Apr. 1, 1923       1.57       2.27       1.91       1.83       1.14       1.10       2.         July 1, 1923       1.84       2.72       2.30       2.14       1.32       1.26       2.6         Oct. 1, 1923       2.04       2.97       2.61       2.49       1.39       1.36       2.9         Jan. 1, 1924       1.81       2.60       2.33       2.08       1.28       1.24       2.5         Per day, without board:       0ct. 1, 1922       2.08       2.86       2.54       2.59       1.45       1.46       3.6         Jan. 1, 1923       1.98       2.82       2.43       2.29       1.40       1.43       2.6         Apr. 1, 1923       2.11       3.04       2.55       2.47       1.53       1.48       2.5         July 1, 1923       2.45       3.58       3.01       2.90       1.75       1.68       3.         Oct. 1, 1923       2.61       3.81       3.33       3.20       1.	Oct. 1, 1923	48. 70						77. 19
Per day, with board:       1.57       2.15       1.95       1.94       1.09       1.07       2.5         Oct. 1, 1923       1.47       2.13       1.81       1.67       1.06       1.05       2.2         Apr. 1, 1923       1.57       2.27       1.91       1.83       1.14       1.10       2.         July 1, 1923       1.84       2.72       2.30       2.14       1.32       1.26       2.6         Oct. 1, 1923       2.04       2.97       2.61       2.49       1.39       1.36       2.9         Jan. 1, 1924       1.81       2.60       2.33       2.08       1.28       1.24       2.5         Per day, without board:       0ct. 1, 1922       2.08       2.86       2.54       2.59       1.45       1.46       3.6         Jan. 1, 1923       1.98       2.82       2.43       2.29       1.40       1.43       2.6         Apr. 1, 1923       2.11       3.04       2.55       2.47       1.53       1.48       2.5         July 1, 1923       2.45       3.58       3.01       2.90       1.75       1.68       3.         Oct. 1, 1923       2.61       3.81       3.33       3.20       1.	Jan. 1, 1924	45. 81	<b>63.</b> 38	52. 07	48. 01	35. 32	34. 44	70. 63
1.47   2.13   1.81   1.67   1.06   1.05   2.4     Apr. 1, 1923   1.57   2.27   1.91   1.83   1.14   1.10   2.5     July 1, 1923   2.04   2.97   2.61   2.49   1.39   1.36   2.5     Jan. 1, 1924   1.81   2.60   2.33   2.08   1.28   1.24   2.4     Per day, without board:   Oct. 1, 1922   2.08   2.86   2.54   2.59   1.45   1.46   3.6     Jan. 1, 1923   1.98   2.82   2.43   2.29   1.40   1.43   2.5     Apr. 1, 1923   2.11   3.04   2.55   2.47   1.53   1.48   2.5     July 1, 1923   2.45   3.58   3.01   2.90   1.75   1.68   3.6     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.61   3.81   3.33   3.20   1.76   1.77   3.5     Oct. 1, 1923   2.6	Per day, with board:							
Apr. 1, 1923. 1. 57 2. 27 1. 91 1. 83 1. 14 1. 10 2. July 1, 1923. 2. 04 2. 97 2. 61 2. 49 1. 39 1. 36 2. 9 1. 1, 1924 1. 181 2. 60 2. 33 2. 08 1. 28 1. 24 2. 28 1. 29 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 36 2. 9 1. 39 1. 30	Oct. 1, 1922							
Number   N	Jan. 1, 1923							
Oct. 1, 1923 2.04 2.97 2.61 2.49 1.39 1.36 2.9 1.31, 1, 1924 1.81 2.60 2.31 2.49 1.39 1.24 2.49 1.39 1.36 2.9 1.24 2.49 1.39 1.36 2.9 1.24 2.49 1.39 1.36 1.24 2.49 1.39 1.36 1.24 2.49 1.39 1.36 1.24 2.49 1.39 1.24 2.49 1.39 1.24 2.49 1.39 1.24 2.49 1.24 2.	Apr. 1, 1923		2. 27					
Jan. 1, 1924     1. 81     2. 60     2. 33     2. 08     1. 28     1. 24     2. 4       Per day, without board:     2. 08     2. 86     2. 54     2. 59     1. 45     1. 46     3. 6       Oct. 1, 1922     2. 08     2. 86     2. 54     2. 59     1. 45     1. 46     3. 6       Jan. 1, 1923     1. 98     2. 82     2. 43     2. 29     1. 40     1. 43     2. 8       Apr. 1, 1923     2. 11     3. 04     2. 55     2. 47     1. 53     1. 48     2. 9       July 1, 1923     2. 45     3. 58     3. 01     2. 90     1. 75     1. 68     3. 6       Oct. 1, 1923     2. 61     3. 81     3. 33     3. 20     1. 76     1. 77     3. 6								
Per day, without board:     2.08     2.86     2.54     2.59     1.45     1.46     3.6       Jan. 1, 1923     1.98     2.82     2.43     2.29     1.40     1.43     2.8       Apr. 1, 1923     2.11     3.04     2.55     2.47     1.53     1.48     2.5       July 1, 1923     2.45     3.58     3.01     2.90     1.75     1.68     3.2       Oct. 1, 1923     2.61     3.81     3.33     3.20     1.76     1.77     3.6								
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		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, 8       Apr. 1, 1923     2, 11     3, 04     2, 55     2, 47     1, 53     1, 48     2, 9       July 1, 1923     2, 45     3, 58     3, 01     2, 90     1, 75     1, 68     3, 20       Oct. 1, 1923     2, 61     3, 81     3, 33     3, 20     1, 76     1, 77     3, 6				2 54	0.50	1 45	1 40	2.04
Apr. 1, 1923. 2.11 3.04 2.55 2.47 1.53 1.48 2.9 1.1923 2.45 3.58 3.01 2.90 1.75 1.68 3.00 1.75 1.68 3.00 1.75 1.68 3.00 1.75 1.68 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.77 3.00 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75	Oct. 1, 1922							
July 1, 1923     2. 45     3. 58     3. 01     2. 90     1. 75     1. 68     3. 00       Oct. 1, 1923     2. 61     3. 81     3. 33     3. 20     1. 76     1. 77     3. 00								
Oct. 1, 1923 2. 61 3. 81 3. 33 3. 20 1. 76 1. 77 3. 0	Apr. 1, 1923				2, 47			
0.01 1, 1020	July 1, 1923							
Jan. 1, 1924 5. 40 5. 09 2. 15 1. 14 1. 60 0. 0	Oct. 1, 1923							3. 36
	Jan. 1, 1924	2.41	3.48	3.09	2.13	1.75	1.00	0.00

Table 678.—Farm labor: Supply and demand, 1918-1923.

		Farm la	bor supply	, per cent c	of normal.	
Division.	1918	1919	1920	1921	1922	1923
North Atlantic South Atlantic. East North Central West North Central South Central Far Western	62. 5 73. 4 74. 7 74. 1 74. 0 76. 8	82. 8 81. 9 86. 6 85. 6 83. 2 90. 0	62. 3 72. 5 68. 4 77. 8 72. 8 8. 21	92. 1 94. 3 95. 1 96. 6 94. 3 102. 3	99. 2 97. 3 101. 4 101. 1 97. 1 107. 0	73. 3 83. 0 76. 5 89. 1 86. 7 91. 3
United States	72. 9	84. 4	72. 4	95. 2	99. 5	83. 6
		Farm lab	or demand	, per cent	of normal.	
Division.	1918	1919	1920	1921	1922	1923
North Atlantic South Atlantic East North Central West North Central South Central Far Western	98. 5 104. 2 99. 4 99. 8 102. 9 99. 3	101. 9 103. 9 101. 2 100. 9 101. 3 102. 4	107. 8 107. 4 106. 6 103. 4 104. 2 101. 5	92. 7 86. 6 91. 2 89. 1 83. 0 89. 0	94. 8 88. 4 91. 0 89. 3 86. 6 89. 9	95. 2 94. 2 95. 4 95. 5 93. 9 94. 0
United States	101. 4	101. 8	105. 3	87. 5	89. 3	94. 6
		Supply	z as a perce	entage of de	emand.	
Division.	1918	1919	1920	1921	1922	1923
North Atlantic. South Atlantic East North Central West North Central. South Central. Far Western	63. 4 70. 4 75. 2 74. 2 71. 9 77. 3	81. 9 78. 8 85. 6 84. 8 82. 1 87. 9	57. 8 67. 5 64. 2 75. 2 69. 9 80. 9	99. 4 108. 9 104. 3 108. 4 113. 6 114. 9	104. 6 110. 1 111. 4 113. 2 112. 1 119. 0	77. 0 88. 1 80. 2 93. 3 92. 3 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
Axeseach_ Barb wire100 pounds. Barrelseach_ Basketsdo_ Bone mealtons.		\$0. 96 3. 08 . 25	\$1. 04 3. 50 . 30 . 40 35. 00	\$1. 12 4. 25 . 33 . 43 38. 90	\$1. 40 5. 00 . 37 . 50 48. 00	\$1. 79 5. 69 . 45 55. 10	\$2.06 5.73 .50	\$2. 25 6. 10 . 76 . 60 65. 00	\$2.00 5.20 .51 .50 54.00	\$1. 96 4. 73 . 58 . 61 53. 17
Brooms each Buggies do Buggy whips do Calico yards Churns each	. 34 64. 90	. 38 70. 10 . 426 . 063 2. 30		. 53 80. 00 . 50 . 084 2. 70	. 76 89. 00 . 57 . 128 3. 50	. 67	1. 00 123. 00 . 73 . 23 2. 90	. 98 131, 00 . 85 . 227 3, 25	. 78 108. 00 . 70 . 142 3. 00	. 78 102. 85 . 68 . 14 3. 35
Coal ton Coal oil gallon Coffee pound Corn knives each Cream separators do	5. 50 . 157 . 211 . 27 63. 10	5.80 .139 .245 .29 59.30		6. 80 . 143 . 258 . 36 68. 80			9. 50 . 22 . 46 . 58 95. 00	13. 30 . 25 . 41 . 65 102. 00	11. 50 . 19 . 32 . 55 90. 00	11. 28 . 18 . 33 . 56 88. 88
Dinner plates ½ dozen Dish pans each Dung forks do Fertilizer, commercial ton Flour barrel.	. 32 . 70 22. 15	. 57 . 34 . 76 23. 20 6. 40	. 60 . 37 . 82 25. 90 7. 30	. 67 . 45 . 90 27. 00 9. 75	. 88 . 60 1. 03 31. 90 12. 05	1. 18 . 74 1. 23 38. 80 12. 45	1. 40 . 83 1. 40 42. 00 13. 50	1. 58 . 95 1. 60 44. 00 12. 90	1. 31 . 75 1. 40 35. 00 8. 80	1. 31 . 76 1. 44 30. 08 8. 07

Table 679.—Prices of articles bought by farmers, 1909-1922—Continued.

		1		1		1			,		
Article.		1909	1914	1915	1916	1917	1918	1919	1920	1921	1922
Fruit jars Gasoline Gloves, cotton Gloves, leather	_dozen _gallon pair	\$0.73 . 202			\$0.80 .23	\$0. 92 . 261	. 238	. 26	\$1. 25 . 33 . 27	. 26	. 19
Halters_ Harness, single_ Harrows_ Hatchets_ Hats, felt	each do	. 85 13. 50	. 95 15. 25	1. 06 16. 00 12. 60	1. 20 17. 00 14. 60	1. 36 19. 00 19. 30	1. 51 1. 62 24. 10	1. 78 1. 85 29. 00	1. 85 1. 98 32. 00 30. 00	1. 30 1. 55 25. 00 25. 50	1. 25 1. 48 28. 67 24. 90
			2. 03	. 65 2. 13	. 70 2. 25	. 80 2. 65	1. 09 3. 35	1. 29 4. 30	1. 50 5. 00	1. 29 3. 50	1. 16 3. 46
Hoes Horse blankets Jumpers Kitchen chairs Lamps	do do do do	. 41 2. 25 . 77 . 72 . 50	. 45 2. 40 . 83 . 80 . 52	. 49 2. 60 . 93 . 86 . 60	. 53 2. 90 1. 10 . 92 . 64	. 61 3. 50 1. 52 1. 12 . 72	. 75 4. 33 2. 20 1. 42 . 86	. 83 5. 00 2. 50 1. 70 . 98	. 93 5. 35 2. 50 2. 10 1. 10	. 80 4. 15 1. 55 1. 65 . 95	. 85 4. 05 1. 67 1. 79 . 99
LanternsLardLimeLinseed oilLumber, 1-inch1			. 80 . 141 1. 36 . 82 2. 10	. 82 . 154 1. 41 . 94 2. 20	. 85 . 199 1. 50 1. 10 2. 35	1. 00 . 286 1. 78 1. 48 2. 85	1. 20 . 323 2. 30 2. 08 3. 50	1. 32 . 34 2. 65 2. 50 4. 75	1. 45 . 268 3. 10 2. 21 5, 15	1. 30 . 16 2. 65 1. 22 3, 55	1. 35 . 17 2. 97 1. 37 3. 89
Manure spreaders Men's suits Milk cans, 10-gallon Milk pails Mowers	each do do do	111. 60 13. 15 2. 40 . 43 44. 30	106. 70 14. 00 2. 45 . 45 46. 50	112. 70 15. 15 2. 70 . 48 49. 50	123. 00 16. 50 3. 10 . 53 53.00	145. 00 20. 00 4. 30 . 67 63. 00	169. 40 27. 60 5. 50 . 79 79. 20	80. 00 38. 10 6. 00 . 90 84. 00	194. 00 41. 00 6. 20 1. 00 88. 00	167. 00 30. 30 5. 30 . 80 78. 00	152. 71 28. 07 4. 98 . 73 77. 24
Muslin Nails Overalls Padlocks Paint brushes		.09 3.34 .82 .27 .49	. 093 3. 40 . 89 . 275 . 54	.19 3.82 .96 .28 .60	. 116 4. 25 1. 14 . 31 . 70	. 18 5. 25 1. 54 . 37 . 84	. 272 5. 97 2. 26 . 44 . 97	. 31 6. 50 2. 60 . 50 1. 15	. 30 7. 30 2. 60 . 60 1. 35	. 18 5. 75 1. 58 . 50 1. 15	. 18 5. 45 1. 61 . 48 1. 25
Paint, mixed	gallon pound each do	1. 62 . 29 . 71 . 49 . 62	1.74 .30 .72 .51 .66	1. 98 . 36 . 75 . 55 . 72	2. 20 . 43 . 81 . 62 . 80	2.80 .55 .99 .76 .94	3. 40 . 62 1. 22 . 87 1. 14	4. 05 . 62 1. 40 . 95 1. 30	4. 30 . 64 1. 50 1. 10 1. 45	3. 35 . 52 1. 22 . 90 1. 22	3. 33 . 49 1. 21 . 98 1. 23
Plows, turning Portland cement 100 p Raincoats Rope, hemp Rubber boots	do ounds _each pound pair	11. 50 . 70 4. 25 . 135 3. 55	12. 10 . 69 4. 40 . 149 3. 75	13. 00 . 76 4. 80 . 171 3. 90	14. 25 . 85 5. 50 . 21 4. 25	18. 00 . 95 6. 40 . 287 4. 50	20. 00 . 96 7. 73 . 349 5. 00	21. 00 1. 05 9. 20 . 36 5. 10	23. 00 1. 30 10. 50 . 355 5. 30	20, 00 1, 02 7, 50 26 4, 55	22. 35 1. 08 6. 86 . 26 4. 46
Sacks, grainSaddlesSalt, for stockSaws, buckScrew hooks	do barrel each box	. 15 17. 45 1. 50 . 89 . 36	. 163 20. 35 1. 65 . 92 . 37	. 181 22. 50 . 98 . 41	. 20 25. 00 1. 75 1. 05 . 50	. 30 30. 50 2. 18 1. 18 . 66	. 43 35. 80 2. 71 1. 54	. 45 42. 40 3. 00 1. 75 75	. 42 45. 00 3. 50 1. 90 . 91	. 26 35. 00 3. 20 1. 50 . 71	. 27 34. 94 3. 24 1. 56 . 60
Scythes Sheeting Shingles Shirts, flannel Shoes		1. 02 . 17 3. 50 1. 34 2. 00	1. 06 . 18 3. 70 1. 41 2. 30	1. 12 . 202 3. 95 1. 55 2. 45	1. 20 . 23 4. 20 1. 75 2. 80	1. 30 . 32 4. 70 2. 25 3. 35	1. 60 . 48 5. 65 3. 13 3. 81	1. 82 . 58 7. 90 3. 85 4. 75	2. 10 . 57 8. 10 3. 90 5. 00	1.85 .40 5.80 2.85 3.65	2. 04 . 41 6. 12 2. 94 3. 40
Shotguns Shovels 100 p Staples 100 p Starch Steel wire 100 p	each do ounds pounds ounds	12. 45 . 74 3. 69 . 07 3. 43	12. 85 . 78 3. 75 . 07 3. 55	14. 15 . 85 4. 15 . 071 4. 10	16. 50 . 95 4. 60 . 075 4. 60	18. 50 1. 15 5. 70 . 095 5. 60	23. 70 1. 42 6. 41 . 105 6. 45	28. 00 1. 62 6. 80 . 118 6. 90	33. 00 1. 85 7. 60 . 125 7. 30	29. 00 1, 55 6, 20 . 103 6. 00	25. 13 1. 45 5. 86 . 11 5. 95
Stoves_ Sugar	_each_ pound_ _do _each_	22. 50 . 058 . 075 39. 00 . 25	24. 00 . 069 . 08 39. 50 . 27	26. 00 . 074 . 085 41. 00 . 29	29. 00 . 082 . 095 44. 00 . 32	37. 00 . 097 . 10 52. 00 . 41	44. 00 . 115 . 116 69. 40 . 53	50.00 .15 .119 74.00 .59	61. 00 . 17 . 12 78. 50 . 66	52. 00 . 073 . 105 69. 00 . 50	55. 47 . 09 . 13 70. 33 . 44
Tobacco, plug	pound do each do	. 45 . 103 66. 00 45. 50	. 45 . 112 73. 25 48. 00	. 455 . 121 78. 00 51. 00 17. 00	. 47 . 15 84. 00 55. 50 19. 00	. 56 . 22 97. 00 69. 00	. 75 . 265 120. 00 75, 00 32. 90	. 93 . 258 138. 00 83. 00 35. 20	. 94 . 20 155. 00 95. 00 40. 00	. 85 . 16 134. 00 79. 00 34. 00	. 82 . 13 126. 39 81. 23 30. 05
Wheelbarrows Wire fence Wooden buckets Wooden wash tubs		2.80 .311 .31 .77	2. 97 . 317 . 35 . 83	3. 20 . 36 . 38 . 87	3. 60 . 42 . 45 . 95	4. 00 . 49 . 62 1. 20	4. 75 . 57 . 85 1. 56	5. 50 . 59 . 98 1. 75	6. 50 . 64 1. 05 1. 90	5. 50 . 53 . 90 1, 50	5. 77 . 52 1. 04 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.

			U	nited State	es.	
Article.	Unit.		19	923		1924
		Jan. 15.	Apr. 15.	July 15.	Oct. 15.	Jan. 15.
Food:	D	40.070	00.000	40.000	00.000	40.000
Bacon, smoked	Pound	\$0, 279 . 104	\$0. 270 . 111	\$0. 272 . 109	\$0. 272 . 099	\$6. 259 . 096
Coffee Flour, wheat, 24 pounds	do	. 317	. 326	. 332	. 328	, 337
Flour, wheat, 24 pounds	Sack	1. 10	1. 10	1.05	. 99	1.00
Lard Rice	Pound	. 173	. 173	. 172	. 179	. 179
Sugar	do 16-oz	. 088	. 11	. 112	.11	. 107
Sugar Salmon, canned Tomatoes, canned	16-oz	. 223	. 225	. 24	. 233	, 238
Clothing:	34-oz	. 189	. 187	. 188	. 193	. 191
Boots, knee, rubber Gingham, apron, domestic	Pair	4, 28	4. 33	4. 28	4. 35	4, 32
Gingham, apron, domestic	Yard Pair	. 189 1. <b>62</b>	. 203 1. 73	. 201 1. 77	. 205 1, 81	. 209 1. 87
Overalls 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, cotton Suits, wool-serge, ready-made	Suit	$\frac{17}{25.83}$	. 174 25. 95	. 173 26. 12	. 182 26. 95	. 193 27, 35
Household articles:	Building	20.00	20. 80	20.12	20. 90	21, 50
Blankets, cotton	Pair	2.74	2. 64	2.69	2. 79	2.94
Brooms, for sweeping	Each	. 74 1. 19	. 82 1. 19	. 87 1. 16	. 90 1. 17	. 87 1, 21
Fruit jars. Mason, 1-quart	1 doz	1. 11	1. 10	1.08	1.04	1.08
Dinner plates, plain. Fruit jars, Mason, 1-quart. Frying pan, east iron, 10-inch.	Each	. 67	. 70	. 65	. 66	. 70
		1. 59 . 82	1.59	1. 67 . 80	1.60 .83	1, 71
OiFlamp, glass body Rugs, 9 by 12, tapestry Rugs, 9 by 12, brussels Washtubs, heavy galvanized.	do	23. 06	. 84 25. 85	25. 31	25. 68	. 85 25, 50
Rugs, 9 by 12, brussels	do	36. 48	38. 56	38, 66	36, 94	39, 54
Washtubs, heavy galvanized	do	1. 26	1. 25	1. 24	1. 24	1. 32
Building material: Bricks, common	1,000	20. 18	20. 36	20.43	20. 79	21. 76
Boards, rough, 1-inch, feet b. m.	1,000	35. 53	37. 69	37. 44	37. 39	36. 49
Flooring, clear, 1-inch tongue and	1,000	64. 70	67. 32	68. 33	64, 19	64. 91
groove, feet b. m 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	100 lbs 96 lbs	1. 71 1. 05	1. 79 1. 00	1.75 1.06	1. 76 1. 02	1. 8 <b>6</b> 1. 62
Roofing, composition, 3-ply	108 sq. ft	3.03	3. 01	3. 02	3.00	2, 97
Portland cement Roofing, composition, 3-ply Roofing, steel, galvanized, 2½-inch corrugated, 29 gauge						
corrugated, 29 gauge Fuel:	100 sq. ft	5. <b>8</b> 8	5. 90	6.01	5. 99	5. 93
Coal, hard (anthracite)	Ton	16. 16	15. 76	15. 71	16. 11	16, 29
Coal, soft (bituminous)	do	10.70	10. 30	9. 69	9. 51	9. 50
Varosana	dall	. 233 . 177	. 259	. 181	. 20	. 199 . 174
Coal, hard (anthracite) Coal, soft (bituminous) Gasoline Kerosene Machinery and equipment:		ł			i	
Auto tires, labric, so by 57 inches	E/SCH	10.77	10.85	10. 91	10.44	10, 27
Barbed wire, galvanized	100 lbs Pound	4. 87 132	5. 05 . 137	5. 26	5. 19 . 135	5, 1 <b>9</b> 136
Binder twine. Centrifugal hand cream separator,	1		1	j		
250-quart capacity	Each	79. 10	80. 61	81. 91	84. 06	85. 31
250-quart capacity Dairy milk cans, 10-gallon Engines, gasoline, 3 horsepower	do	4.85 97.44	4. 82 100. 48	4. 96 103. 45	4. 85 103. 00	5, 00 103: 99
Grain binders, 7-foot	.do	201. 61	206. 95	217. 97	217. 19	<b>222</b> . 81
Engines, gasoline, a norsepower Grain binders, 7-foot. Harrows, disk, 7-foot, single. Hay rakes, 2-horse, sulky. Horse collars, leather. Mower, 5-foot. Nails, 8-foot. Nails, 8-foot. Di, machine, lubricating. Pitchforks, 8 times.	do	53. 36	54. 51	55. 25	53. 00	57. 74
Hay rakes, 2-norse, surky	do	40. 67 5. 06	39. 88 5. 24	43.75 5.37	43. 34 5. 26	<b>44</b> . 91 5. 4 <b>9</b>
Mower, 5-foot	do	74. 39	76. 92	81.39	81.00	81. 22
Nails, 8d wire	Pound	. 058	.06	. 062	. 961	. 062
Pitchforks, 3 tines	Each	. 69 1. 14	1. 18	. 69 1. 21	. 70 1. 21	. 71 1. <b>2</b> 3
Plow, 2-horse, walking	do	18. 24	18. 83	18 94	19.83	19. <del>9</del> 2
Plow, 2-horse, walking Plow, riding, horse-drawn, 2 bottoms Poultry netting, 5 by 150 feet	do	85. 10	89. 54	91. 79	89. 47	95.00
Rone manile	Bale Pound	6. 51 . 266	6. <b>2</b> 9 . 275	6. 41	6. 42 . 268	6. 41 . 273
Wagons, double, complete	Each	123. 26	129.99	134. 42	134.00	135, 68
Fertilizer:		90.10	. 01 10	01 21	90.05	91.700
Acid phosphate, 16 per cent Kainit	Tendo	20. 10 18. 70	21. 12 18. 35	21. 31 17. 87	20. 95 16. 26	21: 09 17. 08
Limestone, ground	do	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
	امة	1.75	195	1.85	1.84	1.83
Bran.	(10 )					
Bran	do	2. 27	2. 29	2.58	2.60	2, 44
Bran	do		2.79	2. 58 2. 70 2. 92	2.72 2.98	2, 81 2, 93
Bran	do do do	2. 27 2. 81		2.70	2.72	2, 81

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, 1909-

Country.	Average,	1909-1913.	19	120	19	)21		22, ninary.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING								
COUNTRIES.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
Argentina		42,587	pounus.	81, 389	pounus.	75, 719	poanas.	
Australia	148	1, 347	563	12, 905	33	15, 343		(72, 32
Austria		2,011	6, 528		1, 924	2,871		
Austria-Hungary		124.873	, 525	1		2,011		
Brazil		16,574		55, 996		52, 710		
British India	1, 262	268, 648	4,331	258, 686	3, 299	208, 181	2, 189	
Canada	7,752	51, 370	14,060	19, 260	15, 200	35, 785	3,873	45, 727
China	<sup>2</sup> 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 France	000 000	161, 624 476, 863	16, 057	181, 782 97, 001	47, 189	205, 894		010 000
Germany	1 898 418	525, 108	111, 101	7, 590	4 47, 216	202, 643 4 274, 299	82, 372 209, 655	213, 200 371, 291
Italy	10 550	55, 115	69	78, 100	1, 614	139, 016	3, 919	158, 688
Mexico	10,000	33, 764	1 00	75, 100	1,014	150, 010	3, 515	100,000
Peru	!	10 930		22, 800		27, 355		37, 097
Russia Spain		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, 301
PRINCIPAL IMPORTING COUNTRIES.								
Belgium.	543, 648	155, 373	51, 927	70, 602	266, 368	51, 143	264, 303	52, 931
Ceylon	5 40, 494	5 28, 509	,		21, 314	13, 427	41, 292	12, 935
Denmark	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		
Netherlands	707, 116	219, 819	197, 312	203, 258	512, 464	69, 624	414, 635	116, 659
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 United Kingdom	69, 352 790, 865	1, 413 161, 798	53, 923 460, 766	2, 382 48, 711	90, 234 712, 333	2, 407 76, 368	91, 677 708, 660	1, 586 85, 001
Other countries	30, 172	41, 595	36, 756	32, 262	13, 607	10, 554	647	1,713
Omi cominies	50, 172	11,000	0.5, 700	92, 202	10,001	10, 504	017	1,710
Total	5, 852, 496	5, 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.

Table 682.—Bran: Average price per ton at Minneapolis, 1916-1923.

Calendar year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oet.	Nov.	Dec.	Average.
1916. 1917. 1918. 1919. 1920. 1921. 1922. 1923.	28. 75 32. 50	32, 55 32, 50 42, 83 42, 68 21, 44 24, 75	34. 20 32. 85 38. 09 46. 69 21. 64	38. 54 33. 04 39. 78 50. 26 16. 41 22. 29	33. 77 31. 27 37. 39 53. 25 15. 97 20. 91	26. 97 30. 74 34. 20 50. 78 14. 80 15. 35	32, 15 26, 00 37, 41 47, 83 14, 06 15, 31	\$20. 03 31. 83 29. 31 40. 38 41. 88 13. 93 14. 06 22. 65	30. 28 29. 06 37. 49 38. 42 12. 97 16. 88	30. 55 28. 45 36. 82 30. 63	33. 46 27. 80 37. 94 31. 85 14. 79 22. 65	38. 02 33. 49 41. 50 28. 23	32. 59 30. 58 39. 26 42. 04 17. 06 20. 25

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.

<sup>&</sup>lt;sup>1</sup> Four-year average.

<sup>2</sup> Three-year average.
3 Java and Madura only.
4 Right months, May-December.

<sup>5</sup> One year only.

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.	Aver- age.
1916 1917 1918 1919 1919 1920 1921 1922 1923	28, 83	32. 55 34. 50 44. 14 47. 28 20. 91 24. 76	34. 20 34. 85 38. 56 51. 57 20. 86 25. 54	39. 56 35. 04 40. 74 54. 88 15. 38 23. 21	36. 15 33. 27 44. 81 57. 77 15. 29 21. 20	\$20. 10 33. 27 32. 69 42. 90 56. 06 14. 83 17. 13 25. 25	41. 90 27. 61 47. 22 54. 22 14. 07 17. 30	41. 78 31. 00 53. 08 52. 56 14. 64 16. 24	35. 09 30. 90 51. 46 45. 65 13. 97 18. 07	36. 25 30. 77 44. 44 30. 62 13. 16 23. 06	37. 40 30. 09 41. 22 28. 86 15. 35 23. 23	39. 05 36. 27 43. 13 23. 94 20. 73 23. 71	36. 34 32. 62 45. 04 45. 62

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 beginning Sept. 1.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Aver- age.
1910-11 1911-12 1912-13 1913-14		40. 75 35. 30	40. 12 34. 38	39. 00 32. 75	39. 65 32. 34	\$35. 50 40. 17 31. 90 31. 35	39. 75 29. 20	38. 80 27. 86	38. 10 28. 12	37. 30 28. 25	36. 57 29. 40	35. 50 30. 12	38. 81 31. 25
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	33. 62 39. 70 39. 50 53. 00 55. 00 81. 58 60. 00	38. 75 42. 28 54. 00 56. 00 73. 80	38. 50 45. 45 54. 42 55. 75	40. 50 47. 50 57. 00 56. 50 80. 75	40. 60 48. 50 58. 15 62. 15 81. 50	41. 00 39. 50 48. 56 58. 50 63. 35 71. 75 43. 12	36. 63 48. 33 58. 50 65. 50 70. 40	32. 86 47. 00 57. 00 65. 50 62. 50	31. 50 49. 44 52. 50 70. 50 60. 00	32. 12 49. 25 50. 00 75. 50 60. 00	33. 00 51. 08 52. 80	37. 00 53. 50 54. 00 90. 25 60. 00	36. 72 47. 53 54. 99 66. 52
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 1922–23 1923–24	46. 30 43. 50 45. 00	43. 50		(1)	53. 50	51. 62 54. 12					46. 88 38. 00		

Division of Statistical and Historical Research. From Annual Statistical Review of New York Produce Exchange and the Oil, Paint, and Drug Reporter.

Table 685.—Cottonseed meal, 36 per cent protein: Price per ton, Memphis, 1910–1923.

Year beginning Aug. 1.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aver- age.
1910-11 1911-12 1912-13 1913-14	26. 50 26. 75	\$25. 75 25. 75 25. 63 27. 00	24. 63 24. 38	24. 63 24. 63	24, 63 25, 50	24. 38 25. 75	25. 13 25. 13	26.00 25.13	27. 25 26. 75	28.00 28.00		26. 75 30. 63	25. 91
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	28. 00 25. 63 28. 25 45. 50 46. 50 76. 25 55. 00	27. 13 30. 75 43. 00 46. 50	30. 50 35. 25 45. 50 46. 50 66. 50	32. 00 39. 25 49. 75 54. 00	34. 00 39. 00 46. 50 54. 00 69. 25	32. 25 37. 50 46. 50 54. 00 71. 00	29. 00 36. 25 46. 50 54. 00	36. 25 46. 50 54. 00 65. 75	28. 88 38. 50 46. 50 54. 00 64. 81	27. 75 39. 50 46. 50 54. 00 65. 13	27. 25 42. 25 46. 50 59. 13 63. 63	27. 25 44. 50 46. 50 69. 75 59. 40	29. 17 37. 27 46. 31 53. 87 66. 66
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 34. 00 39. 00	32.60	37. 60	42.80		41, 90		41. 12 39. 60		43. 75 38. 25			37.97

Division of Statistical and Historical Research. Figures prior to 1919 from Cotton Oil Press.

<sup>&</sup>lt;sup>1</sup> Nominal.

Table 686.—Cottonseed meal, 36 per cent protein, bagged: Average price per ton at 14 markets, 1923.

Market.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver age.
	\$42. 75	\$42. 50											
Baltimore											49.70		
Boston	51.60	50.60									49.40		47.48
Buffalo		47. 50									49. 25		
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								47. 30	45. 25	44. 1
Jacksonville	45. 50	45.00		40.80	38. 00	37. 50	36.60	39.00	41.50				
Memphis	41.90										42. 70	40.60	39 56
New Orleans	47.00		46. 20		44. 50		40.80						
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				45. 60		41. 75						
Richmond	49. 50	46 25		46. 30	45, 25	42. 90					10.00	20.00	
Savannah	45, 75				40. 90		37. 75		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.
BostonBuffalo	\$57. 40	\$56. 30 50. 00	43. 75	41. 20	39. 60	39. 50	40.40	45. 50	45. 50	46.00	43.80	44, 50	
Chicago Cincinnati	54. 10 56. 60			43. 30 45. 10	40. 90 44. 40	38. 75 40. 30	41. 90 41. 75	46. 75 47. 40	50. 25 50. 40		48. 50 49. 60		
Jacksonville Kansas City Minneapolis New York	61. 00 57. 50 53. 10 56. 60	55. 90 51. 25	48. 90 45. 00	46. 60 42. 10	45. 60 40. 40	37. 70	44. 10 39. 75	50. 00 49. 90 45. 40 47. 80	47.50	52. 40 48. 40	50. 60 46. 25		
Omaha Philadelphia Pittsburgh San Francisco	57. 00 57. 00 58. 00 51. 75	54. 90 56. 40	48. 40 51. 10	44. 90 47. 25	44. 00 43. 40	43. 50 41. 25	43. 70 44. 30	49. 80 47. 90 45. 70 50. 75	48. 90 51. 25	48. 80 52. 00	50. 90 47. 60 51. 30 48. 00	48.00 47.50	48. 13 49. 12

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
	24. 92	25. 27	24. 94	25. 48	25. 93	25. 87	25. 80	25. 92	26. 09	26. 52	26. 72	26. 99
	27. 39	28. 62	29. 16	29. 73	30. 18	29. 35	28. 41	27. 41	26. 82	26. 58	25. 66	25. 16
	25. 24	25. 32	24. 96	24. 69	24. 59	24. 67	24. 65	25. 10	26. 59	26. 53	26. 47	26. 43
	26. 53	26. 91	27. 58	28. 50	28. 08	27. 75	26. 36	27. 24	27. 86	26. 71	26. 40	26. 72
	27. 91	28. 96	28. 23	28. 28	28. 41	27. 68	27. 47	27. 22	26. 47	25. 81	25. 42	25. 53
	25. 93	26. 23	26. 05	25. 97	25. 97	26. 13	25. 81	26. 53	27. 50	28. 48	31. 54	32. 49
	32. 76	34. 87	38. 33	42. 07	44. 19	40. 83	40. 40	43. 16	39. 46	39. 23	39. 42	42. 53
	41. 32	42. 07	42. 62	42. 82	42. 41	42. 30	40. 69	39. 63	39. 54	39. 38	39. 22	38. 95
	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.

Table 689.—Cottonseed meal: Price per ton paid by farmers, United States, 1910-

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. 09	31. 68	30. 92	31, 17	30. 92	31, 01	30, 73	30. 12	30, 50
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, 04
1915 1916 1917 1918	29. 53 37. 03 42. 95 55. 93 62. 81	30. 88 37. 08 43. 33 56. 25 62. 61	31. 32 36. 46 43. 67 56. 59 62. 88	31. 43 36. 62 44. 73 56. 41 63. 29	31. 54 35. 72 45. 62 56. 21 63. 40	31. 39 35. 60 45, 17 56. 18 63. 06	31. 36 34. 93 46. 45 55. 69 64. 77	31, 07 35, 05 49, 25 55, 60 71, 72	30. 79 36. 17 50. 00 57. 40 74. 08	33. 77 37. 80 50. 98 59, 22 72. 58	34. 96 41. 52 53. 52 59. 93 76. 16	36. 45 42. 96 55. 52 60. 64 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. 97
1921	42. 92	41, 93	40. 17	37. 41	36. 75	37. 84	38. 24	40. 74	41. 97	43. 54	43: 67	44. 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. 79
1923	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 Livestock Estimates. As reported monthly by country dealers.

### FARM EQUIPMENT.

Table 690.—Farm equipment manufactured and sold in the United States, 1920-1922.

	Manu	factured.	Sold in t	the United ates.	Sold for	r export.
Calendar year.	Number.	Value.	Number.	Value.	Number.	Value.
Planting machinery:				**** *** ***	16 900	\$1,458,000
1920	472, 248	\$20, 997, 000	498, 853	\$21, 612, 000 5, 870, 000	16, 822 9, 689	466, 099
1921	310, 855	8, 441, 000 4, 214, 000	209, 572 192, 415	5, 241, 000	8, 613	449, 000
1922	189, 230	4, 214, 000	192, 410	0, 241, 000	0,010	
Plows and listers:	1,361,578	43, 222, 090	1, 215, 979	37, 699, 900	221, 077	7, 200, 000
1921	566, 209	13, 907, 000	407, 760	9, 071, 000	102, 262	2, 648, 009
1922	441,800	9, 680, 000	455, 836	11, 215, 000	58, 133	1, 401, 000
1922 Tillage implements:	,			~~ ^^~ ^		1 CCE (VM)
1920		22, 919, 000		20, 636, 600 7, 488, 000		1, 665, 099 980, 000
1921		10, 436, 000		5, 472, 000		325, 000
1922		4, 777, 000		0, 412, 000		000,000
Cultivators:	580, 179	15, 186, 000	589, 830	17, 296, 000	45, 863	670,000
1921		8, 265, 900	368, 365	6, 545, 000	41, 939	282, 000
1922		4, 272, 000	305, 773	5, 571, <b>00</b> 0	12, 723	226, 900
Having machinery:	1			40.00=.000	04 017	c 020 000
1920	411, 556	24, 703, 000	338, 112	19, 667, 000	94, 011 39, 968	6, 230, 000 1, 807, 000
1921	219, 429	10, 230, 000	139, 412	6, 776, 000 8, 831, 000	14, 320	734, 000
1922	154, 367	7, 625, 000	189, 567	-9, 001, UW	12,320	192,000
Harvesting machinery:	232, 177	41, 015, 000	168, 829	30, 626, 000	41, 334	7, 339, 000
1920 1921	119, 111	18, 028, 000	60, 667	8, 977, 000	33, 933	5, 840, 000
1922	80, 565	11,822,000	80, 337	11, 242, 000	16, 512	2, 747, 000
Machines for preparing crops for	00,000					
market or use:					00 000	0.010.004
1920	196, 772	35, 612, 000	159, 918	34, 749, 000	30, 220 9, 670	3, 010, 000 1, 988, 000
1921	87, 998	21, 436, 000	64, 459	15, 032, 000 19, 873, 000	39,024	3, 487, 990
1922	172, 258	18, 294, 000	146, 938	19, 5/0, 000	30,024	J, 101, 1960
Tractors:	1		1		1	
Gas— 1920	203, 207	193, 563, 000	162,988	161, 896, 000	29, 143	30, 850, 900
1921		50, 295, 000	(1)	(1)	(i)	(1)
1922		52, 178, 900	101, 192	52, 449, 000	10, 232	6, 458, 000
Steam—				0.000.000	101	370; 000
1920	.1, 766	4,661,000	1,401	3, 903, 000	121 72	188,000
1921		2, 874, 000	724 519	1,737,000 1,421,900	56	223, 900
1922	396	1,065,000	519	1, 721, 500	30	, , , , , , , , , , , , , , , , , , ,
Horse-drawn vehicles:	449, 095	42, 423, 000	430, 459	40, 929, 000	3, 810	339, <b>00</b> 0
1920		8, 861, 000	(1)	(1)	(1)	(1)
1921		11, 953, 000	158, 207	13, 410, 000	2,028	116, 000
Barn and barnyard equipment:2		1 ' '				
1921		430, 000		437, 000		3,000
1922		4, 536, 900	'	4, 306, 000	'	3,000

<sup>&</sup>lt;sup>1</sup>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.

<sup>2</sup> Figures for 1921 relate to barn equipment only. No data for 1920.

Table 690.—Farm equipment manufactured and sold in the United States, 1920-1922—Continued.

	Manu	factured.	Sold in the	United States.	Sold for	r export.
Calendar year.	Number.	Value.	Number.	Value.	Number.	Value.
Miscellaneous:		\$93, 544, 000		\$82, 429, 000		\$7, 495, 000
1921		175, 738, 000 79, 224, 000		83, 886, 000		5, 49 <b>4</b> , 000
Grand total:		536, 945, 000		471, 442, 000	:	66, 626, 000
1921 19 <b>22</b>		328, 041, 000 209, 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.

MORTGAGE DEBT.

Table 691.—Mortgage debt on owner-operated farms, 1910 and 1920.

State.	Numbe operat owners ( of all fa	ed by per cent	Average owner-o far:	perated	Per ce owner-or farms i gage	perated mort-	Averag per f		Average per a	
	1910	1920	1910	1920	1910	1920	1910	1920	1910	1920
Maine	Per cent. 94. 1	Per cent. 94. 2	Acres. 104. 8	Acres. 111. 7	Per cent. 26. 5	Per cent. 28. 7	\$845	\$1,506	\$8.06	<b>\$13. 4</b> 8
New Hampshire	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 2, 007	7. 54 18. 62	14. 61 27. 88
Massachusetts	86. 9	87. 8	73. 1	72. 0	40. 6 28. 9	45. 0 29. 2	1, 361 1, 355	1,746	17. 39	22. 76
Rhode Island	77. 2	79. 5	77. 9	76. 7	1 1					28. 00
Connecticut	86. 6	86. 8	78. 8	78. 4	42.9	45. 4	1, 309	2, 195 2, 436	16. 61 16. 40	24. 51
New York	77. 3	78. 5	94. 9	99. 4	43. 4	43. 9	1,556	2, 430	28. 18	41. 52
New Jersey	72.1	73. 7	64. 8	65, 1	48.9	46. 1 31. 6	1, 826 1, 368	1,976	17. 43	24. 25
Pennsylvania	74. 9	75. 9	78. 5	81. 5	30. 9 36. 6	33. 6	1,518	2, 344	19. 66	31. 21
Delaware	57. 0	59. 3	77. 2	75. 1						31. 48
Maryland	68. 5	<b>68.</b> 5	86. 7	83. 9	36. 2	34. 6	1,457	2, 641	16. S1 8. 06	19. 54
Virginia	72. 6	73. 2	110. 1	100. 9	15. 8	17. 8	887	1, 972 1, 241	6. 59	11. 45
West Virginia	78. 6	82. 6	107. 7	108. 4	12.5	14. 2	710 517	1, 241	4. 80	17. 87
North Carolina	57. 3	5 <b>6</b> . 1	107. 7	88. 8	18.3	16. 2 21. 1	903	2,051	7. 22	20. 68
South Carolina	36. 5	35. 1	125. 1	99. 2	23. 3		1			14. 45
Georgia	33. 9	32. 9	150. 6	125. 3	18. 5	22. 7	794	1,811	5. 27	14. 45 16. 75
Florida	70.8	71.3	121. 1	105. 5	14.6	21. 1	652	1,767 2,812	5. 38 17. 86	33. 36
Ohio	70. 6	69. 3	83. 5	84.3	28.6	28. 5 37. 5	1, 491 1, 433	2,604	15. 26	27. 76
Indiana	68. 9	66. 9	93. 9	93. 8	38. 3 38. 4	38.5	3, 135	5, 379	25. 57	43. 84
Illinois		55. 9	122. 6	122.7	1		1 ′	2, 147	12. 62	23. 54
Michigan	83. 3	81. 1	87. 7	91. 2	48.0	49. 4	1, 107 2, 116	4, 072	18. 40	36. 42
Wisconsin	85. 3	84.3	115. 0	111.8	51. 1	59. 1	1, 864	4, 419	11. 01	27. 92
Minnesota		74. 4	169. 3	158. 3	46.0	52. 4 54. 2	4, 048	9, 358	26. 63	63. 19
Iowa		57. 1	152. 0	148. 1 133. 4	51. 2 46. 0	46. 2	1,758	3, 147	13. 42	23. 59
Missouri	1	70. 4	131. 0	1				4, 786	6. 68	10. 15
North Dakota		73. 3	373. 1	471. 7	50. 2	71.1	2, 493	6, 402	8. 70	12. 66
South Dakota		64. 1	333. 1	505. 5	37. 4 38. 9	57. 0 50. 5	2, 897 3, 154	7, 025	9. 27	18.53
Nebraska		56. 0	340. 4	379. 2 282. 0	44. 3	45. 4	2, 326	4, 083	8. 96	14. 48
Kansas		58. 7	259. 6 102. 5	93. 6	19. 4	22. 6	906	1, 889	8. 84	20. 18
Kentucky		66. 3			1		1	1,812	7. 14	19. 48
Tennessee		58. 6	101. 8	93. 0	16. 7 26. 4	21. 8 26. 0	727 538	1, 176	4. 21	10. 39
Alabama		41.8	127. 8 127. 3	113. 2 124. 1	32. 3	26. 3	586	1, 375	4, 60	11. 08
Mississippi		33. 6 42. 3	127. 7	109. 3	18. 6	20. 6	1, 190	1, 989	9. 32	18. 20
Louisiana		46.1	353. 3	339. 2	32. 7	34.8	1,584	2, 984	4. 48	8. 80
Texas		i		198. 2	42. 2	50. 4	1, 114	2, 157	5, 95	10.88
Oklahoma		48. 6	187. 3 116. 2	104.8	21. 0	30. 2	540	1,306	4. 65	12. 46
Arkansas		48. 4 87. 2		575. 9	20. 6	59. 5	2, 692	3, 669	5. 91	6. 37
Montana	89. 1 89. 0	85. 1	526. 9	698. 3	19. 7	41. 1	2,749	3, 887	5. 22	5. 57
Wyoming		75. 6	274. 0	411. 2	26. 0	46. 7	2,508	3,980	9. 15	9. 68
Colorado		1	212. 5	693. 2	5. 3	24. 3	1,854	2, 581	8. 72	3, 72
New Mexico		86. 3 78. 9		485. 4	12.7	43. 0	2,772	5, 441	25. 98	11. 21
Arizona		88.0		179. 9	22. 7	43. 9	1, 294	3, 009	8. 86	16. 73
Utah		85. 3		525. 9	16. 6	32. 8	4, 738	8, 499	9.98	16. 16
Nevada	1	1	1	196. 2	33. 2	57. 9	1.917	4,076	11.71	20, 77
Idaho	88. 2	82. 3		175. 7	33. 7	45. 5	2, 017	3, 134	10. 51	17. 84
Washington		79. 5 79. 4		251. 3		44. 8	2,060	3, 622	8. 62	14. 41
Oregon		74. 4		196. 3	40. 1	50. 4	2,802	6,001	12.34	30. 57
California			-		-		-			
United States	62. 1	60. 9	151. 6	162. 2	33. 2	37. 2		3, 356	9.99	17. 50

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

<sup>&</sup>lt;sup>1</sup>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.

# BANKRUPTCY AMONG FARMERS.

Table 692.—Bankruptcy among farmers: Cases concluded in fiscal years ending June 30, 1910-1923.

	190	9-10		19	10-11		19	11-12		19	12-13		19	13–14	
		Farm	ers		Farm	iers.		Farm	iers.		Farn	ers.		Farn	iers.
State.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.
Maine	697 114 112 977 76	7	12. 2 6. 1 17. 0 . 7 4. 0	496 59 125 950 84	1	8.0	584 83 113 914 85	110 3 11 19 1	18. 8 3. 6 9. 7 2. 1 1. 2	568 107 108 872 144	59 6 9 4	8.3	597 170 103 1, 112 90	66 4 8 9	7.8
Connecticut New York New Jersey Pennsylvania Ohio	74 1,838 87 966 886	2 37 1 14 32	2. 7 2. 0 1. 2 1. 5 3. 6	192 2, 110 112 799 742	10	1.8 .9 1.3	221 2, 272 439 617 835	4 33 4 21 24	1.8 1.5 .9 3.4 2.9	210 2, 402 288 990 849	3 41 4 21 28	1.7 1.4 2.1	138 2, 078 266 762 808	1 33 4 26 27	1.5
Indiana Illinois Michigan Wisconsin Minnesota	1, 315 301 229	18 43 2 3 60	5. 7 3. 3 . 7 1. 3 10. 5	301 251	27 4 5	2.0	230 1, 328 298 213 422	13 34 3 4 29	5. 7 2. 6 1. 0 1. 9 6. 9	309 1, 052 347 292 411	23 20 53 10 32		302 1,651 153 310 430	19 35 2 8 29	2. 1 1. 3 2. 6 6. 7
Iowa Missouri North Dakota South Dakota Nebraska	130	16 67 30	31. 3 3. 2 51. 5 36. 6 14. 4	506 119 36	10 41 11	19. 7 2. 0 34. 5 30. 6 14. 7	276 346 125 94 111	9 54 19	29. 7 2. 6 43. 2 20. 2 13. 5	358 518 165 86 145	15 92 25	16. 8 2. 9 55. 8 29. 1 10. 3	345 523 194 115 114	11 105 42	20. 0 2. 1 54. 1 36. 5 10. 5
Kansas Delaware Maryland Dist. Columbia Virginia	151 52	5	3. 3	8i 60	6	7. 4	173 16 117 43 431	6	6. 4 12. 5 5. 1 -1. 6	196 7 109 56 514	1 4	9. 7 14. 3 3. 7 -3. 3	259 33 139 43 468		6. 1 5. 0
West Virginia North Carolina South Carolina Georgia Florida	410	1 1 39	1. 4 1. 0 9. 5	99 67 487	1 3 40	1.0 4.5 8.2	85 505	<u>2</u> 48	2. 4 9. 5	52 107 557	1 1 51	1.9 .9 9.2	108 670	1 1 3 73 1	2. 8 10. 9
Kentucky Tennessee Alabama Mississippi Arkansas	604 257 183	10 10	1.3 3.9	517 398 100	20 18 0 2	3. 9 4. 6 2. 0	694 519 101	19 32 3	2. 7	660 792 201	14 31 4	2. 1 3. 9 2. 0	530 1, 227 157	19 52	3. 6 4. 2
Louisiana Oklahoma Texas Montana Idaho	159 287 98	14 24 8	8. 8 8. 4	177 304 8	16 1 25	9. 0 8. 2 10. 3	300 251 129	11 22 20	3. 7 8. 8 15. 5	294 579 144	29 37	8. 4 9. 9 6. 4 26. 4 10. 0	319 508	44 55	5. 6
Wyoming Colorado New Mexico Arizona Utah	204 31 17	17 1	3, 2	25	19	4.0	11 27	24	10. 3	322 18 16	17		249 42 7	1 2	7. 1 12. 5 4. 8 14. 3 1. 7
Nevada Washington Oregon California	1169	9 9		170	) 10	5. 9	174	1 16 1 9 3 22	5. 2 3. 5	363 2 216 5 738	22 5 18 3 31	6. 1 8. 3 4. 2	408 466 782	32 47	6. 9
United States	. 14, 79	849	5. 7	14, 150	679	4. 8	15, 589	837	5. 4	17, 588	942	5, 4	18, 741	1,045	5. 6

Table 692.—Bankruptcy among farmers: Cases concluded in fiscal years ending June 30, 1910-1923 —Continued.

	191	4-15.		19	15–16		19	16–17		19	17–18		19	18–19	
		Farn	iers.		Farm	iers.		Farn	ners.		Farn	iers.		Farn	ners.
State.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.	Total.	Number.	Per cent of all cases.
Maine New Hampshire_ Vermont_ Massachusetts Rhode Island	779 109 96 1, 067	88 6 7 8	11. 3 5. 5 7. 3 . 8	589 62 118 1, 491 144	1	7. 6 . 6	775 87 125 1,682 89	2	12. 9 2. 3 15. 2 . 7	735 67 86 1, 645 112	85 3 6 21 1	7.0 1.3	523 51 67 1, 565 73	77 5 7 9	1.4
Connecticut New York New Jersey Pennsylvania Ohio	224 2, 397 344 1, 008 .866	3 57 1 32 24	1. 3 2. 4 . 3 3. 2 2. 8	271 2, 776 558 1, 002 945	8 46 7 35 44	1. 3 3. 5	391 3, 108 625 1, 021 924	19 75 8 47 28	2. 4 1. 3 4. 6	278 2, 992 302 807 969	9 59 5 33 43	2. 0 1. 7 4. 1	247 2, 644 388 700 687	5 57 6 26 15	2. 2 1. 6 3. 7
Indiana Illinois Michigan Wisconsin Minnesota	253 1, 398 520 314 435	16 44 4 6 16	6. 3 3. 2 . 8 1. 9 3. 7	355 1, 603 419 416 516	9 14	3. 6 2. 2 3. 4	322 1, 709 538 439 644	26 69 12 7 59	4. 0 2. 2 1. 6	225 1, 445 497 390 668	15 46 12 10 49	3. 2 2. 4 2. 6	157 1, 513 592 397 583	14 25 10 11 16	1.7 1.7 2.8
Iowa Missouri North Dakota South Dakota Nebraska	295 551 190 142 184	10 111 33	22. 4 1. 8 58. 4 23. 2 9. 8	378 604 175 90 171	20 90 16	21. 7 3. 3 51. 4 17. 8 13. 5	360 598 148 181 216	28 60 50	20. 0 4. 7 40. 5 27. 6 9. 3	363 681 165 37 204	24 61 17	21. 5 3. 5 37. 0 46. 0 5. 9	261 594 102 23 154	31 37	15. 3 5. 2 36. 3 26. 1 5. 2
Kansas Delaware Maryland Dist. Columbia Virginia	307 18 141 39 555	36 	11. 7 4. 3 3. 8	249 12 146 130 696	10	10. 4 6. 9 3. 6	244 18 141 54 708	13	14. 8 9. 2 5. 8	226 16 177 60 561		11. 5 10. 7 6. 6	208 5 109 13 419	18 6 	5. 5
West Virginia	485 118 156 1, 481 220	16 3  126 5	2. 5 8. 5	184 1, 862	1 5 310	2. 7 6. 7	117 129 1,667		2. 6 5. 4 19. 1	81 1, 456	322	5. 6 2. 5 22. 1	205 72 60 852 110	16 3 2 216 10	4. 2
Kentucky Tennessee Alabama Mississippi Arkansas	1, 165	19 36 72	3. 1 6. 7	948 861 101	45 85 4	4. 8 9. 9 4. 0	1, 059 806 368	65 88 12		890 1,544 490	93 13	4. 9 6. 0	273 507 1, 341 130 185	68 4	5.1
LouisianaOklahomaTexasMontanaIdaho	228 421 200	17 50 71	10, 8 7, 5 11, 9 35, 5 37, 3	448 876 270	36 97 981		452 760 281	39 113 90	12. 0 8. 6 14. 9 32. 0 7 22. 3	273 614 198	95 95 38	16. 2 11. 4 15. 5 19. 2 21. 4	156 224 539 204 98	110	13. 5 5. 8 20. 4 25. 5 20. 4
Wyoming Colorado New Mexico Arizona Utah	40 297 34 19	47	20. 0 15. 8 10. 5 3. 6	326 37 25	38		363 25 22	49	9 13. 5 2 8. 0 2 9. 1	257 26 38	3 21	10. 7 8. 2 1 15. 4 1 2. 6 2 7. 4	22	19 1	
Nevada	350 439	27 31	7. 7 7. 1 4. 6	422	38	4. 3	418	42	9. 7	573 973	5 5 5 5 5	10. 0 2 5. 6 5 5. 6	341 381 991	23 28 49	6.7 7.4 4.9
United States	21, 233	1, 246	5. 9	23, 931	1, 65	6. 9	25, 26	1, 90	6 7. 5	23, 465	1, 63	2 7.0	19, 301	1, 207	6.3

Table 692—Bankruptcy among farmers: Cases concluded in fiscal years ending June 30, 1910-1923—Continued.

	1	919-20		1	920-21		1	921-22		1	922-23	
State		Farr	ners.		Farr	ners.		Fari	ners.		Farr	ners.
State.	Total.	Num- ber.	Per cent of all cases.	Total.	Num- ber.	Per cent of all cases.	Total.	Num- ber.	Per cent of all cases.	Total.	Num- ber.	Per cent of all cases.
Maine New Hampshire Vermont Massachusetts Rhode Island	454 51 133 1,034 38	50 4 10 6	11. 0 7. 8 7. 5 . 6	420 53 85 728 50	62 3 14 9	14. 8 5. 7 16. 5 1. 2 2. 0	431 123 166 901 72	21 10	11. 8 5. 7 12. 7 1. 1 1. 4	658 76 100 1,592 166	12 20 5	
Connecticut New York New Jersey Pennsylvania Ohio	190 2, 241 336 534 599	2 49 2 16 18	1. 1 2. 2 . 6 3. 0 3. 0	138 2, 039 297 421 460	2 61 5 25 23	1. 5 3. 0 1. 7 5. 9 5. 0	$\begin{array}{c} 201 \\ 2,076 \\ 277 \\ 571 \\ 680 \end{array}$	2 38 4 35 64	1. 0 1. 8 1. 4 6. 1 9. 4	399 3, 128 502 1, 165 1, 279	15 96 4 48 156	3. 8 3. 1 . 8 4. 1 12. 2
Indiana	138 1, 089 338 314 532	12 29 4 20 42	8. 7 2. 7 1. 2 6. 4 7. 9	124 697 220 232 480	16 11 1 11 57	12. 9 1. 6 . 5 4. 7 11. 9	245 1, 012 434 364 651	59 81 11 32 189	24. 1 8. 0 2. 5 8. 8 29. 0	333 1, 714 909 696 1, 023	84 192 27 110 291	25. 2 11. 2 3. 0 15. 8 28. 5
Iowa Missouri North Dakota South Dakota Nebraska	194 514 1 <b>30</b> 131 118	36 25 50 18 11	18. 6 4. 9 38. 5 13. 7 9. 3	275 301 146 76 86	75 22 93 24 8	27. 3 7. 3 63. 7 31. 6 9. 3	704 403 302 73 184	368 61 237 38 60	52. 3 15. 1 78. 5 52. 1 32. 6	935 560 749 232 259	489 105 615 148 132	52. 3 18. 8 82. 1 63. 8 51. 0
Kansas Delaware Maryland Dist. Columbia Virginia	158 6 79 32 <b>29</b> 1	31 1 3 	19. 6 16. 7 3. 8	211 20 84 35 516	45 5 24	21. 3 6. 0 4. 7	328 35 159 35 726	113 3 17 <del>4</del> 0	34. 5 8. 6 10. 7	588 29 170 59 1, 320	225 2 37 87	38. 3 6. 9 21. 8
West Virginia North Carolina South Carolina Georgia Florida	183 42 45 909 86	5 3 1 129 10	2. 7 7. 1 2. 2 14. 2 11. 6	220 63 58 1, 063 111	10 2 4 241 11	4. 6 3. 2 6. 9 22. 7 9. 9	268 154 115 2, 344 145	12 13 1 588 4	4. 5 8. 4 . 9 25. 1 2. 8	328 215 246 2, 918 348	$7 \\ 16 \\ 24 \\ 772 \\ 14$	2 1 7. 4 9. 8 26. 5 4. 0
Kentucky	241 560 735 57 439	24 32 49 3 8	10. 0 5. 7 6. 7 5. 3 1. 8	188 724 1, 419 239 163	21 24 43 12 17	11. 2 3. 3 3. 0 5. 0 10. 4	222 1, 133 2, 461 265 266	43 46 100 12 72	19. 4 4. 1 4. 1 4. 5 27. 1	587 1, 600 1, 977 462 454	88 118 181 33 76	15. 0 7. 4 9. 2 7. 1 16. 7
Louisiana Oklahoma Texas Montana Idaho	139 139 236 178 86	17 13 57 63 12	12. 2 9. 4 24. 2 35. 4 14. 0	114 128 383 226 80	12 13 82 82 19	10. 5 10. 2 21. 4 36. 3 23. 8	219 240 628 363 169	$32 \\ 38 \\ 122 \\ 215 \\ 79$	14. 6 15. 8 19. 4 59. 2 46. 8	423 551 1, 208 611 292	129 81 253 366 160	30. 5 14. 7 20. 9 59. 9 54. 8
Wyoming Colorado New Mexico Arizona Utah	21 141 18 12 185	3 18 3 5	14. 3 12. 8 16. 7	24 212 20 21 151	8 48 2 1 17	33. 3 22. 6 10. 0 4. 8 11. 3	42 249 37 40 177	12 77 3 9 22	28. 6 30. 9 8. 1 22. 5 12. 4	56 366 17 105 235	14 118 3 37 32	25. 0 32. 2 17. 7 35. 2 13. 6
Nevada Washington Oregon California	300 207 949	20 7 59	6. 7 3. 4 6. 2	11 261 407 682	29 11 57	11. 1 2. 7 8. 4	21 377 370 1,004	2 49 33 110	9. 5 13. 0 8. 9 11. 0	2 727 717 1, 150	131 110 183	18. 0 15. 3 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.

Table 693.—Farmers' incomes: Returns from farming, 1922.

Item.	United States.	North Atlantic.	South Atlantic.	East North Central.	West North Central.	South Central.	West- ern.
Number of reports	6, 094	648	803	1, 274	1, 395	1, 282	692
Size of farmacres Value of farm real estate Value of farm personalty (Jan. 1, 1922)_	252 \$13, 586 2, 844	\$8,748 3,043	206 \$9, 565 1, 857	\$13, 986 2, 563	339 \$19, 940 3, 661	\$9,027 2,153	\$17, 672 3, 955
Receipts: Crop sales Sales of livestock Sales of livestock products Miscellaneous sales	816 660 454 42	981 352 1, 193 92	886 347 245 54	506 754 621 39	684 1, 148 379 24	888 410 167 32	1, 286 617 382 37
Total	1,972	2, 618	1,532	1,920	2, 235	1, 497	2,322
Cash outlay: Hired labor Livestock bought Feed bought Fertilizer Seed Taxes Tools and machinery Miscellaneous purchases	331 204 175 57 43 174 123 150	524 153 467 151 59 146 143 215	309 161 86 178 38 91 82 85	245 228 176 41 40 210 122 149	280 321 178 6 39 211 152 198	284 138 90 32 38 111 81 92	522 138 159 9 54 270 177 181
Total	1, 257	1, 858	1,030	1, 211	1, 385	866	1, 510
Receipts less expenses Increase in inventory	715 202	760 98	502 121	709 219	850 385	631 104	812 174
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	294 716	273 850	362 504	276 759	287 854	301 477	269 919
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.	West- ern.
Net results, as givenAdd food and fuel 1	\$917 294	\$858 273	\$623 362	\$928 276	\$1, 235 287	\$735 301	\$986 269
Total farm returns	1, 211	1, 131	985	1, 204	1, 522	1,036	1, 255
Less unpaid labor <sup>2</sup> Return to capital. Return to capital, per cent <sup>3</sup> Interest assuming rate of 6 per cent <sup>4</sup> Return to all unpaid labor Return to operator (prorated) <sup>5</sup>	\$716 495 3.0 \$986 225 158	\$850 281 2. 4 \$707 424 334	\$504 481 4, 2 \$685 300 226	\$759 445 2. 7 \$993 211 156	\$854 668 2. 8 \$1, 416 106 70	\$477 559 5. 0 \$671 365 295	\$919 336 1. 6 \$1, 298 43 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 Average of estimates of 4,748 farmers.
2 Average as estimated by 5,248 farmers.
3 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.
5 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.

				Y	ear beg	ginning	Nov.	1			
Item.	1911- 12	1912- 13	1913- 14	1914- 15	1915– 16	1916- 17	1917- 18	1918– 19	1919- 20	1920- 21	1 <b>921-</b>
Average acres per farm:											
Entire farm	146 21	143 21	143 21	144 21	148 21	157 21	161 21	170 22	171 22	172 22	170
Woodland not pastured	11	11	13	11	11	12	12	13	13	14	22 14
Permanent pasture	67 27	64 27	66 25	64 27	69	76 33	80 33	81	87	88	80
Permanent pasture Untillable Tillable	40	37	41	37	31 38	43	47	34 47	36 51	36 52	36 44
Rotation pasture Rented out and idle	5	4	3	3 2	1	1	i	ı	4	4	J &
Crops	42	42	40	43	1 45	2 45	47	52	45	42	3 43
Crops Corn Wheat	10	9	10	11	11	12	lii	11	9	10	10
W heat	10 19	10 19	6 20	10	9 21	10 19	11 20	14 20	10	9	8
Hay Fruit Other crops	2	2	3	18 2	21	2	20	20	21 3	19 3	20 3
Other crops	1	2	ĭ	2	2	2	3	5	2	ĭ	2
Tields per acre: Corn (bushels)	40	52	41	37	35	40	29	47	40	44	43
Wheat (bushels) Hay (tons) ivestock:	14	8	18	18	9	14	11	21	12	10	11
Hay (tons)	1. 6	1. 1	. 9	1. 2	1.4	1. 2	1.1	1.9	1.1	1.2	1.
Productive animal units 1	13. 2	14. 2	15. 4	14.8	15. 9	18	17. 9	17. 9	18. 5	17	15. (
		6. 5	7. 7	8. 1	9. 3	11.8	12	11.8	12	11.3	10.8
Cattle Colts Sheep Hogs Poultry Receipts per animal unit Regular hired Extra hired Family	. 6 4. 6	. 6 4	7 2.9	. 7 2. 1	. 7 2. 3	2.3	2.4	2.8	2.8	. 4 2. 7	
Hogs	1. 3	1.5	2. 4	2. 2	1.8		1.6	1. 5	1.8	1.1	2. 1 1. 2
Poultry	1. 3	1.6	1. 7	1.7	1.8	1.8	1.5	1.4	1.5	1. 5	1. 8
shor months—total	\$87 16. 6	\$55 18. 1	\$59 16. 7	\$60 16.8	\$68 17. 6	\$87 17. 7	\$83 17. 4	\$116 17. 6		\$56 16. 7	\$86 18
Regular hired					.5	. 8	. 7	. 8	10. 7	10. 7	· . 6
Extra hired	. 6	2. 2	. 3	. 6	. 9	. 4	. 3	. 3	. 4	. 6	1
Operator's	4 12	3.9 12	4. 4 12	4. 2 12	4. 2 12	4. 5 12	4. 4 12	4. 5 12	4.3 12	4. 1 12	4.4 12
apital, total	\$5, 575	\$5.674	<b>\$5.908</b>	\$5 936	\$6, 119	\$6,689	\$7, 372	\$7,400	\$8,084	\$7, 561	\$7, 220
Real estate	4, 296 2, 725	4, 238	4, 278 2, 684	4, 259	4, 402 2, 758	4, 820	4,858	5, 160	5, 450	5, 390	5, 312
Dwelling	814	2, 652 814	814	2, 642 843	843	2, 992 868	3, 024 871	3, 303 883	3, 492 919	3, 364 948	3, <b>2</b> 75
Other buildings	757	772	780	774	801	960	963	976	1,039	1, 078	1, 103
Extra hired Family Operator's apital, total Real estate Land Dwelling Other buildings Working capital Livestock Cattle Colts Sheep Hogs Poultry Work stock Machinery Feed and supplies Cash to run farm	1, 279 767	1, 436 916	1, 630 1, 020	1,677 1,079	1, 717 1, 100	1, 869 1, 213	2, 514 1, 667	2, 240 1, 414	2, 634 1, 549	2, 171 1, 204	1, 908 1, 060
Cattle	180	239	345	378	426	484	755	601	762	552	476
Colts	80	82	71	84	81	58	29	28	47	34	54
Hogs	$\frac{92}{71}$	135 79	106 82	91 101	107 75	128 70	193 185	202 130	187 139	102 86	99 56
Poultry	45	52	59	64	. 66	72	90	76	94	100	91
Work stock	298 266	328 297	356 307	359	343 326	397	413 359	375 385	320	330	284
Feed and supplies	200	186	266	310 251	248	340 273	443	394	492 546	511 414	511 289
Cash to run farm	37	37	37	37	43	43	45	47	. 47	42	48
aue real estate der acre	29 31	30 14	30 34	30 58	30 68	31 9	30 14	$\frac{30}{12}$	31 80	31 37	31
ost of improvements per farm ost of machinery bought per farm	56	37	26	44	43	49	35	151	12	101	30
eceipts, total	822 209	809	932	893 180	1,068	1, 570	1, 493	2, 089	1, 319	964	1, 344
Corn	13	72 4	147 30	14	147 16	179 26	191 4	434 20	132 10	76	91 14
Wheat	38	6	35	87	21	87	47	337	48	16	12
Hay Fruit	88 58	47	21 48	29 30	30 27	11 18	52 63	35 1 <b>0</b>	28 35	22 33	19 41
Other crops	12	13	13	20	53	37	25	32	11	5	5
Livestock and products	568	585	693	651	804	1, 265	1, 156	1, 308	950	686	834
Cattle	32 131	48 153	61 159	84 170	100 222	125 426	97 -383	137 459	123 279	88 210	70 248
Colts	44	35	41	14	19	5	Q.	11	18	23	12
Sheep	71 97	4 78	34	25 65	39	· 90 158	26 154	28 186	-51	-4	57
Hogs	64	106	68 153	132	68 160	216	233	157	84 134	61 74	114 98
Poultry	21	37	34	22	36	51	43	52	57	19	35
ost of machinery bought per farm seeipts, total.  Crops. Crops. Hay. Hay. Fruit. Other crops. Livestock and products. Dairy products. Cattle. Colts. Sheep. Wool. Hlogs. Poultry. Eggs. Increase feed inventory.	108	124 79	143	138	159 26	194 37	229	278 152	306	215	200
Increase feed inventory Woodlot products Rent for buildings and pasture Outside work Other receipts		19	. 10	5	20	1		152	22	10	····ī
Rent for buildings and pasture	5	2	1	1	1	2	1		4	5	5
Other receipts	40	70	81	55	81	82 4	144	184	198 13	187	408 5
Labor Hired Family	396	365	382	440	459	584	769	844	817	767	834
Labor	110	111 14	117 12	125 22	137 36	159 42	180 41	244 53	180 25	185 33	223 68
Llined	19										

<sup>&</sup>lt;sup>1</sup> 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.

				Ye	ar begi	inning	Nov.	I—			
Item.	1911- 12	1912- 13	1913- 14	1914- 15	1915– 16	1916- 17	1917- 18	1918- 19	1919- 20	1920- 21	1921- 22
Expenses, total—Continued.				400	***	405	\$35	<b>0.4</b> C	\$42	\$48	\$5-
Machinery Repairs	\$29	\$30	\$30	\$32	\$33		\$30	\$46	\$42 4	φ4ο 5	
Repairs	4	4	4	4	4		31	42		43	
Depreciation	25	26	26	28	29 15						
Dwelling	15	15	15	15	5			6			
Dwelling Repairs Depreciation	5	5	5	5							
Depreciation	10	10	10	10	10		27	28			
Other buildings	21	20	20	21	21			10			
Repairs Depreciation	8	7	7	7	7		9 18				
Depreciation	13	13	13		14			18 12			
Fence repairs	10	9	9		10	10	10 96				
Fence repairs Feeds purchased Seeds purchased	19	23	30	58	72	119 18	35				3
Seeds purchased	18		23	20	23	18	35	112			
Fertilizer	i 400				44	61					
Machine work hired	23	14					26				
Insurance	3										
Taxes	42							66			
Horseshoeing	6				5	6		6		1 6	
Breeding fees Veterinary fees Spray materials	8	6	6	5	5	6	7	6	4	9	1
Veterinary fees	2	2	1	1					4		
Spray materials	4	1	1	1	1		1		1	4	
Twine	( Z	2	2	3	3	6			5	7	
Fuel and oil	3		4	1	3 2 7	3	5	5			
Decrease work stock	18					30			34	63	
Decrease feed inventory	22		14				118		42		
Other expenses	1		2	3							
Farm income	426										
Interest on capital at 5 per cent	279						368				
Labor income	147				303				98		
Operator's labor and management	289										
Per cent return on capital.	2.4	2.6	4.4	2.9	5. 3	10. 3	5. 2				
Family living from farm	1			1	l		l	\$504	\$371	\$358	\$37

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.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.		Cents.	Cents.	Cents.	Cents.	Cents.
1912	42. 460	42. 500		42.655								42. 495
1913	42, 510							42. 110				
1914	42. 158							243, 465				
1915	43. 348	43. 332	42, 925	42, 580								42, 560
1916	42, 652	42, 858	43, 158	43.058	42, 525							43. 824
1917	44, 170	43.960	43. 402	42.642								
1918	44, 820	43.895	44. 062	44. 472								45. 018
1919	44. 804	44.748	44. 328	44. 045	44. 100	43. 220						
1920	43, 076	43. 108	43, 320	42. 957	42, 485	42.058	40. 496	37. 657				
1921												
1922						36. 016						
1923				36. 585	35, 939	35. 485	34. 205	32. 762	32. 935	32, 410	31. 304	31. 826
	,		<b>'</b>	EGY	PTIAN	TAL	RI.3					
1912	100, 345	100. 398	100. 310		100.006		99, 972	100.090	100.042	100. 412		100. 005
1913	100. 144	99. 928					99. 662	99. 952	100. 120	100. 244	99, 912	100, 768
1914		99. 855	99. 685					103. 630	103. 292	102. 552	100. 962	100. 250
1915	99. 582	99, 138	98. 708	98. 372	98. 320			l .	96. 232			
1916	97, 505	97, 652	97, 740	97, 770	97.648	97. 575						
1917			97. 576	97. 670	97. 578							
1918				97, 598	97. 600							
1919	97. 726	97. 702	96. 480	95, 525	95, 808	94, 588	91. 395	88. 036				
1920	75, 864	68, 660	74, 123	80, 088	78. 934	79. 642	78. 362					
1921						78. 298						
1922		89. 163				91. 377	91. 118	91. 955	90. 828	91. 275	91. 558	93. 842
1000	05 070	00 720	06 850				ıl .	1	l .			l

<sup>&</sup>lt;sup>1</sup>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

80. 088 78. 934 79. 642 80. 780 82. 390 78. 298 89. 970 91. 120 91. 377 95. 528 95. 382 94. 880

75. 864 68. 660 76. 915 79. 482 86. 725 89. 163 95. 070 96. 730

74. 123 80. 405 87. 592 96. 850

<sup>&</sup>lt;sup>2</sup> Interpolation, no quotation. <sup>3</sup> International Yearbook of Agricultural Statistics, 1921, page 505, and 1922, page 342.

Table 696.—Foreign exchange: Average rates at New York, 1912-1923—Contd.

IN	DIA	N	RU	PE	E.:	4

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1919 1920 1921 1922 1923	35. 650 44. 125 28. 574 27. 810	35. 650 45. 500 28. 938 28. 143	Cents. 35. 875 47. 250 26. 906 27. 822 31. 566	35. 650 46. 500 26. 100 27. 810	42, 500 43, 500 26, 344 28, 751	42, 500 40, 875 25, 422 28, 911	43. 000 37. 875 23. 059 28. 891	43. 500 35. 750 24. 224 29. 014	45. 000 33. 788 26. 390 28. 741	43. 000 30. 625 27. 419 28. 842	43. 375 29. 375 26. 874 29. 511	45. 000 27. 250 27. 449 30. 649

#### POUND STERLING.5

1912 1913 1914 1915	4. 4.	8699 8688 8623 8422	4. 4.	8746 8570	4. 8	8729 8628	4. 4.	8688 8698	4. 4.	8651 8831	4. 4.	8670 8849	4.	8752 8678 8878 7648	4. 5.	8640 0000	4. 4.	$8568 \\ 9812$	4. 4.	8580 9530	4. 4.	8526 9031	4.	8535 8715
1916 1917 1918 1919	4. 4.	7567 7525	4. 4.	7550 7525	4.	$7544 \\ 7525$	4. 4.	7567 7550	4. 4.	7555 7550	4. 4.	$7544 \\ 7538$	4. 4.	7577 7553 7525 <b>42</b> 75	4. 4.	$7545 \\ 7562$	4. 4.	7548 7550	4. 4.	$7522 \\ 7550$	4. 4.	$7520 \\ 7575$	4.	7517 7575
1920 1921 1922 1923	3. 4.	7562 2248	3. 4.	8712 3620	3. 9 4. 3	9150 3757	3. 4.	9300 4134	3. 4.	9775 4461	3. 4.	7725 4519	3. 4.	8525 6321 4464 5834	3. 4.	$6536 \\ 4647$	3. 4.	7240 4307	3. 4.	8729 4385	3. 4.	9702 4799	4.	1561 6098

Division of Statistical and Historical Research.

<sup>4</sup> 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.

<sup>5</sup> 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.

		Mem	bership.			v	olume o	of busi	ness.		
ar	Total Num- ber	Num-		Num-		(	Frain h	andled	, thous	ands of b	ushels.
State.	re- port- ing.	ber re- port- ing.	Mem- bers.	ber re- port- ing.	Amount.1	Num- ber re- port- ing.	W heat	Rye.	Oats.	Other grains.	Total.
Illinois Nebraska Iowa South Dakota Kansas	392 335 325 323 289	247 232 251	39, 318 30, 177 31, 295 25, 901 29, 911	269 185 181 211 160	\$52, 445, 000 33, 341, 000 39, 459, 000 35, 246, 000 32, 160, 000		11, 075 10, 802 1, 462 24, 252 21, 233	547 253 195 5, 958 58	19, 373 2, 169 18, 404 1, 237 659	34, 003 12, 625 24, 300 4, 872 2, 698	64, 998 25, 849 44, 361 36, 319 24, 648
Minnesota North Dakota Ohio Missouri Indiana	249 205 192 150 118	148 155 119	31, 803 19, 274 24, 136 18, 144 12, 887	176 112 127 90 73	25, 405, 000 16, 743, 000 20, 403, 000 22, 648, 000 9, 717, 000	177 122 127 89 73		3, 498 1, 167 66 103 253	9, 916 4, 092 2, 409 526 3, 018	8, 611 6, 359 3, 115 2, 842 3, 123	27, 120 18, 292 9, 569 14, 620 7, 956
Oklahoma Michigan Montana Wisconsin Colorado	86 78 62 49 43		17, 227 14, 716 5, 185 7, 335 6, 303	54 48 41 26 19	10, 814, 000 8, 805, 000 6, 226, 000 2, 218, 000 4, 720, 000	58 48 39 21 17	7, 593 1, 314 10, 810 36 1, 726	295 152 211 73	206 605 154 343 57	1, 235 403 397 259 623	9, 038 2, 617 11, 513 849 2, 479
Washington Texas Idaho California Oregon	40 18 15 13 9	34 12 7 11 8	5, 355 4, 069 977 2, 523 3, 628	28 8 7 8 7	7, 920, 000 2, 458, 000 1, 056, 000 4, 725, 000 10, 473, 000	28 7 5 9 7	7, 181 1, 001 914 2, 130 3, 771	46	146 16 33 66 12	33 191 850 2,083 48	7, 406 1, 208 1, 797 4, 279 3, 831
Wyoming New Mexico All others United States	9 5 24 3, 029	4 3 18 2, 358	328 148 2, 920 333,560	2 1 15 1,848	164, 000 6, 000 2, 047, 000 349, 199, 000	1  11 1,882	47 258 134,064	24 5 12,908	78 63, 520	1 226 108,897	73 567 319, 389

Division of Agricultural Cooperation. Reports from associations to Feb. 5, 1924.

<sup>&</sup>lt;sup>1</sup> 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.

		o Calenda	r years.	
Commodity.	1920	1921	1922	1923
Wheat	Short tons. 40. 21 36. 45 31. 20 30. 27 12. 38	Short tons. 39. 89 38. 07 30. 55 25. 63 12. 46	Short tons. 40. 17 38. 38 30. 07 24. 94 12. 35	Short tons. 40. 35 37. 87 31. 03 25. 01 12. 33
Tobacco	12. 14	10. 92	11. 09	10. 84
	12. 17	11. 57	11. 50	11. 29
	16. 68	16. 22	15. 40	15. 04
	18. 77	18. 24	18. 20	17. 87
	11. 47	11. 39	11. 30	11. <b>2</b> 6
Cattle and calves Sheep and goats Hogs Poultry Eggs	11. 59	11. 62	11. 56	11. 53
	9. 93	9. 75	9. 79	9. 73
	9. 61	9. 51	9. 61	9. 55
	11. 51	10. 95	11. 02	11. 18
	11. 58	11. 18	11. 19	11. 27
Butter and cheese Wool. Sugar, sirup, glucose and molasses Canned goods Sugar	12. 90	12. 18	12. 37	12. 65
	12. 48	12. 20	11. 63	12. 36
	28. 98	27. 68	27. 54	27. 53
	24. 78	23. 13.	23. 09	22. 92
Anthracite coal Bituminous coal Textiles Lumber, timber, box shooks, staves and headings	48. 28	47. 53	47. 85	48, 46
	49. 27	50. 45	50. 80	51, 29
	13. 20	11. 82	11. 72	11, 55
	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, 1917-

		102	<i>o</i> .				
·			Са	lendar yea	rs.	•	
Commodity.	1917	1918	1919	1920	1921	1922	1923
FARM PRODUCTS.							
Animals and animal products: Animals, live— Horses and mules 1	1,000 short tons.	1,000 short tons.	1,000 short tons.	1,000 short tons. ( 936	1,000 short tons 428	1,000 short tons. 491	1,000 short tons. 603
Cattle and calves <sup>1</sup> Sheep and goats <sup>1</sup> Hogs <sup>1</sup>	17,906	19, 263	19, 395	9, 809 1, 344 5, 421	8, 522 1, 175 5, 504	9, 571 1, 159 5, 795	9, 403 1, 159 6, 947
Packing-house products— Fresh meats Hides and leather	2, 966 1, 357	3, 714 1, 303	3, 398 1, 371	2,770 1,051	2, 577 972	2, 614 1, 082	3, 022 1, 084
Other packing-house products	2, 567	3, 510	3, 736	2, 206	2, 094	2, 049	2, 395
Total packing-house products	6, 890	8, 527	8, 505	6, 027	5, 643	5, 745	6, 502
Eggs <sup>1</sup> Butter and cheese <sup>1</sup>				536 425	551 434	565 507	595 571
Poultry 2 Wool Other animals and products	1, 022 499 5, 541	1, 155 494 6, 339	1, 322 547 5, 724	264 293 1, 540	276 400 1, 329	292 360 1,750	357 290 1, 811
Total arimal products.	31, 858	35, 778	35, 493	26, 595	24, 263	26, 235	<b>28, 2</b> 37
Vegetable products: Cotton Fruits and vegetables 3 Potatoes	3, 552 17, 679	3, 552 18, 737	3, 803 19, 726	3, 379 10, 045 4, 118	3, 191 9, 255 4, 639	3, 068 9, 684 4, 829	2, 875 10, 378 4, 697
					,	1	,

Not separately stated prior to 1920.
 Including game and fish prior to 1920.
 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.

Commodity			Ca	alendar ye	ars.		
Commodity.	1917	1918	1919	1920	1921	1922	1923
FARM PRODUCTS—contd.							
Vegetable products—Continued. Grain and grain products— Grain— Wheat 1	1,000 short tons. 46,372	1,000 short tons. 55,881	1,000 short tons. 52,375	1,000 short tons. 23, 131 12, 689 8, 615 5, 669	1,000 short tons. 29,039 17,218 7,542 4,568	1,000 short tons 24,803 19,275 7,647 5,245	1,000 short tons. 23,095 15,174 8,296 4,738
Grain products— Flour and meal Other mill products	10, 065 8, 413	10, 589 8, 630	11, 670 9, 079	10, 952 8, 891	10, 553 7, 881	10, 695 9, 001	10, 482 9, 988
Total grain and grain products	64, 850	75, 100	73, 124	69, 947	76, 801	76, 666	71, 773
Hay, straw and alfalfa 4 Sugar, sirup, glucose and	8, 315	8, 241	7, 483	7, 957	5, 154	5, 722	5, 966
molasses Tobacco Other vegetable products <sup>5</sup>	4, 235 1, 029 9, 205	4, 204 1, 160 9, 260	4, 934 1, 293 9, 604	5, 664 1, 081 15, 250	4, 767 927 15, 186	5, 092 884 11, 866	4, 881 1, 097 12, 402
Total vegetable products.	108, 865	120, 254	119, 967	117, 441	119, 920	117, 811	114, 069
Canned goods (food products)				3,074	2, 627	3, 106	3, 440
Total farm products	140, 723	156, 032	155, 460	147, 110	146, 810	147, 152	145, 746
OTHER PRODUCTS. Products of mines. Products of forests. Manufactures 6 Merchandise, all L.C.L. freight Total tonnage.	732, 653 100, 838 188, 796 101, 006 1, 264, 016	734, 797 97, 256 176, 202 99, 057	589, 951 94, 076 163, 825 92, 799 1, 096, 111	712, 154 100, 766 242, 189 53, 202 1, 255, 421	511, 271 76, 419 163, 691 41, 992 940, 183	532, 399 89, 071 211, 311 43, 177 1, 023, 110	713, 384 115, 220 258, 655 44, 314 1, 277, 319

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.

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.

				U	nited	l Sta	tes.														•
Month.	A	Nort tlan oorts	tic	Ne	w Yo	ork.²	Orl	ew eans.	Pac	rth eific ts.3	Can	ada.	Ar	genti	na.	]	India	s. `	Αι	ıstra	lia.
	1913	1922	1923	1913	1922	1923	1922	1923 4	1922	1923	1922	1923	1913	1922	1923	1913	1922	1923	1913	1922	1923
Jan Feb	Cts. 10 10 9 8 8 7 8 9	Cts. 11 12 12 10 10 8 8 7	Cts. 9 7 7 9 8 7 8 7	Cts. 9 6 6 6 7 5 5 5	Cts. 9 10 10 5 5 5 6 5	Cts. 6 5 5 6 5 4 4	Cts. 12 13 13 11 11 9 9	Cts. 9 9 9 9 9 8	Cts. 20 20 26 26 22 22 22 22 21	Cts. 22 21 22 23 23 23 23 22 22	Cts. 11 13 11 10 10 9 8 7	Cts. 10 9 9 10 9 8 7	Cts. 14 16 14 12 11 8 9 10	Cts. 19 18 15 15 16 14 12 13	Cts. 15 12 13 17 19 14 12 12	Cts. 12 12 12 11 11 11 12 12 12	Cts. 13 13 14 12 11 10 10 11	Cts. 16 15 17 18 18 16 16 18	Cts. 24 22 22 20 20 20 19	Cts. 28 30 29 29 27 25 22 21	Cts. 27 24 23 24 22 20 20 20
Sept Oct Nov Dec	8 7 7 6	7 8 7 10	7 8 9 9	4 5 5 4	- 4 5 8	5 6 8 8	9 8 11 19	8 8 8 8	20 21 22 23	21 22 22 22 22	8 8 11 11	8 9 10 9	8 6 6	12 14 15 16	12 10 11 12	11 10 11 10	12 14 16 17	14 15 15 15	19 21 21 20	21 25 28 28	21 22 23 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.

<sup>Not separately stated prior to 1920.
Reported as "Hay" prior to 1920.
Including "cottonseed," "vegetable oils" and "other products of agriculture."
Excluding "sugar," "vegetable oils" and "canned goods."</sup> 

Average of principal North Atlantic ports, including New York.
 New York to Liverpool.

Average of principal North Pacific ports.
 From U. S. Shipping Board.

TABLE 701.—Freight rates on wheat, in effect September, 1923.

From—	То—	Rate per 100 pounds.	From—	То	Rate per 100 pounds.
		Cents.			Cents.
Withrow, Wash	Wenatchee, Wash	16. 0	Beloit, Kans	Kansas City, Mo	18.0
Do	Tacoma, Wash	25. 0	Brewster, Kans	do	20. 5
D0	Spokane, Wash	28.0	Abilene, Kans	do	17. 5
Harrington, Wash	do	7.0	Great Bend, Kans	do	19. 5
D0	Seattle, Wasn	24.0	McPherson, Kans	1do	19.0
Colfax, Wash	do	24.0	Hutchinson, Kans	Minneapolis, Minn.	36. 5
_ Do	Portland, Oreg	24.0	Do	Kansas City, Mo	
Pomeroy, Wash	do	23.0	<u>D</u> 0	New Orleans, La	46.5
Pendleton, Oreg	do	18. 5	Do	Galveston, Tex	49.0
Marion, Oreg	do	17.0	Bucklin, Kans	Minneapolis, Minn.	
Kingdon, Calif	San Francisco, Calif.	10.0	_ Do	Kansas City, Mo	20.0
Moscow, Idaho	Seattle, Wash	24.0	Harper, Kans	do	19.0
Caldwell, Idaho	do	34.0	Galena, Kans	do	13. 5
Twin Falls, Idaho	Portland, Oreg	44.0	Enid, Okla	do	23. 5
	do	44.0	Do	New Orleans, La	43. 5
Bozeman, Mont	Seattle, Wash	38. 5	Do	Galveston, Tex	43.0
. Do	Portland, Oreg	38. 5	Do	Fort Worth, Tex	34.0
Scobey, Mont		37. 5	Cordell, Okla		19. 0
Do	Minneapolis, Minn	37. 5		Okla.	
Wheelock, N. Dak	Duluth, Minn	27. 0	Amarillo, Tex		28.0
Do	Minneapolis, Minn	27.0	Do	Galveston, Tex	28.0
Wales, N. Dak	Duluth, Minn	19. 5	Osakis, Minn		14.0
Do	Minneapolis, Minn.	19. 5	Do		12.5
Leeds, N. Dak		20. 5	Winterset, Iowa		20. 5
Do	Minneapolis, Minn	20. 5	Do		29. 5
Adams, N. Dak		19. 5	Marshall, Mo	do	17. 5
_ Do		19.5		do	20.5
Leal, N. Dak		20.0	Do		10. 5
Do	Minneapolis, Minn	20. 0	La Prairie, Ill		11. 5
Makoti, N. Dak	Duluth, Minn	25. 5	Lincoln, Ill	Chicago, Ill	12. 5
Do	Minneapolis, Minn	25. 5		do	14. 5
Dickinson, N. Dak.	Duluth, Minn	28.0	Do	Peoria, Ill	11. 5
Do	Minneapolis, Minn	28. 0	Do	St. Louis, Mo	9. 5
Groton, S. Dak.	do	21. 0		Chicago III	9. 5
wessington, S.Dak -	Sioux City, Iowa	21. 5	Carmi, Ill	Chicago, Ill	20. 5
Bo	Sloux City, Iowa	20. 5	Do	St. Louis, Mo	14. 5
Do	Milwaukee, Wis	33. 5 24. 5	Schoolcraft, Mich		15. 5
Chappell, Nebr	Omaha, Nebr	31.0	Shelbyville, Ind Do	Indianapolis, Ind Chicago, Ill	9. 0 17. 5
D0	Kansas City, Mo		Fostoria, Ohio		
Exeler, Nebr	Omaha, Nebr Kansas City, Mo	16. 5 19. 0	Do	New York, N. Y Baltimore, Md	28. 5 25. 5
Do		21. 0	Orrville, Ohio	New York, N. Y	28. 5
Beaver City, Nebr	Omaha, Nebr		Lancaster, Pa	Philadelphia, Pa	26. 5 11. 5
Do	Kansas City, Mo	21. 0 28. 0	Do	Baltimore, Md	15. 5
Deaurice, Nebr	St. Louis, Mo	17. 0	Do	New York, N. Y	19. 0
		19. 5	Hagerstown, Md	do do	24. 0
Jampsburg, Kans.	do	19. 5	Do	Baltimore, Md	24. 0
viarysville, Kans	do	14. 0	Staunton, Va	do Mid	20. 5 22. 5
1	. 1	l.	Diaumon, va		44. 0

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Table 702.—Domestic freight rates on oats effective January 1, 1924.

	J = 0 J : 0				
From	То—	Rate per 100 pounds.		то—	Rate per 100 pounds.
Grand Ridge, Ill. Rochelle, Ill Paris, Ill. Isabel, Ill. Rochelle, Ill. Rochelle, Ill. Isabel, Ill. Isabel, Ill. Isabel, Ill. Isabel, Ill. Oswego, Kans. Topeka, Kans. Oswego, Kans. Topeka, Kans. Rolfe, Iowa. Garrison, Iowa. Belle Plain, Iowa. Hawarden, Iowa. Blanden, Iowa.	dodoFort Worth, TexdoHouston, Texdododododododo	8. 9 10. 0 13. 0 12. 5 12. 5 11. 5 41. 5 46. 5 20. 5 17. 5	Otterbein, Ind. Do Hobarton, Iowa Whittemore, Iowa Algona, Iowa Lansing, Mich Morris, Mich Cedar Bluffs, Nebr Wales, N. Dak Do Flandreau, S. Dak Colman, S. Dak	Galveston, Tex. Chicago, Ill do do Cincinnati, Ohio. Chicago, Ill do do do do do do do do Mondata Minneapolis, Minn	35. 0 15. 5 12. 0 13. 0 15. 5 20. 5 20. 5 20. 5 20. 5 21. 5 23. 0 25. 0 17. 5 25. 0

Table 703.—Domestic freight rates on corn effective January 1, 1924.

From—	То-	Rate per 100 pounds.		То-	Rate per 100 pounds.
Barnes, Ill. Grand Ridge, Ill. Fairbury, Ill. Odell, Ill. Princeville, Ill. Rochelke, Ill. Easton, Ill. Paris, Ill. Isabel, Ill. Easton, Ill. Paris, Ill. Isabel, Ill. Remington, Ind. Fort Wayne, Ind. Lafayette, Ind. Remington, Ind. Fort Wayne, Ind. Lafayette, Ind. Remington, Ind. Fort Wayne, Ind. Lafayette, Ind. Fort Wayne, Ind. Lafayette, Ind. Topeka, Kans.	Chicago, III.  do do do do do do do do do do do do do	11. 5 8. 0 11. 5 10. 0 11. 5 10. 0 12. 5 15. 0 12. 5 11. 5 12. 5 11. 5 13. 0 14. 5 13. 0 14. 5 13. 0 14. 5 14. 5 15. 0 16. 0 17. 5 18. 0 1	Craig, Mo. Rolfe, Iowa Garrison, Iowa Belle Plain, Iowa Hawarden, Iowa Blanden, Iowa Elk Horn, Iowa Chatsworth, Iowa Alton, Iowa Jefferson, Iowa Beever City, Nebr North Bend, Nebr Chickasha, Okla Do Lancaster, Pa Franklin, Tenn Union City, Tenn Freeman, S. Dak Tripp, S. Dak	Chicago, ill do do do do do do do do do do do do do	43. 0 8. 5 20. 5 17. 5 24. 0 20. 5 20. 5 20. 5 24. 0 19. 0 10. 0 22. 0 19. 0 11. 5 27. 0 27. 5 27. 5

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Table 704.—Freight rates: Wool in grease, per 100 pounds, 1913 and 1928.

			Destin	ation.		
Shipping point.	Bos	ton.	Chie	eago.	Philade	elphia.
	1913	1923	1913	1923	1913	1923
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
Phoenix, Ariz	175	261. 5	153	229. 5	169	255
Fucson, Ariz	175	263	1 175	1 236. 5	171	254
Prescott, Ariz	164	244. 5	142	213	158	264.
Flagstaff, Ariz	158	235. 5	136	204	152	229
Kingman, Ariz	169	252. 5	147	221	163	246
Ibuquerque, N. Mex	134	199. 5	112	170	128	193
fallup. N. Mex	144	214. 5	122	183	138	208.
alt Lake City, Utahas Cruces, N. Mex	157	236	139	194. 5	151	229
as Cruces, N. Mex	149 132	222. 5 185	127 97	193	143 126	216 178
Denver, Colo Las Vegas, Nev	125	190	103	156. 5	119	183.
Theyenne, Wyo	132	185	97	1 129. 5	126	178
Billings, Mont.	132	263	107. 5	161.5	125	195

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<sup>&</sup>lt;sup>1</sup> Class rate.

Table 705.—Freight rates per 100 pounds on specified agricultural products, 1913 and 1923.

### ORANGES

									Destin	ation.								
Shipping point.	New '	York.	Chic	ago.	Pittsb	urgh.	Cinci	nati.	Baltiı	nore.	Kansas	City.	Det	roit.	Bos	ton.	St. L	ouis.
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
Phoenix, Ariz Redlands, Calif Grand Bay, Ala.!	Cents. 115 115 70	Cents. 173 173 105	Cents. 115 115 57	Cents. 173 173	Cents. 115 115 60	Cents. 173 173	Cents. 115 115 55	Cents. 173 173 37, 5	Cents. 115 115 70	Cents. 173 173 101	Cents. 115 115 75	Cents. 173 173 113	Cents. 115 115 60	Cents. 173 173 45. 5	Cents. 115 115 75	Cents. 173 173 113	Cents. 115 115 115 50	Cents. 173 173 39. 5
Grand Bay, Ala. <sup>2</sup> Orlando, Fla	61	92	68	43. 5 102	67	46. 5 101	61	86	58	87	77	115. 5	68	102	66	99	65	97. 5
and the second s	GRAPEFRUIT.																	
Phoenix and Mesa, Ariz. East Highland, Calif Sanford, Fla	115 115 60	173 173 <b>90</b>	115 115 67	173 173 101	115 115 66	173 173 99	115 115 60	173 173 84. 5	115 115 57	173 173 86	115 115 76	173 173 114	115 115 67	173 173 101	115 115 65	173 173 97. 5	115 115 <b>64</b>	173 173 <b>9</b> 6
	·						G	RAPES	•									
Phoenix, Ariz Fresno and Lodi, Calif	115 115	173 173	115 115	173 173	115 115	173 173	115 115	173 173	115 115	173 173	115 115	173 173	115 115	173 173	115 115	173 173	115 115	173 173
							WATI	ERMEL	ons.									
Phoenix and Mesa, Ariz Heber, Calif Webb, Ala Thomasville, Ga Ocala, Fla Estill, S. C.	125 48.1 45.5 47.8	175 175 68 68. 5 72 52	100 100 45 44 49. 8 50. 5	146 146 63. 5 63. 5 63. 5	115 115 43. 5 42. 5 48. 3 38. 5	173 173 66. 5 65 74 57. 5	110 110 30 29 34. 8 35. 5	165 165 42. 5 41 49. 5	125 125 42. 1 39. 5 41. 8 28. 5		95 95 48 47 52.8 53.5	139 139 69. 5 68 76. 5 77	110 110 44 43 48. 8 49. 5	165 165 62. 5 62. 5 62. 5 59	55. 5	87	100 100 36. 5 35. 5 41. 3 42	146 146 54. 5 53. 5 62. 5 63

<sup>&</sup>lt;sup>1</sup> Combination on New Orleans.

<sup>2</sup> Rate per crate or box.

Table 705.—Freight rates per 100 pounds on specified agricultural products, 1913 and 1923.—Continued.

CANTALOUPES.

									Destir	nation.					77 MA			
Shipping point.	New	York.	Chic	ago.	Pittsl	ourgh.	Cinci	nnati.	Balti	more.	Kansa	s City.	Deta	roit.	Bos	ton.	St. I	ouis.
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
Decker, Ind	Cents. \$6. 5	Cents. 69. 5	Cents.	Cents.	Cents. 19. 5	Cents.	Cents.	Cents. 36. 5	Cents. 33. 5.	Cents.   66. 5	Cents. 25	Cents. 56. 5	Cents.	Cents.	Cents. 40.5	Cents. 73. 5	Cents. 16. 5	Cents. 33. 5
La Junta and Rocky Ford, Colo Stockton and Turlock,	81	124	46	70	63. 5	97	56	85	78	120	35	53. 5	59	89. 5	85	130	41	62, 5
Calif	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
Mesa, Ariz	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
heenis, Glendale, and 10 10 10 146 146 146 146 146 146 146 146 146 146																		
Phoenix, Ariz	115 115 115	173 173 173	115 115 125	173 173 187. 5	115 115 125	173 173 187. 5	115 115 125	173 173 187. 5	115 115 125	173 173 187. 5	115 115 125	173 173 169	115 115 125	173 173 187. 5	115 115 125	173 173 187. 5	115 115 125	173 173 187, 5
							LE	TTUCE	2.									······································
Phoenix and Glendale, Ariz Los Angeles and Heber,	125	175	100	146	115	173	110	165	125	175	95	139	110	165	125	175	100	146
Calif San Benito, Tex. Winter Garden, Fla. <sup>1</sup>	125 96 51	175 164 76	100 57 58	146 102 74	115 81. 5 49	173 152, 5 73	110 72: 5 47	165 133. 5 58. 5	125 93 48	175 159 71	95 50 64	139 91 93	110 76. 5 49. 25	165 141 77	125 100 57	175 169. 5 85	100 50 44. 25	146 91 66

<sup>1</sup> Rate per crate or box.

			·								Des	stinatio	on.									
Shipping point.	No Orle		Galve	eston.	Hou	ston.	Char	lotte.		rtan- irg.	Savan	nah.		tanoo- a.	New Y	ork.	Bost	ton.	Mont	treal.	Mane	nester.
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
Phoenix, Ariz Calexico, Calif. Houston, Tex Memphis, Tenn. Little Rock, Ark	18	Cts. 126 126 38 58, 5	Cts. 1 95 1 95 18 38 50	Cts. 126 126 25 94 72	Cts. 1 95 1 95 1 95 38 44	Cts. 126 126 126 72	Cts. 1 135 1 135 58 37 64		Cts. 1 135 1 135 1 135 58 37 64	Cts. 155 160 82 57. 5 85. 5	Cts. 1 120 1 120 43 27 51. 5	Cts. 196 196 67. 5 88 79		Cts. 154 154 67. 5 46 77	42.5	Cts. 155 164 92 114. 5 105. 5	68 47. 5	Cts. 169 169 98 120. 5 111. 5	63		Cts.  1145 1145 68 47.5 70	Cts. 155 169 98 120. 5 111. 5

	F			

										Destin	ation.									
Shipping point.	Los A	ngeles.	Der	ver.		Lake ty.	Fort V	Worth.	Kansa	s City.	Om	aha.	Chie	cago.	St. I	ouis.	New	York.	Philad	lelphia.
***	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
Phoenix, Ariz El Paso, Tex Bakersfield, Calif Denver, Colo Las Vegas, N. Mex Fallon, Nev	Cts. 30 83 19 60 60 42.5	Cts. 42 117 27 76 76 54	Cts. 70 51 83 28 73	Cts. 98. 5 76. 5 117 41 70. 5	Cts. 70 107 75 56 81 56. 5	Cts. 98. 5 133 85. 5 56. 5 93. 5 39	Cts. 76 21 90 36 36 79	Cts. 67 37 135 56 53 126. 5	Cts. 83 43. 5 95 25 35 86	Cts. 100 76. 5 142. 5 38. 5 51. 5 73	Cts. 83 51.5 95 25 71 85	Cts. 100 80 142. 5 38. 5 106 73	Cts. 94 53. 5 100 35 45 97	Cts. 114. 5 82 146 54. 5 66. 5	Cts. 91 48. 5 100 30 40 94	Cts. 107. 5 76. 5 146 46. 5 59 84	Cts. 100 83. 5 100 65 75 100	Cts. 150 138. 5 150 111 123 148. 5	Cts. 100 81. 5 100 63 73 100	Cts. 150 136. 5 150 109 121 146. 5
						HAY,	OTHI	ER TH	AN Al	LFALF	Α.						<u>'</u>			
Phoenix, Ariz El Paso, Tex Bakersfield, Calif Denver, Colo Las Vegas, N. Mex Fallon, Nev	30 83 19 60 60 42.5	42 117 27 76 76 54	70 58 83 28 73	98. 5 76. 5 117 41 70. 5	70 114 75 56 81 56. 5	98. 5 133 85. 5 56. 5 93. 5 39	76 21 90 36 36 79	114 37 135 56 53 126. 5	83 63 95 25 35 85	124. 5 76. 5 142. 5 40 51. 5 73	83 67 95 25 71 85	124.5 80 142.5 40 106 73	94 70 100 35 45 97	141 82 146 54. 5 66. 5 102	91 63 100 30 40 94	137 76. 5 146 47 59 84	100 98 100 65 75 100	150 138. 5 150 111 123 148. 5	100 96 100 63 73 100	150 136, 5 150 109 121 146, 5

Figures printed in italics are for "class rate."

<sup>&</sup>lt;sup>1</sup> Rate includes 10 cents per hundredweight for compressing.

TABLE 705.—Freight rates per 100 pounds on specified agricultural products, 1913 and 1923.—Continued.

#### COTTONSEED OIL.

										Destir	ation.									
Shipping point.	Bos	ston.	New	York.	Philad	elphia.	Milw	aukee.	Chie	ago.	St. L	ouis.	Kansa	s City.	San Fr	ancisco.	Indian	apolis.	Billi	ings.
	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923	1913	1923
Phoenix, Ariz Calerico, Calif. Houston, Tex Memphis, Tenn Little Rock, Ark	57	Cents. 135 135 87. 5 51 71. 5	Cents. 167 190 55 32 45	Cents. 135 135 87. 5 48 68. 5	Cents. 167 190 53 30 43	Cents. 135 135 76. 5 45 45 68. 5	Cents. 147 175 42 23 26	Cents. 75 75 64 35 39. 5	Cents. 147 175 41 21 24	Cents. 75 75 62. 5 32. 5 36. 5	Cents. 143 168 35 15 18	Cents. 75 75 75 53. 5 23 27. 5	Cents. 133 160 35 20 21	Cents. 75 75 53. 5 32. 5 32. 5	Cents. 93 77.5 90 90 90	Cents. 75 75 135 150 150	Cents. 152 180 46 19. 5 29. 5	Cents. 75 75 70 29. 5	Cents. 180 175 125 111 111	Cents. 181. 5 181. 5 182 158 158
	,	·	Lancas transfer			C	отто	NSEEI	o orr	CAKE	ì.					···········	<u></u>			-
Phoenix, Ariz Calexico, Calif Houston, Tex Memphis, Tenn Little Rock, Ark	152	113 113 72. 5 44. 5 55	138 152 45. 5 26. 6 34. 5	113 113 70 41.5 51.5	138 152 43. 5 24. 5 31. 5	113 113 66. 5 38. 5 48. 5	1/8 140 36 18 24	90 90 55 27 36. 5	118 140 36 16 20	90 90 55 24 30. 5	114 186 30 10	90 90 45. 5 15 20. 5	104 128 25 17 17	90 90 38, 5 26 26	50 36. 5 60 60 60	56. 5 48. 5 97. 5 105 105	128 145 34 16 23	113 113 53, 5 24 35	135 155 84. 5 76. 5 84. 5	131. 5 131. 5 120 120 120
							O.C	TTON	SEED	MEA	۱.					·		·	·	
Phoenix, Ariz Calexico, Calif Houston, Tex Memphis, Tenn Little Rock, Ark	47. 5 28. 5	44.5	188 152 45. 5 26. 5 33. 5	113 113 70 41. 5 51. 5	138 152 43. 5 24. 5 31. 5	113 113 66. 5 38. 5 48. 5	118 140 36 18 22	90 90 55 27 36. 5	118 140 36 16 20	90 90 55 24 30. 5	114 135 30 10 13	90 90 45. 5 15 20. 5	104 123 25 17 17	90 90 38. 5 26 26	50 36. 5 60 60 60	56. 5 48. 5 97. 5 105 105	128 145 34 15 23	113 113 53. 5 23 35	185 155 98 76. 5	131. 5 131. 5 120 120 120

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Table 706.—Freight rates per 100 pounds on ordinary livestock in effect January 1, 1924.

### CATTLE.

From—	То-	Rate.	From—	То	Rate.
Battle Creek, Iowa. Hawarden, Iowa. Lanark, Ill. Sidell, Ill. Browntown, Wis. Monroe, Wis. Kasson, Minn. Divide, Mont. Minn. Divide, Mont. Carrollton, Mo. Braymer, Mo. Braymer, Mo. Baraar, Kans. Lebanon, Kans. Alma, Kans. Mexico, Mo. Carrollton, Mo. Carrollton, Mo. Saymer, Mo. Saymer, Mo. Saymer, Mo. San Angelo, Tex. Hereford, Tex. Fort Collins, Colo.	Chicago, III	Cents. 36, 0 36, 0 36, 0 16, 0 24, 0 19, 0 35, 0 41, 0 86, 5 59, 0 19, 0 29, 5 36, 0 19, 0 20, 5 14, 0 47, 0 46, 5	Rifle, Colo. Falls City, Nebr. Las Vegas, N. Mex. Alliance, Nebr. Valentine, Nebr. Harlan, Iowa. Bellefourche, S. Dak Mexico, Mo. Braymer, Mo. Tarkio, Mo. Carroliton, Ill. Walnut Grove, Minu. Battle Creak, Iowa Hawarden, Iowa Bloomfield, Nebr. Kasson, Minn. Walnut Grove, Minn. Forbes, N. Dak Pueblo, Colo.	Kansas City, Mo  do  do  do  do  do  do  do  do  do	Cents. 50. 0 14. 5 66. 0 41. 5 28. 5 11. 5 47. 9 27. 0 18. 5 36. 0 29. 5 11. 20 12. 0 12. 0 12. 0 13. 0 14. 0 15. 0 16. 5 16. 5

#### SWINE.

			SWI	NE.			
			ate.			R	ate.
From—	То—	Single- deck cars.	Double- deck cars.	From—	То—	Single- deck cars.	Double deck cars.
Washington, Iowa Holstein, Iowa Fairfield, Iowa	Chicago, Ill	Cents. 35. 0 35. 0 35. 0	Cents. 35. 0 35. 0 35. 0	Red Cloud, Nebr Amarillo, Tex Madison, Nebr	Kansas City, Mo.		Cents. 28.
Remsen, Iowa Watkon, Iowa Lanark, Ill	do	35.0	35. 0 35. 0	Clarkson, Nebr Helstein, Iowa	Omaha,Nebr	25. 0 25. 0	(1)
Lanark, Ill. Lesueur Center, Minn.	do	20. 5 36. 5	20. 5 36. 5	Schleswig, Iowa Walnut, Iowa Yankton, S. Dak Kimball, S. Dak	do do	17. 0 17. 0 17. 0	17. 17. 17.
Mabel, Minn Browntown, Wis Lancaster, Wis	do	36. 5 29. 5 29. 5	36. 5 29. 5 29. 5	Kimball, S. Dak Wessington, S. Dak.	do do Sioux City,	45. 0 45. 0 36. 0	45. 45. 36.
Crawfordsville, Ind.	do	27.5	24. 0 40. 0 40. 0	Kimball, S. Dak Remsen, Iowa	Iowa.	36. 0 22. 5	36. 22.
Wessington, S. Dak. Beresford, S. Dak. Wyaconda, Mo			41.0	Hartley, Iowa Laurens, Iowa Wausa, Nebr Wakefield, Nebr	do	22. 5 22. 5 17. 0	22. 22. 17.
Braymer, Mo Jerseyville, Ill Rushville, Ill	do	22. 0	41. 0 22. 0 22. 0	Porter, Minn Rushville, Ind	do	33. 5	17. (1)
Washington, Iowa	do Kansas City.	26.0	26. 0 26. 0 12. 0	Crawfordsville, Ind. Charleston, Ill	do	18. 5	16. 16.
Richmond, Mo Belleville, Kans	Modo	14. 5	12. 0 12. 5	Mechanics ville, Iowa. Lesueur Center,	Boston, Mass		22. ( 77. (
Wellsville, Kans Wilsea, Iowa	do	12. 5 28. 0	12. 5 28. 0 28. 0	Minn. Mabel, Minn Hutchinson, Minn.	St. Paul, Minn.	17. 5 17. 5	17. 17.
Osceola, Iowa Walnut, Iowa Fairfield, Iowa	do	28. 0	28. 0 28. 4	Wessington, Minn	do	17. 5 38. 5	17. 33.

<sup>1</sup> No rates in force.

Table 706.—Freight rates per 100 pounds on ordinary livestock in effect January 1, 1924—Continued.

SHEEP.

		R	ate.			R	ate.
From-	To-	Single-	Double-	From—	To-	Single-	Double-
		deck	deck			deck cars.	deck cars.
		cars.	cars.			Cars.	
		Cents.	Cents.			Cents.	Cents.
Ellis, Ill	Chicago, Ill	19. 0	19. 0	Lamar, Colo	Omaha,Nebr	70. 5	99. 5
Ellis, Ill Montgomery, Ill	do	16.0	16.0	Idaho Falls, Idaho . Caldwell, Idaho	do	75. 0	75. 0
Idaho Falls, Idaho. Caldwell, Idaho	do	93.0	93. 0	Caldwell, Idaho	do	89. 0	89. 0
Caldwell, Idaho	do	110.0	110. 0	Mountain Home,	ao	86. 5	86. 5
Mountain Home,	do	107. 0	107. 0	Idaho.	do	29. 5	18.5
Idaho.	١ .			Greenfield, Iowa Corning, Iowa	do	24. 5	16. 0
Mitchell, Nebr Humboldt, Nebr	do	69. 0	57. 0	Heber, Utah	do	71. 5	71. 5
Humboldt, Nebr	do	46. 5 95. 5	42. 0 63. 0	Colton Utah	do	68. 5	68. 5
Fort Collins, Colo.	do	36.5	34. 0	Big Timber Mont	do	68. 5	68. 5
Earlham, Iowa Hansell, Iowa	do	37. 0	37. 0	Colton, Utah Big Timber, Mont Billings, Mont	do	54. 5	54. 5
MAIL Client Mont	1 40	1 66 0	66.0	Fort Collins, Colo	Kansas City	66.5	50.0
Miles City, Mont	do	79.0	79. 0	Lawrence, Kans	Mo.		
Columbus Wie	do	23.0	23. 0	Lawrence, Kans	do	18. 5	10.0
Eveneville Wis	do	22.0	22. 0	Larned, Kans	do	47.5	30. 5
Rillings, Mont Columbus, Wis Evansville, Wis Heppner, Oreg	do	123. 0	123.0	Larned, Kans Hutchinson, Kans	do	41.0	27. 5
Pokor Oreg	do	123. 0	123. 0	II Heber, Utan		11.0	71.5
Orden Utah	do	93. 0	93. 0	II Colton, Utan	ldo	00.0	68. 5
Baker, Oreg Ogden, Utah Ellensburg, Wash	do	123. 0	123. 0	San Angelo, Tex	do	66.5	65. 0
Humboldt, Nebr Mitchell, 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	:d0	40.0	25. 0
Fort Collins, Colo	do	66. 5	50. 0			<u> </u>	1

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Table 707.—Freight and express rates, per 100 pounds, on purebred livestock, in effect April 1, 1923.

BEER CATTLE

		Frei	Freight. 1			
From—	То	Loose.	In crates.	Expressin crates		
		Dol lars.	Dollars.	Dollars		
enver, Colo	Reno, Nev	2. 95		8.		
Do		3.015		6.		
Do	San Francisco, Calif	3. 66		9.		
Do	Laramie, Wyo	1.05		2.		
D0				9.		
D0		4, 065		10.		
Do	a if I i Char Thab	2, 165		5.		
oringfield, Ill	Wapello, Iowa	.71	1.065	1.		
ringneid, in		1, 10	3. 30	2.		
Do	A		1, 59	2.		
Do	g 1 p 11- T		1. 185	1.		
Do				1.		
dianapolis, Ind	1 37-		3. 87	3		
Do			2, 175	Ĭ		
Do			2.1.0	Î ŝ		
Do				3		
Do	Jackson, Miss			2		
wa City, Iowa				l î		
Do				5		
Do				1 4		
Do	Oklahoma City, Okla			4		
Do	Little Rock, Ark			4		
ansas City, Mo	Jackson, Miss	2. 235		3		
Do	Oklahoma City, Okla			4		
Do	Denver, Colo			4		
Do	Roy N. Mex	2, 36				
Do		1.69		3		
Do				3		
ambridge, Nebr		1.40		3		
Do		2. 755		4		
Do	0.1	1. 295		2		
Do		1.61		2		
				7		
Do	Reading, Pa		3. 18	2		
Iansfield, Ohio		1. 20	3.60	2		
Do			l	2		
marillo, Tex	37 37 37			2		
Do				6		
Do	Phoenix, Ariz	3. 430		۱ ۲		

Table 707.—Freight and express rates, per 100 pounds, on purebred livestock, in effect April 1, 1923.—Continued.

#### DAIRY CATTLE.

_		Fre	Express	
From—	То	Loose.	In crates.	in crates.
		Dollars.	Dollars.	Dollars.
Westerville, Ohio	Sheridan, Ind	. 745	2. 235	1.80
Do	Lee's Summit, Mo	1. 78	5. 34	3. 94
Do	Augusta, Ky	. 615	1.845	1.94
Do Columbus, Ohio	Osawatomie, Kans Morristown, N. J	2, 04 1, 095	6. 12 3. 285	3. 94 2. 84
Do	Toronto, Canada	.975	3. 285 2. 925	3. 60
Do.	Vancouver, B. C.	5, 40	16. 20	14. 3
Fon du Lac, Wis	Mason City, Iowa	. 915	2, 745	2. 2
Do	Fargo, N. Dak	1. 78	5, 34	4. 0
Do	Valley City, N. Dak	2. 135	6. 405	4. 02
Do	Bismarck, N. Dak	2. 435	7. 305	4.78
Do	Pocatello, Idaho	3. 98	11.94	9. 90
Do	Shoshone, Idaho	4. 03	12.09	10. 46
Do Waterloo, Iowa	Los Angeles, Calif	5. 10 1. 915	15. 30 3. 895	12, 61
Do	Nashville, Tenn Louisville, Ky	1. 035	3. 105	3. 39 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, N. Y	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, KV	1.00	3.00	1. 66
Do	Nashville, Tenn San Angelo, Tex	1.425	2. 435	2. 42
	San Angelo, Tex	3. 145	9. 44	7. 07
Do	Salt Lake City, Utah	4. 62	13. 865	9.70
Pewaukce, Wis.:	Kirksville, Mo	1.02	3.06	2. 49 2. 49
Do Salt Lake City, Utah	Ottumwa, Iowa Walla Walla, Wash	. 93 2. 275	2. 79 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 12. 105	5. 27 5. 96
Do	Albuquerque, N. Mex.	4. 035 4. 955	14. 865	5. 96 9. 01
Do Laramie, Wyo	San Angelo, TexSan Angelo, Tex	3, 45	10.35	6. 24
	Salt Lake City, Utah	2. 165	6. 495	4. 44
Do	Salt Lake City, Utah	2. 165	6. 495	4.

See footnotes end of tables.

Table 707.—Freight and express rates, per 100 pounds, on purebred livestock, in effect April 1, 1923.—Continued.

#### SWINE.

		Fre	Express	
From—	То	Loose.	In crates.	in crates.
Hamilton, Ohio	Onward, Ind	0, 52	1, 56	1. 59
Do	Portland, Mich	. 87	2.61	1. 94
Do.	Mt. Carmel, III	.76	2. 28	1.80
Marion, Ill	Perry, Kans	1, 765	5, 295	3. 47
Do.	Sherburn, Minn	1. 835	5, 505	3. 74
Do.	McLean Tex	2, 89	8. 67	5. 33
Do	McLean, Tex Norfolk, Nebr	2. 15	6.45	4. 36
Do	Sutherland, Iowa	1. 975	5, 925	3. 74
Do	Sioux Falls, S. Dak	1. 83	5. 49	4.30
Stanton, Nebr	Henderson, Colo	1. 755	5. 265	3, 74
Do	Seguin, Tex	3. 01	9. 03	5, 68
Do	Lankershini, Calif	4. 20	12.60	10.95
D6	Muskomo Oblo	2. 15	6.45	4. 02
Do	Muskogee, Ókla Dubuque, Iowa	1. 49	4, 47	3, 60
	Center Point, Ind	2. 53	7. 59	4. 08
Do.	Sheboygan Falls, Wis		7. 39 5. 37	
Do	Bloomingdale, Mich	1. 79	7. 365	4.46
Do		2. 455 1. 79	7. 300 5. 37	4. 44 3. 68
Do	Geneva, III Maynard, Minn			
.Do		1. 48	4.44	2. 91
Do	St. Louis, Mo	1.54	4, 62	3.81
Kansas City, Mo	Dubuque, Iowa	. 915	2.745	2.97
. Do	Shelbyville, Ky	2.05	6. 15	3, 39
Do	Bloomington, Ill	1.06	3.18	2.91
Do	Coffeyville, Kans	. 79	2. 37	2.08
Do	Howard Lake, Minn	1. 295	3. 885	3. 74
Do	Indiana polis. Ind	1. 69	5. 07	3. 11
Do	Omaha, Nebr	. 76	2. 28	2.08
Do	Ionia, Mich	1. 95	5. 85	3. 60
Do	Friona, Tex	2. 255	6. 765	4. 57
Do	Wilburton, Okla	1.445	4. 335	3. 25
Do	Oklahoma City, Okla	1. 445	4. 335	3. 25
Algona, lowa	Fon du Lac, Wis	1. 055	3. 165	2. 55
Do	Ormsby, Minn	. 81	2.43	1.39
Do	Oberlin, Kans	2. 235	6. 705	4. 02
Do	Towner, Colo	2. 505	7. 515	5. 27
Do	Elmer, Mo.	1.06	3. 18	3. 25
Do	Crawfordsville, Ind	1.69	5. 07	3. 25
Do	Waverly, Minn	1.095	3. 285	2.08
Do	Dayton, Ohio	1.845	5. 535	· 3. 74
Do	Pawhuska, Okla	1. 125	3, 375	4. 57
:Do	Swanson, Mich	1.36	4. 08	
Do	Danville, Ill	1.07	3. 21	3. 11
Do	Muncie, Ind	1. 765	5. 295	3. 39

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<sup>1</sup>These freight rates are on less than carlot shipments and apply to livestock described as "Livestock, chiefly valuable for breeding, racing, show purposes, and other special uses," subject to basic valuation as follows:

Each ox, bull, or steer	<b>\$</b> 75. 00
Each cow	50.00
Each calf, 6 months old or under	20.00
Each hog	15, 00
Each sheep	5. 00

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.

Th

nese 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	
One cow with calf not over 6 months old	
Each additional cow with calf over 6 months old	
Calves 6 months old or under, sheep, or hogs, minimum for each shipment	3,000

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 875 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, 1½ per cent of excess value; where rate is not over \$5, 2 per cent of excess value; where rate exceeds \$5, 2½ per cent of excess value.

Table 708.—Index numbers showing changes in freight rates of 50 representative agricultural products, by months, 1900-1923.

[Average for year 1913=100.]

Calen- dar	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver-
year.													age.
1900 1901 1902	P. ct. 105. 7 103. 8 103. 9	P. ct. 105. 7 104. 4 103. 9	P. ct. 103. 8 104. 4	P. ct. 103. 4 104. 4	P. ct. 103. 7 104. 3	P. ct. 103. 6 103. 5	P. ct. 103. 7 103. 1	P. ct. 103. 5 103. 1	P. ct. 103. 4 103. 1	P. ct. 103. 5 103. 4	P. ct. 103. 9 103. 9	P. ct. 103. 9 103. 9	P. ct. 104. 0 103. 8
1903 1904	103. 9 103. 5	103. 6 102. 7	103. 9 103. <b>5</b> 102. 1	103. 9 103. 5 102. 0	103. 7 103. 1 90. 8	103. 6 102. 9 101. 9	103. 3 103. 0 102. 3	103. 1 102. 9 102. 3	102. 8 102. 8 102. 3	102. 7 102. 6 102. 3	102. 7 102. 9 102. 3	103. 6 103. 7 105. 2	103. 4 103. 2 101. 6
1905	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. 2
	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. 6
	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. 9
	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. 1
	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. 0
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. 4
	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. 4
	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. 4
	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
	99. 3	99. 4	99. 4	99. 4	99. 4	99. 4	99. 4	99. 4	99. 4	99. 4	99. 5	99. 6	99. 4
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. 2
1916	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
1923	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:

	Cents per 100 pounds
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	66
Rate on wheat from Pana, Ill., to New York should be	
Rate on cattle from Amarillo, Tex., to Kansas City, Mo., should be	47
Rate on cattle from Garretson, S. Dak., to Sioux Číty, Iowa, should be	

#### FERTILIZER MATERIALS AND FERTILIZER.

Table 709.—Pyrites: Production, price and value, 1904-1922.

#### PRODUCTION.

		Calendar years.									
State.	1904	1905	1906	1907	1908	1909	1910				
A.1-1.	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	K				
California	26, 902	61, 748	52, 926	51, 950	30, 545	51, 266	23, 70				
Illinois Indiana	4, 465	3, 107	2, 579	4, 929	4,905	8, 332	10, 50				
Massachusetts New York	26, 552 5, 285	24, 155 11, 935	46, 218	30, 671	40, 362	47, 987	38, 97				
Ohio	. 4,837	8, 944	4, 732	6, 816	6, 531	9, 461	3, 76				
Virginia Wisconsin	120, 671	123, 183	128, 794	124, 740	116, 340	114, 176	148, 65 12, 55				
Total	207, 081	253, 000	261, 422	247. 387	222, 598	247, 070	238, 15				

 ${\tt Table \ 709.--Pyrites:\ Production,\ price\ and\ value,\ 1904-1922---Continued.}$ 

### PRODUCTION—Continued.

Clarks	Calendar years.								
State	1911	1912	1913	1914	1915	1916			
Georgia	Long tons.	Long tons.	Long tons.	Long tons.	Long tons.	Long tons.			
California Illinois Indiana	48, 415 17, 441	61, 812 27, 008 1, 462	70, 536 11, 246 1, 242	71, 272 22, 538 1, 710	132, 270 14, 849 972	145, 762 20, 482 772			
Ohio	6, 471 150, 800	14, 487 162, 478 17, 898	13, 622 148, 259 25, 328	7, 279 141, 276 14, 188	10, 857 145, 050 13, 985	13, 551 148, 502			
Other States	65, 438	65, 783	59, 995	78, 399	76, 141	94, 487			
Total	301, 458	<b>3</b> 50, 928	341, <b>33</b> 8	336, 662	394, 124	<b>423,</b> 556			
State.	1917	1918	1919	1920	1921	1922			
Colorado	Long tons. 20, 000	18,817	17, 474	Long tons. 25, 523	Long tons. 7, 290	Long tons.			
GeorgiaCalifornia	23, 242 115, 817 24, 596	31, 315 111, 861 24, 369	34, 412 128, 803 13, 353	128, 114					
New YorkMissouri		63, 982 7, 674	60, 544	30, 753					
Ohio Virginia Wisconsin	13, 218 170, 382	9, 845 143, <b>42</b> 7	4, 609 119, 164 26, 053	100, 545					
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.

QL-L-		Calendar years.											
State.	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Alabama. Georgia. California Illinois Indiana. Massachusetts. New York. Ohio Virginia. Wisconsin Other States.	3. 64 4. 34 3. 35 3. 29	Dolls. 3. 61 4. 01 3. 70 4. 50 3. 34 3. 66 3. 46	Dolls. 3. 01 4. 48 2. 78 3. 52 3. 05 3. 35	Dolls. 3. 02 3. 36 2. 98 4. 14 3. 05 2. 99	Dolls. 2. 91 4. 31 }2. 89 }4. 61 3. 05 3. 74	Dolls. 4. 88 4. 96 2. 77 4. 61 3. 07 3. 71	4. 65 3. 21 4. 80 3. 41 3. 80 3. 94	3. 78 {2. 70  2. 78 3. 70 3. 88 4. 71	3. 26 2. 33 3. 89 3. 03 3. 82 3. 94 4. 99	Dolls. {	3.30 2.62 3.09 2.71 3.94 5.53 4.20	Dolls. 3. 75 1. 51 3. 17 2. 52 5. 03 3. 10 4. 63	3. 88 2. 51 3. 17 2. 67 6. 23
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
Sta	te.			1	917	1918	3	1919	199	20	1921	1	922
Colorado Georgia California Illinois New York Missouri Ohio Virginia Wisconsin Other States					olls. 5. 38 6. 69 2. 88 3. 66 2. 24 8. 09	8. 4. 3. 6. 9. 4. 5.	15 58 48 52 61 02	Dolls. 4. 88 10. 16 4. 12 3. 49 7. 73 3. 66 7. 48 . 74 9. 24	8	1. 84 1. 05 3. 51	Dolls. 2. 5	3	olls.
Average				5. 37	5.	69	6. 08	1	5. 14	4. 5	3	3. 97	

TABLE 709.—Pyrites: Production, price and value, 1904-1922.—Continued. VALUE.

State.	Calendar years.								
Deate.		1904	1905	1906	1907	1908	1909		
		Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.		
Alabama		} 76, 101	71, 863	78, 817	85, 307	69, 635	77, 291		
Georgia California		132, 905	247, 712	236, 867	174, 549	131, 744	1 '		
IllinoisIndiana		16, 242	11, 491	7, 179	14, 713	14, 157	23, 046		
Massachusetts		115, 184	108, 765		l	186, 126	221, 299		
New York		17, 705	39, 883 32, 770	162, 615 14, 439	126, 991	.11.	1		
Ohio Virginia		15, 918 440, 753	426, 008	431, 388	20, 803 372, 586	19, 929 435, 522	29, 003 423, 283		
Total		814, 808	938, 492	931, 305	794, 949	857, 113	1, 028, 157		
State.	1910	1911	1912	1913	1914	1915	1916		
Georgia	Dollars.	Dollars.	Dollars.	Dollars. 55, 094	Dollars.	Dollars.	Dollars.		
California		182, 787	201, 453	218, 525	235, 129	496, 111	565, 699		
Illinois	- 00 747	£ 47,020	62, 980	31, 966	59, 079	22, 476	51, 432		
Indiana	-!)	}	5, 684	3, 115	5, 281	3, 080	2,445		
Massachusetts New York	- } 187, 071	<b>{</b> -		}					
Ohio	12, 831	18, 017	43, 853	34, 998	19, 718	27, 404	36, 114		
Virginia		558, 404	621, 219	587, 041	556, 091	729, 644			
Wisconsin	49, 467	50, 925	70, 518	94, 727	78, 460	43, 354			
Other States	-	308, 527	328, 552	260, 618	329, 588	352, 864	384, 769		
Total	958, 608	1, 164, 870	1, 334, 259	1, 286, 084	1, 283, 346	1, 674, 933	1, 965, 702		
State.	1917	1918	1919	9 19	920	1921	1922		
	Dollars.	Dollars.	Dolla	rs Dol	lars. I	Pollars.	Dollars.		
Colorado	107, 600	115, 71			3, 674		Donais.		
Georgia	155, 560	268, 79		779					
California	333, 501	501, 54	530,	678   51					
Illinois New York	89, 998	85, 65 422, 95	68 468,	634	1 1575				
Missouri		69, 20		201 20					
Ohio	29, 557	40, 21	5 16,	886					
Virginia	1, 378, 043	841, 17	7 891,	308 61	0, 085				
Wisconsin Other States	498, 776	299, 25		287	2, 549	224, 999			
	498, 770	299, 20	130,	002	2, 019	224, 999			
Total	2, 593, 035	2, 644, 51	5 2, 558,	172 1, 59	6, 961	711, 432	671 <b>, 24</b> 1		

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.

	. Calendar years.								
State and item.		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 Land pebble	57, 982			6,710 21,905	32, 418 111, 271	4. 8. 5. 0			
River pebble	54, 500			102, 820	415, 453	4.0			
Total	112, 482	703, 013	6. 25	287, 343	1, 418, 418	4. 94			
South Carolina: Land rockRiver rock	344, 978 130, 528	2, 187, 160 760, 978	634 5. 83	243, 653 150, 575	1, 236, 447 641, 262	5. 07 4. 26			
Total.	475, 506	2, 948, 138	6. 20	394, 228	1, 877, 709	4.70			
Grand total	587, 988	3, 651, 151	6. 21	681, 571	3, 296, 127	4.8			

Table 710.—Phosphate rock: Production by States, based on the quantity marketed, 1891-1922.—Continued.

	C alendar years.								
State and item.		1893		1894					
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.			
Florida: Hard rock	Long tons. 215, 685	Dollars. 1, 117, 732	Dollars. 5. 18 4. 73	Long tons. 326, 461	Dollars. 979, 383	Dollars. 3.00			
Soft rock Land pebble River pebble	13, 675 86, 624 122, 820	64, 626 359, 127 437, 571	4. 15 3. 56	98, 885 102, 307	296, 655 390, 775	3. 00 3. 82			
Total	438, 804	1, 979, 056	4. 51	527, 653	1, 666, 813	3. 16			
South Carolina: Land rock River rock	308, 435 194, 129	1, 408, 785 748, 229	4. 57 3. 85	307, 305 142, 803	1, 252, 768 492, 808	4. 08 3. 45			
Total	502, 564	2, 157, 014	4. 29	450, 108	1,745,576	3. 88			
Grand total	941, 368	4, 136, 070	4, 39	19, 188 996, 949	67, 158 3, 479, 547	3 50			
Grand total	341, 308		1.00	300, 010	1896	0. 20			
		1895	1		1090	1			
Flerida: Hard rockSoft rockLand pebble	307, 098 6, 916 181, 011	1, 302, 096 32, 000 593, 716	4. 24 4. 63 3. 28	296, 811 400 97, 936	1, 067, 525 2, 300 176, 972	3. 66 5. 75 1. 81			
River pebble Total		2, 112, 902	3. 72	100, 052 495, 199	300, 556 1, 547, 353	3. 00			
South Carolina:	300, 001	2, 112, 302	0.12	100, 100					
Land rock		898, 787 512, 245	3. 32 3. 17	267, 072 135, 351	792, 457 389, 192	2. 97 2. 88			
Total	431, 975	1, 411, 032	3. 27	402, 423	1, 181, 649	2. 94			
Tennessee North Carolina	38, 515	82, 160	2. 13	26, 157 7, 000	57, 370 17, 000	2. 19 2. 43			
Grand total	1, 038, 551	3, 606, 094	3. 47	930, 779	2, 803, 372	3. 01			
		1897			1898				
Florida: Hard rockSoft rock	360, 147 2, 300	1, 063, 713 4, 600	2. 95 2. 00	366, 810	1, 396, 108	3. 81			
Land pebble River pebble	92, 132	180, 794 244, 408	1. 96 2. 50	155, 084 79, 000	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: Land rockRiver rock		748, 050 238, 522	2. 80 2. 62	298, 610 101, 274	856, 225 251, 047	2. 87 2. 48			
Total	358, 280	986, 572	2.75	399, 884	1, 107, 272	2. 77			
Tennessee	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 Land pebble River pebble	177, 170	2, 119, 130 515, 458 169, 473	4. 60 2. 91 1. 91	424, 977 221, 403 59, 863	2, 229, 373 612, 703 141, 236	5. 25 2. 77 2. 36			
Total	726, 420	2, 804, 061	3. 86	706, 243	2, 983, 312	4. 22			
South Carolina: Land rock River rock	223, 949 132, 701	738, 969 339, 130	3. 30 2. 56	266, 186 62, 987	877, 405 164, 565	3, 30 2, 61			
Total	356, 650	1, 078, 099	3.02	329, 173	1,041,970	3. 17			
Tennessee North Carolina	430, 192 440	1, 192, 916	2. 77	454, 491	1, 328, 707	2. 92			
Other States	2,000	9,000	4. 50	1, 309	5, 259	4. 02			

Table 710.—Phosphate rock: Production by States, based on the quantity marketed, 1891-1922—Continued.

	Calendar years.							
State and item.		1901		1902				
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.		
Florida: Hard rock Land pebble River pebble	Lang:tons. 457, 568 247, 454 46, 974	Dollars. 2, 393, 080 660, 702 105, 691	Dollars. 5. 23 2. 67 2. 25	Long tons. 429, 384 350, 991 5, 055	Dollars. 1,743,694 810,792 9,711	Dollars. 4. 06 2. 31 1. 92		
Total	751, 996	3, 159, 473	4. 20	785, 430	2, 564, 197	3. 26		
South Carolina: Land rock River rock	225, 189 95, 992	716, 101 245, 739	3. 18 2. 56	245, 243 68, 122	753, 220 166, 505	3. 07 2. 44		
Total	321, 181	961, 840	2. 99	313, 365	919, 725	2. 94		
TennesseeOther States	409, 653 893	1, 192, 090 3, 000	2. 91 3. 36	390, 799 720	1, 206, 647 2, 875	3, 09 3, 99		
Grand total	1, 483, 723	5, 316, 403	.3, 58	1, 490, 314	4, 693, 444	3. 15		
,		1903		1904				
Florida: Hard rockLand pebbleRiver pebble	412, 876 390, 882 56, 578	1, 988, 243 885, 425 113, 156	4. 82 2. 27 2. 00	531, 087 460, 834 81, 030	2, 672, 184 1, 102, 993 199, 127	5. 03 2. 39 2. 46		
Total.	860, 336	2, 986, 824	3. 47	1, 072, 951	3, 974, 304	3. 70		
South Carolina: Land rock River rock	233, 540 25, 000	721, 303 62, 500	3. 09 2. 50	258, 806 12, 000	830, 117 31, 200	3. 21 2. 60		
Total	258, 540	783, 803	3. 03	270, 806	861, 317	3. 18		
TennesseeOther States	460, 530 .2, 170	1, 543, 567 5, 100	3. 35 2. 35	530, 571 100	1, 745, 054 200	3. 29 2. 00		
Grand total	1, 581, 576	5, 319, 294	3, 36	1, 874, 428	6, 580, 875	3. 51		
		1905		,	1906			
Florida: Hard rock Land pebble River pebble	577, 672 528, 587 87, 847	2, 993, 732 1, 045, 113 213, 000	5. <b>1</b> 8 1. 98 <b>2. 42</b>	587, 598 675, 444 41, 463	3, 440, 276 2, 929, 202 116, 100	5. 85 3. 00 2. 80		
Total	1, 194, 106	4, 251, 845	.356	1, 304, 505	5, 585, 578	4. 28		
South Carolina: Land rock River rock	234, 676 35, 549	77 <b>4</b> , 447 103, 722	3. 30 2. 92	190, 180 33, 495	711, 447 105, 621	3. 74 8. 15		
Total	270, 225	878,:169	.3. 25	223, 675	817,i <b>06</b> 8	3. 65		
Tennessee: Brown rock Blue rock White rock	438, 139 44, 031 689	1, 509, 748 121, 486 2, 155	.3. 45 2. 76 3. 13	510, 705 35, 669 1, 303	2, 027, 917 114, 997 5, 077	3 97 3. 22 3. 90		
Total	482, 859	1, 633, 389	3. 38	547, 677	2, 147, 991	3. 92		
Other States				5, 100	28, 800	5. 65		
- 3								

Table 710.—Phosphate rock: Production by States, based on the quantity marketed, 1891-1922—Continued.

	Calendar years.							
State and item.		1907			1908			
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.		
Florida: Hard rock Land pebble River pebble	Long tons. 646, 156 675, 024 36, 185	Dollars. 4, 065, 375 2, 376, 261 136, 121	Dollars. 6. 29 3. 52 3. 76	Long tons. 595, 743 1, 085, 199 11, 160	Dollars. 4, 566, 018 3, 885, 041 33, 480	Dollars. 7. (4		
Total	1, 357, 365	6, 577, 757	4. 85	1, 692, 102	8, 484, 539	5. 0		
South Carolina: Land rock River rock	228, 354 28, 867	883, 965 96, 902	3. 87 3. 36	192, <b>2</b> 63 33, 232	854, 837 135, 044	4. 48 4. 06		
Total Tennessee: Brown rock Blue rock White rock	257, 221 594, 594 38, 993 5, 025	980, 867 2, 880, 904 142, 382 24, 550	3. 81 4. 85 3. 65 4. 89	225, 495 374, 114 79, 717 1, 600	989, 881- 1, 572, 525 299, 941 4, 755	4. 39 4. 20 3. 76 2. 97		
Total	638, 612	3, 047, 836	4.77	455, 431	1, 877, 221	4. 12		
Other States	12, 145	47, 098	3. 88	13, 110	47, 483	3. 62		
Grand total	2, 265, 343	10, 653, 558	4. 70	2, 386, 138	11, 399, 124	4. 78		
		1909	!		1910			
Florida: Hard rock Land pebble	513, 585 1, 266, 117	4, 026, 333 4, 514, 968	7. 84 3. 56	438, 347 1, 629, 160	3, 051, 827 5, 595, 947	6. 96 3. 43		
Total	1, 779, 702	8, 541, 301	4. 79	2, 067, 507	8, 647, 774	4. 18		
South Carolina: Land rock River rock	201, 254 6, 700	888, 611 21, 975	4. 41 3. 28	179, 659	733, 057	4. 08		
Total	207, 954	910, 586	4. 37	179, 659	733, 057	4. 08		
Tennessee: Brown rock Blue rock	266, 298 66, 705	1, 011, 028 275, 165	3. 79 4. 12	329, 382 68, 806	1, 262, 279 241, 071	3. 83 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		
Grand total	2, 330, 152	10, 772, 120	4. 62	2, 654, 988	10, 917, 000	4. 11		
	,	1911		1912				
Florida: Hard rock Land pebble	443, 511 2 1, 992, 737	2, 761, 449 6, 712, 189	6. 23 3. 37	493, 481 2 1, 913, 418	3, 293, 168 6, 168, 129	6. 67 3. 22		
Total	2, 436, 248	9, 473, 638	3. 89	2, 406, 899	9, 461, 297	3. 93		
South Carolina: Land rock	169, 156	673, 156	3. 98	131, 490	524, 760	3. 99		
Pennessee: Brown rockBlue rock	365, 068 72, 302	1, 450, 063 263, 954	3. 97 3. 65	359, 692 63, 639	1, 420, 726 219, 750	3. 95 3. 45		
Total	437, 370	1, 714, 017	3. 92	423, 331	1, 640, 476	3. 88		
Other States	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		

<sup>1</sup> Included in land rock.

<sup>&</sup>lt;sup>2</sup> Includes small amount of river pebble.

Table 710.—Phosphate rock: Production by States, based on the quantity marketed, 1891-1922.—Continued.

		•	Calenda	r years.			
State and item.		1913			1914		
	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.	
Florida: Hard rock Land pebble	Long tons. 489, 794 2 2, 055, 482	Dollars. 2, 987, 274 6, 575, 810	Dollars. 6. 10 3. 20	Long tons. 309, 689 21, 829, 202	Dollars. 1, 912, 197 5, 442, 547	Dollars. 6. 1 2. 9	
Total	2, 545, 276	9, 563, 084	3. 76	2, 138, 891	7, 354, 744	3. 4	
South Carolina: Land rock	109, 333	440, 588	4. 03	106, 919	415, 039	3. 8	
Tennessee: Brown rock Blue rock	} 451, 559	1, 774, 392	3. 93	483, 203	1, 822, 770	3. 7	
Total	451, 559	1, 774, 392	-3. 93	483, 203	1, 822, 770	3.7	
Other States	5, 053	18, 167	3. 60	5, 030	15, 488	3.08	
Grand total	3, 111, 221	11, 796, 231	3.79	2, 734, 043	9, 608, 041	3. 5	
	1915			1916			
Florida: Hard rock Land pebble	50, 130 2 1, 308, 481	265, 738 3, 496, 501	5. 30 2. 67	47, 087 2 1, 468, 758	295, 755 3, 874, 410	6. 28 2. 64	
Total	1, 358, 611	3, 762, 239	2. 77	1, 515, 845	4, 170, 165	2. 75	
South Carolina: Land rock	83, 460	310, 850	3. 72	53, 047	211, 125	3. 98	
Tennessee: Brown rock Blue rock White rock	389, 759	1, 327, 747	3. 41	364, 108 47, 682	1, 357, 888 152, 465	3. 73 3. 20	
Total	389, 759	1, 327, 747	3. 41	411, 790	1, 510, 353	3. 67	
Other States	3, 837	12, 613	3. 29	1, 703	5, 350	3. 14	
Grand total	1, 835, 667	5, 413, 449	2. 95	1, 982, 385	5, 896, 993	2. 97	
		1917			1918		
Florida: Hard rock Soft rock Land pebble	} 18,608 1 2,003,991	159, 366 5, 305, 127	8. 56 2. 65	{ 62,052 8,331 1,996,847	377, 075 147, 103 5, 565, 928	6. 08 17. 66 2. 79	
Total	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	
Fennessee: Brown rockBlue rock	447, 203 65, 904	1, 920, 533 205, 820	4. 29 3. 12	374, 535	1, 917, 546	5. 12	
Total	513, 107	2, 126, 353	4. 14	374, 535	1, 917, 546	5. 12	
Other States	15, 096	41, 756	2. 77	11, 955	42, 161	3. 53	
Grand total	2, 584, 287	7, 771, 084	3. 01	2, 490, 760	8, 214, 463	3. 30	

<sup>&</sup>lt;sup>2</sup> Includes small amount of river pebble.

Table 710.—Phosphate rock: Production by States, based on the quantity marketed, 1891-1922.—Continued.

			Calendar	years.			
State and item.		1919			1920		
, Degeo and Toom.	Quantity.	Value.	Value per ton.	Quantity.	Value.	Value per ton.	
Florida: Hard rockSoft rockLand pebble	Long tons. 285, 467 14, 498 1, 360, 235	Dollars. 2, 452, 563 196, 318 5, 149, 048	Dollars. 8. 59 13. 54 3. 79	Long tons. 400, 249 13, 953 2, 955, 182	Dollars. 4, 525, 191 190, 551 14, 748, 620	Dollars. 11. 31 13. 66 4. 99	
Total	1, 660, 200	7, 797, 929	4. 70	3, 369, 384	19, 464, 362	5,78	
South Carolina: Land rock	60, 823	308, 968	5. 08	44, 141	367, 209	8. 32	
Tennessee: Brown rock Blue rock	475, 475 58, 550	3, 123, 565 290, 951	6. 57 4. 97	556, 177 78, 671	4, 425, 761 518, 234	7. 96 6. 59	
Total	534, 025	3, 414, 516	6. 39	634, 848	4, 943, 995	7. 79	
Other States	16, 935	69, 855	4. 12	55, 609	304, 006	5. 47	
Grand total	2, 271, 983	11, 591, 268	5. 10	4, 103, 982	25, 079, 572	6. 11	
		1921		1922			
Florida:  Hard rockSoft rock Land pebble	175, 774 4, 419 1, 599, 835	1, 806, 671 20, 153 8, 604, 818	10. 28 4. 56 5. 38	188, 084 446 1, 870, 063	1, 308, 201 3, 500 7, 035, 821	6. 96 7. 85 3. 76	
Total	1, 780, 028	10, 431, 642	5. 86	2, 058, 593	8, 347, 522	4. 05	
South Carolina: Land rock				1, 500	8, 250	5. 50	
Tennessee: Brown rockBlue rock	252, 543 25, 163	1, 666, 358 146, 198	6. 60 5. 81	344, 231 9, 078	2, 055, 579 51, 803	5. 97 5. 71	
Total	277, 706	1, 812, 556	6. 53	353, 309	2, 107, 382	5. 96	
Other States	6, 291	25, 872	4. 11	4, 481	19, 692	4. 39	
Grand total	2, 064, 025	12, 270, 070	5. 95	2, 417, 883	10, 482, 846	4. 34	

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.

		Quantity.		Value			
Calendar year.	Hydrated lime.	Limestone pulverized.	Peat.	Hydrated lime.	Limestone pulverized.	Peat.	
1908	Short tons.	Short tons.	Short tons.	Dollars.	Dollars.	Dollars. 121, 210	
1909			26, 768 37, 024			118, 891 140, 209	
1911 1912		174, 290 200, 000 408, 627	51, 733 41, 080 28, 460		205, 006 311, 702 493, 718	257, 204 186, 022 169, 600	
1913		615, 197	37, 729	548, 692	688, 961	249, 899	
1915 1916	184, 944	810, 399 1, 066, 376	38, 304 48, 106	869, 654 1, 114, 359	893, 530 1, 146, 582 1, 352, 397	258, 417 336, 034 658, 590	
1917 1918	177, 815 181, 890	1, 040, 248 1, 091, 918	92, 263 79, 573	1, 114, 335	1, 626, 292	775, 313	
1919 1920	148, 981	1, 392, 914 1, 364, 260	54, 690 63, 272	1, 784, 110 1, 525, 950	2, 409, 460 2, 724, 209	557, 240 773, 635	
1921 1922	142, 582 150, 423	1, 311, 520 1, 195, 000	29, 460 57, 747	1, 297, 192 1, 254, 894	2, 355, 339 2, 150, 435	251, 046 369, 165	

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

Table 712.—Lime, for agricultural purposes: Production and value, 1915-1922.

	Calendar years.									
State.	1915	1916	1917	1918	1919	1920	1921	1922		
Alabama	Short tons.	Short tons.	Short tons.					Short tons.		
California	6, 219	5, 386	6, 196				559	2, 756		
Connecticut Indiana Kentucky	6, 207	3, 401 241	2, 297	1, 303	5, 868	3, 475	1, 182	5, 017		
Maine Maryland Massachusetts Missouri New Jersey	113, 176 4, 257 676 8, 909	9, 553 109, 468 4, 500 6, 517	10, 243 85, 633 5, 073 4, 317 5, 002	8, 017 68, 807 3, 089 193 2, 208	8, 763 76, 770 4, 673 1, 123 4, 154	7, 810 64, 193 4, 552 1, 891 2, 997	8, 207 50, 543 2, 902	8, 912 44, 053 4, 628 1, 081 2, 078		
New York Ohio Pennsylvania Tennessee Vermont	3, 520	12, 649 49, 527 318, 722 2, 080 1, 276	9, 588 29, 997 246, 608 1, 904 502	5, 931 40, 001 200, 073 3, 311 2, 201	6, 206 27, 696 232, 831 730 2, 072	3, 323 11, 195 202, 830 377 752	3, 917 16, 969 152, 667 614 1, 278	2, 751 25, 332 137, 460 1, 392 1, 111		
Virginia West Virginia Wisconsin Other States	45, 149 32, 558 378 22, 954	38, 751 41, 507 8, 291	44, 335 21, 999 954 10, 931	34, 444 16, 053 241 1, 555	35, 712 25, 253 433 4, 698	26, 974 17, 449 356 2, 280	21, 793 17, 746 145 5, 768	16, 420 15, 287 657 3, 192		
Total	672, 538	612, 461	487, 370	390, 224	436, 982	350, 454 475	284, 290 75	272, 127		
Hawaii 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.

	Dollars.	Dollars.	Dollars. 9, 816	Bollars. 17, 436	Dollars.	Dollars.	Dollars.	Dollars.
AlabamaCalifornia	1, 308 28, 606	2, 246 31, 974	32, 447	8, 304			4, 988	35, 774
Connecticut Indiana Kentucky	4, 667 20, 065 525	14, 598 790	12, 143	6, 122	49, 461	33, 210	11, 328	39, 741
Maine Maryland Massachusetts Missouri New Jersey	356, 768 11, 325 2, 467 27, 610	39, 729 407, 930 12, 226 22, 202	35, 216 463, 081 18, 185 26, 844 18, 978	46, 168 534, 852 35, 450 1, 706 12, 268	59, 558 655, 704 25, 532 8, 540 21, 997	39, 157 614, 097 26, 096 20, 770 23, 920	51, 978 441, 085 15, 082	48, 283 351, 482 19, 163 11, 736 18, 382
New YorkOhioPennsylvaniaTennesseeVermont	81, 468 203, 221	44, 891 224, 120 1, 036, 222 4, 410 3, 864	40, 540 161, 205 1, 218, 316 9, 835 1, 380	27, 868 275, 561 1, 343, 636 15, 333 8, 288	34, 574 212, 156 1, 706, 027 6, 020 15, 474	23, 912 99, 219 1, 792, 948 2, 465 5, 157	30, 334 125, 844 1, 183, 361 5, 217 7, 687	22, <b>6</b> 13 177, 571 1, 021, 092 11, 752 6, 262
Virginia West Virginia Wisconsin Other States		147, 843 160, 959 65, 884	235, 568 106, 892 5, 024 74, 938	232, 204 116, 554 502 10, 267	290, 032 191, 125 4, 754 49, 495	208, 190 160, 091 1, 824 25, 944	161, 653 136, 982 666 54, 154	109, 968 101, 075 4, 523 21, 814
Total Hawaii	2, 160, 998	2, 219, 888	2, 470, 408	2, 692, 519	3, 330, 449	3, 077, 000 8, 313	2, 230, 359 1, 500	2, 001, 231
Porto Rico	2, 876	4, 513	5, 323	6, 329	.14, 590	11, 392	5, 651	3, 851
Total	2, 163, 874	2, 224, 401	2, 475, 731	2, 698, 848	<b>3, 34</b> 5, 039	3, 096, 705	2, 237, 510	2, 005, 082

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

Table 713.—Phosphate rock, pyrites, and marl: Production and value for fertilizer, United States, 1880–1922.

	*	Quantity.			· Value.	
Calendar year.	Phosphate rock.	Pyrites.	Marl.	Phosphate rock.	Pyrites.	Marl.
1880	Long tons. 211, 377 266, 734 332, 077 378, 380 431, 779 437, 856	Long tons. 2, 000 10, 000 12, 000 25, 000 35, 000 49, 000	Long tons. 1,000,000 1,000,000 1,080,000 972,000 875,000	Dollars. 1, 123, 823 1, 980, 259 1, 992, 462 2, 270, 280 2, 374, 784 2, 846, 964	Dollars. 5, 000 60, 000 72, 000 137, 500 175, 000 220, 500	Dollars. 500, 000 500, 000 540, 000 486, 000 437, 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
	587, 988	106, 536	135, 000	3, 651, 151	338, 880	67, 500
	681, 571	109, 788	125, 000	3, 296, 227	305, 191	65, 000
	941, 368	75, 777	75, 000	4, 136, 070	256, 552	40, 000
	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
	930, 779	115, 483	60, 000	2, 803, 372	320, 163	30, 000
	1, 039, 345	143, 201	60, 000	2, 673, 202	391, 541	30, 000
	1, 308, 885	193, 364	60, 000	3, 453, 460	593, 801	30, 000
	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
	1, 483, 723	1 241, 691	99, 880	5, 316, 403	1, 257, 879	124, 880
	1, 490, 314	1 207, 874	12, 439	4, 693, 444	947, 089	12, 741
	1, 581, 576	1 233, 127	34, 211	5, 319, 294	1, 109, 818	22, 521
	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
	2, 080, 957	261, 422	19, 104	8, 579, 437	931, 305	7, 341
	2, 265, 343	247, 387	14, 091	10, 653, 558	794, 949	8, 429
	2, 386, 138	222, 598	8, 469	11, 399, 124	857, 113	4, 330
	2, 330, 152	247, 070	21, 814	10, 772, 120	1, 028, 157	45, 053
1910	2, 654, 988 3, 053, 279 2, 973, 332 3, 111, 221 2, 734, 043	241, 612 301, 458 350, 928 341, 338 336, 662		10, 917, 000 11, 900, 693 11, 675, 774 11, 796, 231 9, 608, 041	977, 978 1, 164, 871 1, 334, 259 1, 286, 084 1, 283, 346	
1915 1916 1917 1918	1, 835, 667 1, 982, 385 2, 584, 287 2, 490, 760	394, 124 439, 132 482, 662 464, 494	58, 088 73, 900 98, 694	5, 413, 449 5, 896, 993 7, 771, 084 8, 214, 463	1, 674, 933 2, 038, 002 2, 593, 035 2, 644, 515	144, 768 165, 223 261, 082
1919	2, 271, 983	420, 647	91, 437	11, 591, 268	2, 558, 172	327, 294
	4, 103, 982	310, 777	97, 487	25, 079, 572	1, 596, 961	322, 339
	2, 064, 025	157, 118	59, 730	12, 270, 070	711, 432	195, 743
	2, 417, 883	169, 043	67, 777	10, 482, 846	671, 241	203, 196

Division of Statistical and Historical Research. Compiled from report of Geological Survey.

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.
1912	Short tons. 12,838	Short tons.	Short tons.	Short tons.	Short tons.	Short tons. 12,838
1913 1914 1915 1916	31, 548 12, 162 5, 268 5, 215	2, 039 3, 089 3, 045 5, 110	1, 190 788 2, 400	1, 544 1, 273 1, 800		33, 587 17, 985 10, 374 14, 525
1917 1918 1919 1920	5, 637 19, 412 30, 086 33, 900	7, 478 6, 524 6, 784 3, 900 16, 800	2, 336 2, 700 5, 030 3, 800 1, 200	865 2, 646 4, 420 3, 000	1, 345 1, 905 750 5, 000 1, 890	17, 661 33, 187 47, 070 49, 600 1 57, 890
1921 1922		2, 120	2, 120			4, 240

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.

<sup>1</sup> Includes production of natural sulphur.

<sup>1</sup> Includes 37,558 tons produced in Chesapeake district.

Table 715.—Fish scrap (dried): Production in Atlantic coast districts, 1912-1922.

Calendar year.	Chesa- peake.	The North.	North Carolina.	Florida.	Total, four districts.
1912 1913 1914 1915 1916	Short tons. 51, 000 29, 358 21, 936 19, 301 21, 258	Short tons. 6, 655 2, 744 1, 604 824	Short tons. 7, 250 2, 175 665 1, 289	Short tons. 160 245 1, 200	Short tons.  1 65, 660 34, 522 24, 205 21, 414 22, 458
1917 1918 1919 1920 1921 1922	14, 584 12, 221 12, 340 18, 750 2, 200	292	5, 187 3, 460 2, 763 1, 240 2, 112 1, 757	762 366	20, 825 16, 047 15, 103 19, 990 27, 210 3, 077

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.

<sup>1</sup> 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 33, 337 41, 450 23, 428 20, 466	Dollars. 830, 616 801, 713 1, 034, 636 584, 748 524, 153	Tons. 485, 132 466, 795 541, 846 79, 004 64	Dollars. 2, 399, 761 2, 154, 977 2, 579, 619 444, 760 1, 795	Tons. 192, 738 171, 802 261, 342 66, 062 2, 271	Dollars. 1, 814, 071 1, 794, 058 2, 767, 241 760, 699 41, 825	
1916-17 1917-18 1918-19 1919-20	14, 305 8, 511 4, 138 7, 340	385, 541 286, 764 117, 690 306, 301	274, 761	5, 655, 660	324 190 249, 348	7, 794 8, 872 8, 319, 620	
1920-21 1921-22 1922-23	27, 413 18, 234 52, 338	1, 317, 876 495, 445 1, 357, 742	204, 834 83, 571 168, 514	585, 338 1, 048, 054	123, 273 81, 442 1 244, 760	957, 443 12, 389, 098	
					ash.		
Year ending June 30.	Ammonia sulphate.		Mu	riate.	Sulphate.		
·	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
1911-12. 1912-13. 1913-14. 1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23.	74, 444 57, 048 19, 610 8, 176	Dollars. 4, 143, 417 3, 655, 413 4, 888, 563 3, 208, 152 1, 371, 007 647, 799 278, 469 343, 107 226, 300 314, 286 116, 686	Tons. 215, 957 201, 220 237, 886 102, 732 2, 130 606 723 1, 677 110, 324 49, 911 131, 423 150, 461	Dollars. 7, 235, 718 6, 782, 956 7, 915, 523 3, 666, 118 461, 431 174, 806 194, 515 201, 307 11, 038, 173 5, 290, 196 5, 549, 580 4, 759, 134	Tons. 44, 476 42, 745 45, 139 21, 852 2, 423 661 135 137 6, 356 12, 081 45, 280 51, 776	Dollars. 1, 826, 836 1, 753, 485 1, 897, 740 1, 071, 761 197, 808 20, 538 19, 837 23, 304 1, 073, 322 1, 659, 998 2, 085, 348 2, 109, 966	

Division of Statistical and Historical Research. Compiled from the Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

 $<sup>^{1}\,\</sup>mathrm{Includes}$  "Other potash.bearing substances" amounting to 20,734 tons and valued at \$238,651.

TABLE 717.—Guano: Imports into the United States, 1900-1923.

Year ending June 30.	Quantity.	Value.	Year ending June 30.	Quantity.	Value.
1899-1900- 1900-1 1901-2- 1902-3- 1903-4	Tons. 4, 756 4, 590 8, 790 16, 237 23, 872	Dollars. 59, 966 36, 617 144, 599 201, 416 319, 793	1011-12 1912-13 1912-14 1913-14 1914-15	Tons. 34, 706 19, 075 21, 887 20, 945 15, 837	Dollars. 684, 658 340, 915 755, 833 534, 391 425, 377
1904–5. 1906–6. 1906–7. 1908–9. 1908–9. 1900–10.	33, 490 18, 147 22, 681 27, 665 36, 990 52, 330 29, 516	516, 851 208, 560 342, 295 352, 350 580, 334 845, 765 593, 306	1916–17 1917–18 1918–19 1919–20 1920–21 1921–22 1922–23	3, 563 10, 096 8, 218 18, 796 37, 570	73, 398 287, 446 293, 425 1, 550, 098 3, 158, 064 48, 875

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

Table 718.—Fertilizer materials produced and consumed, 1902-1922.

	Produ	ction.1	Consumption.		
Calendar year.	Sulphate of ammonia.2	Potash, crude.3	Sulphate of ammonia. <sup>2</sup>	Cottonseed meal used for fer- tilizer.	
1902			Short tons.	Short tons. 388, 000 385, 000	
1903 1904 1905 1906				453,000	
1907 1908 1909	99, 309 83, 400 106, 500 116, 000			347, 000 497, 000 442, 000 597, 000	
1911 1912 1913 1914	127, 000 165, 000 195, 000 183, 000		221, 633 224, 542 260, 775 258, 010	717, 000 666, 000 740, 000 881, 000	
1915. 1916	250, 049 288, 265 325, 670	4, 374 35, 739 126, 961 207, 686	248, 374 337, 962 375, 588 484, 875		
1918	379, 278 403, 223 499, 463 358, 500 522, 600	207, 686 116, 634 166, 834 25, 485 25, 176	251, 994 251, 994 210, 000 5 285, 000		

Division of Statistical and Historical Research.

<sup>1</sup> Included in all other fertilizers.

Production for all purposes.
 The American Fertilizer Handbook.
 Geological Survey.
 Federal Trade Commission, 1902-1914. Data for later years not available.
 Estimated.

Table 719.—Sulphuric acid: Production, consumption, imports, and exports for the United States, 1904-1922.

			Year beginning July 1,						
Calendar year.	Produc- tion.1	Consump- tion.1	Imports sump	for con- tion.2	Exports, domestic. <sup>2</sup>				
			Quantity.	Value.	Quantity.	Value.			
1904	Short tons. 717, 406	Short tons. 692, 904	Short tons. 145 138	Dollars. 4, 151 3, 755	Dollars.	Dollars.			
1906 1907 1908			63 19 19	1, 861 1, 087 660	3, 366	80, 327			
1909			18 19 24 72	1, 063 526 639 2, 291	2, 541 2, 889 3, 501 4, 895 6, 066	61, 899 60, 537 71, 877 89, 783 125, 892			
1913	1, 405, 768	1, 276, 715	3, 362 3, 691 3, 143 334 14, 113 5, 670	40, 559 44, 608 61, 352 6, 617 358, 904 100, 489	23, 386 41, 010 29, 302 33, 827 23, 707	516, 436 1, 990, 532 961, 888 1, 119, 907 805, 430			
1918 1919 1920 1921 1922	1, 877, 394	1, 568, 577 1, 143, 850 1, 589, 809	4, 611 5, 183 2, 458 9, 072	79, 204 93, 937 54, 717 156, 440	16, 167 9, 300 6, 990 3, 626	778, 287 446, 380 295, 560 156, 204			

Division of Statistical and Historical Research.

Table 720.—Fertilizer materials: Average wholesale prices, 1913-1923.

#### AMMONIATES.

	Ammonia		ed, 12 per nonia, f.o.b., ton.1	Fish scrap, dried, 11 per cent ammonia,	Fish, wet, acidulated, 6 per cent ammonia,	Soda, nitrate,	Cottonseed, 7 per cent
Calendar year.	endar year. sulphate, domestic, spot, per 100 pounds. New York.		Chicago.	14 per cent bone phos- phate, f.o.b. fish factory, per short ton.1	3 per cent phosphoric acid, f.o.b. fish factory, per short ton.	spot, 95 per cent per 100 pounds.	ammonia meal, f. o. b. mill, per short ton.
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
1913	3. 03	34. 56	32. 76	29. 12	16. 11	2. 46	
1914		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
1001	2. 42	39. 84	Nominal.	36, 16	17. 10	2, 50	32, 67
1921 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
	1		ł	1			1

Division of Statistical and Historical Research. Compiled from Oil, Paint, and Drug Reporter.

<sup>1</sup> Bureau of the Census.

<sup>&</sup>lt;sup>2</sup>Bureau of Foreign and Domestic Commerce.

<sup>2</sup> Converted from price per unit. Unit equals 1 per cent in a ton, or 20 pounds of pure ammonia.

Table 721.—Fertilizer materials: Average wholesale prices per long ton, 1913-1922.

PHOSPHATES.

		phosphate r Iount Pleasa	
Calendar year.	Domestic, 78 to 80 per cent.	75 per cent guaranteed.	
1913	Dollars. 5. 25	Dollars.	Dollars.
1914 1915 1917	5. 25 5. 25 5. 25 5. 48	4. 88 4. 88 4. 88 4. 99	4. 38 4. 38 4. 38 4. 65
1918 1919		6. 71 9. 52	6. 81 17. 49
1920. 1921 1922.	13. 42 15. 25 Nominal.	10. 82 8. 90 Nominal.	

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter.

Table 722.—Fertilizer materials: Average wholesale prices per long ton, 1913–1923.

PHOSPHATES

	South Caro- lina phos-	Florida land pebble phosphate	Florida high grade phosphate hard rock			
Calendar year.	phate rock kiln dried, f. o. b. Ash- ley River.	rock, 68 per cent f. o. b.	77 per cent f. o. b. Flor- ida ports.			
	Dollars.	Dollars.	Dollars.	Dollars.		
1913		3.49	6, 00	Domais.		
1914		3. 12	6. 00			
1915		3. 01	5. 60			
1916		2. 84	5. 12			
1917	3. 89	2. 63	5.42			
1918		4. 22	7. 25			
1919	Nominal.	5. 00	9. 39	7. 7.		
1920		8. 48	13. 02	10. 3.		
1921		5. 90	12. 02	8. 74		
1922		3. 11	8. 58	6. 2		
1923		3. 05	7. 60	5. 17		
<b></b>			<u></u>			

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter.

Table 723.—Fertilizers: Tags sold by the Georgia Department of Agriculture, 1901–1921.

Season.	Fertilizers.	Cottonseed meal.	Season.	Fertilizers.	Cottonseed meal.
1900-1901 1501-2 1902-3 1103-4 1504-5 1905-6 1906-7 1907-8 1908-9 1909-10 1910-11	555, 414 618, 730 622, 414 743, 424 728, 361	Short tons. 58, 076 74, 130 84, 468 96, 818 90, 328 87, 253 87, 703 85, 298 103, 532 103, 302 129, 748	1911-12 1912-13 1913-14 1915 1916 1917 1918 1919 1920 1921 Season 1921 to Oct. 1	Short tons. 1, 103, 864 1, 120, 693 1, 292, 568 738, 962 741, 097 874, 610 923, 020 990, 919 1, 003, 553 527, 507 516, 223	Short tons. 121, 236 122, 975 185, 846 134, 017 110, 512 63, 655 55, 155 72, 922 35, 495 29, 066 7, 805

Division of Statistical and Historical research. Compiled from Serial Bulletin No. 89 of the Georgia Department of Agriculture, 1922.

<sup>&</sup>lt;sup>1</sup>Three months.

Table 724.—Fertilizers: Expenditures for, by States.

		Ca	alendar year.		
State.	1879	1889	1899	1909	1919
Maine	Dollars. 212, 135 165, 393 127, 670 653, 422 140, 318	Dollars. 456, 515 246, 293 217, 397 896, 560 172, 900	Dollars. 819, 680 967, 980 447, 065 1, 320, 600 264, 140	Dollars. 4, 069, 479 512, 580 570, 752 1, 965, 682 335, 103	Dollars. 7, 759, 067 526, 180 857, 273 3, 906, 733 379, 786
Connecticut New York New Jersey Pennsylvania Delaware	497, 448 2, 715, 477 1, 601, 669 3, 525, 336 467, 228	609, 649 3, 627, 726 1, 837, 719 3, 384, 310 460, 465	1, 078, 240 4, 493, 050 2, 165, 320 4, 685, 920 539, 040	1, 954, 163 7, 142, 265 4, 277, 604 6, 801, 605 864, 577	4, 893, 658 15, 067, 371 10, 742, 682 15, 628, 341 1, 222, 329
Maryland	2, 838, 465 22, 352 2, 137, 283 176, 300 2, 111, 767	2, 419, 826 16, 651 2, 320, 260 210, 767 2, 882, 238	2, 618, 890 22, 600 3, 681, 790 405, 270 4, 479, 030	3, 387, 634 16, 975 6, 932, 455 528, 937 12, 262, 533	7, 610, 478 23, 267 17, 277, 705 1, 709, 546 48, 796, 694
South Carolina Georgia Florida Ohio Indiana	2, 659, 969 4, 346, 920 72, 642 550, 029 340, 582	3, 867, 418 5, 724, 187 857, 327 1, 602, 869 777, 727	4, 494, 410 5, 738, 520 753, 120 2, 695, 470 1, 553, 710	15, 162, 017 16, 860, 149 3, 609, 853 4, 180, 485 2, 189, 695	52, 546, 795 46, 196, 434 10, 316, 929 13, 206, 018 8, 734, 698
lllinois Michigan Wisconsin Minnesota Iowa	174, 277 300, 995 178, 892 93, 250 98, 567	124, 977 173, 017 105, 192 61, 578 86, 843	830, 660 492, 360 294, 320 251, 120 337, 190	615, 594 945, 354 127, 753 74, 653 109, 570	2, 996, 403 4, 872, 543 779, 750 432, 680 596, 537
Missouri North Dakota South Dakota Nebraska Kansas	20, 794 61, 713	65, 705 8, 923 15, 675 19, 269 25, 740	370, 630 13, 855 12, 940 153, 080 268, 360	671, 073 10, 003 11, 294 31, 021 75, 602	3, 941, 488 119, 782 34, 466 64, 752 979, 037
Kentucky	145, 674 157, 442 1, 200, 956 123, 253 278, 305	317, 231 361, 097 2, 421, 648 789, 268 906, 348	908, 250 898, 070 2, 599, 290 932, 098 1, 076, 890	1, 350, 720 1, 216, 296 7, 630, 952 2, 703, 271 2, 004, 919	3, 597, 449 3, 525, 133 14, 066, 108 4, 288, 165 3, 840, 469
Oklahoma Texas Arkansas Montana Idaho	74, 797 56, 314	3, 817 58, 665 93, 939 4, 757 2, 127	124, 716 172, 510 3, 940 17, 150	29, 092 595, 363 596, 553 12, 323 20, 737	452, 492 1, 831, 207 2, 572, 678 126, 232 106, 121
W yoming Colorado New Mexico Arizona Utah	5, 195 10, 733	1, 548 25, 074 9, 217 10 23, 211	12, 700 23, 225 2, 880 2, 921 14, 300	5, 302 61, 113 25, 371 6, 080 20, 037	8, 489 294, 448 113, 483 40, 892 108, 956
Nevada Washington Oregon California	2, 526 10, 519 108, <b>732</b>	2, 019 11, 633 13, 370 148, 886	29, 165 27, 395 937, 050	8, 379 87, 023 68, 557 2, 143, 993	9, 897 525, 637 489, 524 8, 182, 998
United States	28, 586, 397	38, 469, 598	1 54, 783, 757	114, 882, 541	326, 399, 800

Division of Statistical and Historical Research. Compiled from reports of Bureau of the Census.

<sup>&</sup>lt;sup>1</sup> 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.

G. A		(	Calendar yea	r.	
State.	1914	1915	1916	1917	1918
Virginia. North Carolina. South Carolina. Georgia. Florida. Alabama. Mississippi Louisiana Texas. Arkansas Tennessee. Missouri. Total.	Short tons 437, 808 984, 865 1, 106, 640 1 1, 478, 414 240, 131 2 597, 200 181, 875 90, 588 77, 400 92, 000 60, 000 5, 462, 303	Short tons 406, 077 768, 449 610, 148 1 805, 304 1 89, 594 2 301, 467 141, 700 73, 420 17, 500 68, 700 78, 072 57, 000	Short tons 386, 970 740, 394 670, 610 851, 609 203, 283 2 212, 250 111, 200 75, 151 21, 500 65, 600 67, 930 41, 000 3, 427, 497	Short tons 495, 961 918, 215 864, 861 938, 265 214, 088 2 210, 170 92, 037 98, 265 42, 090 90, 292 87, 523 65, 000 4, 116, 682	Short tons 429, 999 1, 055, 924 1, 064, 886 9, 78, 175 204, 712 2 306, 880 114, 312 118, 430 58, 500 113, 370 88, 500 4, 618, 188
State.	1919	1920	1921	1922	1923
Virginia North Carolina South Carolina Georgia Florida Alabama Mississippi Louisiana Texas Arkansas Tennessee Missouri	421, 436 1, 109, 070 1, 033, 887 1, 063, 841 250, 613 2 298, 007 126, 377 97, 724 46, 000 53, 373 108, 430 70, 000	465, 227 1, 222, 103 1, 253, 890 1, 039, 048 272, 316 391, 170 166, 903 95, 863 56, 700 69, 036 112, 102 77, 888	369, 490 831, 684 615, 488 556, 573 289, 857 179, 547 94, 572 38, 760 19, 204 14, 550 84, 044 8, 022	449, 942 1, 035, 430 504, 000 535, 084 329, 668 298, 147 169, 937 66, 470 33, 420 40, 325 96, 992 7, 900	302, 911 1, 190, 583 678, 612 677, 624 387, 338 434, 377 250, 501 107, 368 75, 599 74, 599 112, 656 16, 000
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.

## 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.	Aver- age.
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	<b>20</b> 9	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	146	145	141

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

<sup>&</sup>lt;sup>1</sup> To Sept. 15. <sup>2</sup> Cottonseed meal not included.

Table 727.—Index numbers of wholesale prices, by groups of commodities, United States, 1913-1923.

[Year 1913=100.]

Calendar year.	Farm prod- ucts.	Foods.	Cloths and cloth- ing.	Fuel and light- ing.	Metals and metal prod- ucts.	Build- ing mate- rials.	Chemicals and drugs.	House fur- nish- ing goods.	Mis- cella- neous.	All com- modi- ties.
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
	218	220	295	241	192	264	200	254	196	226
	124	144	180	199	129	165	136	195	128	147
	133	138	181	218	122	168	124	176	117	149
	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 ver- age.
1913. 1914. 1915. 1916. 1917.	100 98 98 113 153 184	100 99 99 115 157 186	100 98 99 119 162 187	100 98 99 121 173 190	99 97 100 122 183 190	99 97 99 123 185 191	100 97 100 123 188 196	100 101 100 126 189 200	102 102 100 130 187 204	101 97 102 136 183 202	100 97 104 146 183 203	99 97 108 149 182 202	100 98 101 127 177 194
1919	199 233 170 138 156	193 232 160 141 157	196 234 155 142 159	199 245 148 143 159	202 247 145 148 156	203 243 142 150 153	212 241 141 155 151	216 231 142 155 150	210 226 141 153 154	211 211 142 154 153	217 196 141 156 152	223 179 140 156 151	206 226 147 149 154

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports

### CROP AND MEAT-ANIMAL PRICES.

Table 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
	117. 8	120. 4	126. 3	130. 6	139. 6	146. 5	149, 5	142. 3	132. 9	130. 5	129. 3	127. 7
	134. 1	138. 5	139. 9	138. 8	133. 5	133. 5	133, 1	137. 1	137. 0	129. 8	122. 2	118. 4
	118. 6	119. 8	117. 9	118. 0	122. 2	127. 7	136, 3	148. 2	141. 6	138. 0	135. 6	133. 1
	133. 9	140. 2	144. 7	153. 4	166. 3	168. 3	160, 1	148. 0	137. 6	128. 6	118. 3	110. 3
	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
	126. 7	140. 5	144. 0	144. 5	150. 0	147. 3	139. 1	138. 9	132. 5	128. 2	124. 4	120. 4
	129. 0	139. 9	138. 6	140. 2	143. 3	145. 8	144. 8	147. 7	161. 5	163. 6	178. 8	187. 9
	183. 6	195. 6	206. 5	225. 2	280. 6	291. 3	289. 9	307. 8	279. 6	277. 0	261. 3	252. 3
	264. 1	271. 6	288. 8	288. 6	281. 8	271. 9	272. 9	280. 6	293. 3	289. 3	269. 5	265. 2
	272. 4	259. 9	257. 1	271. 2	293. 7	307. 2	310. 2	329. 0	317. 7	290. 0	279. 4	282. 4
	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	219. 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	138. 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

<sup>1</sup> Based on prices 1st of month.

Table 729.—Index numbers of crop and meat-animal prices, monthly and average, 1908-1923—Continued.

#### MEAT ANIMALS.3

Calendar year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910 1911 1912 1913	6. 67 6. 40 5. 44 6. 40	6. 71 6. 19 5. 54 6. 70	7. 39 6. 09 5. 69 7. 08	7. 74 5. 80 6. 30 7. 35	7. 37 5. 54 6. 39 7. 08	7. 29 5. 45 6. 27 7. 19	6. 98 5. 52 6. 23 7. 25	6. 67 5. 87 6. 56 7. 20	6. 92 5. 87 6. 74 7. 15	6. 80 5. 58 6. 86 7. 14	6. 47 5. 44 6. 45 6. 94	6. 21 5. 37 6. 42 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 6. 57 6. 46 8. 53 12. 59 13. 46 12. 14 9. 54	7. 27 6. 46 6. 94 9. 42 12. 65 13. 51 12. 43 9. 81	7. 37 6. 46 7. 53 10. 70 13. 06 14. 06 12. 52 10. 24	7. 40 6. 59 7. 85 11. 71 13. 55 15. 01 12. 72 10. 69	7. 29 6. 80 7. 98 11. 84 13. 83 15. 34 12. 41 10. 78	7. 22 6. 85 8. 00 11. 72 13. 62 14. 98 12. 31 10. 67	7. 41 6. 83 8. 04 11. 47 13. 68 15. 61 12. 40 10. 78	7. 63 6. 74 8. 05 11. 84 14. 21 15. 56 12. 12 10. 88	7. 58 6. 77 8. 38 12. 79 14. 50 13. 44 12. 22 10. 81	7. 14 6. 96 8. 04 13. 04 13. 79 12. 22 11. 67 10. 41	6. 80 6. 45 8. 09 12. 47 13. 37 11. 88 10. 34	6. 61 6. 25 8. 15 12. 74 13. 40 11. 54 8. 48 9. 60
1921	8. 42 6. 67 7. 48	8, 24 7, 56 7, 51	8. 67 8. 19 7. 48	7. 89 8. 10 7. 52	7. 66 8. 29 7. 38	7. 31 8. 37 7. 01	7. 65 8. 34 7. 16	7. 94 7. 87 7. 14	7. 11 7. 69 7. 68	6. 88 7. 75 7. 27	6. 47 7. 36 6. 80	6. 37 7. 28

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.

### 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	Whole-sale prices all commod-ities.2	Retail prices, 22 articles of food.2	Cost of living (32 cities).3	Farm labor.	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	₺ 103	99	. 102	8 100
1915	100	101	101	8 105	99	103	101
1916	120	127	114	5 118	108	107	114
1917	177	177	146	5 142	133	114	129
	1	194	168	5 174	161	133	160
1918	199			5 199	186	155	185
1919	210	206	186	5 200	214	199	222
1920	196	226	203	5 174	143	205	203
1921	120	147	153			193	197
1922	123	149	142	3 170	138		
1923	134	154	146	5 173	155	211	214
1922.	l			1			
March	124	142	139	167	!		193
June	126	150	141	167			196
September	1	153	140	166	1		202
December	131	156	147	170		l	208
	101						
1923.	1				100	į.	
January		156	144		133		212
March	137	159	142	169			212
April		159	143		140		219
June	. 130	153	144	170	l		219
July		151	147		159		
September	. 129	154	149	172	I		216
October	.]	153	150		154		
December	.] 138	151	150	173			220

Division of Statistical and Historical Research.

<sup>&</sup>lt;sup>2</sup> Based on prices 15th of month.

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.

6 June.

## FEDERAL-AID HIGHWAYS.

Table 731.—Federal-aid highways completed and under construction.

State.	Highways co payment 1 June 30, 199	ompleted and nade, year e 23.	final nding	Projects u	nder construct	ion June	30, 1923.1
21000	Total cost.	Federal aid.	Miles.	Estimated cost.	Federal aid allotted.	Miles.	Federal aid paid.
AlabamaArizonaArixansasCaliforniaColorado	\$671, 989. 33 3, 001, 356. 84 3, 485, 213. 85 5, 398, 358. 83 3, 000, 990. 82	2, 115, 030. 44	179. 6	2, 462, 987. 30 5, 957, 667. 24 11, 553, 746. 98	\$4, 818, 991. 66 1, 450, 169. 26 2, 391, 544. 73 6, 211, 381. 11 1, 938, 815. 44	221, 9 400, 4 506, 2	1, 200, 311. 39 3, 304, 460. 54
Connecticut	2, 221, 161. 60 580, 848. 76 1, 497, 036. 74 481, 703. 80	227, 500. 00 727, 424. 90	194. 7	768, 715, 88 6, 852, 022, 09 7, 478, 068, 80	332, 847. 50 3, 389, 983. 22 3, 697. 204. 31	23. 1 210. 9 690. 1	161, 234, 23 1, 986, 864, 00 1, 745, 014, 75
IllinoisIndianaIowa KansasKentucky	1, 786, 917. 22 2, 023, 652. 38 6, 840, 865. 05 6, 450, 356. 54 3, 763, 182. 92	2, 544, 257. 86 2, 356, 157. 47	570. 5 209. 5	9, 537, 990. 97 10, 781, 078. 08 21, 627, 526. 07	5, 132, 734, 89 6, 233, 042, 55	272. 8 1, 012. 1 573. 8	2, 222, 250. 43 2, 884, 722. 80
Louisiana Maine Maryland Massachusetts Michigan	3, 953, 469. 21 2, 843, 728. 92 504, 449. 37 2, 481, 481. 14 5, 999, 824. 20	1, 385, 682. 38 252, 224. 67 1, 043, 242. 93	94. 5 18. 0 50. 3	2, 600, 214, 58 2, 066, 898, 17 4, 529, 564, 91	937, 896. 50 1, 665, 967. 52	75. 4 89. 8	584, 702. 21 413, 771. 21 641, 923. 43
Minnesota Mississippi Missouri Montana Nebraska	1, 670, 058. 49 2, 216, 361. 53 2, 636, 795. 53	830, 830, 40	175. 5 247. 0	6, 899, 526, 97 17, 418, 531, 58 1, 285, 659, 82	3, 423, 192, 39 8, 326, 760, 68 673, 165, 60	405. 8 881. 1 126. 6	1, 584, 834, 48 2, 471, 759, 21 319, 034, 49
Nevada New liampshire New Jersey New Mexico New York	2, 350, 340. 65 2, 922, 301. 96	222, 486. 50 814, 254. 74 1, 543, 214. 20	22. 3 41. 4 432. 4	737, 820. 18 2, 306, 035. 27 3, 358, 414. 00	727, 200. 00 2, 006, 229. 83	250. 9 28. 9 36. 3 541. 2 597. 0	196, 594. 02 457, 860. 45 836, 540. 73
North Carolina North Dakota Ohio Oklahoma Oregon	3, 778, 519, 60 5, 994, 517, 58 7, 397, 461, 54	1, 852, 719. 87 2, 311, 245. 21 3, 299, 821. 31	181. 7 285. 3	4, 200, 474. 39 12, 961, 337. 10 5, 431, 676. 52	2, 092, 645. 08 5, 003, 885. 02 2, 462, 291. 78	848. 7 347. 5 244. 4	1, 095, 836. 29 2, 337, 532. 35 1, 219, 039. 80
Pennsylvania Rhode Island South Carolina South Dakota Tennessee	199, 620. 46 2, 224, 081. 09 3, 336, 500. 40	97, 554, 56 1, 032, 741, 79 1, 620, 388, 49	212. 7 6. 6 267. 1 379. 7 71. 5	712, 437. 22 5, 515, 316. 53 5, 947, 235. 04	3, 751, 305. 00 308, 245. 34 2, 307, 641. 72 3, 034, 795. 29 6, 893, 877. 82	16. 0 512. 9	1, 156, 772, 53 1, 421, 947, 52
Texas. Utah Vermont. Virginia	1, 626, 103. 26 830, 212. 33	929, 937. 78 405, 469. 93	95. 2 31. 2	3, 752, 495, 25 1, 068, 146, 61	2, 241, 180. 92 534, 073. 27	39.0	1, 228, 765. 01 198, 925. 94
Washington West Virginia Wisconsin Wyoming	1, 412, 851. 18 4, 981, 951. 39	608, 768. 63 2, 128, 524. 04 1, 066, 683. 44	71. 8 397. 0 218. 2	5, 221, 761. 81 3, 382, 673. 78 3, 717, 105. 10	2, 276, 610. 53 1, 435, 069. 13 2, 136, 471. 51	179. 4 278. 7 290. 5	1, 262, 478. 39 489, 613. 67 829, 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.

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<sup>&</sup>lt;sup>1</sup> Includes 3,239.4 miles of practically completed projects.

Table 732.—Highways: Federal aid projects completed, by types, 1918-1923.

Year ending	Grad	8. 24 \$4, 738, 04 1. 41 298, 906, 04 4. 90 1, 021, 277, 45 7, 055, 698, 94 0. 11 6, 316, 326, 91 4. 63 14, 696, 947, 38  Gravel.  St. Federal aid.  Federal aid.  Federal aid.  3. 22 \$103, 891, 64 4. 88 778, 582, 85 4. 23 20, 867, 363, 64 4. 25 41, 872, 860, 72  St. Federal aid.  Federal aid.			Sand-clay.	
June 30.	Total cost.	Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917–18 1918–19 1919–20 1920–21 1921–22 1922–23	2 308 704 90	1. 021. 277. 45	10. 0 203. 0 349. 9 1, 635. 5 1, 966. 0	\$126, 885, 24 384, 811, 91 2, 401, 029, 18 9, 208, 839, 93 8, 120, 872, 33	\$63, 321. 17 181, 107. 89 1, 075, 989. 00 4, 233, 269. 25 3, 896, 299. 34	46. 8 90. 0 384. 2 1, 111. 8 1, 016. 7
Totals	34, 706, 174. 63	14, 696, 947. 38	4, 164. 4	20, 242, 438. 59	9, 449, 986. 65	2, 619. 4
Year ending		Gravel.		Water	-bound macadan	1.
June 30.	Total cost. Federal aid. Miles. Total cost.		Total cost.	Federal aid.	Miles.	
1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23.	\$236, 623. 22 1, 795, 314. 88 9, 839, 752. 94 35, 333, 778. 98 46, 479, 134. 23	778, 582. 85 4, 268, 225. 54 15, 854, 797. 05 20, 867, 363. 64	55. 2 247. 8 1, 201. 4 3, 445. 3 4, 404. 0	\$139, 131. 96 560, 631. 81 4, 279, 366. 52 5, 987, 050. 01	\$69, 241. 84 254, 980. 59 1, 837, 921. 56 2, 578, 843. 54	11. 7 40. 5 286. 8 287. 5
Totals	93, 684, 604. 25	41, 872, 860. 72	9, 442. 7	10, 966, 180. 30	4, 740, 987. 53	626. 5
Year ending	Bitum	ninous macadam.	•	Bitu	ninous concrete.	
June 30.	Total cost.	Federal aid.  \$4, 738, 04 298, 996, 04 1, 021, 277, 45 7, 055, 698, 94 6, 316, 326, 91 14, 696, 947, 38  Gravel.  Federal aid.  \$11, 630, 00 100, 882, 07 1, 576, 184, 47 1, 33, 822, 667, 03 6, 355, 525, 91 11, 866, 879, 48  mid cement concrete  Federal aid.  \$52, 685, 22 217, 917, 11 1, 189, 723, 28 7, 374, 916, 37 35, 844, 990, 98 26, 021, 235, 74 70, 700, 168, 70  Bridges.  Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 Totals	\$41, 237. 10 205, 783. 73 3, 428, 606. 06 8, 854, 811. 29 14, 640, 388. 38 27, 170, 826. 56	1, 576, 184. 47 3, 822, 667. 03 6, 355, 525. 91	1. 2 11. 0 148. 9 294. 5 468. 1 923. 6	\$136, 715. 94 347, 484. 00 460, 080. 99 4, 580, 101. 11 13, 533, 187. 30 4, 829, 129. 82 23, 886, 699. 16	\$59, 571, 76 162, 622, 93 195, 509, 11 2, 005, 818, 94 5, 221, 434, 96 2, 071, 446, 10 9, 716, 403, 80	6. 8 19. 5 19. 7 159. 1 392. 8 131. 0
X	Portlane	d cement concret	е .		Brick.	
Year ending June 30.	Total cost.	Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 Totals	\$121, 015, 43 509, 328, 74 2, 729, 185, 04 16, 490, 885, 57 84, 788, 065, 27 63, 858, 248, 33 168, 586, 728, 38	26, 021, 235. 74	5. 7 25. 2 110. 3 494. 6 2, 126. 9 1, 621. 4 4, 384. 0	\$702, 502, 04 839, 373, 33 1, 520, 655, 96 9, 680, 179, 46 2, 998, 868, 14 15, 741, 578, 93	\$194, 361, 28 261, 104, 00 391, 123, 05 3, 100, 843, 36 1, 063, 446, 49 5, 010, 878, 18	18, 8 21, 8 26, 8 205, 6 69, 0
		Bridges.			All types.	
Year ending June 30.	Total cost.	- Federal aid.	Miles.	Total cost.	Federal aid.	Miles.
1917–18 1918–19 1919–20 1920–21 1921–22	\$59, 004. 90 169, 467. 28 1, 018, 723. 83 6, 153, 276. 71 5, 318, 937. 62	\$10, 000. 00 84, 733. 45 494, 474, 58 2, 844, 952. 47	0. 2 0. 9 4. 2 20. 0 10. 3	\$257, 731. 37 2, 124, 873. 48 7, 405, 000. 53 42, 149, 181. 36 188, 965, 646. 43 166, 802, 207. 97	\$112, 256. 98 768, 472. 17 3, 159, 790. 53 18, 462, 089. 99 79, 816, 175. 60 71, 681, 382. 67	12. 5 176. 8 716. 1 2, 898. 5 9, 519. 3 9, 973. 9
1922-23	5, 318, 937. 62	2, 510, 895, 00	10. 5	100, 802, 201. 91	11,001, 302.01	9, 010. 9

Bureau of Public Roads.

Table 733.—Wages per hour paid common labor for road work, 1915-1923.1

Calendar year.	United States average.	New Eng- land.	Middle Atlantic.	South Atlantic.	East South Central.	West South Central.	East North Central.	West North Central.	Moun- tain.	Pacific.
1915	Cents. 20 23 28 36 41 49 36 32 35	Cents. 20 25 31 39 41 49 38 39 49	24 30 38 41 50 35 36 43	Cents. 14 16 21 27 32 37 26 21 22	Cents. 12 13 17 23 28 32 25 20 21	Cents. 16 17 21 28 36 40 28 24 24	Cents. 21 24 29 39 43 53 35 31 35	Cents.  25 28 34 45 53 62 45 31 32	Cents. 26 29 36 44 47 55 46 37 40	Cents.  26 23 36 45 52 60 50 48

Bureau of Public Roads.

Table 734.—Highway maintenance: Expenditures reported by States on Federal-aid highways, calendar year 1922.

	Ge	neral mai	ntenance.		Better	ment.	R	econstr	uction.
State.	Num- ber of proj- ects.	Miles.	Total expenditure.	Num- ber of proj- ects.	Miles.	Total ex- penditure.	Num- ber of proj- ects.	Miles.	Total expenditure.
Alabama Arizona	49	332, 2 368, 3	\$41, 184. 89 98, 909, 76	5	36. 9	\$29, 189. 86			
ArkansasCalifornia	56 44	595. 8 394. 9	76, 974. 45 222, 771. 60	16	143. 9	154, 541. 09		70.8	\$25, 062, 27
Colorado Connecticut	93 5	393. 6 36. 4	81, 219, 31 12, 801, 65						
Delaware Florida	7 10	42. 3 48. 7	10, 451. 78 15, 746. 64						
Georgia <sup>1</sup> Idaho	38	413. 7	87, 699. 81	13	219. 4	66, 678. 68	2	58. 0	
Illinois <sup>1</sup> Indiana Iowa	22 84	142. 6 1, 080. 6	16, 236, 72 343, 815, 58	9	137.7	151, 227, 41			
Kansas Kentucky	44	283. 3 231. 0	44, 796. 05 67, 198. 52	4 7	29, 2 48, 2	15, 691. 85 21, 997. 63			
LouisanaMaine	44 25	544. 8 106. 9	246, 918. 00 41, 083. 44	3 1	38. 1 3. 9	14, 069, 09 7, 317, 43			
Maryland Massachusetts	44 55	167. 4 153. 3	76, 484, 97 59, 414, 83 87, 376, 44	2	4. 6	9, 799. 39			
Michigan Minnesota	158 53	375. 5 1, 664. 3 529. 3	367, 688, 00 54, 338, 19	112	1, 297. 5	742, 902. 00	39	574.4	132, 582. 00
Mississippi Missouri Montana	17 67	110. 9 583. 2	12, 397. 75 66, 229. 37	1 5	1. 7 42. 6	1, 200. 00 28, 447, 22		19. 6	13, 018. 09
Nebraska Nevada	10	144. 0 168. 1	83, 740, 45 37, 034, 54	1 2	11. 0 7. 6	6, 181. 87 17, 800, 41	1	20. 4	369. 83
New Hampshire New Jersey	116 21	123. 9 80. 1	82, 941, 41 41, 999, 17						
New Mexico New York	46 41	617. 9 154. 0	99, 960. 85 18, 776. 82	11 3	112. 8 7. 7	49, 893. 38 597. 19			
North Carolina North Dakota	98 50	820. 8 542, 2	222, 026. 48 35, 884. 57	18	188. 7	1, 889, 192. 66	1		5, 632, 00
Ohio Oklahoma Oregon	128 46 40	580. 8 279. 2 448. 6	222, 927. 84 74, 473. 55 137, 743. 98	1 19	0. 6 242. 0	752. 84 666, 702. 91			
Pennsylvania i Rhode Island	5	15.8	2,044.73						
South Carolina 1	36	439. 2	58, 791, 01	2 2	40. 2	5, 741. 42			
Tennessee	21	246. 3	41, 138. 25	2	22. 6	38, 926. 43			
Utah Vermont	18 20	290. 4 49. 0	25, 542, 48 13, 310, 69						
Virginia Washington	79 84	382, 5 402, 7	136, 144, 59 163, 761, 01	9	35, 2	691, 558. 91		8	5, 800, 00
West Virginia Wisconsin Wyoming	77 239 60	233. 0 1, 014. 3 568. 9	152, 489. 21 185, 005. 74 99, 962. 58	28 <b>32</b>	112, 7 133, 6	202, 935, 27 334, 284, 21	1 13	76.1	31, 262. 64
Total	2, 279		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.

<sup>&</sup>lt;sup>1</sup> Average of monthly reports. <sup>2</sup> For the first six months of 1923.

## HUNTERS' LICENSES.

Table 735.—Hunters' licenses issued by States in 1922, for season 1922-23.

	Lic	enses issue	d.	
State.	Resident.	Non- resident.	Alien.	Total money returns.1
Alaska ²		20		\$1,000.00
Alabama	21, 586	189		\$1,000.0 27,854.0 24,187.5
Arizona <sup>3</sup> Arkansas	18, <b>04</b> 6 3, 636	88 2,625		24, 187. 5
California	221, 561	356	874	14, 411. 90 236, 891. 0
Colorado 3	79, 272	133		160, 955, 5
Connecticut	32, 051	365	178	160, 955, 5 38, 371, 0
Delaware <sup>2</sup> Florida <sup>4</sup>		218		2, 180. 0
Georgia.	15, 138	179		33, 511. 0
Idaho 3	61, 246	557	69	5 114, 047, 5
Illinois Indiana <sup>3</sup>	61, 246 248, 000	500		186, 336. 3
Indiana 3	164, 632 113, 734	173		5 114, 047. 5 186, 336. 3 170, 066. 8 116, 354. 0
lowaKansas	74, 330	262 37		74, 885. 0
Kentucky	75,000	251		5 65, 594, 8
Louisiana	104, 159	391		110, 024. 0
Maine Maryland	6 17, 587 68, 821	3, 142 1, 464	77	45, 326. 7 5 112, 062. 6
Massachusetts	81, 200	736	158	5 132, 298. 1
Michigan	251,758	1, 778		247, 811. 8
Minnesota	134, 676	790		158, 564. 3
Mississippi <sup>4</sup>	102, 275	228		134, 678. 0
Montana	55, 573	107	3	105, 410. 0
Nebraska <sup>3</sup>	110,000	227	15	112, 595. 0
Nevada New Hampshire <sup>3</sup>	4, 533 57, 456	2, 418		6, 799. 5 92, 726. 0
New Jersey 3	133, 357	1, 372		200, 035. 5
New Mexico	9, 353	336		19, 798. 5
New York	286, 568	2, 305		5 298, 268. 60
North Carolina <sup>4</sup> North Dakota	31, 818	68		49, 427. 0
Ohio	311, 914	165		
Oklahoma	76, 102	243		79,747.0
Oregon 3	47, 090	404		172, 742. 0
Pennsylvania	473, 735	2, 126 97	50	5 446, 607. 0
Rhode Island South Carolina	10, 959 75, 707	621	50	12, 679. 0
South Dakota	44, 714	1,568		52, 015. 0
Tennessee	19, 364	334		5 26, 248. 8
Texas	19, 364 32, 317	156		66, 974. 0 138, 000. 0
Utah <sup>3</sup> Vermont <sup>3</sup>	78, 000 36, 145	819		138, 000. 0 39, 382. 5
Virginia	96, 648	1,577	1	151, 628, 0
Washington 3	155, 698	2, 117	174	281, 187. 5
West Virginia	75.062	373		80, 657. 5
Wisconsin Wyoming <sup>3</sup>	178, 757 17, 488	529 387	2	196, 482. 0 47, 277. 0
Total	4, 307, 066	32,831	1, 601	4, 884, 099, 5

Bureau of Biological Survey.

Money returns do not include amounts received from licenses to fish only.
 No resident licenses.
 Combination hunting and fishing licenses.
 Figures not available.
 Net.
 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.

Amarillo, Tex				3 010 6										
Amarillo, Tex	Station					Janu	ary mo	onthly	mean	temper	rature.			
Devils Lake, N. Dak.    28, 0   4, 0   6   26   8, 2   -3, 0   -4, 6   14, 4   -2, 3   10, 5   4, 1   6, 0	Station.		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Phoenix, Ariz	Amarillo, Tex	Nor-mail for Jan. 33. 9 42. 6. 3 45. 8 29. 8 42. 6. 3 49. 9 22. 5 24. 4 42. 20. 1 30. 3 5 24. 4 41. 2 20. 1 7. 9 9 144. 9 32. 3 8 8 12. 9 9. 1 44. 1 2 8 4 6 7 5 5 4 6 7 16. 7 5 16. 7	1912 31. 2 37. 6 8 9 9 28. 8 9 9 22. 4 8 8 34. 7 7 21. 9 9 12. 0 6 6 20 0 0 35. 0 0 9 11. 8 9 12. 0 16. 0 17. 0 1	1913 ° 35. 0 5 5. 6 6 28. 0 5 5. 6 6 28. 0 6 49. 5 6 6 28. 0 6 49. 6 3 8 26. 8 3 48. 8 4 40. 6 3 27. 0 6 . 3 27.	1914 45 45 0 0 4 17.9 9 62 62 62 62 63 28 4 2 66 64 1 1 3 2 6 6 64 1 4 1 6 6 6 1 3 2 6 6 1 4 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6	Janu 1915  34. 0 9. 2 2 27. 6 40. 5 2 26. 6 5 2 4 41. 4 2 26. 5 2 4 45. 4 2 27. 6 30. 4 41. 9 4 26. 6 5 2 4 1 11. 4 4 27. 6 8 2 6 6 28. 7 9. 2 2 48. 8 5 3 4 41. 6 8 3 30. 4 4 20. 2 2 37. 1 16. 3 3 3 4 21. 0 4 20. 2 2 37. 1 21. 6 3 37. 1 6 3 37. 1 6 3 37. 1 6 3 37. 1 6 3 37. 1 6 3 37. 1 6 3 37. 1 6 3 37. 1 6 3 37. 1 6 6 38. 2 2 6 38. 4 4 38. 8 4 48. 8 5 48. 8 8 4	ary me  35. 28. 48. 8 8  -5. 0 0 35. 28. 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 67. 2 2 2 2 3 . 6 6 7 2 2 2 2 3 . 6 6 7 2 2 2 2 3 . 6 6 7 2 2 2 2 3 . 6 6 7 2 2 2 3 . 6 6 7 2 2 2 3 2 3 . 6 6 7 2 2 2 3 2 3 3 3 3 3 3 4 4 5 2 2 3 3 3 4 4 5 2 2 3 3 3 4 4 5 3 2 2 3 3 3 3 4 4 5 3 3 3 4 4 5 3 3 3 4 4 5 3 3 3 4 5 3 3 4 5 3 3 3 4 5 3 3 3 5 5 5 5	nthly  1917  36.647.94 6.3 23.22 62.66 447.94 6.3 23.23 22.88 62.66 46.11 6.11 6.11 6.12 6.12 6.13 6.13 6.14 6.13 6.14 6.14 6.15 6.16 6.16 6.16 6.16 6.16 6.16 6.16	mean  1918  30.7 34.8 36.1.4 432.4 819.8 816.3 1	1919 28. 7 43. 8 8 42. 4 4 32. 8 8 32. 8 8 44. 4 4 31. 6 6 6 2 40. 1 2 43. 6 6 6 2 40. 1 2 43. 8 8 44. 2 43. 8 8 44. 2 43. 8 8 44. 2 43. 8 8 8 4 43. 2 2 44. 6 6 6 6 2 40. 1 2 44. 6 0 6 6 6 2 40. 1 2 44. 6 2 8 8 8 4 4 8 2 8 8 8 4 4 8 2 8 8 8 4 4 8 2 8 8 8 4 4 8 2 8 8 8 8	1920 ° 35. 27 446. 22 11. 21. 0 21.	1921 41. 0 9 44. 3 24. 4 1. 4 1. 4 1. 4 1. 4 1. 4 1. 4 1.	34. 0 45. 9 46. 0	\$\begin{array}{c} 46.8 & 8 & 8 & 8 & 13.5 & 5 & 0.5 & 13.5 & 10.5 & 13.5 & 10.5 & 13.5

<sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal and mean temperature, at selected points in the United States, 1912-1923.—Continued.

P						1018							
	Nor-				Febru	ary m	onthly	mean	tempe	rature.			
Station.	mal				,						<del>,</del>		
Diation.	for Feb.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	E.C.D.	1012	1010	1011	1010	1010	1011	1010	1010	1020	1021	1022	1020
			۰									۰	0
Amerillo Tor		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	48.3 10.3	42. 2 14. 2	46.0 13.0	44. 4 5. 3	47. 8 20. 6	45.6 11.8	47.8 1.8	52.6 14.2	46.0 10.0	44. 5 17. 2	50. 0 22. 8	52.8 2.2	45.8
Amarillo, Tex	34.8	36. 7	31.3	36.0	40.8	38.6	30.5	30 0	35.8	35. 4	35.3	31.9	7.4 30.7
Boston, Mass	28.8	27.7	27. 7	24.3	33. 2	25. 5	25.8	26.9	32.6	27. 6	32, 6	32.0	23.4
Brownsville, Tex	94.3	59. 3 19. 6	59. 6 22. 2	62.8 16.9	64.3 29.6	64.8 18.9	66. 3 18. 0	65. 2 23. 1	62.6 28.8	65. 4 19. 9	63.8	66.7 27.1	62.5 20.7
Canton, N. Y	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, S. C	52.4	46. 2 38. 8	54. 0 44. 4	48.6 39.6	51. 5 45. 7	52.0 43.6	50.8 42.9	55. 2 48. 6	51.6 42.8	48. 2 39. 8	53. 6 45. 5	56. 4 48. 4	50.3 42.2
Cheyenne, Wyo	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
Boise, Idaho.  Boston, Mass.  Brownsville, Tex.  Buffalo, N. Y.  Canton, N. Y.  Charleston, S. C.  Cheyenne, Wyo.  Chiedago, Ill.  Cincinnati, Ohio.  Corneorda, Kans.	27.4	21.8 26.7	24.8 32.0	20, 2 27, 4	34, 5 40, 1	25. 0 29. 6	19, 8 29, 0	27. 2	30. 5 34. 4	25. 8 30. 6	33. 4 37. 0	29. 4 36. 0	22.3 28.3
Cleveland, Obio	27.4	21.1	24.4	19.8	32.8	23.0	21.3	34. 5 28. 2	31.3	24.5	32, 1	31.7	23.8
Concordia, Kans	28.8 23.7	29. 2	25. 4 22. 4	26. 6 19. 7	35. 1	28, 2	28.6 19.2	32, 6 26, 4	30.9 26.5	33. 9 25. 3	39. 6	31.0	30.0
Devils Lake, N. Dak.	4.5	19.6 8.2	4.1	-3.6	31.6 15.4	21. 3 3. 2	-3.8	8.6	3.6	8.0	33. 2 15. 4	26.4 4	23.4 2.0
Des Moines, Iowa Devils Lake, N. Dak Dodge City, Kans Dubuque, Iowa	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, 10ws	22. 2 11. 4	17. 1 8. 8	20. 4 5. 6	15.8 2.7	30: 2 20: 6	20. 1 7. 0	14. 2 1. 8	22. 0 10. 8	25. 7 13. 8	21. 1 12. 4	29.8 19.0	23.8 7.6	18.3 5.4
Duluth, Minn. El Paso, Tex Eureka Calif	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. 2
Eureka Calif	46. 8 35. 8	48. 9 29. 2	44. 0 33. 6	47. 9 29. 9	48. 4 41. 2	50. 4 34. 3	44, 2 32, 5	47.0 37.3	47. 0 37. 7	46. 0 35. 0	47. 8 40. 0	45.0 38.9	45. 7 32. 6
Eureka Cali Evansville, Ind Fort Worth Tex Fresno, Calif Galveston, Tex Grand Rapids, Mich Greenville, Me Hayre, Mont	48.1	45. 6	43.8	44.3	52.2	48.8	49.9	52:0	47.3	50.4	52.0	52.5	40.4
Fresno, Calif	49. 2 56. 3	53. 0 52. 0	50. 6 55. 0	52. 2 52. 8	52. 2 56. 9	54.9 58.3	51.4 57.2	51. 4 57. 0	49, 5 55, 4	52.2 58.8	51. 5 58. 0	49. 6 59. 9	50. 2 56. 3
Grand Rapids, Mich.	25. 5	18. 2	21.0	15.8	31.1	21.1	17.4	22.4	28.5	21.2	30.0	27. 5	19.6
Greenville, Me	12.4	14.0 22.8	10.4	5. 9 7. 6	20.4	11.9	9.1	10.2	18. 2 14. 9	15.0	16.3 28.8	14.8 4	7.3 33.6
		22.8	13. 7 27. 4	21.8	16.6 37.0	14. 2 28. 0	6.8 25.1	17. 8 31. 9	33. 2	21. 3 20. 2	36. 2	33.4	26.0
Indianapolis, Indiola, Kans. Jacksonville, Fla Jacksonville, Fla Kalispell, Mont Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn Mismi, Fla Mobile, Ala Modena, Utah Nashville, Tenn New Orleans, La	32. 2	30. 2	27. 8 58. 4	30.0	39. 6	32.2	31.8 56.8	34. 8 62. 8	35. 1	36.8	41.8 59.6	36. 4 62. 0	32.2
Kalispell. Mont	23.8	52, 5 28, 0	17.0	55.3 22.3	28.4	57. 2 24. 4	22.0	21.7	57. 6 23. 0	53. 9 25. 9	30, 2	15.4	58.0 17.0
Little Rock, Ark	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
Lynchburg, Va.	40.3	59.8 34.4	53. 8 40. 2	59. 4 35. 2	54. 7 42. 2	58.7 38.8	55. 3 36. 9	56.0 41.2	53. 6 39. 8	57. 6 35. 4	57. 4 41. 4	54.0 42.0	56.6 37.8
Madison, Wis	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
Marquette, Mich Memphis. Tenn	44.3	11.6 37.1	11.1 42.0	11.6 40.2	25. 4 46. 0	13.9 42.5	6.4 43.2	12.8 46.8	23.3 44.6	15.6 43.6	23. 5 47. 6	17. 0 47. 2	12.4 41.0
Miami, Fla	68. 8	62.8	70.8	67. 4	65. 6	65.7	64.8	70.4	66.6	64.2	68, 8	70.3	69.8
Modena: Utah	31.6	49. 2 33. 4	54. 0 27. 6	52. 0 32. 6	53. 3 31. 8	53. 0 36. 1	54. 4 26. 2	59. 4 31. 8	53.6 29.4	53. 2 31. 8	56. 0 34. 6	59. 4 29. 0	53. 6 22. 0
Nashville, Tenn	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, La	57. 3 42. 7	51. 5 38. 0	54. 6 43. 0	53. 2 38. 6	56. 2 45. 4	58. 6 41. I	58. 8 38. 8	63.0 43.7	56. 6 42. 6	56. 6 38. 0	60. 2 45. 0	62.7 44.8	57. 0 39. 2
Norfolk, Va	26.6	28. 6	20.6	23. 3	29.7	28.8	26.8	20: 1	23.6	29.6	34.3	24.3	26.2
Oklahoma City, Okla Omaha. Nebr	38. 5 25. 5	37. 4 23. 2	32. 4 23. 6	36. 7 21. 4	43.8 31.0	39. 3 23. 6	39. 1 21. 6	43. 1 27. 5	40. 2 27. 8	42. 2 28. 9	44. 2 35. 8	42.8 24.8	38.0 25.6
Omaha, Nebr Parkersburg, W. Va Peoria, Ill	33. 9	26.6	32, 2	27.6	39. 7	30.0	30.8	36.8	35.8	32.1	38. 2	38.4	31. 2
Phoenix Ariz	25.9	20.8 56.2	24. 4 53. 1	19. 3 55. 1	35. 4 53. 8	24. 4 59. 6	20.8 53.8	27. 9 55. 2	30.8 51.2	27.6 57.6	34. 4 57. 6	29. 9 54. 4	23, 2 55, 3
Peoria, Ill. Phoenix, Ariz. Pierre, Si Dak Pittsburgi, Pa Portland, Oreg. Pueblo, Colo. Roseburg, Oreg. Sacramento, Calif. St. Louis, Mo. St. Paul, Minn Salt Lake City, Utah San Antonio, Tex. San Diego, Calif. San Fransisco, Calif.	18.6	21. 5	18.6	10.4	23,4	19. 2	10.4	20. 2 32. 7	14.0	26.1	32.3	9.6	18: 7 27: 4
Portland Oreg	32.3	24. 7 45. 3	28. 8 39. 7	24.3 43.4	36.8 45.4	26.8 42.2	27.0 41.5	32. 7 41. 6	38. 5 42. 6	28. 2 42. 2	35. 6 45. 2	35. 2 39. 9	27. 4°
Pueblo, Colo	31.8	32.3	24.6	32.0	36.5	36.0	35.4	37. 4	30.9	34.8	38. 2	33, 2	29.6
Roseburg, Oreg	43, 4	46.9 53.1	40. 4 50. 0	44. 5 51. 1	45. 0 51. 0	48.8 53.8	41. 2 50. 0	43. 4 49. 3	43. 2 48. 4	41. 2 50. 4	46. 4 50. 9	41. 2 47. 1	41.8 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 38. 2	11.5	6. 2 28. 6	17. 4 31. 7	17.0	15.5	23. 8 36. 8	11. 0 29. 8	9.8 26.6
San Antonio, Tex	54.4	37. 0 51. 4	31. 8 52. 0	34. 5 53. 2	58.4	36.0 58.6	57.6	56.6	34, 2 53, 0	37. 4 57. 7	50 A	58.2	52.0
San Diego, Calif	55.1	56. 2	53.4	57. 4	55.4	56.4	54.7	55.1	53.6	56.8	55. 2	53.7	55. 2 52. 2
Santa Fe, N. Mex	52. 2 33. 1	54. 6 30. 3	52. 4 29. 2	54. 0 32. 6	52. 8 32. 4	55. 8 36. 9	52.0 32.8	51.8 35.8	51, 6 27, 2	52.8 37.5	52.9 34.8	50. 2 32. 2	32, 2
Scranton, Pa	25. 5 40. 5	24.6	26. 4 40. 0	19.8	33. 2	23.6	24.1 38.3	26.8	32.3	24.8	31.6	31.5	23.0
Sheridan, Wyo	22.4	43. 9 22. 5	40. 0 12. 0	42. 3 20. 6	44.5 22.5	41. 9 22. 0	20.5	40.0 23.1	40.8 21.6	40.3 27.0	42: 9: 31. 9	39. 4 11. 4	37. 3 18. 8
Shreveport, La	50. 0	45. 3	47.4	46. 4	51.4	50, 6	51.6	55.1	49.6	51.8	53.6	54.0	48.4
Springheid, Mo Thomasville. (la.	33. 6 55. 0	29. 4 48. 4	31.0 54.0	31. 2 51. 4	39. 8 52. 8	34. 0 54. 4	33. 0 53. 2	37. 6 60. 5	35. 8 53. 8	36.9 50.6	42.4 56.4	38. 2 61. 2	32.0 55.6
Trenton, N.J	30.7		32. 6	25. 6	36.0	27.8	28.5	30.0	34.4	28.3	34. 2	34. 2	26:4
San Diego, Calif. San Francisco, Calif. Santa Fe, N. Mex. Scranton, Pa. Scranton, Pa. Seattle, Wash. Sheridan, Wyo. Shreveport, La. Springfield, Mo. Thomasville, Ga. Trenton, N. J. Walla Walla, Wash. Washington, D. C. Winnenucca, Nev.	36. 4 35. 3	41. 0 31. 0	29.8 36.6	36. 3 30. 1	42. 0 38. 8	32. 6 34. 2	36. 9 32. 8	38, 7 36, 8	39. 0 37. 2	37. 1 32. 7	40.7 39.0	33, 4° 38,	29.8 32.6
Winnemucca, Nev	33. 5	36. 0	31. 6	36. 4	37. 6	37. 4	28. 9	32, 1	33. 4	34.5	36.8	25. 9	27.7
		<u> </u>				<u> </u>							

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923—Continued.

Springfield, Mo 43.5   37.8   41.3   44.0   35.1   47.8   47.0   52.6   48.4   56.4   52.8   45.2   41.6 Thomasville, Ga 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	P		,											
Amarillo, Tex.	C(+, +*,					Mar	eh mor	nthly n	nean te	mpera	ture.			
Amarillo, Tex	Station.	for	1912	1913	1914	1945	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex							0			0	0	0	0	0
Brownsylle, Tex. 68.3 68.3 65.2 62.4 59.0 71.4 69.5 71.2 68.2 69.4 74.3 68.7 75. Bullalo, N.Y. 31.1 27.4 34.8 30.1 27.8 3.6 1.2 49.6 51.2 49.6 52.5 19.0 28.4 28.4 29.8 30.7 37.3 32.0 29.2 Cauton, N.Y. 31.1 27.4 34.8 30.1 27.8 31.2 52.5 19.0 28.4 28.4 29.8 30.7 37.3 32.0 29.2 Cauton, N.Y. 31.4 49.2 33.6 34.2 34.5 55.5 65.2 59.4 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 55.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 55.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 50.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 50.2 51.2 51.2 51.2 51.2 51.2 51.2 51.2 51	Amarillo, Tex	45.0	39. 3	43. 3	47. 3									
Brownsylle, Tex. 68.3 68.3 65.2 62.4 59.0 71.4 69.5 71.2 68.2 69.4 74.3 68.7 75. Bullalo, N.Y. 31.1 27.4 34.8 30.1 27.8 3.6 1.2 49.6 51.2 49.6 52.5 19.0 28.4 28.4 29.8 30.7 37.3 32.0 29.2 Cauton, N.Y. 31.1 27.4 34.8 30.1 27.8 31.2 52.5 19.0 28.4 28.4 29.8 30.7 37.3 32.0 29.2 Cauton, N.Y. 31.4 49.2 33.6 34.2 34.5 55.5 65.2 59.4 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 55.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 55.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 50.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 50.2 51.2 51.2 51.2 51.2 51.2 51.2 51.2 51	Atlanta, Ga	52. 0 55. 2		53. 0 54. 6	48.6 50.1	45.4	52.8	52. 6 56. 2		55. 5	49. 6 52. 1	64. 0	55. 4	52. 1 54. 0
Brownsylle, Tex. 68.3 68.3 65.2 62.4 59.0 71.4 69.5 71.2 68.2 69.4 74.3 68.7 75. Bullalo, N.Y. 31.1 27.4 34.8 30.1 27.8 3.6 1.2 49.6 51.2 49.6 52.5 19.0 28.4 28.4 29.8 30.7 37.3 32.0 29.2 Cauton, N.Y. 31.1 27.4 34.8 30.1 27.8 31.2 52.5 19.0 28.4 28.4 29.8 30.7 37.3 32.0 29.2 Cauton, N.Y. 31.4 49.2 33.6 34.2 34.5 55.5 65.2 59.4 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 55.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 55.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 50.1 69.0 51.2 49.6 52.5 19.0 28.4 29.8 30.7 37.3 32.0 29.2 Charleston, S.C. 57.4 50.2 51.2 51.2 51.2 51.2 51.2 51.2 51.2 51	Bismarck, N. Dak	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
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Boise, Idaho	42. 7				47. 2 35. 8	46.0 30.6	33. 2		42.8	39. 2	46. 2	38.8	
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Brownsville, Tex	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
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Buffalo, N. Y	31.1	27.4			27.8	19. 0			35. 5 29. 8				
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Charleston, S. C	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
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Chevenne, Wyo	33.1	49. 2 23. 2	30.8	34. 0	27.6		25. 6	40.8	33. 7			33. 8	28. 2
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Chicago, Ill	36, 3	28.8	35. 2	35. 7	34. 8	34.6	38.8	42. 2	38. 5		45.8	39. 4	
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Cleveland, Ohio	34.6				30.4		37. 3	40. 2	37. 1				
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   Doubque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   Dubuque, Iowa. 34, 9   25, 2   32, 8   34, 6   32, 0   33, 6   34, 8   41, 6   36, 6   37, 2   41, 2   37, 4   27, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EIPaso, Tex. 55, 9   54, 0   52, 0   53, 1   49, 3   60, 4   53, 3   56, 2   54, 6   53, 6   59, 2   53, 6   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   43, 8   45, 0   EVENEA, Callif. 48, 0   46, 3   45, 4   42, 0   39, 0   43, 5   47, 2   32, 2   EVENEA, Callif. 54, 0   43, 4   44, 6   42, 0   39, 0   43, 5   43, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   58, 4   57, 7   58, 8   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   53, 4   EVENEA, Callif. 70, Tex. 50, 4   57, 6   53, 4   57, 6   EVENEA, Callif. 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	Concordia, Kans	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
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	Des Moines, 10wa 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
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	Dodge City, Kans	42.8	30. 5	40.0		32. 6	48. 1	41.8		43. 8	45. 0	49.1	41.0	
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	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
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	El Paso, Tex	55.9	54.0	52.0	53. 1	49.3			56.2	54.6	53. 6	59.3		
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	Evansville, Ind	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
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	Fort Worth, Tex	56. 6		53. 2 54. 8	55. 5 58. 0		62. 4 57. 4	58.3		56. 1 52. 7	56.4			
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	Galveston, Tex	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
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 10dianspoils, Ind. 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 10la, 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 12.6 41.7 12.6 6.2 6 62.6 64.8 57.7 55.8 59.5 55.6 67.6 63.8 31.2 33.3 29.9 32.6 11.1 11.1 11.1 11.1 11.1 11.1 11.1 1	Grand Rapids, Mich.	33. 0 23. 5	25.0	32. 8 28 0	32. 0 25. 2	31.4	28. 8 18. 8	35. 0 25. 0	38. 4 23. 3	28 7		41. 0 32. 2		28. 7 17. 6
Tos Angeles, Calif. 57, 5 54, 2 57, 8 63, 0 61, 4 62, 0 56, 7 59, 1 55, 6 56, 8 50, 4 55, 6 61, 0 Lynehburg, Va	Havre, Mont	27.1	17.1	21.6	33. 8	24. 9	34. 0	22.0	35. 6		27.6	28. 6	26.8	30.6
Tos Angeles, Calif. 57, 5 54, 2 57, 8 63, 0 61, 4 62, 0 56, 7 59, 1 55, 6 56, 8 50, 4 55, 6 61, 0 Lynehburg, Va	Indianapolis, Ind	40.0 42.4	32. 8 34. 3	39.4	37. 7 45. 4	35. 5 34. 6	37. 9 47. 1	41.6	51.0	47.8	42. 3			38. 2 41. 7
Tos Angeles, Calif. 57, 5 54, 2 57, 8 63, 0 61, 4 62, 0 56, 7 59, 1 55, 6 56, 8 50, 4 55, 6 61, 0 Lynehburg, Va	Jacksonville, Fla	62.6	62. 6	64.8	57. 7	55. 8	59. 5	65. 6	67. 6	63, 8	59. 5	70.0	64.8	64.6
Modema, Utah	Little Rock, Ark	53.0		51.4	51.0	43. 2	54.8	54. 0	58.8	53.8	53. 0	61.3	52.4	49.6
Modema, Utah	Los Angeles, Calif	57. 5		57.8			62. 0	56.7	59.1	55.6	56.8	59.4	55.6	61.0
Modema, Utah	Madison, Wis	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
Modema, Utah	Marquette, Mich	23.7				26. 5 42. 7			31.7 58 1					
Modema, Utah	Miami, 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
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. Va. 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 Phoenia, Hil. 37.0 28.4 35.4 36.8 34.1 37.4 40.0 45.6 40.8 41.5 47.3 46.7 42.1 Phoenix, Ariz. 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 30.8 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 9Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Secondary, Oreg. 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 Secondary, Oreg. 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 Secondary, Oreg. 47.1 45.2 45.6 58.1 57.4 55.6 50.8 53.6 51.2 51.0 55.0 50.8 55.4 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 44.4 St. Louis, Mon. 43.8 35.6 42.1 43.5 38.5 45.0 46.6 52.6 47.1 46.6 54.0 46.2 44.4 St. Paul, Minn. 29.1 24.6 26.0 30.8 82.8 0.26.2 27.3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 46.7 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 68.8 85.3 26.8 63.6 63.6 63.6 61.0 60.4 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 58.8 58.2 58.2 58.9 56.6 51.7 54.9 52.6 54.6	Modena, Utah	39. 2		35. 2		39. 8		31.0	40. 5	36.8	35.3	42. 0		34.8
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. Va. 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 Phoenia, Hil. 37.0 28.4 35.4 36.8 34.1 37.4 40.0 45.6 40.8 41.5 47.3 46.7 42.1 Phoenix, Ariz. 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 30.8 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 9Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Secondary, Oreg. 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 Secondary, Oreg. 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 Secondary, Oreg. 47.1 45.2 45.6 58.1 57.4 55.6 50.8 53.6 51.2 51.0 55.0 50.8 55.4 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 44.4 St. Louis, Mon. 43.8 35.6 42.1 43.5 38.5 45.0 46.6 52.6 47.1 46.6 54.0 46.2 44.4 St. Paul, Minn. 29.1 24.6 26.0 30.8 82.8 0.26.2 27.3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 46.7 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 68.8 85.3 26.8 63.6 63.6 63.6 61.0 60.4 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 58.8 58.2 58.2 58.9 56.6 51.7 54.9 52.6 54.6	Nashville, Tenn	49. 2		48. 8		41.3	47. 2	49. 9	56. 3	50. 4	48. 5	59.0		47.6
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. Va. 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 Phoenia, Hil. 37.0 28.4 35.4 36.8 34.1 37.4 40.0 45.6 40.8 41.5 47.3 46.7 42.1 Phoenix, Ariz. 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 30.8 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 9Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Secondary, Oreg. 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 Secondary, Oreg. 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 Secondary, Oreg. 47.1 45.2 45.6 58.1 57.4 55.6 50.8 53.6 51.2 51.0 55.0 50.8 55.4 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 44.4 St. Louis, Mon. 43.8 35.6 42.1 43.5 38.5 45.0 46.6 52.6 47.1 46.6 54.0 46.2 44.4 St. Paul, Minn. 29.1 24.6 26.0 30.8 82.8 0.26.2 27.3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 46.7 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 68.8 85.3 26.8 63.6 63.6 63.6 61.0 60.4 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 58.8 58.2 58.2 58.9 56.6 51.7 54.9 52.6 54.6	Norfolk, 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
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. Va. 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 Phoenia, Hil. 37.0 28.4 35.4 36.8 34.1 37.4 40.0 45.6 40.8 41.5 47.3 46.7 42.1 Phoenix, Ariz. 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 30.8 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 9Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Portland, Oreg. 46.9 46.4 44.6 51.1 52.6 47.0 42.6 46.7 48.2 42.6 50.7 43.0 38.6 Secondary, Oreg. 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 Secondary, Oreg. 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 Secondary, Oreg. 47.1 45.2 45.6 58.1 57.4 55.6 50.8 53.6 51.2 51.0 55.0 50.8 55.4 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 44.4 St. Louis, Mon. 43.8 35.6 42.1 43.5 38.5 45.0 46.6 52.6 47.1 46.6 54.0 46.2 44.4 St. Paul, Minn. 29.1 24.6 26.0 30.8 82.8 0.26.2 27.3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 30.6 33.7 32.3 21.0 Secondary, Oreg. 47.1 45.2 46.2 58.8 48.5 22.7 3 38.3 30.6 30.6 46.7 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 68.8 85.3 26.8 63.6 63.6 63.6 61.0 60.4 67.0 61.6 58.6 San Diego, Calif. 56.7 59.4 58.8 58.2 58.2 58.9 56.6 51.7 54.9 52.6 54.6	North Platte, Nebr.	36.6		32.8	38.3	26.8	43.0	33.0	45.4	37. 0	37. 9 50. 1	43. 4	38.8	34. 2
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	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
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Parkersburg, W. Va. Peoria, III	42. 3 37. 0								44.6		47.3		
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Phoenix, Ariz	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
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Pierre, S. Dak Pittsburgh, Pa	39.6	35. 2	43. 4	36.8	33. 2	34. 0	40.6	44.6	42. 2	42.6	50. 7	43.0	38.6
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Portland, Óreg	46. 9	46.4	44.6	51.1	52. 6		42.6	46. 7		45.8			
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Roseburg, Oreg	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
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Sacramento, Calif	54. 3	51. 4	52. 6 42. 1	58.1	57. 4 38. 5	56. 6 45. 0		53. 6 52. 6			55.0		
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	St. Paul, Minn	29. 1	24.6	26. 0	30.8	28. 0	26. 2	27. 3	38. 3	30. 6	30.6	33. 7	32. 3	21.0
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Salt Lake City, Utah.	62 1			45. 0 58. 8	45. 1 53. 2	68 6			42. 6 61. 0		67.0		37. 0 58. 6
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	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
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	San Francisco, Calif.	54. 2 39. 7	52. 4 37. 6	52. 6 36. 0	58. 4 39. 4	57. 9 35. 8		35. 6	54. 9 42. 8	37.6	37.4	54. 6 42. 6	36. 4	
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	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
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Sheridan, Wyo	32. 7				30. 2	38. 0	24. 0	37. 4	33.0	30. 4	35.6	32. 2	28.9
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Shreveport, La	58. 2	51.6	54. 2	55.0	47.2	60.6	58.4	62. 5	58. 2		65. 7	57.1	55.0
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. 9 49. 0 39. 4 38. 8 37. 9 43. 4 48. 4 46. 4 45. 5 55. 5 45. 4 45. 4	Thomasville, Ga	60. 2		61.4	55. 8	52. 2	58. 2	62.8	65. 0	63. 0	57.4	68. 2	62. 0	61.0
Washington, D. C	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 46.6
Winnemucca, 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	Washington, D. C	42. 6	40. 9	49.0	39. 4	38.8	37.9	43. 4	48.4	46.4	45. 5	55. 5	45.4	45.4
	Winnemucca, 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

 $<sup>^{1}</sup>$  Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal <sup>1</sup> and mean temperature, at selected points in the United States, 1912-1923—Continued.

	Nor-				Apı	ril mon	thly n	nean te	mpera	ture.			
Station.	for April.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
		•	•	0	0							-	
Amarillo, Tex. Atlanta, Ga. Birmingham, Ala Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex. Buffalo, N. Y. Canton, N. Y. Charleston, S. C. Charlotte, N. C. Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio. Cleveland, Ohio. Concordia, Kans. Des Moines, Iowa.	54.6	54.6	56. 2	56. 0	57. 0	52.9	54.8	53. 2	54.5	51.0	55. 0	54.8	56. 0
Atlanta, Ga Birmingham, Ala	61.0	61. 9 63. 3	59. 4 61. 3	61. 8 62. 8	64. 4 66. 0	60.0 61.2	63. 7 64. 0	57. 9 60. 4	61.7	58. 6 61. 2	61. 0 62. 6	62. 8 66. 2	60. 2 62. 2
Bismarck, N. Dak	42.1 50.4	46. 6 48. 2	48. 1 50. 6	43. 1 51. 2	51. 5 55. 3	41. 0 51. 4	38. 5 46. 4	43. 0 48. 8	43. 4 51. 8	34. 6 45. 4	43. 4 47. 0	44.8 45.0	41. 1 49. 4
Boston, Mass	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. 2 75. 7
Buffalo, N. Y	42.8	74. 8 42. 2	69. 3 45. 0	71. 6 40. 2	71. 4 46. 8	72. 5 42. 8	74. 4 40. 4	76. 2 42, 4	74. 3 42. 5	75. 8 39. 8	74. 4 51. 3	78. 4 44. 8	75. 7 40. 4
Charleston, S. C.	42. 5 64. 5	40. 6 67. 0	45. 4 62. 6	39. 5 65. 2	50. 0 63. 3	43. 8 64. 0	40. 5 67. 2	42. 3 63. 5	39. 3 64. 4	40. 2 64. 0	48. 5 66. 3	43. 6 68. 2	39. 6 64. 4
Charlotte, N. C	59.8	61. 4 40. 2	59. 2 43. 1	60. 6 40. 2	61.8 46.0	59. 0 40. 2	62. 3 36. 4	57. 4 34. 8	60. 0 41. 7	57. 8 31. 6	61. 6 38. 8	61. 0 38. 2	59. 0 39. 6
Chicago, Ill.	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. 6
Cleveland, Ohio	52. 4 46. 2	56. 9 48. 0	54. 0 47. 4	53. 9 45. 4	58. 4 51. 8	51.6 45.9	51. 2 45. 4	50. 9 45. 8	52. 6 47. 0	48. 0 42. 6	56. 2 53. 9	55. 6 48. 6	51. 7 45. 8
Concordia, Kans	53. 6 50. 1	54. 1 51. 4	56. 2 52. 0	54. 2 50. 4	59. 6 59. 4	50. 2 48. 6	51. 0 46. 8	47. 6 46. 8	51. 0 49. 3	45.6 43.9	54.6 52.8	54. 4 50. 8	53. 7 50. 2
Devils Lake, N. Dak.	38. 2	42. 8 52. 8	45. 6 55. 8	37. 4 54. 2	48. 3 58. 8	37. 8 50. 2	36. 1 51. 4	41. 2 47. 8	40. 5 52. 6	31. 2 48. 8	39. 2 53. 8	41. 8 53. 0	37. 4 54. 1
Dubuque, Iowa	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
El Paso, Tex.	37. 0 63. 8	38. 7 59. 1	40. 4 60. 6	33. 6 64. 0	45. 4 62. 7	38. 0 62. 7	33. 2 62. 3	36. 3 62. 0	39. 2 65. 0	31. 6 60. 1	40. 8 61. 0	37. 2 61. 6	37. 5 63. 6
Eureka, Calif	49. 5 56. 4	48. 4 58. 2	49. 3 55. 7	51. 9 55. 4	52. 3 61. 9	50. 2 54. 2	49. 0 55. 9	50. 7 53. 0	50. 5 57. 6	48. 0 52. 8	48. 4 58. 8	46. 1 59. 2	50. 5 55. 9
Fort Worth, Tex	65. 3	64. 5 56. 8	64.8	63. 2	66. 2 60. 0	62. 3	63.8	63.4	65.0	63. 6	62.8	65.3	66.0
Galveston, Tex	68. 7	68.4	60. 7 67. 2	60. 8 66. 7	66. 1	62. 4 67. 0	59. 3 67. 8	61. 8 68. 3	62. 4 68. 4	59. 4 67. 3	59. 2 67. 4	57. 4 71. 6	59. 3 69. 4
Grand Rapids, Mich.	46. 2 36. 4	46, 8 35, 0	48. 3 39. 6	45. 6 31. 5	53. 8 40. 8	46.7 29.2	43, 1 35, 1	44. 0 39. 7	45. 6 36. 4	41. 1 36. 0	52. 6 43. 0	48. 0 39. 4	45. 0 34. 9
Havre, Mont	43.7	46. 0 53. 9	46. 1 52. 0	44. 9 51. 9	53. 6 58. 0	43. 8 50. 5	39. 4 49. 2	42. 8 48. 9	47. 2	36. 0 46. 8	43. 1 55. 8	42.7 54.2	43, 2 49, 9
lola, Kans	54. 2	56.0	58.4	55.0	58. 0 61. 0	52.6	53.8	51.7	52. 2 55. 8	52.1	56. 2	57. 2	<b>56.</b> 5
Kalispell, Mont	42.5	70. 8 45. 8	67. 3 42. 9	70. 1 44. 8	66. 9 49. 2	67. 0 43. 5	69. 6 39. 6	67. 0 42. 6	67. 3 46. 4	68. 8 39. 2	67. 8 42. 1	71. 4 40. 1	69. 2 42. 6
Little Rock, Ark Los Angeles, Calif	62. 1 59. 4	62. 8 56. 4	61. 8 59. 8	61. 8 62. 8	65. 5 60. 4	60. 6 62. 4	61. 2 57. 9	60. 7 61. 7	61. 6. 60. 9	60. 2 58. 8	60. 4 59. 0	64. 2 57. 6	62. 4 58. 4
Lynchburg, Va	57. 3	59. 0 46. 7	57. 4 47. 2	56. 7 45. 1	59. 8 54. 0	54. 7 45. 3	57. 4 42. 4	53. 3 41. 6	55. 6 45. 8	54. 3 40. 4	59. 1 50. 6	57.8 45.8	55. 8 44. 0
Marquette, Mich	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, Tenn Miami, Fla	74. 2	62. 6 77. 8	61. 2 71. 6	61. 1 74. 6	65. 9 69. 5	60. 2 70. 2	61. 7 72. 0	60. 0 73. 6	61. 7 72. 6	59. 4 75. 0	61. 0 74. 0	64. 0 75. 8	61. 5 74. 9
Mobile, Ala Modena, Utah	66. 2 46. 9	67. 9 41. 0	65. 6 45. 3	67. 8 46. 8	66. 5 48. 2	64. 8 48. 2	66. 6 42. 6	64. 8 44. 6	65. 6 49. 0	66. 4 43. 1	65. 8 43. 0	70. 2 40. 2	67. 8 44. 4
Nashville, Tenn	59. 0	60, 1 70, 4	58. 6 67. 5	58. 6 68. 9	63. 5 68. 8	57. 2 67. 8	59. 7 68. 2	57. 0 67. 8	59. 2 68. 1	56. 2 69. 1	59. 2 68. 2	61. 6 73. 3	58. 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	<b>57. 2</b>
OklahomaCity,Okla_	48. 6 59. 6	48. 2 58. 8	51. 0 60. 6	50. 0 58. 0	55. 0 63. 0	47. 8 55. 4	44. 8 57. 6	42. 7 56. 0	47. 5 58. 8	<b>40</b> . 5 56. <b>2</b>	48. 6 58. 7	48. 1 60. 0	48. 1 59. 3
Omaha, Nebr Parkersburg, W. Va_	51. 2 53. 0	52. 8 56. 6	53. 4 53. 0	51. 8 53. 9	60. 0 57. 3	49. 5 52. 5	47. 9 52. 6	47. 4 51. 6	49. 1 52. 9	44. 2 50. 6	54. 2 57. 6	52. 6 56. 2	51. 2 52. 6
Peoria, Ill	50. 9 66. 6	51. 5 63. 1	51. 7 67. 2	51. 2 68. 5	58. 8 66. 4	49. 8 68. 2	47. 4 64. 2	45. 8 67. 5	51. 3 69. 2	44. 2 64. 6	54. 3 66. 1	52. 5 63. 2	49. 4 66. 6
Pierre, S. Dak	46. 8	50.8	50.8	47. 4 49. 4	54.8	44. 6 49. 2	42. 5 49. 6	45. 2 49. 3	46. 2 51. 0	38. 1	48. 1	49. 2	47. 0 49. 8
Portland, Oreg	51. 8	52. 6 49. 9	51. 6 51. 0	53.8	55. 5 55. 6	53.0	49.4	52.8	53, 4	47. 0 48. 2	56. 9 50. 8	52. 6 48. 7	<b>54. 2</b>
Roseburg, Oreg	50. 5 51. 0	48. 8 49. 0	50. 8 50. 3	49. 0 53. 5	53. 4 54. 4	48. 6 52. 6	46. 8 50. 0	45. 8 52. 0	50. 6 53. 0	43. 6 49. 2	48. 0 50. 8	48. 8 48. 6	51. 0 52. 8
Sacramento, Calif	58. 1 55. 8	54, 3 57, 2	58. 0 56. 1	58. 8 56. 4	58. 3 63. 2	61. 0 54. 4	57.·8 53. 7	59. 2 51. 1	58. 8 57. 5	57. 1 51. 2	57. 6 58. 1	56. 4 58. 2	57. 1 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
San Antonio, Tex	69.0	46. 8 68. 6	51. 0 66. 9	51. 8 66. 8	56. 4 67. 5	51. 6 67. 6	45. 6 69. 0	47. 6 68. 9	52, 1 68, 4	44. 0 69. 4	47. 0 67. 5	44. 4 70. 2	47. 1 69. 2
San Diego, Calif San Francisco, Calif.	58. 5 55. 0	56. 1 52. 8	58. 0 55. 4	61. 4 58. 2	59. 7 57. 1	60. 2 57. 6	57. 0 55. 1	60. 4 57. 2	59. 2 56. 0	57. 6 54. 9	57. 4 55. 0	56. 3 53. 5	59. 0 56. 1
Santa Fe, N. Mex	46.7	42.3 47.8	47. 2 51. 2	48. 0 46. 2	47. 7 53. 9	46. 6 47. 2	46. 1 47. 6	45. 0 48. 1	48. 0 47. 9 49. 6	40. 8 45. 4	43. 4 55. 6	44. 3 48. 6	45. 6 48. 3
Seattle, Wash	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
Shreveport, La	65.8	43. 8 66. 0	45. 6 64. 2 56. 7	43. 2 64. 7	52. 0 67. 3	43, 2 63, 5	40. 1 63. 8	37. 2 63. 8	45. 2 65. 2	36. 4 64. 4	43. 0 63. 1	40. 3 67. 8 57. 6	40. 2 66. 0
Springfield, Mo Thomasville, Ga	55. 7 66. 7	55. 4 68. 6	56. 7 65. 1	54, 8 68. 6	61. 8 66. 4	52. 8 65. 9	54. 0 68. 1	51.8 64.5	56. 4 66. 4	51. 6 66. 4	55. 6 66. 4	57. 6 69. 8	55. 2 67. 7
Trenton, N. J.	49. 8 52. 8	52. 2 52. 2	52. 6 53. 2	48. 5 53. 4	54. 9 56. 9	48. 8 53. 1	49. 1 49. 0	50. 1 53. 2	49. 9 54. 0	47.8 49.0	56. 6 50. 2	51. 6 49. 2	50. 2 54. 1
Concordia, Raiss Des Moines, Iowa. Devils Lake, N. Dak. Dodge City, Kans. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Evansville, Ind. Fort Worth, Tex. Fresno, Calif. Galveston, Tex. Grand Rapids, Mich. Grenville, Me. Havre, Mont. Indianapolis, Ind. Iola, Kans. Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark. Los Angelos, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn. Miami, Fla. Mobile, Ala. Mobile, Ala. Mobile, Ala. Mobile, Ala. Norfolk, Va. North Platte, Nebr. OklahomaCity, Okla. Omaha, Nebr. Parkersburg, W. Va. Peoria, Ill. Phoenix, Ariz. Pierre, S. Dak. Pittsburgh, Pa. Portland, Oreg. Pueblo, Colo. St. Louis, Mo. St. Paul, Minn. Salt Lake City, Utah. San Francisco, Calif. Santa Fe, N. Mex. Scranton, Pa. Seattle, Wash. Scheridan, Wyo. Shreveport, La. Springfield, Mo. Tromasville, Ga. Trenton, N. J. Walla, Wash. Washington, D. C. Winnemyers.	53. 3	55.6	55. 5	53. 5	59.4	53. 4	54. 2	53. 2	53.8	52.6	59. 2	55.6	5 <b>3. 6</b>
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

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923—Continued.

Q44	Nor- mal				Мау	mont	hly m	ean ter	nperat	ure.			
Station.	for May.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	•	۰	•	0	0	•	•	0	0	0	65. 4	65. 0	63. 8
Amarillo, TexAtlanta, GaBirmingham, AlaBismarck, N. DakBoise, Idaho	64.3	66.6	68.2	63. 2	61.5	67. 0 72. 6	58. 2 64. 0	67. 5 72. 2	61. 8 67. 7	64. 1 67. 1	68.4	69.0	65.8
Atlanta, Ga	69. 9	70. 2 71. 0	70.8 70.6	71. 2 70. 6	71.5 73.1	72.7	65. 0	73. 2	68. 0	69. 8	71.0	71.6	69.0
Biemarck N Dok	71.6 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
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, Mass	57. 1	58.6	55. 2	60.4	56.6	58.6	. 50. 7	63. 3	59. 1	54.6	58. 0 78. 2	61.4	57. 6 80. 6
Brownsville, Tex	78.6	80.1	74. 7	78. 7	78.8	80. 3	77.6	79. 4 58. 0	80. 2 54. 0	80. 8 53. 2	56.8	81. 4 60. 2	52.6
Buffalo, N. Y.	54.6	55.8 54.8	53. 7 52. 8	54. 2 57. 2	51. 1 50. 7	52. 8 53. 9	47. 4 46. 8	58. 2	54.8	55. 0	57.6	58.5	51.1
Charleston S C	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, N. C	68. 9	69. 5	69. 9	70.6	69. 3	72.6	63.6	72.3	69.0	65.6	66. 0	69.4	66. 2
Chevenne, Wyo	50.3	50.4	52.0	51.1	46.4	48.6	43.0	50. 7	51. 2	49.4	50. 4 61. 7	49.8 63.8	50. 3 54. 4
Chicago, Ill	58. 5	59. 9	57.6	62.3	54. 1	59.3 64.5	52. 6 56. 6	63. 7 68. 8	55. 2 60. 1	55. 4 60. 8	64. 6	66.8	61. 2
Cincinnati, Ohio	63. 1	66. 2 60. 0	65. 8 57. 8	66. 8	60. 2 54. 2	58. 0	51. 2	64. 4	56.4	55.6	59.8	61.3	54. 5
Concordio 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
Boise, Idaho Boston, Mass Brownsville, Tex Buffalo, N. Y Canton, N. Y Charleston, S. C Charlotte, N. C Cheyenne, Wyo Chicago, Ill Cincinnati, Ohio Cleveland, Ohio Concordia, Kans Des Moines, Iowa	61.3	65. 0	61.3	64.0	57.3	61. 7	57.3	67. 2	59.8	61. 2	65. 4	64.3	60. 7
Devils Lake, N. Dak.	52. 7	53.0	50. 2	54.8	50.7	50.3	51.0	48. 9	55.7	54. 4 61. 6	54. 2 64. 8	56.8 63.6	54, 5 60. 8
Dodge City, Kans	63. 5	65.8	67. 3	62.8	59.4	63. 6 60. 0	57. 0 54. 8	67. 0 64. 9	61. 2 57. 8	58.8	63.6	64.8	60.0
Dubuque, lowa	47 2	61.8 46.8	59. 2 46. 2	62. 6 53. 2	54. 8 44. 2	47.4	46. 0	46. 9	50.5	51.0	50. 5	51.4	48. 9
El Poso Toy	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
Concordia, Kans. Des Moines, Iowa. Des Moines, Iowa. Devils Lake, N. Dak Dodge City, Kans. Dubuque, Iowa. Duluth, Minn. El Paso, Tex Eureka, Calif. Evansville, Ind. Fort Worth, Tex Fresno, Calif. Galveston, Tex. Grand Rapids, Mich. Greenville, Me.	52.1	52. 1	52.4	53. 0	53.6	50.4	50.0	50.6	52.1	49.3	50. 8 68. 1	51. 0 70. 4	51.7 64.8
Evansville, Ind	67. 1	68. 0	67.6	67. 9	65.2	68.6	60.4	71.9	63. 8	65. 6 73. 4	73.4	74.1	73.4
Fort Worth, Tex	73. 2	74.0	73.6	70. 2 68. 8	72. 7 63. 0	72. 8 64. 2	66. 8 62. 4	75. 2 63. 8	69. 8 69. 8	68. 2	63. 6	68. 6	67. 1
Fresno, Calif	08.4	67. 5 75. 4	68. 4 74. 0	74.6	75. 5	75. 0	71.6	75. 2	73. 0	76. 6	74.8	77. 3	76.0
Grand Papids Mich	59 0	58.8	57. 4	60.0	53. 3	57.8	51.7	61.8	56.4	57. 1	62. 2	64.0	56.8
Greenville, Me	49.5		47.6	52. 1	47.6	49.9	43. 2	54.4	51.0	50. 0	53. 4	52. 6 53. 8	48.6
Havre, Mont	49. 5 53. 4	53. 2	51.6	54. 7	52. 7	49.4	52.8	51.6	56.7	53. 7 61. 0	53. 8 65. 3	67.5	55. 4 60. 6
Greenville, Me. Havre, Mont. Indianapolis, Ind. Jola, Kans. Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn. Miami, Fla. Mobile, Ala. Modena, Utah. Nashville, Tenn.	62. 9	65.0	63. 7	65.6	59. 7	63. 4 66. 0	56. 0 58. 8	68.8	59. 4 63. 3	66. 2	67. 6	67. 6	63. 6
Iola, Kans	75.0	68. 2 77. 6	67. 0 74. 3	65. 6 74. 8	62. 4 77. 8	75. 6	73. 1	74. 2	74.8	71.9-	72.9	76.4	72.3
Voliceell Mont	51.0	52.7	50. 9	53.0	51.4	47. 1	51.3	48. 3	51.0	48.0	53. 0	50.4	50.8
Little Rock, Ark	70. 3	70. 5	70.0	70.6	70.4	72.2	64.0	74. 1	67.1	71.0	70.9	71.5	67. 4 64. 6
Los Angeles, Calif	62. 2	62. 9	60.9	60.3	61.5	61.3	58. 7	61. 2 70. 0	61. 6 65. 0	62. 1 61. 8	58.8 63.2	62. 6 67. 2	63.8
Lynchburg, Va	67.3	66. 2	66. 0	68. 4 60. 3	65. 4 51. 8	69.0	60.7 52.0	61.0	55. 2	56.6	60. 4	63.6	57.0
Madison, Wis	107.6	58. 4 49. 4	56. 6 47. 6	54.4	45.6	57.3 48.7	44.8	50.8	50. 2	50. 4	51.6	54. 9	49.4
Marquette, Mich	70.6	70. 1	70.0	70.6	71. 2	73.0	64. 2	74.6	67. 0	70. 5	70.7	72. 4 77. 2	68. 0
Miami, Fla	78.6	79. 2	76.0	77.6	78.0	76. 7	75.6	76. 2	76. 4	76. 2 75. 1	74. 6 72. 3	74.2	76. 0 72. 6
Mobile, Ala	73. 9	75.0	73. 7	74.8	76. 2	76.4	69. 9 48. 0	74. 6 51. 0	72. 4 58. 8	54.4	52. 0	53. 2	55.2
Modena, Utah	54.5	51.4	54. 4 68. 8	56. 6 68. 2	50.8 70.1	51. 7 70. 5	61.8	71.0	66. 0	67. 0	68. 4	69.9	65.6
Nashville, Tenn	68. 2 75. 4	68. 4 76. 0	74.8	75. 5	77. 4	77. 1	72. 2	76. 0	74. 0	78. 0	74.3	75. 7	74.3
Norfolk Va	66. 2	68. 5	67. 6	68.3	66. 0	69. 2	62. 4	70. 5	67. 9	61.4	63.0	67. 9	65.6
Nashville, Tenn New Orleans, La Norfolk, Va North Platte, Nebr.	58.7	59.8	60.0	59.8	55. 2	58. 2	52.6	61.6	58. 2	57.8 68.6	61. 0	59. 5 68. 8	57. 2 66. 3
ORIANOMA CILVA ORIA	- UO. I	70. 5	69. 4	65.8	65. 3	69. 1 63. 0	62. 4	71. 0 67. 8	65. 7 61. 6	61.7	65. 9	64.6	60. 9
Omaha, Nebr	62.4	66. 2 65. 2	62.9	64. 4	58. 9 61. 6	65. 9	57. 6 57. 6	69. 0	63. 0	61.4	64. 2	66. 0	62. 2
Omaha, Nebr Parkersburg, W.Va Peoria, Ill	63. 3	64. 2	62.4	65.0	58.6	61.4	55.6	66. 4	58. 2	60.8	65. 1	65.6	61.0
Phoenix, Ariz	74.8	73.8	73.8	75.6	70.8	74.0	69.0	72. 2	76.9	75. 9 56. 9	73. 6 58. 2	76. 4 60. 3	77. 6 58. 5
Phoenix, Ariz	58.0	59. 4	56. 1	59.0	53.6	56. 9 63. 2	54.8 54.6	59. 2 67. 6	58. 4 60. 8	59.6	62.4	65. 0	60.1
Pittsburgh, Pa	62. 4	63.8	60. 6 57. 6	62.8	58.0	54.8	54.6	55. 6	57. 2	55. 1	62. 4 57. 1	58.0	57.6
Pueblo Colo	56. 9 59. 5	59. 2 59. 6	62. 4	60.4	55. 6	59.0	53. 2	61. 2	59.7	59. 2	62. 2	59.4	58.4
Roseburg Oreg	56.0	57. 2	57.4	59.7	56.4	54. 2	54. 5	54.8	57.0	55. 0	55.9	57.7	57.0
Sacramento, Calif.	63. 3	63.6	64.8	62.8	59.8	61.4	59.8	61.8	65. 2	65. 0 64. 8	60. 7 68. 5	65. 9 69. 4	63.3 64.1
St. Louis, Mo	66. 9	68. 2	67. 3	69.4	64.6	68. 0 56. 6	60. 6 54. 8	70.8 59.8	63. 0 58. 0	59.0	59.8	62. 5	58.6
St. Paul, Minn	57. 9	59. 2	55. 9 60. 8	59. 9 62. 4	52. 2 56. 7	54.8	53.7	56.4	62. 5	57.8	59. 1	57.6	59.4
Salt Lake City, Utan	74 8	55.8 76.8	75.6	74.4	75. 6	76. 1	71.6	75. 9	73.4	76.8	75. 4	77.0	77.2
San Diego, Calif	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	55.8	54. 4 56. 0	58. 0 55. 9	57. 2 55. 8
Santa Fe, N. Mex	55.7	55. 4	58. 6	56. 2	52. 3 54. 6	55. 6 60. 4	48. 9 51. 6	55. 7 64. 6	56. 0 60. 0	56. 2 57. 2	60.1	62. 2	58. 1
Scranton, Pa	-  59. 5	61. 2	57. 6 54. 1	61. 5 57. 3	56.0	52.0	52. 4	52.4	53.6	51.6	53.6	54. 5	54.1
Sharidan Wash	- 00. U	57. 0 51. 2		52.4	50. 5	49.0	48.3	50.6	54.8	51.2	53.4	52. 4	53.4
Shrevenort. La	73. 2	72.8	72.0	52. 4 72. 5	74.6	73.8	67. 7	75. 2	70.1	75. 2	73.6	75.3	71.4 62.4
Springfield. Mo	64. 6	67.0	66. 2	65.6	63. 2	65.8	59. 1	68. 6	62. 0 72. 7	65. 0 72. 8	65. 4 72. 2	66. 4 75. 3	72. 2
Thomasville, Ga	_ 74.0	76. 2	73.3	75. 2	77.8	76.4	70.3 54.6	74. 3 65. 2	62.0	58.0	60.3	64. 2	60.6
Trenton, N. J.	- 61. 1	64.3	60.8	64. 1 62. 2	58. 4 58. 0	62. 2 55. 8	57.0		59. 4	57. 9	60.4	1 59. 0	60.0
Pueblo, Colo	63 7	61. 2 65. 1	60. 2 64. 4	67. 0	62. 5	66. 7	59. 6	69. 6	64.6	60.0	62.3	66.8	63.4
Winnemucca, Nev	53. 9	54. 2	57. 0	59. 4	52. 3	50. 3	50. 1	51.6	59. 4	54. 2	54.1	54.4	54.8
,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1-50	1	1	1	1	1	1	1	1	<u> </u>	1	1	

<sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal and mean temperature, at selected points in the United States, 1912–1923—Continued.

Station.	Nor- mal				Jur	e mon	thly n	iean te	mpera	ture.			
Station.	for June:	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
		•	۰		0		۰	۰	۰	٥	۰	۰	0
Amarille, Tex Atlanta, Ga Birmingham, Ala Bismarck, N. Dak	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
Birmingham, Ala	76. 0 78. 2	72. 8 73. 8	75. 8 77. 4	80. 8 81. 9	75. 3 77. 4	75. 2 76. 2	75. 0 77. 0	76. 8 79. 1	76. 8 78. 2	76. 4 76. 7	78. 8 82. 0	76.8 78.1	75. 0 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	66. 2	66. 6
Boisco, Idaho Boston, Mass Brownsville, Tex Buffalo, N. Y Canton, N. Y Charleston, S. C Charlotte, N. C Cheyenne, Wyo Chicago, III Cineinnati, Ohio Cleveland, Ohio Coroordia, Kans Des Moines, Iowa	65. 3 66. 5	66. 6 68. 0	65. 0 67. 5	63. 0 67. 3	61. 8 63. 9	61. 8 62. 6	62. 6 65. 8	73. 2 63. 9	66. 4 67. 2	64. 1 65. 8	68. 2 68. 2	70. 3 68. 6	62. 6 69. 3
Brownsville, Tex	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
Capton, N. Y	64. 4 65. 8	61. 7 59. 1	63. 4 62. 0	63. 2 61. 0	64. 0	61. 4 61. 2	60. 2 62. 0	61. 8 59. 6	72. 4 69. 4	64. 0	66. 6	65. 0 64. 6	64.8 63.8
Charleston, S. C	78. 9	77.6	76. 2	61. 0 80. 6	78.0	78.0	77.6	59. 6 78. 6	77.4	78. 4	80.0	79.8	78. 6
Chevenne, Wyo	75. 5 60. 4	73. 2 58. 5	75. 0 60. 8	79. 8 61. 4	73. 1 54. 6	74. 1 58. 4	75. 2 58. 2	75. 2 65. 1	75. 8 62. 6	75. 6 59. 4	78. 0 61. 6	77. 6 63. 8	77. 0 59. 4
Chicago, III	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, Onio	71. 2 67. 1	70. 7 64. 8	74. 8 68. 2	76. 2 68. 3	69. 3 63. 9	67. 3 62. 8	69. 0 64. 8	70. 4 67. 4	75. 3 73. 4	70. 4 67. 4	75. 4 69. 8	73. 7 68. 6	72. 0 70. 8
Concordia, Kans	72. 7	69. 6	75. 2	78. 6 74. 4	68.3	69. 2	72.6	78. 9 72. 7	72.8	73.3	75. 8 76. 3	76.0	73. 0
Des Moines, Iowa	70. 6 62. 6	67. 8 61. 6	73. 1 65. 3	61.6	67. 0 55. 4	66. 5 57. 5	67. 9 59. 2	61. 2	73. 4 66. 1	72. 5 62. 4	66. 9	74.0 63.8	72. 0 67. 0
Dodge City, Kans	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 57. 2	66. 8 58. 5	71. 4 59. 3	69. 8 57. 0	64. 7 53. 2	64. 0 53. 8	65. 2 53. 0	68. 7 57. 4	72. 8 58. 1	70. 9 57. 9	75. 0 62. 6	71. 2 59. 9	72. 7 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
Concordia, Kans. Des Moines, Iowa. Des Moines, Iowa. Dovils Lake, N. Dak. Dodge City, Kans. Duluth, Miun. Bi Paso, Tex. Eureka, Calif. Evansville, ind. Fort Worth, Tex. Fresno, Calif. Galveston. Tex.	54. 6 75. 3	54. 8 71. 1	55. 3 78. 1	52. 8 80. 0	54. 0 73. 2	52. 8 71. 9	52. 6 73. 4	54. 3 75. 9	53. 6 78. 2	54. 3 74. 2	57. 2 80. 0	55. 6 77. 8	54. 3 75. 4
Fort Worth, Tex	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. f
Fresno, Calif	75. 8 80. 7	75. 2 77. 8	72. 0 78. 5	73. 6 82. 3	75. 0 82. 6	73. 2 81. 0	77. 0 80. 3	82. 5 82. 8	75. 6 77. 4	74. 9 79. 6	76. 0 80. 6	76. 5 81. 2	69. 4 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
Firmon willo March	58. 9 62. 0	57. 5 62. 4	57. 4 65. 1	56. 3 60. 7	58. 8 56. 8	57. 5 59. 3	58. 1 59. 6	55. 6 67. 2	63. 8 67 6	59.8 61.8	60. 0 67. 8	61. 1 65. 6	60. 4 63. 8
Havre, Mont Indianapolis, Ind	73 6	68. 9	74. 2	60. 7 74. 8	69. 5	67. 2	68.8	71. 2	67. 6 75. 8	71. 1	67. 8 76. 0	73.8	72.8
ola, Kans Jacksonville, Fla Kalispell, Mont Little Rock, Ark	73. 4 79. 9	69. 6 78. 2	75. 0 78. 3	79. 6 82. 8	71. 1 79. 8	71. 4 79. 4	73. 2 79. 2	79. 2 79. 8	74. 6 77. 4	73. 0 78. 6	76. 4 80. 0	76. 6 80. 0	75. 2 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
Little Rock, Ark. Los Angeles, Calif Los Angeles, Calif Lynchburg, Va Madison, Wis Marquette, Mich Memphis, Tenn Wiami, Fla Mobile, Ala Modena, Utah Nashville, Tenn Naw Orleans, La	77.4	73. 8 65. 4	78. 2 64. 4	84. 0 64. 8	76. 2 66. 7	76. 6 63. 6	76. 2 68. 6	80. 5 69. 8	77. 2 68. 7	75. 4 65. 8	79. 0 65. 6	79: 4 67. 7	77. 5 63. 6
Lynchburg, Va	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, Wis	58 5	64.8 58.6	69. 0 61. 6	66. 6 58. 8	62. 0 55. 2	61. 8 52. 9	61. 8 52. 0	65. 9 57. 2	71. 2 62. 3	69. 0 58. 9	72. 2 65. 2	68.6	71.2 60.2
Memphis, Tenn	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, Fla	70.6	80. 4 77. 0	78. 8 78. 6	81. 2 83. 7	79. 4 81. 6	79.4 79.6	79. 1 78. 9	79. 4 82. 0	79. 0 80. 0	79. 2 79. 8	79. 7 81. 2	79. 5 80. 8	79. 8 78. 6
Modena, Utah	63. 2	62. 6	61.8	61. 6	60.8	63.0	62. 8	70.4	64. 3	62.0	64.8	65.7	59. 1
Nashville, Tenn	75. 6 80. 6	72. 2 78. 0	77.3 78.8	81. 8 84. 2	74. 6 83. 8	72. 9 81. 6	73. 0 80. 4	77. 0 83. 2	78. 2 80. 0	73. 8 80. 8	80. 0 81. 2	77. 0 81. 8	74. 9 79. 9
Norfolk, 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 Platte, Nebr.	75.7	65. 0 73. 8	70. 6 75. 6	72. 1 80. 8	63. 8 73. 7	64. 6 74. 6	67. 0 76. 9	73. 8 81. 3	69. 3 73. 8	68. 4 74. 6	71. 8 76. 0	72.8 77.9	69. 2 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, w. va.	70.9	69. 5 68. 4	72. 4 73. 2	73. 4 74. 2	69. 6 67. 8	67. 6 65. 8	68. 6 67. 7	70. 0 71. 4	76. 0 74. 8	70. 2 72. 0	75. 0 76. 8	72. 2 73. 2	73. 0 73. 0
Phoenix, Ariz	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
Pittsburgh, Pa	70. 7	68. 4 67. 5	73. 4 70. 5	68. 8 71. 0	63. 1 67. 1	63. 5 65. 3	65. 3 67. 6	71.7 68.0	71. 0 75. 0	66. 6 68. 5	76. 0 73. 0	70. 5 71. 2	68, 7 71, 6
Portland, Oreg	62. 4	63.6	62. 9	61.4	62.6	62.0	61.8	67. 1 74. 0	60.6	62.1	64.4	65. 5	62, 5
Roseburg, Oreg	62. 5	65.0	68. 8 61. 7	70. 6 61. 3	66. 0 62. 0	69. 6   61. 4	67. 2 62. 1	67. 4	68. 4 60. 6	68.4 62.4	68. 9 64. 8	71.8 67.0	69. 5 63. 0
acramento, Calif	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
t. Paul. Minn	67.1	70. 3 64. 6	78. 4 70. 0	81. 1 66. 2	72. 0 62. 4	71. 5 62. 7	73. 3 62. 8	77. 1 66. 3	77. 3- 70. 0	75. 2 68. 0	78. 4 73. 5	78. 2 68. 3	75. 2 70. 0
alt Lake City, Utah	67.4	69.0	67. 5	64.9	64. 2	65. 9	65.8	75. 4	74.0	68. 0 78. 4	71.2	73. 0 79. 4	64. 2
san Antonio, Tex	63.9	78. 4 63. 2	79. 2 62. 8	82. 0 63. 8	83. 8 64. 8	84. 0 61. 4	83. 0 63. 7	83. 6 66. 8	77. 5 66. 2	63.6	81. 0 63. 1	64. 3	83. 2 62. 3
San Francisco, Calif	58. 5	60.4	58. 2	56.6	58. 9	57.4	58.6	59.2	57.8	60. 2	61.4	60.0	57. 2
Scranton, Pa	66.7	62. 4 65. 2	62. 8 67. 5	67. 0 66. 8	64. 0 65. 8	66. 2 63. 0	66.0 66.8	68. 4 65. 4	63. 1 71. 7	63. 6 66. 9	62. 9 69. 4	66. 4 68. 7	65. 2 70. 2
Seattle, Wash	60.1	60.0	59. 5	58. 9	59.8	58.8	57. 2	61.6	57. 5	58.6	59.8	66.8	<b>60</b> . 6
Shreveport. La	79.6	61. 6 76. 2	64. 0 79. 0	61. 1 83. 9	55. 6 80. 7	59. 0 79. 4	58. 0 80. 2	67.0 83.6	68. 0 77. 8	60. 8 78. 5	66. 6 80. 4	64. 6 80. 8	61. 8 79. 7
pringfield, Mo	72.3	68.6	74. 2	78.8	70.3	70.0	70.9	77.0	73.6	71.8	74. 2	75. 7	72.8
renton, N. J	69.5	77. 5 70. 2	76.9 70.6	83. 2 69. 4	81. 1 67. 8	78. 6 65. 8	79. 4 70. 5	80. 3 67. 2	78. 6 70. 8	79. 0 69. 0	80. 6 71. 1	80.0 71.8	77. 6 73. 5
Modena, Utah. Nashville, Tenn. Nashville, Tenn. Nashville, Tenn. Naw Orleans, La Norfolk, Va. North Platte, Nebr. Oklahoma City, Okla Omaha, Nebr. Parkersburg, W. Va. Pooria, Ili. Pheenix, Ariz. Pierre, S. Dak Pittsburgh, Pa. Portland, Oreg. Preblo, Colo. Roseburg, Oreg. Jaeramento, Calif. St. Louis, Mo. St. Paul, Minn. Salt Lake City, Utah. Jann Antonio, Tex. Jann Antoni	68. 2	68.8	66.9	64. 9	66. 1 70. 6	64. 4 69. 7	64. 8 72. 6	73. 1 70. 8	66. 4 73. 9	65. 0 71. 6	70. 4 74. 2	73. 9 74. 5	65. 0
		70.4	72.8	73.8									75.6

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923—Continued.

GL-Lin-	Nor- mal				July	mont	hly m	ean ter	nperat	ure.			
Station.	for July.	1912	1913	1914	1915	1916	1917	<b>191</b> 8	1919	1920	1921	1922	1923
			-	0		0		0		0	0	0	0
Amarillo, Tex		79. 2	78.7	77.8	74.6	79. 0	79.4	78.3	76. 2	78. 1	74.8	78.8	78. 3
Amarillo, Tex Atlanta; Ga Birmingham, Ala Bismarck, N. Dak	78. 1 81. 5	77. 2 78. 6	79. 6 80. 6	79. 1 80. 8	78. 6 79. 4	76. 4 77. 8	78.0 79.5	76. 6 77. 6	77. 3 79. 0	77. 3 78. 8	78. 8 81. 8	77.8 79.5	77. 1 78. 5
Bismarck, N. Dak	69.8	69.0	67.6	73.3	62.6	75.0	73. 2	68. 0	73.3	71.0	74.2	67. 9	73. 3
Beise, Idaho	72.9	68. 8	70. 2	75. 2	70. 6 70. 1	70. 8 72. 6	77. 4 73. 3	74. 4 71. 0	75. 6 74. 0	76. 2 72. 4	74. 1 73. 2	75. 6 72. 0	75. 4 70. 0
Brownsville, Tex	83, 8	73. 2 82. 3	73. 8 81. 4	68. 6 85. 0	85. 0	83. 4	84. 2	35. 6	83. 5	84. 9	83. 2	84.6	83. €
Buffalo, N. Y	69. 8	70.1	69. 2 68. 2	70. 0 66. 6	67. 8 67. 2	74. 7 72. 5	69. 5 70. 0	68.8 69.1	70.4 69.1	66. 1 66. 0	76. 2 76. 4	70. 1 68. 7	69. 8 66. 2
Charteston, S. C	81.4	67. 8 80. 6	82.6	81.0	82. 2	79. 1	808	79.4	80.6	80.0	80.6	82.3	80. 1
Charlotte, N. C	78. 4	77.7	80:4	78.4	79.4	76.0	77. 4 67. 4	76. 0 65. 7	78. 6 69. 8	77. 8 65. 8	79. 5 66. 8	78. 8 65. 5	78. 6
Cheyenne, Wyo	73.9	65. 0 72. 9	65. 2 74. 9	66. 6 75. 0	62. 3 70. 2	69.1 $78.4$	72. 2	71. 2	77. 0	71. 5	81. 2	73.3	74.4
Cincinnati, Ohio	75. 1	77.4	80.0	79. 2	73. 5	78. 7	74.0	72.4	77.0	72.8	79.7	75.4	75. 6
Cleveland, Ohio	71.4	71. 0 80. 4	71. 8 83. 2	71. 8 82. 1	69. 8 73. 7	75. 6 81. 2	71. 4 81. 1	70. 3 78. 2	73. 2 81. 6	69. 2 77. 4	76. 8 79. 2	71. 6 75. 4	71. 2 78. 8
Des Moines, Iowa	75. 4	76. 2	78. 2	78.6	71.0	81.4	76. 6	75. 6	79.8	73.8	79.6	73.0	78. 2
Devils Lake, N. Dak.	68. 1	65. 3 78. 6	64. 2 80. 7	$71.8 \\ 79.3$	62. 4 74. 3	72. 9 80. 3	70. 0 80. 4	63. 2 78. 5	70. 0 79. 6	67. 2 77. 9	70. 0 78. 4	65. 7 77. 2	71.2 79.3
Shimingham, Anakasise, Idaho Soise, Idaho Soise, Idaho Soise, Idaho Soise, Mass Brownsville, Tex Luffalo, N. Y Larleston, S. C Lharlotte, N. C Cheyenne, Wyo Lhicago, Ill Lincinnati, Ohio Concordia, Kans Des Moines, Iowa Devils Lake, N. Dak Dodge City, Kans Dubnque, Iowa Dulnth, Minn El Paso, Tex Eureka, Calif Evansville, Ind Fort Worth, Tex	74.1	73. 2	75.0	76.4	69. 6	80. 3	73.8	72.3	76. 6	71. 2	79.0	71.0	76.8
Ouluth, Minn	63. 9	62. 6 81. 0	60.4	65. 4 78. 0	59. 8 81. 1	68. 0 81. 3	64. 5 83. 9	63. 3 81. 0	67. 1 79. 4	62. 8 82. 6	70.8 79.8	63. 6 81. 9	64. 6 82. 1
Enreka, Calif	55.3	55. 2	81. 5 57. 2	54.1	5 <b>6.</b> 8	56. 4	54.8	55.4	54. 2	56. 9	53. 8	55.1	58. 2
Evansville, Ind	79. 3	78.4	81.4	82. 2	77. 0 81. 9	82. 0 84. 8	78. 2 84. 6	76. 6 85. 1	82. 1 81. 4	77. 8 82. 8	84. 0 83. 4	78. 5 85. 0	80. 2 85. 2
		85. 8 79. 8	85. 1 80. 9	86. 6 80. 5	80. 3	79. 5	86. 0	79. 9	82. 9	79.4	83. 9	83. 8	79.8
Talveston, Tex Grand Rapids, Mich Greenville, Me	83. 4	83. 2	83.2	83.0	83. 0	82. 8	83. 3	83.6	82. 0	82. 2	82. 2	82. 2	81.8
Frand Rapids, Mich	72. 6 65. 4	70. 8 65. 4	72. 8 64. 4	73. 8 63. 4	69. 4 63. 6	78. 8 67. 4	71. 6 66. 4	71. 6 66. 0	75. 7 66. 6	68. 9 63. 6	79. 8 70. 6	71. 2 64. 6	73. 62. 6
Havre, Mont ndianapolis, Ind	68: 3	63. 6	65. 3	72.0	62.4	68.3	73. 7	68.0	71.8	72.4	69.8	67. 2	71. 2
ndianapolis, Ind	75. 7 78. 1	74: 4 80: 2	77. 9 81. 6	78: 5 80: 4	73. 0 75. 0	80. 6 82. 4	74. 0 80. 5	73. 0 78. 9	. 78. 6 80. 6	73. 4 77. 7	81. 1 80. 8	74. 6 77. 6	76. 2 80. 2
ola, Kans Jacksonville, Fla	82. 1	81.8	82. 3	82.0	81.8	80.4	81.0	79. 0	81.0	80.2	79.4	82.0	80.0
Kalispell, Mont	64. 3 80. 9	60. 5 82. 0	61. 8 81. 6	66. 7 82. 7	60. 0 80. 0	62. 7 83. 6	67. 4 89. 1	80.4	67. 0 82. 2	69. 6 80. 4	65. 0 82. 2	64. 6 80. 6	68.0
Kalispell, Mont Little Rock, Ark Los Angeles, Calif Lynchburg, Va Madison, Wis Marquette, Mich Memphis, Tenn	70. 2	68.8	70.5	66.8	70. 0	66.8	72.3	69.9	71.0	71. 2	71.8	69. 5	70.0
Lynchburg, Va	77. 5	77. 2 70. 8	78. 6 71. 4	76. 0 73. 8	76. 2 67. 7	76. 4 78. 1	76. 4 71. 8	72.8	77. 2	74. 8 69. 1	78. 8 78. 1	76. 4 69. 6	76. 5
Marquette, Mich	64. 9	65. 4	63. 1	66. 4	60. 2	70.4	64.6	62. 9	68.4	62. 2	72.4	63. 0	65.0
Memphis, Tenn	80.7	80. 8 82. 0	81. 0 81. 3	83. 2 81. 2	79. 8 81. 9	82. 2 80. 8	79. 0 81. 0	79. 0 80. 4	82. 1 80. 8	79. 4 81. 2	82. 6 81. 2	80.0	80. 80.
Miami, Fla Mobile, Ala Modena, Utah	80.7	81. 3	81.4	81.8	82.9	80. 0	81.4	81.0	81. 6	81.0	82. 2	81. 0	79.8
Modena, Utah	69. 7	67. 0 77. 8	69. 8 81. 5	69. 0 81. 4	69. 2 78. 6	69. 2 78. 8	74. 5 77. 2	68. 8 76. 2	73. 4 80. 6	69.8 77.6	71. 9 82. 0	72. 1 78. 2	72. 78.
Nashville, Tenn Vew Orleans, La	79.1 82.4	81.8	81.6	82.6	84. 7	82.3	82. 6	83. 1	82.6	82.3	83. 1	82.4	80.
New Orleans, La Norfolk, Va North Platte, Nebr Oklahoma City, Okla Oklahoma City, Okla	78. 7	77.8	78. 2 74. 4	76. 7 76. 0	77. 4 69. 4	77. 4 80. 0	77. 2 76. 2	75.0 74.7	77. 8 77. 2	76. 4 74. 8	79.8	78. 0 72. 7	77. 75.
North Platte, Nebr Oklahoma City, Okla	79.8	74. 0 82. 5	81.7	85. 2	78. 2	82.0	82. 6	82. 8	81. 4	80.0	80.3	82. 0	84.
Omaha, Nebr Parkersburg, W. Va Peoria, Ili	76. 7	78. 3	79.8	79. 4 76. 0	71. 3 73. 7	83. 0 77. 7	79. 0 74. 4	77. 2	81. 8 77. 2	76. 4 72. 0	79. 6 78. 6	74. 0 75. 3	79. 74.
Parkersburg, w. va Peoria. III	75.6	75.7 74.8	77.0	78.8	71. 9	81.0	75.0	72.8	78.4	73. 6	79.8	74.7	77.
Phoenix, Ariz Pierre, S. Dak	90.4	0 = 4	86.3	88. 8	87. 3	89. 0 80. 1	90. 0 78. 2	88.3	88. 2 76. 8	90. 6 73. 1	89. 2 77. 3	90. 6 72. 0	89. 77.
rierre, S. Dak Pitisburgh, Pa	75. 3 74. 6	74.6	74.8 73.6	78. 7 74. 0	67. 5 72. 0	76. 6	73. 6	73. 2 72. 0	75. 4	70. 4	77. 6	73. 9	73.
Portland, Oreg	66. 7	67. 4	67. 8	68. 6	67. 2	64. 2	69. 0	67.8	68. 0	68. 0	65. 7	68. 2	67.
Pueblo, Colo	67 4	72.8 67.2	74. 7 67. 5	73. 2 69. 6	71. 1 67. 8	76. 1 64. 8	76. 0 71. 2	73. 8 67. 0	76. 0 69. 3	74. 4 67. 8	74. 2 66. 9	74. 9 71. 0	75. 68.
Bacramento, Calif	73. 2	71.6	74.4	71.0	72.8	74. 2	78. 6	72. 2	72.8	71.6	75. 3	75. 9	73.
St. Louis, Mo	78.6	78. 8 70. 5	80. 8 69. 9	83. 1 74. 6	76. 4 67. 1	84. 2 78. 2	78. 9 72. 4	78. 4 69. 9	81. 6 73. 6	78. 8 70. 2	83. 2 76. 7	78. 8 68. 8	80. 75.
Salt Lake City, Utah	75. 7	73.6	73. 5	75. 2	75. 2	76.8	79.0	75. 6	80.3	78. 6	77.4	76. 6	78.
San Antonio, Tex	82.4	85. 1 66. 9	84. 5 68. 2	85. 6 65. 8	84. 8 67. 5	82. 8 65. 0	84. 8 68. 9	85. 2 68. 0	80. 7 68. 6	83. 8 67. 0	83. 6 68. 4	84. 1 67. 7	83. 67.
San Francisco, Calif	58. 5	57. 9	60.6	57 O	60. 2	60.0	59.8	58.8	57.0	57.8	59.8	60. 2	60.
Santa Fe, N. Mex	69.0	68. 2	69. 6	67. 0 70. 4	67. 6 70. 4	68.8	71. 5	69. 3 70. 4	67. 8 72. 4	68. 7 69. 6	67. 1 76. 0	70. 2	69. 70.
Seattle. Wash	63. 5	71. 8 63. 4	71. 6 63. 4	64. 2	64. 3	61.1	63.4	63.0	63. 0	64. 2	60.8	62. 9	64.
Sheridan, Wyo	67. 3	65. 2	64. 9 83. 3	70. 4 85. 5	61. 2 81. 4	70. 8 83. 4	71. 2 83. 3	66. 4 84. 2	72. 6 82. 6	68. 6 81. 5	69. 9 82. 8	66. 0 81. 8	72. 82.
Springfield, Mo	76.4	83. 0 78. 1	79. 2	78.8	74.0	80.6	76. 5	76. 2	78.6	76. 0	79. 2	76. 4	77.
Phomasville, Ga	81.8	80. 8	82.3	81.8	82. 6	79.4	80. 4	79. 2	79.6	80. 4	80.0	80. 9	78.
Phoenix, Ariz. Phoenix, Ariz. Pierre, S. Dak. Pitrsburgh, Pa Portland, Oreg Pueblo, Colo. Roseburg, Oreg. Bacramento, Calif. St. Louis, Mo St. Paul, Minn Salt Lake City, Utah San Antonio, Tex. San Diego, Calif. San Francisco, Calif. Santa Fe, N. Mex. Seranton, Pa. Seattle, Wash Sheridan, Wyo. Shreveport, La. Springfield, Mo Phomasville, Ga. Prenton, N. J. Walla Walla, Wash. Washington, D. C. Wainnemucca, Nov	74.5	75. 5 72. 6	75. 6 73. 9	72.0 77.2	73. 7 73. 0	74. 9 69. 8	75. 1 77. 2	73. 2 75. 1	75. 1 76. 4	73. 0 76. 5	76. 8 73. 8	73. 4 78. 0	73. 76.
Washington, D. C	76.8	75. 8	77.6	75. 9	76. 1	77.8	76. 6	74. 4	77. 2	75. 0	79. 3 72. 0	76.6	75. 72.
Winnemucca, Nev	. 170.6	69. 0	69. 2	72.0	69.7	69.3	75. 9	70. 4	74.0	70.6	12.0	71.4	1 12

<sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923.—Continued.

Station.	Nor- mal				A	agust 1	monthl	y mea	n temp	peratur	е.		
	for Aug.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex Atlanta, Ga Atlanta, Ga Birmingham, Ala. Bismarck, N. Dak Boise, Idaho Boston, Mass Brownsville, Tex Buffalo, N. Y Canton, N. Y. Charleston, S. C. Cheyenne, Wyo- Chicago, Ill Cincinnati, Ohio. Cleveland, Ohio. Cleveland, Ohio. Cleveland, Cleveland, Ohio. Devils Lake, N. Dak. Dodge City, Kans. Dubuque, Iowa Duluth, Minn El Paso, Tex Eureka, Calif. Evansville, Ind Fort Worth, Tex Fresno, Calif. Galveston, Tex Grand Rapids, Mich Greenville, Me Havre, Mont Indianapolis, Ind.	•	0	•	0		0	0		۰				
Amarillo, Tex	74.6	76. 4	80.0	75. 6	71.4	76. 6	74. 0 75. 4	78.0	77. 6	71.6	76. 4	81.6	77. 2
Atlanta, Ga	77.0	76. 9 78. 0	78. 6 80. 2	76. 8 78. 0	77. 2 77. 6	78. 0 79. 2	75. 4	78. 8 81. 5	76. 4 78. 6	75. 1 77. 2	76. 7 80. 3	75. 8 79. 4	77.4
Bismarck, N. Dak	67. 3	66. 2	71. 2	64. 5	65. <b>2</b>	67. 4	66.6	68.8	70.6	7.04	70. 2	72.6	78. 4 65. 4
Boise, Idaho	71.8	68. 1 69. 0	73. 2 70. 8	72. 8 70. 4	78. 2 69. 1	70. 4	74.0	67. 3	74. 4	72. 2 72. 0	74.0	74. 4	73. 1
Brownsville, Tex	83. 9	84. 0	83. 4	85. 1	86.0	71. 8 82. 6	72. 8 85. 4	70. 4 85. 7	68. 8 86. 2	86. 2	69. 8 84. 2	70. 4 84. 8	69. 4 84. 4
Buffalo, N. Y	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
Charleston S. C.	81.0	61. 8 81. 2	65. 8 80. 1	65. 6 81. 3	64. 5 82. 0	69. 2 81. 8	67. 8 80. 2	67. 0 82. 2	65. 2 81. 0	69. 0 80. 2	66. 8 80. 8	66. 2 78. 1	64. 5 81. 8
Charlotte, N. C	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, Wyo	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
Cincinnati, Ohio	73. 6	71. 0 73. 8	74. 3 78. 1	74. 2 76. 7	66. 6 68. 6	76. 6 76. 3	70.4	75. 7 78. 6	73. 4 73. 2	71. 0 71. 2	72.8 72.8	73. 2 73. 7	70. 8 74. 0
Cleveland, Ohio	70.0	67. 6	71. 2 85. 0	71. 8 79. 3	67. 1	72.4	69. 8	74.5	69.8	69.4	69. 3	69.6	69. 0
Des Moines, Iowa	73. 1	77. 2 72. 7	85. 0 78. 7	75. 9	70. 1 67. 3	78. 7 75. 8	72. 8 70. 9	82. 5 78. 7	77. 0 73. 4	72. 4 71. 4	78. 9 73. 2	80. 6 74. 8	76. 2 71. 4
Devils Lake, N. Dak.	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 69. 7	82. 4 74. 2	77. 1 72. 8	70. 0 65. 6	78. 6 75. 0	73: 6 68. 6	80. 6 74. 6	79. 4 70. 8	72. 4 69. 6	77.8	80. 0 72. 5	77. 9 69. 6
Duluth, Minn	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 55.8	77.8 57.2	78. 6 57. 8	78. 5 54. 6	77. 7 57. 9	77. 8 56. 0	79. 2 54. 0	77. 4 56. 6	81. 0 55. 9	77. 0 56. 1	80. 4 55. 8	82. 6 56. 9	78.8
Evansville, Ind	77. 0	75. 3	80.8	78.0	71.4	79. 0	76.6	82, 4	77.2	75.6	77.0	77.8	59. 7 78. 4
Fort Worth, Tex	82. 9	82. 0 77. 7	85. 9 83. 0	80. 0 80. 3	79. 1 81. 9	83. 6 78. 2	84. 2 81. 2	87. 0 79. 2	82. 0 81. 2	78. 1 81. 5	86. 4 79. 9	85. 2 79. 1	85. 2 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, Mich.	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
Havre, Mont	62, 5 65, 4	58. 5 62. 6	62. 2 66. 9	61. 9 64. 4	61. 4 70. 0	65. 2 64. 9	64. 7 65. 5	62. 6 66. 6	60. 8 70. 4	66. 6 69. 6	61. 0 69. 0	63. 2 70. 0	59. 2 65. 0
Havre, Mont Indianapolis, Ind	73. 7 76. 3	72.0	76.3	74.6	67. 5	76. 6	72. 5	78. 4	73. 4	72.0	73. 2	74.4	73. 2
Indianapolis, Ind.  Jola, Kans. Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn. Miami, Fla. Mobile, Ala. Modena, Utah. Nashville, Tenn. New Orleans, La. Norfolk, Va.	76. 3 81. 7	79. 1 81. 8	84. 4 80. 8	78. 4 82. 0	70. 0 82. 8	80. 9 81. 6	74. 1 81. 2	83. 8 81. 2	78. 4 81. 5	74. 0 80. 6	78. 4 80. 5	79. 4 78. 8	80. 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, Ark	79.8	79. 0 69. 2	82. 1 71. 9	78. 2 68. 2	75. 3 72. 6	81. 3 68. 6	77. 7 70. 0	82. 8 71. 7	81. 0 70. 2	77. 4 72. 4	81. 4 70. 6	81. 5 73. 3	81. 5 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 57. 7	70. 6 64. 2	70. 3 63. 0	63. 8 60. 4	72. 8 66. 7	67. 0 60. 4	72. 6 63. 6	69. 0 65. 2	68. 8 62. 8	70. 0 64. 2	71. 2 64. 8	67. 9 60. 8
Memphis, Tenn	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. 0	81. 6 82. 4	81. 6 80. 6	82. 6 81. 4	80. 6 82. 0	81.3 81.0	81. 5 81. 2	82. 6 81. 9	80. 0 80. 2	81. 1 82. 5	81. 2 81. 1	81. 6 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 82. 9	80. 6 82. 8	77. 6 81. 8	74. 1 82. 7	78. 4 83. 4	75.6	81. 2 82. 0	77. 6 83. 2	75. 0 81. 3	78. 0 84. 2	76. 8 83. 0	76. 4 82. 0
Norfolk, Va	77. 4	76.8	75. 9 i	78.2	78.0	76. 9	82. 6 77. 8	79.6	76.6	76.8	76.4	75.0	77.4
North Platte, Nebr.	70.8	70. 6 79. 5	77. 3 84. 8	74. 0 79. 6	68. 2 73. 4	74. 0 83. 0	69. 4 77. 7	74. 0 85. 6	73. 0 82. 0	70. 0 75. 3	73. 0 82. 9	76. 8 84. 4	70. 2 83. 6
Omaha, Nebr Parkersburg, W. Va_	74. 4	75. 3	82. 4	77.0	68.4	76. 5	71.8	80.8	75.0	72.6	75. 6	77. 7	72. 9
Parkersburg, W. Va.	73.3	72. 2 72. 4	75. 6 77. 8	74. 9 75. 4	69. 8 67. 2	75. 2 76. 0	73. 6 70. 8	78. 6   77. 5	72. 4 71. 9	72. 9 72. 2	72. 4 73. 8	72. 3 74. 5	73. 0 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 68. 8	76. 8 73. 2	71. 9 73. 2	68. 0 69. 1	71. 6 74. 2	71. 0 72. 2	74. 2 76. 6	75. 1 70. 0	70. 8 71. 6	74. 0 70. 2	76. 6 70. 8	69.8
Portland, Oreg	66. 7	65.8	68. 6	68.0	71. 2	68.0	70.3	67.4	68.6	69.3	67.0	67. 2	71. 0 70. 6
Pueblo, Colo	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
Sacramento, Calif	68. U   72. 9	65. 0 71. 6	68. 6 76. 9	68. 6 71. 2	70. 7 75. 0	68. 2 71. 8	69. 4 72. 6	67. 4 74. 0	69. 6 72. 8	70. 0 76. 0	67. 6 72. 1	66. 6 72. 8	70. 0 73. 5
St. Louis, Mo	77. 3	76. 2	83.0	78. 9	70.4	78. 7	75. 3	82.6	72. 8 77. 1	75. 1	72. 1 77. 5	79.1	77. 9
St. Paul, Minn	69. 4 74. 5	66. 5 72. 5	72. 2 75. 8	68. 8 75. 6	65. 4 78. 0	71. 6 72. 9	66. 5 73. 9	70. 4 72. 4	68. 5 77. 4	69. 2 73. 7	70. 0 74. 6	72. 0 76. 2	66. 9 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 1	66. 4 59. 9	68. 9 62. 1	66. 2 58. 2	69. 5	67. 0 58. 5	68. 6 57. 6	69. 8 60. 9	68. 4   58. 4	70. 4 60. 1	68, 2 59, 6	70. 7 60. 4	67. 8 61. 7
Santa Fe, N. Mex	67. 4	67. 2	68.6	66.8	61. 3 65. 4	66.8	57. 6 67. 8	67.8	69.0	65. 0	66.0	70.7	65.8
Omaha, Nebr Parkersburg, W. Va Peoria, Ill. Phoenix, Ariz Pierre, S. Dak Pittsburgh, Pa Protland, Oreg Pueblo, Colo Roseburg, Oreg Sacramento, Calif St. Louis, Mo St. Paul, Minn Salt Lake City, Utah San Antonio, Tex San Diego, Calif. Santa Fe, N. Mex Secranton, Pa Seattle, Wash Sheridan, Wyo Shreveport, La Springfield, Mo Thomasville, Ga Trenton, N. J Walla Walla, Wash Washington, D. C Wainnemucca, Nev	69. 2   63. 1	66. 6 62. 2	70. 6 64. 8	70. 8 63. 2	67. 4 66. 8	71. 8   63. 6	71. 5 65. 2	73. 3   62. 6	67. 6 63. 0	70. 8 64. 4	67. 8   62. 0	68. 7 62. 7	68. 4 65. 7
Sheridan, Wyo	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 76. 3	82. 4 82. 0	80. 5 76. 4	78. 4 68. 8	83. 2 78. 8	80. 6 72. 8	83. 4 80. 0	82. 6 77. 2	79. 8 72. 4	84. 0 77. 0	82. 1 77. 0	83. 0 78. 6
Thomasville, Ga	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 69. 6	72. 8 74. 9	74. 4 75. 2	70. 9 79. 3	74. 0 74. 0	74. 8 76. 8	75. 4 70. 0	70. 6 75. 6	72. 4 73. 8	70. 2 74. 6	71.0 74.2	71.6 75.4
wana wana, wash	75.0	73. 4	74. 9	76. 2 76. 4	74.0	75. 2	75. 9	77. 6.	73.6	74.8	72.8	73. 1	74.4
Winnemucca, 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

<sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923—Continued.

							2-157						
a	Nor- mal				Septe	mber 1	nonthl	y meai	ı temp	erature	·.		
Station.	for Sept.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
		0	,0	0				-					
Amarillo, Tex	67. 7	64. 6 75. 3	64. 8 70. 4	72. 8 71. 4	68. 8 74. 9	67. 8 71. 4	69. 4 70. 0	65. 4 68. 2	71. 2 74. 2	70. 8 73. 9	73. 5 79. 4	73. 1 75. 3	69. 8 74. 6
Birmingham, Ala	74.0	76. 2	72.8	72. 5	76. 3	73.6	72.6	70.0	75. 9	76. 5	81.6	78.8	75.8
Bismarck, N. Dak Boise, Idaho	61. 9	52. 6 57. 7 63. 7	59. 0 62. 2	61. 0 61. 4	56. 0 60. 4	56. 8 62. 5	57. 6 66. 0	53. 9 65. 2	61. 0 62. 2	60. 3 63. 2	59. 2 57. 6	61. 4 66. 0	61.0
Boston, Mass	63. 2	63. 7 81. 8	62. 0 79. 2	64. 6 80. 9	66. 8 82. 2	65. 0 80. 0	60. 2 78. 8	61. 2 80. 8	63. 9 82. 3	65. 2 84. 4	68. 5 83. 0	65. 2 80. 7	65. 7 64. 2
Buffalo, N. Y.	62. 4	64. 6	60.8	61.6	64. 6	62.0	59. 4	56.0	63. 1	64.3	67.6	64.4	83. 0 62. 9
Canton, N. Y Charleston, S. C	59. 3 76. 6	58. 0 79. 2	56. 4 75. 0	57. 4 74. 4	61. 4 79. 2	60. 1 75. 1	56. 6 73. 4	54. 4 73. 2	58. 8 76. 3	61. 4 77. 8	63. 2 81. 9	61. 2 76. 8	59.4 77.8
Charlotte, N. C	71. 5	75. 0 49. 2	68. 6 54. 0	69. 2 58. 0	73. 2	1 70.0	67. 6 58. 6	67. 0 53. 1	72. 7 59. 0	72.7	79.2	73.5	77.8
Chicago, Ill	66. 3	67.7	65. 4	66. 6	54. 6 67. 2	55. 8 64. 4	63. 7	59.6	68.9	57. 1 69. 3	58. 4 70. 0	60. 8 69. 5	55. 8 65. 1
Cinncinnati, Ohio	67. 1	70. 9 66. 6	68. 4 62. 6	68. 4 62. 6	68. 4 67. 0	65. 2 63. 8	64. 9 60. 5	59. 9 58. 2	69. 6 66. 4	67. 8 65. 8	72.3 69.0	70.6 67.0	68.3 64.7
Concordia, Kans	68. 1	65. 8 63. 2	68. 0 65. 9	72.4	68. 6 65. 6	67. 2	68. 4	63. 2	71. 4 68. 9	69.7	73.8	73.0	69. 6
Devils Lake, N. Dak	55. 6	51. 4	56. 4	65. 8 58. 4	55.0	64. 3 55. 0	64. 0 55. 9	60. 2 50. 4	57. 1	68. 0 59. 4	69. 4 56. 6	68. 0 59. 4	65. 2 58. 2
Dubuque, Iowa	69.4	64. 0 63. 8	64. 8 63. 6	72. 6 64. 4	68. 4 64. 4	67. 0 62. 2	69. 4	63. 4 57. 4	73. 1 66. 1	69. 4 66. 4	73. 0 66. 9	72. 4 65. 9	69. 6 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
Eureka, Calif	54. 9	71.0 57.2	69. 2 56. 2	74. 3 55. 0	73. 6 54. 5	73. 0 55. 8	73. 8 56. 4	73. 6 56. 6	72. 6 56. 5	75. 1 57. 2	76. 5 55. 4	75. 6 56. 0	73. 5 57. 2
Evansville, Ind	69. 7 76. 7	71. 8 76. 9	70. 4 72. 9	69. 6 77. 4	72. 6 77. 1	69. 4 77. 4	70. 4 75. 8	63. 5 73. 0	74. 4 75. 6	72. 8 77. 9	75. 6 81. 9	74. 6 79. 4	70. 8 78. 5
Fresno, Calif	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. 4
Galveston, Tex Grand Rapids, Mich	61.8	81. 6 64. 0	76. 8 63. 2	80. 2 62. 6	81, 2 64. 4	79. 4 61. 4	79. 4 60. 3	77. 0 56. 2	80. 0 65. 3	81. 4 65. 9	82. 6 67. 8	80. 2 65. 2	79. 8 63. 0
Greenville, Me	55.0	52. 9 48. 6	53. 4 57. 0	56. 8 56. 8	58. 4 51. 8	56. 2 55. 4	53. 4 56. 6	52. 2 55. 2	53. 4 57. 0	56. 6 58. 7	57. 2 52. 6	55. 4 60. 8	56. 2 57. 8
Indianapolis, Ind	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
Jacksonville, Fla	68. 6 78. 3	67. 6 81. 0	68. 9 77. 3	71. 8 77. 2	70. 6 79. 8	68. 4 76. 8	69. 8 75. 9	63. 8 75. 8	73. 0 77. 4	71. 0 78. 8	75. 0 81. 6	72. 8 76. 8	71. 9 78. 6
Kaliskell, Mont	53. 9	48. 4 74. 8	53. 4 71. 7	52.6 74.6	51. 4 76. 0	53. 0 72. 8	56. 8 72. 5	56. 8 69. 0	54. 0 75. 3	54. 2 75. 2	48. 8 79. 6	57. 8 77. 7	57. 0 73. 2
Los Angeles, Calif	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, Va Madison, Wis	69. 0 62. 4	72. 0 62. 6	67. 5 61. 2	66. 7 62. 5	70.6 62.6	66. 8 59. 4	64, 9 60, 0	64. 3 55. 9	69. 8 64. 2	69. 5 65. 5	75. 5 66. 0	70. 9 65. 1	70.0 61.7
Marquette, Mich	56.8	58. 4	56. 2	58. 2	62. 6 57. 6	55. 1	55.8	49. 3	59. 2 76. 2	60.8	62. <b>2</b> 80. 0	61.6	<b>56.8</b>
Miami, Fla	81.5	74. 2 82. 4	72. 8 80. 3	73. 8 78. 8	76. 0 81. 0	72. 0 79. 6 77. 0	72. 2 79. 2	67. 6 79. 5	80.4	74. 8 80. 4	80. 9	76. 3 80. 1	73. 8 80. 0
Mobile, Ala Modena, Utah	77. 9 60. 2	79. 2 54. 4	76. 6 59. 7	76. 8 60. 6	79. 8 58. 8	77. 0 60. 4	76. 8 60. 3	74. 3 60. 8	78. 6 61. 2	79. 9 59. 0	82. 2 60. 2	79. 4 65. 1	79. 6 58. 2
Nashville, Tenn	71.8	73. 9 82. 0	72. 2 78. 0	71. 0 78. 8	73.8	69. 2 79. 3	70.3 78.2	65. 4 76. 9	72. 8 80. 2	72. 2 81. 5	78. 0 83. 4	74. 2 80. 8	71. 8 81. 2
Norfolk, Va	71.6	74. 2	70.8	69. 4	81. 2 74. 2	70.3	68. 2	69. 1	72. 6 67. 8	73. 9	77.8	73.6	73.6
North Platte, Nebr Oklahoma City, Okla	62.1 72.1	58. 1 70. 4	62. 8 70. 1	65. 5 75. 5	62. 1 73. 8	62. 8 72. 2	63. 6 73. 3	58. 9 68. 0	67. 8 74. 3	64. 2 73. 8	65. 0 78. 0	67. 8 77. 0	63. 8 74. 0
Omaha, Nebr	66.8	63. 0 70. 2	67. 5 66. 4	68. 2 65. 5	66. 4 69. 4	65. 4 64. 2	66. 2 64. 0	62. 4 61. 0	70. 8 68. 6	68. 8 68. 8	71. 4 72. 8	71. 0 70. 4	67. 4 68. 4
Peoria, Ill	64.3	67. 0	66.8	<b>66. 2</b>	67.8	63. 6	63. 7	58. 2	68. 2	68. 5	70.0	69.6	65. 4
Phoenix, Ariz Pierre, S. Dak	81. 4 63. 8	78. 9 57. 4	81. 7 65. 0	84. 5 66. 0	79. 9 61. 2	80. 9 62. 2	83. 2 62. 6	82. 4 58. 9	81. 5 66. 4	80, 4 64, 5	82. 6 63. 4	85. 0 67. 6	80. 2 64. 4
Pittsburgh, Pa	66. 4	68. 6 62. 2	65. 0 62. 3	63. 6 59. 4	61. 2 68. 8	62. 2 64. 2 62. 5	62. 1 63. 1	59. 8 67. 4	66.4	66. 8 61. 2	70. 8 60. 5	69. 6 63. 8	67. <b>4</b> 6 <b>4</b> . <b>5</b>
Pueblo, Colo	64. 4	57. 4	61.0	66. 8	62. 4 64. 2	63. 2	65. 5	60.8	62. 5 67. 5	64.2	66.7	68. 3	63. 0
Roseburg, Oreg Sacramento, Calif	62. 9 69. 3	61. 1 69. 5	62. 0 73. 0	60. 1 67. 5	61. 7 68. 9	62. 6 70. 2	63. 5 71. 4	66. 6 67. 4	61. 0 69. 7	61. 2 67. 5	60, 5 70. 6	65. 1 75. 6	64. 3 72. 7
St. Louis, Mo	70.1	70. 8 60. 7	69. 9 60. 8	69. 6 61. 8	72. 4 60. 0	68. 3 59. 2	69. 0 59. 4	63. 6 54. 6	73. 6 63. 9	72. 5 65. 0	74. 4 63. 2	73. 8 65. 0	69. 0 62. 4
Salt Lake City, Utah	64. 4	58. 0	63. 5	64. 4	62.4	65. 3	66.4	66 6	66.8	64.7	62.6	69.21	64. 2
San Antonio, Tex San Diego, Calif	77. 1 67. 1	81. 6 65. 8	75. 6 70. 3	79. 6 66. 0	79. 8 66. 4	78. 0 64. 4	79. 3 68. 2	76. 4 70. 6	77. 8 66. 5	82. 1 66. 2	81. 7 66. 8	79. 6 70. 0	79. 2 68. 2
San Francisco, Calif.	60.9	63. 4 58. 1	64. 6 57. 2	60. 8 63. 0	62. 4 59. 6	62. 2 60. 8	64. 0 62. 6	62. 2 60. 4	62. 0 61. 4	60. 4 60. 4	63. 3 63. 5	63. 3 63. 8	64. 0 58. 6
Scranton, Pa	63. 0	63. 8	62.4	60.9	65. 8	62.2	59.4	58. 6 I	63.91	63. 9 57. 8	68.1	65. 6	64.0
Sheridan, Wyo	57. 9   56. 3	59. 2 48. 7	58. 8 55. 8	56. 7 57. 2	59. 1 52. 8	58. 8 55. 2	58. 9 57. 9	62. 2 55. 0	59. 6 59. 6	57. 5	57. 0 55. 0	59. 8 60. 8	60. 8 56. 6
Shreveport, La	75.7	77. 4 68. 7	73. 4 68. 4	77. 2 70. 6	77. 6 70. 7	76. 2 68. 2	74. 1 68. 0	72. 2 62. 8	76. 4 72. 6	78. 6 70. 0	81. 7 74. 3	78. 8 72. 7	75. 6 69. 2
Thomasville, Ga	76. 8	78. 8	75.6	75.3	80.3	76.0	75. 2	74.0	77.6	78 8	82.2	78.11	78.6
Amarillo, Tex. Atlanta, Ga. Birmingham, Ala. Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex Buffalo, N. Y. Canton, N. Y. Canton, N. Y. Canton, N. Y. Charleston, S. C. Cheyenne, Wyo. Chicago, Ill. Cinncinnati, Ohio. Concordia, Kans. Des Molnes, Iowa Devils Lake, N. Dak Dodge City, Kans. Dubuque, Iowa Duluth, Minn. El Paso, Tex. Eureka, Calif. Evansville, Ind. Fort Worth, Tex. Fresno, Calif. Evansville, Ind. Fort Worth, Tex. Grand Rapids, Mich Greenville, Me. Havre, Mont. Indianapolis, Ind. Iola, Kans. Jacksonville, Me. Havre, Mont. Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn Miami, Fla. Mobile, Ala. Mobole, Ala. Moorlok, Va. Nortok, Va. North Platte, Nebr. Oklahoma City, Okla Omaha, Nebr. Parkersburg, W. Va. Peoria, Ill. Phoenix, Ariz. Pierre, S. Dak Pittsburgh, Pa Portland, Oreg Pueblo, Colo. Roseburg, Oreg Sacramento, Calif. St. Louis, Mo. St. Paul, Minn. Salt Lake City, Utah San Francisco, Calif.	66. 9 65. 4	68. 2 62. 3	65. 2 64. 8	65. 2 61. 6	69. 4 63. 4	66. 1 64. 2	62. 0 66. 8	62. 6 68. 8	66. 0 63. 0	67. 2 63. 4	70. 6 59. 6	67. 2 68. 4	67. 6 67. 1
Washington, D. C	68. 1	70. 4 55. 0	67. 4 61. 8	66. 0 57. 8	71. 0 57. 1	64. 2 66. 6 59. 1	63. 8 61. 4	68. 8 64. 2 61. 6	69. 4 59. 4	68. 8 60. 0	74. 4   57. 4	69. 9 62. 4	69. 6 60. 4
11 Innemacea, Nev	00. 4	JJ. U	J1. 0	01.0	01.1	05. 1	01. 7	01.0	00. T	٠٠.٠	J 7	UM, 72	

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal <sup>1</sup> and mean temperature, at selected points in the United States, 1912–1923.—Continued.

<b>P</b>	Nor-				Octol	ber mo	nthly :	mean t	emper	ature			-
Station.	mal for		1		1	ſ	1	l		1	1	1	<u> </u>
	Oct.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex. Atlanta, Ga. Birmingham, Ala. Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex. Buffalo, N. Y. Canton, N. Y. Charleston, S. C. Charlotte, N. C. Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio. Cleveland, Ohio. Concordia, Kans.	56. 1	58. 2	55. 2	58. 0	59. 0	57. 2	o 55. 7	60. 0	o 57. 8	60. 7	62. 8	60. 4	o 52. 1
Atlanta, Ga	63. 0	64. 0 65. 6	60. 0 60. 4	62. 4 63. 8	65. 3 66. 9	62. 3 65. 6	56. 6 57. 9	65. 8 68. 2	70.8 74.5	64. 7 66. 4	61. 0 62. 8	63. 2 65. 8	62. 1 63. 6
Bismarck, N. Dak	44. 9	45.0	41.1	51. 0	48. 6	41.8	36.4	47.5	34. 6	50. 6	48. 9	47.6	45.6
Boise, Idaho	51.1	48. 2 57. 4	48. 0 56. 4	54. 4 57. 0	54. 4 55. 7	48. 7 55. 5	53. 2 51. 9	53. 6	44. 9	48. 4 59. 8	55. 6	56. 2	50. 2
Brownsville, Tex	74.6	73. 8	73. 8	75.1	75. 2	74.8	73. 2	56. 2 77. 4	55. 1 80. 2	75.8	55. 2 75. 8	55. 1 73. 7	55. 5 73. 8
Buffalo, N. Y	51. 9	53. 6	53. 4	55. 2	52. 8	52. 6	45. 5	53. 4	55. 2	57. 2	52. 2	51.9	50.3
Charleston, S. C	67.8	49. 5 68. 0	50. 8 66. 1	50. 4 68. 4	50. 4 70. 8	48. 2 67. 4	42. 8 63. 7	48. 0 70. 7	47. 5 76. 8	52. 8 67. 5	47. 8 66. 6	46. 3 68. 7	46. 6 66. 4
Charlotte, N. C	61.7	62. 4	61.0	62. 2	64. 4	61.0	57.0	64.0	69. 9	62. 7	60.8	62.8	61. 3 38. 7
Cheyenne, Wyo Chicago Ill	44. 8 55. 1	44. 0 55. 8	41. 5 53. 3	47. 6 59. 4	48. 0 56. 4	42. 9 54. 4	43. 3 45. 0	48. 2 57. 4	40. 5 57. 2	46. 0 61. 9	50. 8 54. 8	47. 5 57. 6	38. 7 52. 5
Cincinnati, Ohio	55. 7	59.1	57. 2	60. 5	58.0	54. 9	48.0	59.0	61. 8	60. 2	55. 2	57.9	53.8
Cleveland, Ohio Concordia, Kans	53. 6 55. 4	55. 8 56. 9	53. 9 53. 4	56. 8 58. 6	55. 4 58. 4	52. 7 56. 1	46. 5 49. 0	56. 0 59. 6	58. 8 52. 1	59. 5 60. 8	53. 6 59. 4	55. 4 59. 8	52. 2 51. 6
Des Moines, Iowa	53. 4	54. 2	51. 2	57.4	56. 8	53. 2	44.7	56.6	52. 1 52. 1	60. 2	56. 5	57. 4	50.0
Devils Lake, N. Dak	40. 5	43. 4	37. 9	50.8	45.4	38. 4	32.4	44. 4	31.8	48. 9	46.4	44.7	42.8
Dodge City, Kans Dubuque, Iowa	51.9	56. 3 52. 5	52. 8 49. 8	57. 8 56. 7	58. 0 54. 0	56. 2 51. 6	50. 2 41. 9	59. 8 54. 0	53. 3 52. 0	59. 8 58. 6	59. 6 52. 9	59. 0 55. 4	51. 0 48. 4
Duluth, Minn	44. 1	46.6	40. 7	49. 2	44.8	42.0	33.8	45. 4	39. 4	51.8	45.6	46.0	44. 4
Concordia, Kans Des Moines, Iowa Devils Lake, N. Dak Dodge City, Kans Dubuque, Iowa Duluth, Minn El Paso, Tex Eureka, Calif Evansville, Ind Fort Worth, Tex Fresno, Calif Galveston, Tex	62. 4 53. 1	62. 2 50. 8	63. 6 53. 2	63. 5 54. 8	63. 9 52. 3	64. 7 50. 2	64. 6 51. 6	64. 6 54. 2	65. 1 50. 6	63. <b>2</b> 54. 6	66. 5 54. 5	64. 0 54. 8	63. 1 54. 4
Evansville, Ind	58. 0	60.7	57. 6	60.8	61.8	60.0	51.5	62.4	64. 2	64. 2	58. 6	62. 4	57. 6
Fort Worth, Tex	66. 3	68. 7 61. 6	62. 6 66. 7	66. 2 64. 6	67. 6 67. 4	68. 1 59. 8	64. 0 69. 3	69. 0 66. 7	68. 4	67. 6 60. 0	67. 9	67. 6	62. 5
Galveston, Tex	72. 7	73. 4	69.6	71.7	74.2	72. 5	68.6	72. 7	62. 0 77. 6	72. 3	66.6 $72.2$	64. 2 71. 0	64. 0 71. 1
Galveston, Tex Grand Rapids, Mich Greenville, Me	50. 1	52. 2	51.8	56. 5	1 52 8 1	51. 1	42.9	53. 8	54. 6	58.8	52.0	53. 0	49.6
Greenville, Me	45.6	45. 8 43. 2	49. 6 40. 8	46. 6 46. 2	46. 7 49. 2	45. 7 39. 9	42. 1 41. 8	45. 4 48. 9	43. 0 34. 4	50. 4 46. 7	45. 4 50. 6	43. 0 47. 9	47.0 44.2
Havre, Mont Indianapolis, Ind	53. 7	57. 3	55. 0	58.4	57.6	56. 1	46. 9	58. 3	60.4	61.6	54. 9	59. 1	53. 1
Iola, Kans	56. 9 71. 1	59. 0 73. 2	54. 6 69. 2	58. 9 71. 5	59. 4 73. 4	58. 9 69. 5	50. 6 67. 0	61.6 $74.5$	57. 4 78. 6	61. 9 68. 8	60. 0 69. 2	60. 4 72. 6	54. 4 69. 9
Iola, Kans Jacksonville, Fla Kalispell, Mont	42. 5	41.4	39. 4	43. 2 63. 2	46. 2	40.5	43. 5	47. 0	36. 4	42. 4	46.4	47.6	44.0
Kalispell, Mont Little Rock, Ark Los Angeles, Calif Lynchburg, Va Madison, Wis Marquette, Mich Memphis, Tena Miami, Fla Mobile, Ala Modena, Utah Nashville, Tenn New Orleans, La Norfolk, Va North Platte, Nebr Oklahoma City, Okla	63.6 $65.3$	64. 7 65. 2	60. 6 67. 9	63. 2 68. 6	65. 4 65. 2	63. 3 59. 7	57. 9 68. 2	66. 5 71. 0	66. 6	65. 4 63. 2	62. 9	65. 2 65. 4	60. 8 66. 8
Lynchburg, Va	58. 5	59. 4	59. 7	60. 9	60. 6	57. 7	53. 0	61. 0	63. 8 65. 4	60. 8	66. 7 57. 6	60.6	56.6
Madison, Wis	50. 3	51. 2	48.3	55. 4	51.8	49. 2	40.0	52. 9	50. 2	57. 4	50.8	53. 9	48. 2
Marquette, Mich	45.7 $63.3$	49. 6 64. 6	46. 4 60. 6	52. 9 63. 3	47. 5 65. 6	45. 6 64. 0	38. 5 56. 6	47. 8 66. 6	45. 0 68. 0	56. 0 66. 5	47. 6 62. 9	46. 6 65. 3	46. 4 60. 8
Miami, Fla	77. 8	79.6	75. 2	76. 0	78. 9	77. 2	77.4	78. 9	80. 1	75. 2	77. 2	78. 0	75. 8
Mobile, Ala	69. 4 50. 1	$70.4 \\ 44.2$	65. 5 46. 5	68. 8 49. 9	70. 9 50. 6	68. 8 45. 0	63. 7 51. 1	73. 8 51. 1	77.5 $42.2$	68. 8 44. 3	68. 0 54. 0	68. 7 49. 5	67. 5 44. 8
Nashville, Tenn	61. 0	62. 2	58.8	61. 9	63.0	60.8	53. 2	64.0	68.2	62. 6	58. 5	62. 4	59. 2
New Orleans, La	71.0 $62.5$	72. 5 63. 6	68. 0 62. 2	70. 3 63. 9	73. 4 64. 4	71. 6 63. 0	66. 4 58. 2	74. 6 65. 2	79. 5 70. 0	71. 4 64. 6	71. 2 62. 0	71. 6 64. 3	70. 2 61. 0
North Platte, Nebr.	49. 7	51. 5	46. 9	53. 4	54. 6	49.4	45. 1	54. 4	45.3	55. 3	54. 9	53. 6	47. 1
		63. 6 55. <b>4</b>	57. 4 50. 9	61. 6 57. 8	62. 8 58. 2	62. 4 53. 8	57. 3 46. 6	65. 2 57. 7	59. 7 50. 6	63. 9 61. 0	64. 0 58. 6	63. 3 59. 6	56. 5
Omaha, Nebr Parkersburg, W. Va_	54. 6	57. 3	55. 8	59. 2	57. 8	55. 3	50. 0	59. 2	63. 4	59.8	55. 7	57. 6	51.8 54.4
Peoria, Ill	52. 0	54. 8 68. 0	52. 0	57. 2	55. 6	54. 2 66. 2	44. 2	56. 2	55. 8	60. 2	55. 6	58.0	50. 4
Pierre, S. Dak	49. 8	51. 3	69. 6 46. 0	71. 2 54. 0	73. 8 53. 8	47. 8	72. 7 42. 9	71. 8 53. 4	66. 7 40. 8	67. 0 55. 2	73. 8 53. 0	71. 6 52. 2	67. 3 49. 3
Pittsburgh, Pa	55. 7	55. 8	55. 4	58. 4	56. 2	54. 8	48.9	58. 2	60.6	59. 6	54. 0	56.4	52. 3 57. 1
Portland, Oreg Pueblo, Colo	54. 2 52. 3	51. 6 51. 4	53. 2 49. 3	57. 4 53. 6	55. 8 54. 0	53. 2 51. 6	57. 3 49. 9	56. 4 55. 8	50. 9 49. 9	53. 1 53. 2	57. 0 56. 5	55. 4 54. 2	57. 1 47. 6
Roseburg, Oreg	53. 9	49.8	53. 4	56. 3	54. 6	50. 9	54. 9	56. 4	49. 4	52. 2	57. 1	55. 2	54. 2
Sacramento, Calif	62. 9 58. 4	60. 6 60. 8	65. 2 56. 2	62. 2 60. 8	65. 2 61. 7	58. 2 59. 2	68. 0 51. 1	64. 2 62. 3	60. 6 60. 8	58. 6 64. 0	64. 0 59. 6	61. 9 62. 2	63. 1 59. 4
St. Paul, Minn	48. 6	50. 4	45.8	55. 4	50.6	46.4	38. 3	50. 2	44. 2	55. 6	50.6	52. 3	47. 2
Salt Lake City, Utah	52. 5	49. 8	50.4	55. 8	56. 3	49.8	54. 2	55. 0	<b>444.</b> 6	49.4	58. 6	55. 9	48.7
San Diego, Calif	63. 7	71. 9 63. 3	67. 0 65. 5	70. 2 66. 0	72. 2 62. 8	70. 9 59. 3	68. 6 64. 6	71. 6 68. 1	73. 8 62. 0	71. 0 61. 4	70. 4 64. 6	71. 4 64. 0	68. 0 64. <b>4</b>
San Francisco, Calif	60. 5	60. 0	61.5	62. 0	61. 3	56. 9	62. 3	64.0	60. 7	60. 2	61. 5	60.6	62. 4
Scranton. Pa	50. 4 52. 2	49. 0 54. 6	47. 8 55. 8	49. 4 55. 8	52. 0 53. 4	50. 8 52. 2	51. 9 47. 4	52. 0 55. 4	47. 1 55. 6	48. 8 57. 5	53. 0 52. 6	51. 4 54. 3	45. 8 51. 6
Seattle, Wash	50. 8	49. 9	50. 1	54. 6	53. 7	49.1	52. 5	53. 4	48. 5	50. 1	53. 2	53. 5	54.6
Sheridan, Wyo	43. 7 65. 6	41. 6 67. 6	40. 6 63. 6	46. 6 66. 8	48. 4	39. 6 67. 4	41. 0 61. 6	48. 5 68. 8	35. 7 71. 4	44. 5 66. 9	49. 2 66. 8	47. 3 67. 0	41.0
Springfield, Mo	57. 3	59. 6	55. 0	58. 8	67. 9 60. 4	59.4	50. 5	61. 6	59. 9	61. 3	58. 8	61. 0	64. 5 53. 8
Thomasville, Ga	68. 2	70. 3	65. 0	68. 2	70. 6	68. 9	64. 4	73. 0	78. 5	67. 1	67. 0	69. 7	67.0
Walla Walla Wash	53. 7	58. 6 50. 9	58. 2 51. 4	59. 0 54. 4	56. 6 56. 8	56. 1 52. 4	51. 6 56. 6	58. 1 57. 0	58. 5 50. 2	59. 6 52. 0	55. 0 57. 0	57. 7 56. 5	54. 8 52. 7
Omana, Nebr Parkersburg, W. Va Peoria, Ill Phoenix, Ariz Pierre, S. Dak Pittsburgh, Pa Portland, Oreg Pueblo, Colo Roseburg, Oreg Sacramento, Calif St. Louis, Mo St. Paul, Minn Saal Lake City, Utah San Antonio, Tex San Diego, Calif Sant Fre, N. Mex Seranton, Pa Seattle, Wash Sheridan, Wyo Shrevepert, La Springfield, Mo Thomasville, Ga Frenton, N. J Walla Walla, Wash Washington, D. C. Winnemucca, Nev.	57. 4 48. 3	59. 3 44. 4	58. 8 47. 4	54. 4 60. 2 50. 2	58. 6 50. 2	56. 6 44. 9	52. 0 51. 7	60. 6 51. 6	63. 2 42. 0	61. 2 44. 6	57. 0 51. 9	59. 4 49. 0	56. 1 46. 6

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal and mean temperature, at selected points in the United States, 1912-1923—Continued.

		*				,				- aca			
Q4-4-i	Nor- mal	-			Nove	nber n	nonthl	y mear	temp	eratur	е.		
Station.	for Nov.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
		0			,				0		Ī	-	
Amarillo, Tex	43.8	46. 9	50. 3	50. 4	49. 5	44. 4	50.8	42. 6	42.6	42.8	51.0	47. 2	45.4
Amarillo, Tex Atlanta, Ga Birmingham, Ala Bismarck, N. Dak	52. 1	50. 0 50. 5	54.8	52. 4 53. 0	54. 2	52. 4	51.3	51.6	54. 7	50. 2	54. 7	52.9	49.8
Bismarck, N. Dak	28. 5	33. 9	57. 8 35. 2	34. 6	56. 1 32. 6	54. 9 30. 6	51. 8 40. 2	52. 4 31. 4	56. 0 18. 2	50. 8 29. 6	57. 6 22. 6	56. 4 33. 2	52. 0 38. 8
Boise, Idaho	41.0	43. 0	43. 5	41.8	39. 5	36. 5	44. 4	39. 6	37.0	40.8	44.7	37.0	42.6
Brownsville, Tex	42. 0 67. 5	45. 6 64. 2	46. 5	42. 7 67. 2	45. 4 70. 2	42. 6 66. 5	39. 4 68. 7	45. 0 65. 8	42.8 70.5	41. 7 64. 5	41. 6 71. 8	43.8	44.6
Bismarck, N. Dak Boise, Idaho Boston, Mass Brownsville, Tex Buffalo, N. Y Canton, N. Y Charleston, S. C Charlotte, N. C Cheyenne, Wyo Chicago, Ill Cincinnati, Ohio Cleveland, Ohio Concordia, Kans Des Moines, Iowa	39. 4	42.5	43.4	40.0	42. 4	39. 2	35. 0	43.0	38. 4	38. 4	37. 6	67.6	63. 8 40. 2
Charleston, S. C.	33. 9	35. 9 56. 5	40. 0 57. 0	34. 6 57. 0	37. 7 61. 4	33. 8 59. 2	28. 0 54. 4	37. 4 56. 6	34. 2 62. 2	32. 0	30.8	42. 0 37. 0	36.8
Charlotte, N. C.	50. 6	49.8	51.8	50.5	53. 3	53. 0	49. 2	50. 7	52. 9	57. 4 49. 4	62. 0 54. 0	60. 1 51. 6	55. 0 49. 0
Cheyenne, Wyo	34. 8 41. 2	38. 4 42. 8	39. 1	41.4	37.0	31. 2	40.8	30.9	30. 6	31.8	38. 6	31.4	37.4
Cincinnati, Ohio	42. 5	45.8	47. 2 49. 6	44. 4 46. 7	44. 2	43. 2 45. 4	43. 0 41. 4	43. 5 43. 4	39. 2 42. 2	40. 2 42. 3	40. 8 45. 8	44. 6 46. 4	43. 8 43. 8
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	42.0
Des Moines, Iowa	39. 9 38. 4	46. 2 43. 0	48. 7 46. 6	47. 5 43. 2	47. 0 42. 6	42. 8 39. 7	47. 3 43. 0	42. 9 41. 6	38. 2 35. 8	38. 2 37. 6	41. 1 35. 8	44.8 44.0	44. 9 42. 2
Devils Lake, N. Dak	22.6	26.9	32.6	29. 0	26, 3	26. 8	35. 6	27.1	12.8	27. 2	18. 6	31. 8	35. 6
Dubuque, Iewa	42. 6 37 0	45. 0 40. 6	44. 0 44. 2	48. 4 40. 6	47. 4 41. 2	42. 0 37. 6	48. 6 40. 2	41. 7 41. 2	38. 7 34. 6	39. 4	43.6	45. 5	45. 2
Duluth, Minn	30. 0	32.0	35. 6	29.8	29.8	29. 2	34. 4	33. 6	21.6	35. 6 28. 4	34. 2	42.7 34.2	40. 0 35. 8
El Paso, Tex	50.9	49. 3 52. 4	54. 8 50. 8	54. 7 50. 8	52. 8 49. 8	51. 2 47. 5	55. 4 52. 8	49.1	52.4	51.6	54. 4	50.1	51. <b>2</b>
Evansville, Ind	45.3	46.6	52. 0	49. 2	50.4	49.5	46.8	50. 0 47. 2	48. 2 46. 3	51. 2 44. 7	52. 0 49. 7	48. 2 49. 3	53. 6 47. 6
Fort Worth, Tex.	55. 1	55. 2 55. 2	62. 4	57. 1	60. 1	55. 4	57. 4	53. 6	53.6	51. 9	61.6	57.5	56.0
Concordia, Kans. Des Moines, Iowa. Devils Lake, N. Dak. Dodge City, Kans. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. Dubuque, Iowa. El Paso, Tex. Eureka, Calif. Evansville, Ind. Frort Worth, Tex. Fresno, Calif. Galveston, Tex. Grand Rapids, Mich Greenville, Mo. Havre, Mont.	63.3	62. 3	55. 2 66. 4	57. 4 63. 1	53. 8 67. 0	51. 2 62. 9	56. 7 62. 6	52. 8 60. 9	53. 0 65. 4	54. 0 59. 2	57. 0 67. 7	51. 0 65. 6	58. 2 60. 0
Grand Rapids, Mich	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
Havre, Mont	30.7	32. 2 38. 0	34. 0 34. 7	28. 4 36. 7	32. 6 32. 4	29. 2 31. 5	27. 2 41. 0	32. 6 29. 9	30. 6 21. 2	28. 4 33. 6	27. 2 25. 8	31. 2	34. 8
Indianapolis, Ind	42.3	43.1	47. 6	44.3	45.5	45. 0	43.0	43. 2	41.6	41.5	44.5	30. 8 45. 4	37. 8 44. 2
Jacksonville, Fla	62.2	45. 8 59. 6	52. 4 63. 2	49. 5 61. 6	49. 8 66. 0	46.8 63.1	47. 5 58. 0	45. 6 60. 4	43. 0 66. 6	41. 6 61. 6	45. 6 65. 8	47. 8 64. 8	47. 2
Kalispell, Mont	32.0	35. 6	35.4	36.4	32. 2	28.0	36. 2	32.8	26.7	32. 6	30. 3	30.0	59. 6 33. 7
Los Angeles, Calif	52. 1 60. 9	51. 8 65. 1	58. 2 61. 8	54. 2 67. 0	55. 5 61. 8	53. 5 59. 4	52. 9 63. 7	51. 0 60. 8	52. 8 61. 5	48. 4 60. 1	55.8	54.2	52.6
Lynchburg, Va	47. 2	47.4	49.9	46.6	48.1	48. 4	45. 2	46.8	48. 2	46. 4	63. 2 50. 6	59. 8 48. 4	66. <b>4</b> 46. <b>1</b>
Marquette, Mich	35. 2 31 9	38. 6 35. 8	41. 9 38. 7	38. 2 33. 7	38. 8 35. 6	35. 8 32. 4	38. 2 35. 4	39. 4 37. 4	32. 6 30. 0	34. 2 33. 8	31. 9	41.0	38. 9
Memphis, Tenn	51.7	51. 2	57. 6	53. 6	55. 9	54.0	51.8	51.0	52. 1	48.7	29. 9 55. 8	37. 6 54. 8	38. 2 52. 6
Mobile, Ala	72.0 59.0	71. 5 56. 9	71.4 61.4	70. 6 59. 0	73. 2 61. 8	71. 9 60. 0	67. 0 56. 6	72. 2 59. 0	73. 4 63. 8	72. 2 56. 2	73. 5	73. 1	68. 4
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
Nasnville, Tenn New Orleans, La.	61.6	47. 2   59. 4	53. 8 64. 8	49. 6 61. 2	52. 8 66. 2	50. 2 62. 6	47. 9 59. 0	48. 0 61. 7	49. 7 66. 4	46. 7 58. 2	52. 4 66. 6	51.3	48.9
Norfolk, Va	51.4	51.6	52. 5	51.0	52.4	52. 4	47.8	52.0	53. 0	52. 6	55.8	66. 6 51. 8	59. <b>9</b> 50. <b>6</b>
Oklahoma City, Okla	47. 9	41. 4 50. 0	42, 6 55. 8	43. 7 53. 6	41. 2 53. 8	35. 8 49. 7	45. 5 52. 4	36. 8 48. 2	28. 2 45. 4	34. 6 45. 2	38. 0 51. 5	38. 8	42.5
Omaha, Nebr	38. 5	43.6	46.4	45.4	43.9	40.6	45.8	41.6	36.0	37. 2	36.9	51. 3 44. 2	50. 2 43. 8
Peoria, Ill	43. 2 37. 5	44. 9 41. 8	46. 5 47. 2	45. 4 43. 4	47. 0 43. 8	45. 5 42. 4	40.6 41.8	44. 2 41. 9	44. 8 37. 9	43. 0 38. 6	47. 2 39. 9	46. 0	44.0
Phoenix, Ariz	58. 7	59.8	61.6	63. 9	59. 2	55. 8	50.9	57. 2	57.0	58. 6	60. 9	43. 2 55. 0	42. 2 59. 1
Pittsburgh, Pa	43. 2	40. 6 44. 1	40. 6 45. 1	$\begin{array}{c c} 41.3 \\ 42.9 \end{array}$	38. 2 45. 2	35. 4 44. 5	43. 4 39. 8	36. 2 43. 8	25. 3 42. 6	32. 2 42. 2	29. 4 44. 6	36. 7 45. 3	42. 6 43. 2
Portland, Oreg	46.8	47. 1	47.5	47.0	45.4	43. 7	50.6	46.6	45.0	46.8	48.8	43. 6	50. <b>4</b>
Roseburg, Oreg	39.3 45.9	41. 5	42.8 47.4	43. 5 46. 8	42.8 47.4	38. 3 42. 8	44. 8 49. 0	36. 3 45. 8	36. 8 44. 8	37. 8 45. 6	42. 8 49. 8	37.6	41.3
Sacramento, Calif	53. 6	52.4	53. 6	55. 6	53. 0	50. 5	55. 2	50.6	52.4	51. 0	54.8	44. 3 49. 8	49. 2 58. 5
St. Paul. Minn	32.5	47. 4 37. 0	52. 4 40. 0	50. 3 36. 0	50. 9 35. 3	49. 2 33. 8	47. 7 38. 2	46. 2 37. 3	44. 8 26. 6	43. 7 32. 6	47. 3 27. 0	48. 8	47. 9
Salt Lake City, Utah.	41.1	42.7	44.0	43.4	43.6	36. 2	44.0	38. 8	38.4	40.4	45. 9	38. 8 38. 0	38. 3 43. 2
San Antonio, Tex	59. 2	59. 7 61. 2	66. 2 60. 8	61. 2 64. 4	63. 8 59. 6	59. 0 56. 5	63. 4 60. 8	57. 4 59. 8	60. 8 58. 6	57. 4	65. 6	61.9	58. <b>7</b>
San Francisco, Calif.	56.3	56.6	55. 2	59.0	56. 1	54. 4	58. 7	55. 6	56. 0	58, 2 55, 4	60. 4 57. 8	58. 0 54. 3	64. 0 60. 8
Scranton, Pa	38. 9 40. 6	39. 2 43. 0	42. 4 44. 9	43. 0   40. 2	39. 8 42. 1	38. 9 40. 8	45. 1 36. 8	35. 0 42. 4	38. 6	37. 7	43. 0	35. 8	38.8
Seattle, Wash	44. 5	46. 2	46. 2	47. 2	43. 7	43.0	49.6	45.8	41. 0 44. 9	40. 2 47. 0	41. 2 45. 4	42. 4 43. 6	41. 4 47. 4
Greenville, Me Havre, Mont Indianapolis, Ind. Iola, Kans Jacksonville, Fla Kalispell, Mont Little Rock, Ark Los Angeles, Calif Lynehburg, Va Madison, Wis Marquette, Mich Memphis, Tenn Miami, Fla Mobile, Ala Modena, Utah Moshile, Tenn New Orleans, La Norfolk, Va Norfolk, Va Norfolk, Va Norfolk, Va Perkersburg, W. Va Perkersburg, W. Va Perkersburg, W. Va Peoria, Ill Phoenix, Ariz Pierre, S. Dak Pittsburgh, Pa Portland, Oreg Pueblo, Colo Roseburg, Oreg Sacramento, Calif St. Louis, Mo St. Paul, Minn Salt Lake City, Utah San Antonio, Tex San Diego, Calif Santa Fe, N. Mex Scranton, Pa Seattle, Wash Sheridan, Wyo Shreveport, La Springfield, Mo Thomasville, Ga Trenton, N. J Walla Walla, Wash Washington, D. C. Winnermucca Ney	32.8	35. 0 54. 9	36. 8 62. 7	36. 6 56. 8	32. 6 59. 3	28. 9	41.8	29. 4	24.4	28. 3	29. 6	32.8	38. 4
Springfield, Mo.	44. 4	46. 4	53. 0	50.6	50. 7	56. 4 48. 3	55. 1 47. 4	54. 1 45. 3	57. 8 44. 4	52. 2 41. 6	62. 6 48. 4	58. 3 48. 1	55. 6 47. 0
Trenton, N. J	58. 5	54. 8 46. 4	59. 8 46. 2	58. 1	61.7	59.8	55. 9	57.8	64. 2	56.8	63. 8	62. 2	56. 4
Walla Walla, Wash	42. 9	45. 5	46.0	43. 5 44. 6	44. 5 42. 7	43. 7 36. 5	40. 6 46. 6	44. 8 42. 7	43. 8 40. 5	43. 2 41. 8	44. 6 43. 9	45. 0 36. 9	44. 0 44. 8
Washington, D. C Winnemucca, Nev	45. 2 38. 4	46. 9 39. 6	47. 8 39. 0	45. 4 37. 8	42. 7 46. 2 37. 2	46. 3 33. 0	42. 8 41. 9	46. 3 34. 2	46.8	45. 9	47.5	47.9	45.1
			30.0	51.6	31.2	00.0	41. 0	04. 2	36. 0	37. 6	41.0	33. 6	39. 7
137													

 $<sup>^{1}</sup>$  Normals are based on records of 30 or more years of observations.

Table 736.—Temperature: Monthly normal 1 and mean temperature, at selected points in the United States, 1912-1923—Continued.

<i>p</i>	oints	in in	e Un	rtea i	States	, 191	2–192	85(	Jonti	nued.			
	Nor-				Dece	mber 1	nonthl	ly mea	n temp	eratur	е.		
Station.	for Dec.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
			•										-
Amarillo, Tex	36. 4	33. 6	33. 2	30. 4	40. 2	36.6	36. 1	32, 4	37.0	39.0	43. 5	41.8	34.0
Atlanta, Ga Birmingham, Ala	44.7	45. 8 46. 0	45.9 47.2	40.3 41.9	43. 7 46. 7	45. 0 46. 8	36. 2 39. 2	48. 2 50. 4	44, 8 45, 8	43. 1 45. 6	48. 3 50. 2	50. 5 53. 2	51. 3 53. 3
Bismarck, N. Dak	14.7	22. 0 31. 6	24. 6 28. 9	7. 4 24. 0	19. 8 33. 6	3. 6 28. 4	182	21. 6 29. 6	11. 5 23. 6	17. 8 34. 3	18. 6 32. 9	13. 0 30. 0	25. 4
Boston, Mass	32. 5	38. 5	37.8	30.4	34. 2	32, 6	43. 2 23. 7	34.7	28. 7	35. 6	31.4	30. 9	31. 6 40. 4
Buffalo, N. Y	29.8	57. 6 34. 4	61. 4 33. 6	54. 2 26. 0	65. 2 27. 8	65. 3 28. 4	62. 9 20. 8	61. 7 35. 0	60. 8 23. 3	64. 1 32. 7	67. 7 29. 9	28.9	61. 8 37. 6
Canton, N. Y.	22. 7 51. 7	26. 9 53. 6	27. 0 52. 0	20. 6 48. 8	23. 1 48. 2	18. 6 53. 0	8. 6 42. 0	24. 0 53. 5	17. 2 51. 4	23. 3 51. 4	21. 8 55. 0	21. 4 56. 3	31. 7 56. 9
Charlotte, N. C	43.0	45.4	44. 6 22. 0	38. 4 20. 2	41. 4 28. 8	43. 3 21. 0	33. 4	53. 5 47. 2 26. 7	41.6	43. 0 27. 9	47. 1 30. 2	46.6	50. 2
Chicago, Ill	30.0	25, 3 33, 4	37. 4	24.1	29.1	26.0	30. 4 22. 4	37.7	28. 0 21. 4	32. 4	32. 5	29. 5 29. 9	27. 4 39. 7
Cincinnati, Ohio	33. 4 31. 2	37. 2 33. 8	39. 1 35. 4	30. 2 27. 0	32. 7 30. 8	31. 6 29. 0	22. 3 22. 4	41. 8 38. 7	27. 4 25. 7	35. 4 33. 6	36. 4 32. 6	35. 2 31. 8	43. 5 40. 4
Amarillo, Tex. Atlanta, Ga. Birmingham, Ala. Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex. Buffalo, N. Y. Canton, N. Y. Charleston, S. C. Charlotte, N. C. Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio. Cleveland, Ohio. Concordia, Kans. Des Moines, Iowa.	29.5	35. 6 31. 7	35. 0 34. 0	19. 9 18. 7	33. 4 27. 8	25. 6 22. 0	23. 5 16. 7	35. 0 34. 2	24. 4 16. 6	32. 1 28. 8	34. 3 30. 0	31. 4 25. 6	35. 6 35. 8
Devils Lake, N. Dak	8.0	16. 2	21.1	3.6	12.4	.8	-3.6	14.9	5.0	11.6	15. 2	6.0	20.4
Dubuque, Iowa	32. 6 24. 7	34. 6 30, 2	33. 6 34. 2	23. 4 18. 4	34.6 25.5	29. 0 19. 3	28. 2 15. 8	34. 0 33. 0	29.6 14.4	35. 1 27. 3	33. 4 27. 2	33. 7 23. 8	34. 5 34. 4
Duluth, Minn El Paso, Tex	15, 9 44, 8	17. 9 40. 0	26.7 41.8	9. 4 42. 8	18. 6 44. 8	8.8 45.0	4. 4 49. 6	23. 6 41. 2	5. 6 47. 2	19. 3 43. 4	14.8 49.4	11.8 49.2	24.0 42.6
Eureka, Calif	48.0	46. 6 37. 9	48, 4 40, 4	45. 3 31. 0	48. 4 36. 8	43. 2 35. 2	51. 2 26. 6	46.3	48. 1 32. 2	48. 4 38. 4	48. 4 41. 0	47. 6 39. 4	45.3
Fort Worth, Tex	47. 5	45.5	45.6	39.7	50. 9	48.0	41.6	49.8	44. 4	48.3	51. 2	52.8	46. 6 50. 7
Galveston, Tex	46. 8 56. 4	45. 5 55. 4	46. 9 55. 6	44. 7 50. 2	48. 2 57. 9	45. 4 57. 7	49. 7 52. 8	45. 0 56. 8	47. 1 57. 2	47. 5 56. 0	50. 4 60. 2	49.8 62.4	46. 2 58. 8
Grand Rapids, Mich	28.8	32, 8 22, 2	35, 1 22, 2	24. 6 15. 8	27. 0 22. 0	25. 4 17. 8	21. 1 7. 8	34. 5 20. 6	21. 4 11. 4	32. 0 20. 2	30. 2 16. 4	27. 7 15. 1	36. 6 26. 8
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	25. G
Indianapolis, Ind Iola, Kans	32, 2 32, 5	34. 6 35. 6	37. 2 37. 6	25. 8 26. 2	31. 0 36. 8	29. 5 30. 2	22. 8 25. 4	40. 3 38. 8	26. 1 28. 6	33. 2 37. 0	35. 2 36. 6	33. 4 36. 0	42. 4 38. 6
Cleveland, Ohio Concordia, Kans. Des Moines, Iowa Devils Lake, N. Dak. Dodge City, Kans. Dubauque, Iowa Duluth, Minn. El Paso, Tex. Eureka, Calif. Evansville, Ind. Fort Worth, Tex. Fresno, Calif. Galveston, Tex. Grand Rapids, Mich Greenville, Me. Havre, Mont. Indianapolis, Ind. Iola, Kans. Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn. Mismi, Fla. Mobile, Ala. Modena, Utah. Nashville, Tenn. New Orleans, La. Norfolk, Va. North Platte, Nebr. Oklahoma City Okla. Omaha, Nebr. Parkersburg, W. Va. Peoria, Il. Phoenix, Ariz.	56, 3 23, 9	59. 8 27. 2	58. 2 24. 8	54. 6 19. 0	53. 8 23. 3	58. 0 14. 9	48. 4 26. 2	58. 2 28. 1	56. 1 17. 6	55. 4 27. 9	59. 7 21. 0	61. 6 18. 3	61. 8 24. 5
Little Rock, Ark	44.2	43. 3 56. 6	44. 8 55. 4	36. 9 53. 4	46. 0 57. 4	43, 4 52, 6	35. 4 62. 8	49. 6 57. 2	40. 6 58. 9	44. 6 55. 8	48. 0 60. 2	48. 4 58. 3	51. 2 58. 8
Lynchburg, Va.	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 Marquette, Mich	22. 8 22. 9	27. 8 24. 8	32. 0 31. 6	16. 4 18. 4	23. 9 24. 6	18. 0 18. 6	13. 9 14. 6	31. 4 28. 8	12. 6 13. 7	26. 2 27. 0	24. 4 22. 9	21. 6 19. 1	32. 5 31. 4
Memphis, Tenn	43. 6 68. 0	43. 1 72. 6	45. 0 67. 9	36. 2 69. 5	45. 0 65. 6	43. 4 69. 0	34. 0 63. 6	50. 2 67. 8	40. 4 68. 8	44. 6 68. 0	48. 1 69. 6	48. 4 71. 8	51. 5 70. 6
Mobile, Ala	52.9	<b>53.</b> 6	53.8	49. 4	53. 8 28. 8	53. 9	48. 2	55. 0 26. 6	55. 0 26. 1	51. 0 27. 6	57. 4 34. 4	60. 1 33. 2	58. 2 26. 9
Nashville, Tenn	41.0	26. 8 40. 4	24. 9 42. 6	21. 2 35. 8	42. 4	23. 4 38. 8	36, 1 31, 4	47, 4	38.8	41.6	44.8	46.0	49. 4
New Orleans, La Norfolk, Va	55. 6 43. 1	55. 4 47. 7	55. 0 45. 5	50. 8 40. 0	56. 7 40. 5	57. 4 42. 7	51. 4 33. 8	57. 5 47. 4	57. 0 40. 5	54. 1 45. 6	60. 8 44. 2	63. 5 46. 6	60. 9 51. 1
North Platte, Nebr Oklahoma City Okla	26. 7 38. 6	29. 6 39. 0	28. 6 39. 4	18. 0 31. 4	28. 2 43. 4	19. 4 37. 6	23. 7 31. 6	28. 5 40. 8	19. 4 33. 8	27. 0 40. 8	30. 7 42. 7	27. 8 42. 6	30. 4 42. 2
Omaha, Nebr	26. 4	32.8	34. 2	18. 2	29.6	22, 2 34, 2	18. 0 24. 8	34.8	19.4	28. 7 37. 8	31.7	27. 2 37. 4	35. 2 45. 2
Peoria, Ill	28. 1	37. 0 32. 6	36. 1 35. 7	30. 6 20. 8	34. 2 27. 8	25. 2	19.8	43. 3 36. 6	30. 4 20. 6	30.8	37. 4 32. 2	28.8	38 A
Phoenix, Ariz Pierre, S. Dak	51. 9 21. 8	48. 9 29. 5	50. 7 28. 6	50. 3 15. 1	51. 6 25. 8	41.7 12.5	54. 6 13. 1	49. 6 25. 5	54. 2 18. 6	49. 7 24. 9	56. 0 25. 9	55. 0 16. 4	52. 0 29. 7
Pittsburgh, Pa	34. 2 41. 2	35.8 41.4	35. 8 40. 7	29. 9 36. 8	31.8 42.0	32. 9 38. 1	24. 5 48. 4	41. 0 42. 3	28. 2 33. 6	35. 6 44. 1	34, 0 39, 1	35. 6 38. 0	43. 0 41. 5
Pueblo, Colo	31.7	31. 2	22.1	24. 6	32.6	29.8	35. 4	30, 2 40, 4	30. 9 39. 6	33. 8 42. 7	34. 2 39. 0	36. 5	32. 2 40. 6
Sacramento, Calif	41. 8 46. 2	41. 4 46. 9	41. 5 45. 7	37. 0 43. 8	43. 2 47. 5	39. 0 44. 2	48. 4 49. 2	43, 4	44.1	45. 4	49.0	42. 2 47. 4	<b>4</b> 5. 6
St. Louis, Mo St. Paul, Minn	34. 8 19. 0	38. 6 23. 2	41. 2 30. 2	28. 6 12. 1	35. 4 22. 6	33. 6 12. 2	26. 8 10. 1	43. 0 28. 7	29. 6 10. 2	37. 5 23. 0	38. 6 20. 2	36. 7 17. 8	44. 4 29. 4
Salt Lake City, Utah.	31. 9 53. 1	30. 7 49. 8	30. 6 52. 4	29. 0 46. 3	33. 7 56. 8	27. 8 54. 6	41. 8 50. 4	31. 2 54. 7	24. 6 51. 7	31. 7 54. 7	26. 4 59. 0	33. 1 59. 6	29. 3 55. 6
San Diego, Calif	56. 0	54.1	55.4	54. 6	55. 6 52. 2	52.4	58. 6 54. 6	54, 8 50, 2	56.6	54.8	59. 3 52. 9	58. 0 50. 6	57. <b>4</b>
Santa Fe, N. Mex	51. 3 30. 7	51. 6 25. 9	50. 6 26. 4	48. 7 26. 0	32.1	48. 9 27. 9	38. 2	27.0	48. 8 34. 2	51. 0 27. 4	36. 6	34.0	51. 0 29. 1 38. 7
Scranton, Pa Seattle, Wash	30. 0 41. 2	35. 5 41. 6	34. 7 42. 4	28. 0 39. 7	29. 4 42. 0	30. 4 38. 0	21. 3 45. 0	36. 2 40. 9	24. 9 38. 6	33. 6 43. 4	29. 6 39. 1	30. 8 38. 4	42. 2
Sheridan, Wyo	22. 1 48. 9	28. 6 46. 6	24. 4 47. 8	14. 2 41. 5	24. 8 50. 4	14. 6 49. 8	21. 2 43. 2	28. 0 52. 0	13. 7 48. 8	24. 6 48. 6	22.6 54.6	17. 0 54. 8	23. 6 54. 9
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	42.8
Trenton, N. J	52. 5 34. 4	55. 0 37. 4	54. 0 38. 3	50. 4 30. 6	50. 8 32. 4	54. 6 32. 2	46. 0 24. 7 46. 1	54. 8 38. 4	53. 0 28. 9	51. 4 37. 4	57. 8 33. 0 31. 3	59. 5 32. 9	59. 4 42. 0
Walla Walla, Wash Washington. D. C	36. 0 36. 6	39. 0 40. 0	31. 6 40. 4	26. 0 32. 8	38. 2 35. 2	30. 5 35. 5	27.91	37. 8 41. 6	22. 6 32. 6	39. 8 39. 3	37. 9	30. 8 37. 6	38. 0 45. 0
Omana, Nebr Parkersburg, W. Va. Peoria, Ill	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
		!	!			<u>-</u> -	<del></del>					<del></del>	

Weather Bureau.

<sup>&</sup>lt;sup>1</sup> 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.

						,	2-19						
Station.	Nor- mal for				J	anuar	total	precip	itation	•			
Station.	Janu- ary.	1912	1913	1914	1915	1916	1917	1918	1919	1920	<b>1</b> 921	1922	1923
Amarillo, Tex	1. 35 3. 32 1. 35 3. 3. 46 4. 29 4. 400 2. 3. 36 4. 50 4. 72 2. 1. 21 1. 21 1. 49 4.	7n. 4.87 5.03 1.18 3.00 2.53 3.28 3.00 2.53 3.28 3.10 6.55 5.47 10.18 10.10 10	$\begin{array}{c} In. \\ 0.11 \\ 1.5 \\ 7.6 \\ 1.34 \\ 2.38 \\ 2.5 \\ 5.66 \\ 4.99 \\ 3.70 \\ 5.66 \\ 1.33 \\ 2.05 \\ 2.18 \\ 1.11 \\ 1.74 \\ 2.20 \\ 2.29 \\ 2.29 \\ 2.18 \\ 2.10 \\ 1.20 \\$	7n. 0.06 1.35 1.25 1.25 1.26 1.35 1.76 1.35 1.76 1.35 1.76 1.35 1.76 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37	$\begin{array}{c} In. \\ 0.72 \\ 6.19 \\ 1.06 \\ 6.33 \\ 3.05 \\ 5.02 \\ 2.76 \\ 1.101 \\ 1.$	$\begin{array}{c} In. \\ 0.36 \\ 3.5 \\ 40 \\ 1.81 \\ 1.93 \\ 1.23 \\ 60 \\ 1.81 \\ 1.66 \\ 3.4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.87 \\ 1.86 \\ 6.55 \\ 13.02 \\ 2.48 \\ 2.35 \\ 1.95 \\ 3.06 \\ 6.55 \\ 13.02 \\ 2.17 \\ 5.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95 \\ 6.03 \\ 1.95$	$\begin{array}{c} In. \\ 0.691 \\ 0$	$\begin{array}{c} In. \\ 1.01 \\ 2.12 \\ 3.11 \\ 3.82 \\ 2.27 \\ 3.113 \\ 3.82 \\ 2.260 \\ 2.37 \\ 3.108 \\ 2.260 \\ 2.37 \\ 2.40 \\ 2.260 \\ 2.37 \\ 2.37 \\ 2.40 \\ 2.260 \\ 2.37 \\ 2.38 \\ 2.38 \\ 2.38 \\ 2.38 \\ 2.38 \\ 2.39 \\ 2.38$	7n. T. 5. 40 6. 21 6. 21 7. 85 8. 62 6. 21 6. 86 8. 22 6. 86 6. 21 6. 88 6. 22 6. 88	7n. 1.11 7.5.37 5.52 6.2.72 1.13 2.58 1.60 3.81 1.74 6.33 1.106 1.12 6.33 1.106 1.18 6.44 1.14 1.106 1.18 6.41 1.106 1.18 6.41 1.106 1.18 6.41 1.106 1.18 6.41 1.106 1.18 6.41 1.106 1.106 1.106 1.	7n. 2.10 3.53 3.53 3.53 3.52 1.57 2.24 6.89 1.25 2.266 2.266 2.27 1.53 2.30 2.87 2.14 2.86 2.87 2.17 2.15 3.10 2.86 2.87 2.17 3.11 3.18 3.22 2.86 2.27 3.11 3.16 1.55 2.20 2.28 4.17 3.11 3.16 1.55 3.20 2.20 3.17 3.11 3.11 3.11 3.11 3.11 3.11 3.11	$\begin{array}{c} In. \\ 0.78 \\ 3.6 \\ 20 \\ 2.1 \\ 1.41 \\ 1.42 \\ 2.48 \\ 3.74 \\ 1.16 \\ 2.1 \\ 2.2 \\ 4.84 \\ 1.16 \\ 2.1 \\ 2.2 \\ 4.84 \\ 1.16 \\ 3.2 \\ 4.84 \\ 1.2 \\ 4.84 \\ 4.84 \\ 1.2 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\ 4.84 \\$	7n. 1.94 3.82 2.96 6.07 1.33 2.77 2.86 6.07 2.86 6.08 4.09 4.64 6.08 6.08 6.08 6.08 6.09 6.08 6.09 6.08 6.09 6.08 6.09 6.09 6.08 6.09 6.09 6.09 6.09 6.09 6.09 6.09 6.09

 $<sup>^1</sup>$  Normals are based on records of 20 or more years observations. T=Trace, indicates an amount too small to measure.

Table 737.—Precipitation: Normal <sup>1</sup> and total precipitation at selected points in the United States, 1912-1923—Continued.

Amarillo, Tex.		the	Unit	ed $S$	tates,	1912	2–192	3—C	ontir	nued.				
February   1912   1913   1914   1915   1916   1917   1918   1919   1920   1921   1922   192   192   192   193   1914   1915   1916   1917   1918   1919   1920   1921   1922   192   193   1944   195   1916   1917   1918   1919   1920   1921   1922   192   1		mal				F	ebruai	y tota	l precij	oitation	n.			
Athanta (7 da.) (4.6) (5.5) (3.10) (1.60) (0.02) (0.22) (0.26) (0.73) (0.18) (1.19) (1.44) (1.15) (1	Station.	Feb-	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Amarillo, Tex Atlanta, Ga Birmingham, Ala. Bismarck, N. Dak Bosse, Idaho Boston, Mass Brownsville, Tex Buffalo, N. Y. Canton, N. Y. Charleston, S. C. Charlotte, N. C. Cheyenne, Wyo Chicago, Ill. Cincinnati, Ohio. Cleveland, Ohio. Concordia, Kans. Des Moines, Iowa Devils Leke, N. Dak. Dodge City, Kans. Dubuque, Iowa. Duluth, Minn El Paso, Tex Eureka, Calif Evansville, Ind Fort Worth, Tex. Fresno, Calif. Galveston, Tex. Grand Rapids, Mich. Greenville, Me. Havre, Mont. Indianapolis, Ind Iola, Kans Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va Madison, Wis Marquette, Mich. Memphis, Tenn. Miami, Fla. Mobile, Ala. Modena, Utah. Nashville, Tenn. Miami, Fla. Morit, Platte, Nebr. Oklahoma City, Okla Omaha, Nebr. Parkersburg, Pa. Portland, Oreg. Pueblo, Colo. Roseburg, Oreg. Sacramento, Calif. St. Louis, Mo. St. Paul, Minn. Salt Lake City, Utah San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif. San Francisco, Calif.	February  In. 888 4. 675 2. 16. 8. 8. 44. 75 2. 8. 44. 75 2. 16. 8. 8. 44. 75 2. 16. 8. 8. 44. 75 2. 16. 8. 8. 44. 8. 8. 8. 8. 8. 8. 8. 1. 98. 8. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	In. 1.94 1.54 1.55 1.54 1.55 1.55 1.55 1.55 1.5	In. 0.555 3.309 1.90 1.94 1.43 3.2.52 4.1 3.2 4.1 3.2 4.2 1.3 4.3 3.3 7.8 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3	In. 0. 104 0. 3. 3. 4. 2. 66 6. 3. 68 6. 3. 67 6. 3. 1. 36 6. 3. 67 6. 3. 1. 36 6. 36 6. 3	In. 160 4 4 505 1 . 103 1 3 . 404 2 30 3 . 22 45 3 3 . 22 45 3 2 . 297 1 . 92 2 . 24 4 . 24 4 . 25 2 2 . 25 2 . 26 2 . 26 2 . 26 2 . 27	In. 0.023 3.19 3.23 3.39 3.51 5.188 3.64 4.127 5.87 1.73 2.66 2.66 2.66 2.67 6.67 6.67 6.76 2.67 6.76 2.67 6.76 2.67 6.76 6.76	In. 0. 22 5. 8.19 1. 26 1. 29 1. 20 1. 27 1. 63 2. 20 1. 27 1. 63 2. 20 1. 27 1. 5. 10 1. 22 1. 68 2. 20 1. 75 1. 10 1. 22 1. 17 1. 10 1. 17 1. 10 1. 17 1. 10 1. 17 1. 10 1. 18 1. 10 1.	In. 0. 26 1. 82 2. 81 1. 94 2. 81 1. 92 8. 81 1. 94 9. 92 8. 81 1. 94 9. 92 9. 81 1. 94 9. 92 9.	In. 3. 4. 41. 1. 6. 6. 1. 6. 6. 1. 6. 6. 2. 78 6. 8. 18 1. 6. 1. 6	In. 0.188   5.67   5.885   5.885   2.355   5.885   2.355   2.351   3.544   6.33   6.47   6.47   6.47   6.48   6.49	In. 119 7. 37 157 129 65 64 64 64 64 64 64 65 65 66	In. 1. 44	1923  In. 1.71 7.47 5.87 -21 1.03 4.1.24 1.03 4.1.24 1.03 -36 -30 -30 -92 1.11 1.39 -36 -57 -50 -57 -50 -50 -99 -2.15 -50 -6.21 -6.42 -74 -50 -6.42 -74 -6.42 -75 -74 -74 -74 -74 -74 -74 -74 -75 -74 -74 -74 -74 -74 -74 -74 -74 -74 -74

Normals are based on records of 20 or more years of observations. 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.

Amarille, Tex										reue.				
Max   1912   1913   1914   1915   1916   1917   1918   1919   1920   1921   1922   1922   1924   1924   1924   1925   1924   1925   1926   1921   1925   1925   1926   1921   1925   1926   1921   1925   1926   1921   1925   1926   1921   1922   1926   1921   1922   1926   1921   1922   1926   1921   1922   1926   1921   1922   1926   1921   1922   1926   1921   1922   1926   1921   1922   1926   1921   1922   1926   1	Station	mal					Marc	h total	precip	oitation	ı.			
Devils Lake, N. Dari, I. 01	Swaren.		1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
St. Paul, Mina. 1, 60 32 1.74 .98 .90 1.26 2.06 .88 .81 2.91 2.51 1.41 1.38 Ratt Lake City, Utab 2.00 3.48 2.56 1.24 1.48 3.03 2.61 1.81 .54 3.81 1.03 2.44 1.68 Ratt Antonio, Per. 1.68 1.86 1.36 .83 1.20 .70 1.66 1.48 1.54 3.81 1.03 2.44 1.68 Ratt Antonio, Per. 1.68 1.86 1.36 .83 1.20 .70 1.66 1.48 1.39 .83 5.91 2.29 3.00 Ran Diego, Calif. 1.70 5.72 .42 .36 .33 .98 .26 4.57 1.83 2.46 1.13 1.24 .38 Ran Francisco, Calif. 3.14 4.10 1.47 1.09 3.02 1.33 1.42 2.73 2.74 3.25 2.28 2.28 .00 Ranta Fe, N. Mex .73 1.55 .87 .82 .70 1.36 .27 1.46 1.70 .57 .75 .44 1.28 Reranton, P	Amarille, Tex	mal for for for for for for for for for for	1912 Im. 8244847019.9.7482773452870997743277353822052486827008181808115534152598368627000818108115534152598368627702	7n. 9 5 4 96 9 4 75 18 86 60 24 3 5 3 8 4 60 31 41 86 5 22 25 6 7 10 42 8 5 60 24 4 5 8 8 60 24 8 60 24 8 7 8 8 60 24 8 7 8 8 60 24 8 7 8 8 60 24 8 7 8 8 60 24 8 7 8 8 60 24 8 7 8 7 8 8 60 24 8 7 8 8 8 60 24 8 7 8 7 8 8 8 60 24 8 7 8 7 8 8 8 60 24 8 7 8 7 8 8 8 7 8 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 8 7 8 8 7 8 8 8 7 8 8 8 7 8 8 8 7 8 8 8 7 8 8 8 7 8 8 8 7 8 8 8 7 8 8 8 8 7 8 8 8 7 8 8 8 7 8 8 8 8 7 8	7n. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	In. 1.00 1.	7n. 0.584 3.01 1.0 684 3.27710 3.5070 3.500 684 3.237 3.609 685 3.2 440 2.2 3.343 2.2 37.4 5.5 4.5 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6	1917 In. 0.215 11.60 0.215 11.60 1.75 12.698 3.05 2.4.06 2.149 3.06 2.140 3.06 2.140 3.06 2.140 3.06 2.150 3.06 2.150 3.06 2.150 3.06 3.150 3.07 3.06 3.150 3.07 3.06 3.150 3.07 3.06 3.06 3.150 3.07 3.06 3.06 3.06 3.06 3.06 3.06 3.06 3.06	1918 In. 1. 089 325 1. 788 3. 194 4. 165 3. 194 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	In. 1.73. 5.917 1.82 4.744 2.2477 4.050 2.5.267 2.670 2.4.24 4.2.247 2.2.416 2.2.24 4.2.247 2.2.416 2.2.24 4.2.247 2.2.416 2.2.2.24 4.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	1920 In. 1. 0.515 In. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	7n. 0. 684 4. 888 4. 084 4. 888 4. 084 4. 888 4. 084 4. 084 4. 084 4. 084 4. 087 4. 077 1. 010 2. 075 6. 074 4. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 675 1. 52 2. 52 3. 075 1. 52 3. 075 1. 075	In. 4.060 17.144 1.060 17.144 1.060 17.144 1.060 17.146 1.060 17.146 1.060 17.146 1.060 17.146 1.060 17.146 1.060 17.146 1.060 17.146 1.060 17.146 18	1923 In 974155.15224921 1.7070884945.2 2.4922 1.17070884945.2 1.2388982 1.1242494 2.156.0 1.14249 1.14

Normals are based on records of 20 or more years of observations. 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.

	010	e on	iieu i	Siute	3, 101	12-18	20	Cont	inuec	1.			
Station.	Nor-					Apri	l total	precipi	itation.				
Beation.	for April	. 1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex. Atlanta, Ga Birmingham, Ala. Birmingham, Ala. Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex. Buffalo, N. Y. Canton, N. Y. Canton, N. Y. Canton, N. Y. Canton, N. Y. Charleston, S. C. Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio. Concordia, Kans. Des Moines, Iowa. De	7n. 1.723 3.637 1.188 3.535 3.65 1.2 45 6.65 2.2 2.66 2.2 2.2 42 2.2 2.2 2.2 2.2 2.2 2.2 2.2	7n. 725 6. 65 22 304 3. 3. 776 3. 39 46 2. 429 43. 922 2. 55 5. 68 31. 375 6. 65 22 4. 37 22 4. 38 22 2. 55 5. 68 31. 375 6. 68	1. 7.6 1. 7.6	7n. 0.956 3.446 4.663 3.456 4.668 4.	7n. 5.055 1.04 1.05 1.06 1.01 1.05 1.06 1.01 1.05 1.06 1.01 1.05 1.06 1.01 1.05 1.06 1.01 1.05 1.06 1.01 1.06 1.01 1.06 1.01 1.08 1.02 1.08 1.02 1.08 1.02 1.08 1.02 1.08 1.02 1.08 1.02 1.08 1.02 1.08 1.08 1.02 1.08 1.08 1.08 1.08 1.08 1.08 1.08 1.08	7n. 1.711 1.511 1.2 1.4 6.5 6.4 5.1 1.2 1.2 1.4 6.5 6.5 6.4 5.1 1.2 1.2 1.4 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	7n. 7n. 7n. 7n. 7n. 7n. 7n. 7n. 7n. 7n.	7n. 486.988.2.591.1.849.2.56.21.66.23.3.511.371.066.2.2.66.21.377.4.499.11.1377.9.49.5.47.5.2.66.21.1.377.9.49.5.47.5.2.66.21.1.377.9.49.5.19.5.19.5.19.5.19.5.19.5.19.5.19	7n. 2. 56 4. 11. 52 51. 711 1. 52 51. 712 1. 52 51. 713 1. 52 51. 714 1. 52 51. 714 1. 52 51. 715 1. 715 1. 715 1. 716 1. 52 51. 717 1. 52 51.	7n. 644 5. 3. 3. 4. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 5. 68 2. 33 3. 4. 5. 68 2. 33 3. 4. 5. 68 2. 33 3. 4. 5. 68 2. 33 3. 4. 68 3. 3. 32 32 3	7n. 3. 393 3. 31. 533 3. 4. 622 4. 793 3. 4. 81 1. 624 4. 33. 3. 527 2. 2. 17. 4. 700 1. 6. 72. 72. 73. 74. 700 1. 6. 72. 72. 73. 74. 700 1. 6. 72. 72. 73. 74. 700 1. 6. 72. 73. 74. 75. 75. 75. 75. 75. 75. 75. 75. 75. 75	7n. 3. 25 4. 34 6. 68 1. 1. 56 6. 59 3. 3. 70 2. 2. 38 3. 70 2. 2. 38 3. 70 2. 2. 38 3. 70 2. 2. 38 3. 70 2. 2. 38 3. 70 2. 2. 38 3. 70 2. 2. 38 3. 70 3. 3. 54 6. 59 9. 26 6. 59 9. 38 7. 70 6. 59 9. 26 7. 1. 64 6. 26 7. 1. 64 6. 26 7. 1. 1. 64 6. 26 7. 1. 1. 64 6. 26 7. 1. 1. 64 6. 26 7. 1. 1. 64 6. 26 7.	7n. 2223. 3.8.22.206 4.233. 3.8.34.22.2.206 4.233. 3.8.34.22.2.206 4.233. 3.8.34.22.2.3.7.5.31. 2.446.303. 3.4.35.2.2.3.7.5.31. 2.446.303. 3.4.35.2.2.3.7.5.31. 2.446.303. 3.4.35.2.2.3.7.5.31. 2.44.2.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3

Normals are based on records of 20 or more years of observations. T=Trace, indicates an amount toe small to measure.

Table 737.—Precipitation: Normal <sup>1</sup> and total precipitation at selected points in the United States, 1912-1923—Continued.

				States	5, 191	2-10	23	Cont.	inued	l•			
Station	Nor- mal				~	Мау	total	precipi	tation.	•			
	for May.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex. Atlanta, Ga. Birmingham, Ala Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex Buffalo, N. Y. Canton, N. Y. Charleston, S. C. Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio. Cleveland, Ohio. Concordia, Kans. Des Moines, Iowa. Devils Lake, N. Dak. Dodge City, Kans. Dubuque, Iowa. Duluth, Minn. El Paso, Tex. Eureka, Calif. Evansville, Ind. Fort Worth, Tex. Fresno, Calif. Evansville, Ind. Fort Worth, Tex. Fresno, Calif. Evansville, Me. Havre, Mout. Indianapolis, Ind. Iola, Kans. Jacksonville, Me. Havre, Mont. Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn. New Orleans, La Norfolk, Va. North Platte, Nebr. Oklahoma City, Okla Omaha, Nebr. Parkersburg, W. Va. Parkersburg, W. Va. Parkersburg, W. Va. Preoria, Ill. Phoenix, Ariz. Pierre, S. Dak. Pittsburgh, Pa. Portland, Oreg. Pueblo, Colo. Roseburg, Oreg. Sacramento, Calif. St. Louis, Mo. St. Paul, Minn. Salt Lake City, Utah San Andon, City, Utah San Andon, City, Utah San Francisco, Calif. San Franci	mal for May.	1912	In. 1.412 488 1.382 4.488 1.388 3.122 4	In. 4. 430 1. 521 2. 78. 822 3. 679 2. 100 2. 100 3. 679 2. 100 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4. 832 4. 090 4	In. 1.70 1.614 4.43 4.264 1.64 4.36 1.650 1.866 1.50 1.866 1.650 1.866 1.650 1.866 1.650 1.866 1.650 1.866 1.650 1.866 1.650 1.866 1.650 1.866 1.650 1.866 1	In. 0. 89 3. 57 5. 85 5. 1. 80 6. 0. 89 3. 87 1. 22 44 13 3. 4. 49 2. 04 4. 33 7. 7. 4. 13 3. 72 0. 3. 57 7. 5. 85 5. 89 5. 69 6. 08 2. 38 1. 1. 49 4. 60 6. 08 2. 38 1. 1. 49 4. 60 6. 08 2. 38 1. 1. 49 4. 60 6. 08 2. 38 1. 1. 49 4. 60 6. 08 2. 38 1. 1. 49 4. 60 6. 08 2. 38 1. 1. 49 4. 60 6. 08 2. 38 3. 32 2. 38 3. 32 2. 38 3. 32	1917  In. 3. 826 2. 04 65 2. 577 2. 2. 88 3. 80 2. 2. 68 4. 65 2. 58 4. 65 2. 18 3. 94 4. 62 2. 89 3. 18 3. 34 4. 48 3. 23 3. 3. 36 2. 21 2. 3. 33 3. 36 2. 21 2. 3. 33 3. 36 2. 21 2. 3. 33 3. 36 2. 21 3. 33 3. 36 2. 21 3. 33 3. 36 3.	1918  In. 2. 23 1. 73 4. 07 1. 05 1.	1919  In. 2 0.8 4 . 0.6 4 . 0.6 4 . 0.6 4 . 0.6 5 . 0.7 0.4 3. 3 . 0.4 1 . 6.9 6 . 0.8 5 . 1. 9.7 1 . 1. 6.9 6 . 0.8 2 . 9.6 2 . 7.2 2 . 0.6 1 . 1. 4.8 4 . 7.4 1 . 5.6 6 . 0.4 2 . 1. 7. 3. 2 . 1. 4. 7. 3. 2 . 1. 6. 0.4 1 . 1. 6. 0.4 1 . 0.6 1 . 0. 0.6 1 . 0.6 1 . 0.6 1 . 0.6 1 . 0.6 1 . 0.6 1 . 0.6 1 . 0.6 1	1920 In. 2 5.74 1.92 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.1	In. 2.09 1.24 2.15 1.24 2.215 3.640 2.211 1.55 4.2 2.217 3.640 2.211 1.366 2.267 2.21 1.55 4.69 2.04 2.21 1.55 5.65 13 3.62 2.77 1.55 5.65 13 3.62 2.77 1.55 5.75 5.65 13 3.62 2.77 1.55 5.75 5.75 5.75 5.75 5.75 5.75 5	In. 1.601	In. 1.76 1. 1.76 1. 2.71 1. 1.76 1. 2.83 1. 2.91 1. 2.84 1. 2.04 1. 2.86 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 2.06 1. 3.16 1. 3.
Seattle, Wash Sheridan, Wyo Shreveport, La Springfield, Mo Thomasville, Ga Trenton, N. J Welle Welle, Wesh	1. 97 2. 68 4. 16 5. 55 4. 01 3. 52	1. 44 1. 64 2. 27 5. 74 2. 85 2. 12 4. 47	2. 27 1. 37 1. 52 3. 11 2. 38 2. 87 3. 00	3. 29 .74 3. 10 4. 49 3. 55 1. 45 1. 98	3. 30 1. 72 3. 98 1. 81 6. 52 8. 75 4. 33 2. 48	3. 04 1. 56 3. 04 5. 01 2. 78 1. 54 2. 45 1. 29	3. 25 . 83 3. 66 1. 66 3. 90 3. 23 2. 90 2. 48	3. 58 1. 19 2. 83 1. 49 4. 19 1. 38 4. 37 . 68	3. 33 2. 08 . 81 5. 78 4. 52 8. 02 4. 18	2. 48 . 96 3. 12 5. 18 6. 53 3. 36 2. 66	2. 28 1. 93 2. 98 3. 66 4. 06 4. 03 4. 04	2. 20 1. 08 3. 04 4. 04 3. 94 8. 21 3. 03	3. 26 1. 45 3. 27 4. 68 4. 55 6. 00 . 89 1. 36
Washington, D. C Winnemucca, Nev	3. 83 1. 03	1. 95 4. 84 . 52	1. 24 4. 56 . 45	1. 72 1. 48	2. 48 2. 18 1. 08	2. 30 . 49	1. 84 2. 49	2. 35 . 77	5, 27 1, 25	1. 42 . 15	5. 82 1. 18	4. 27	1.50

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 20 or more years of observations. 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.

	th	e Uni	ited S	tates,	, 1912	7—192	3	Onth	rueu.				
	Nor- mal					June	total p	recipit	ation.				
Station.	for June.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex	In. 2.99 3.88 3.888 3.588 3.03 2.37 3.143 5.39 4.46 1.566 3.98 4.96 3.53 3.35	In. 1.90 11.21 6.18 3.555 86 2.78 1.57 6.89 1.178 2.16 1.96 2.96 2.95 8.55 1.98	In. 2. 32 3. 10 2. 75 2. 06 1. 64 4. 96 1. 169 1. 188 4. 21 1. 188 2. 29 1. 33 2. 76 3. 52 1. 28 2. 1. 28	In. 0.84 2.14 4.49 9.90 .82 1.40 1.72 2.29 4.33 2.12 .253 2.20 2.80 2.80 5.84 2.5 \$3.5 \$4.5 \$1.5 \$1.5 \$1.5 \$1.5 \$1.5 \$1.5 \$1.5 \$1	In. 1. 04 3. 82 4. 82 4. 82 5. 70 Tr. 1. 72 3. 67 2. 45 1. 34 4. 72 03 9. 36 04 4. 53 63 .06	In. 2. 18 3. 28 21. 50 11. 68 5. 17 4. 04 2. 84 9. 75 5. 55 74. 32 11. 98 64. 64. 61 5. 161	In. 0.83 1.75 2.15 .34 4.05 .71 5.28 3.592 4.70 .387 2.96 3.517 8.16 1.69 .5.12	In. 1. 44 3. 31 4. 59 . 59 4. 1. 39 2. 81 1. 39 1. 24 3. 1. 24 3. 1. 24 3. 1. 26 9. 1. 83 1. 2. 00 . 2. 66 15	In. 2.94 2.08 3.30 .63 T. 1.08 5.58 .543 2.43 2.472 3.16 2.44 6.14 7.358 1.72 6.24 3.77	In. 2.56 3.47 3.63 2.05 1.18 5.78 6.70 2.456 3.94 2.68 4.25 4.69 2.45 6.5 24	In. 7. 75 1. 56 1. 45 2. 098 4. 599 1. 526 1. 33 2. 927 2. 35 3. 366 4. 708 3. 54	In. 3. 77 4. 41 3. 82 3. 24 4. 55 5. 55 5. 55 3. 38 6. 55 4. 2. 74 4. 1. 77 2. 66 2. 1. 63 2. 52 7. 1. 20	In. 9. 76 3. 23 2. 10 1. 99 52 2. 03 1. 984 4. 499 3. 581 2. 322 1. 718 1. 446 2. 66 3. 66
Duinth, Minn El Paso, Tex Eureka, Calif. Evansvüle, Ind. Fort Worth, Tex Fresno, Calif. Galveston, Tex. Grand Rapids, Mich. Greenville, Me. Havre, Mont. Indianapolis, Ind. Iola, Kans. Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark Los Angeles, Calif. Lynchburg, Va	4. 53 1. 06 4. 17 2. 97 4. 75 2. 52 3. 69 2. 82 4. 31 4. 73 5. 74 4. 09 .07 3. 89	1. 32 1. 27 1. 29 3. 36 4. 26 T. 4. 03 1. 02 1. 91 2. 02 5. 98 9. 62 2. 59 3. 34	2. 03 . 91 1. 60 1. 55 3. 10 2. 51 1. 82 1. 48 2. 35 4. 26 4. 55 3. 21 2. 058 2. 88	6. 28 1. 47 1. 73 3. 99 2. 92 6. 13 3. 34 4. 07 3. 65 3. 39 1. 32 2. 51 09 2. 23 3. 46	4.96 T	5. 81 1. 00 4. 58 3. 30 3. 15 6. 56 3. 99 4. 99 8. 58 6. 45 3. 30 6. 28 4. 59 1. 30	1. 93 . 36 . 200 1. 97 65 3. 44 8. 69 1. 43 5. 24 . 94 2. 76 3. 82 	. 84 . 83 . 02 2. 05 5. 16 2. 79 1. 17 3. 38 1. 45 3. 15 4 3. 32 . 56 6. 77 . 09 1. 184	27 14 6. 75 3. 72 15. 49 1. 84 2. 25 1. 68 3. 33 4. 21 13. 79 555 2. 75	5.66 5.99 1.92 3.77 2.08 4.09 3.12 3.59 4.27 T.2 5.62	4. 38 1. 39 1. 42 2. 63 2. 44 4. 97 3. 62 2. 00 3. 22 8. 471 1. 22 4. 67 1. 85 3. 52	3. 97 .05 .14 2. 65 1. 76 3. 16 10. 00 .82 99 5. 63 5. 88 .54 2. 21 T. 3. 3. 17	3.89 .09 1.07 5.09 6.74 T., 24 1.67 3.78 5.89 5.35 4.94 1.80 .02 2.12 3.05
Madison, Wis. Marquette, Mieh. Memphis, Tenn. Miami, Fla. Mobile, Ala. Modena, Utah. Nashville, Tenn. New Orleans, La. Norfolk, Va. North Platte, Nebr. Oklahomn City, Okla Omaha, Nebr. Perkersburg, W. Va. Peoria, Ill. Phoenix, Ariz. Pierre, S. Dak.	4. 10 3. 51 4. 37 7. 89 5. 96 4. 37 6. 16 4. 33 3. 25 3. 07 5. 06 4. 30 . 12 3. 08	1. 13 2. 45 4. 39 14. 63 4. 63 5. 66 4. 11 4. 63 5. 75 3. 09 6. 48 1. 86 . 01	3. 73 2. 76 . 97 3. 88 . 90 5. 58 5. 70 2. 13 3. 82 2. 296 2. 50	4. 21 2. 57, 5. 78 1. 595 3. 51 3. 20 4. 63 7. 01 2. 16 2. 16 5. 72	5. 13 1. 72 12. 53 7. 41 1. 42 5. 61 6. 52 3. 39 7. 23 2. 83 4. 84 2. 48 4. 12	7. 26 3. 19 6. 36 5. 42 9. 70 1. 98 3. 09 6. 16 2. 58 3. 30 2. 55 2. 33	2. 48 2. 51 6. 71 2. 23 T. 8. 03 2. 77 4. 65 2. 38 1. 83 6. 19 3. 17 7. 43	2.51 3.96 5.17 2.92 .35 2.245 3.25 2.18 3.09 1.80 3.39 4.608 1.59	3. 35 2.01 5.64 7. 26 2. 12 3. 96 4. 50 3. 48 4. 44 2. 80 3. 96 T. 25 3. 58	2.80 1.83 3.90 6.64 5.59 3.81 5.03 2.08 2.62 2.18 4.12 6.74	1. 52 2. 15 1. 14 3. 97 .01 2. 29 9. 44 1. 05 1. 39 3. 80 3. 57 3. 63 2. 17 .54 5. 33	3.31 4.50 2.03 5.37 6.45 9.78 .30 2.68 5.06 .99 T60 3.12	3.10 5.04 5.94 5.97 .24 4.42 5.38 1.43 4.15 3.62 6.09 5.42 2.09
North Platte, Nobrobal Platte, North Platte, North Oklahoma City, Okla Omaha, Nobrobal Platter Shurg, W. Va. Peoria, Ill. Phoenix, Ariz. Pierre, S. Dak. Pittsburgh, Pa. Portland, Oreg. Pueblo, Colo. Boseburg, Oreg. Sacramento, Calif. St. Louis, Mo. St. Paul, Minn. Salt Lake City, Utah San Antenio, Tex. San Diego, Calif. San Francisco, Calif. Santa Fe, N. Mex. Seranton, Pa. Seattle, Wash. Sheridan, Wyo. Shreveport, La. Springfield, Mo. Thomasville, Ga. Trenton, N. J. Walla Walla, Wash. Washington, D. C. Winnemucca, Nev.	3.89 1.477 1.077 1.15 4.477 3.11 1.04 3.57 1.09 3.58 5.19 4.72	5. 67 3. 03 2. 24 3. 07 5. 58 6. 93 1. 10 3. 22 1. 67 2. 76 1. 12 3. 79 5. 74 6. 61	1. 04 4. 24 6. 66 3. 211 1. 55 3. 05 3. 37 2. 90 4. 26 1. 34 1. 71 3. 90 3. 23 2. 71 7. 90	3.31 1.52 1.96 6.49 2.68 .01 .29 1.72 3.05 1.765 2.29 1.48 2.25	5. 36 1. 47 1. 26 . 71 9. 77 3. 54 1. 40 3. 27 4. 71 3. 10 5. 81 5. 81 5. 20 7	3. 82 1. 83 1. 22 1. 001 3. 97 3. 79 649 4. 68 2. 23 3. 08 5. 00 3. 294	3. 65 1. 17 5. 58 . 62 3. 79 . 19 . 06 4. 48 3. 70 1. 02 2. 69 2. 59 3. 15	2. 40 1. 12 1. 33 T. 1. 47 2. 81 2. 80 T. 6. 88 2. 60 1. 27 2. 13 3. 61 4. 78	5. 30 5. 30 4. 40 T. 7. 01 1. 50 4. 46 . 35 4. 60 6. 38 4. 00 6. 38	0.74 2.11 .96 .05 1.53 7.76 2.83 .02 .04 2.04 5.09 1.88 5.23 1.43 3.663	1. 36 7. 14 . 76 . 05 2. 31 4. 70 4. 59 T. 2. 85 1. 61 1. 29 1. 94 3. 34 9. 68 3. 58 4. 83	1. 12 1. 53 1. 01 T. 80 4. 63 3. 92 T. 26 7. 03 2. 21 3. 77 66 6. 98	1. 29 1. 22 .91 1. 22 .93 4. 23 1. 36 .06 .24 .24 .30 .24 .30 .30 .30 .30 .30 .30 .30 .30
Trenton, N. J	3. 49 1. 19 4. 18 . 64	2.30 1.73 4.36 1.14	2, 11 1, 81 2, 14	1. 74 1. 12 6. 20 2. 17	2. 07 . 40 6. 58 . 05	1. 77 7. 53	. 57 6. 25 . 35	. 10 2.06 1.33	3, 44	1. 03 4. 80 . 51	3. 45 . 82	.51 4.10 .15	2.89 2.89 2.59

 $<sup>^1</sup>$  Normals are based on records of 20 or more years of observations.  $T\!=\!Trace,$  indicates an amount too small to measure.

Table 737.—Precipitation: Normal and total precipitation at selected points in the United States, 1912-1923.—Continued.

the United States, 1912–1923—Continued.													
Station	Nor- July total precipitation.												
Station.	for July.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex Atlanta, Ga. Atlanta, Ga. Beimingham, Ala Bismarck, N. Dak Boise, Idaho. Boston, Mass Brownsville, Tex Buffalo, N. Y Canton, N. C Cheyome, Wyo Chicago, Ill Cincinnati, Ohio Cuocedia, Kans Deskin, Dak Dowille, Kans Dowille, Iwa Dubique, Iowa Duluth, Minn El Paso, Tex Eureka, Calif Evansville, Ind Fort Worth, Tex Fresno, Calif Galveston, Tex Grand Rapids, Mich Greenville, Me Havre, Mont Indianapolis, Ind Iola, Kans Jacksonville, Fla Kalispell, Mont Little Rock, Ark Los Angeles, Calif Lynchburg, Va Madison, Wis Marquette, Mich Memphis, Tenn Miami, Fla Modena, Utah Moshel, Ala Modena, Utah Moshel, Ala Modena, Utah Nashville, Tenn New Orleans, La Norfolk, Va North Platte, Nebr Oklahoma City, Okla Omnha, Nebr Parkersburg, Pea Portland, Oreg Pueblo, Colo Roseburg, Oreg Sacramento, Calif Ek, Louis, Mo Salt Lake City, Utah	In. 3. 17. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 73. 4. 74. 72. 18. 3. 4. 3. 64. 4. 3. 64. 3. 72. 64. 3. 55. 2. 13. 3. 64. 3. 64. 3. 72. 64. 73. 64. 73. 73. 74. 74. 74. 74. 74. 74. 74. 74. 74. 74	In. 1. 886	In. 1.80 4.72 2.2019 4.4 8.5 5.11 4.2 2.2 2.2019 4.5 5.11 4.2 2.2019 4.5 5.11 4.2 2.2019 4.5 3.3 3.5 5.1 4.2 2.3 3.5 5.1 4.2 2.3 3.5 5.1 4.3 3.3 3.5 5.1 3.8 3.5 3.2 4.3 3.3 3.5 5.0 9.2 4.3 3.3 3.5 5.0 9.2 4.3 3.3 3.5 5.0 9.2 4.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3	1914  In. 3.076 3.361 2.044 2.314 3.076 4.33 3.01 2.104 2.314 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.11 3.100 3.1	In. 4.14.2   5.72   4.03.3   7.04.1   7.05.2   7	In. 0.94 4.03 81 1.5 67.2 2.04 4.03 82 1.101 11.6 15.5 1.1 81 1.2 2.2 2.0 4.8 2.1 5.0 67.5 1.1 81 1.3 4.6 4.6 4.1 1.3 5.5 6.7 2.2 4.5 4.6 4.6 4.1 1.5 5.5 9.0 2.4 4.6 4.6 4.5 2.2 2.4 5.5 9.0 2.4 4.6 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.5 9.0 2.4 4.6 4.7 5.7 5.7 5.7 5.7 5.7 5.7 5.7 5.7 5.7 5	1917  In. 2 68 8. 1. 97 1. 1. 10 0. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	1918  1. 2. 23 474 2. 24 474 2. 24 11 2	In. 1.75 5.53 7.7.50 5.53 7.7.50 5.53 7.7.50 6.79 1.33 6.79 6.879 1.33 2.466 6.79 1.32 2.466 6.79 1.32 2.466 6.82 1.83 7.82 2.466 6.82 1.83 2.494 6.582 1.83 2.494 6.582 1.83 2.494 6.592 6.23 2.495 6.20 6.23 2.495 6.20 6.23 6.20 6.20 6.20 6.20 6.20 6.20 6.20 6.20	1920  In. 1855 5.563 2.795 1.566 4.989 4.112 1.611 3.322 4.966 4.112 1.612 3.324 4.966 4.111 4.824 4.133 3.490 4.151 4.824	1921  In. 4.17. 3.878 2.18. 11.69 2.18.22.61 15.555 1.1.87 4.49 2.248 4.49 4.22.48 4.22.49 4.49 4.49 4.49 4.49 4.49 4.49 4	In. 1.04 6.97 7.05 2.3 2.719 2.6 3.2 2.719 2.6 3.2 2.719 2.6 3.2 2.719 2.6 3.2 2.719 2.6 3.2 2.6 0.10 2.1 0.8 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2	19 23  1.
Sacramento, Calif. 5t. Louis, Mo 5t. Paul, Minn. Salt Lake City, Utah San Antonio, Tex. San Diego, Calif. San Francisco, Calif.	3. 43 3. 40 . 54 2. 22.	.20 T. 5.29 4.02 1.51 1.27 .14 T.	.61 T. 3.61 6.11 .55 .03 .06	1. 52 . 95 1. 20 . 02	.64 T. 6.02 4.53 .07 .92 T.	.07 1.20 .75 .63 4.53 .02	T. 3.17 4.12 .68 2.19 T. T.	.60 5.05 .76 1.68 T.	.06 T. 1.50 7.47 .06 7.88 T01	.73 1.35 .51 .39 T.	2. 05 2. 39 . 36 . 48 T.	T. 2.42 2.32 .65 .10 .01 T.	1.83 2.51 .21 2.54 .01
St. Paul, Minn Salt Lake City, Utah San Antonio, Tex San Diego, Calif. San Francisco, Calif. Santa Fe, N. Mex Scranton, Ps Scranton, Ps Scratte, Wash Sharidan, Wyo Shreveport, La Springfield, Mo Thomasville, Ga Trenton, N. J. Walla Walla, Wash Washington, D. C Winnemucca, Nov	2. 71 3. 83 .67 1. 04 3. 72 4. 79 5. 32 4. 77	1. 49 2. 11 1. 15 4. 42 3. 73 1. 40 5. 34 3. 21	1. 12 4. 97 .73 1. 70 .70 3. 84 4. 78 1. 50	3. 98 6. 71 . 01 . 13 . 84 3. 35 6. 20 4. 75	4.37 2.60 .84 1.44 2.44 1.82 4.68 7.20	2.77 2.29 1.93 .83 8.09 .74 18.32 5.94	. 45 2. 27 . 09 . 17 9. 30 4. 15 9. 11 4. 24	2. 42 2. 59 1. 38 1. 78 T. 1. 11 2. 46 4. 97	4. 02 4. 81 .22 .37 .70 1. 96 9. 81 10. 41	1.04 5.42 1.00 1.51 4.02 2.42 3.88 2.16	3.87 4.90 .18 .56 4.29 .70 6.71 2.01	1.75 4.48 2.11 4.09 6.15 3.64 2.29	2.66 4.72 .68 6.37 3.40 2.67 10.59 3.18
Walla Walla, Wash Washington, D. C. Winnemucca, Nev.	. 39 4. 65 . 17	7. 21 7. 52	3. 24 1. 55	. 12 2. 32 . 19	. 65 3. 21 . 05	. 72 4. 97 . 01	T. 9. 41 . 06	. 96 a. 79 . 27	6. 80 T	. 13 5. 71 T.	. 38 4. 79 T.	. 04 9. 59 . 36	. 33 4. 92 . 24

 $<sup>^1\,\</sup>mathrm{Normals}$  are based on records of 20 or more years of observations. T=Trace, indicates an amount too small tomeasure.

Table 737.—Precipitation: Normal and total precipitation at selected points in the United States, 1912-1923—Continued.

	Nor- mal					Augu	st tota	l preci	pitatio	n.			
Station.	for Aug.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
marillo, Textlanta, Gastrmingham, Alast	In. 2.81	In. 2. 28	In. 0. 61	In. 2. 97	In. 5. 85	In. 3.82	In. 6. 17	In. 2. 36	In. 3. 21	In. 5. 52	In. 5.77	In. 0.78	In. 1. 54
tlanta, Ga	4.48	3. 70	2. 53	5.04	4.92	3, 61	5. 61 8. 98	4, 20	3. 80	10. 02	8.03	0.78 2.72	4. 17
Birmingham, Ala	4.48	5.60	1.01	6.38	4. 40 3. 44 T.	3.51	8.98	. 98	5. 33	9.09	3.97	2.95	6.9
Sismarck, N. Dak	1.98	2.33	.77	2.02	3. 44	1.97	1.37	2.62	1. 46 T.	. 59	. 18	. 22	. 6
oise, Idaho	. 16	. 07	.03 2.86	. 04 3. 20	5.63	. 45 2. 19	T. 7.06	1.56	5.07	2. 32 2. 32	1.63	1. 13	. 2
rownerillo Tor	9.00	1.94	1.04	. 68	2.58	5. 58	. 29	.40	. 25	.00	.14	4.75 2.43	1.8 1.3
uffalo. N. Y	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. 2
anton, N. Y	2. 69	4.44 2.77	2.91	4. 23	5. 66	1.84	4.50	3.18	2. 60 5. 70	1.94	3.91	4. 25	2. 3 12. 2
harleston, S. C	6.97		3, 50	4.43	5. 40	3. 10	5.06	2.87	5. 70	7.02	5. 70	5.18	12. 2
harlotte, N. C	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. 9
hicego III	1.47	1. 44 3. 59	1.43 4.06	1.67	3. 98 4. 33	1. 26 1. 05	1.75	1. 68 1. 27	. 43 1. 10	1.32 3.16	. 61 4. 92	2. 16 1. 45	2. 0 7. 7 3. 7
incipneti Obio	3 33	5.00	1. 27	3.76 4.28	4. 13	3. 57	1. 24 1. 70	4. 53	92	6. 10	6.02	5. 60	3.7
leveland, Ohio	3. 15	4.54	2. 26	3. 93	1, 47	1. 36	4. 65	2. 47	. 92 7. 19	2. 33	3. 32	1. 20	3. 9
oncordia, Kans	2. 81	5.18	. 30	2.11	1.99	1. 21	2.63	3. 10	1.00	5. 15	1.93	6.63	2.7
es 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. 3
evils Lake, N. Dak	2.76	2.99	3. 93	2.06	. 90 6. 16	3. 16	1.12	2. 25	2. 28 1. 23	2. 21	5. 63	1.72	2. 2
odge City, Kans	2.59	5.80	. 72 3. 60	1. 23 4. 01	2.84	2. 25	4.46 2.11	6.09	1. 58	2. 43 3. 44	2.65 4.29	3. 19 1. 99	1.4
uluth Minn	3 53	6. 79 3. 25	1. 26	4. 20	1. 56	1.49 3.37	2. 04	2.32	2 99	1. 44	2.84	2.01	4.7 1.7
l Paso. Tex	1.72	2.83	. 54	1.85	1. 37	3.07	4.39	1.66	. 72	1. 33	.35	. 27	2.9
ureka, Calif	.10	.08	.03	т.		.12	. 02	. 21	. 01 2. 49	. 49	. 01	.03	.0
oncordia, Kans jes Moines, Iowa jes Moines, Iowa jevils Lake, N. Dak jodge City, Kans juhuth, Minn l Paso, Tex jureka, Calif. vansville, Ind jort Worth, Tex jesno, Calif. alveston, Tex jalveston, Tex jarned Rapids, Mich reenville, Me javre, Mont.	3. 24	4.00	1.74 T.	3. 59	7. 83	4.31	1.92	3.03	2. 49	6. 31	5. 26	3.08	3.0
ort Worth, Tex	1.87	6. 56	T.	9. 02 T.	10. 33	3.84	1.92	. 29	5. 00	4. 22	. 95	T.	1.6
resno, Calit	5 01	1. 59	T. 3.88	8. 17	19. 08	. 08 4. 14	T. 2.71	3.04	2. 17	. 15 2. 65	1.42	2. 53	4. 6
rand Rapids Mich	2 59	3. 16	.97	3. 49	2.87	4.41	0. 46	.84	1. 67	. 76	6. 15	2.96	2.0
reenville. 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	2.8
avre, Mont	1. 26	2. 24	.74	2.43	. 94 5. 25	. 34	. 43	2.61	3. 77 . 76	. 81	. 27	1.70	1.4
avre, Montdianapolis, Ind	3. 33	3. 12	4.98	5. 58 2. 74	5. 25	2.47	1.48	2. 24	3, 43	1.85.	7. 26	2. 45	4.8
la, Kans	3. 47	3.78	. 15 3. 32	2.74	5.05	2. 43	3. 91	1. 50	2. 22 6. 96	7. 55	5. 79	3. 65	3. 3. 4. 6
ndianapolis, Ind la, Kans lacksonville, Fla alispell, Mont tittle Rock, Ark os Angeles, Calif ynchburg, Va ladison, Wis larquette, Mich lemphis, Tenn tiami, Fla Lobile, Ala Lodena, Utah ashville, Tenn ew Orleans, La orfolk, Va orth Platte, Nobr. klahomaCity, Okla	6. 21	5. 32 1. 03	3. 32	8. 47 1. 31	4.08	6.76 1.96	6. 65 . 32	3. 12 . 96	1.06	7. 46 2. 61	7.70	7.71	. 90
ittle Rock Ark	3 65	4.98	. 61 2. 40 T.	4. 77	10. 33	3 59	4 38	1. 42	3 45	3. 33	. 56 7. 08	.83	2. 5
os Angeles, Calif	0.00		T.			3. 59 T.	4.38 T.	. 03	3.45 T.		T. 1		т.
ynchburg, Va	4. 25	1. 28	2.40	2.60	5.45	2.69	3. 53	2.91	3, 03	6.76	. 83	1.18	3.4
ladison, Wis	3. 21	3. 16	1. 59	3. 60	4. 39	4. 24	2.72	2. 03 3. 20	. 89	2. 61	3. 97	1. 33	5. 59 1. 08
larquette, Mich	2.86	5. 83	. 73 3. 09	2. 12 7. 31	5. 43	. 99 2. 98	3. 28 2. 55	2. 56	1.60 .82	3. 50 2. 32	3. 48 5. 84	2.02	5. 00
lempnis, rem	7 60	3. 41 2. 93	5. 67	3 77	10. 60 1. 37	10. 10	4. 32	1, 43	3, 73	4, 12	3. 14	. 76 7. 97	6. 3
Inhile, Ala	6.81	8. 25	5.61	3. 77 9. 78	7. 69	5. 46	6.42	14. 16	6.04	7. 78	8. 37	5. 13	4. 4
Iodena. Utah	1. 83	. 13	1.07	. 73	.46	5. 46 1. 97	. 26	1. 26	. 50	.81	2, 44	2.41	2. 13
ashville, Tenn	3. 47	3.06	. 85 5. 29	8.64	6.03	4. 27	3.02	3.05	6. 80	6.85	2.85	3. 83	9.60
ew Orleans, La	5. 61	4. 93	5. 29	8.47	7. 22 2. 46	4. 89 2. 99	6. 92 4. 54	6. 19	7. 38	4. 18 3. 83	3. 09 3. 13	5. 71 8. 04	7. 60 4. 47
oriolk, Va	5.97	2. 12 1. 27	4.14	1.10 3.45	4. 23	2. 35	1. 96	2. 48 1. 73	3. 47 . 76	4. 73	2. 57	2. 26	4. 70
klahomaCity, Okla	3. 17	3. 61	. 57	2. 76	5. 26	. 68	4. 50	1.91	2. 28	4.86	.85	. 19	3.5
		4. 78	. 18	2. 24	3.06	2.74	3.65	1.14	2.91	2.78	2.07	1.01	4. 2
maha, Nebrarkersburg, W. Va	3. 53	3.05	2. 53	5.05	4.78	2.41	2.18	5. 14	4, 60	2.65	3.71	7. 44	7. 3
eoria, Ill	2.93	1.67	2.87	2. 40	4.78	6. 03	3. 36	5. 88	4. 73	1.87	3.86	.72	2.8
hoenix, Ariz	. 96 2. 01	. 72 3. 85	. 32 1. 37	. 30 2. 19	. 25 . 55	. 30 4. 65	. 11 1. 93	3. 47 2. 30	2.40	. 75 2. 07	1.62 1.59	. 57 2. 03	3. 7
ittshurgh. Pa	3. 18	2. 39	2 81	4. 52	2.73	4. 73	4 75	4.84	2. 24 7. 15	2. 53	3. 03	2.35	4. 2
ortland. Oreg	65	3. 39	.76	. 01	.01	. 27	T. 1. 74 T.	.31	.10	1. 25	.30	2.06	. 20
ueblo, Colo	. 65 1. 57	1.85	.87	. 01 2. 18	3.27 1	3.12	1.74	. 57	3. 23	1.89	2. 24	. 69	4.6
oseburg, Oreg	. 33	. 59	. 19	T.	.03	.36	T.	1.05	021	T.	.04	. 32	3
cramento, Calif	. 01		. 01 1. 59		.01	T.	T.	T.	T.	T.	2.75	T.	T. 6. 19
Louis, Mo	2.66	2. 65 4. 40	1. 59.	5. 42 4. 48	11. 43	10. 69 1. 60	1. 99 2. 82	5. 26 5. 19	3. 03 2. 22	4. 16 . 96	2.79	1.79 1.31	1. 9
olt Laka City Titah	3. 46 . 78	70	1. 59	24	3. 98 T.	. 60	71 1	. 61	. 50	1. 31	.82	1.85	2. 4
an Antonio, Tex	2.69	. 29	1. 29 1	7. 80	3.90	5. 07	10 T.	2. 61	2. 14	2. 26	45	. 27	2.9
n Diego, Calif		. 26	- 02 1			.01	Т.	. 11	. 01 T.	.01	T.	. 27 T.	T.
an Francisco, Calif.		]	.01			. 29	T . 1		T.		1	T.	. 0
nta Fe, N. Mex	2. 36	1. 15	1.07	2. 51	1.02	1. 67	1.37	. 82	2.06	1.98	3.71	1.85	2. 33 3. 33
ranton, Pa	4. 25	4. 91	2. 54	2. 56	8. 17	.67	3.94	4. 04 1. 12	2.30	3. 33 1. 15	2. 96 1. 61	2. 56 1. 17	1. 98
pariden Wyo	. 51	2. 49 1. 18	.45	. 65	.05	.13	. 83	. 93	.18	. 68	. 24	1. 65	1. 4
arkersburg, W. Va- eoria, Ill hoenix, Ariz- ierre, S. Dak ittsburgh, Pa ortland, Oreg ueblo, Colo oseburg, Oreg cramento, Calif Louis, Mo Paul, Minn alt Lake City, Utah an Antonio, Tex un Diego, Calif unta Fe, N. Mex ranton, Pa autile, Wash neridan, Wyo ureveport, La	2. 24	10. 89	1. 89	4.00	8. 60	. 55	5. 55	2. 23	3. 85	2. 82	. 64	2.04	2.0
oringfield, Mo	7.01	3.00	. 68	4.70	10. 81	4, 45	4, 26	2. 23 3. 12	. 53 8. 16	6. 31	7.59	2.47	. 7
homasville, Ga	5.03	7. 12	4.39	3.96	10.81 2.76	1.01	8. 95	6.16	8. 16	4. 96	3. 56	2.71	6.89
	F 07	1.71	3. 30	1.63	6. 22	1, 25	2.11	2, 52	4 82	7.08	8. 01	5. 16	3. 32
renton, N. J	5, 37		0.00										
renton, N. J	. 45	2. 67	. 30	T.	т.	. 17	T.	. 99	. 06	1.87	. 57	1. 25	. 5
heridan, wyo	5. 37 . 45 4. 40 . 17		.30 5.42 .80	T. 6.00 T.	T. 7.00 .08	. 17 2. 83 . 11	T. .77 .57	. 99 1. 88 . 37	. 06 3. 41 T.	1.87 4.70 .76	. 57 1, 10 . 16	1. 25 3. 08 .91	2. 1 2. 1

 $<sup>^1\,\</sup>mathrm{Normals}$  are based on records of 20 or more years of observations. 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.

	Nor-	1			Se	ptemb	er tota	al prec	ipitatio	n.	<del></del>		
Station.	mal for Sept.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex. Atlanta, Ga Birmingham, Ala Bismarck, N. Dak Boise, Idaho. Boston, Mass. Brownsville, Tex Buffalo, N. Y Canton, N. Y Canton, N. Y Canton, N. Y Canton, S. C Charlotte, N. C Cheyenne, Wyo Chicago, Ill Cincinnati, Ohio Concordia, Kans Des Moines, Iowa Des Moines, Iowa Devils Lake, N. Dak Dodge City, Kans Dubuque, Iowa Dubuth, Minn El Paso, Tex Eureka, Calif E vansville, Ind. Frort Worth, Tex Fresno, Calif Galveston, Tex Grand Rapids, Mich Greenville, Me Havre, Mont Indianapolis, Ind Jola, Kans Jacksonville, Fla Kalispell, Mont Little Rock, Ark Los Angeles, Calif Lynchburg, Va Madison, Wis Marquette, Mich Memphis, Tenn Miami, Fla Mobile, Ala Modena, Utah Norfolk, Va North Platte, Nebr Oklahoma City, Okla Omaha, Nebr Parkersburg, W Paeoria, Ill Phoenix, Ariz Pierre, S. Dak Pittsburgh, Pa Portland, Oreg Pueblo, Colo Roseburg, Oreg Sacramento, Calif St. Louis, Mo St. Paul, Minn Salt Lake City, Utah San Antonio, Tex Sacranton, Pa Seattle, Wash Sheridan, Wyo Shrevesport, La Springfield, Mo Thomasville, Ga Trenton, N. J Walla Walla, Wash Washington, D C Winnemucca, Nev	In. 2. 3.53 3. 5.09 1. 411 3. 5.42 3. 3. 5.46 3. 2.22 3. 3. 5.39 1. 7.77 3. 5.55 3. 1. 417 2. 66 6. 2.71 1. 7.77 3. 5.55 3. 1. 417 3. 0.65 3. 3. 3. 6. 6. 2. 2. 3. 3. 3. 6. 6. 2. 2. 3. 3. 3. 6. 6. 2. 2. 3. 3. 6. 6. 2. 2. 3. 3. 6. 6. 2. 2. 3. 3. 6. 6. 2. 2. 6.	In. 2. 28 3. 52 2 42 2 . 77 7 1. 67 7 3. 3. 31 04 2 3. 3 91 10. 42 2 33 91 2. 39 92 2. 39 92 2. 64 4. 20 1. 2. 70 4. 4. 80 1. 2. 70 4. 4. 80 7. 68 8. 7. 69 92 2. 65 76 6. 68 2. 69 2. 69 8. 6. 62 2. 69 8. 62 2. 69 8. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60 2. 60	1913  In. 4.19 42.441 2.240 1.2.266 2.2.45 2	In. 1.07 2. 485 1.106 2.2 485 1.107 2.2 485 1.106 2.2 486 1.107 2.2 485 1.106 2.2 486 1.107 2.2 485 1.108 2.2 486 1.108 2.2 486 1.108 2.2 486 1.108 2.2 486 1.108 2.2 486 2.108 2.108 2.2 486 2.108 2.108 2.2 486 2.108 2.108 2.2 486 2.108	In. 4.69 3.53 3.61 6.88 6.2 5.34 5.1 1.32 2.2 37 7.2 2.3 5.5 6.23 3.4 5.1 1.32 2.2 3.5 5.623 3.4 5.1 1.32 2.2 8.1 1.32 2.2 8.1 1.32 2.2 8.1 1.32 2.2 8.1 1.32 2.1 1.3	1916  In. 76 2. 84 43 2. 705 2. 705 3. 1. 2. 83 3. 42 2. 2. 702 3. 2. 84 2. 2. 2. 702 3. 2. 84 2. 2. 2. 702 3. 2. 84 2. 2. 2. 702 3. 2. 84 2. 2. 2. 702 3. 2. 84 2. 2. 2. 702 3. 2. 84 2. 2. 2. 702 3. 3. 3. 42 2. 2. 702 3. 3. 42 2. 2. 702 3. 3. 3. 3. 42 2. 2. 702 3. 3. 3. 3. 42 2. 3. 84 2. 42 3. 3. 42 4. 3. 3. 3. 3. 42 4. 3. 3. 3. 3. 4. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	In. 2.05.6.44 6.6.01 1.73 1.1.03 2.292 2.34 2.216 2.25 2.74 2.35 2.1.89 2.218 2.1.85 2.1.85 2.1.80 2.1.80 2.1.80 2.1.80 2.1.80	19.18  10.644.03.573.7.472.9.197.96.050.35.833.1.918  12.063.573.4.729.197.96.050.35.833.1.918  12.063.583.1.918  13.064.050.050.050.050.050.050.050.050.050.05	In. 4.58 4.1.12 1.34 4.58 5.58 3.7.647 4.696 1.38 5.58 3.7.95 5.35 2.2.28 3.1.52 2.2.28 3.1.52 2.2.28 3.1.52 2.2.28 3.1.52 2.2.28 3.1.52 2.2.28 3.1.52 2.2.28 3.1.52 2.2.28 3.1.52 2.2.28 3.1.53 3.2.28 3.2.2	7. 3. 4. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	1821 10.761.310 11.3	1. 41 1. 16 1. 154 1. 193 1. 2. 196 1. 2. 12 1. 2. 12 1. 2. 13 1. 2. 12 1.	In. 424 1.540 2.83 3.4.566 2.10 1.2.2.32 2.50 4.0.2.83 3.2.2.4.50 4.2.2.50 4.0.2.83 3.2.2.50 4.0.2.2.2.50 4.0.2.2.2.50 4.0.2.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50 4.0.2.2.50

 $<sup>^{\</sup>rm 1}$  Normals are based on records of 20 or more years of observations. 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.

Station.	Nor- mal for												
		1			,	Octobe	er total	preci	pitation	1.			
	Oct.	1912	1913	1914	1915	1916	1917	1818	1919	1920	1921	1922	1923
Amarillo, Tex. Atlanta, Ga. Birmingham, Ala Birmingham, Ala Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex. Buffalo, N. Y. Canton, N. Y. Charleston, S. C. Chelorite, N. C. Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio. Cleveland, Ohio. Cleveland, Ohio. Concordia, Kans. Des Moines, Iowa Devils Lake, N. Dak. Dodge City, Kans. Dubuque, Iowa Duluth, Minn. El Paso, Tex. Eureka, Calif. Evansville, Ind. Forth Worth, Tex. Fresno, Calif. Galveston, Tex. Grand Rapids, Mich. Greenville, Me. Havre, Mont. Indianapolis, Ind. Jola, Kans. Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark. Los Angelos, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn. Miami, Fla. Mobile, Ala Modena, Utah. Norfolk, Va. North Platte, Nebr. Cikahoma City, Okla Omaha, Nebr. Parkorsburg, W. Va. Pooria, Ill. Phoenix, Ariz. Pierre, S. Dak. Pittsburgh, Pa. Portland, Orog. Pueblo, Colo. Roseburg, Oreg. Fascamento, Calif. San Francisco, Calif. Santa Fe, N. Mex. Soranton, Pa. Secattle, Wash Shoridan, Ny. Walla Wash Shoridan, N. J. Wella Wash Shoridan, N. J. Wella Wash Shoridan, N. J. Wella Wash Shoridan, N. J. Wella Wash Shoridan, N. C. Winnemucca, Nev.	In. 1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.1.2.34 1.3.3.2.2 1.3.3.3.3 1.3.3 1.3.3 1.3.3.3 1.3.3.3 1.3.3.3 1.3.3.3 1.3.3.3 1.3.3.3 1.3.3 1.3.3.3 1.3.3.3 1.3.3.3 1.3.3.3	In. 0. 392 4. 774 4. 2. 510 1. 3. 538 4. 2. 52 2. 3. 16. 13. 53. 4. 25. 52. 2. 3. 16. 2. 591 2. 3. 174 5. 592 2. 3. 174 5. 593 2. 2. 174 5. 593 2. 2. 174 5. 2. 2. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	In. 0.81 1.55 1.167 6.046 1.36 6.56 1.2 2.3 1.35 1.2 2.3 1.35 1.2 2.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1	\$\begin{align*} \begi	In. 1.55	7n. 2. 90 2 . 183 3. 84 4. 2. 2. 33 2. 2. 33 2. 2. 4. 377 2. 11. 1. 95 3. 1. 1. 1. 477 2. 2. 2. 2. 2. 2. 3. 3. 1. 1. 1. 47. 77 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	In. 0.34 d. 1.83 11.5.33 11.5.33 17.6.90 d. 5.32 2.79 f. 5.09 1.87 f 17. 1.49 f. 3.05 f. 3.2 f 17. 1.49 f. 3.06 f. 3.2 f 17. 1.49 f. 3.08 f. 3.2 f 17. 1.49 f. 3.08 f. 3.2 f 17. 1.4 f. 7. 6.40 f. 3.2 f 17. 1.87 f 18.6 f. 3.2 f. 3.2 f.	In. 7. 2. 47. 10. 84. 1. 1. 98. 11. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	7n. 0.67 2 31 1 2 13 3 28 4 1.67 6 41 1 2 13 3 175 2 65 6 1 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	In. 1. 554 6. 2. 344 1. 554 6. 577 82 2. 344 1. 56 5. 577 8. 2. 358 8. 2. 18. 3. 3. 58 8. 2. 18. 3. 2. 18. 3. 2. 18. 3. 2. 18. 3. 2. 18. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	In. 10.28	In. 0.23   1. 974   2. 761   2. 761   2. 762   3. 423   4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4	In. 47.34 1.59 1.60 2.33 37.5 1.60 2.23 2.63 2.63 2.63 2.63 2.63 2.63 2.63
Seranton, Pa. Seattle, Wash. Shoridan, Wyo. Shreveport, La. Springfield Mo.	2. 91 2. 67 1. 02 3. 18 2. 80	2. 75 3. 97 1. 64 . 90 3. 39	3. 99 2. 00 2. 05 2. 95 3. 57	1. 05 4. 37 . 65 . 32 2. 84	1. 13 3. 00 43 1. 95 2. 56	. 91 1. 18 2. 85 2. 17 1. 24	6. 07 . 16 1. 77 2. 13 . 81	8. 25 8. 46 . 51 4. 25 2. 72	3. 94 1. 59 2. 87 11. 75 11. 94	2. 02 4. 19 1. 19 2. 89 4. 09	2. 78 3. 91 . 24 . 03 2. 55	3. 56 2. 37 1. 35 . 45 1. 60	2. 42 2. 05 1. 72 2. 43 4. 79
Thomasville, Ga Trenton, N. J Walla Walla, Wash. Washington, D. C Winnemucca, Nev	3. 46 3. 41 1. 47 3. 09	. 86 2. 57 2. 13 . 65 1. 35	3. 32 6. 29 2. 44 3. 37	2. 17 1. 74 1. 99 1. 65	9. 63 1. 99 . 99 3. 72	4. 88 . 96 . 38 1. 76 1. 42	. 35 5. 30 . 01 4. 81 T.	1. 65 . 74 1. 53 . 86 . 45	3. 09 1. 95 3. 64 .68	1. 23 . 92 1. 65 . 40 . 52	1. 68 .34 1. 20 1. 35 . 05	1.60 4.75 .81 .89 1.41 .31	1. 38 2. 35 3. 11 1. 36 1. 95

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 20 or more years of observations. 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.

me	r-			No	vembe	er total	precip	oitation	1.			
Station. fo	r I	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex	In (10 1.05) 1.18 88 T 88 100 2.61 1035 2.63 41 1.58 85 1.61 1.45 21 1.75 2.68 4.10 1.45 21 1.75 2.26 2.61 1.45 21 1.77 2.26 2.26 2.26 2.26 2.26 2.26 2.26 2	In. 1.98 3. 24 4.19 3. 22 82 2. 15 67 2. 43 3. 22 4.79 3. 22 4.75 5. 90 1. 03 1. 17 5. 29 4. 87 5. 90 1. 63 3. 62 4. 87 6. 90 1. 63 3. 63 4. 74 6. 22 6. 77 6. 39 6. 30	In. T. 4.89 2. 28 4.11 2. 72 2. 31 2. 31 2. 34 2. 45 3. 33 1. 20 1. 34 T. 5. 57 T 21 1. 1. 13 4. 65 6. 44 1. 45 4. 38 7. 02 2. 05 7. 06 2. 02 2. 05 7. 06 2. 02 2. 05 7. 06 2. 02 2. 05 7. 06 2. 06 7. 06 2. 06 7. 06 2. 07 7. 07 2. 09 7. 07 2. 09 7. 07 2. 09 7. 07 7. 08 8. 08	In. 0. 18 3. 54 4. 1. 53 3. 54 1. 25 1. 26 1. 26 1. 26 1. 26 1. 26 1. 26 1. 26 1. 27 1. 28	In. 0. 40 2. 63 2. 61 1. 13 2. 63 2. 61 1. 16 3. 1. 17 1. 63 1. 11 1. 28 2. 185 2. 35 7. 1. 46 2. 185 2. 18	In. 0. 59   0. 1. 51   1. 55   0. 1. 57   1. 58   0. 1. 17   1. 59   1. 17   1. 71   1. 73   1. 75   59   1. 17   1. 74   1. 31   1. 37   0. 71   1. 32   1. 32   2. 19   1. 35   1. 37   0. 10   1. 32   1. 32   2. 19   1. 35   1. 37   1. 32   2. 19   1. 32   2. 19   1. 35   2. 35   1. 21   1. 26   2. 23   2. 11   2. 40   2. 23   3. 51   1. 21   1. 26   2. 23   3. 51   1. 21   2. 25   3. 30   1. 66   8. 25   3. 30   1. 66   8. 26   3. 4. 24   4. 59   9. 71   2. 84   2. 42   4. 24   3. 50   7. 1   3. 60   3. 60   3. 70   7. 7. 7. 88   3. 12   3. 12   1. 14   3. 16   3. 16   3. 17   3. 18   3. 1	In. 1. 16   5. 24   1. 20   6. 51   1. 24   1. 20   6. 61   1. 43   2. 34   2. 34   2. 34   2. 36   1. 77   1. 10   1. 80   1. 77   1. 10   1. 81   1. 98   7. 181   1. 98   7. 181   1. 98   7. 181   1. 98   1. 77   1. 10	In. 1. 26 4. 92 4. 91 2. 234 4. 92 2. 24 4. 92 2. 24 4. 92 2. 24 4. 92 2. 24 4. 92 2. 24 4. 92 2. 25 2	In. 1. 33 33 2. 45 5. 46 4. 30 5. 44 2. 4. 30 5. 4. 4. 30 5. 4. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	In. T. C. 184   3. 27   6. 19   2. 14   3. 27   6. 19   3. 51   7   3. 93   3. 51   7   3. 93   3. 51	In. 1. 39 2. 1. 51 1. 42 2. 59 1. 51 1. 68 1. 10 0. 2. 40 0. 2. 40 0. 2. 57 2. 54 4. 41 3. 52 54 4. 41 7. 52 54 4. 41 7. 52 54 4. 41 7. 52 54 6. 51 6. 60 1. 51 6. 60 1. 51 6. 60 1. 51 6. 60 1. 50 1. 50 6. 51 6. 60 1. 51 6.	2. 87 2. 09

 $<sup>^1</sup>$  Normals are based on records of 20 or more years of observations. 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.

	0.0	e on	iieu L	iuies	, 191.	Q <del>-</del> 138	(	Conti	пиеч	•			
04-41	Nor-				I	ecemb	er tota	d preci	pitatio	n.			
Station.	for Dec.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Amarillo, Tex. Atlanta, Ga Birmingham, Ala. Bismarck, N. Dak. Boise, Idaho. Boston, Mass. Brownsville, Tex. Buffalo, N. Y. Canton, N. Y. Canton, N. Y. Charleston, S. C. Charlotte, N. C. Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio. Concordia, Kans. Des Moines, Iowa. Devils Lake, N. Dak. Dodge City, Kans. Dubuque, Iowa. Dubuth, Minn. El Paso, Tex. Eureka, Calif. Evansville, Ind. Fort Worth, Tex. Grand Rapids, Mich. Greenville, Me. Havre, Mont. Indianapolis, Ind. Iola, Kans. Jacksonville, Fla. Kalispell, Mont. Little Rock, Ark. Los Angeles, Calif. Lynchburg, Va. Madison, Wis. Marquette, Mich. Memphis, Tenn. Modena, Utah. Nashville, Tenn. New Orleans, La. Norfolk, Va. North Platte, Nebr. Oklahoma City, Okla. Omaha, Nebr. Parkersburg, W. Va. Pooria, Ill. Phoenix, Ariz. Pierre, S. Dak. Pittsburgh, Pa. Portland, Oreg. Pueblo, Colo. Roseburg, Oreg. Sacramento, Calif. St. Louis, Mo. St. Paul, Minn. Salt Lake City, Utah. San Antonio, Tex. San Diego, Calif. San Francisco, Calif. Santa Fe, N. Mex. Scranton, Pa. Scranton, Pa. Scratle, Wash. Sheridan, N. J. Walla Walla, Wash. Mashington, D. C. Winnemucco, Nev.	In. 0. 83 4. 60 4. 60 1. 72 3. 41 1. 52 3. 37 3. 59 3. 15 3. 86 2. 07 2. 93 2. 58	1912  In. 1.18 3.47 5.40 5.36 6.51.51 1.2 2.55 5.31.34 4.22 2.55 5.31.34 1.08 8.1.31 1.2 2.55 5.31.34 1.08 8.1.31 1.08 8.1.31 1.08 8.1.31 1.08 8.1.31 1.08 8.1.31 1.08 8.1.31 1.08 8.1.31 1.09 1.09 1.09 1.09 1.09 1.09 1.09 1.0	1913  In. 2. 84  2. 2. 945  2. 2. 2. 3. 95  2. 2. 3. 1. 37  2. 3. 95  2. 2. 3. 1. 37  2. 3. 1. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	1914  In. 1715.3615  A. 3446.344  A. 32.499  A. 32.155  A. 3446.334  A. 32.499  A. 32.157  A. 34683  A. 32.499  A. 32.157	1915 In. 130 9.071 1396 6.354 34 309 9.13.34 309 13.34 3	1916 In. 88 3.577 1. 1.20 1. 2.533 1. 2.253 1. 2.354 1. 300 1. 30	In. 0. 04	1918  7. 78.464 1. 3.25.414 1. 3.3.254 1. 3.	1919  In. 0.50 4.0 50 12.946 1.108 1.108 1.108 1.108 1.108 1.108 1.109 1.205 1	In. 0. 64 4. 36 8. 29 9. 2. 43 3. 1. 64 9. 2. 28 8. 31 1. 0. 29 1. 0. 20 1.	1921  In. 0.66 1.793 2.252 2.35514 4.886 3.44.866 3.46.86	1922 In. 0.10 6.203 1.303 1.303 1.303 1.303 1.404 1.7099 1.533 1.404 1.404 1.509 1.5	1923  In. 1115.600 5.3022.4996 2.860 2.5113.313.3286 4.930 4.931 4.932 4.933 4

Weather Bureau.

<sup>&</sup>lt;sup>1</sup> Normals are based on records of 20 or more years of observations. **T**=Trace, indicates an amount too small to measure.

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